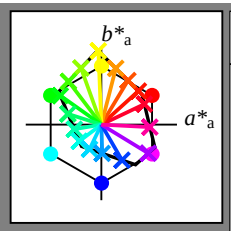
**Input and output:**
**Colorimetric Printer Reflective System FRS15_90aM**
**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u**** **= 16 hues** ***r00j, r25j, ..., b75r***
**contrast reduction factor:**
$c_R$ **= 0.9**

**FRS15_90aM; adapted (a) CIELAB data**

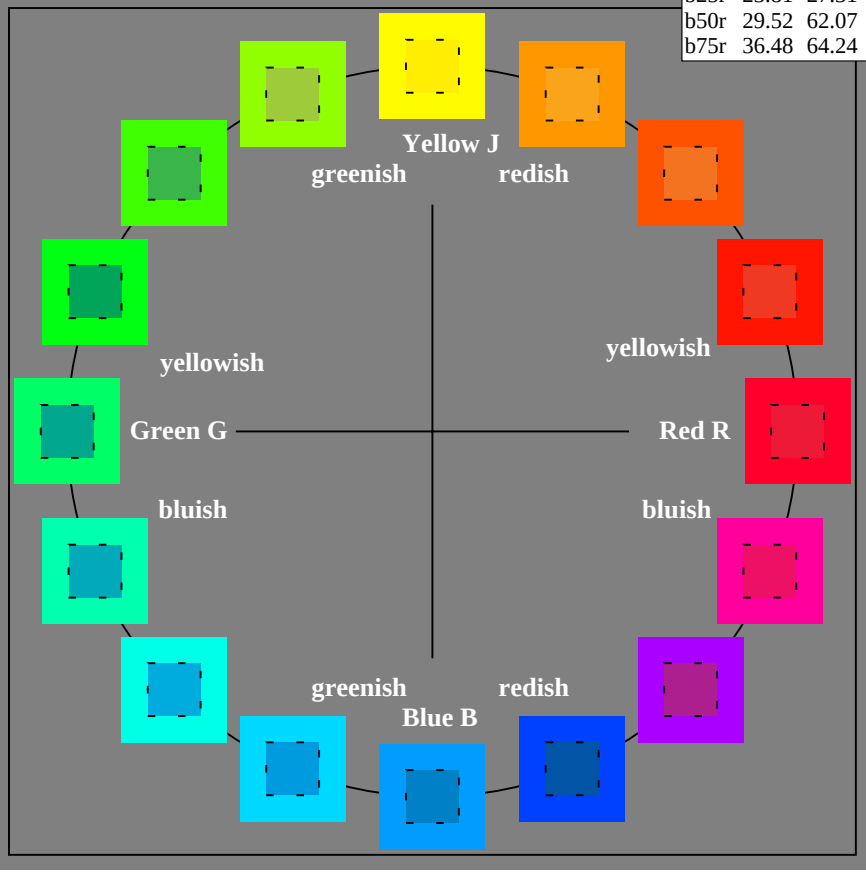
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

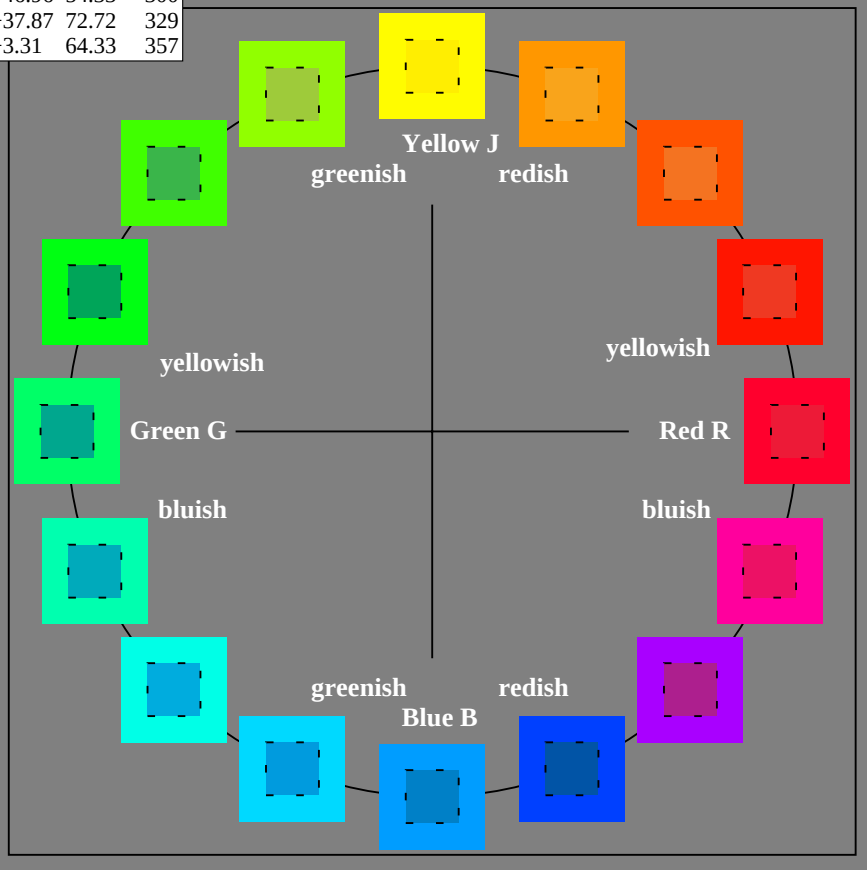



**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**

**FRS15_90aM; adapted (a) CIELAB data**

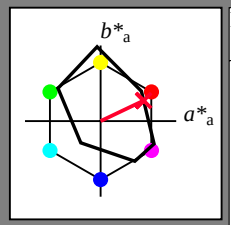
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 25/360 = 0.071$** ***u* = r00j***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = r00j***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****




**FRS15_90aM; adapted (a) CIELAB data**

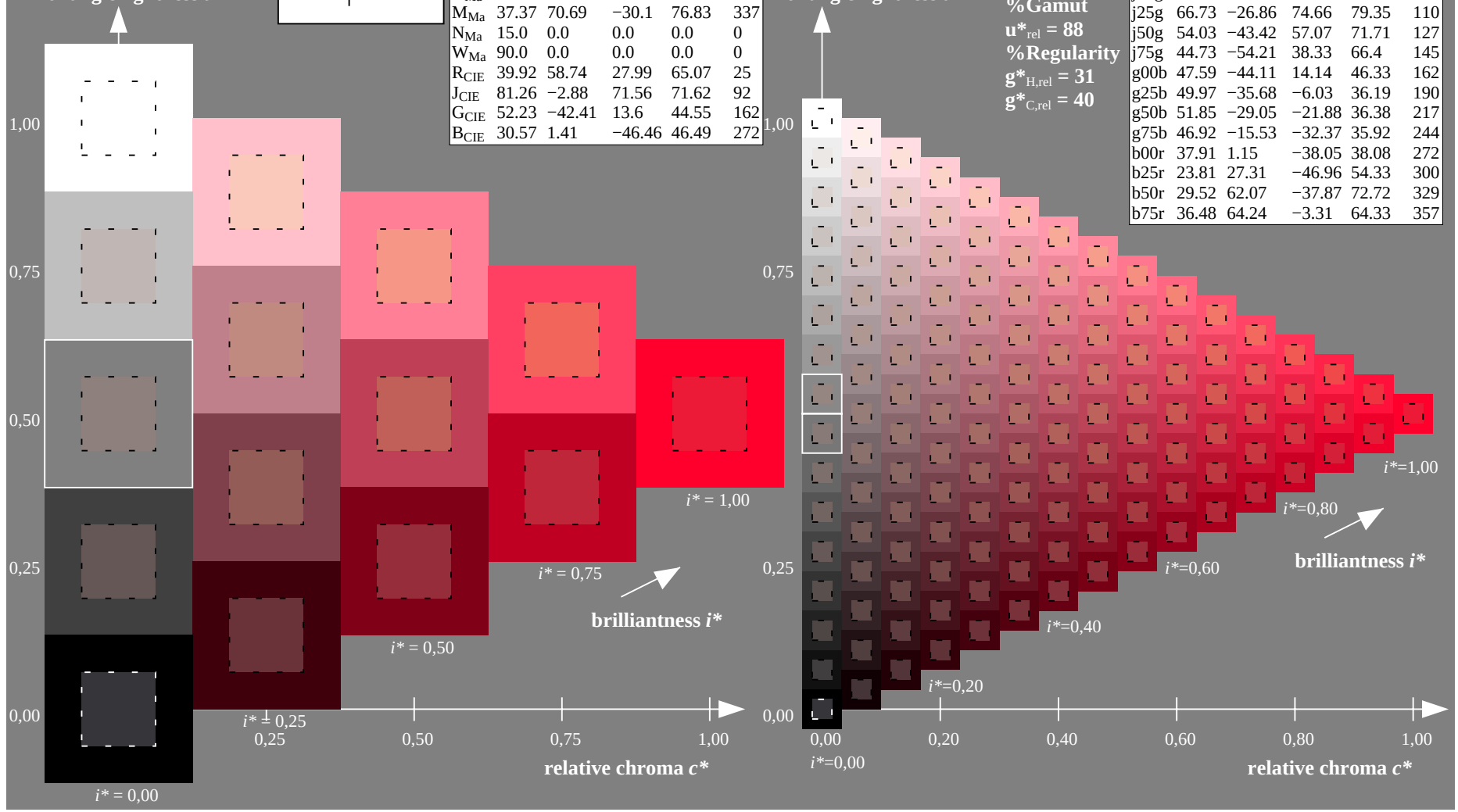
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 35 57 27**
***LAB*LCH****$_{Ma}$**: 35 63 25**
***lab*rgb****$_{Ma}$**: 1.0 0.0 0.0**
***lab*olv****$_{Ma}$**: 1.0 0.0 0.18**

**FRS15_90aM; adapted (a) CIELAB data**

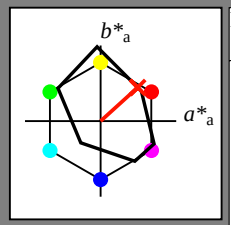
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 42/360 = 0.117$** ***u* = r25j***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = r25j***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****

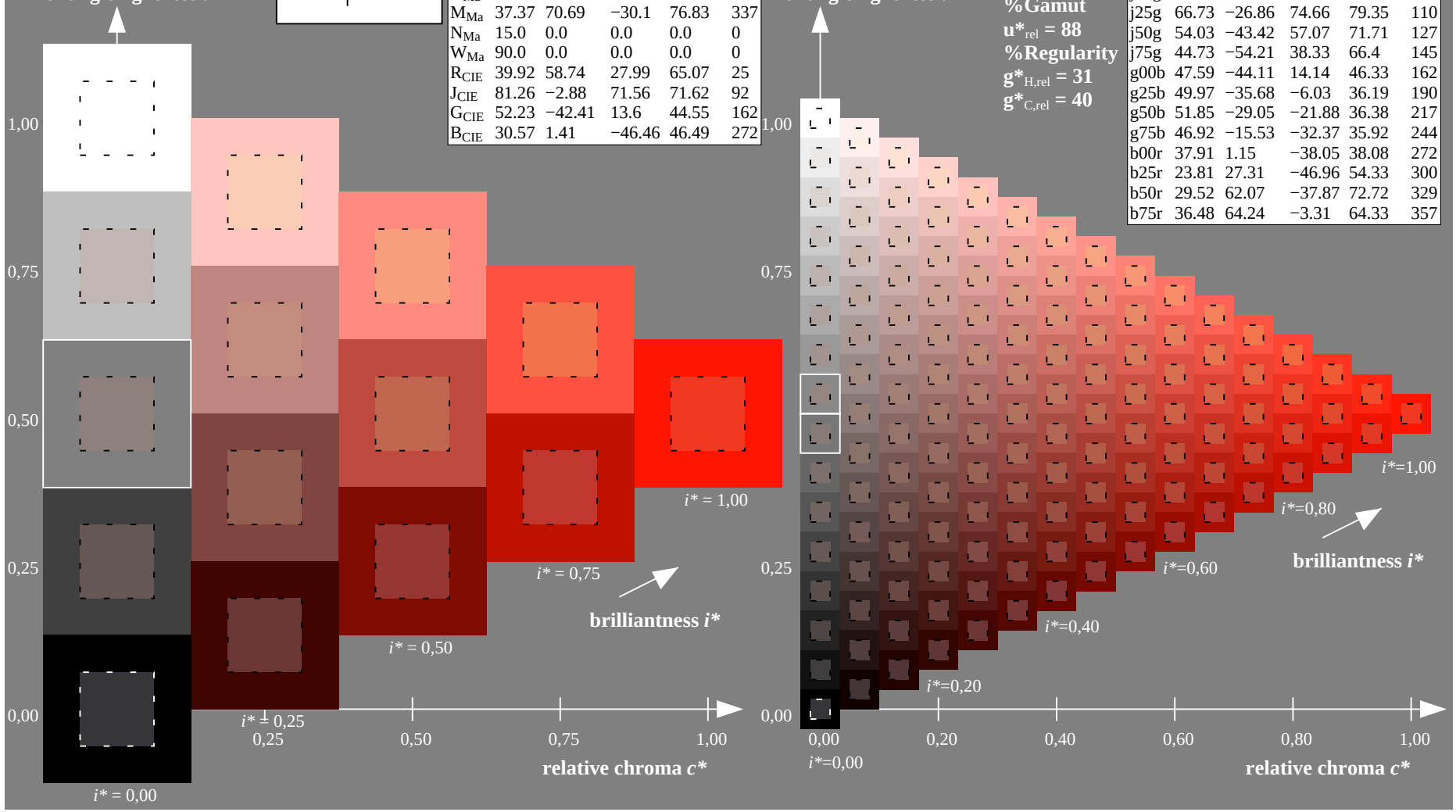



| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 39 49 44**
***LAB*LCH****$_{Ma}$**: 39 66 42**
***lab*rgb****$_{Ma}$**: 1.0 0.25 0.0**
***lab*olv****$_{Ma}$**: 1.0 0.08 0.0**

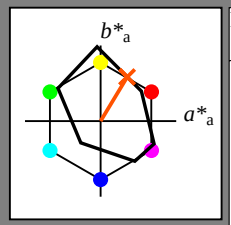
**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 59/360 = 0.164$** ***u* = r50j***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = r50j***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****

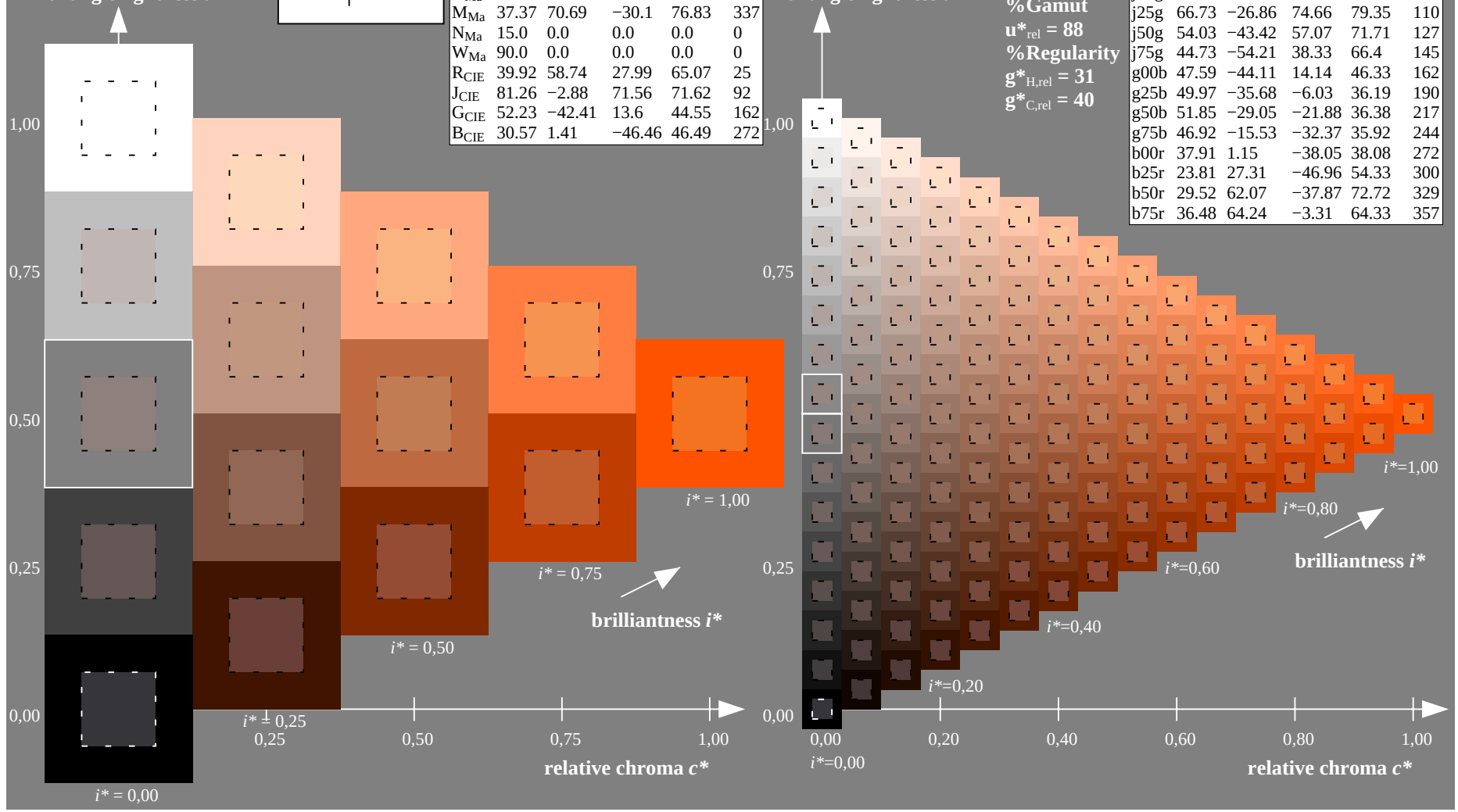



| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 51 35 58**
***LAB*LCH****$_{Ma}$**: 51 68 59**
***lab*rgb****$_{Ma}$**: 1.0 0.5 0.0**
***lab*olv****$_{Ma}$**: 1.0 0.32 0.0**

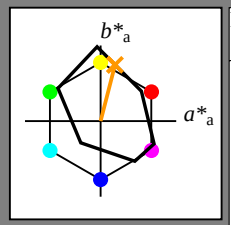
**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 76/360 = 0.21$** ***u* = r75j***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = r75j***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 64 19 74**
***LAB*LCH****$_{Ma}$**: 64 77 76**
***lab*rgb****$_{Ma}$**: 1.0 0.75 0.0**
***lab*olv****$_{Ma}$**: 1.0 0.59 0.0**
**triangle lightness *t****

**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**

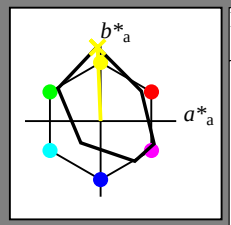
| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

1,00
0,75
0,50
0,25
0,00
*i** = 0,00
*i** = 0,25
*i** = 0,50
*i** = 0,75
*i** = 1,00
0,25
0,50
0,75
1,00
**relative chroma *c****
**brilliantness *i****

1,00
0,75
0,25
0,00
*i**=0,00
*i**=0,20
*i**=0,40
*i**=0,60
*i**=0,80
*i**=1,00
0,00
0,20
0,40
0,60
0,80
1,00
**relative chroma *c****
**brilliantness *i****

**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 92/360 = 0.256$** ***u* = j00g***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = j00g***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****

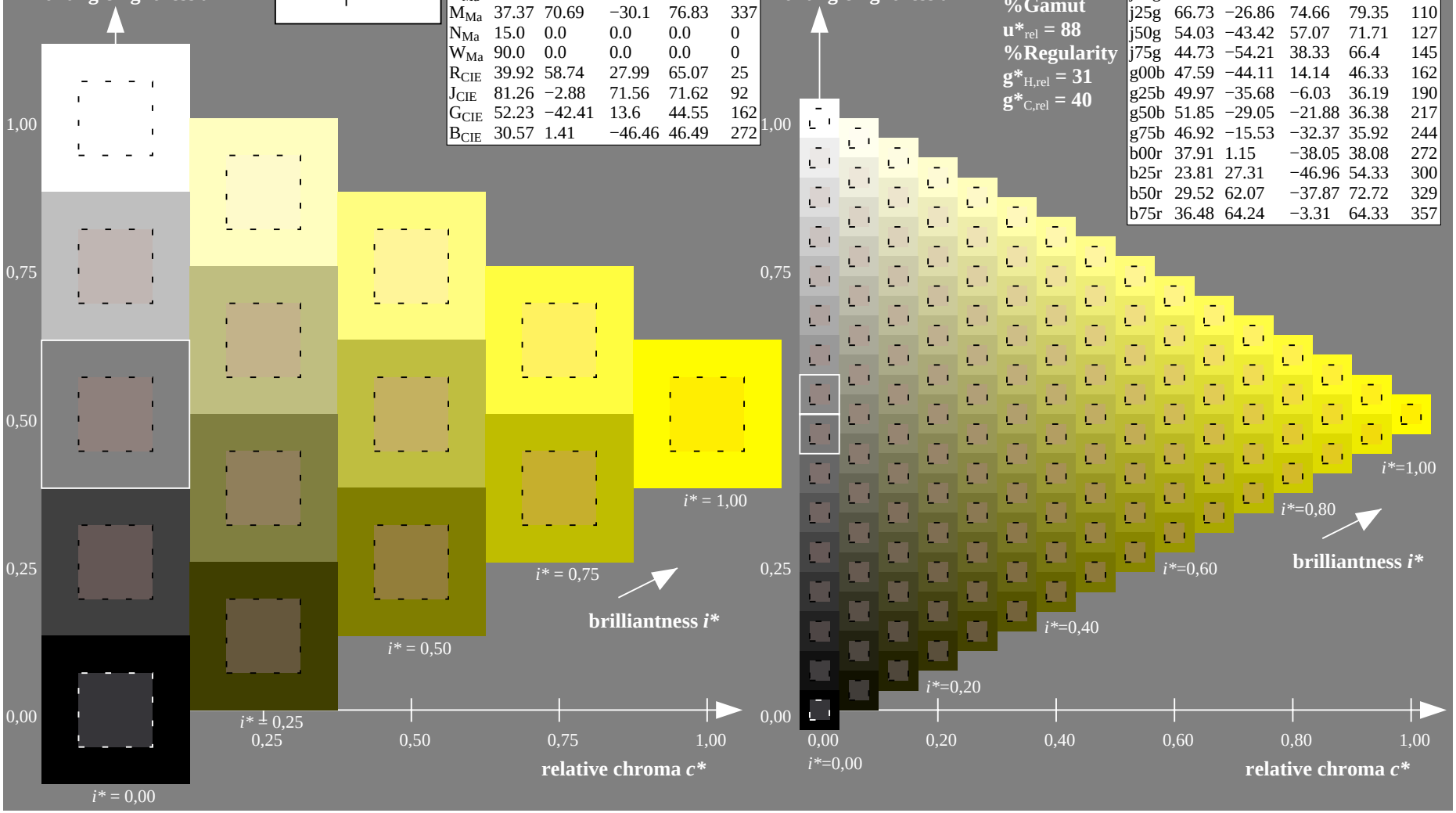



| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 83 −3 98**
***LAB*LCH****$_{Ma}$**: 83 98 92**
***lab*rgb****$_{Ma}$**: 1.0 1.0 0.0**
***lab*olv****$_{Ma}$**: 1.0 0.99 0.0**
**triangle lightness** ***t****

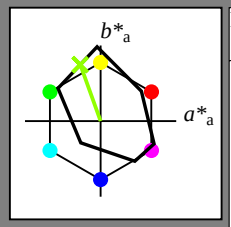
**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 110/360 = 0.305$** ***u* = j25g***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = j25g***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****



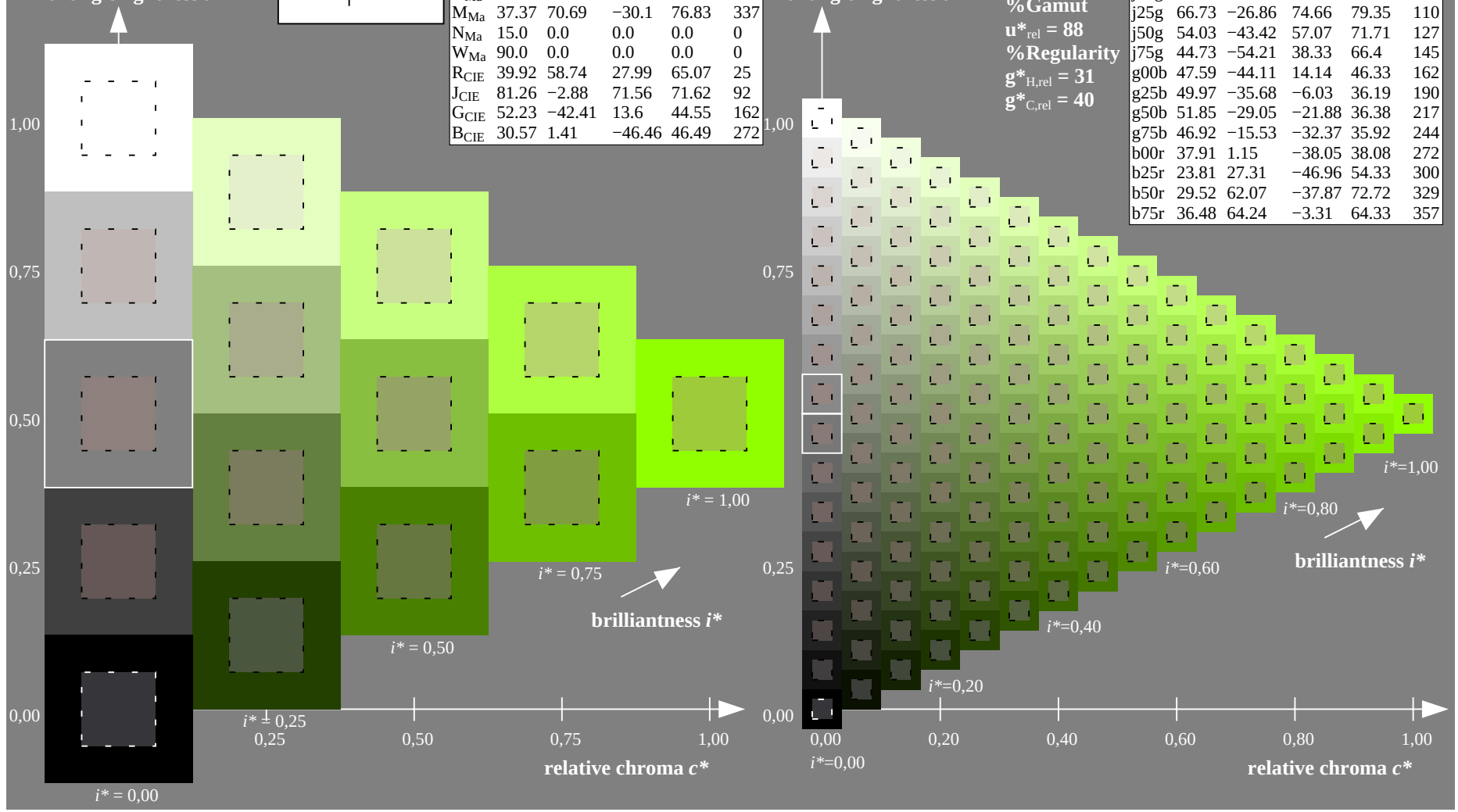

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 67 −26 75**
***LAB*LCH****$_{Ma}$**: 67 79 110**
***lab*rgb****$_{Ma}$**: 0.75 1.0 0.0**
***lab*olv****$_{Ma}$**: 0.57 1.0 0.0**

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

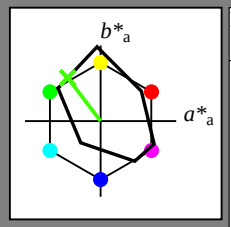
**triangle lightness *t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 127/360 = 0.354$** ***u* = j50g***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = j50g***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****

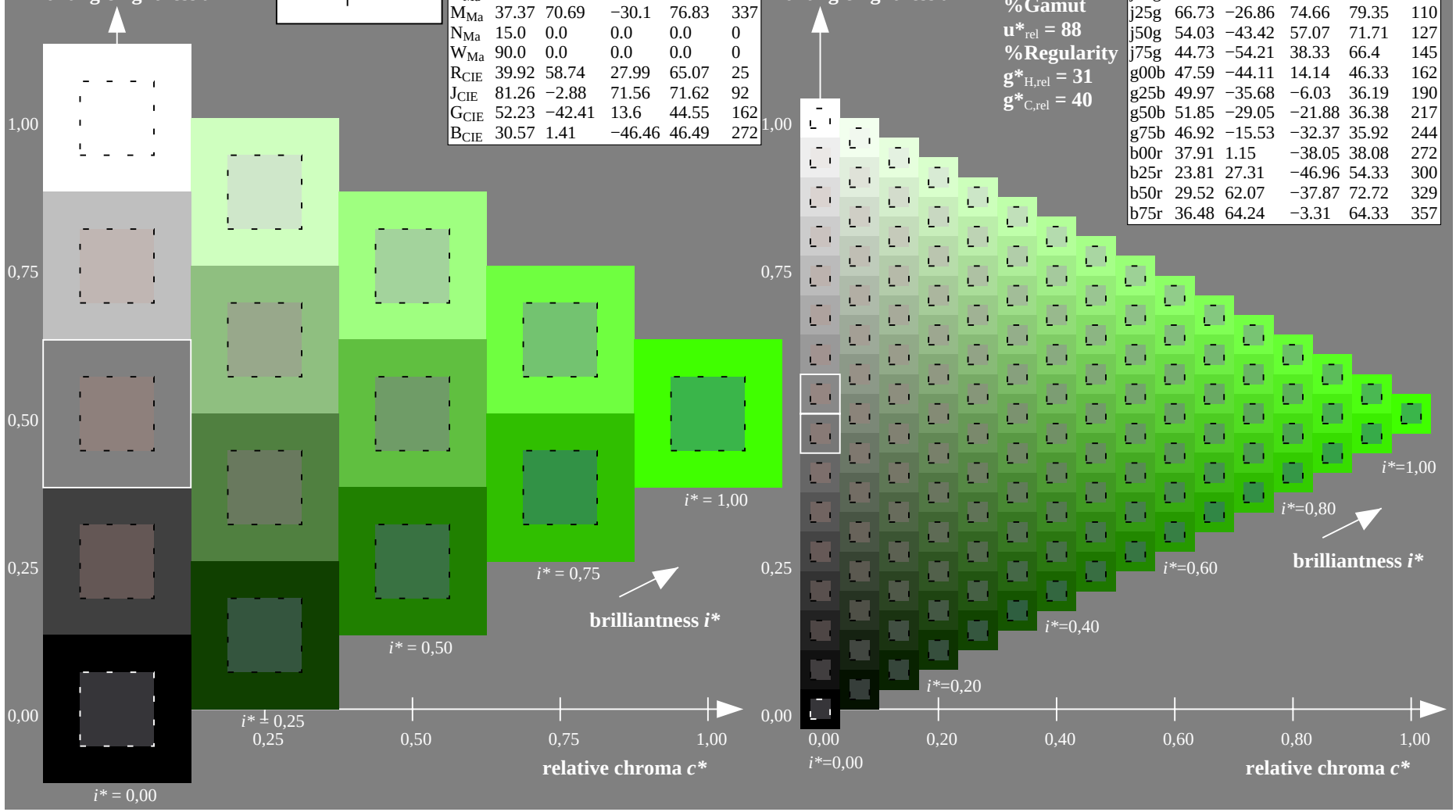



| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 54 −42 57**
***LAB*LCH****$_{Ma}$**: 54 72 127**
***lab*rgb****$_{Ma}$**: 0.5 1.0 0.0**
***lab*olv****$_{Ma}$**: 0.25 1.0 0.0**

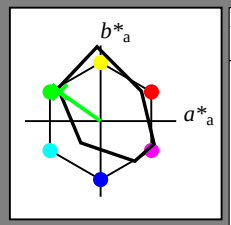
**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 145/360 = 0.402$** ***u* = j75g***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = j75g***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****

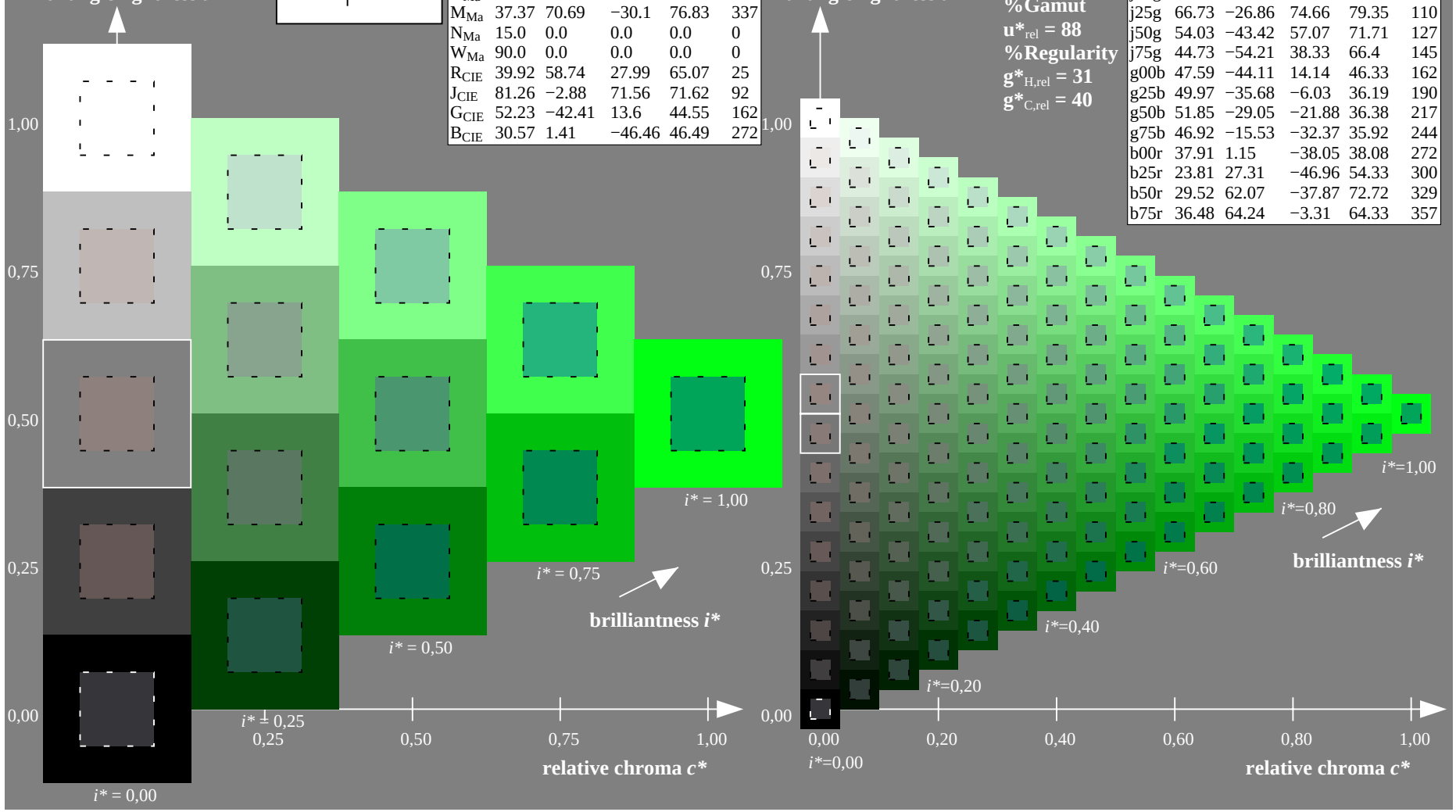



| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 45 −53 38**
***LAB*LCH****$_{Ma}$**: 45 66 145**
***lab*rgb****$_{Ma}$**: 0.25 1.0 0.0**
***lab*olv****$_{Ma}$**: 0.0 1.0 0.07**
**triangle lightness** ***t****

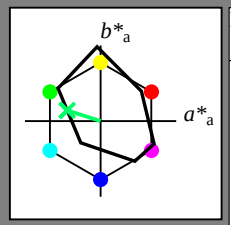
**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 162/360 = 0.451$** ***u* = g00b***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = g00b***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****

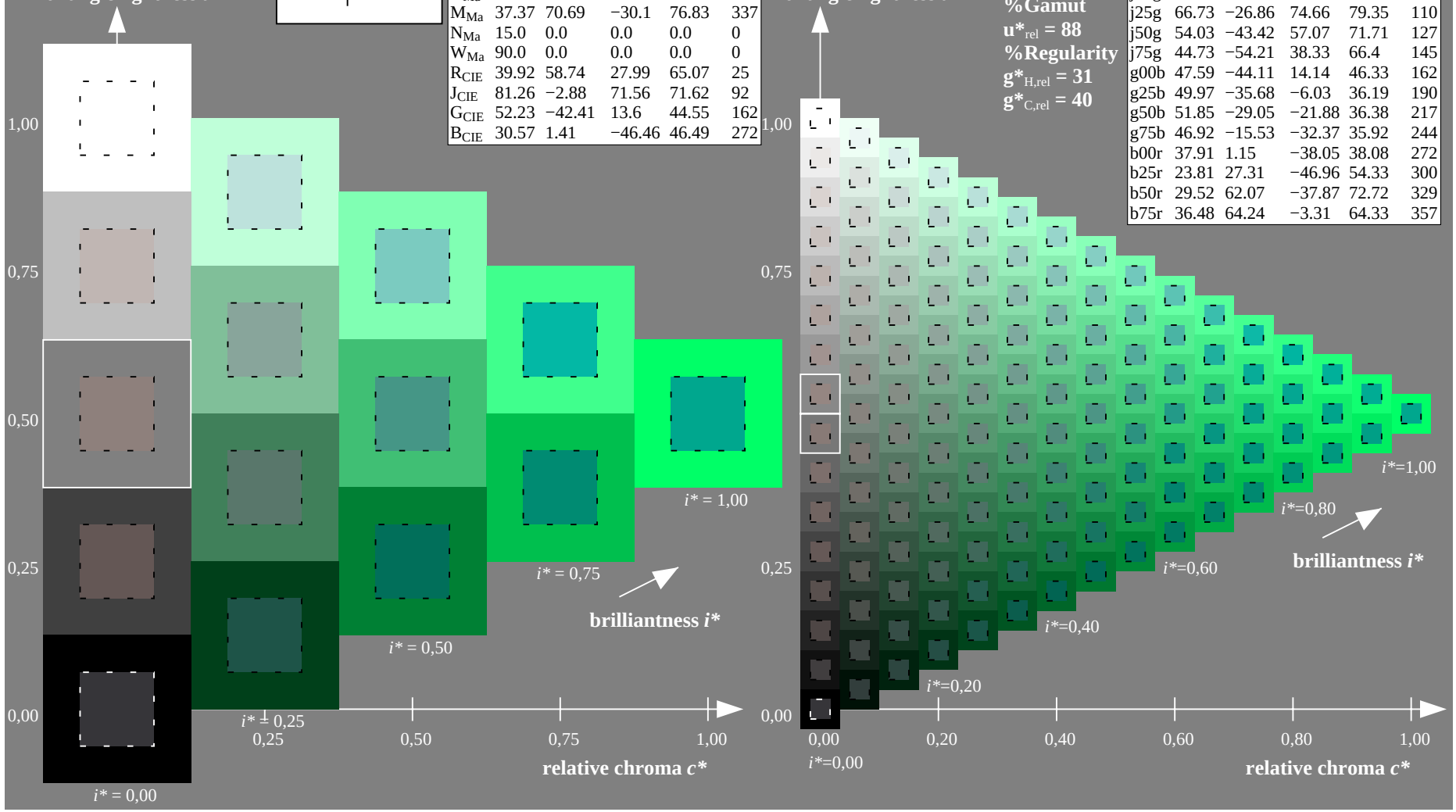



| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 48 −43 14**
***LAB*LCH****$_{Ma}$**: 48 46 162**
***lab*rgb****$_{Ma}$**: 0.0 1.0 0.0**
***lab*olv****$_{Ma}$**: 0.0 1.0 0.41**
**triangle lightness *t****

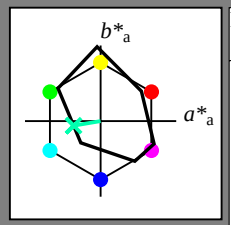
**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 190/360 = 0.527$** ***u* = g25b***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = g25b***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****




**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

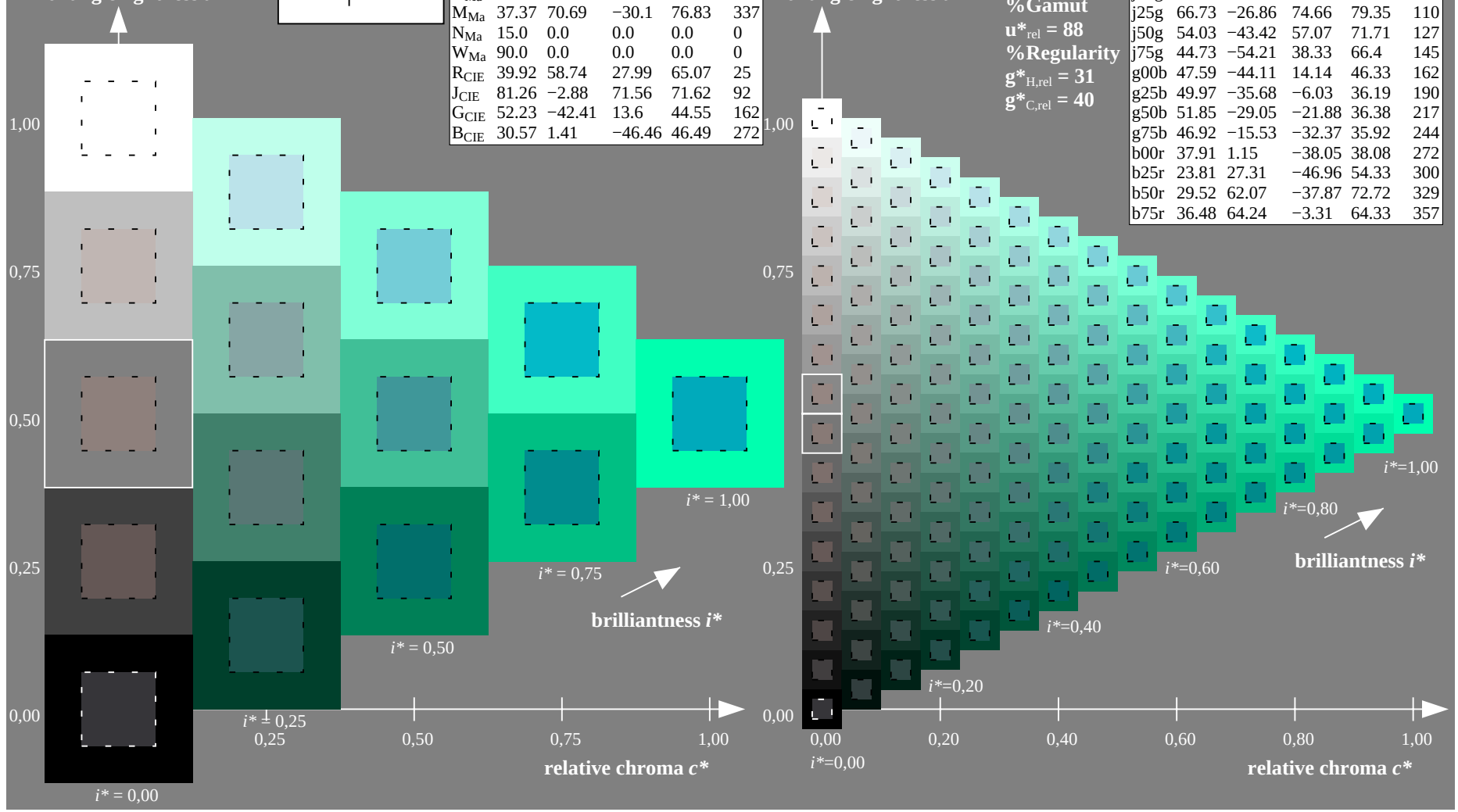
**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 50 −35 −5**
***LAB*LCH****$_{Ma}$**: 50 36 190**
***lab*rgb****$_{Ma}$**: 0.0 1.0 0.5**
***lab*olv****$_{Ma}$**: 0.0 1.0 0.69**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

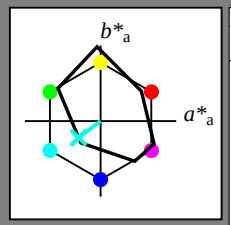
**triangle lightness *t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 217/360 = 0.603$** ***u* = g50b***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = g50b***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****




**FRS15_90aM; adapted (a) CIELAB data**

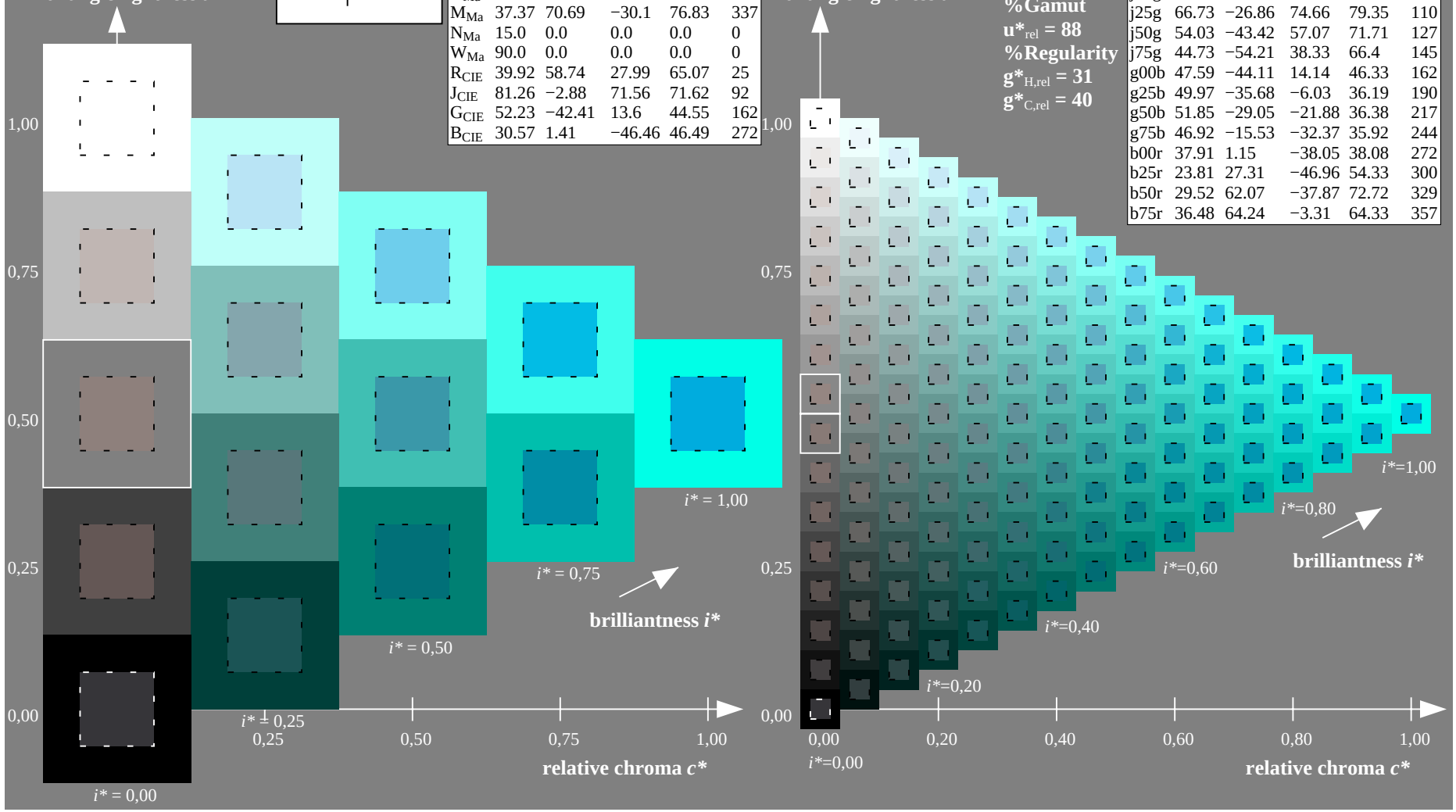
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 52 −28 −21**
***LAB*LCH****$_{Ma}$**: 52 36 217**
***lab*rgb****$_{Ma}$**: 0.0 1.0 1.0**
***lab*olv****$_{Ma}$**: 0.0 1.0 0.9**
**triangle lightness** ***t****

**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**

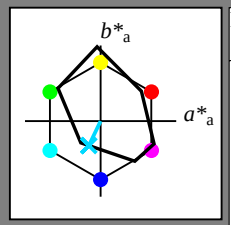
**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 244/360 = 0.679$** ***u* = g75b***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = g75b***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****

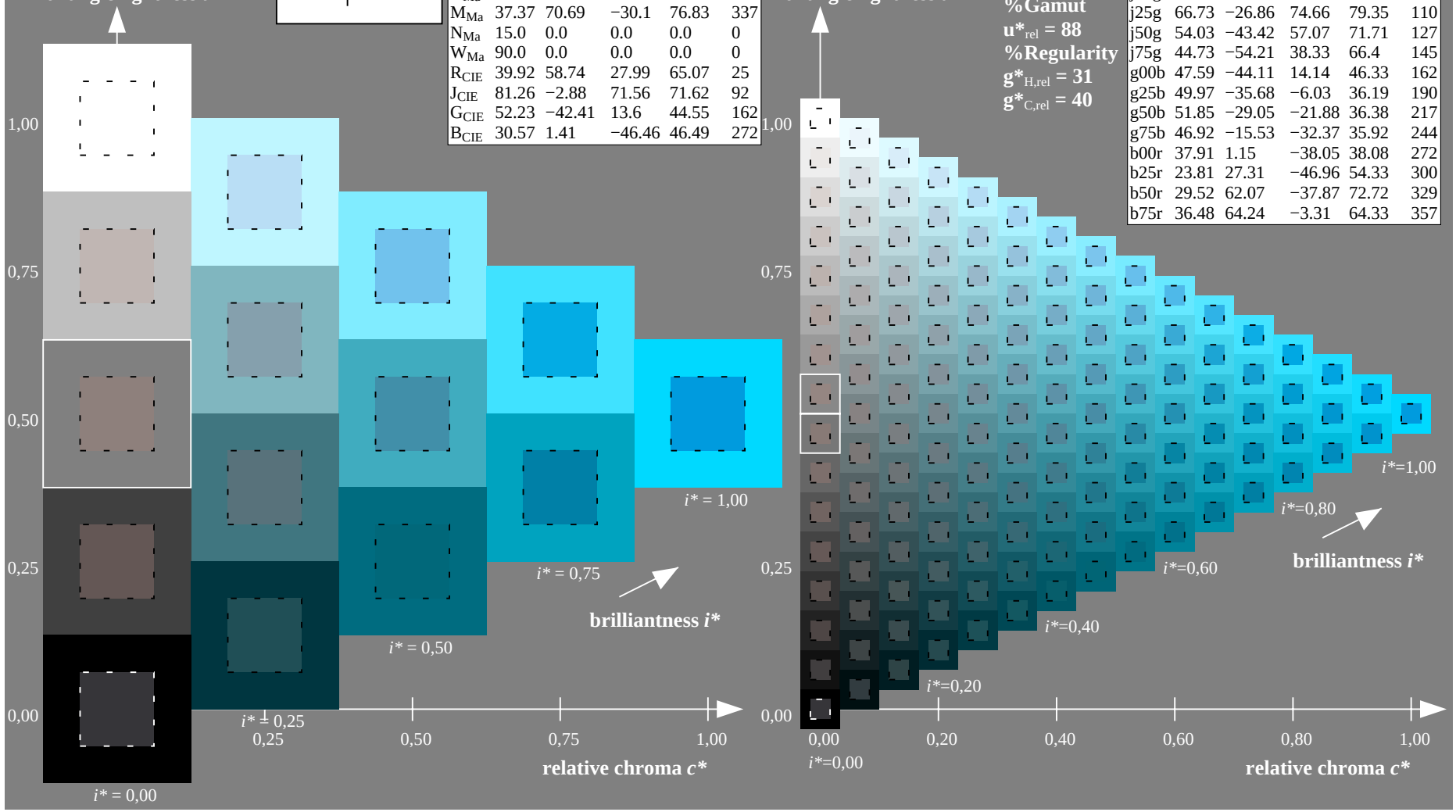



| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 47 −15 −31**
***LAB*LCH****$_{Ma}$**: 47 36 244**
***lab*rgb****$_{Ma}$**: 0.0 0.5 1.0**
***lab*olv****$_{Ma}$**: 0.0 0.85 1.0**
**triangle lightness *t****

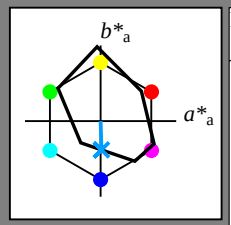
**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 272/360 = 0.755$** ***u* = b00r***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = b00r***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****

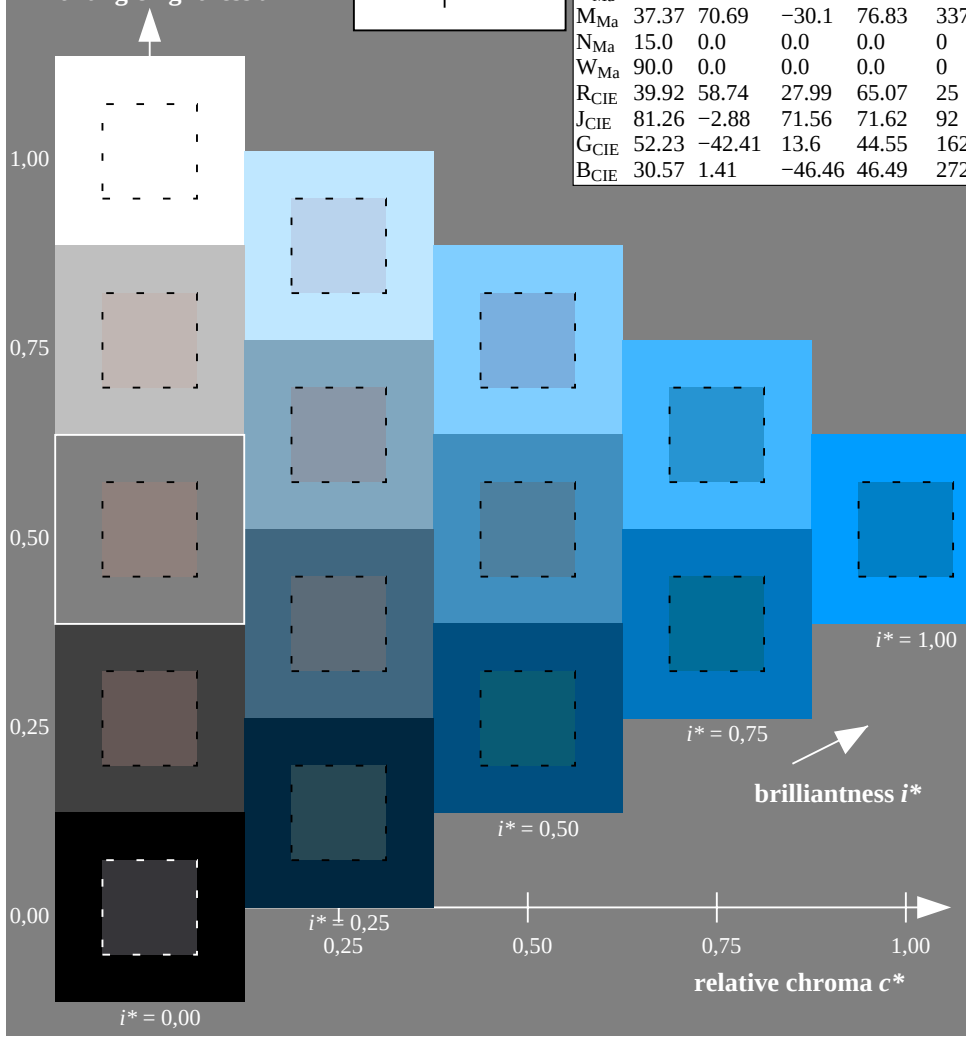


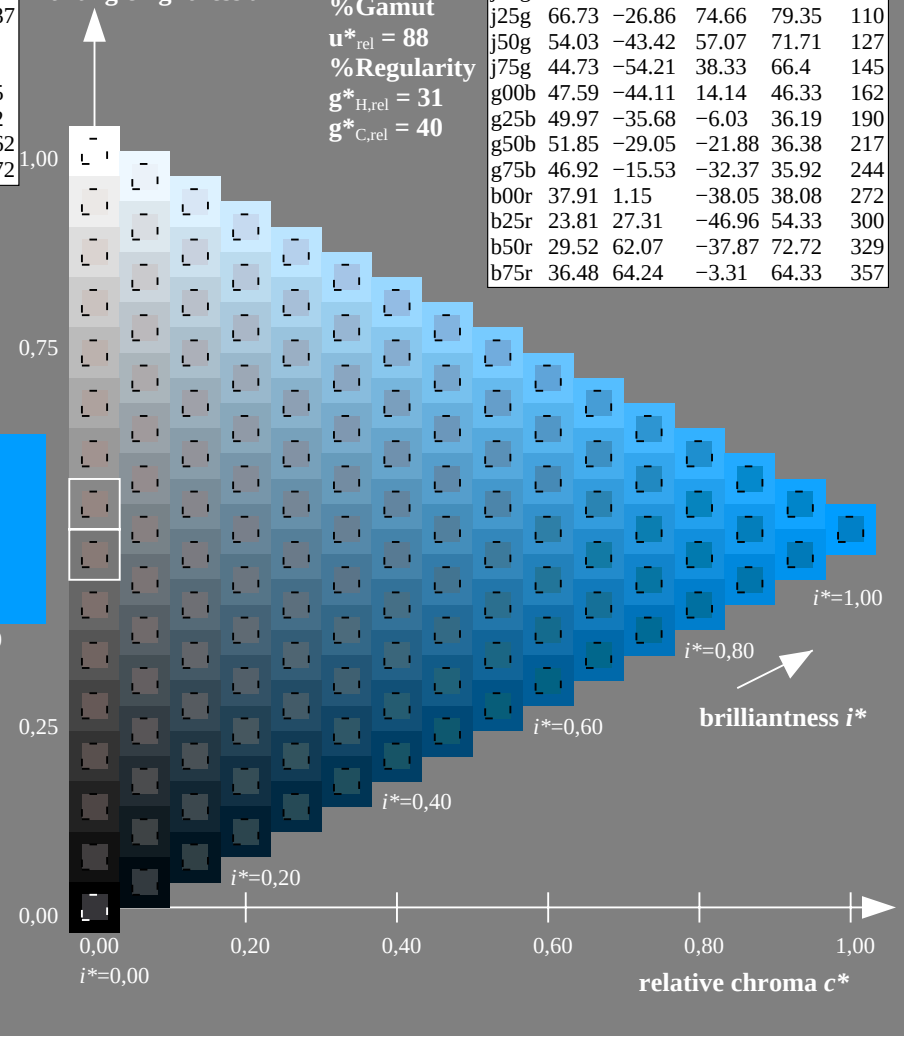

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 38 1 −37**
***LAB*LCH****$_{Ma}$**: 38 38 272**
***lab*rgb****$_{Ma}$**: 0.0 0.0 1.0**
***lab*olv****$_{Ma}$**: 0.0 0.62 1.0**

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

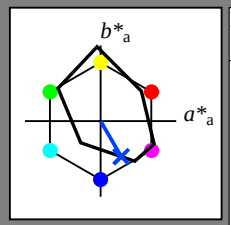
| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 300/360 = 0.834$** ***u* = b25r***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = b25r***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****

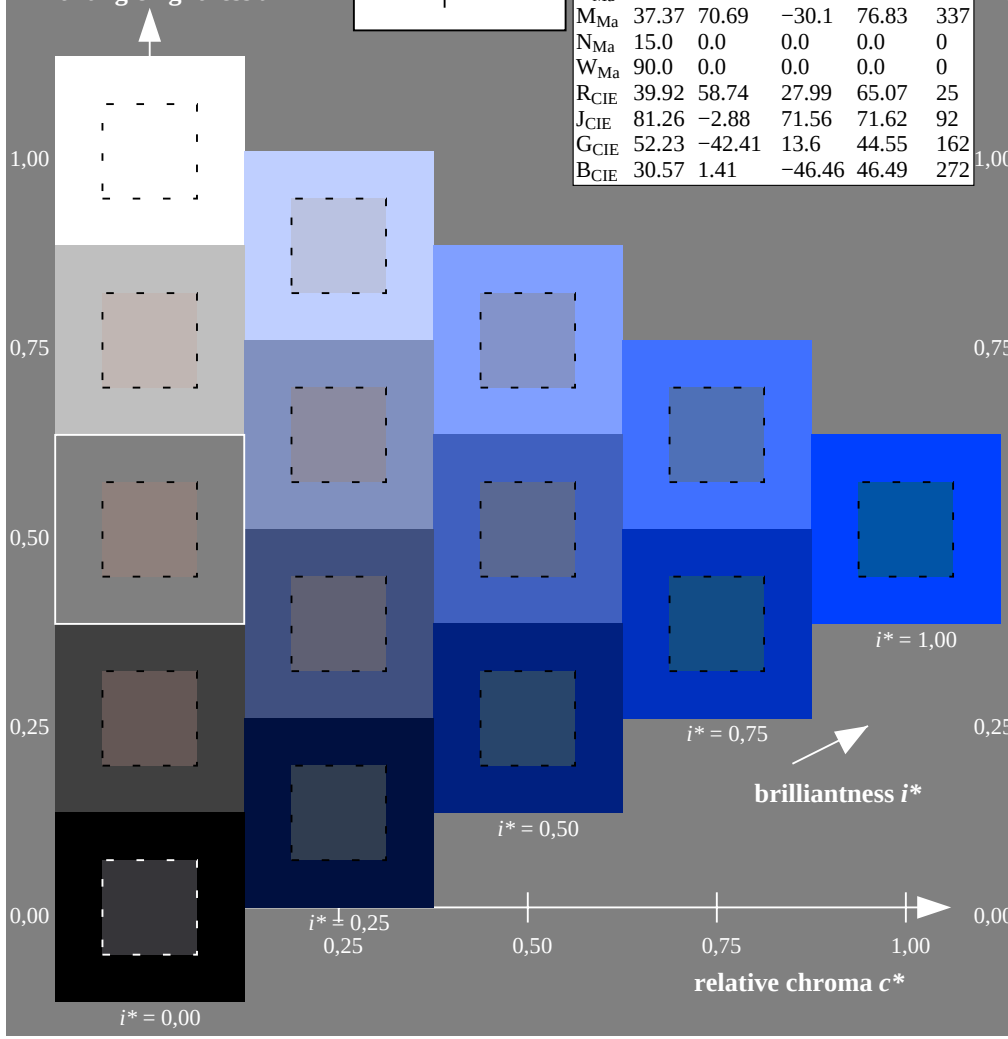


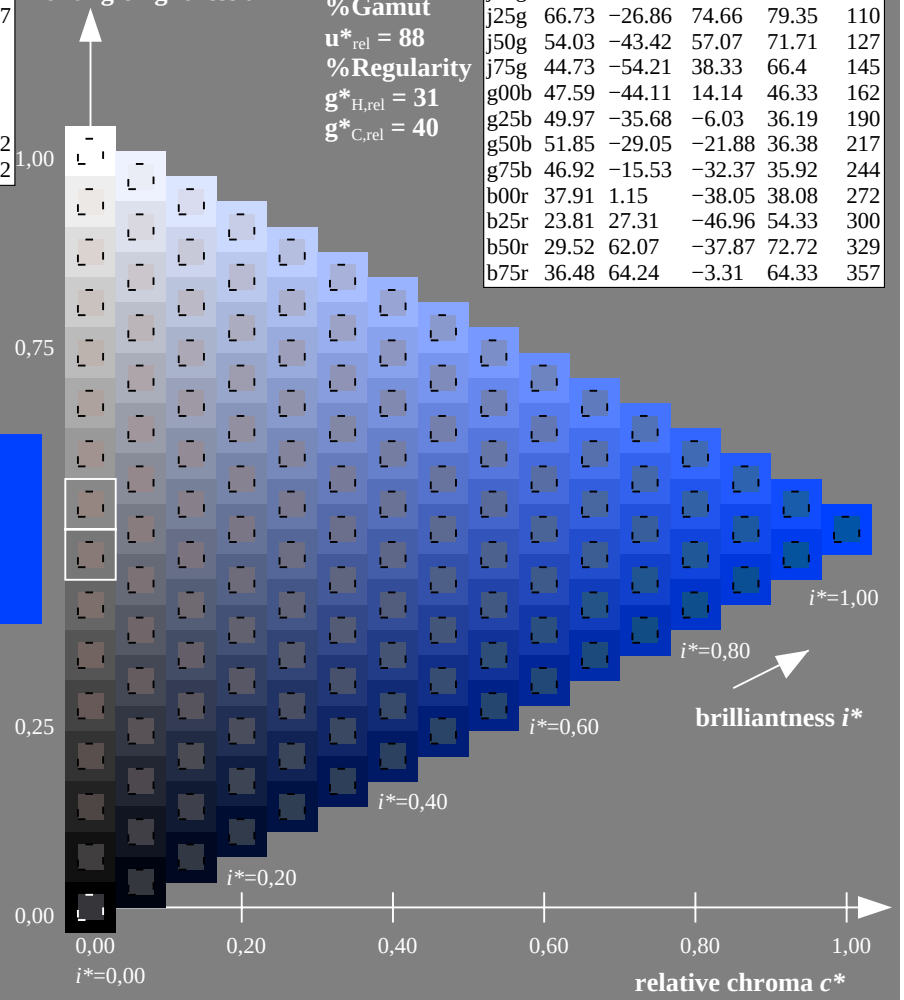

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 24 27 −46**
***LAB*LCH****$_{Ma}$**: 24 54 300**
***lab*rgb****$_{Ma}$**: 0.5 0.0 1.0**
***lab*olv****$_{Ma}$**: 0.0 0.25 1.0**
**triangle lightness *t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

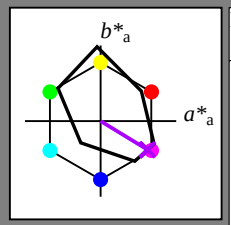
| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 329/360 = 0.913$** ***u* = b50r***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = b50r***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****

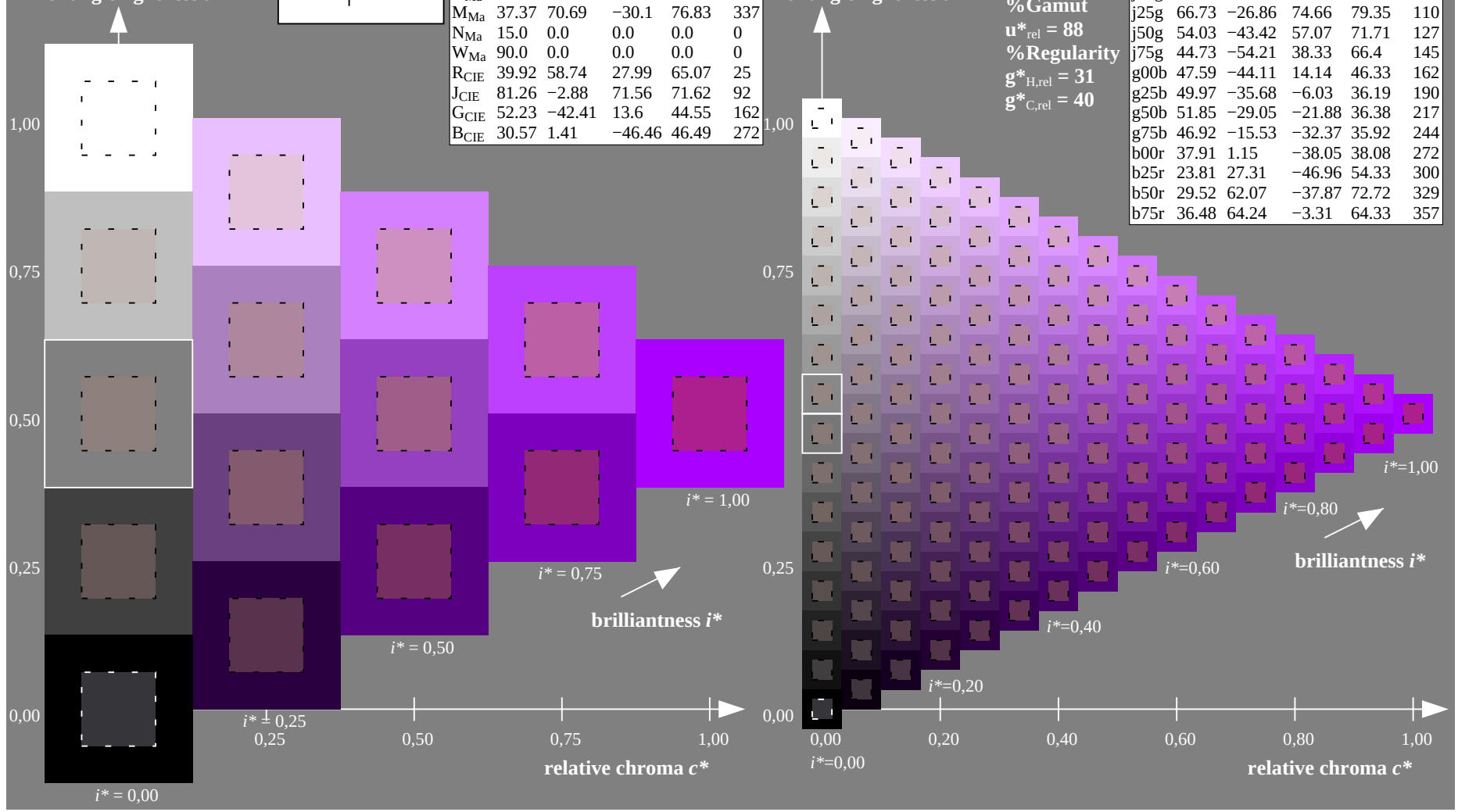



| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 30 62 −37**
***LAB*LCH****$_{Ma}$**: 30 73 329**
***lab*rgb****$_{Ma}$**: 1.0 0.0 1.0**
***lab*olv****$_{Ma}$**: 0.66 0.0 1.0**
**triangle lightness *t****

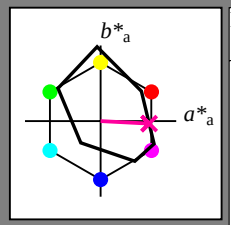
**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 357/360 = 0.992$** ***u* = b75r***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = b75r***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****

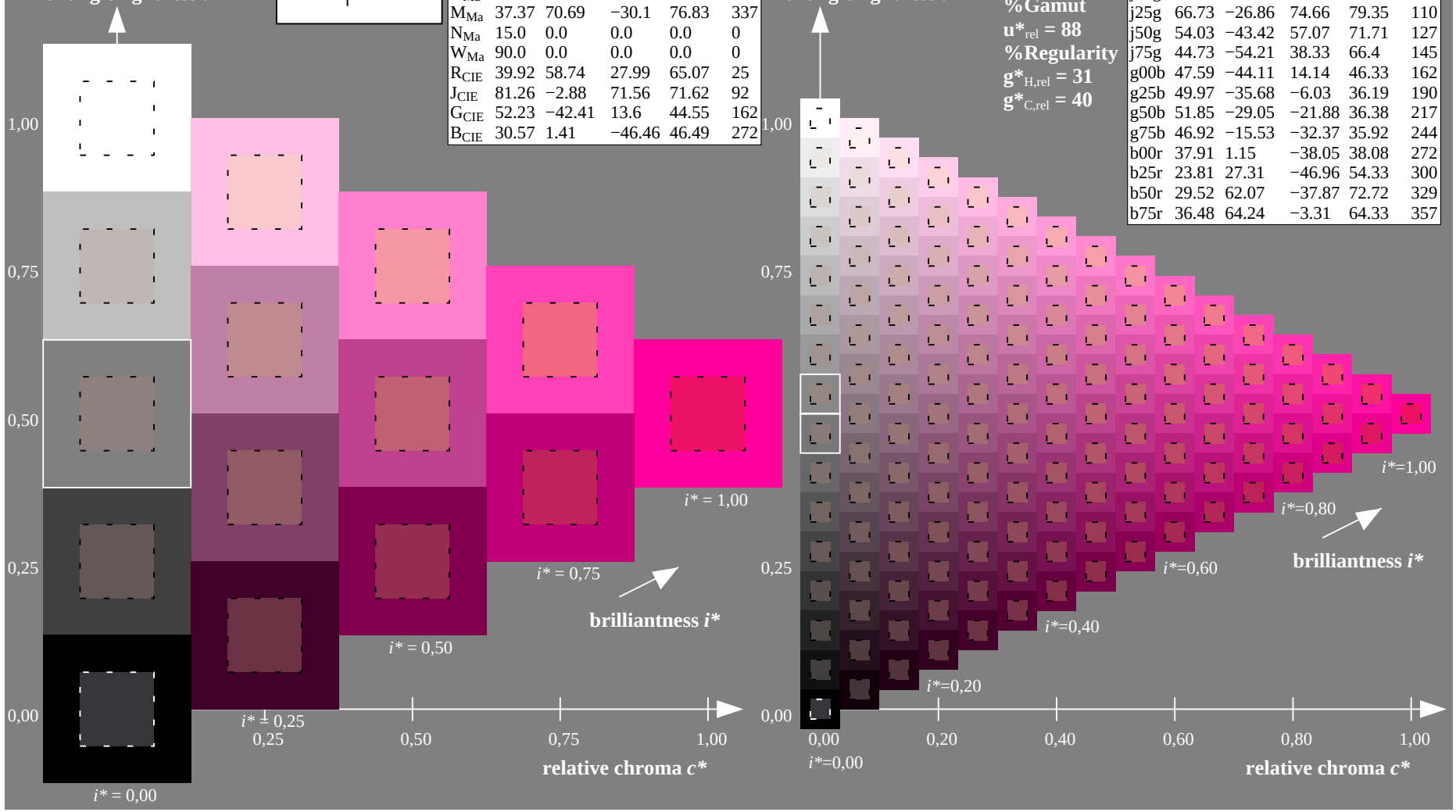


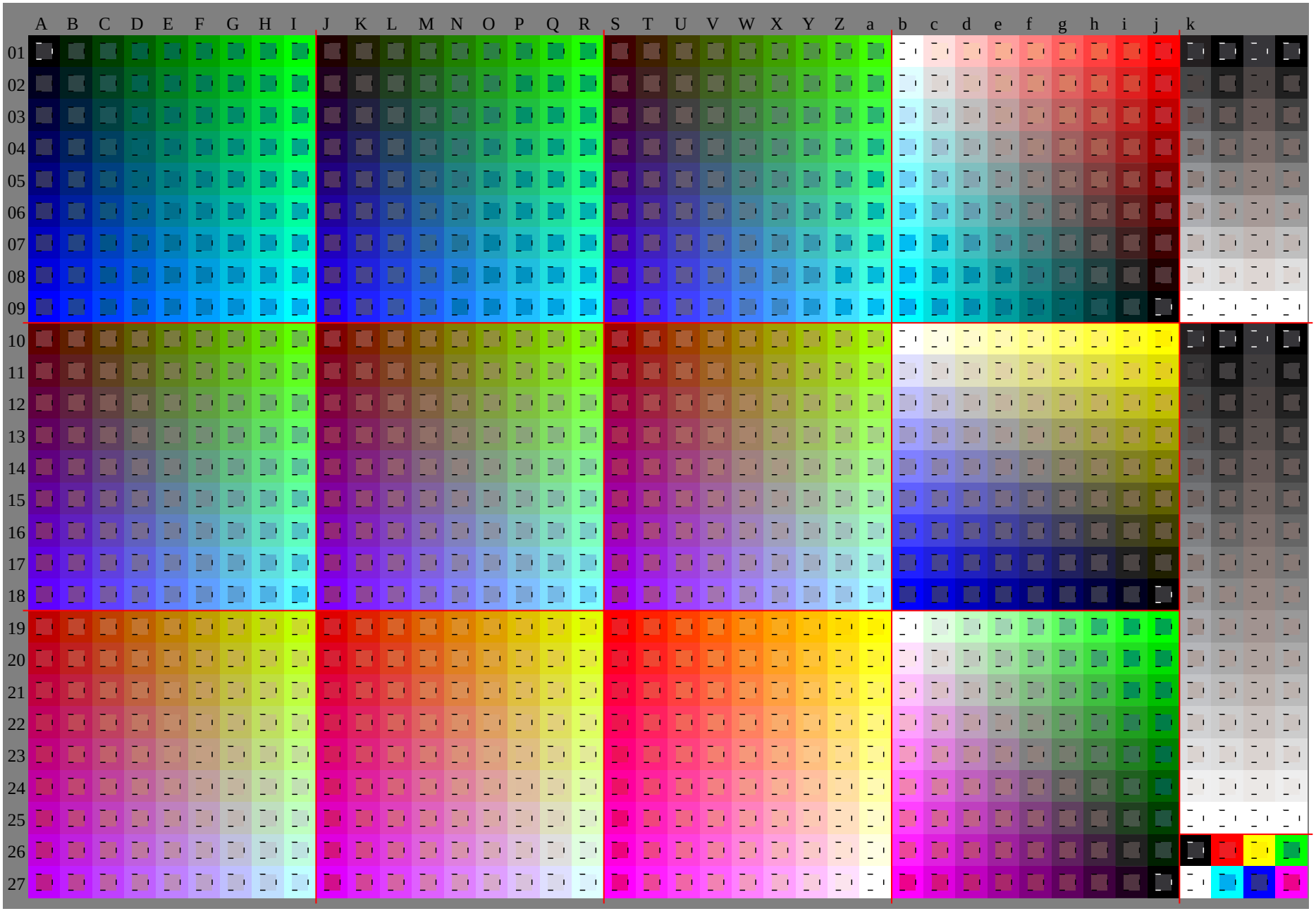

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 36 64 −2**
***LAB*LCH****$_{Ma}$**: 36 64 357**
***lab*rgb****$_{Ma}$**: 1.0 0.0 0.5**
***lab*olv****$_{Ma}$**: 1.0 0.0 0.62**

**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

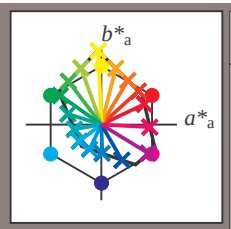



A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

**Input and output:**
**Colorimetric Printer Reflective System FRS15_90aM**
**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u**** **= 16 hues** ***r00j, r25j, ..., b75r***
**contrast reduction factor:**
$c_R$ **= 0.9**

**FRS15_90aM; adapted (a) CIELAB data**

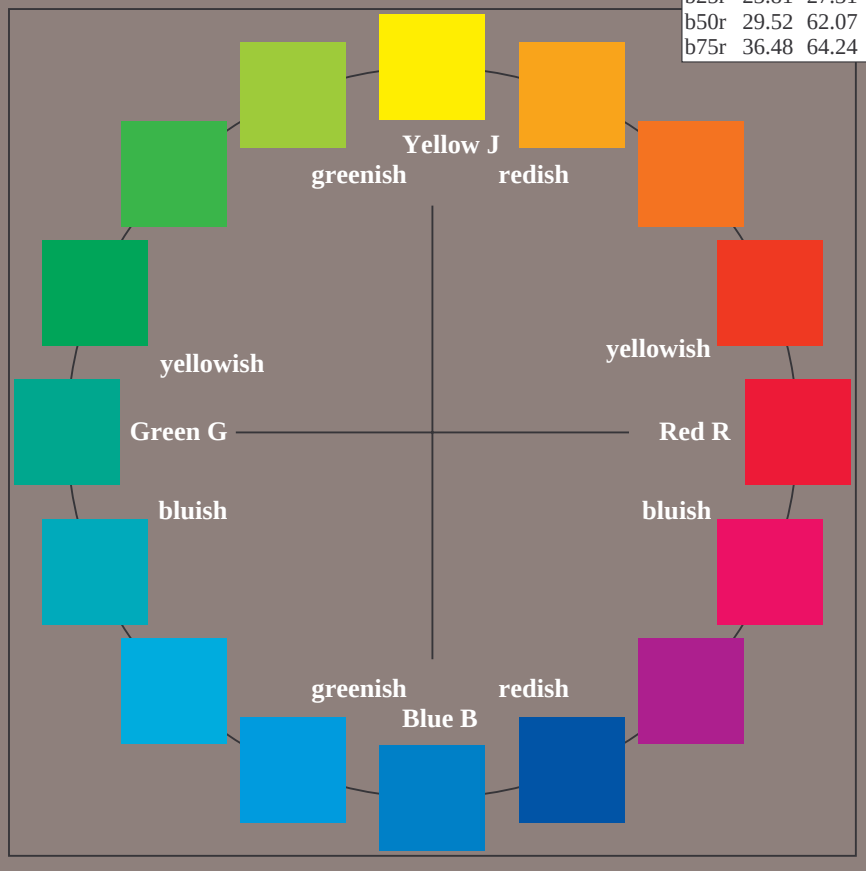
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

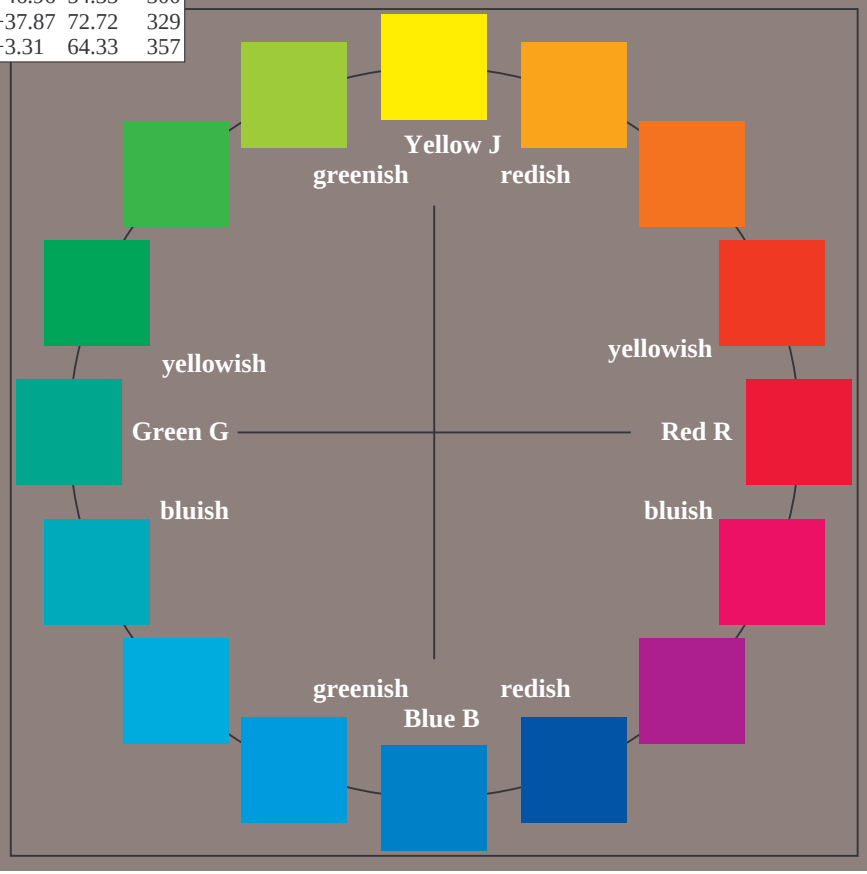



**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**

**FRS15_90aM; adapted (a) CIELAB data**

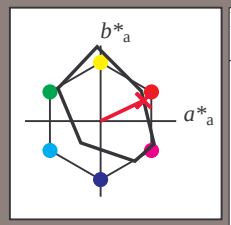
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 25/360 = 0.071$** ***u* = r00j***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = r00j***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****




**FRS15_90aM; adapted (a) CIELAB data**

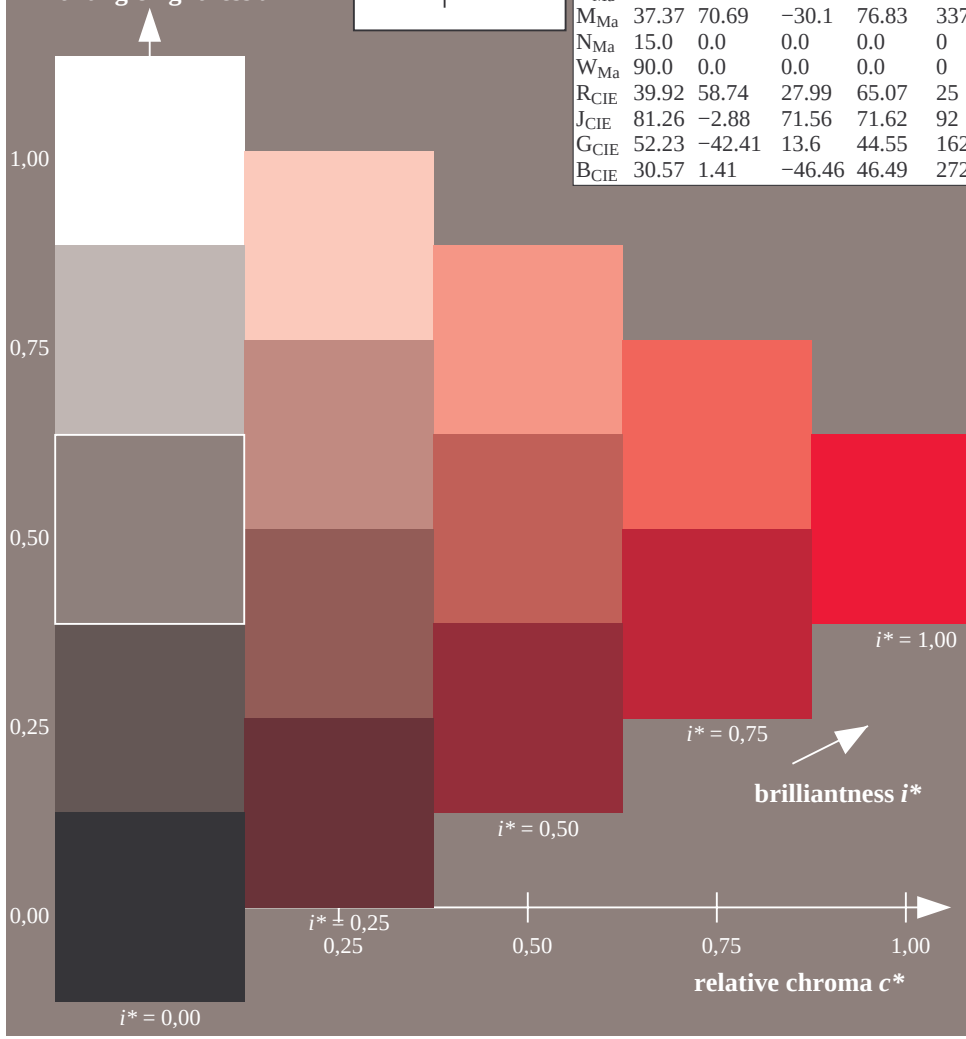
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

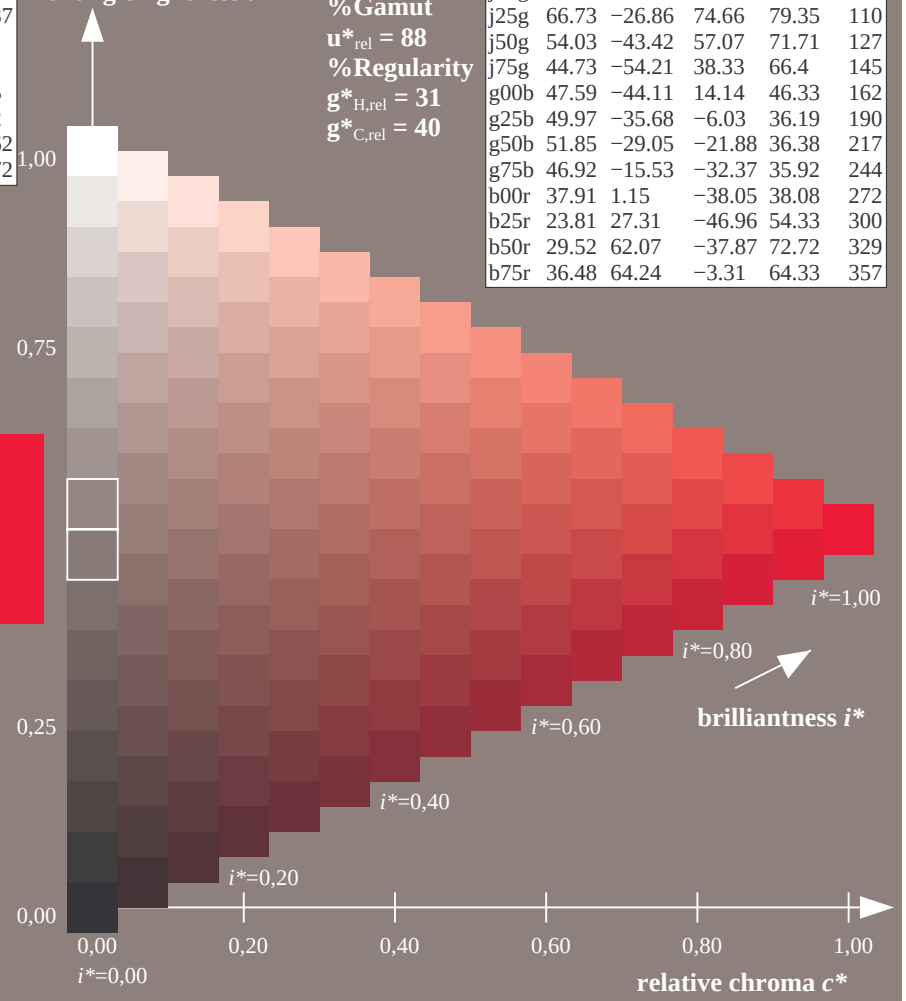
**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 35 57 27**
***LAB*LCH****$_{Ma}$**: 35 63 25**
***lab*rgb****$_{Ma}$**: 1.0 0.0 0.0**
***lab*olv****$_{Ma}$**: 1.0 0.0 0.18**

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

**FRS15_90aM; adapted (a) CIELAB data**

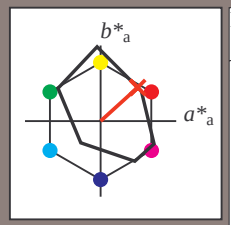
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 42/360 = 0.117$** ***u* = r25j***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = r25j***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****

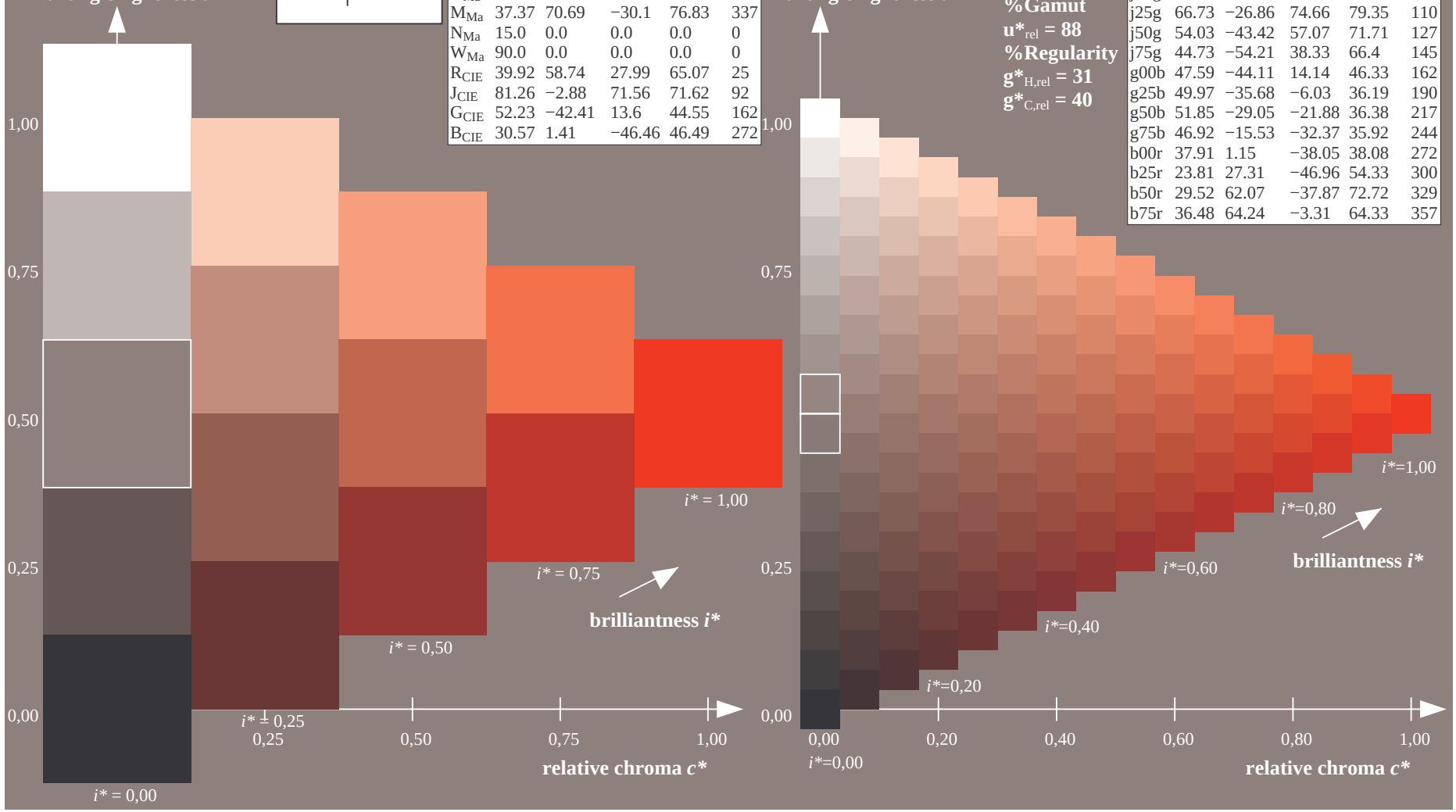



| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 39 49 44**
***LAB*LCH****$_{Ma}$**: 39 66 42**
***lab*rgb****$_{Ma}$**: 1.0 0.25 0.0**
***lab*olv****$_{Ma}$**: 1.0 0.08 0.0**

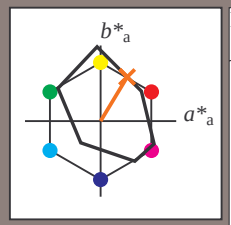
**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 59/360 = 0.164$** ***u* = r50j***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = r50j***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****

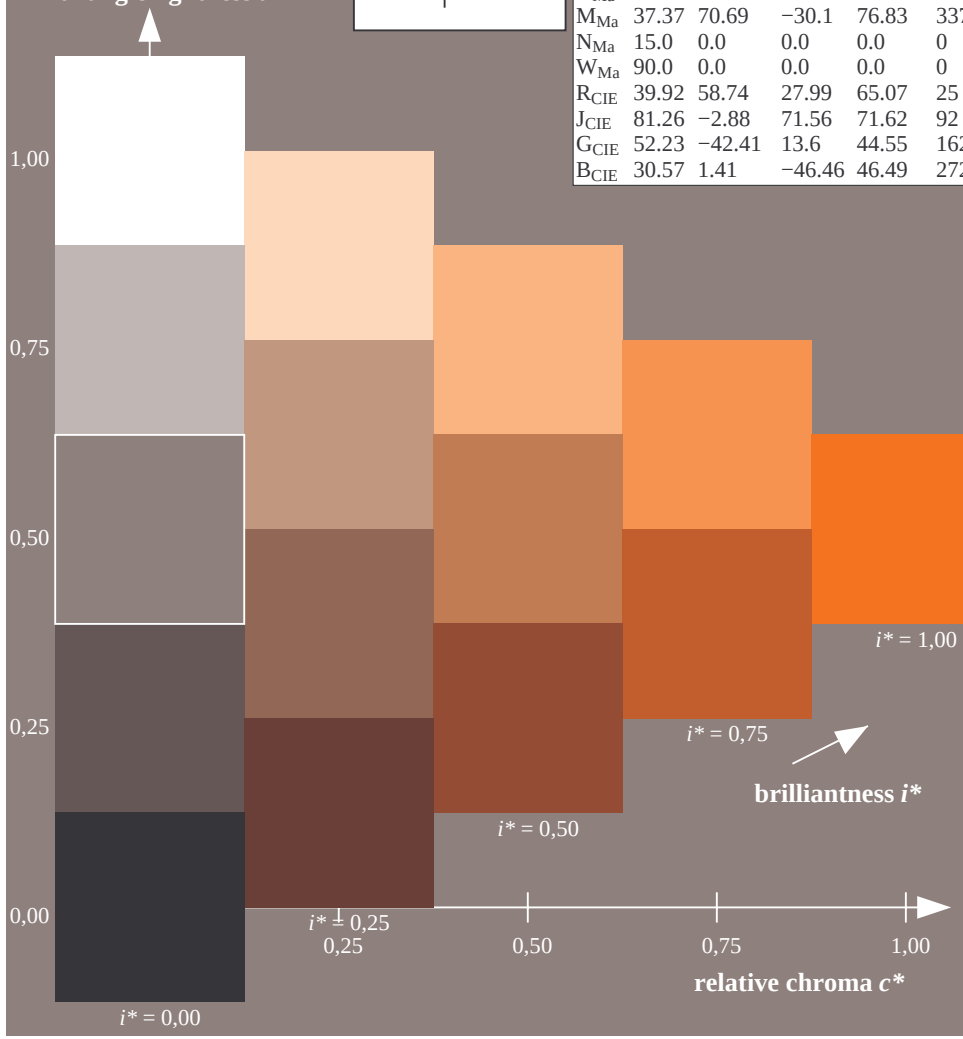


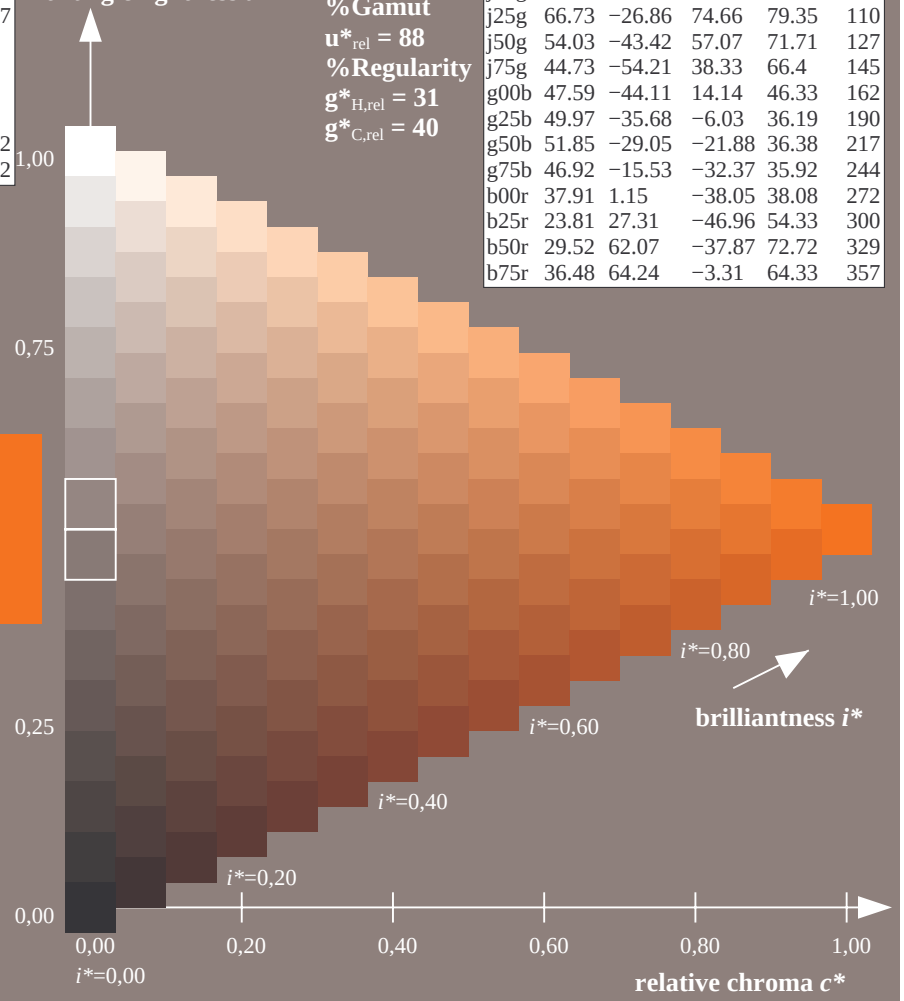

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 51 35 58**
***LAB*LCH****$_{Ma}$**: 51 68 59**
***lab*rgb****$_{Ma}$**: 1.0 0.5 0.0**
***lab*olv****$_{Ma}$**: 1.0 0.32 0.0**

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

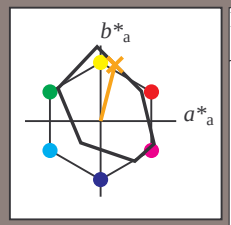
| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 76/360 = 0.21$** ***u* = r75j***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = r75j***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****

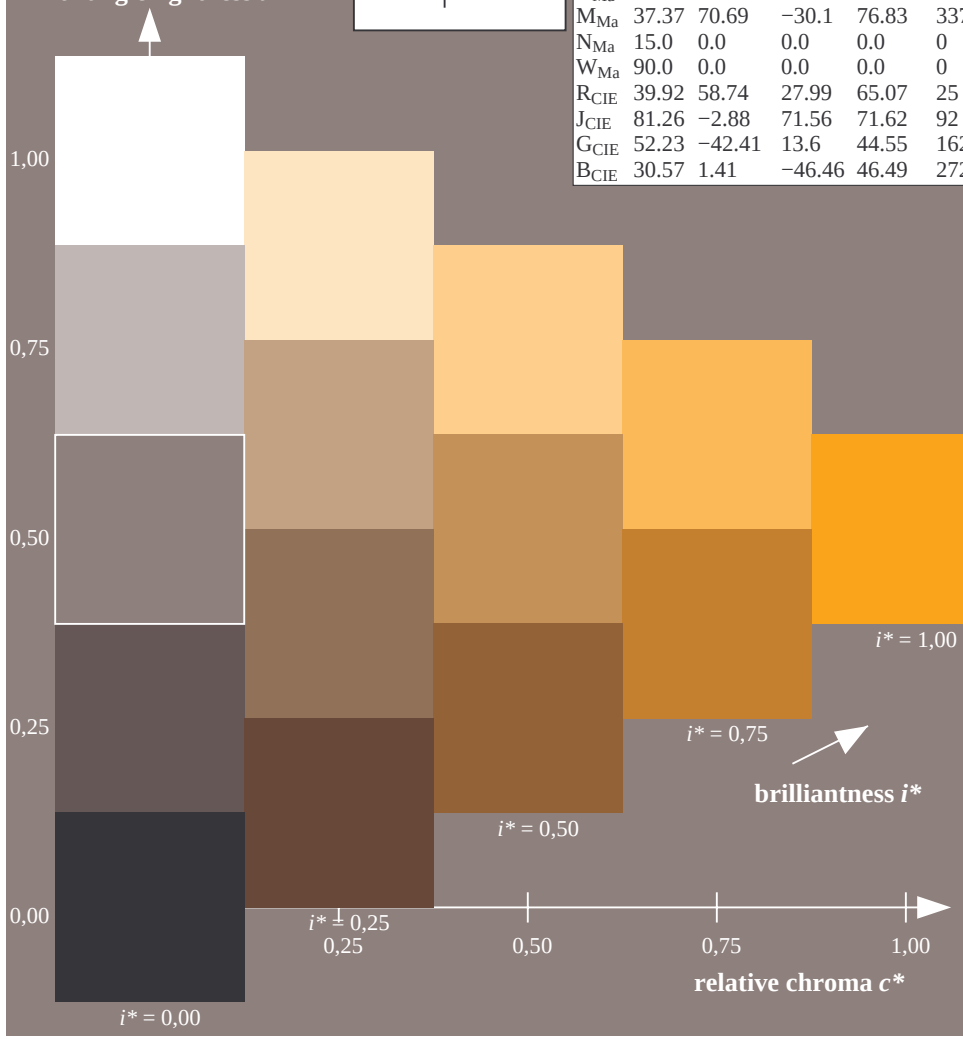


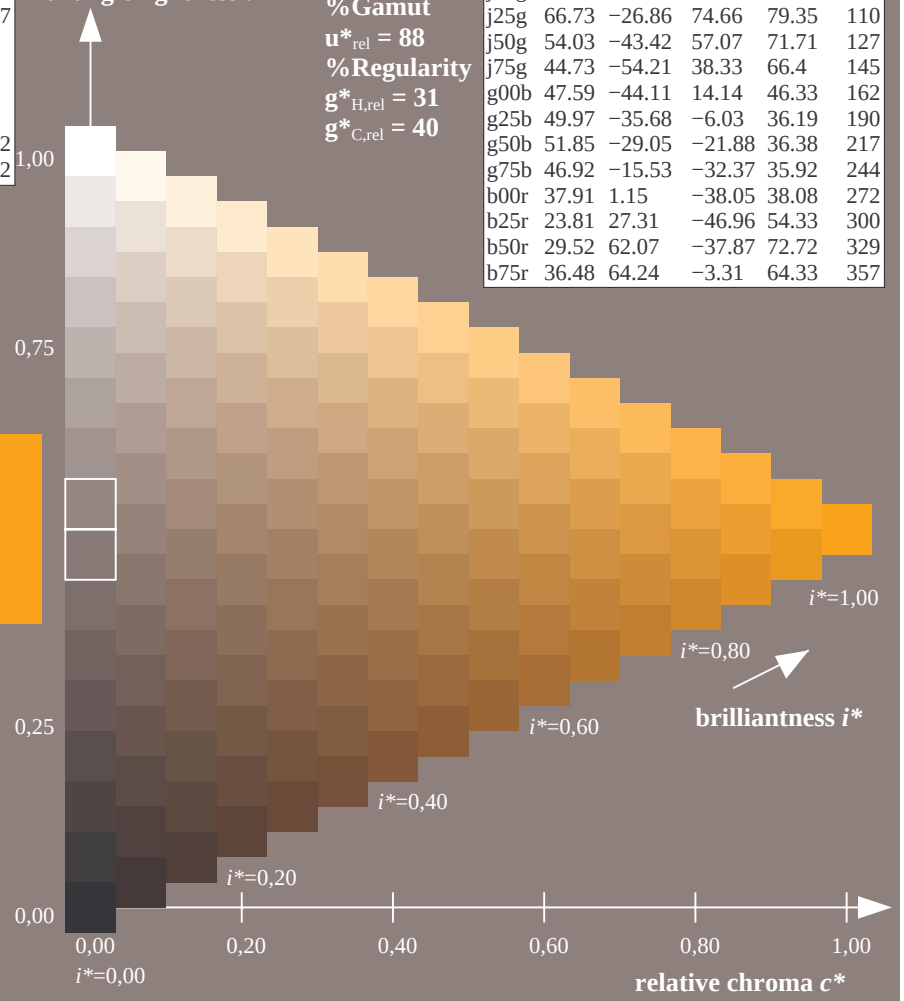

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 64 19 74**
***LAB*LCH****$_{Ma}$**: 64 77 76**
***lab*rgb****$_{Ma}$**: 1.0 0.75 0.0**
***lab*olv****$_{Ma}$**: 1.0 0.59 0.0**

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

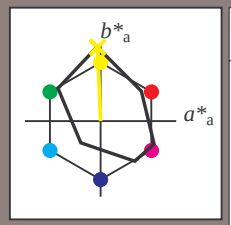
| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 92/360 = 0.256$** ***u* = j00g***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = j00g***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****




| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 83 −3 98**
***LAB*LCH****$_{Ma}$**: 83 98 92**
***lab*rgb****$_{Ma}$**: 1.0 1.0 0.0**
***lab*olv****$_{Ma}$**: 1.0 0.99 0.0**
**triangle lightness** ***t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

1,00
0,75
0,50
0,25
0,00

*i** = 0,00
*i** = 0,25
*i** = 0,50
*i** = 0,75
*i** = 1,00

0,25 0,50 0,75 1,00
**relative chroma** ***c****

**brilliantness** ***i****

1,00
0,75
0,25
0,00

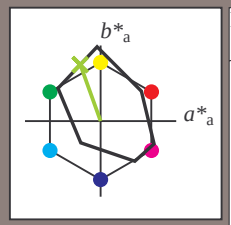
*i**=0,00
*i**=0,20
*i**=0,40
*i**=0,60
*i**=0,80
*i**=1,00

0,00 0,20 0,40 0,60 0,80 1,00
**relative chroma** ***c****

**brilliantness** ***i****

**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 110/360 = 0.305$** ***u* = j25g***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = j25g***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****




**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 67 −26 75**
***LAB*LCH****$_{Ma}$**: 67 79 110**
***lab*rgb****$_{Ma}$**: 0.75 1.0 0.0**
***lab*olv****$_{Ma}$**: 0.57 1.0 0.0**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness** ***t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

1,00
0,75
0,50
0,25
0,00

***i** = 0,00***
***i** = 0,25*
***i** = 0,50*
***i** = 0,75*
***i** = 1,00*

**brilliantness** ***i****

0,25 0,50 0,75 1,00
**relative chroma** ***c****

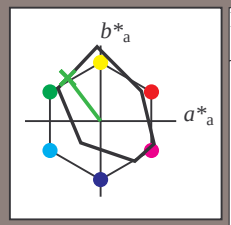
***i**=0,00*
***i**=0,20*
***i**=0,40*
***i**=0,60*
***i**=0,80*
***i**=1,00*

**brilliantness** ***i****

0,00 0,20 0,40 0,60 0,80 1,00
**relative chroma** ***c****

**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 127/360 = 0.354$** ***u* = j50g***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = j50g***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****




**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

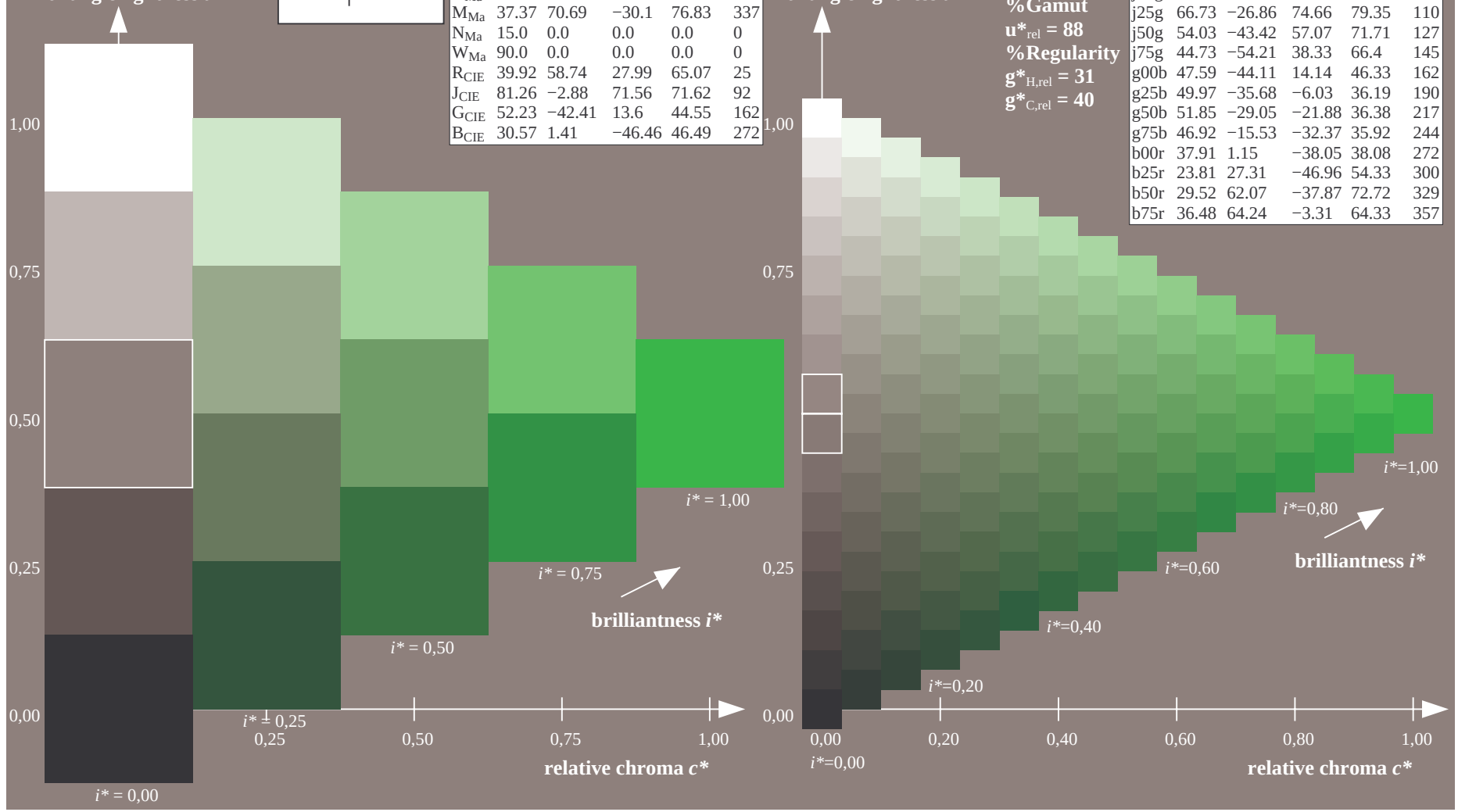
**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 54 −42 57**
***LAB*LCH****$_{Ma}$**: 54 72 127**
***lab*rgb****$_{Ma}$**: 0.5 1.0 0.0**
***lab*olv****$_{Ma}$**: 0.25 1.0 0.0**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

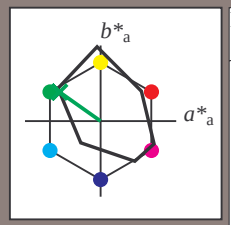
**triangle lightness** ***t****

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 145/360 = 0.402$** ***u* = j75g***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = j75g***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****




**FRS15_90aM; adapted (a) CIELAB data**

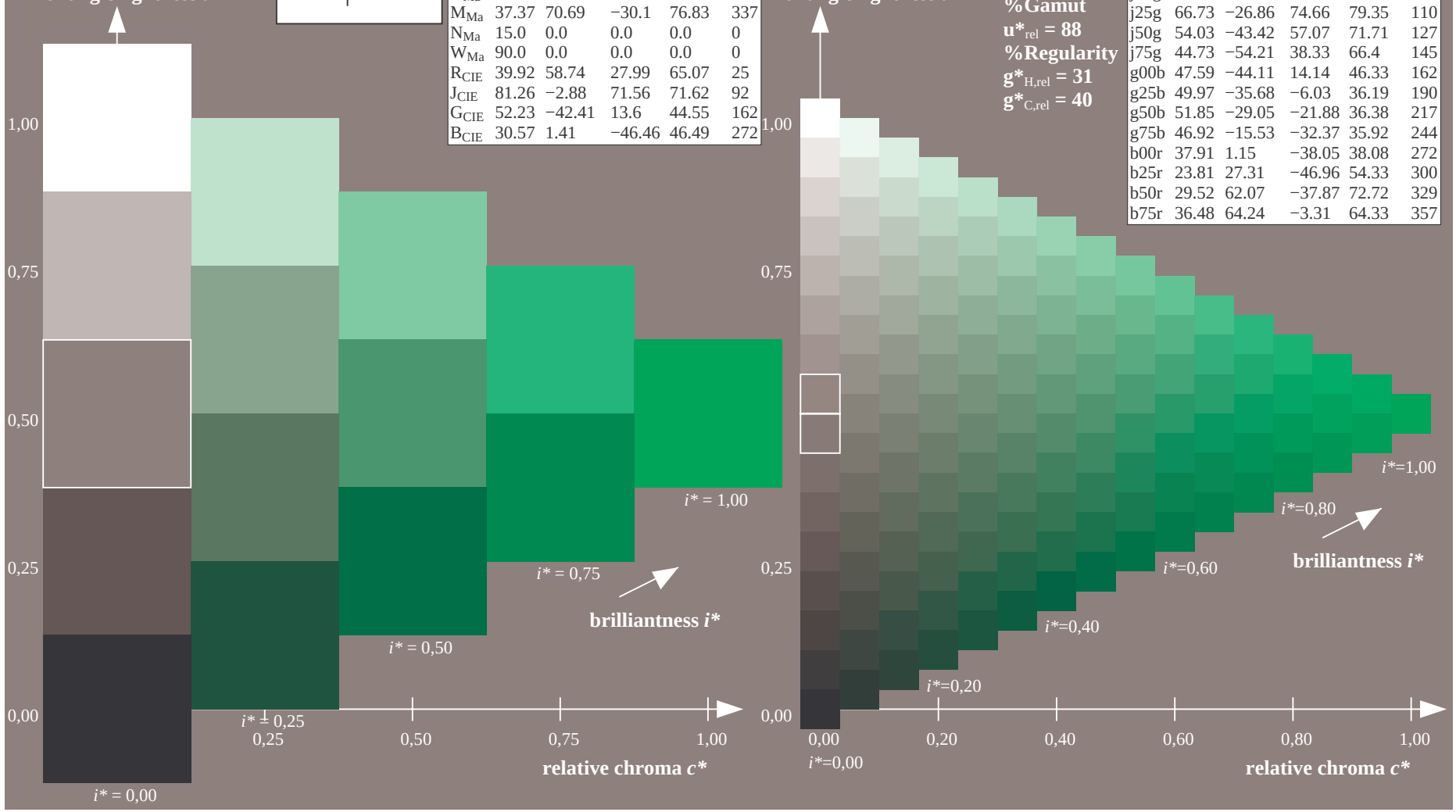
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 45 −53 38**
***LAB*LCH****$_{Ma}$**: 45 66 145**
***lab*rgb****$_{Ma}$**: 0.25 1.0 0.0**
***lab*olv****$_{Ma}$**: 0.0 1.0 0.07**

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

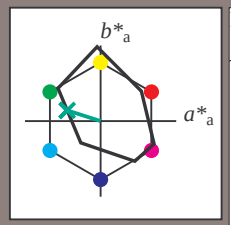
**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 162/360 = 0.451$** ***u* = g00b***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = g00b***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****




**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 48 −43 14**
***LAB*LCH****$_{Ma}$**: 48 46 162**
***lab*rgb****$_{Ma}$**: 0.0 1.0 0.0**
***lab*olv****$_{Ma}$**: 0.0 1.0 0.41**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness** ***t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

1,00
0,75
0,50
0,25
0,00

*i** = 0,00
*i** = 0,25
*i** = 0,50
*i** = 0,75
*i** = 1,00

**brilliantness** ***i****

0,25 0,50 0,75 1,00
**relative chroma** ***c****

1,00
0,75
0,25
0,00

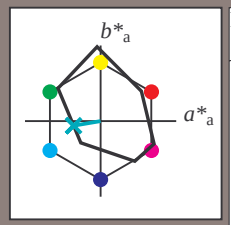
*i**=0,00
*i**=0,20
*i**=0,40
*i**=0,60
*i**=0,80
*i**=1,00

**brilliantness** ***i****

0,00 0,20 0,40 0,60 0,80 1,00
**relative chroma** ***c****

**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 190/360 = 0.527$** ***u* = g25b***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = g25b***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****




**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

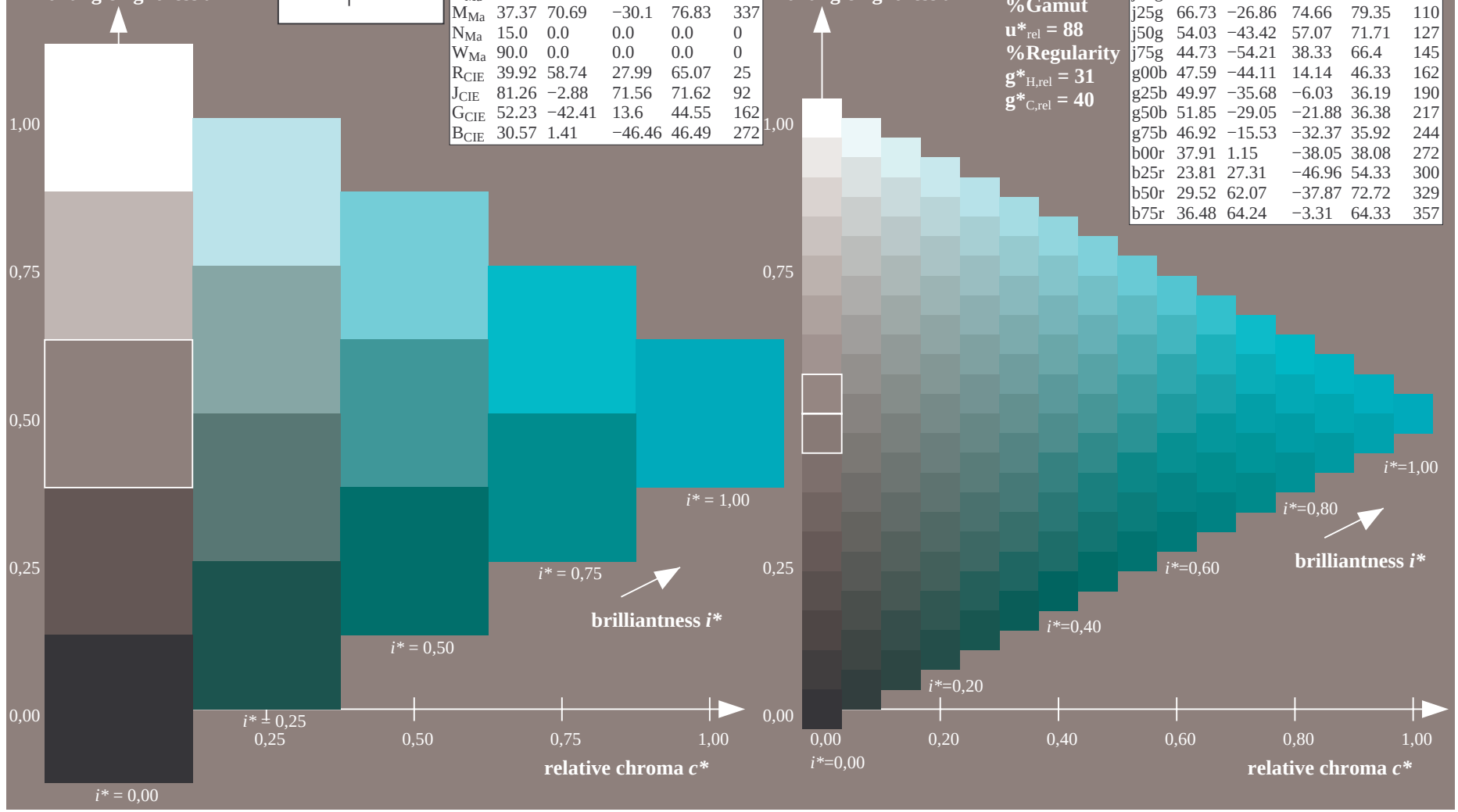
**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 50 −35 −5**
***LAB*LCH****$_{Ma}$**: 50 36 190**
***lab*rgb****$_{Ma}$**: 0.0 1.0 0.5**
***lab*olv****$_{Ma}$**: 0.0 1.0 0.69**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

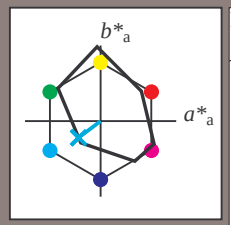
**triangle lightness** ***t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 217/360 = 0.603$** ***u* = g50b***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = g50b***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****




**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

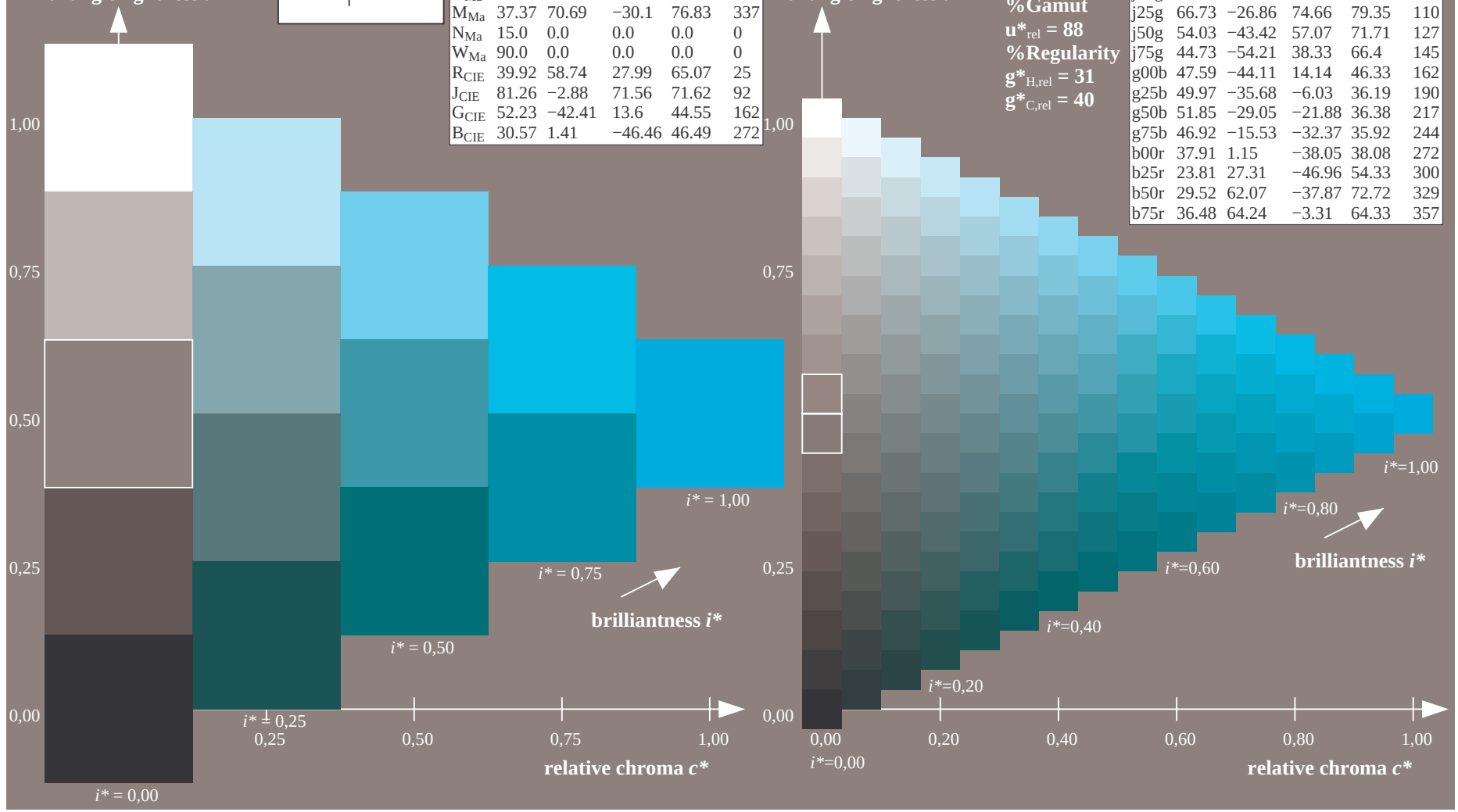
**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 52 −28 −21**
***LAB*LCH****$_{Ma}$**: 52 36 217**
***lab*rgb****$_{Ma}$**: 0.0 1.0 1.0**
***lab*olv****$_{Ma}$**: 0.0 1.0 0.9**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

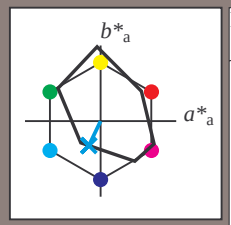
**triangle lightness** ***t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 244/360 = 0.679$** ***u* = g75b***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = g75b***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****

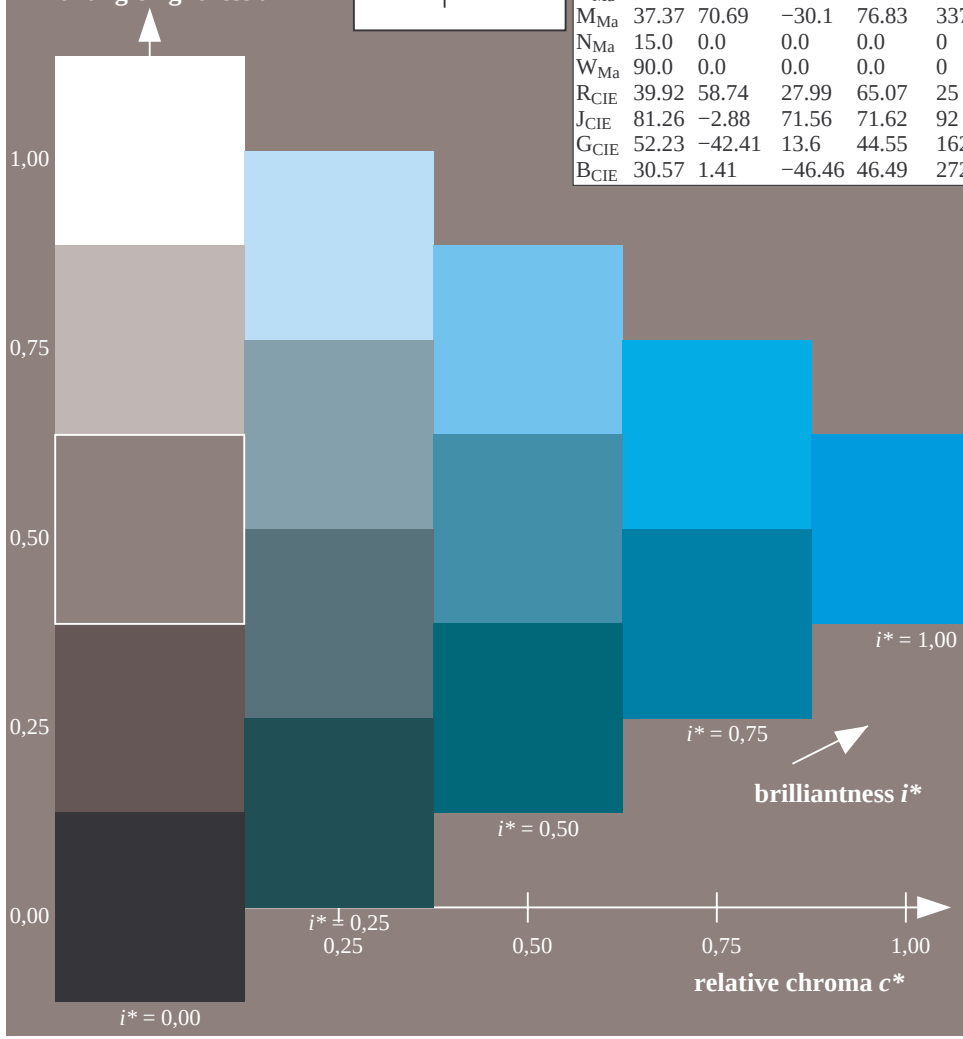


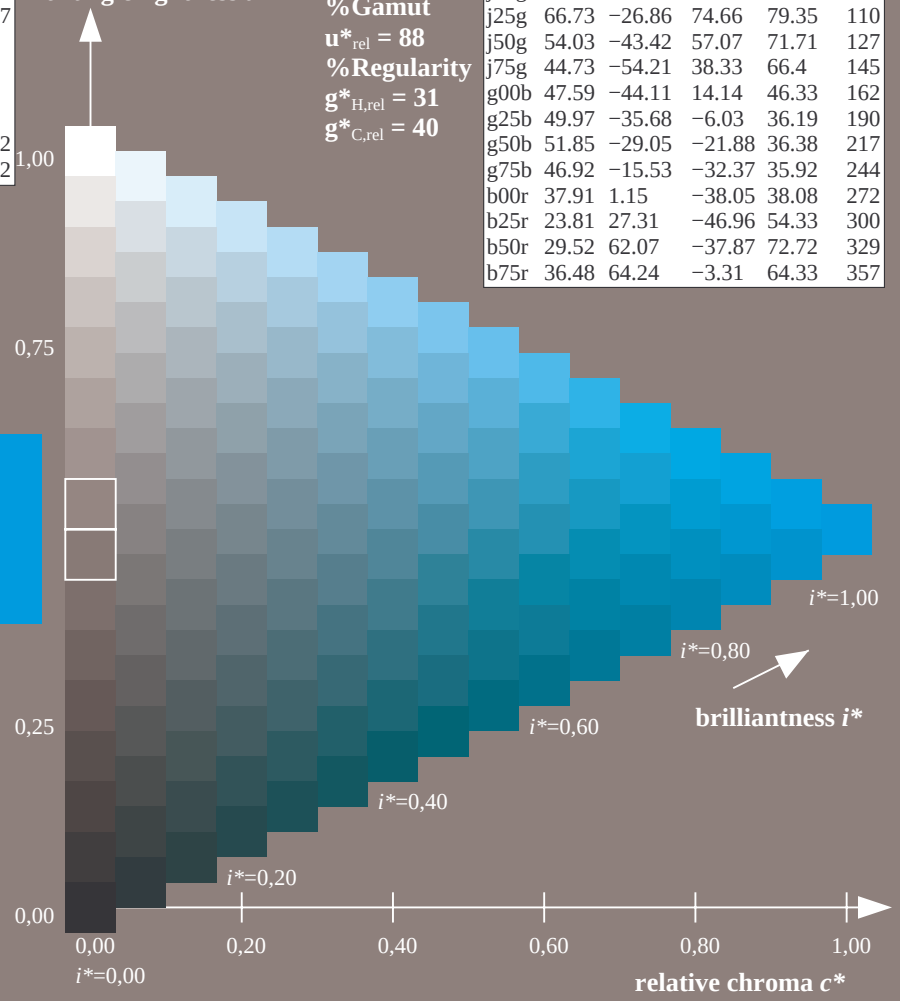

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 47 −15 −31**
***LAB*LCH****$_{Ma}$**: 47 36 244**
***lab*rgb****$_{Ma}$**: 0.0 0.5 1.0**
***lab*olv****$_{Ma}$**: 0.0 0.85 1.0**
**triangle lightness** ***t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

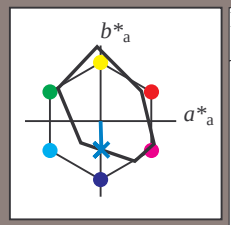
| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 272/360 = 0.755$** ***u* = b00r***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = b00r***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 38 1 −37**
***LAB*LCH****$_{Ma}$**: 38 38 272**
***lab*rgb****$_{Ma}$**: 0.0 0.0 1.0**
***lab*olv****$_{Ma}$**: 0.0 0.62 1.0**
**triangle lightness** ***t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

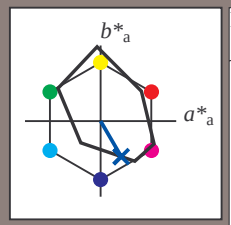
| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

1,00
0,75
0,50
0,25
0,00
$i^* = 0,00$
$i^* = 0,25$
$i^* = 0,50$
$i^* = 0,75$
$i^* = 1,00$
**brilliantness** ***i****
0,25 0,50 0,75 1,00
**relative chroma** ***c****

1,00
0,75
0,25
0,00
$i^*=0,00$
$i^*=0,20$
$i^*=0,40$
$i^*=0,60$
$i^*=0,80$
$i^*=1,00$
**brilliantness** ***i****
0,00 0,20 0,40 0,60 0,80 1,00
**relative chroma** ***c****

**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 300/360 = 0.834$** ***u* = b25r***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = b25r***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****

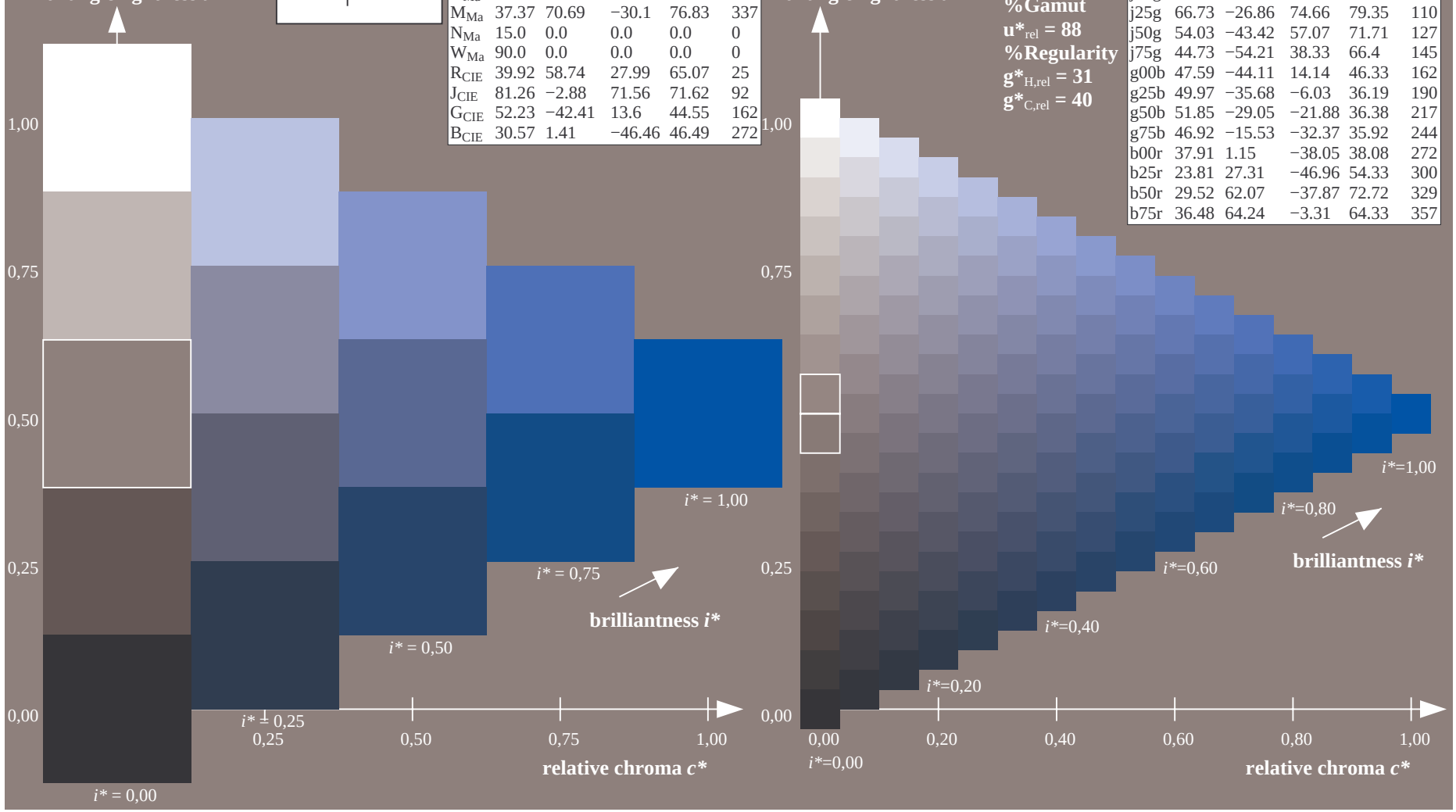



| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 24 27 −46**
***LAB*LCH****$_{Ma}$**: 24 54 300**
***lab*rgb****$_{Ma}$**: 0.5 0.0 1.0**
***lab*olv****$_{Ma}$**: 0.0 0.25 1.0**
**triangle lightness *t****

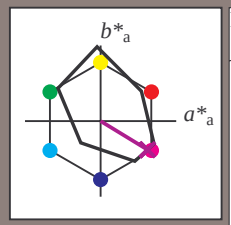
**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 329/360 = 0.913$** ***u* = b50r***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = b50r***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****




**FRS15_90aM; adapted (a) CIELAB data**

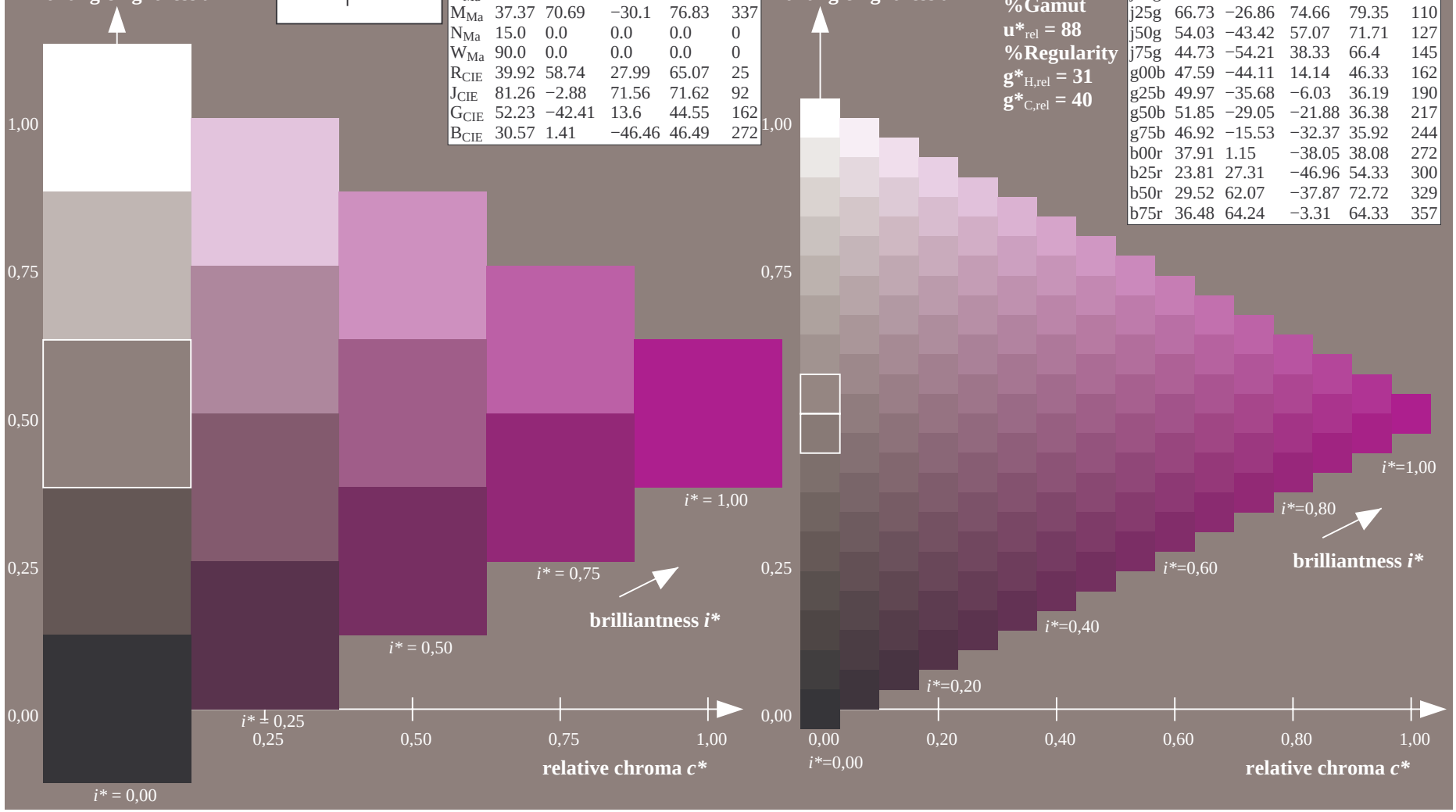
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 30 62 −37**
***LAB*LCH****$_{Ma}$**: 30 73 329**
***lab*rgb****$_{Ma}$**: 1.0 0.0 1.0**
***lab*olv****$_{Ma}$**: 0.66 0.0 1.0**
**triangle lightness** ***t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

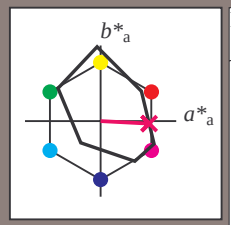
**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 357/360 = 0.992$** ***u* = b75r***

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = b75r***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** ***t****

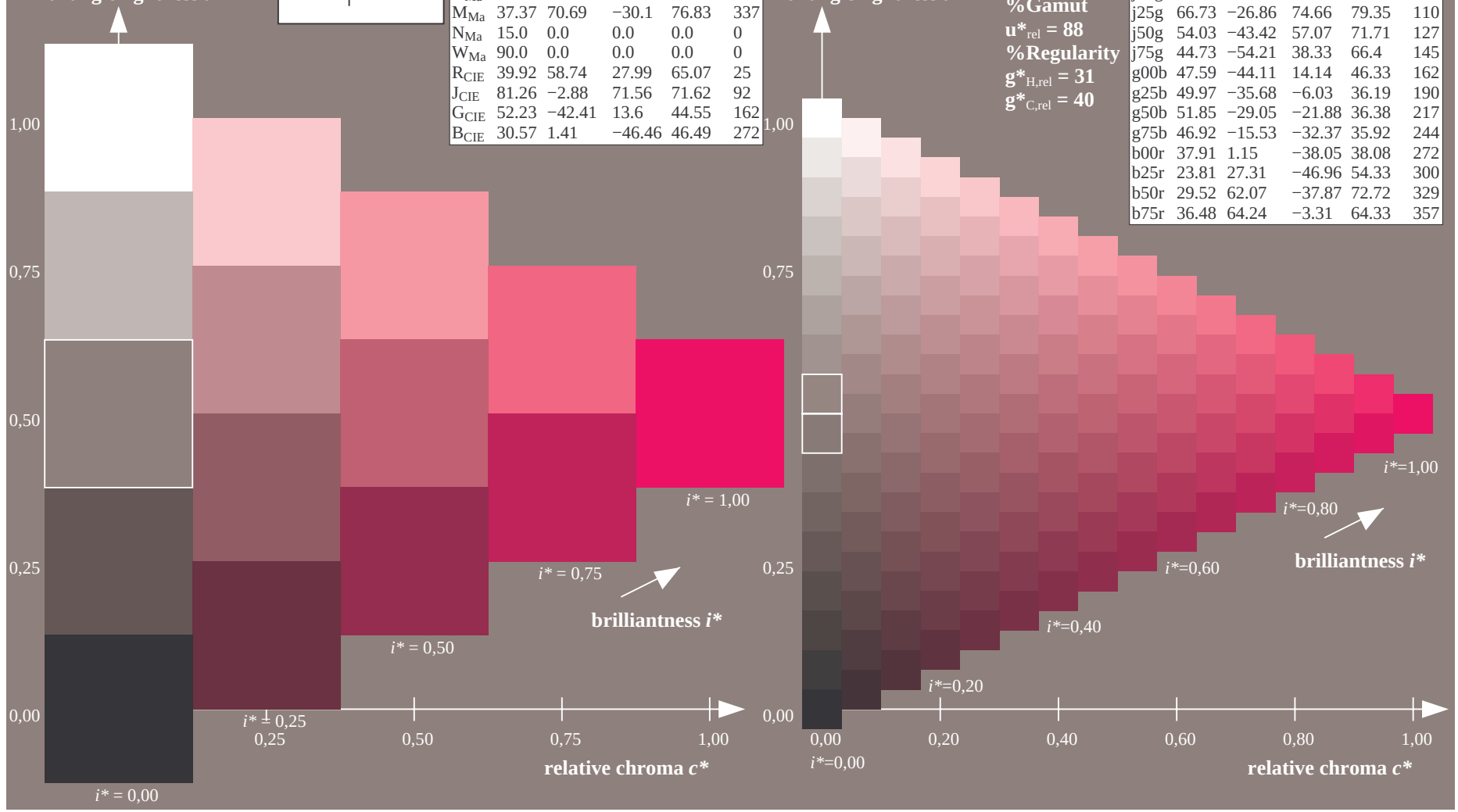


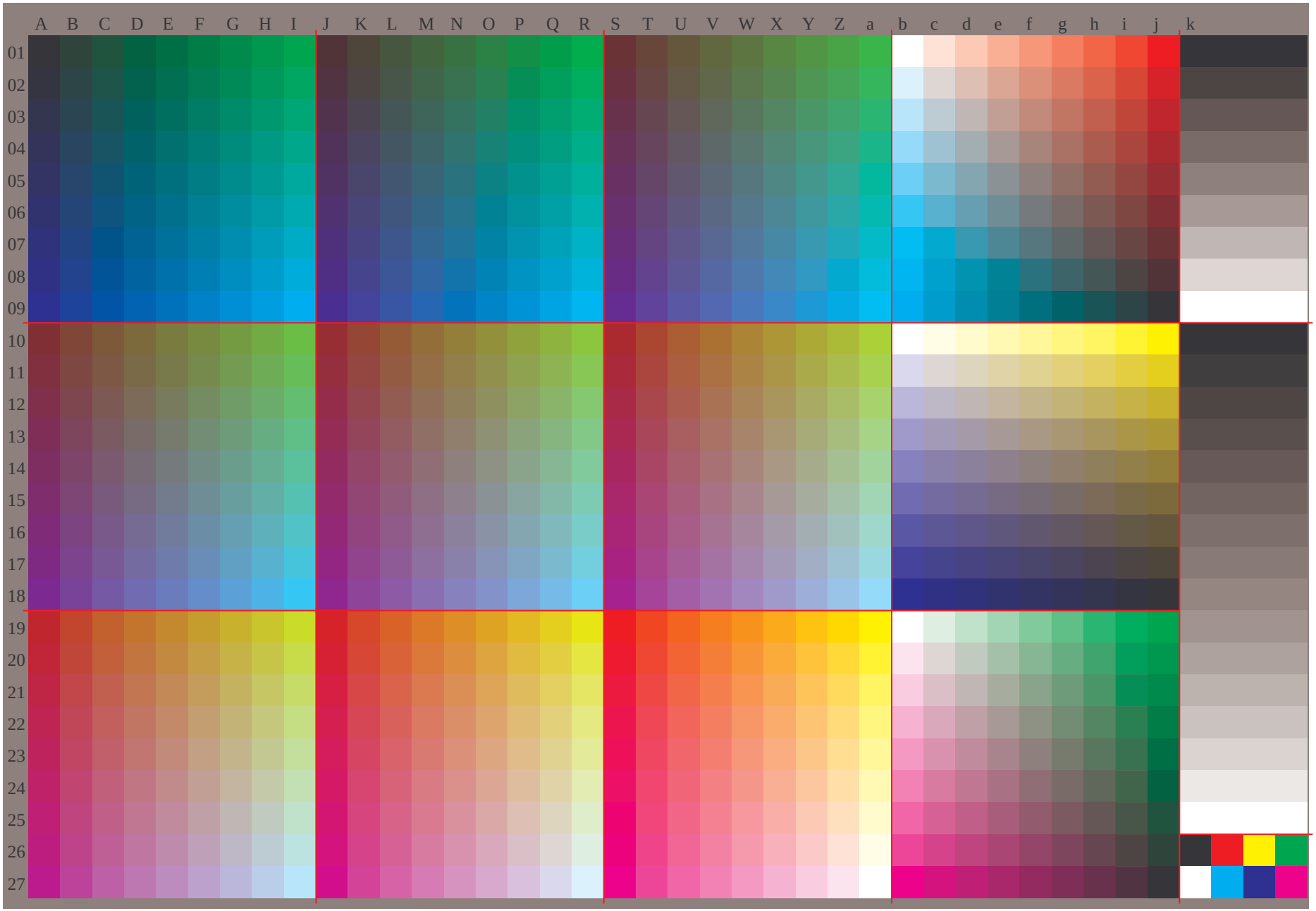

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 36 64 −2**
***LAB*LCH****$_{Ma}$**: 36 64 357**
***lab*rgb****$_{Ma}$**: 1.0 0.0 0.5**
***lab*olv****$_{Ma}$**: 1.0 0.0 0.62**

**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

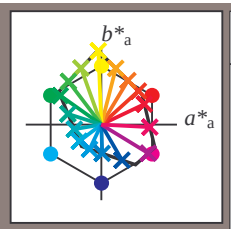



A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

**Input and output:**
**Colorimetric Printer Reflective System FRS15_90aM**
**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u**** **= 16 hues** ***r00j, r25j, ..., b75r***
**contrast reduction factor:**
$c_R = 0.9$

**FRS15_90aM; adapted (a) CIELAB data**

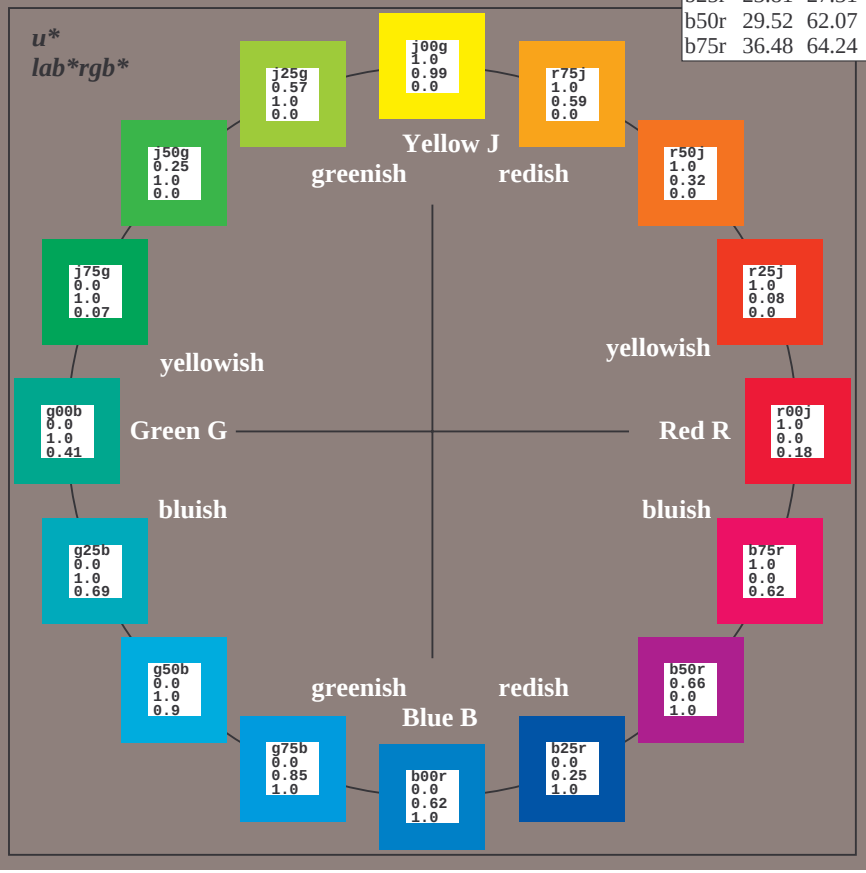
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

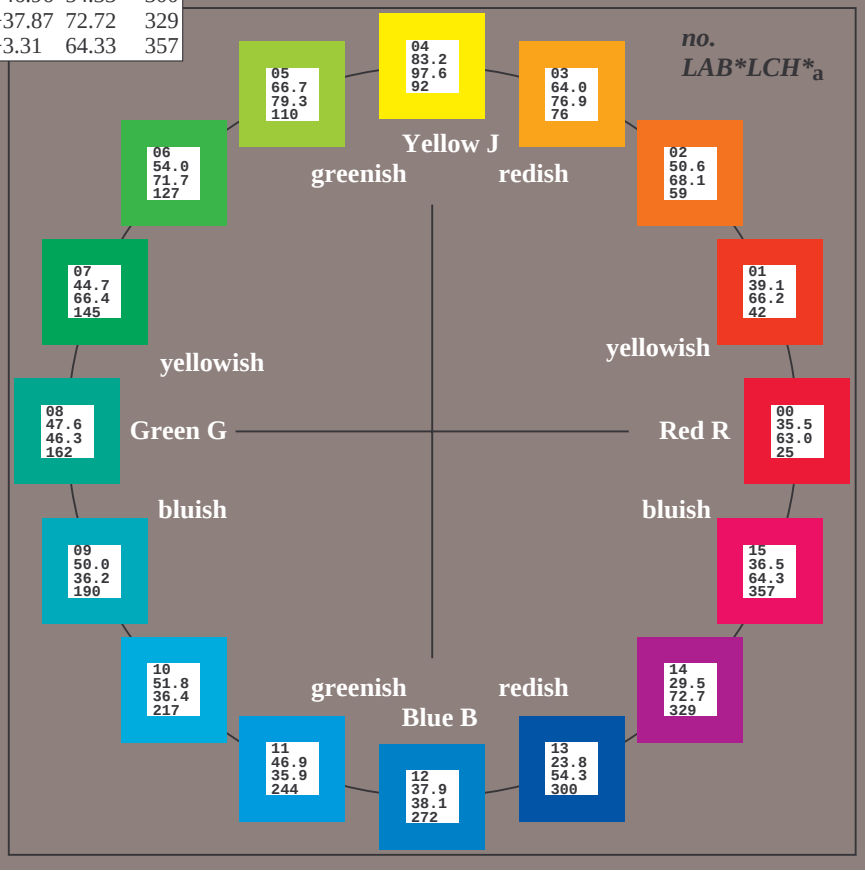



**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 25/360 = 0.071$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

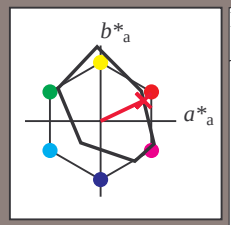
**elementary hue text:**

***u* = r00j***

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 35 57 27**

***LAB*LCH****$_{Ma}$**: 35 63 25**

***lab*rgb****$_{Ma}$**: 1.0 0.0 0.0**

***lab*olv****$_{Ma}$**: 1.0 0.0 0.18**

***u* = r00j***

***lab*rgb****

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness *t****

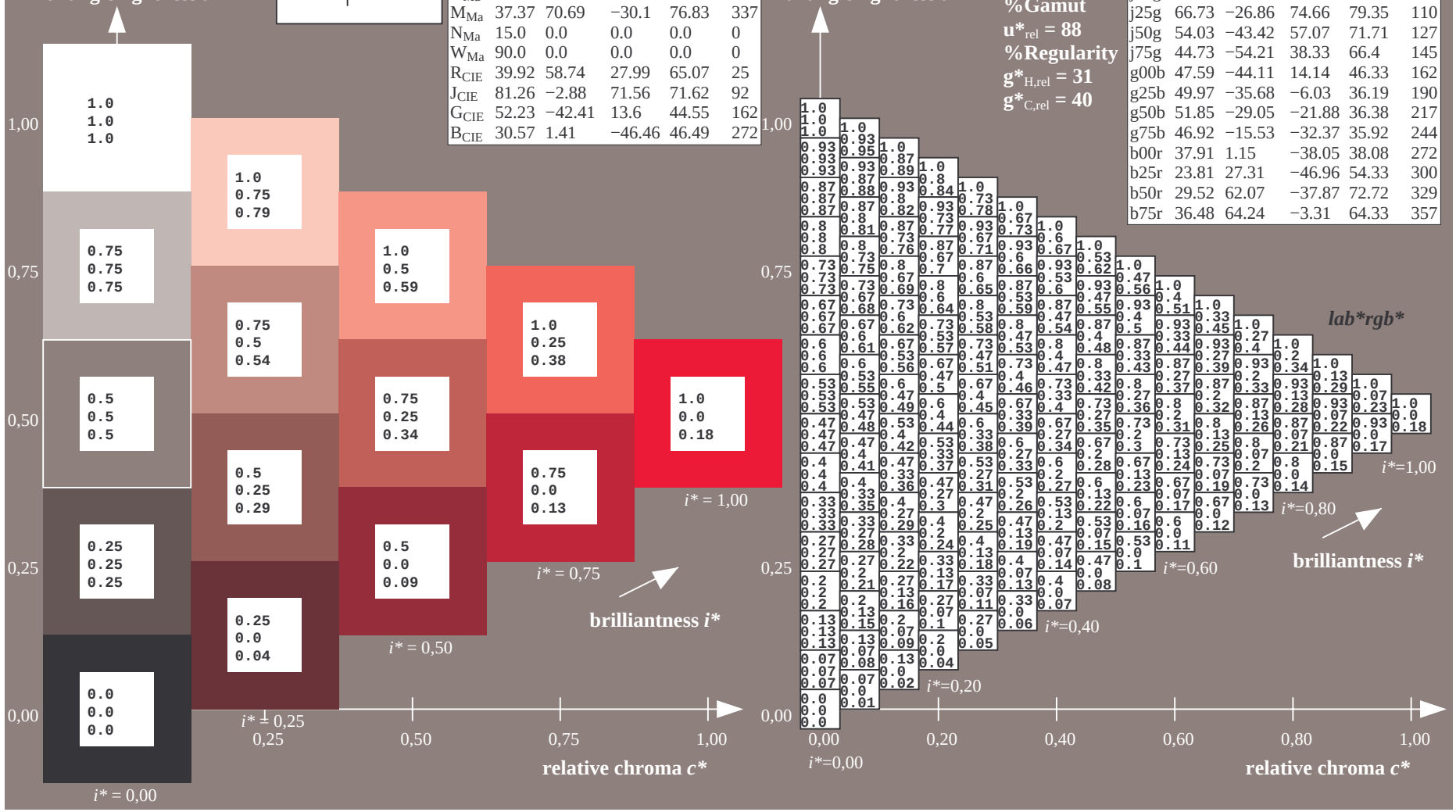
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 42/360 = 0.117$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

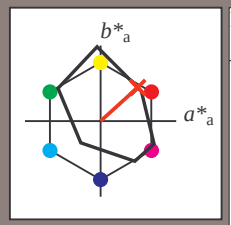
**elementary hue text:**

$u^* = r25j$

**contrast reduction factor:**

$c_R = 0.9$

**triangle lightness** $t^*$




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 39 49 44**

***LAB*LCH****$_{Ma}$**: 39 66 42**

***lab*rgb****$_{Ma}$**: 1.0 0.25 0.0**

***lab*olv****$_{Ma}$**: 1.0 0.08 0.0**

***u* = r25j***

***lab*rgb****

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness** $t^*$

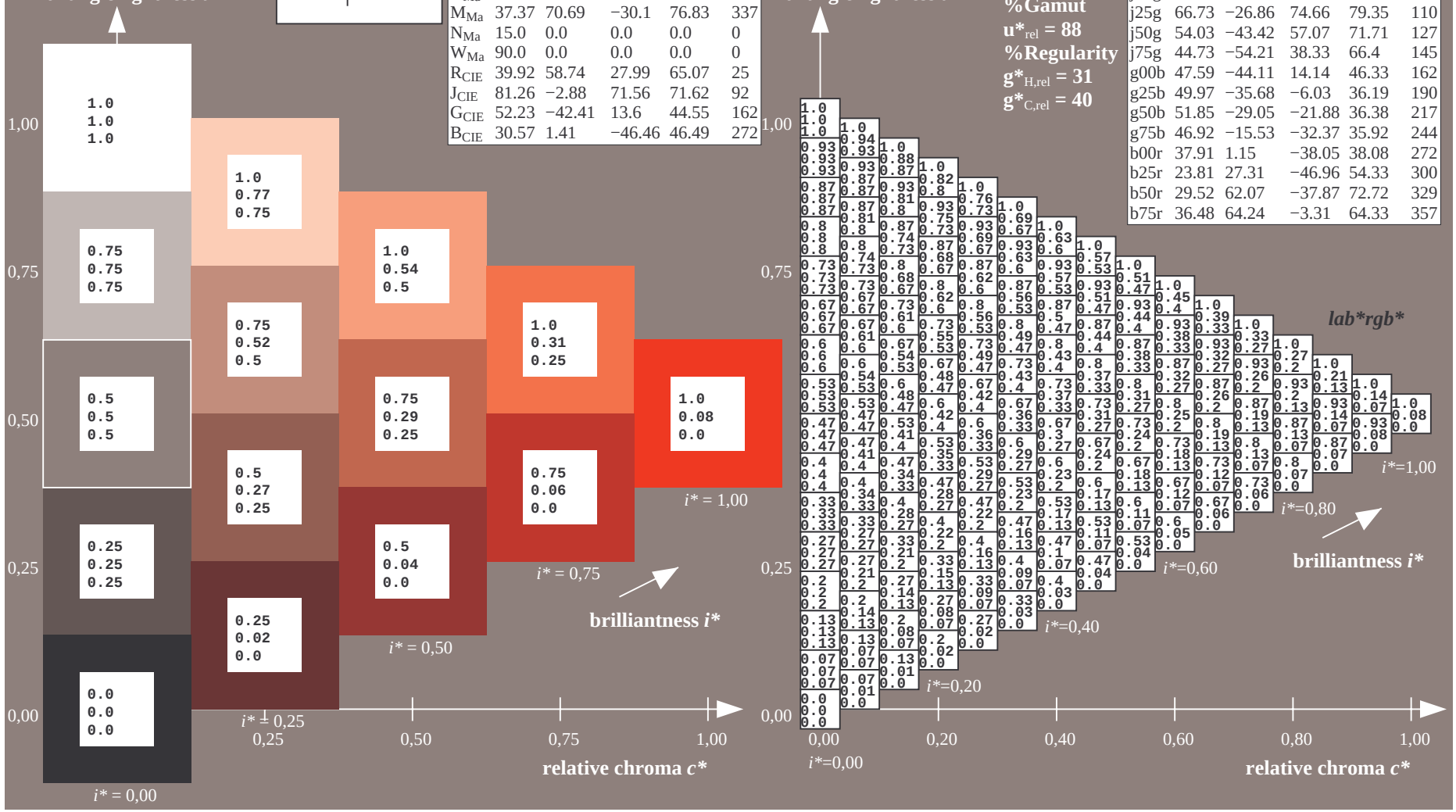
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 59/360 = 0.164$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

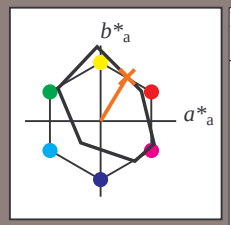
**elementary hue text:**

$u^* = r50j$

**contrast reduction factor:**

$c_R = 0.9$

**triangle lightness** $t^*$




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 51 35 58**

***LAB*LCH****$_{Ma}$**: 51 68 59**

***lab*rgb****$_{Ma}$**: 1.0 0.5 0.0**

***lab*olv****$_{Ma}$**: 1.0 0.32 0.0**

***u* = r50j***

***lab*rgb****

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

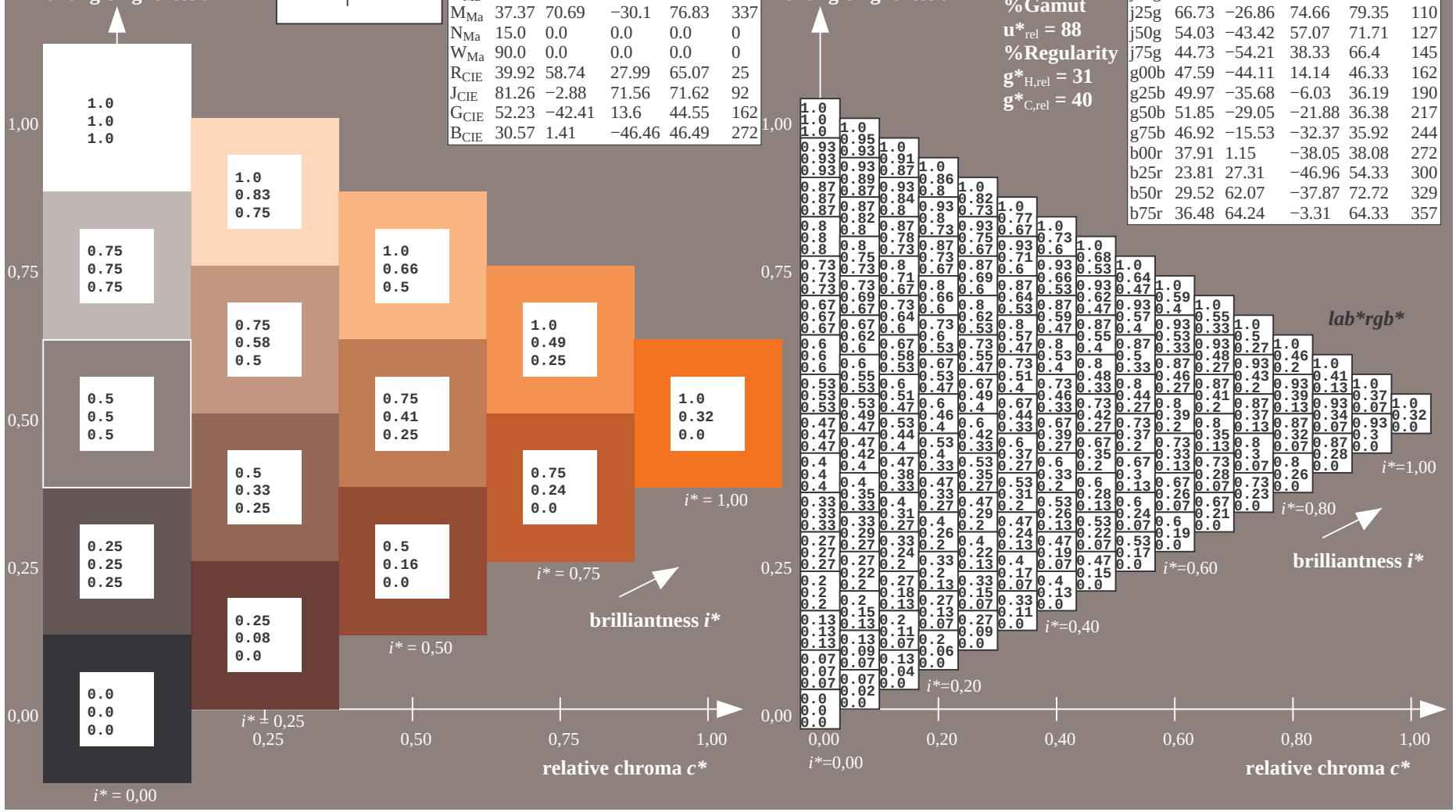
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

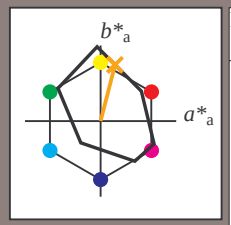
**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 76/360 = 0.21$**

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
$u^* = r75j$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$



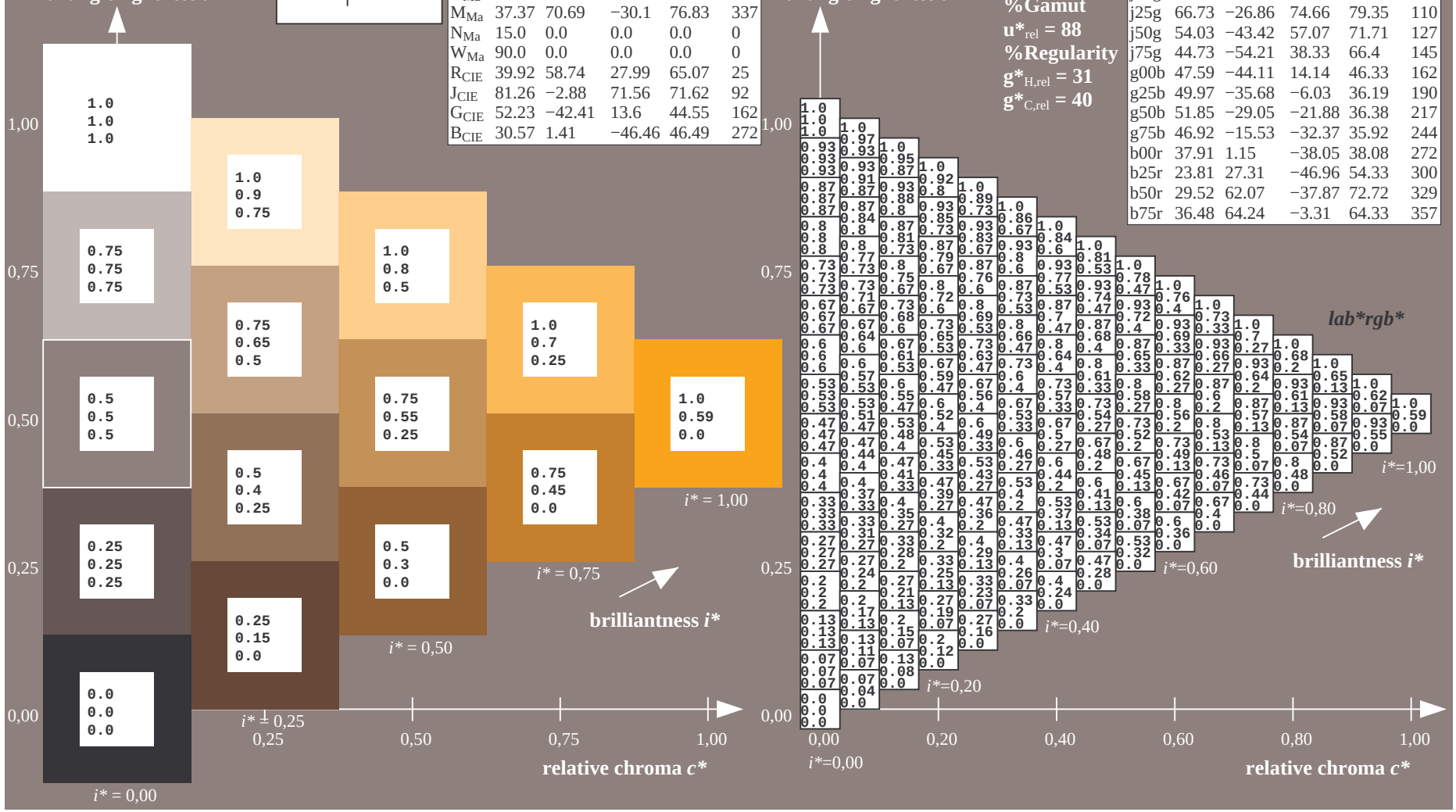

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 64 19 74**
***LAB*LCH****$_{Ma}$**: 64 77 76**
***lab*rgb****$_{Ma}$**: 1.0 0.75 0.0**
***lab*olv****$_{Ma}$**: 1.0 0.59 0.0**

***u* = r75j***
***lab*rgb****

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 92/360 = 0.256$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

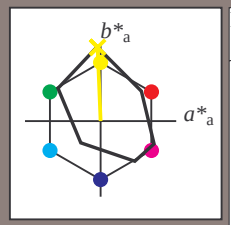
**elementary hue text:**

***u* = j00g***

**contrast reduction factor:**

$c_R = 0.9$

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 83 −3 98**

***LAB*LCH****$_{Ma}$**: 83 98 92**

***lab*rgb****$_{Ma}$**: 1.0 1.0 0.0**

***lab*olv****$_{Ma}$**: 1.0 0.99 0.0**

***u* = j00g***

***lab*rgb****

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**%Gamut**

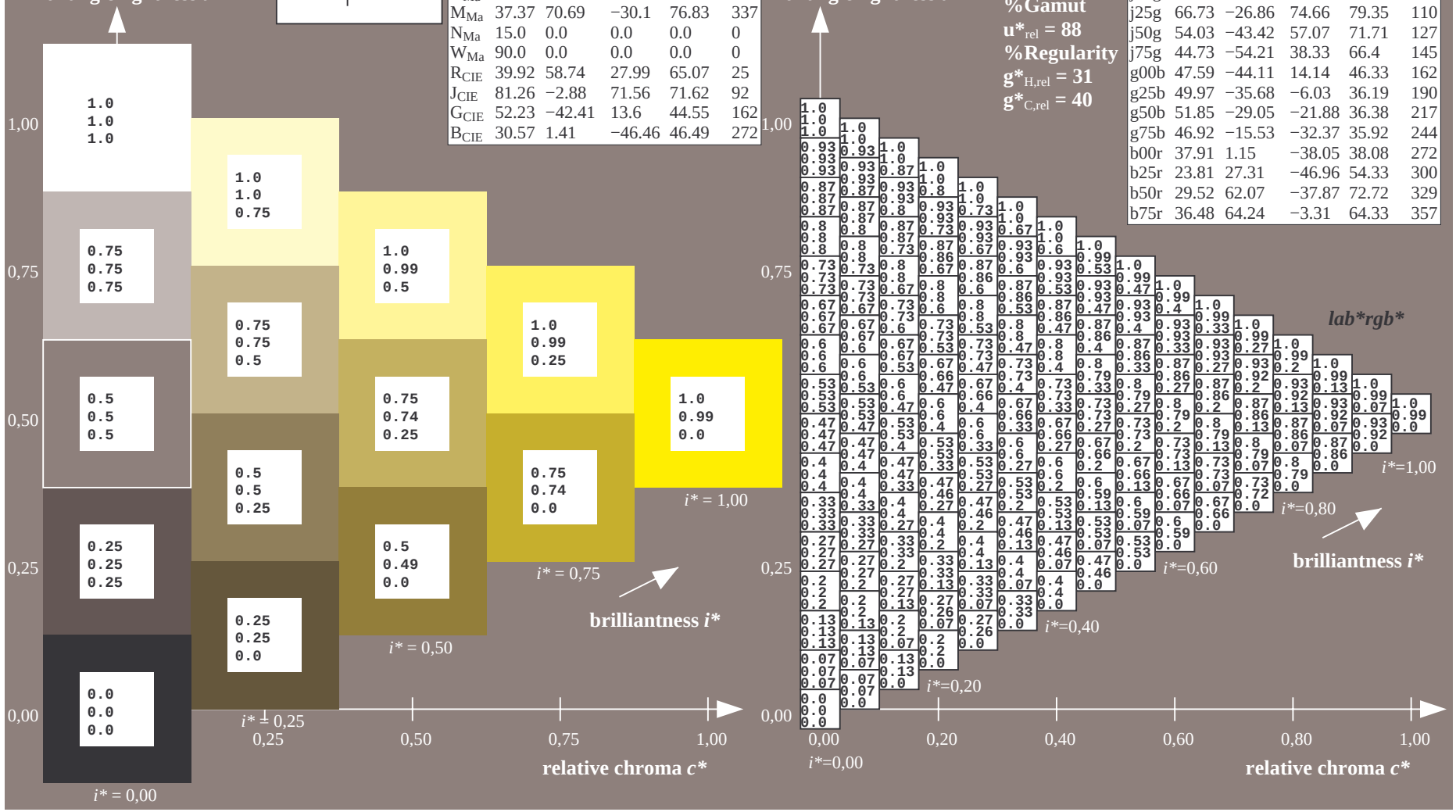
**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

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

**triangle lightness *t****



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 110/360 = 0.305$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

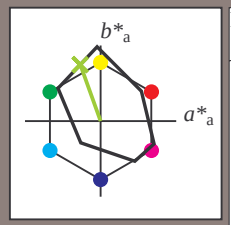
**elementary hue text:**

***u* = j25g***

**contrast reduction factor:**

$c_R = 0.9$

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 67 −26 75**

***LAB*LCH****$_{Ma}$**: 67 79 110**

***lab*rgb****$_{Ma}$**: 0.75 1.0 0.0**

***lab*olv****$_{Ma}$**: 0.57 1.0 0.0**

***u* = j25g***

***lab*rgb****

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness *t****

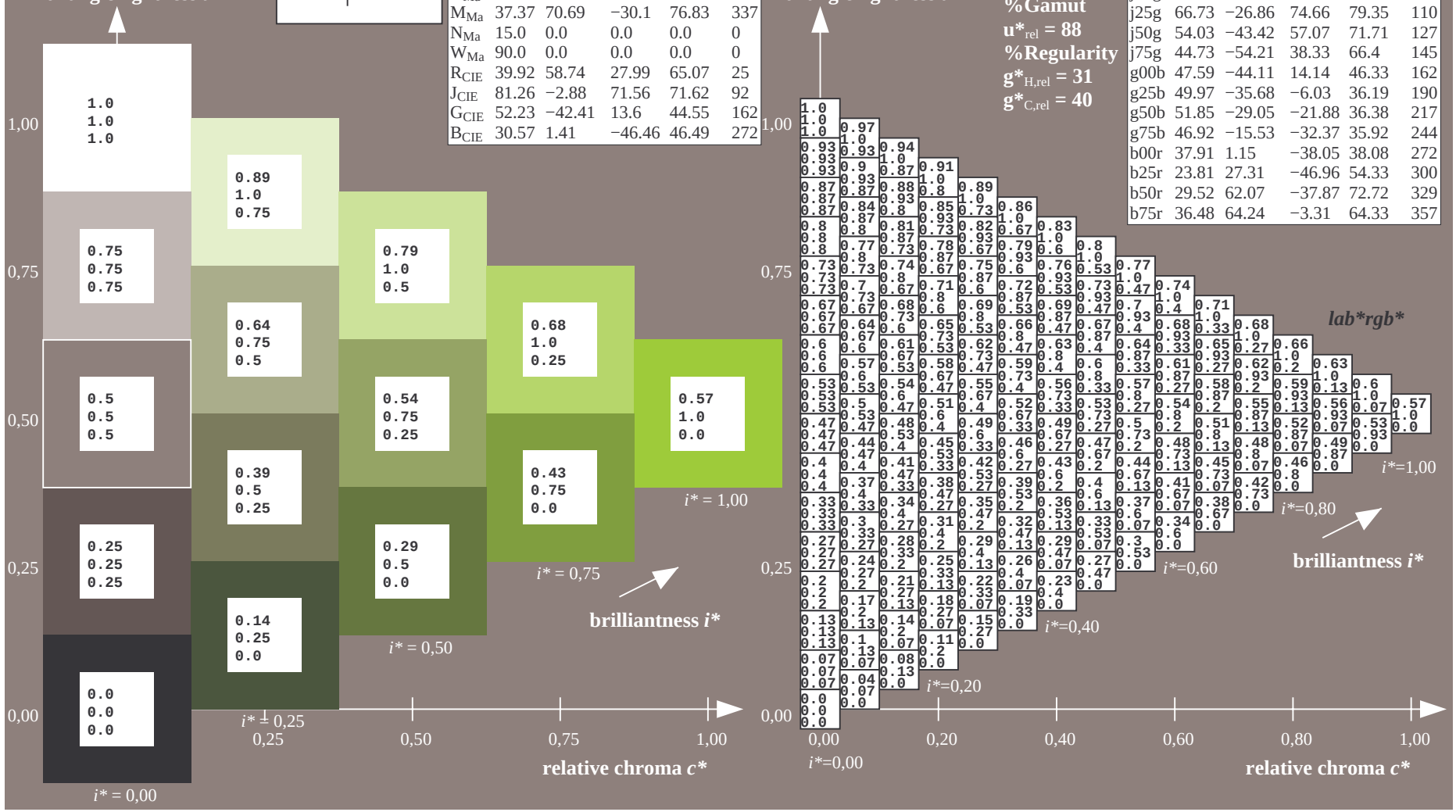
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 127/360 = 0.354$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

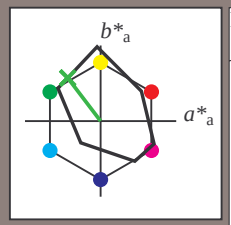
**elementary hue text:**

$u^* = j50g$

**contrast reduction factor:**

$c_R = 0.9$

**triangle lightness** $t^*$




**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 54 −42 57**

***LAB*LCH****$_{Ma}$**: 54 72 127**

***lab*rgb****$_{Ma}$**: 0.5 1.0 0.0**

***lab*olv****$_{Ma}$**: 0.25 1.0 0.0**

**triangle lightness** $t^*$

**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

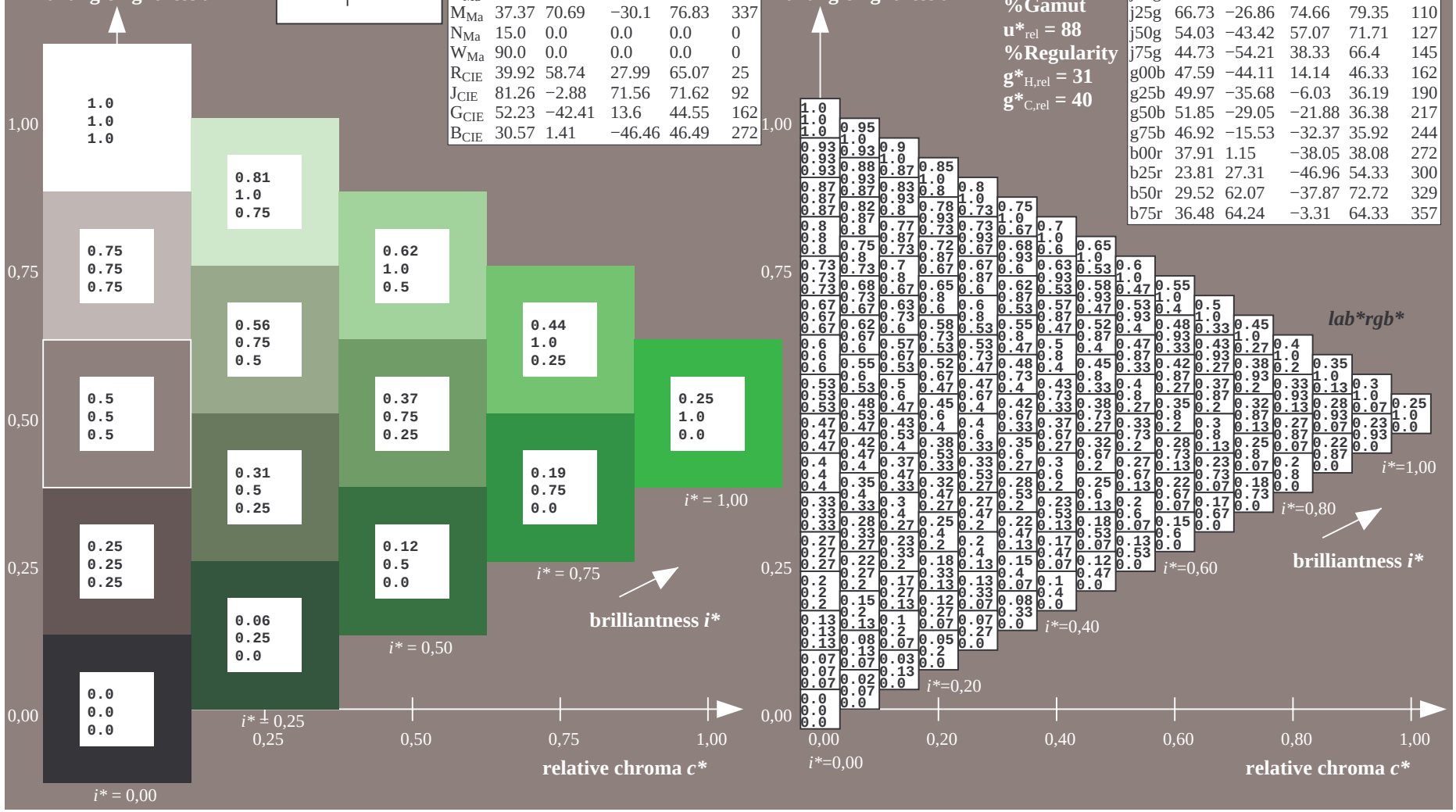
**$g^*_{C,rel} = 40$**

***u* = j50g***

***lab*rgb****

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 145/360 = 0.402$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

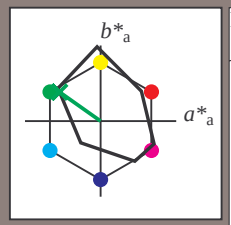
**elementary hue text:**

***u* = j75g***

**contrast reduction factor:**

$c_R = 0.9$

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 45 −53 38**

***LAB*LCH****$_{Ma}$**: 45 66 145**

***lab*rgb****$_{Ma}$**: 0.25 1.0 0.0**

***lab*olv****$_{Ma}$**: 0.0 1.0 0.07**

***u* = j75g***

***lab*rgb****

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness *t****

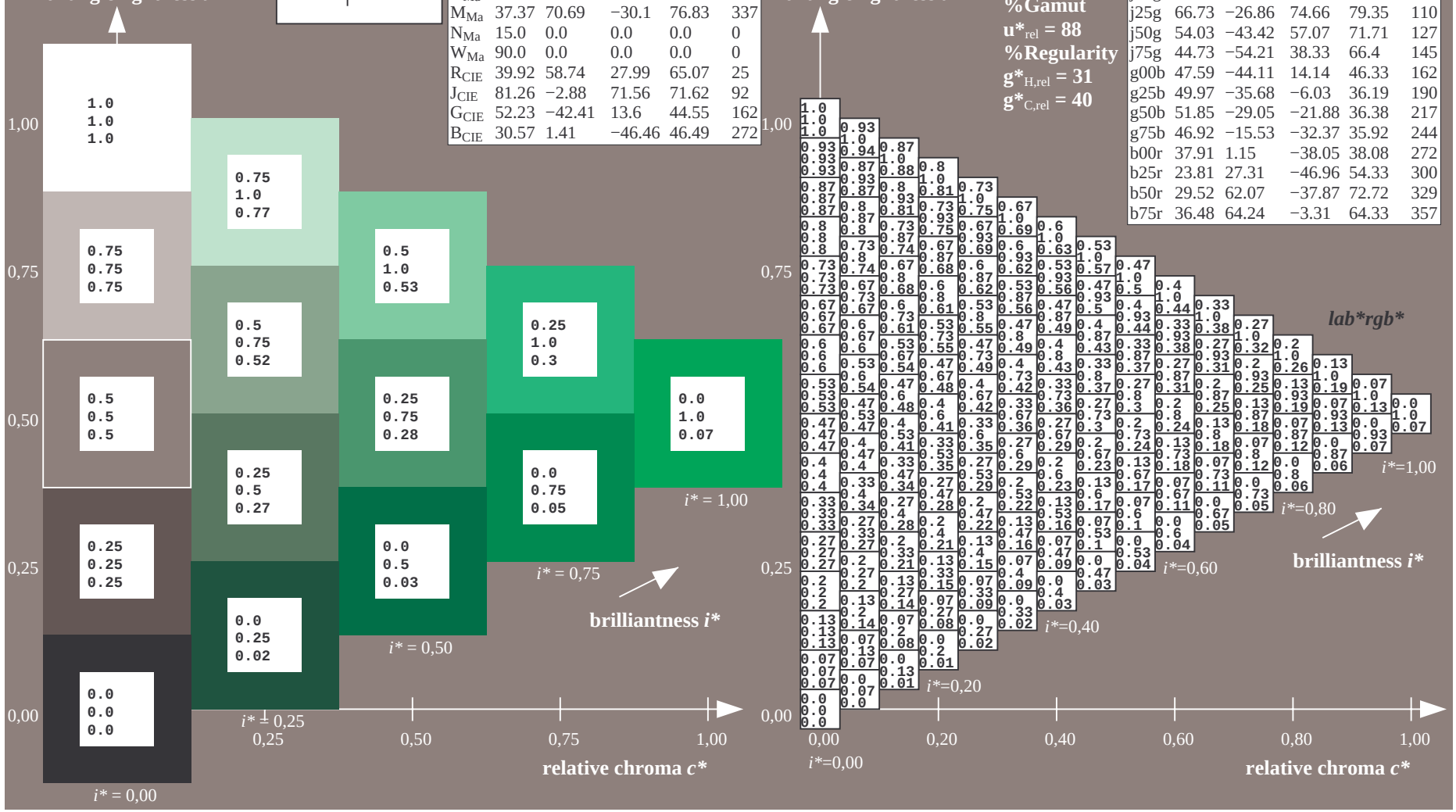
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 162/360 = 0.451$**

**data for any colour:**

***lab*tch** and *lab*icu****

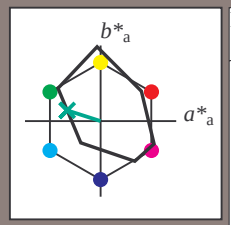
**elementary hue text:**

***u* = g00b***

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB**$_{Ma}$: 48 −43 14**

***LAB*LCH**$_{Ma}$: 48 46 162**

***lab*rgb**$_{Ma}$: 0.0 1.0 0.0**

***lab*olv**$_{Ma}$: 0.0 1.0 0.41**

***u* = g00b***

***lab*rgb****

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

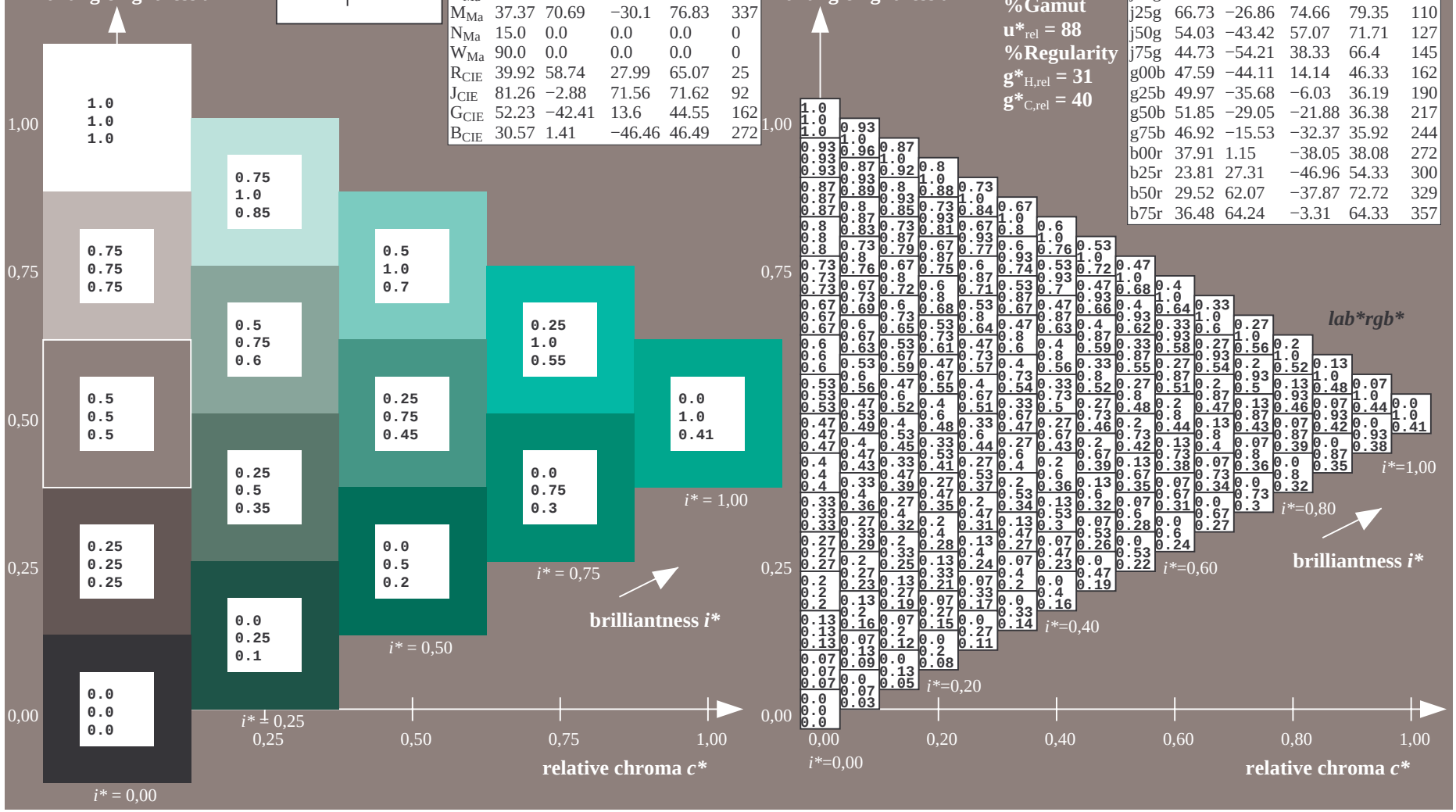
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

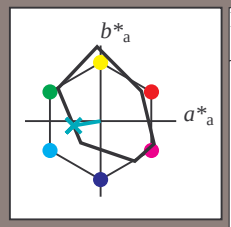
**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 190/360 = 0.527$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
*u* = g25b*
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****

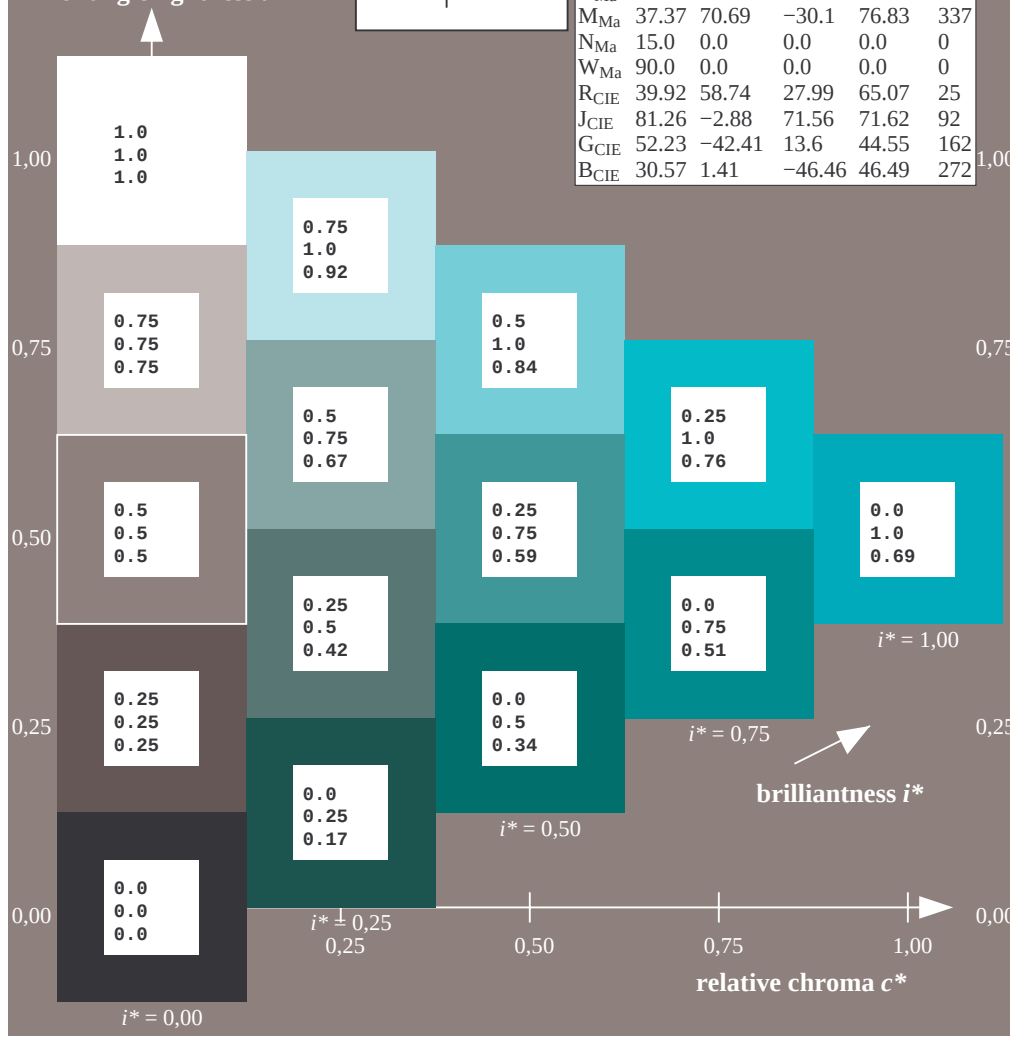


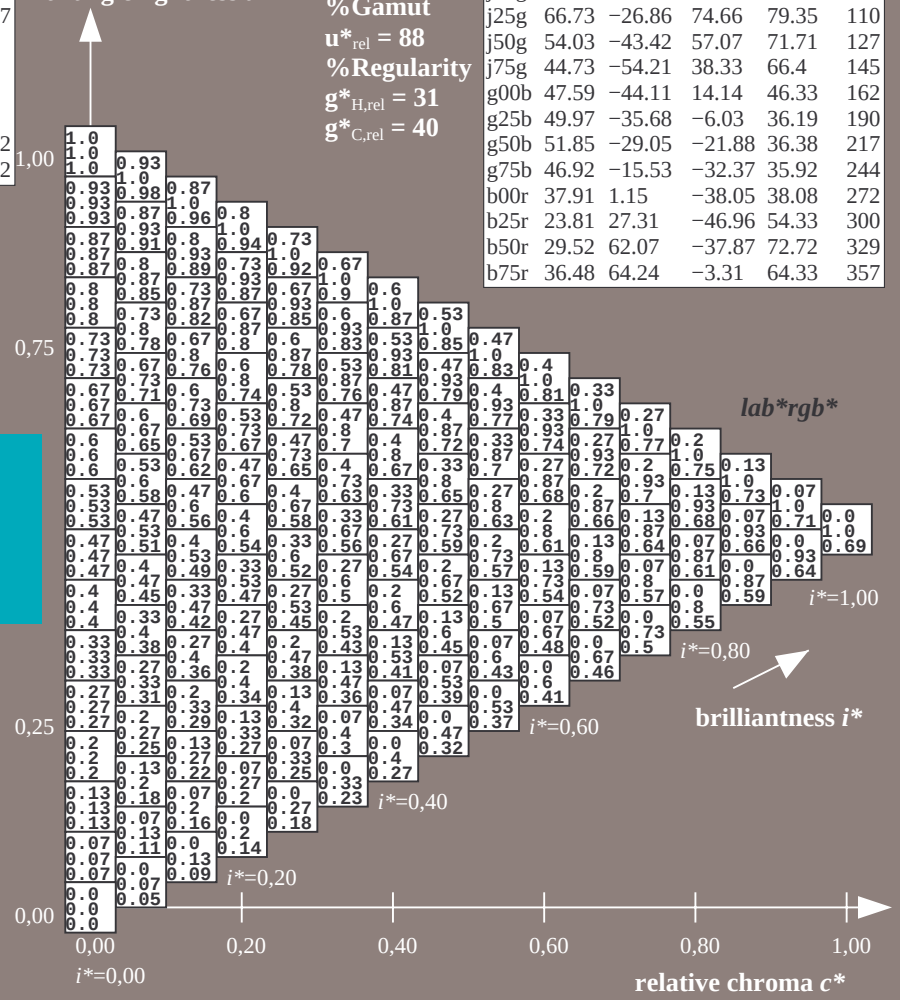

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 50 −35 −5**
***LAB*LCH*Ma*: 50 36 190**
***lab*rgb*Ma*: 0.0 1.0 0.5**
***lab*olv*Ma*: 0.0 1.0 0.69**

***u* = g25b***
***lab*rgb****

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 217/360 = 0.603$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

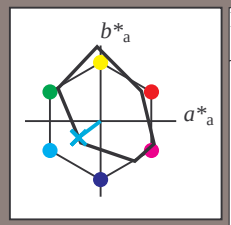
**elementary hue text:**

***u* = g50b***

**contrast reduction factor:**

$c_R = 0.9$

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 52 −28 −21**

***LAB*LCH****$_{Ma}$**: 52 36 217**

***lab*rgb****$_{Ma}$**: 0.0 1.0 1.0**

***lab*olv****$_{Ma}$**: 0.0 1.0 0.9**

***u* = g50b***

***lab*rgb****

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness *t****

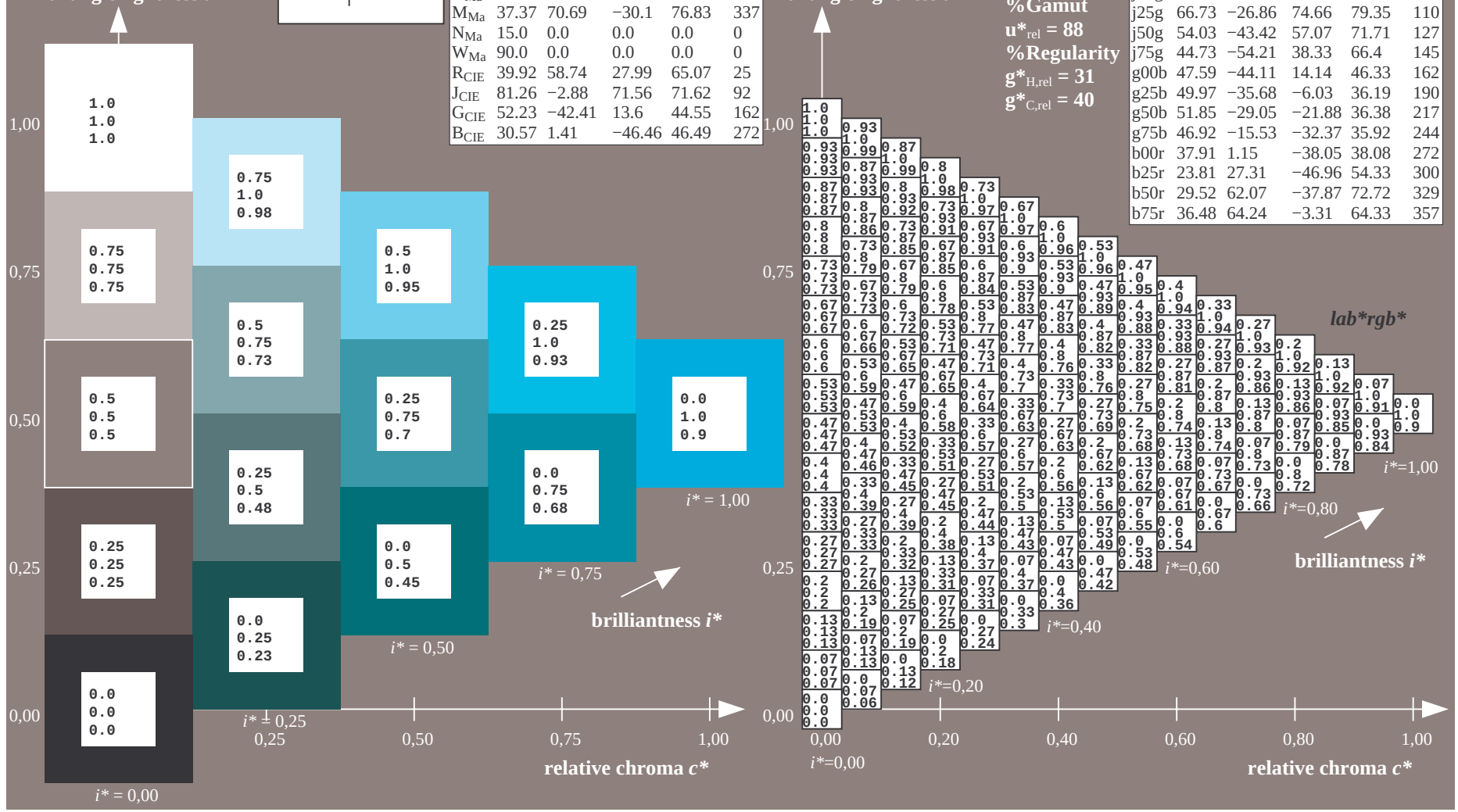
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 244/360 = 0.679$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

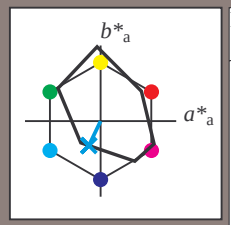
**elementary hue text:**

***u* = g75b***

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 47 −15 −31**

***LAB*LCH****$_{Ma}$**: 47 36 244**

***lab*rgb****$_{Ma}$**: 0.0 0.5 1.0**

***lab*olv****$_{Ma}$**: 0.0 0.85 1.0**

***u* = g75b***

***lab*rgb****

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness *t****

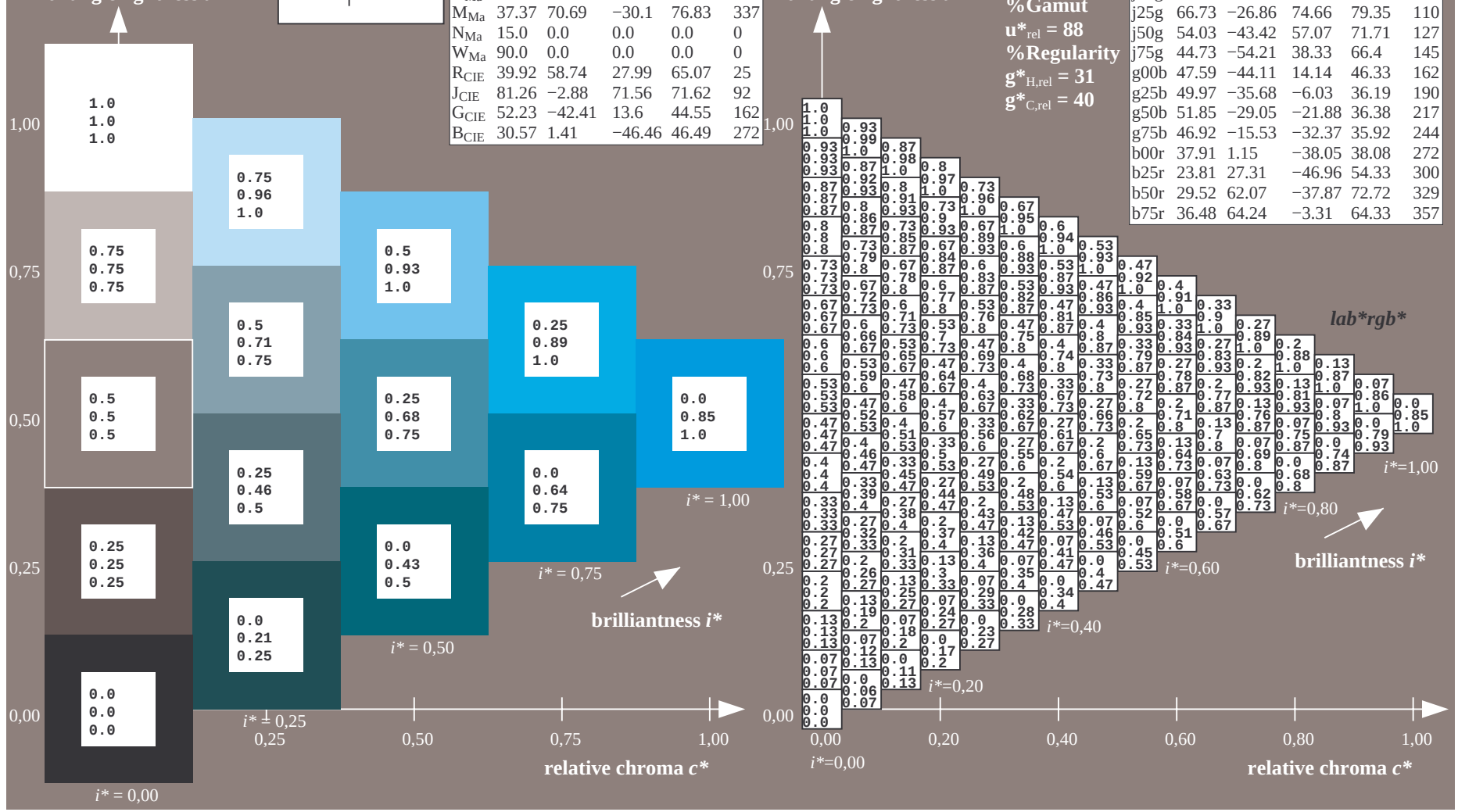
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

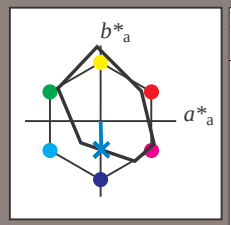
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 272/360 = 0.755$**

**$u^* = b00r$**
**$lab^*rgb^*$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
**$u^* = b00r$**
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness $t^*$**

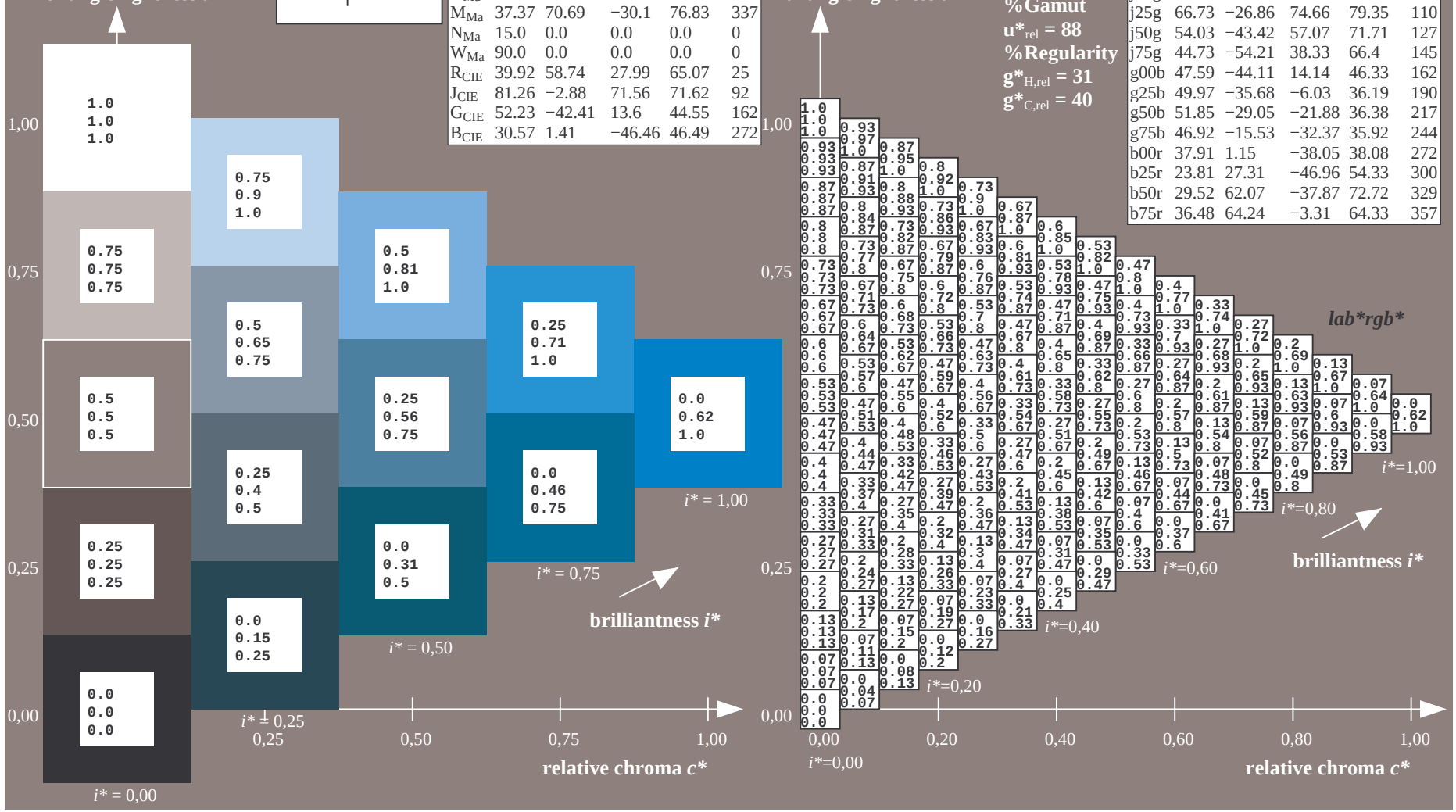



| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB**$_{Ma}$: 38 1 −37**
***LAB*LCH**$_{Ma}$: 38 38 272**
***lab*rgb**$_{Ma}$: 0.0 0.0 1.0**
***lab*olv**$_{Ma}$: 0.0 0.62 1.0**

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

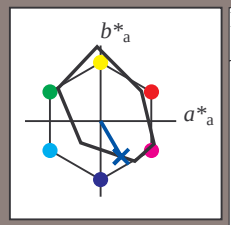
**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 300/360 = 0.834$**

**$u^* = b25r$**
**$lab^*rgb^*$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
**$u^* = b25r$**
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness $t^*$**



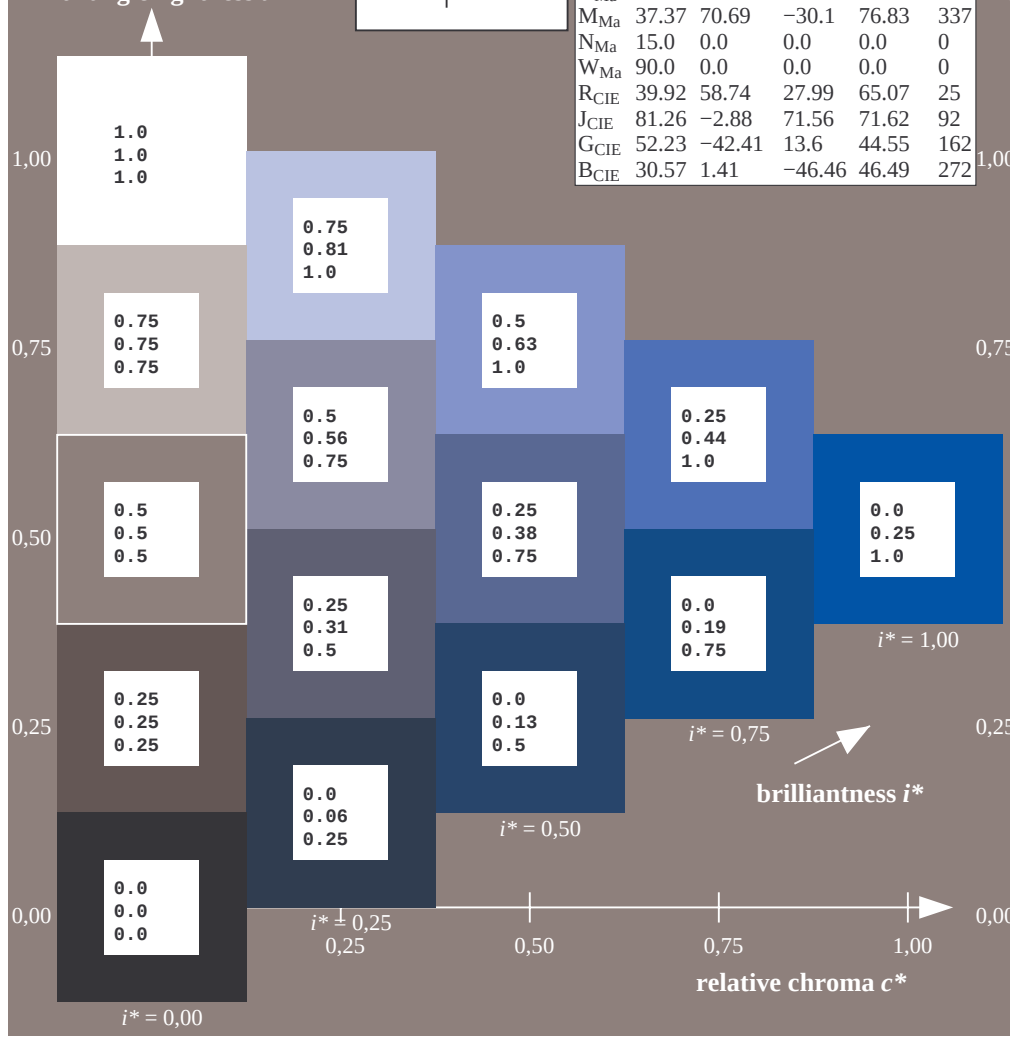

**FRS15_90aM; adapted (a) CIELAB data**

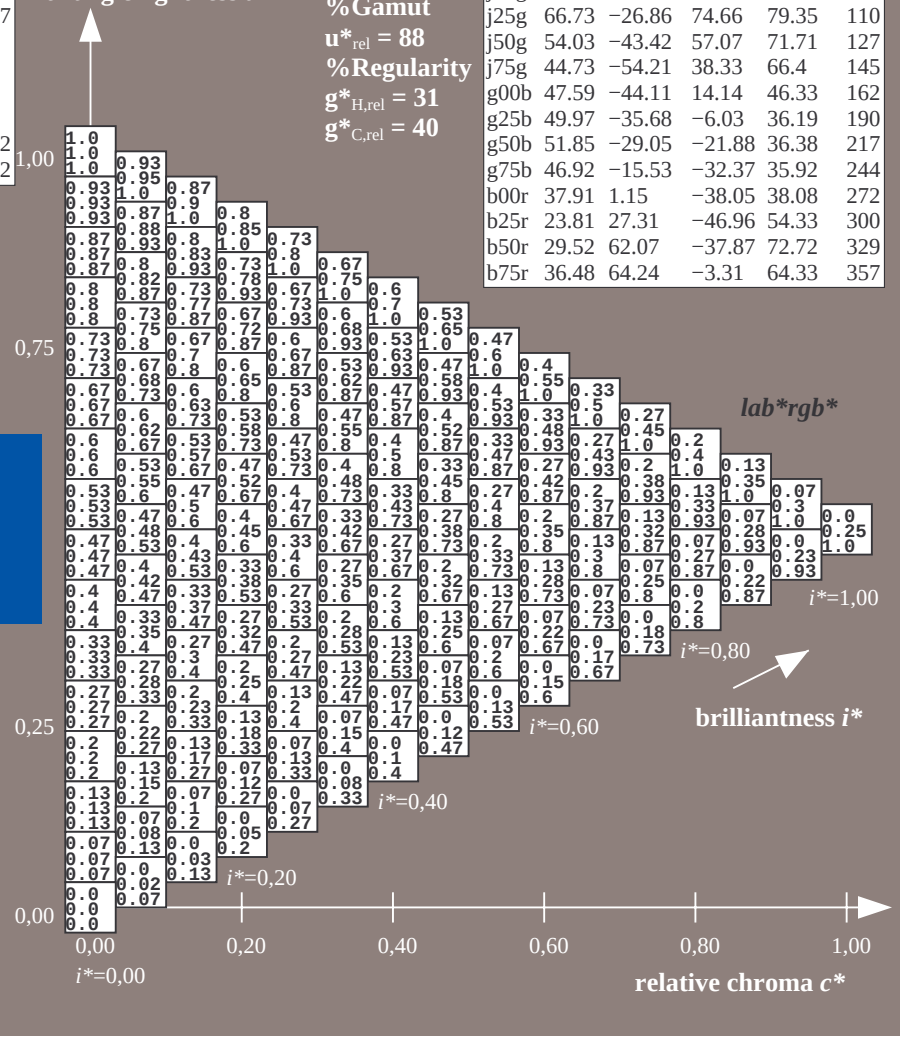
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB**$_{Ma}$: 24 27 −46**
***LAB*LCH**$_{Ma}$: 24 54 300**
***lab*rgb**$_{Ma}$: 0.5 0.0 1.0**
***lab*olv**$_{Ma}$: 0.0 0.25 1.0**

**FRS15_90aM; adapted (a) CIELAB data**

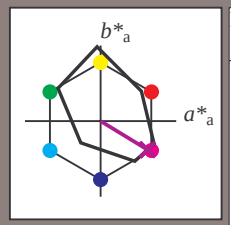
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



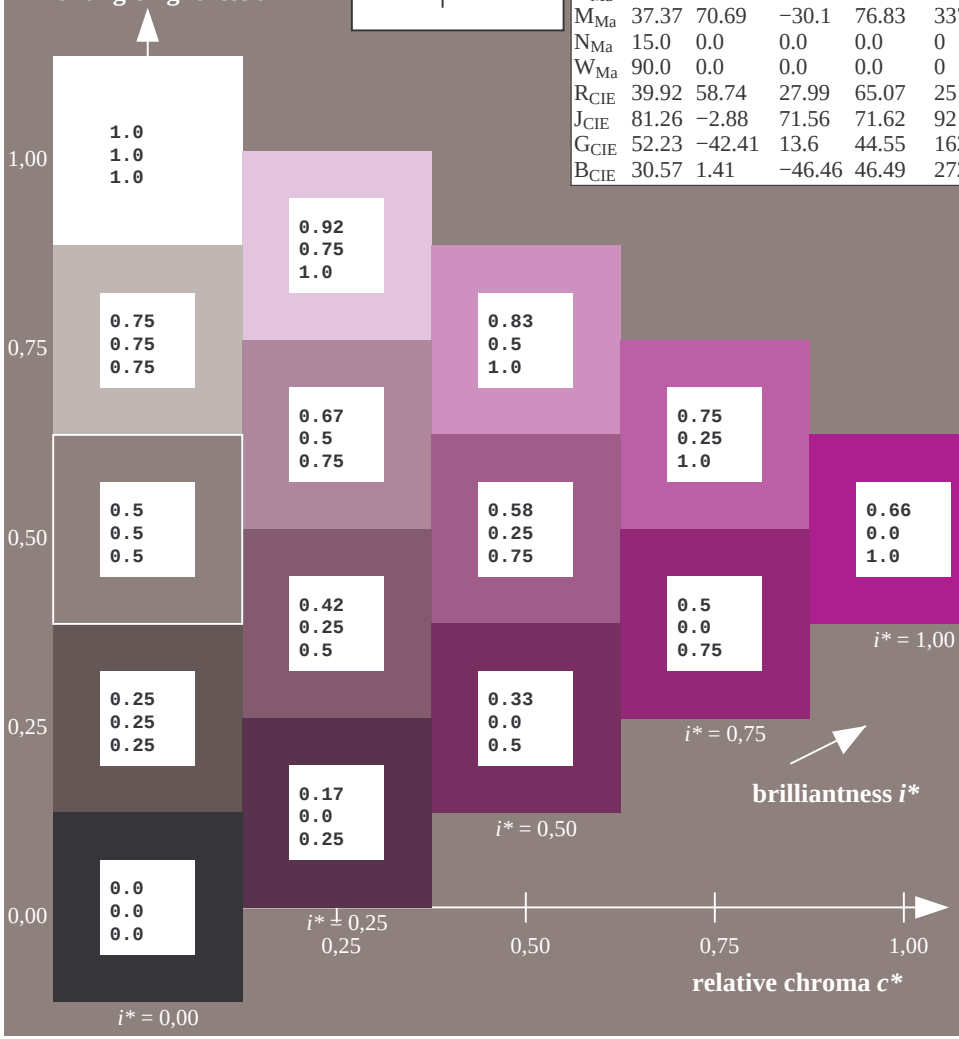
**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 329/360 = 0.913$**

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = b50r***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****




**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |



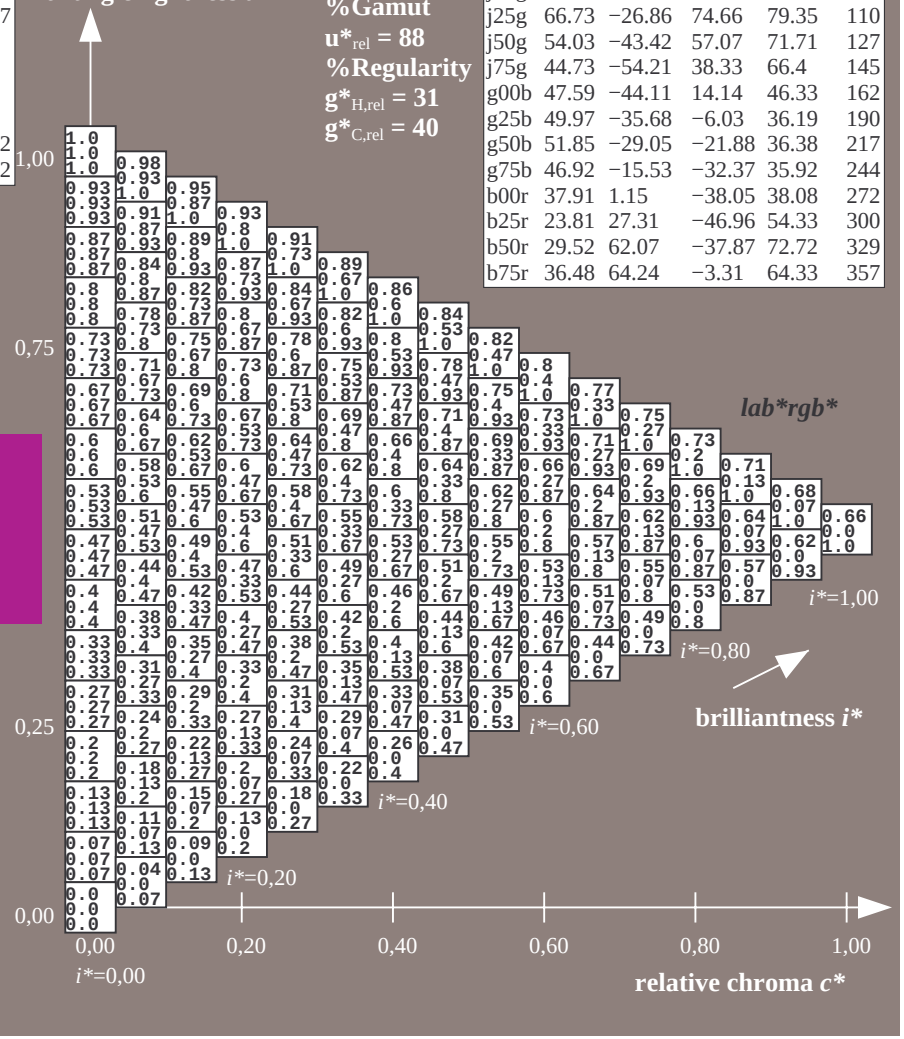

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 30 62 −37**
***LAB*LCH****$_{Ma}$**: 30 73 329**
***lab*rgb****$_{Ma}$**: 1.0 0.0 1.0**
***lab*olv****$_{Ma}$**: 0.66 0.0 1.0**
**triangle lightness *t****

***u* = b50r***
***lab*rgb****

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 357/360 = 0.992$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

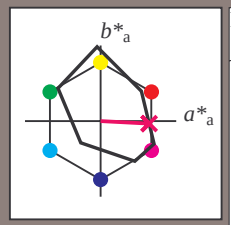
**elementary hue text:**

***u* = b75r***

**contrast reduction factor:**

$c_R = 0.9$

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 36 64 −2**

***LAB*LCH****$_{Ma}$**: 36 64 357**

***lab*rgb****$_{Ma}$**: 1.0 0.0 0.5**

***lab*olv****$_{Ma}$**: 1.0 0.0 0.62**

***u* = b75r***

***lab*rgb****

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

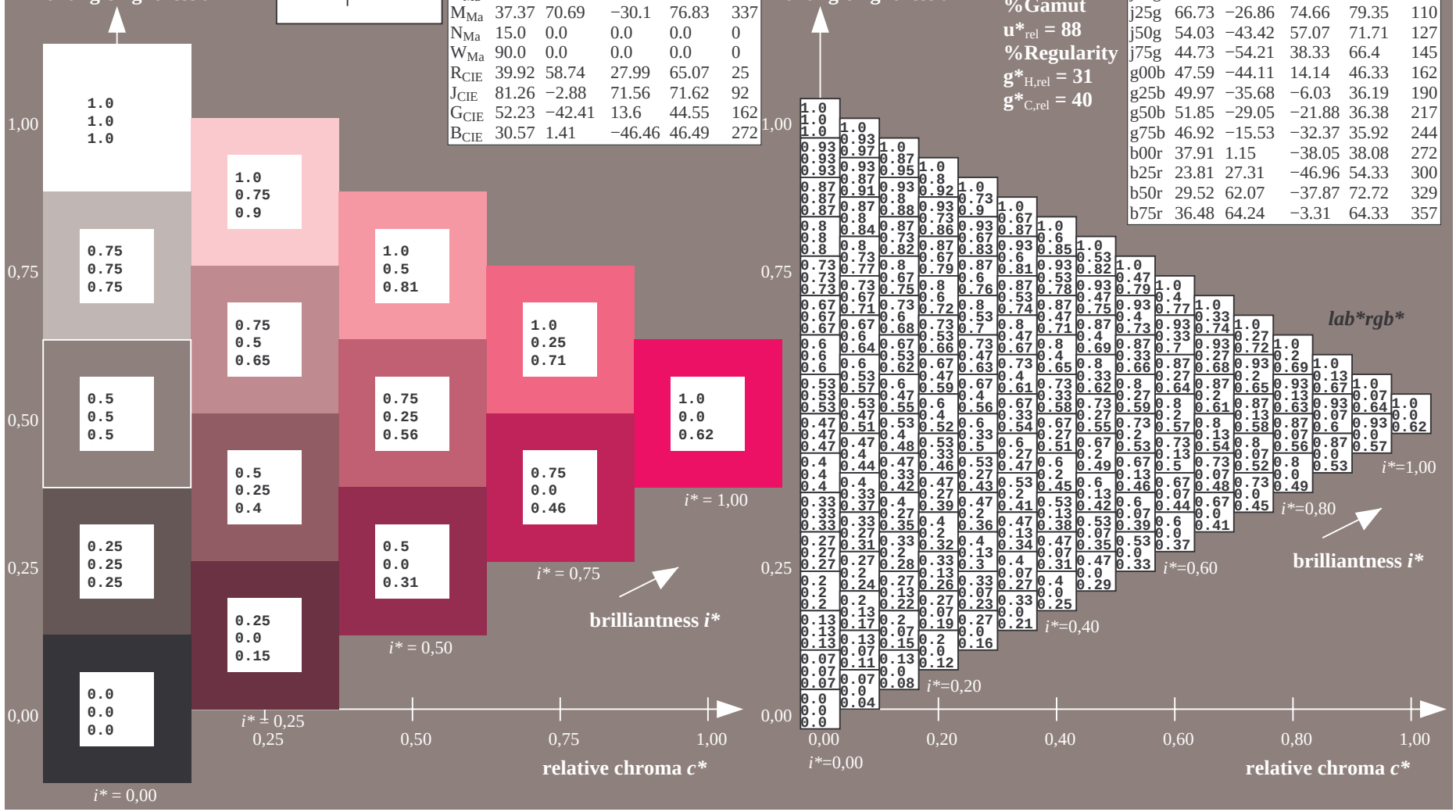
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

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

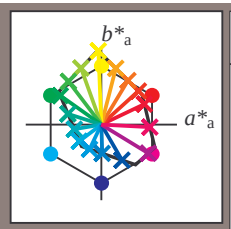


| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | a | b | c | d | e | f | g | h | i | j | k | *lab*rgb** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 02 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.13 | 0.13 | 0.13 | 0.13 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 |
| | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 |
| 03 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.25 | 0.25 | 0.25 | 0.25 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.25 | 0.25 | 0.25 | 0.25 |
| | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.25 | 0.25 | 0.25 | 0.25 |
| 04 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.38 | 0.38 | 0.38 | 0.38 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.38 | 0.38 | 0.38 | 0.38 |
| | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.38 | 0.38 | 0.38 | 0.38 |
| 05 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.5 | 0.5 | 0.5 | 0.5 |
| | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.5 | 0.5 | 0.5 | 0.5 |
| 06 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.63 | 0.63 | 0.63 | 0.63 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.63 | 0.63 | 0.63 | 0.63 |
| | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.63 | 0.63 | 0.63 | 0.63 |
| 07 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.75 | 0.75 | 0.75 | 0.75 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.75 | 0.75 | 0.75 | 0.75 |
| | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.75 | 0.75 | 0.75 | 0.75 |
| 08 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.88 | 0.88 | 0.88 | 0.88 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.88 | 0.88 | 0.88 | 0.88 |
| | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.88 | 0.88 | 0.88 | 0.88 |
| 09 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 10 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.07 | 0.07 | 0.07 | 0.07 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.07 | 0.07 | 0.07 | 0.07 |
| | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.07 | 0.07 | 0.07 | 0.07 |
| 12 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.13 | 0.13 | 0.13 | 0.13 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.13 | 0.13 | 0.13 | 0.13 |
| | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 |
| 13 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.2 | 0.2 | 0.2 | 0.2 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.2 | 0.2 | 0.2 | 0.2 |
| | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.2 | 0.2 | 0.2 | 0.2 |
| 14 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.27 | 0.27 | 0.27 | 0.27 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.27 | 0.27 | 0.27 | 0.27 |
| | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.27 | 0.27 | 0.27 | 0.27 |
| 15 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.33 | 0.33 | 0.33 | 0.33 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.33 | 0.33 | 0.33 | 0.33 |
| | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.33 | 0.33 | 0.33 | 0.33 |
| 16 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.4 | 0.4 | 0.4 | 0.4 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.4 | 0.4 | 0.4 | 0.4 |
| | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.4 | 0.4 | 0.4 | 0.4 |
| 17 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.47 | 0.47 | 0.47 | 0.47 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.47 | 0.47 | 0.47 | 0.47 |
| | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.47 | 0.47 | 0.47 | 0.47 |
| 18 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.53 | 0.53 | 0.53 | 0.53 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.53 | 0.53 | 0.53 | 0.53 |
| | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.53 | 0.53 | 0.53 | 0.53 |
| 19 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.6 | 0.6 | 0.6 | 0.6 |
| | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 |
| 20 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.67 | 0.67 | 0.67 | 0.67 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.67 | 0.67 | 0.67 | 0.67 |
| | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.67 | 0.67 | 0.67 | 0.67 |
| 21 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.73 | 0.73 | 0.73 | 0.73 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.73 | 0.73 | 0.73 | 0.73 |
| | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.73 | 0.73 | 0.73 | 0.73 |
| 22 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.8 | 0.8 | 0.8 | 0.8 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.63 | 0.63 | 0.63 | 0.63 | 0

**Input and output:**
**Colorimetric Printer Reflective System FRS15_90aM**
**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u**** **= 16 hues** ***r00j, r25j, ..., b75r***
**contrast reduction factor:**
$c_R = 0.9$

**FRS15_90aM; adapted (a) CIELAB data**

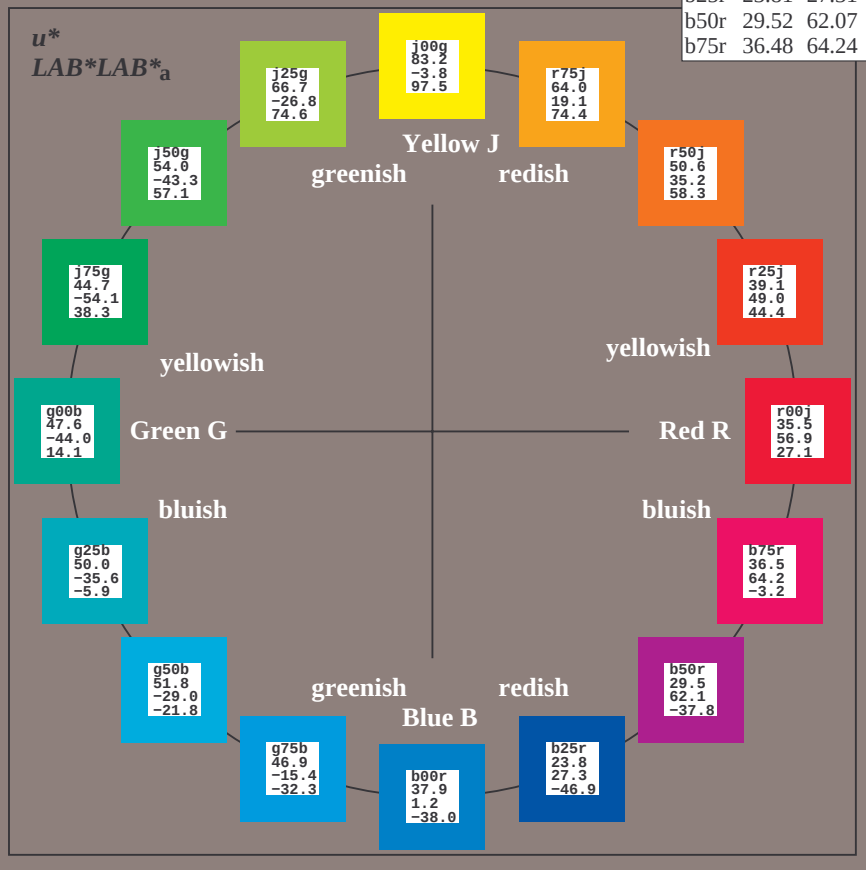
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

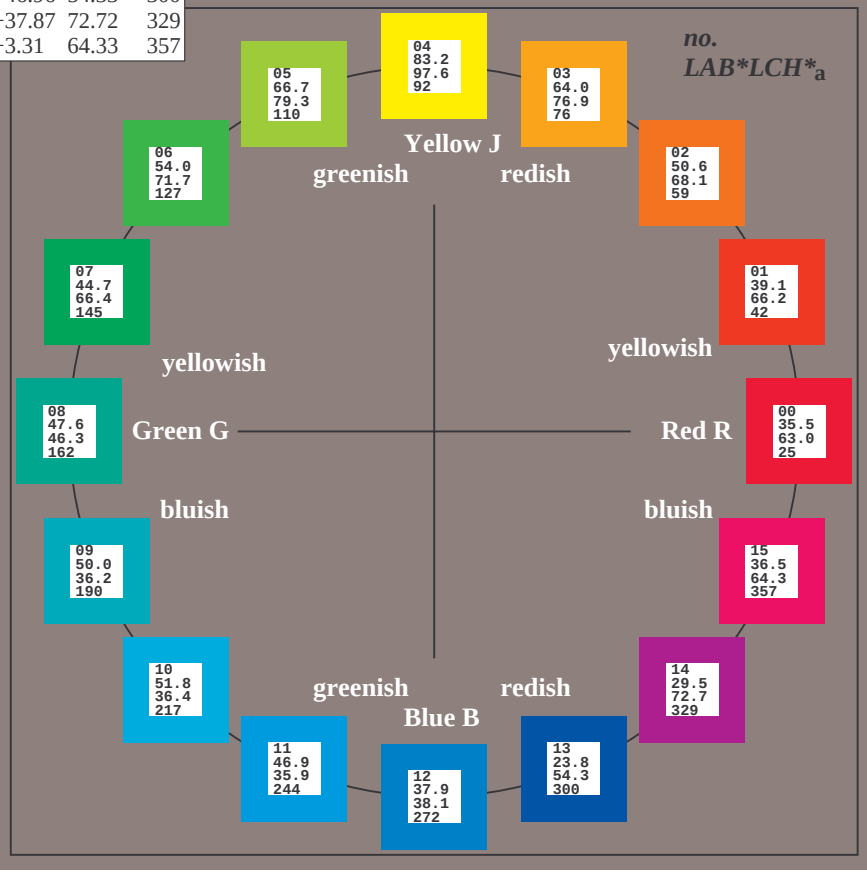



**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**

**FRS15_90aM; adapted (a) CIELAB data**

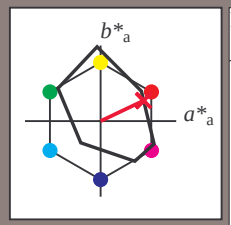
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 25/360 = 0.071$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
$u^* = r00j$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness $t^*$**




**FRS15_90aM; adapted (a) CIELAB data**

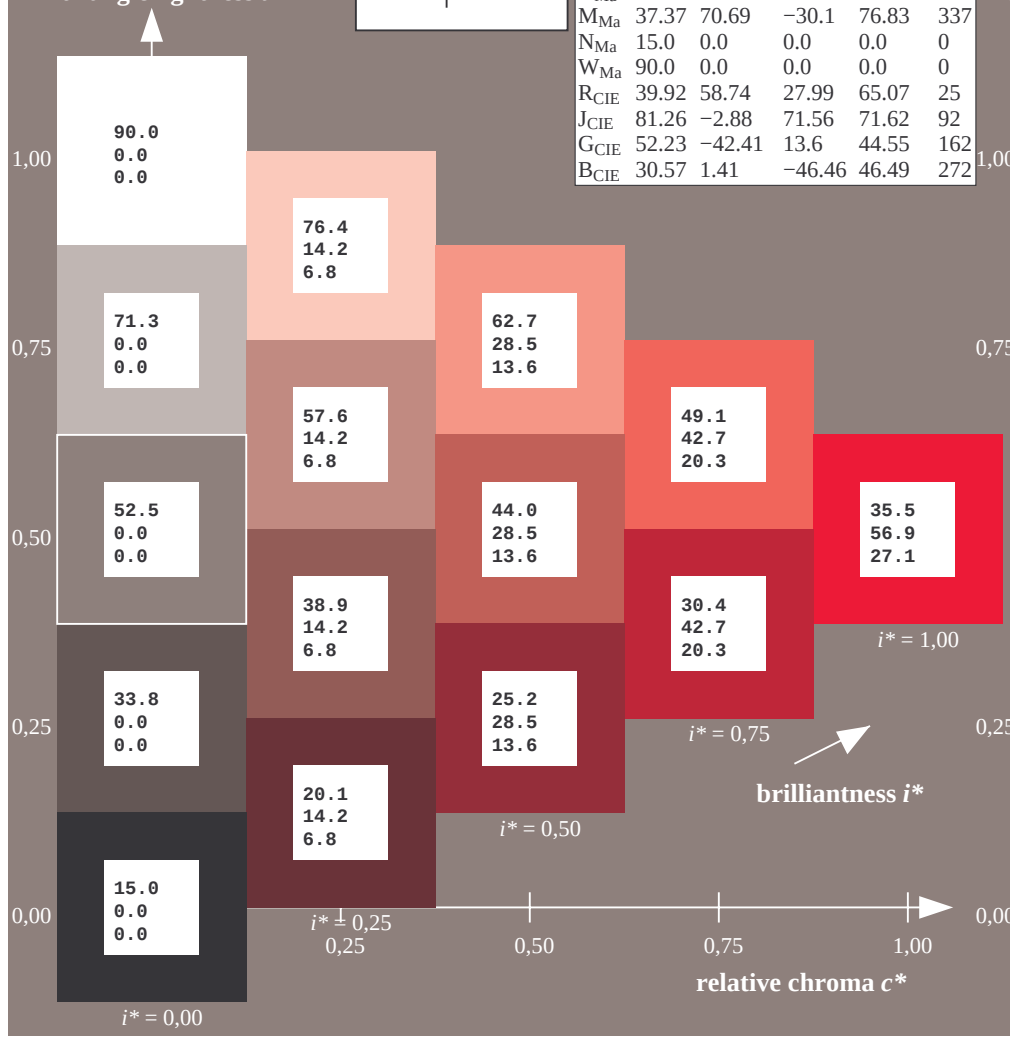
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

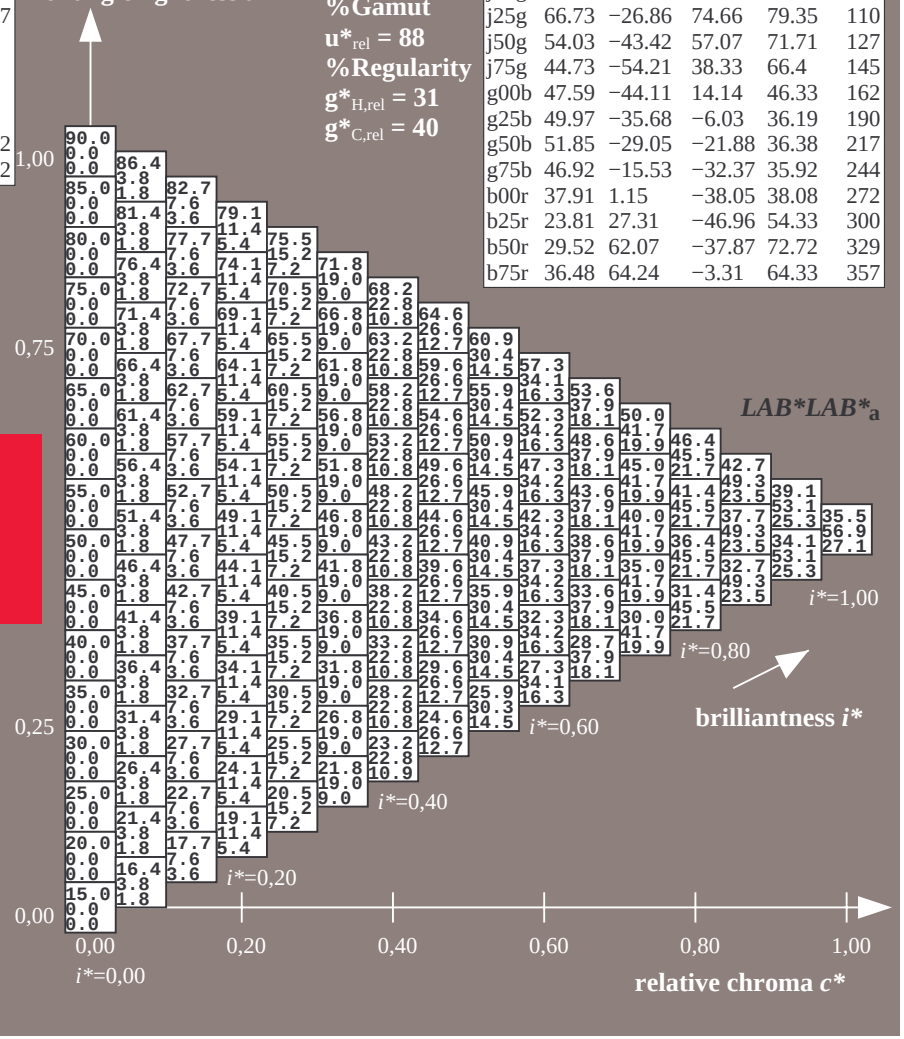
**Data for maximum colour (Ma):**
***LAB*LAB*$_{Ma}$*: 35 57 27**
***LAB*LCH*$_{Ma}$*: 35 63 25**
***lab*rgb*$_{Ma}$*: 1.0 0.0 0.0**
***lab*olv*$_{Ma}$*: 1.0 0.0 0.18**

***u* = r00j***
***LAB*LAB*$_a$***

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

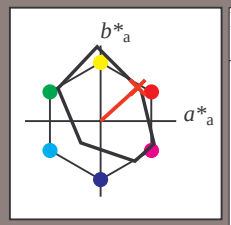


**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 42/360 = 0.117$**

**$u^* = r25j$**
**$LAB^*LAB^*_a$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
**$u^* = r25j$**
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness $t^*$**



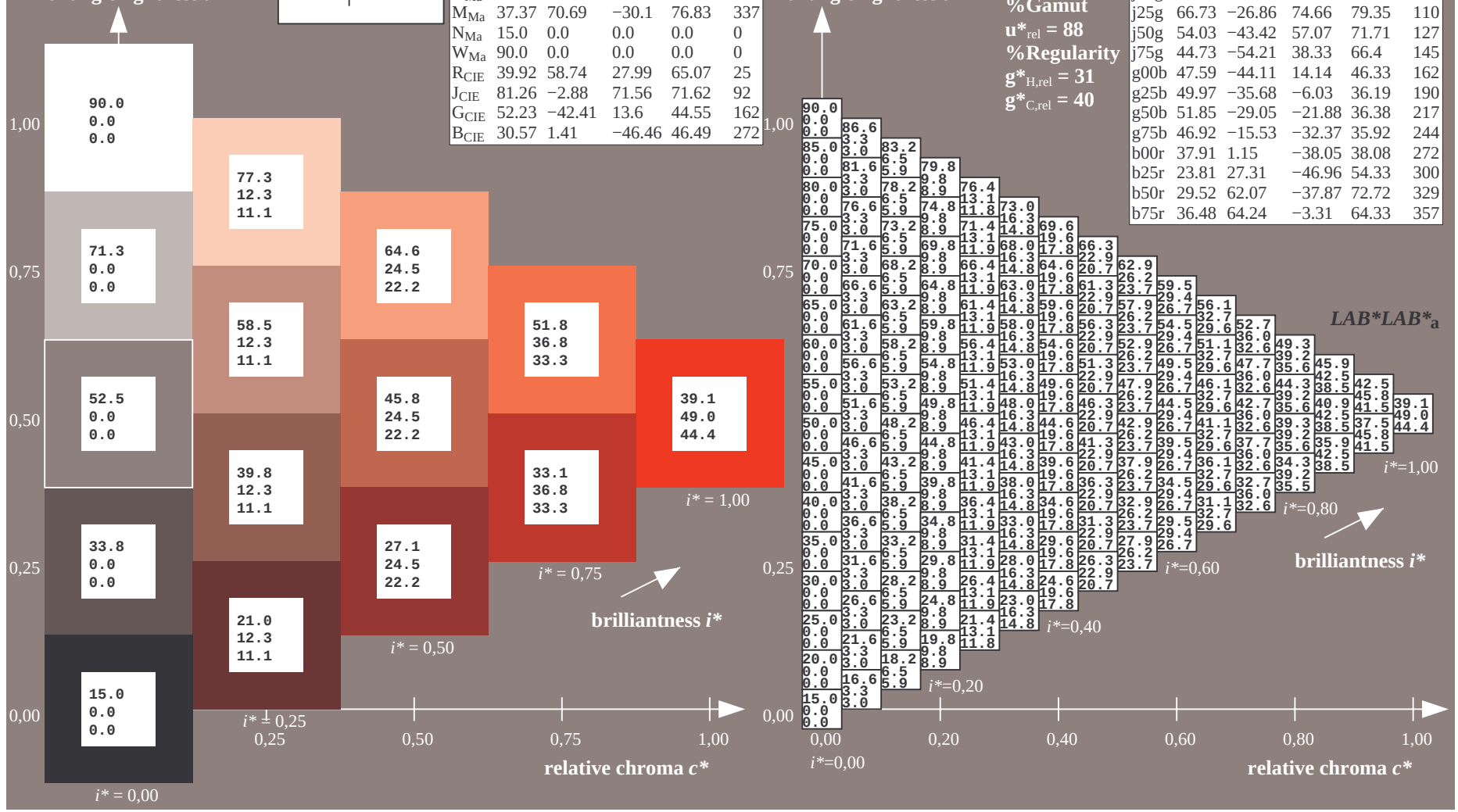

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB**$_{Ma}$: 39 49 44**
***LAB*LCH**$_{Ma}$: 39 66 42**
***lab*rgb**$_{Ma}$: 1.0 0.25 0.0**
***lab*olv**$_{Ma}$: 1.0 0.08 0.0**

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness $t^*$**

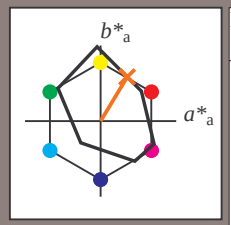
**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 59/360 = 0.164$**

**$u^* = r50j$**
**$LAB^*LAB^*_a$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
***u* = r50j***
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness *t****




**FRS15_90aM; adapted (a) CIELAB data**

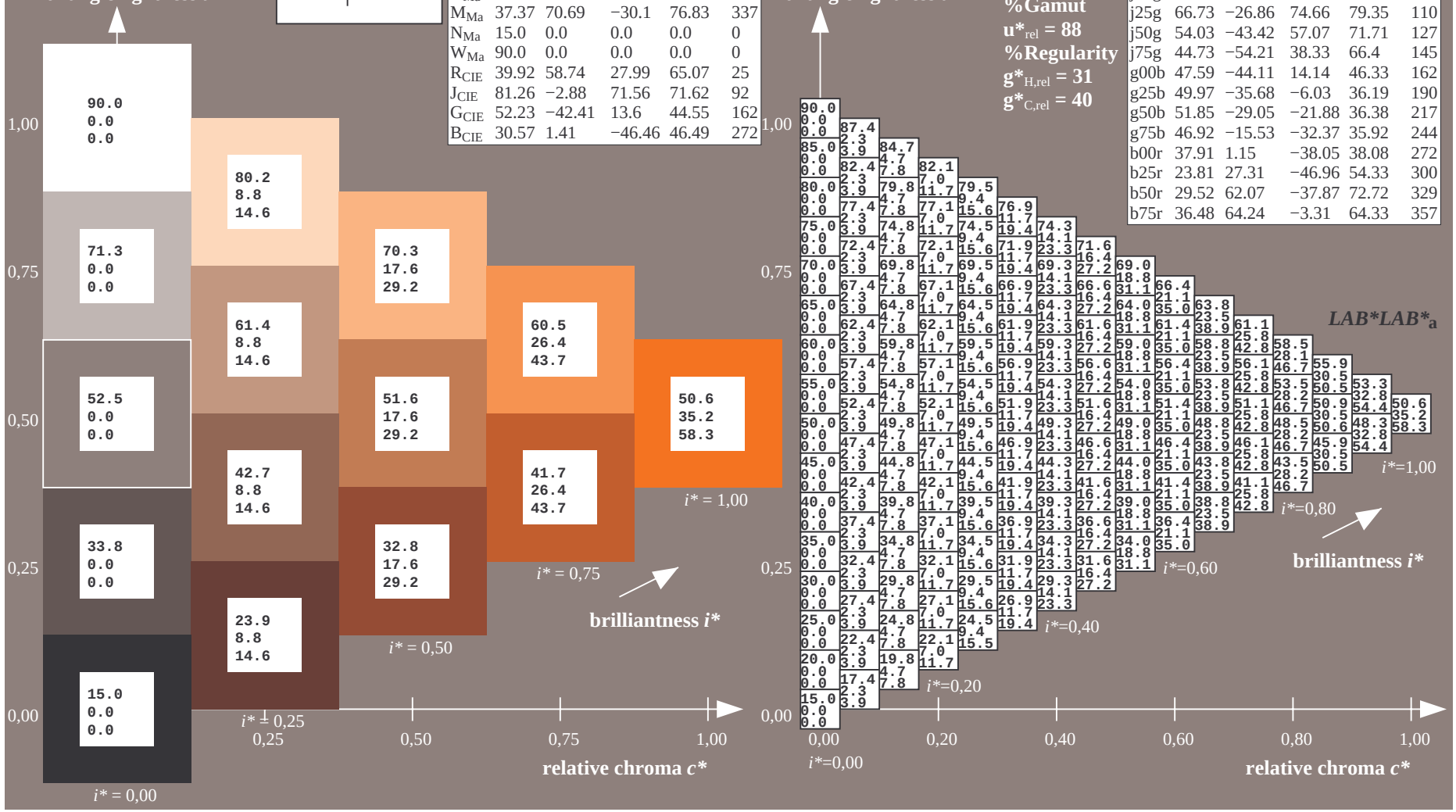
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB**$_{Ma}$: 51 35 58**
***LAB*LCH**$_{Ma}$: 51 68 59**
***lab*rgb**$_{Ma}$: 1.0 0.5 0.0**
***lab*olv**$_{Ma}$: 1.0 0.32 0.0**
**triangle lightness *t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

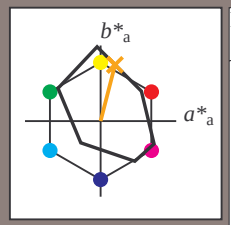
**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 76/360 = 0.21$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
$u^* = r75j$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness $t^*$**

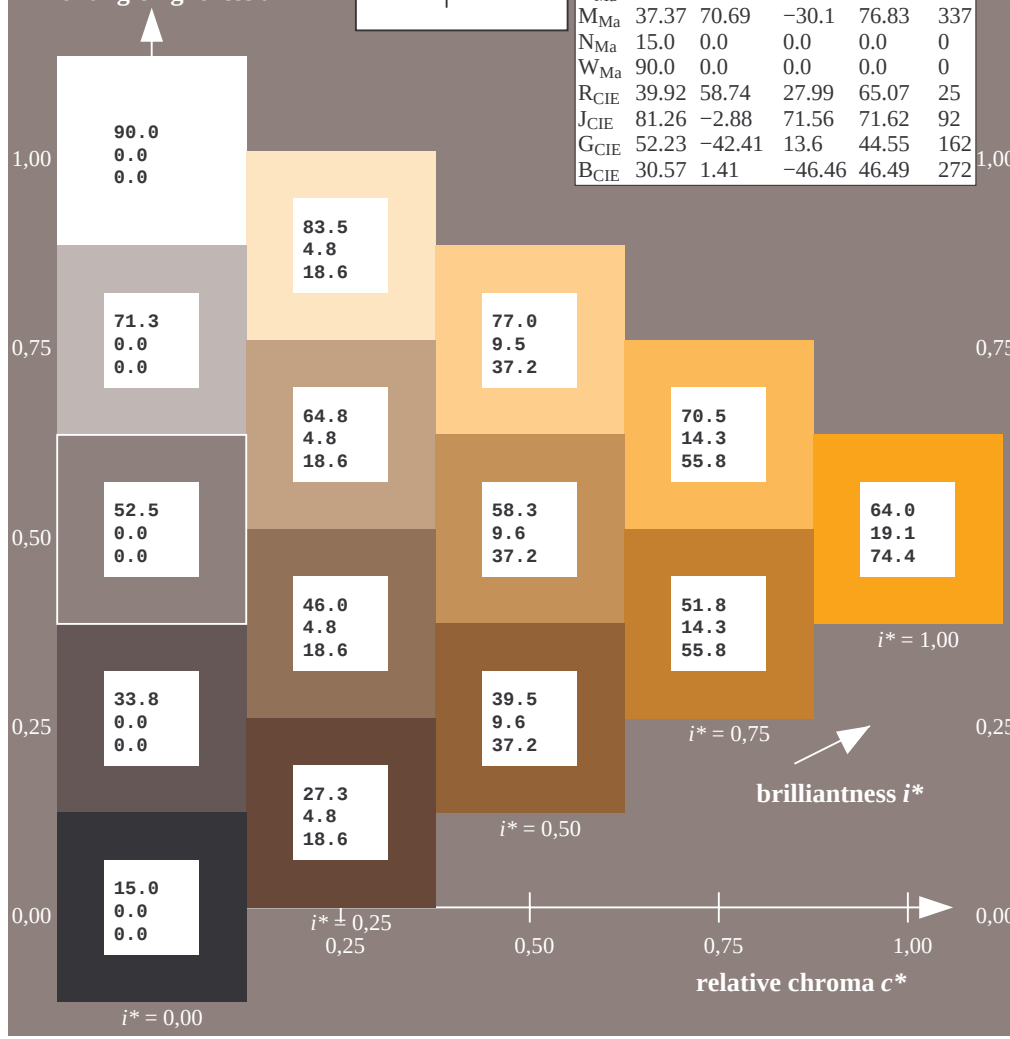



| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB*$_{Ma}$*: 64 19 74**
***LAB*LCH*$_{Ma}$*: 64 77 76**
***lab*rgb*$_{Ma}$*: 1.0 0.75 0.0**
***lab*olv*$_{Ma}$*: 1.0 0.59 0.0**

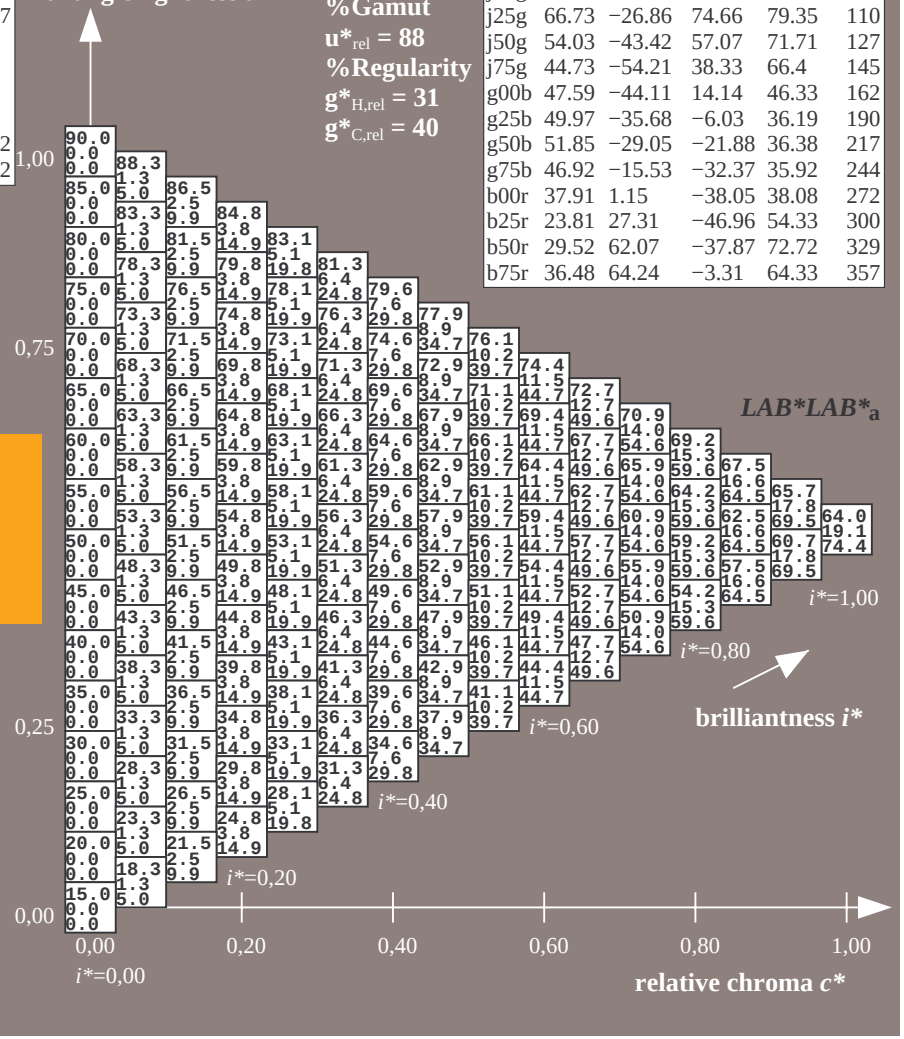
***u* = r75j***
***LAB*LAB*$_a$***

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



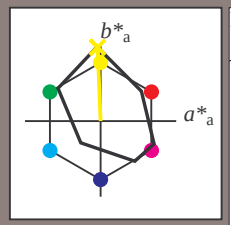

**triangle lightness $t^*$**

**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 92/360 = 0.256$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
$u^* = j00g$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness $t^*$**



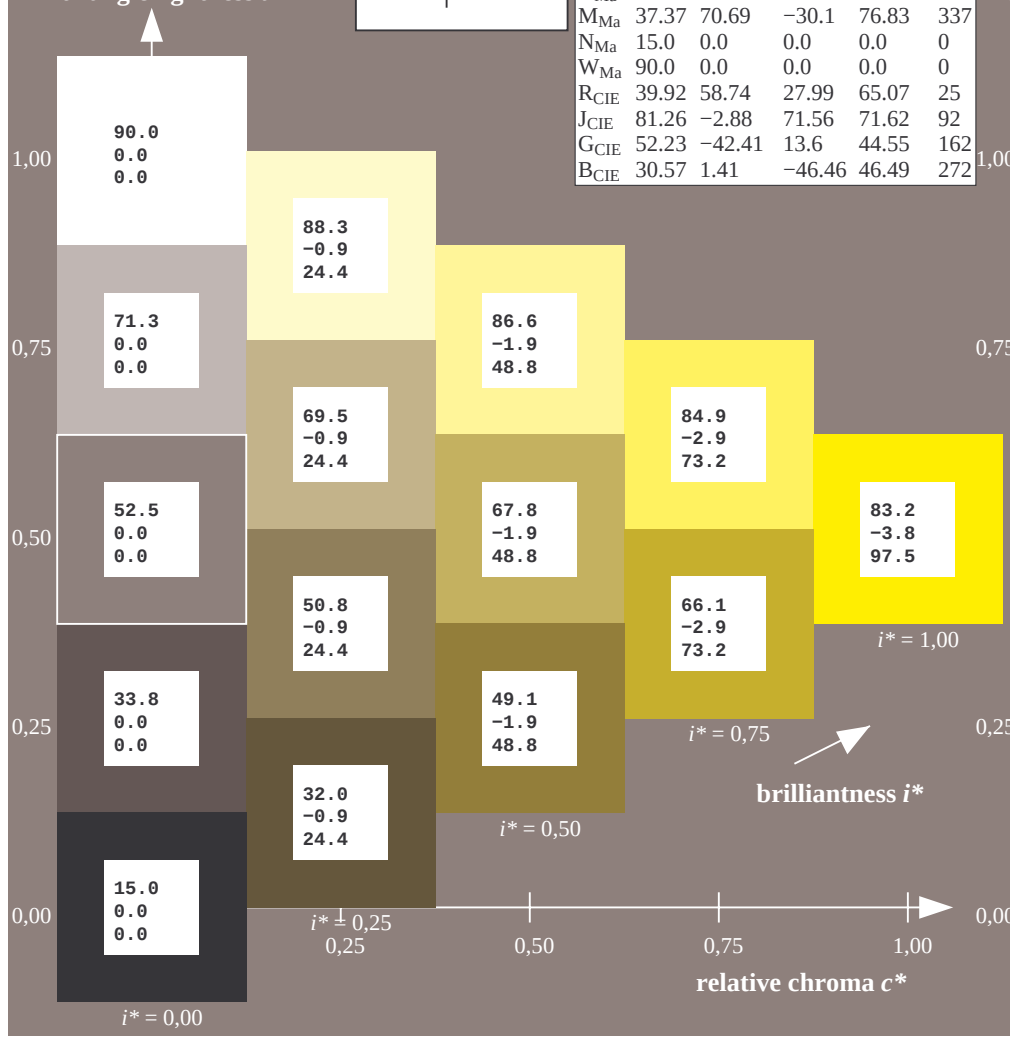

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

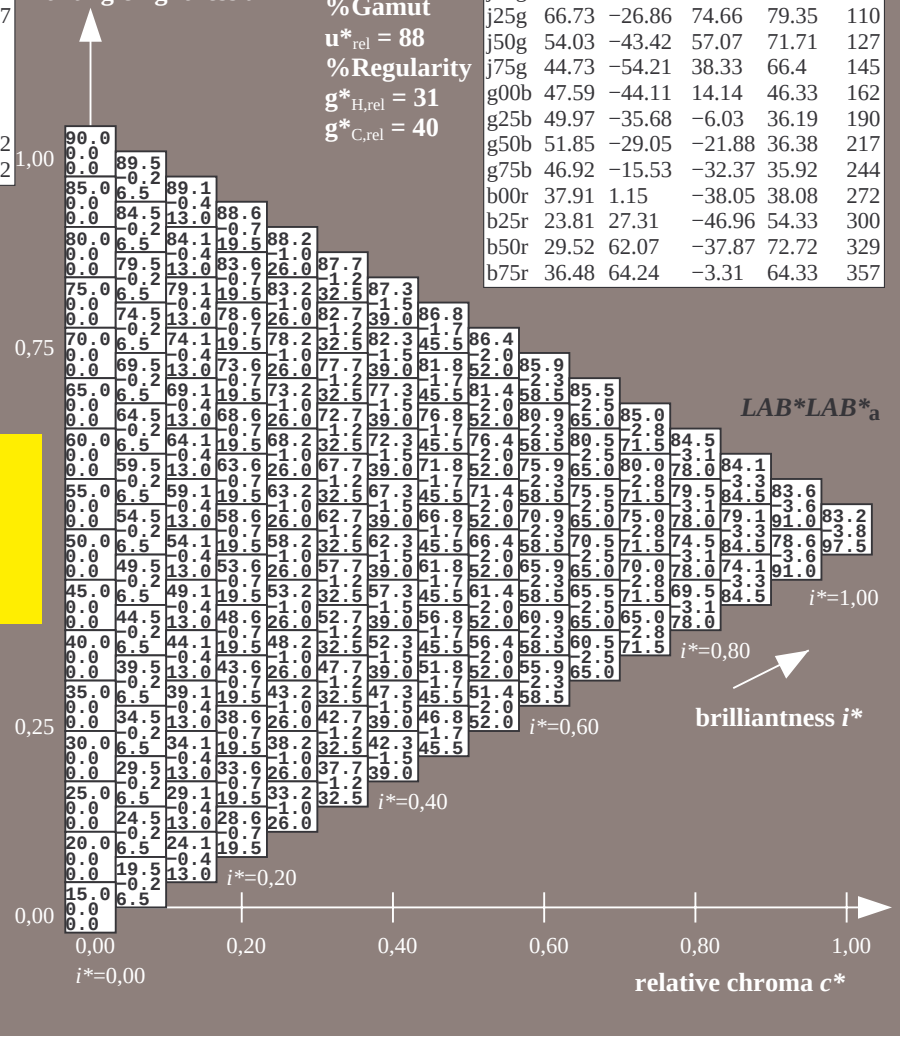
**Data for maximum colour (Ma):**
***LAB*LAB*$_{Ma}$*: 83 −3 98**
***LAB*LCH*$_{Ma}$*: 83 98 92**
***lab*rgb*$_{Ma}$*: 1.0 1.0 0.0**
***lab*olv*$_{Ma}$*: 1.0 0.99 0.0**
**triangle lightness $t^*$**

**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**

***u* = j00g***
***LAB*LAB*$_a$***

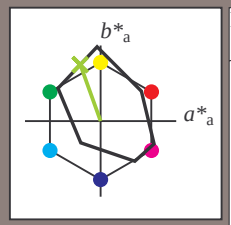
| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 110/360 = 0.305$**

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
$u^* = j25g$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$

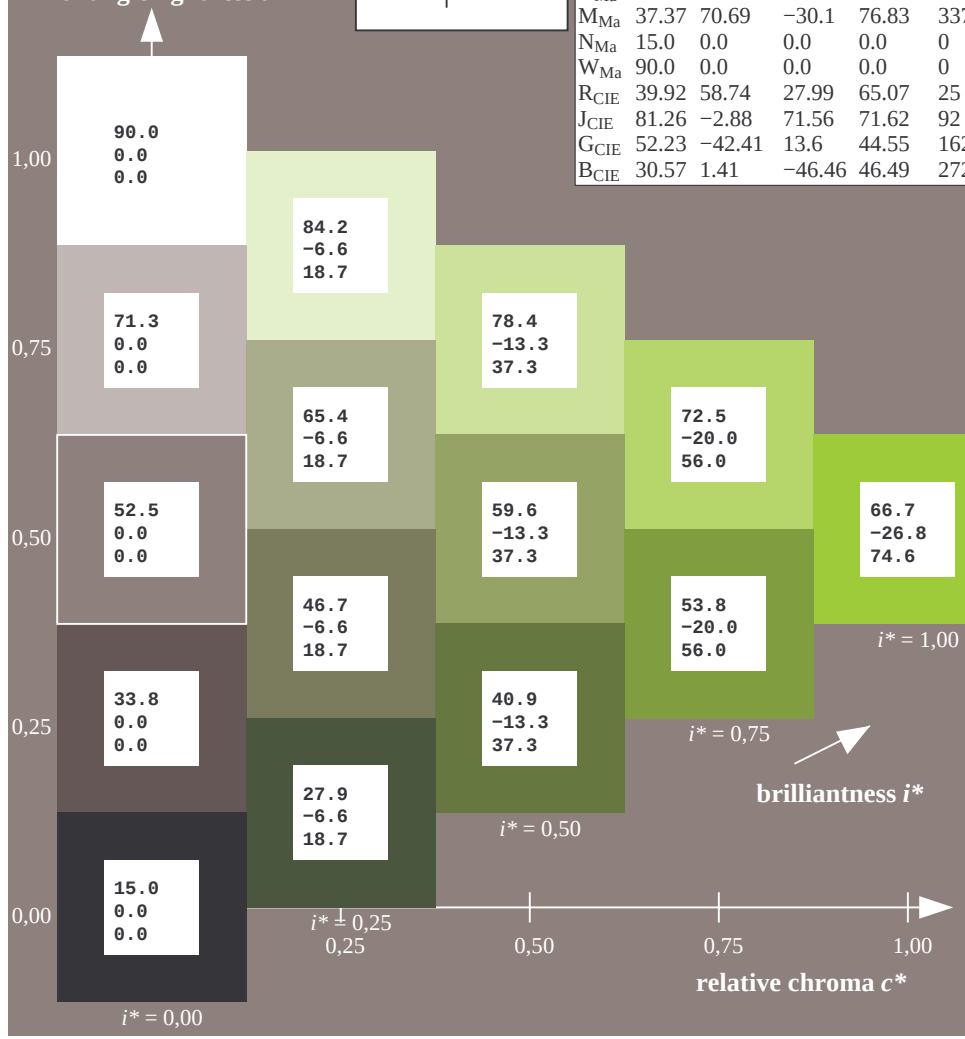


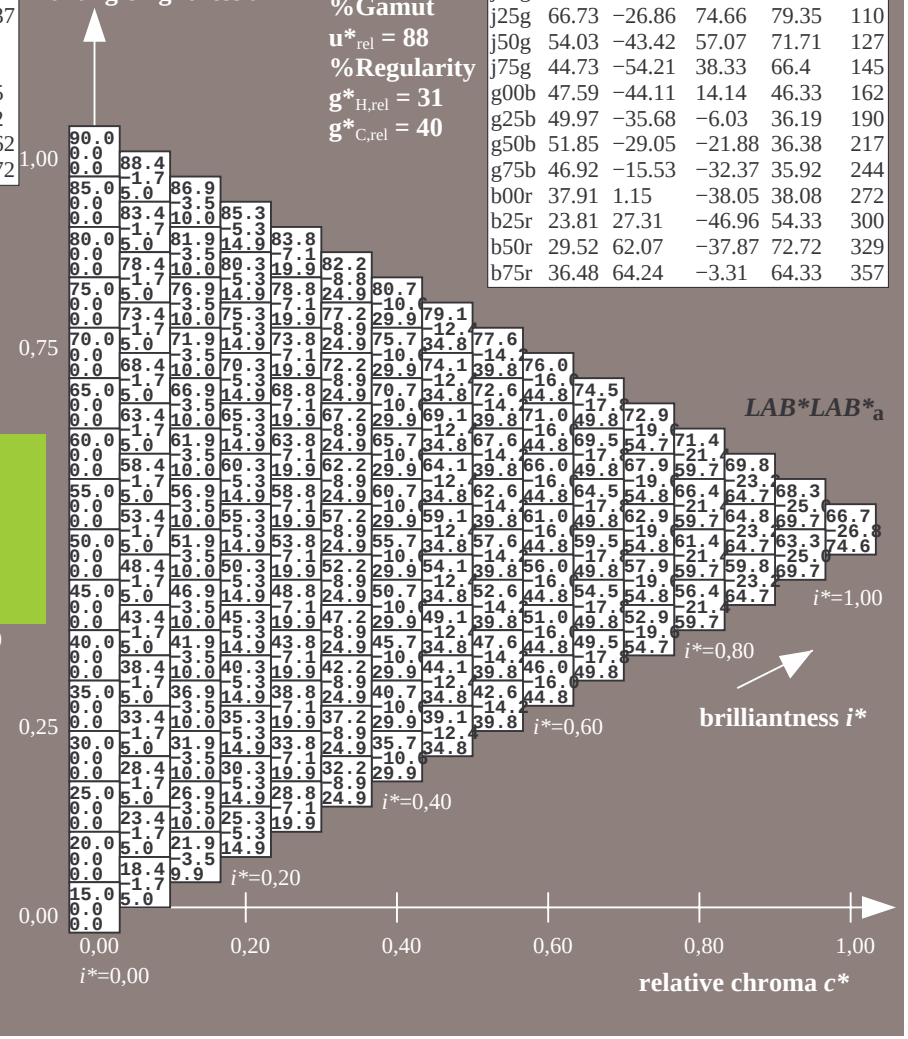

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 67 −26 75**
***LAB*LCH****$_{Ma}$**: 67 79 110**
***lab*rgb****$_{Ma}$**: 0.75 1.0 0.0**
***lab*olv****$_{Ma}$**: 0.57 1.0 0.0**

***u* = j25g***
***LAB*LAB****$_a$**

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 127/360 = 0.354$**

**data for any colour:**

***lab*tch** and *lab*icu****

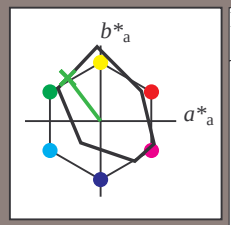
**elementary hue text:**

***u* = j50g***

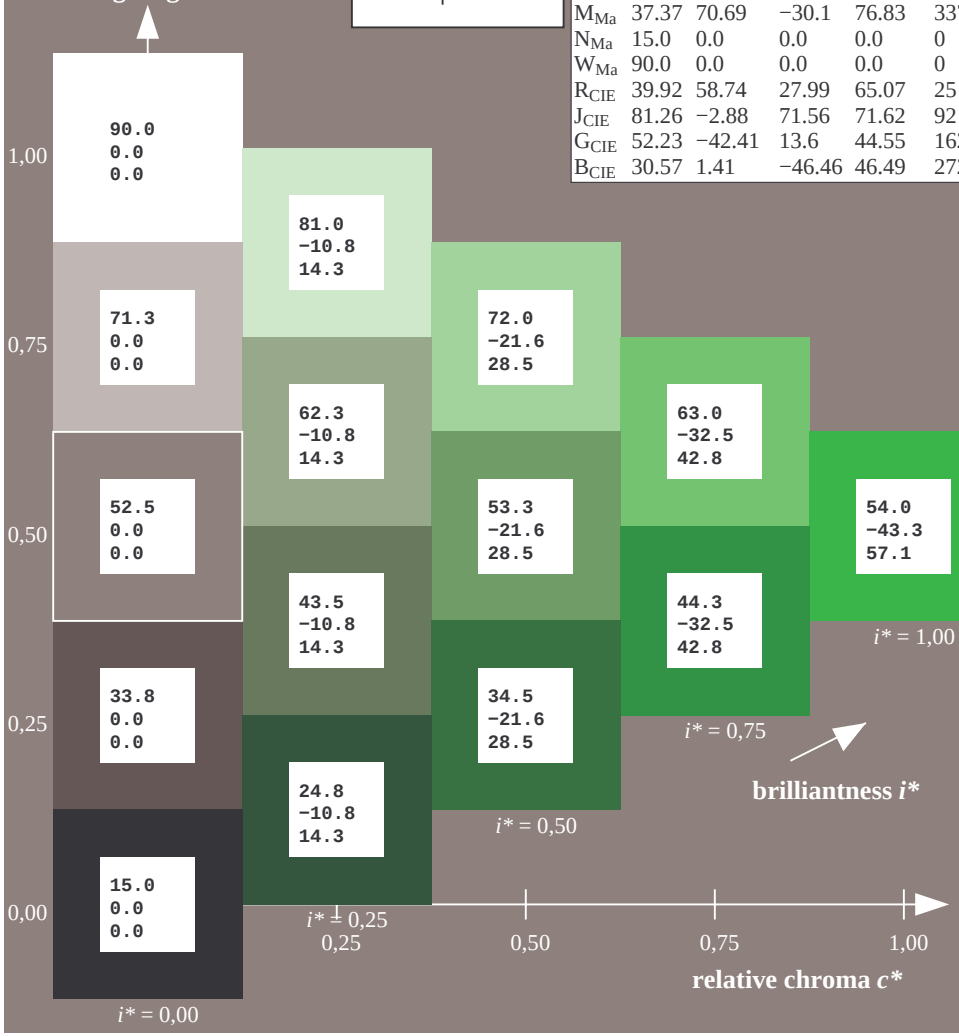
**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |




**Data for maximum colour (Ma):**

***LAB*LAB**$_{Ma}$: 54 −42 57**

***LAB*LCH**$_{Ma}$: 54 72 127**

***lab*rgb**$_{Ma}$: 0.5 1.0 0.0**

***lab*olv**$_{Ma}$: 0.25 1.0 0.0**

***u* = j50g***

***LAB*LAB**$_a$**

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness *t****

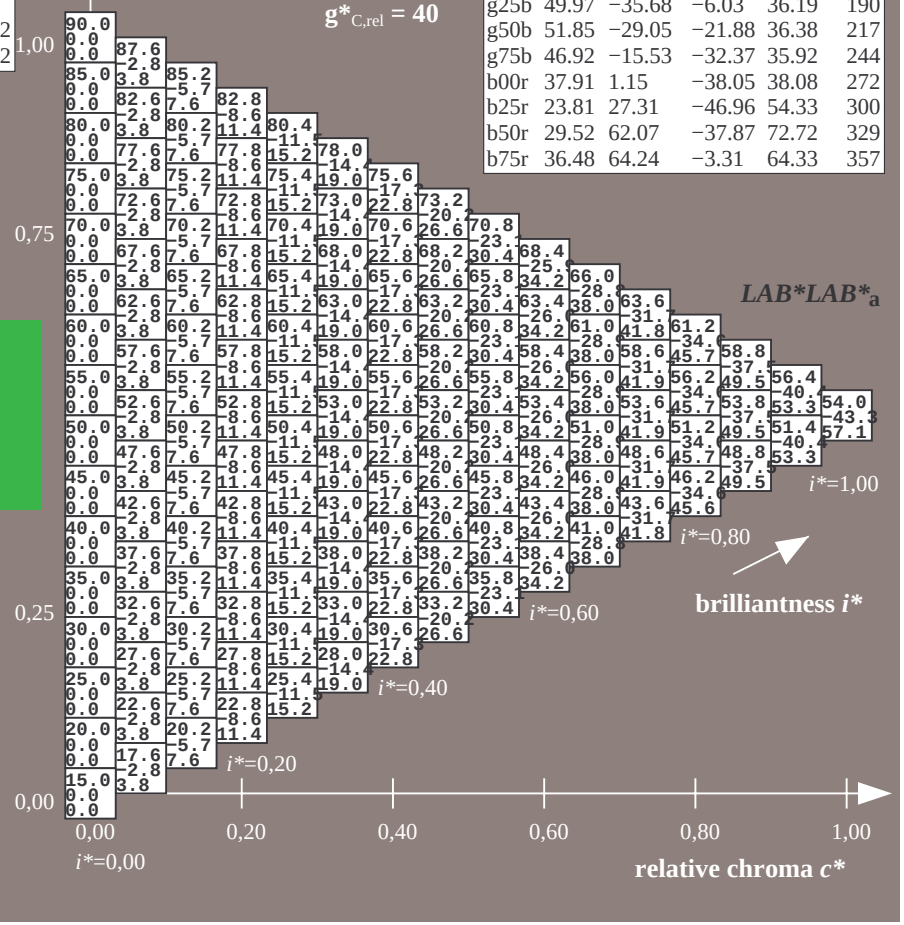
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 145/360 = 0.402$**

**$u^* = j75g$**

**$LAB^*LAB^*_a$**

**data for any colour:**

***lab*tch** and *lab*icu****

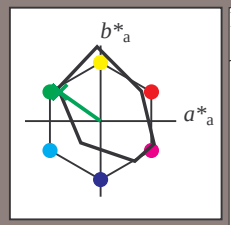
**elementary hue text:**

**$u^* = j75g$**

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness $t^*$**




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB**$_{Ma}$: 45 −53 38**

***LAB*LCH**$_{Ma}$: 45 66 145**

***lab*rgb**$_{Ma}$: 0.25 1.0 0.0**

***lab*olv**$_{Ma}$: 0.0 1.0 0.07**

**triangle lightness $t^*$**

**%Gamut**

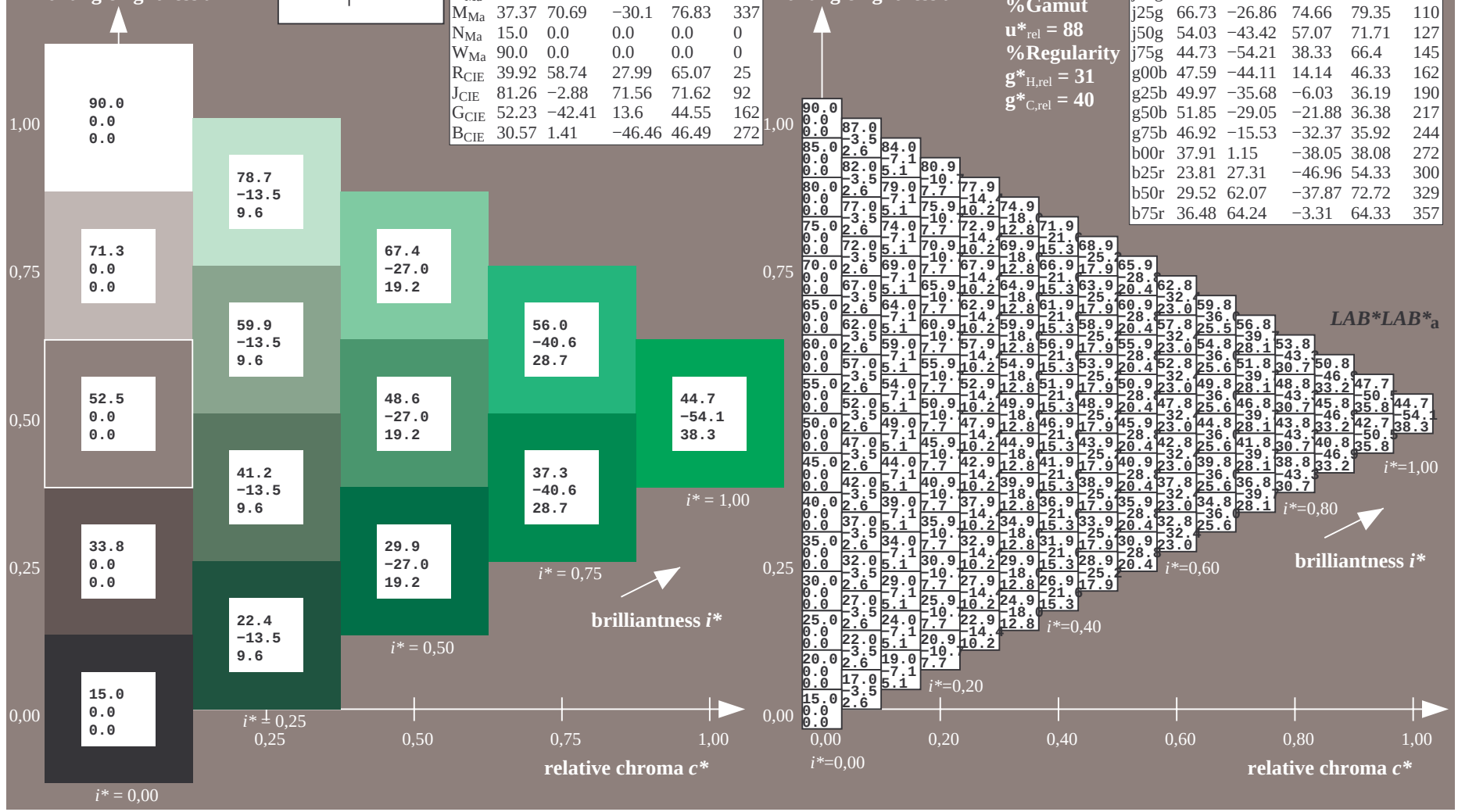
**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

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

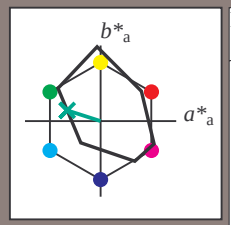
| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 162/360 = 0.451$**

**$u^* = g00b$**
**$LAB^*LAB^*_a$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
**$u^* = g00b$**
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness $t^*$**




**FRS15_90aM; adapted (a) CIELAB data**

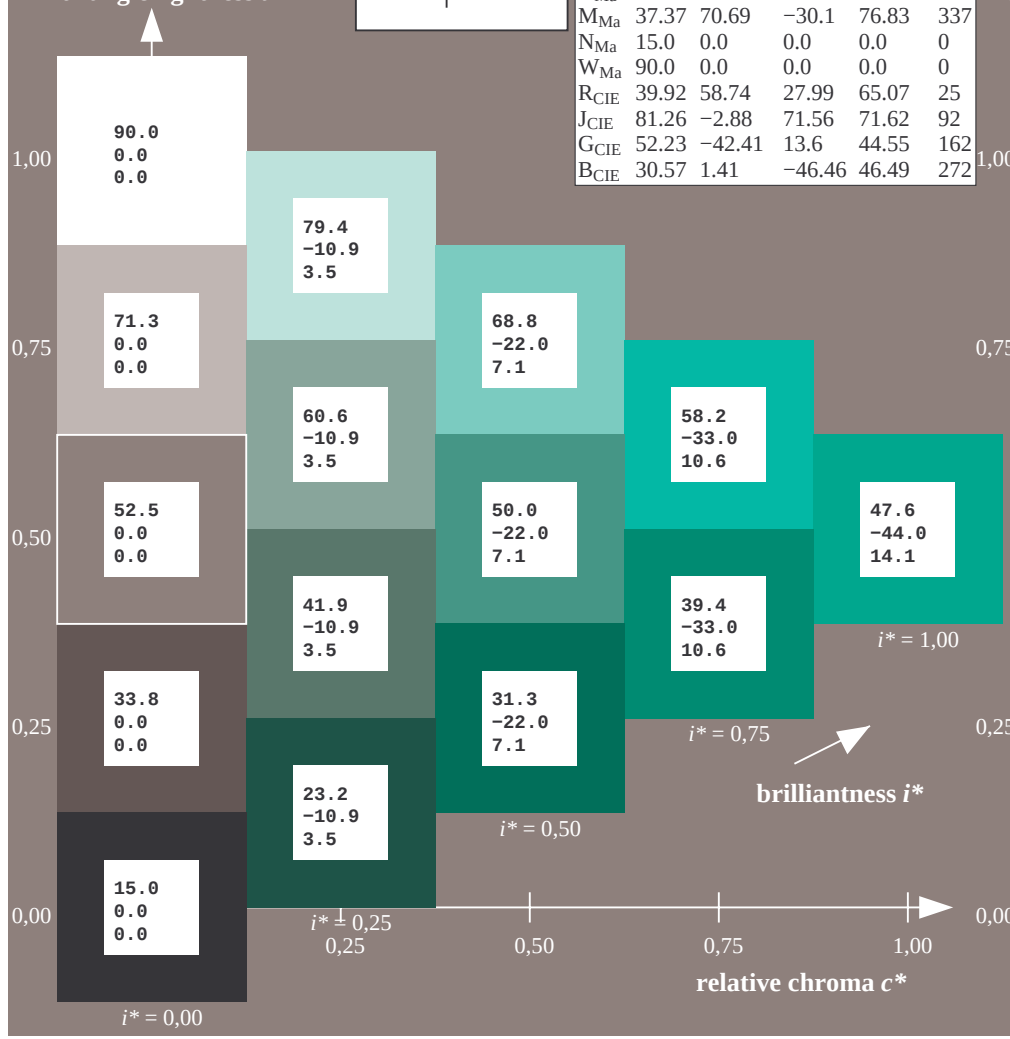
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

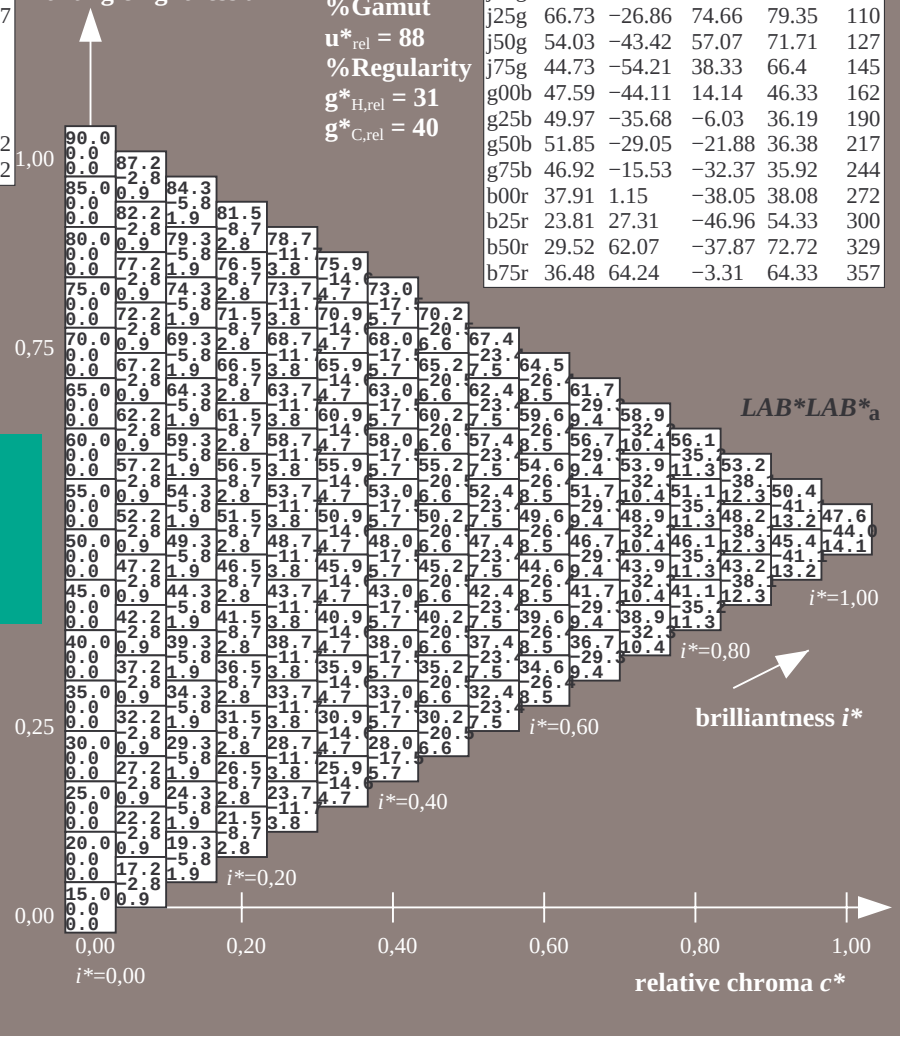
**Data for maximum colour (Ma):**
***LAB*LAB**$_{Ma}$: 48 −43 14**
***LAB*LCH**$_{Ma}$: 48 46 162**
***lab*rgb**$_{Ma}$: 0.0 1.0 0.0**
***lab*olv**$_{Ma}$: 0.0 1.0 0.41**
**triangle lightness $t^*$**

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

**FRS15_90aM; adapted (a) CIELAB data**

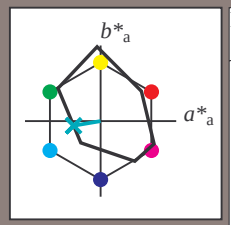
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 190/360 = 0.527$**

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = g25b***
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness *t****




**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

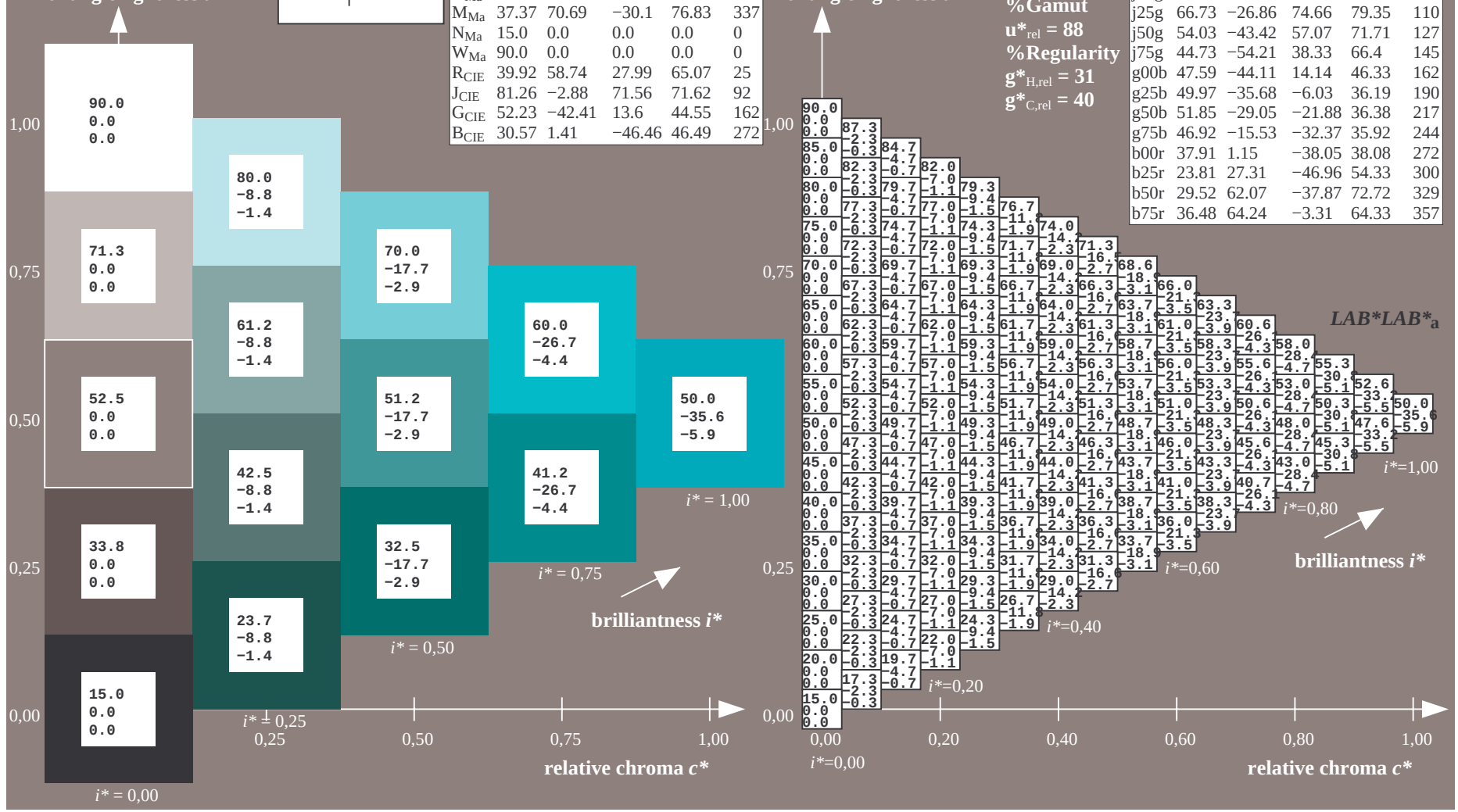
**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 50 −35 −5**
***LAB*LCH****$_{Ma}$**: 50 36 190**
***lab*rgb****$_{Ma}$**: 0.0 1.0 0.5**
***lab*olv****$_{Ma}$**: 0.0 1.0 0.69**
**triangle lightness *t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

***u* = g25b***
***LAB*LAB****$_a$**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 217/360 = 0.603$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

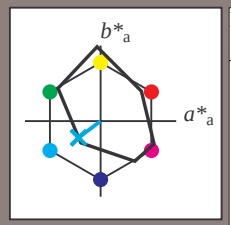
**elementary hue text:**

***u* = g50b***

**contrast reduction factor:**

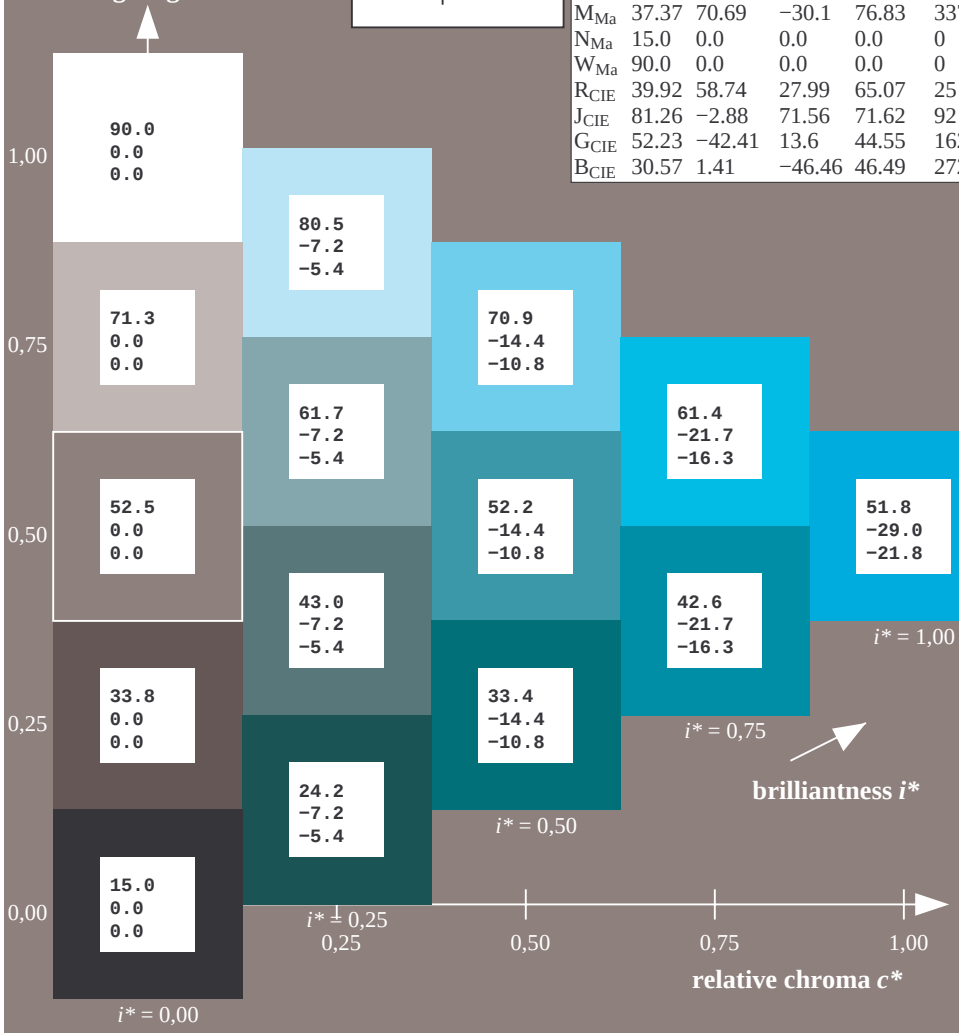
**$c_R = 0.9$**

**triangle lightness *t****




**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |




**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 52 −28 −21**

***LAB*LCH****$_{Ma}$**: 52 36 217**

***lab*rgb****$_{Ma}$**: 0.0 1.0 1.0**

***lab*olv****$_{Ma}$**: 0.0 1.0 0.9**

***u* = g50b***

***LAB*LAB****$_a$**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness *t****

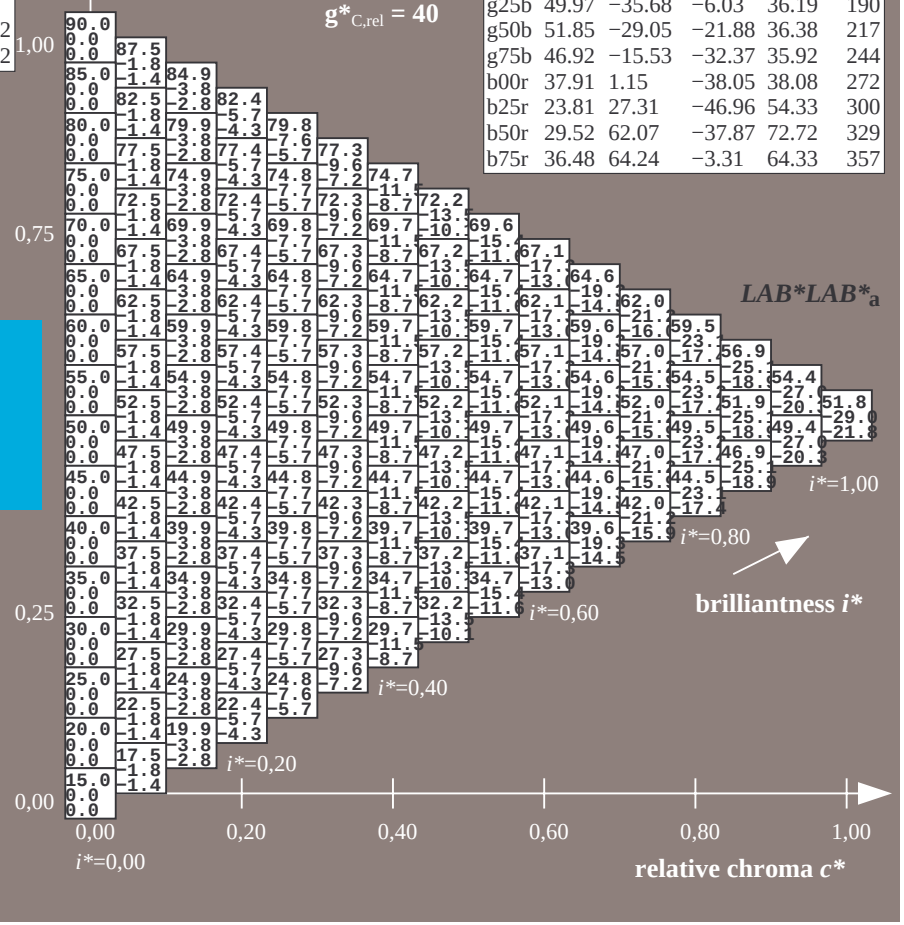
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

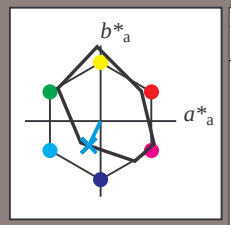
**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 244/360 = 0.679$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
$u^* = g75b$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness $t^*$**



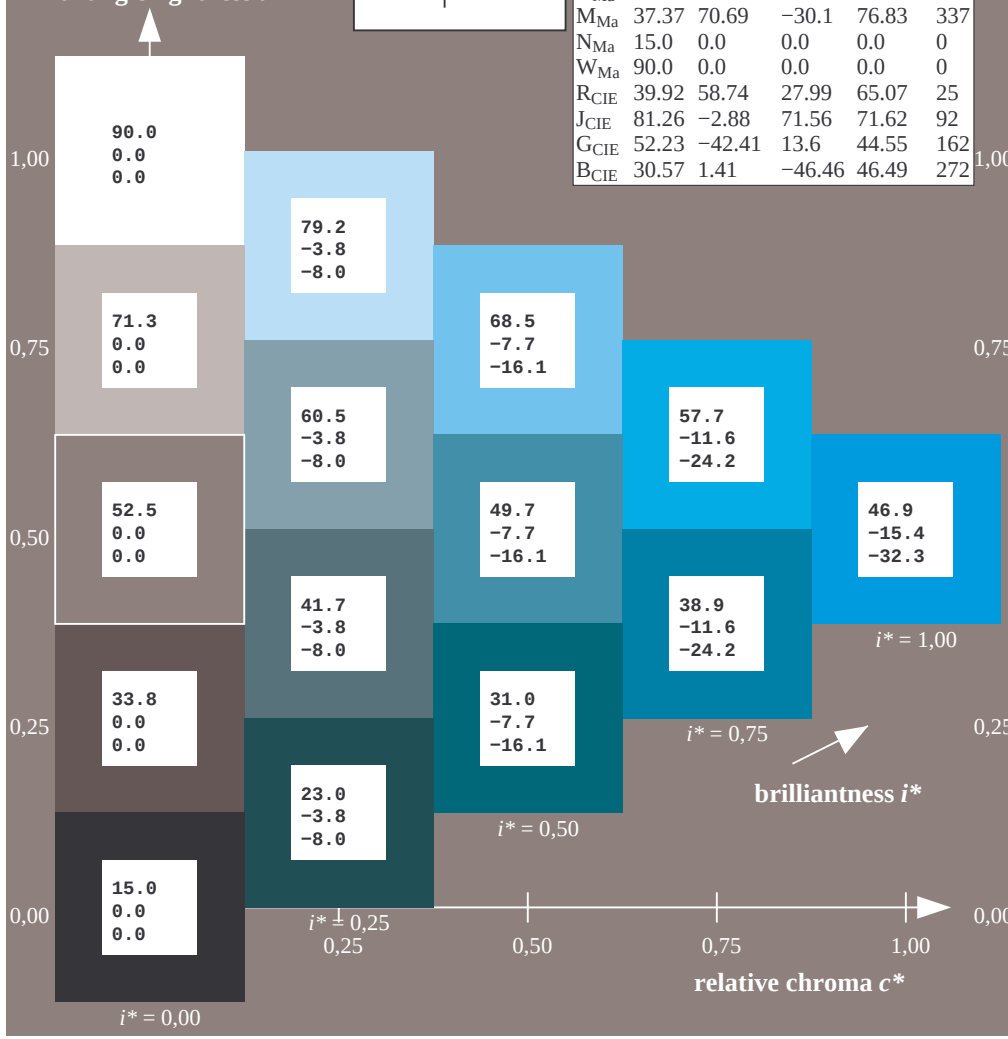

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

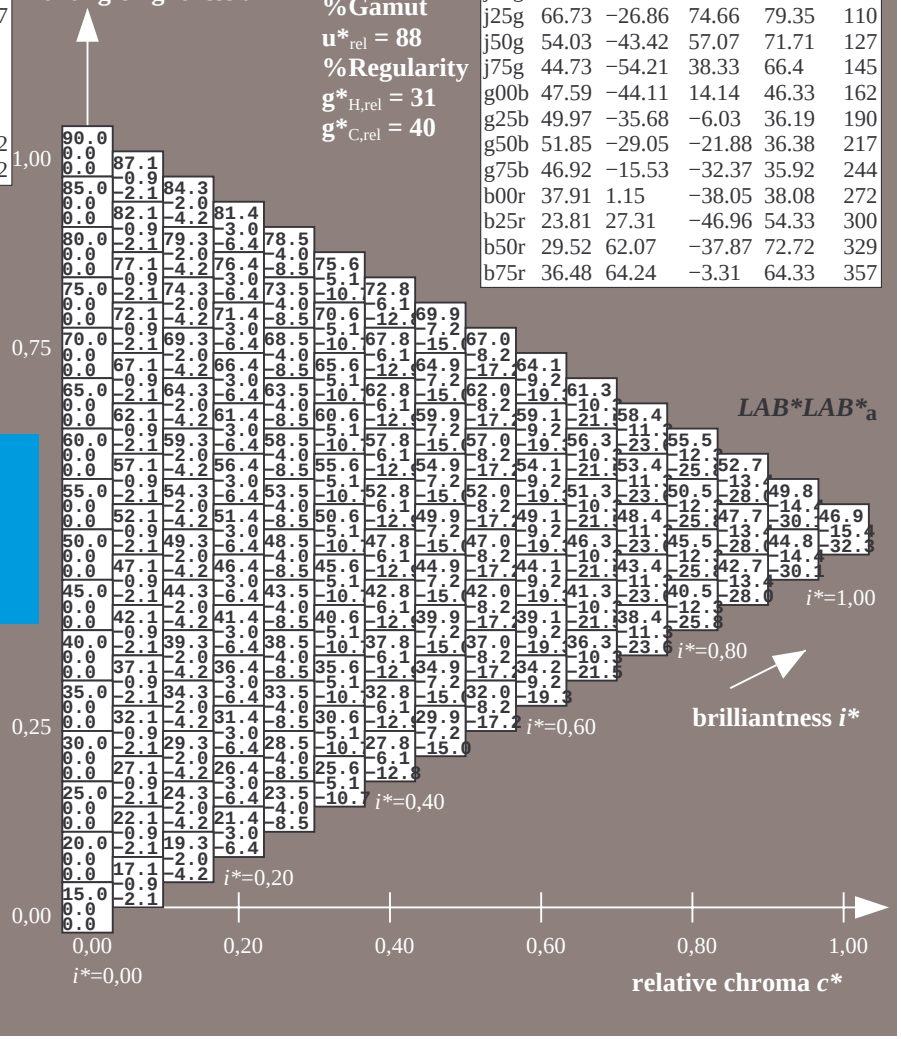
**Data for maximum colour (Ma):**
$LAB^*LAB^*_{Ma}$: 47 −15 −31
$LAB^*LCH^*_{Ma}$: 47 36 244
$lab^*rgb^*_{Ma}$: 0.0 0.5 1.0
$lab^*olv^*_{Ma}$: 0.0 0.85 1.0
**triangle lightness $t^*$**

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

$u^* = g75b$
$LAB^*LAB^*_a$

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

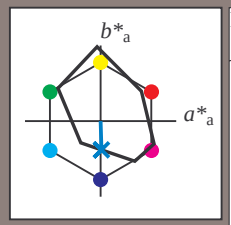


**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 272/360 = 0.755$**

**$u^* = b00r$**
**$LAB^*LAB^*_a$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
**$u^* = b00r$**
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness $t^*$**




**FRS15_90aM; adapted (a) CIELAB data**

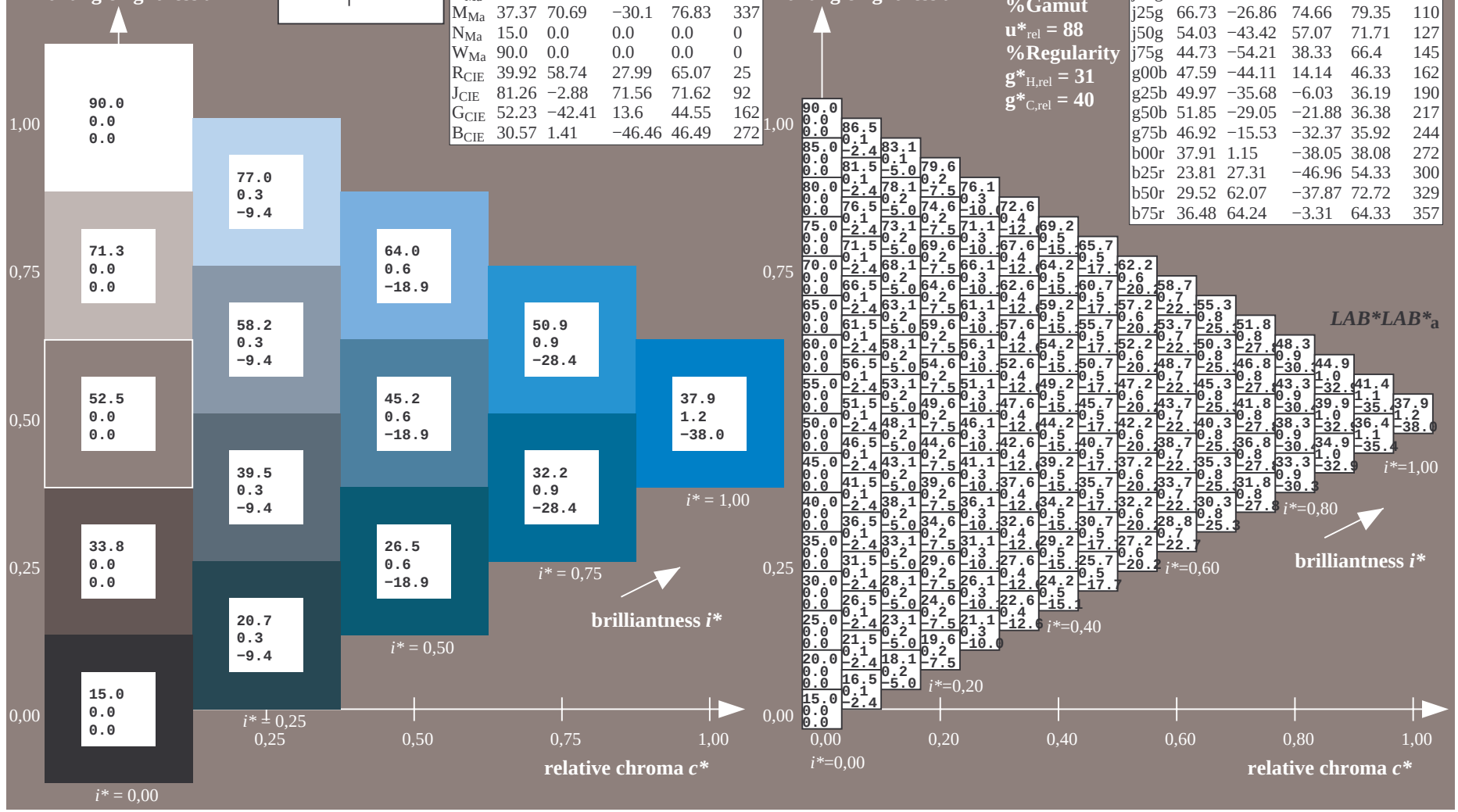
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB**$_{Ma}$: 38 1 −37**
***LAB*LCH**$_{Ma}$: 38 38 272**
***lab*rgb**$_{Ma}$: 0.0 0.0 1.0**
***lab*olv**$_{Ma}$: 0.0 0.62 1.0**
**triangle lightness $t^*$**

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

**FRS15_90aM; adapted (a) CIELAB data**

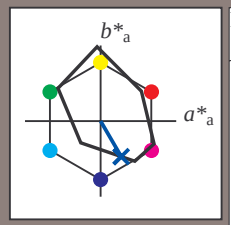
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 300/360 = 0.834$**

**$u^* = b25r$**
**$LAB^*LAB^*_a$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
**$u^* = b25r$**
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness $t^*$**




**FRS15_90aM; adapted (a) CIELAB data**

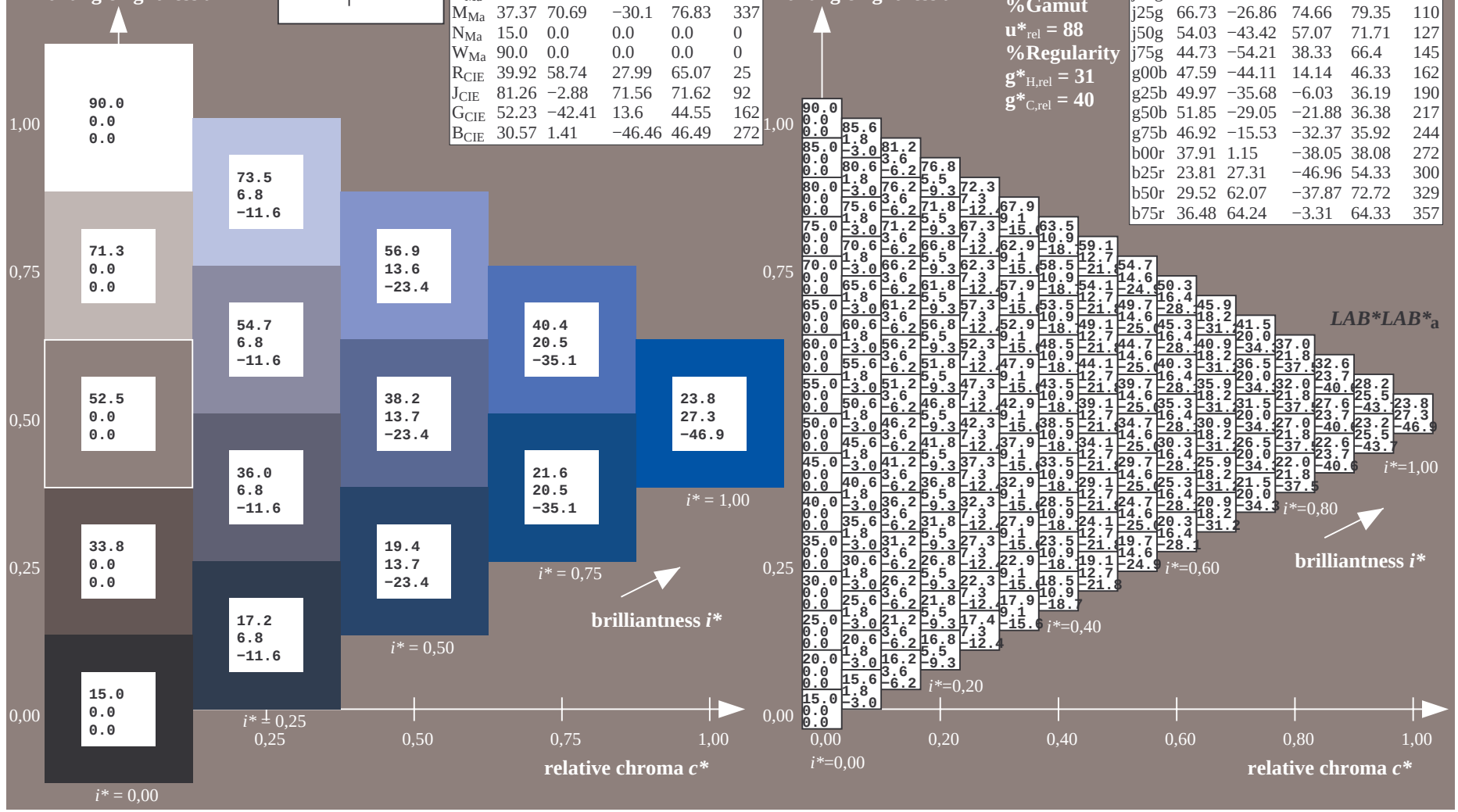
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB**$_{Ma}$: 24 27 −46**
***LAB*LCH**$_{Ma}$: 24 54 300**
***lab*rgb**$_{Ma}$: 0.5 0.0 1.0**
***lab*olv**$_{Ma}$: 0.0 0.25 1.0**
**triangle lightness $t^*$**

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

**FRS15_90aM; adapted (a) CIELAB data**

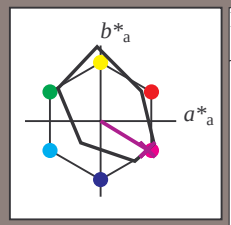
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 329/360 = 0.913$**

**$u^* = b50r$**
**$LAB^*LAB^*_a$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
**$u^* = b50r$**
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness $t^*$**




**FRS15_90aM; adapted (a) CIELAB data**

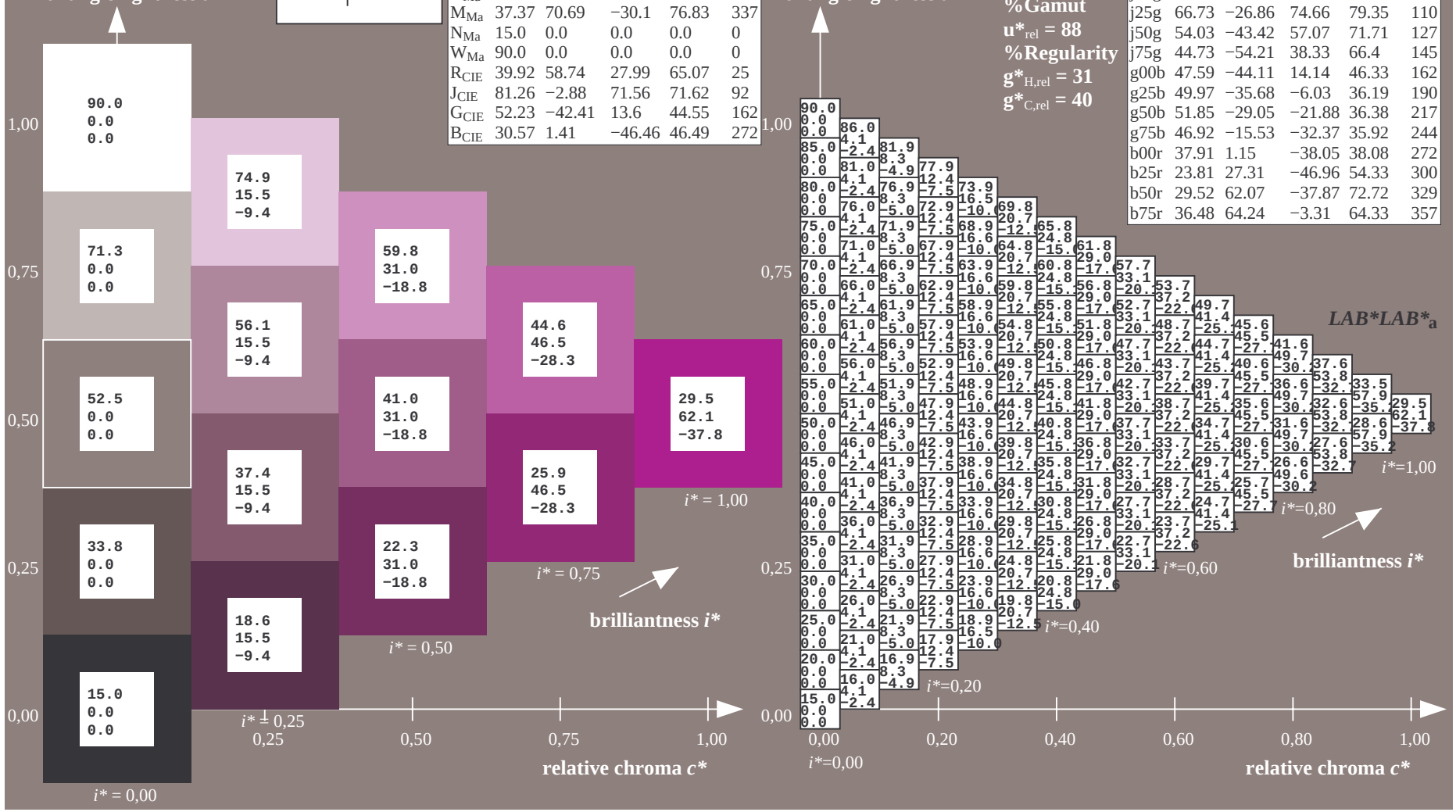
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB**$_{Ma}$: 30 62 −37**
***LAB*LCH**$_{Ma}$: 30 73 329**
***lab*rgb**$_{Ma}$: 1.0 0.0 1.0**
***lab*olv**$_{Ma}$: 0.66 0.0 1.0**
**triangle lightness $t^*$**

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

**FRS15_90aM; adapted (a) CIELAB data**

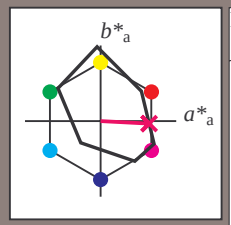
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 357/360 = 0.992$**

**$u^* = b75r$**
**$LAB^*LAB^*_a$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
**$u^* = b75r$**
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness $t^*$**




**FRS15_90aM; adapted (a) CIELAB data**

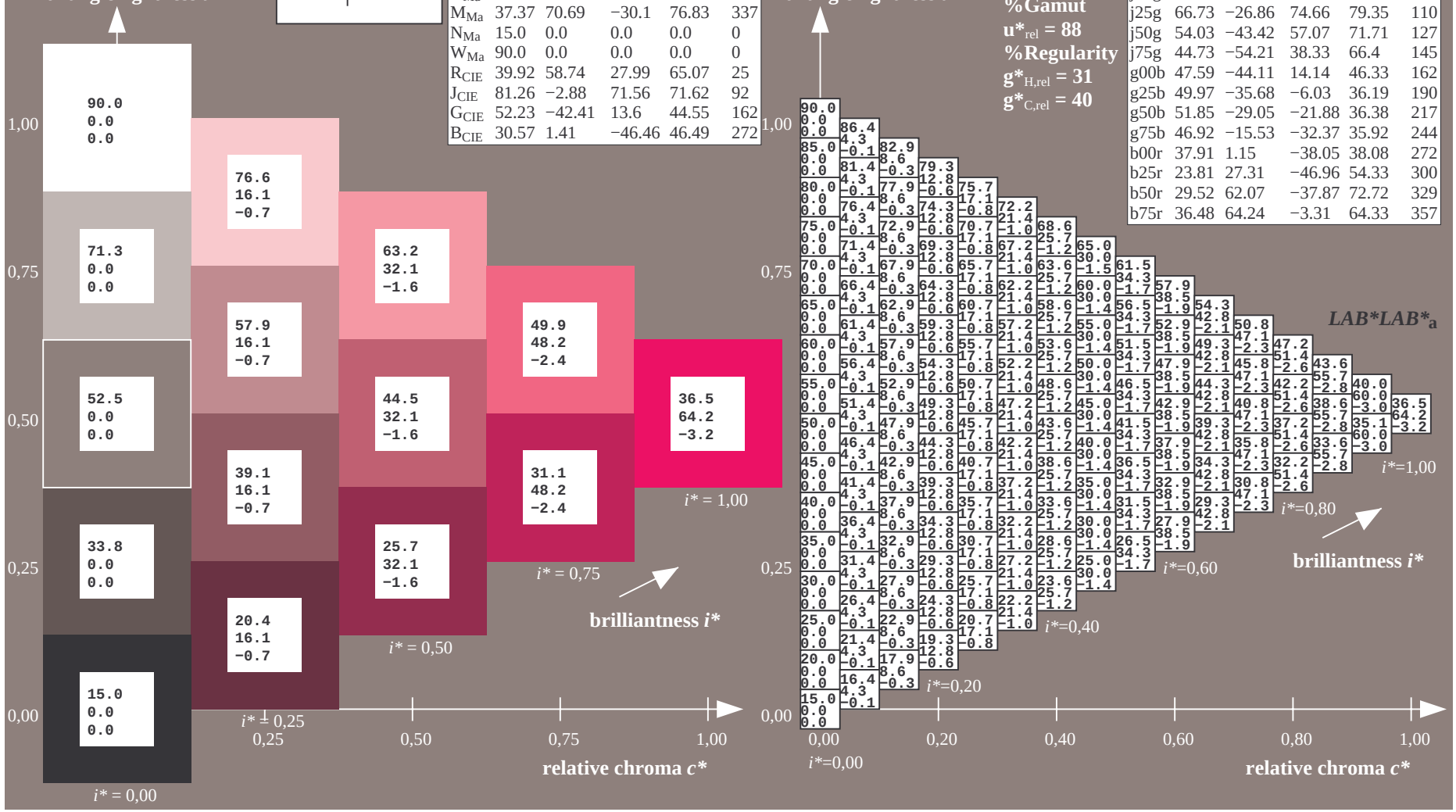
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB**$_{Ma}$: 36 64 −2**
***LAB*LCH**$_{Ma}$: 36 64 357**
***lab*rgb**$_{Ma}$: 1.0 0.0 0.5**
***lab*olv**$_{Ma}$: 1.0 0.0 0.62**
**triangle lightness $t^*$**

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

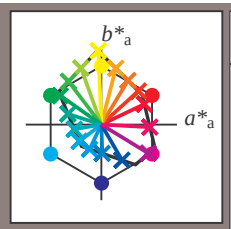


| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | a | b | c | d | e | f | g | h | i | j | k | LAB* | LAB* | LAB* | a |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 15.0 | 18.6 | 22.3 | 25.9 | 29.6 | 33.2 | 36.9 | 40.5 | 44.1 | 17.5 | 23.6 | 27.2 | 30.9 | 34.5 | 38.2 | 41.8 | 45.4 | 49.1 | 20.0 | 26.1 | 32.2 | 35.8 | 39.5 | 43.1 | 46.8 | 50.4 | 54.0 | 90.0 | 83.1 | 76.3 | 69.4 | 62.5 | 55.7 | 48.8 | 41.9 | 35.1 | 15.0 | 15.0 | 15.0 | 15.0 |
| | 0.0 | -6.9 | -14.0 | -21.0 | -28.1 | -35.1 | -42.1 | -49.2 | -56.2 | 6.7 | -0.5 | -7.5 | -14.6 | -21.6 | -28.6 | -35.7 | -42.7 | -49.8 | 13.5 | 6.2 | -1.1 | -8.1 | -15.1 | -22.2 | -29.2 | -36.3 | -43.3 | 0.0 | 6.7 | 13.5 | 20.2 | 27.0 | 33.7 | 40.4 | 47.2 | 53.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.0 | 5.4 | 10.8 | 16.3 | 21.7 | 27.1 | 32.5 | 37.9 | 43.4 | 4.9 | 12.3 | 17.7 | 23.1 | 28.5 | 34.0 | 39.4 | 44.8 | 50.2 | 9.9 | 17.2 | 24.6 | 30.0 | 35.4 | 40.8 | 46.2 | 51.7 | 57.1 | 0.0 | 4.9 | 9.9 | 14.8 | 19.8 | 24.7 | 29.7 | 34.6 | 39.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 02 | 14.9 | 19.7 | 23.4 | 27.0 | 30.6 | 34.3 | 37.9 | 41.6 | 45.2 | 17.8 | 24.4 | 28.0 | 31.7 | 35.3 | 38.9 | 42.6 | 46.2 | 49.9 | 20.3 | 26.9 | 33.0 | 36.6 | 40.3 | 43.9 | 47.5 | 51.2 | 54.8 | 85.3 | 80.6 | 73.8 | 66.9 | 60.0 | 53.2 | 46.3 | 39.4 | 32.6 | 24.4 | 24.4 | 24.4 | 24.4 |
| | 5.6 | -3.2 | -10.2 | -17.3 | -24.3 | -31.3 | -38.4 | -45.4 | -52.5 | 8.8 | 0.0 | -6.9 | -14.0 | -21.0 | -28.1 | -35.1 | -42.1 | -49.2 | 15.6 | 6.7 | -0.5 | -7.5 | -14.6 | -21.6 | -28.6 | -35.7 | -42.7 | -3.2 | 0.0 | 6.7 | 13.5 | 20.2 | 27.0 | 33.7 | 40.4 | 47.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| | -6.5 | -3.5 | 1.8 | 7.2 | 12.7 | 18.1 | 23.5 | 28.9 | 34.3 | -3.7 | 0.0 | 5.4 | 10.8 | 16.3 | 21.7 | 27.1 | 32.5 | 37.9 | 1.2 | 4.9 | 12.3 | 17.7 | 23.1 | 28.5 | 34.0 | 39.4 | 44.8 | -3.5 | 0.0 | 4.9 | 9.9 | 14.8 | 19.8 | 24.7 | 29.7 | 34.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| 03 | 14.8 | 19.6 | 24.4 | 28.1 | 31.7 | 35.3 | 39.0 | 42.6 | 46.3 | 17.7 | 24.3 | 29.1 | 32.7 | 36.4 | 40.0 | 43.6 | 47.3 | 50.9 | 20.6 | 27.2 | 33.8 | 37.4 | 41.0 | 44.7 | 48.3 | 52.0 | 55.6 | 80.7 | 76.0 | 71.3 | 64.4 | 57.5 | 50.6 | 43.8 | 36.9 | 30.1 | 33.8 | 33.8 | 33.8 | 33.8 |
| | 11.3 | 2.4 | -6.4 | -13.5 | -20.5 | -27.6 | -34.6 | -41.7 | -48.7 | 14.5 | 5.7 | -3.2 | -10.2 | -17.3 | -24.3 | -31.3 | -38.4 | -45.4 | 17.7 | 8.8 | 0.0 | -6.9 | -14.0 | -21.0 | -28.1 | -35.1 | -42.1 | -6.4 | -3.2 | 0.0 | 6.7 | 13.5 | 20.2 | 27.0 | 33.7 | 40.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| | -13.2 | -10.1 | -7.1 | -1.7 | 3.7 | 9.1 | 14.5 | 19.9 | 25.3 | -10.3 | -6.5 | -3.5 | 1.8 | 7.2 | 12.7 | 18.1 | 23.5 | 28.9 | -7.4 | -3.7 | 0.0 | 5.4 | 10.8 | 16.3 | 21.7 | 27.1 | 32.5 | -7.1 | -3.5 | 0.0 | 4.9 | 9.9 | 14.8 | 19.8 | 24.7 | 29.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| 04 | 14.7 | 19.5 | 24.3 | 29.1 | 32.8 | 36.4 | 40.0 | 43.7 | 47.3 | 17.6 | 24.2 | 29.0 | 33.8 | 37.4 | 41.1 | 44.7 | 48.4 | 52.0 | 20.5 | 27.1 | 33.6 | 38.5 | 42.1 | 45.7 | 49.4 | 53.0 | 56.7 | 76.0 | 71.3 | 66.6 | 61.9 | 55.0 | 48.1 | 41.3 | 34.4 | 27.5 | 43.1 | 43.1 | 43.1 | 43.1 |
| | 17.0 | 8.0 | -0.8 | -9.7 | -16.8 | -23.8 | -30.8 | -37.9 | -44.9 | 20.1 | 11.3 | 2.4 | -6.4 | -13.5 | -20.5 | -27.6 | -34.6 | -41.6 | 23.3 | 14.5 | 5.7 | -3.2 | -10.2 | -17.3 | -24.3 | -31.3 | -38.4 | -9.7 | -6.4 | -3.2 | 0.0 | 6.7 | 13.5 | 20.2 | 27.0 | 33.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| | -19.8 | -16.8 | -13.7 | -10.7 | -5.3 | 0.1 | 5.5 | 10.9 | 16.3 | -16.9 | -13.2 | -10.1 | -7.1 | -1.7 | 3.7 | 9.1 | 14.5 | 19.9 | -14.1 | -10.3 | -6.5 | -3.5 | 1.8 | 7.2 | 12.7 | 18.1 | 23.5 | -10.7 | -7.1 | -3.5 | 0.0 | 4.9 | 9.9 | 14.8 | 19.8 | 24.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| 05 | 14.6 | 19.4 | 24.2 | 29.0 | 33.8 | 37.5 | 41.1 | 44.8 | 48.4 | 17.5 | 24.1 | 28.9 | 33.7 | 38.5 | 42.1 | 45.8 | 49.4 | 53.1 | 20.4 | 27.0 | 33.5 | 38.4 | 43.2 | 46.8 | 50.4 | 54.1 | 57.7 | 71.3 | 66.6 | 61.9 | 57.2 | 52.5 | 45.6 | 38.8 | 31.9 | 25.0 | 52.5 | 52.5 | 52.5 | 52.5 |
| | 22.6 | 13.7 | 4.8 | -4.1 | -13.0 | -20.0 | -27.1 | -34.1 | -41.2 | 25.8 | 17.0 | 8.0 | -0.8 | -9.7 | -16.8 | -23.8 | -30.8 | -37.9 | 29.0 | 20.1 | 11.3 | 2.4 | -6.4 | -13.5 | -20.5 | -27.6 | -34.6 | -13.0 | -9.7 | -6.4 | -3.2 | 0.0 | 6.7 | 13.5 | 20.2 | 27.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | -26.4 | -23.4 | -20.4 | -17.3 | -14.3 | -8.9 | -3.4 | 1.9 | 7.3 | -23.6 | -19.8 | -16.8 | -13.7 | -10.7 | -5.3 | 0.1 | 5.5 | 10.9 | -20.7 | -16.9 | -13.2 | -10.1 | -7.1 | -1.7 | 3.7 | 9.1 | 14.5 | -14.3 | -10.7 | -7.1 | -3.5 | 0.0 | 4.9 | 9.9 | 14.8 | 19.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 06 | 14.5 | 19.3 | 24.1 | 28.9 | 33.7 | 38.5 | 42.2 | 45.8 | 49.5 | 17.4 | 24.0 | 28.8 | 33.6 | 38.4 | 43.2 | 46.8 | 50.5 | 54.1 | 20.3 | 26.9 | 33.4 | 38.2 | 43.1 | 47.9 | 51.5 | 55.2 | 58.8 | 66.7 | 62.0 | 57.2 | 52.5 | 47.8 | 43.1 | 36.3 | 29.4 | 22.5 | 61.9 | 61.9 | 61.9 | 61.9 |
| | 28.3 | 19.3 | 10.4 | 1.5 | -7.3 | -16.3 | -23.3 | -30.4 | -37.4 | 31.4 | 22.6 | 13.7 | 4.8 | -4.1 | -13.0 | -20.0 | -27.1 | -34.1 | 34.6 | 25.8 | 17.0 | 8.0 | -0.8 | -9.7 | -16.8 | -23.8 | -30.8 | -16.3 | -13.0 | -9.7 | -6.4 | -3.2 | 0.0 | 6.7 | 13.5 | 20.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| | -33.1 | -30.0 | -27.0 | -23.9 | -20.9 | -17.9 | -12.4 | -7.0 | -1.6 | -30.2 | -26.4 | -23.4 | -20.4 | -17.3 | -14.3 | -8.9 | -3.4 | 1.9 | -27.3 | -23.6 | -19.8 | -16.8 | -13.7 | -10.7 | -5.3 | 0.1 | 5.5 | -17.9 | -14.3 | -10.7 | -7.1 | -3.5 | 0.0 | 4.9 | 9.9 | 14.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 07 | 14.4 | 19.2 | 24.0 | 28.8 | 33.6 | 38.4 | 43.2 | 46.9 | 50.5 | 17.3 | 23.8 | 28.7 | 33.5 | 38.3 | 43.1 | 47.9 | 51.6 | 55.2 | 20.2 | 26.7 | 33.3 | 38.1 | 43.0 | 47.8 | 52.6 | 56.2 | 59.9 | 62.0 | 57.3 | 52.6 | 47.9 | 43.2 | 38.5 | 33.8 | 26.9 | 20.0 | 71.3 | 71.3 | 71.3 | 71.3 |
| | 33.9 | 25.0 | 16.1 | 7.1 | -1.7 | -10.6 | -19.5 | -26.6 | -33.6 | 37.1 | 28.3 | 19.3 | 10.4 | 1.5 | -7.3 | -16.3 | -23.3 | -30.3 | 40.3 | 31.4 | 22.6 | 13.7 | 4.8 | -4.1 | -13.0 | -20.0 | -27.1 | -19.5 | -16.3 | -13.0 | -9.7 | -6.4 | -3.2 | 0.0 | 6.7 | 13.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| | -39.7 | -36.7 | -33.6 | -30.6 | -27.5 | -24.5 | -21.5 | -16.0 | -10.6 | -36.8 | -33.1 | -30.0 | -27.0 | -23.9 | -20.9 | -17.9 | -12.4 | -7.0 | -34.0 | -30.2 | -26.4 | -23.4 | -20.4 | -17.3 | -14.3 | -8.9 | -3.4 | -21.5 | -17.9 | -14.3 | -10.7 | -7.1 | -3.5 | 0.0 | 4.9 | 9.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| 08 | 14.3 | 19.1 | 23.9 | 28.7 | 33.5 | 38.3 | 43.1 | 48.0 | 51.6 | 17.2 | 23.7 | 28.6 | 33.4 | 38.2 | 43.0 | 47.8 | 52.6 | 56.3 | 20.1 | 26.6 | 33.2 | 38.0 | 42.8 | 47.7 | 52.5 | 57.3 | 60.9 | 57.3 | 52.6 | 47.9 | 43.2 | 38.5 | 33.8 | 29.1 | 24.4 | 17.5 | 80.6 | 80.6 | 80.6 | 80.6 |
| | 39.6 | 30.6 | 21.7 | 12.8 | 3.9 | -5.0 | -13.9 | -22.8 | -29.9 | 42.7 | 33.9 | 25.0 | 16.1 | 7.1 | -1.7 | -10.6 | -19.5 | -26.6 | 45.9 | 37.1 | 28.3 | 19.3 | 10.4 | 1.5 | -7.3 | -16.3 | -23.3 | -22.8 | -19.5 | -16.3 | -13.0 | -9.7 | -6.4 | -3.2 | 0.0 | 6.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| | -46.3 | -43.3 | -40.3 | -37.2 | -34.2 | -31.1 | -28.1 | -25.1 | -19.6 | -43.5 | -39.7 | -36.7 | -33.6 | -30.6 | -27.5 | -24.5 | -21.5 | -16.0 | -40.6 | -36.8 | -33.1 | -30.0 | -27.0 | -23.9 | -20.9 | -17.9 | -12.5 | -25.1 | -21.5 | -17.9 | -14.3 | -10.7 | -7.1 | -3.5 | 0.0 | 4.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| 09 | 14.2 | 19.0 | 23.8 | 28.6 | 33.4 | 38.2 | 43.0 | 47.9 | 52.7 | 17.1 | 23.6 | 28.4 | 33.3 | 38.1 | 42.9 | 47.7 | 52.5 | 57.3 | 20.0 | 26.5 | 33.1 | 37.9 | 42.7 | 47.6 | 52.4 | 57.2 | 62.0 | 52.7 | 48.0 | 43.2 | 38.5 | 33.8 | 29.1 | 24.4 | 19.7 | 15.0 | 90.0 | 90.0 | 90.0 | 90.0 |
| | 45.2 | 36.3 | 27.4 | 18.4 | 9.5 | 0.6 | -8.2 | -17.2 | -26.1 | 48.4 | 39.6 | 30.6 | 21.7 | 12.8 | 3.9 | -5.0 | -13.9 | -22.8 | 51.6 | 42.7 | 33.9 | 25.0 | 16.1 | 7.1 | -1.7 | -10.6 | -19.5 | -26.1 | -22.8 | -19.5 | -16.3 | -13.0 | -9.7 | -6.4 | -3.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | -53.0 | -49.9 | -46.9 | -43.8 | -40.8 | -37.8 | -34.7 | -31.7 | -28.6 | -50.1 | -46.3 | -43.3 | -40.3 | -37.2 | -34.2 | -31.1 | -28.1 | -25.1 | -47.2 | -43.5 | -39.7 | -36.7 | -33.6 | -30.6 | -27.5 | -24.5 | -21.5 | -28.6 | -25.1 | -21.5 | -17.9 | -14.3 | -10.7 | -7.1 | -3.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10 | 22.5 | 28.6 | 34.7 | 40.8 | 44.4 | 48.1 | 51.7 | 55.4 | 59.0 | 25.0 | 31.1 | 37.2 | 43.3 | 49.4 | 53.0 | 56.7 | 60.3 | 63.9 | 27.5 | 33.6 | 39.7 | 45.8 | 51.9 | 58.0 | 61.6 | 65.3 | 68.9 | 90.0 | 89.2 | 88.4 | 87.7 | 86.9 | 86.1 | 85.3 | 84.5 | 83.8 | 15.0 | 15.0 | 15.0 | 15.0 |
| | 20.2 | 12.9 | 5.6 | -1.6 | -8.7 | -15.7 | -22.8 | -29.8 | -36.8 | 27.0 | 19.6 | 12.3 | 5.0 | -2.2 | -9.3 | -16.3 | -23.3 | -30.4 | 33.7 | 26.4 | 19.1 | 11.7 | 4.4 | -2.8 | -9.8 | -16.9 | -23.9 | 0.0 | -0.5 | -1.1 | -1.6 | -2.2 | -2.8 | -3.4 | -4.0 | -4.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 14.8 | 22.2 | 29.5 | 36.8 | 42.3 | 47.7 | 53.1 | 58.5 | 63.9 | 19.8 | 27.1 | 34.4 | 41.8 | 49.1 | 54.5 | 60.0 | 65.4 | 70.8 | 24.7 | 32.0 | 39.4 | 46.7 | 54.1 | 61.4 | 66.8 | 72.2 | 77.7 | 0.0 | 12.3 | 24.6 | 36.8 | 49.1 | 61.4 | 73.7 | 86.0 | 98.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11 | 22.8 | 29.4 | 35.5 | 41.6 | 45.2 | 48.8 | 52.5 | 56.1 | 59.8 | 25.3 | 31.9 | 38.0 | 44.1 | 50.2 | 53.8 | 57.4 | 61.1 | 64.7 | 27.8 | 34.4 | 40.5 | 46.6 | 52.7 | 58.8 | 62.4 | 66.0 | 69.7 | 80.5 | 80.6 | 79.8 | 79.1 | 78.3 | 77.5 | 76.7 | 76.0 | 75.2 | 20.0 | 20.0 | 20.0 | 20.0 |
| | 22.3 | 13.5 | 6.2 | -1.1 | -8.1 | -15.1 | -22.2 | -29.2 | -36.3 | 29.1 | 20.2 | 12.9 | 5.6 | -1.6 | -8.7 | -15.7 | -22.8 | -29.8 | 35.8 | 27.0 | 19.6 | 12.3 | 5.0 | -2.2 | -9.3 | -16.3 | -23.3 | 5.6 | 0.0 | -0.5 | -1.1 | -1.6 | -2.2 | -2.8 | -3.4 | -4.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 6.1 | 9.9 | 17.2 | 24.6 | 30.0 | 35.4 | 40.8 | 46.2 | 51.7 | 11.1 | 14.8 | 22.2 | 29.5 | 36.8 | 42.3 | 47.7 | 53.1 | 58.5 | 16.0 | 19.8 | 27.1 | 34.5 | 41.8 | 49.1 | 54.6 | 60.0 | 65.4 | -6.5 | 0.0 | 12.3 | 24.6 | 36.8 | 49.1 | 61.4 | 73.7 | 86.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12 | 23.1 | 29.7 | 36.3 | 42.3 | 46.0 | 49.6 | 53.3 | 56.9 | 60.5 | 25.6 | 32.2 | 38.8 | 44.9 | 50.9 | 54.6 | 58.2 | 61.9 | 65.5 | 28.1 | 34.7 | 41.3 | 47.4 | 53.4 | 59.5 | 63.2 | 66.8 | 70.5 | 71.0 | 71.1 | 71.3 | 70.5 | 69.7 | 68.9 | 68.1 | 67.4 | 66.6 | 25.0 | 25.0 | 25.0 | 25.0 |
| | 24.4 | 15.6 | 6.7 | -0.5 | -7.5 | -14.6 | -21.6 | -28.6 | -35.7 | 31.1 | 22.3 | 13.5 | 6.2 | -1.1 | -8.1 | -15.1 | -22.2 | -29.2 | 37.9 | 29.1 | 20.2 | 12.9 | 5.6 | -1.6 | -8.7 | -15.7 | -22.8 | 11.3 | 5.7 | 0.0 | -0.5 | -1.1 | -1.6 | -2.2 | -2.8 | -3.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| | -2.5 | 1.2 | 4.9 | 12.3 | 17.7 | 23.1 | 28.5 | 34.0 | 39.4 | 2.4 | 6.1 | 9.9 | 17.2 | 24.6 | 30.0 | 35.4 | 40.8 | 46.2 | 7.3 | 11.1 | 14.8 | 22.2 | 29.5 | 36.8 | 42.3 | 47.7 | 53.1 | -13.2 | -6.5 | 0.0 | 12.3 | 24.6 | 36.8 | 49.1 | 61.4 | 73.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| 13 | 23.4 | 30.0 | 36.5 | 43.1 | 46.8 | 50.4 | 54.0 | 57.7 | 61.3 | 25.9 | 32.5 | 39.1 | 45.6 | 51.7 | 55.4 | 59.0 | 62.6 | 66.3 | 28.4 | 35.0 | 41.6 | 48.1 | 54.2 | 60.3 | 64.0 | 67.6 | 71.2 | 61.6 | 61.7 | 61.8 | 61.9 | 61.1 | 60.3 | 59.5 | 58.8 | 58.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| | 26.5 | 17.7 | 8.8 | 0.0 | -6.9 | -14.0 | -21.0 | -28.1 | -35.1 | 33.2 | 24.4 | 15.6 | 6.7 | -0.5 | -7.5 | -14.6 | -21.6 | -28.6 | 40.0 | 31.2 | 22.3 | 13.5 | 6.2 | -1.1 | -8.1 | -15.1 | -22.2 | 17.0 | 11.3 | 5.7 | 0.0 | -0.5 | -1.1 | -1.6 | -2.2 | -2.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| | -11.2 | -7.4 | -3.7 | 0.0 | 5.4 | 10.8 | 16.3 | 21.7 | 27.1 | -6.2 | -2.5 | 1.2 | 4.9 | 12.3 | 17.7 | 23.1 | 28.5 | 34.0 | -1.3 | 2.4 | 6.1 | 9.9 | 17.2 | 24.6 | 30.0 | 35.4 | 40.8 | -19.8 | -13.2 | -6.5 | 0.0 | 12.3 | 24.6 | 36.8 | 49.1 | 61.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 14 | 23.3 | 29.9 | 36.4 | 43.0 | 47.8 | 51.5 | 55.1 | 58.8 | 62.4 | 26.2 | 32.8 | 39.3 | 45.9 | 52.5 | 56.1 | 59.8 | 63.4 | 67.1 | 28.7 | 35.3 | 41.8 | 48.4 | 55.0 | 61.1 | 64.7 | 68.4 | 72.0 | 52.1 | 52.2 | 52.3 | 52.4 | 52.5 | 51.7 | 50.9 | 50.2 | 49.4 | 35.0 | 35.0 | 35.0 | 35.0 |
| | 32.2 | 23.3 | 14.5 | 5.7 | -3.2 | -10.2 | -17.3 | -24.3 | -31.3 | 35.3 | 26.5 | 17.7 | 8.8 | 0.0 | -6.9 | -14.0 | -21.0 | -28.1 | 42.1 | 33.2 | 24.4 | 15.6 | 6.7 | -0.5 | -7.5 | -14.6 | -21.6 | 22.6 | 17.0 | 11.3 | 5.7 | 0.0 | -0.5 | -1.1 | -1.6 | -2.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| | -17.8 | -14.1 | -10.3 | -6.5 | -3.5 | 1.8 | 7.2 | 12.7 | 18.1 | -15.0 | -11.2 | -7.4 | -3.7 | 0.0 | 5.4 | 10.8 | 16.3 | 21.7 | -10.0 | -6.2 | -2.5 | 1.2 | 4.9 | 12.3 | 17.7 | 23.1 | 28.5 | -26.4 | -19.8 | -13.2 | -6.5 | 0.0 | 12.3 | 24.6 | 36.8 | 49.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 15 | 23.2 | 29.8 | 36.3 | 42.9 | 47.7 | 52.5 | 56.2 | 59.8 | 63.5 | 26.1 | 32.7 | 39.2 | 45.8 | 52.4 | 57.2 | 60.8 | 64.5 | 68.1 | 29.0 | 35.6 | 42.1 | 48.7 | 55.3 | 61.9 | 65.5 | 69.2 | 72.8 | 42.6 | 42.7 | 42.8 | 42.9 | 43.0 | 43.1 | 42.3 | 41.6 | 40.8 | 40.0 | 40.0 | 40.0 | 40.0 |
| | 37.8 | 29.0 | 20.1 | 11.3 | 2.4 | -6.4 | -13.5 | -20.5 | -27.6 | 41.0 | 32.2 | 23.3 | 14.5 | 5.7 | -3.2 | -10.2 | -17.3 | -24.3 | 44.2 | 35.3 | 26.5 | 17.7 | 8.8 | 0.0 | -6.9 | -14.0 | -21.0 | 28.3 | 22.6 | 17.0 | 11.3 | 5.7 | 0.0 | -0.5 | -1.1 | -1.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| | -24.5 | -20.7 | -16.9 | -13.2 | -10.1 | -7.1 | -1.7 | 3.7 | 9.1 | -21.6 | -17.8 | -14.1 | -10.3 | -6.5 | -3.5 | 1.8 | 7.2 | 12.7 | -18.7 | -15.0 | -11.2 | -7.4 | -3.7 | 0.0 | 5.4 | 10.8 | 16.3 | -33.1 | -26.4 | -19.8 | -13.2 | -6.5 | 0.0 | 12.3 | 24.6 | 36.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 16 | 23.1 | 29.6 | 36.2 | 42.8 | 47.6 | 52.4 | 57.2 | 60.9 | 64.5 | 26.0 | 32.6 | 39.1 | 45.7 | 52.3 | 57.1 | 61.9 | 65.6 | 69.2 | 28.9 | 35.5 | 42.0 | 48.6 | 55.2 | 61.8 | 66.6 | 70.2 | 73.9 | 33.1 | 33.2 | 33.3 | 33.4 | 33.5 | 33.6 | 33.8 | 33.0 | 32.2 | 45.0 | 45.0 | 45.0 | 45.0 |
| | 43.5 | 34.6 | 25.8 | 17.0 | 8.0 | -0.8 | -9.7 | -16.8 | -23.8 | 46.6 | 37.8 | 29.0 | 20.1 | 11.3 | 2.4 | -6.4 | -13.5 | -20.5 | 49.8 | 41.0 | 32.2 | 23.3 | 14.5 | 5.7 | -3.2 | -10.2 | -17.3 | 33.9 | 28.3 | 22.6 | 17.0 | 11.3 | 5.7 | 0.0 | -0.5 | -1.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| | -31.1 | -27.3 | -23.6 | -19.8 | -16.8 | -13.7 | -10.7 | -5.3 | 0.1 | -28.2 | -24.5 | -20.7 | -16.9 | -13.2 | -10.1 | -7.1 | -1.7 | 3.6 | -25.4 | -21.6 | -17.8 | -14.1 | -10.3 | -6.5 | -3.5 | 1.8 | 7.2 | -39.7 | -33.1 | -26.4 | -19.8 | -13.2 | -6.5 | 0.0 | 12.3 | 24.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| 17 | 23.0 | 29.5 | 36.1 | 42.7 | 47.5 | 52.3 | 57.1 | 62.0 | 65.6 | 25.9 | 32.4 | 39.0 | 45.6 | 52.2 | 57.0 | 61.8 | 66.6 | 70.3 | 28.8 | 35.3 | 41.9 | 48.5 | 55.1 | 61.7 | 66.5 | 71.3 | 74.9 | 23.6 | 23.7 | 23.8 | 24.0 | 24.1 | 24.2 | 24.3 | 24.4 | 23.6 | 50.0 | 50.0 | 50.0 | 50.0 |
| | 49.1 | 40.3 | 31.4 | 22.6 | 13.7 | 4.8 | -4.1 | -13.0 | -20.0 | 52.3 | 43.5 | 34.6 | 25.8 | 17.0 | 8.0 | -0.8 | -9.7 | -16.8 | 55.5 | 46.6 | 37.8 | 29.0 | 20.1 | 11.3 | 2.4 | -6.4 | -13.5 | 39.6 | 33.9 | 28.3 | 22.6 | 17.0 | 11.3 | 5.7 | 0.0 | -0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| | -37.7 | -34.0 | -30.2 | -26.4 | -23.4 | -20.4 | -17.3 | -14.3 | -8.9 | -34.9 | -31.1 | -27.3 | -23.6 | -19.8 | -16.8 | -13.7 | -10.7 | -5.3 | -32.0 | -28.2 | -24.5 | -20.7 | -16.9 | -13.2 | -10.1 | -7.1 | -1.7 | -46.3 | -39.7 | -33.1 | -26.4 | -19.8 | -13.2 | -6.5 | 0.0 | 12.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 18 | 22.9 | 29.4 | 36.0 | 42.6 | 47.4 | 52.2 | 57.0 | 61.8 | 66.7 | 25.8 | 32.3 | 38.9 | 45.5 | 52.1 | 56.9 | 61.7 | 66.5 | 71.3 | 28.7 | 35.2 | 41.8 | 48.4 | 55.0 | 61.6 | 66.4 | 71.2 | 76.0 | 14.2 | 14.3 | 14.4 | 14.5 | 14.6 | 14.7 | 14.8 | 14.9 | 15.0 | 55.0 | 55.0 | 55.0 | 55.0 |
| | 54.8 | 45.9 | 37.1 | 28.3 | 19.3 | 10.4 | 1.5 | -7.3 | -16.3 | 57.9 | 49.1 | 40.3 | 31.4 | 22.6 | 13.7 | 4.8 | -4.1 | -13.0 | 61.1 | 52.3 | 43.5 | 34.6 | 25.8 | 17.0 | 8.0 | -0.8 | -9.7 | 45.2 | 39.6 | 33.9 | 28.3 | 22.6 | 17.0 | 11.3 | 5.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | -44.4 | -40.6 | -36.8 | -33.1 | -30.0 | -27.0 | -23.9 | -20.9 | -17.9 | -41.5 | -37.7 | -34.0 | -30.2 | -26.4 | -23.4 | -20.3 | -17.3 | -14.3 | -38.6 | -34.9 | -31.1 | -27.3 | -23.6 | -19.8 | -16.8 | -13.7 | -10.7 | -53.0 | -46.3 | -39.7 | -33.1 | -26.4 | -19.8 | -13.2 | -6.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 19 | 30.1 | 36.1 | 42.2 | 48.3 | 54.4 | 60.5 | 66.6 | 70.2 | 73.9 | 32.6 | 38.6 | 44.7 | 50.8 | 56.9 | 63.0 | 69.1 | 75.2 | 78.8 | 35.1 | 41.1 | 47.2 | 53.3 | 59.4 | 65.5 | 71.6 | 77.7 | 83.8 | 90.0 | 84.3 | 78.5 | 72.8 | 67.1 | 61.3 | 55.6 | 49.9 | 44.1 | 60.0 | 60.0 | 60.0 | 60.0 |
| | 40.4 | 33.1 | 25.8 | 18.5 | 11.2 | 3.8 | -3.4 | -10.4 | -17.5 | 47.2 | 39.9 | 32.5 | 25.2 | 17.9 | 10.6 | 3.3 | -4.0 | -11.0 | 53.9 | 46.6 | 39.3 | 32.0 | 24.6 | 17.3 | 10.0 | 2.7 | -4.5 | 0.0 | -6.9 | -14.0 | -21.0 | -28.1 | -35.1 | -42.1 | -49.2 | -56.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 29.7 | 37.0 | 44.3 | 51.7 | 59.0 | 66.3 | 73.7 | 79.1 | 84.5 | 34.6 | 41.9 | 49.3 | 56.6 | 64.0 | 71.3 | 78.6 | 86.0 | 91.4 | 39.5 | 46.9 | 54.2 | 61.6 | 68.9 | 76.2 | 83.6 | 90.9 | 98.2 | 0.0 | 5.4 | 10.8 | 16.3 | 21.7 | 27.1 | 32.5 | 37.9 | 43.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20 | 30.3 | 36.9 | 43.0 | 49.1 | 55.2 | 61.3 | 67.4 | 71.0 | 74.6 | 32.8 | 39.4 | 45.5 | 51.6 | 57.7 | 63.8 | 69.9 | 76.0 | 79.6 | 35.4 | 41.9 | 48.0 | 54.1 | 60.2 | 66.3 | 72.4 | 78.5 | 84.5 | 83.4 | 80.6 | 74.9 | 69.2 | 63.4 | 57.7 | 52.0 | 46.2 | 40.5 | 65.0 | 65.0 | 65.0 | 65.0 |
| | 42.5 | 33.7 | 26.4 | 19.1 | 11.7 | 4.4 | -2.8 | -9.8 | -16.9 | 49.3 | 40.4 | 33.1 | 25.8 | 18.5 | 11.2 | 3.8 | -3.4 | -10.4 | 56.0 | 47.2 | 39.9 | 32.5 | 25.2 | 17.9 | 10.6 | 3.3 | -4.0 | 8.8 | 0.0 | -6.9 | -14.0 | -21.0 | -28.1 | -35.1 | -42.1 | -49.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 21.0 | 24.7 | 32.1 | 39.4 | 46.7 | 54.1 | 61.4 | 66.8 | 72.3 | 25.9 | 29.7 | 37.0 | 44.3 | 51.7 | 59.0 | 66.4 | 73.7 | 79.1 | 30.8 | 34.6 | 41.9 | 49.3 | 56.6 | 64.0 | 71.3 | 78.6 | 86.0 | -3.7 | 0.0 | 5.4 | 10.8 | 16.3 | 21.7 | 27.1 | 32.5 | 37.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| 21 | 30.6 | 37.2 | 43.8 | 49.9 | 56.0 | 62.0 | 68.1 | 71.8 | 75.4 | 33.1 | 39.7 | 46.3 | 52.4 | 58.5 | 64.6 | 70.6 | 76.7 | 80.4 | 35.6 | 42.2 | 48.8 | 54.9 | 61.0 | 67.1 | 73.1 | 79.2 | 85.3 | 76.8 | 74.0 | 71.3 | 65.5 | 59.8 | 54.0 | 48.3 | 42.6 | 36.9 | 70.0 | 70.0 | 70.0 | 70.0 |
| | 44.6 | 35.8 | 27.0 | 19.6 | 12.3 | 5.0 | -2.2 | -9.3 | -16.3 | 51.4 | 42.5 | 33.7 | 26.4 | 19.1 | 11.7 | 4.4 | -2.8 | -9.8 | 58.1 | 49.3 | 40.4 | 33.1 | 25.8 | 18.5 | 11.2 | 3.8 | -3.4 | 17.7 | 8.8 | 0.0 | -6.9 | -14.0 | -21.0 | -28.1 | -35.1 | -42.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 12.3 | 16.0 | 19.8 | 27.1 | 34.5 | 41.8 | 49.1 | 54.6 | 60.0 | 17.2 | 21.0 | 24.7 | 32.1 | 39.4 | 46.7 | 54.1 | 61.4 | 66.8 | 22.1 | 25.9 | 29.7 | 37.0 | 44.3 | 51.7 | 59.0 | 66.4 | 73.7 | -7.4 | -3.7 | 0.0 | 5.4 | 10.8 | 16.3 | 21.7 | 27.1 | 32.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 22 | 30.9 | 37.5 | 44.1 | 50.6 | 56.7 | 62.8 | 68.9 | 72.6 | 76.2 | 33.4 | 40.0 | 46.6 | 53.2 | 59.2 | 65.3 | 71.4 | 77.5 | 81.1 | 35.9 | 42.5 | 49.1 | 55.7 | 61.7 | 67.8 | 73.9 | 80.0 | 86.1 | 70.3 | 67.5 | 64.7 | 61.9 | 56.1 | 50.4 | 44.7 | 38.9 | 33.2 | 75.0 | 75.0 | 75.0 | 75.0 |
| | 46.7 | 37.9 | 29.1 | 20.2 | 12.9 | 5.6 | -1.6 | -8.7 | -15.7 | 53.5 | 44.6 | 35.8 | 27.0 | 19.6 | 12.3 | 5.0 | -2.2 | -9.3 | 60.2 | 51.4 | 42.5 | 33.7 | 26.4 | 19.1 | 11.7 | 4.4 | -2.8 | 26.5 | 17.7 | 8.8 | 0.0 

**Input and output:**
**Colorimetric Printer Reflective System FRS15_90aM**
**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u**** **= 16 hues** ***r00j, r25j, ..., b75r***
**contrast reduction factor:**
$c_R = 0.9$

**FRS15_90aM; adapted (a) CIELAB data**

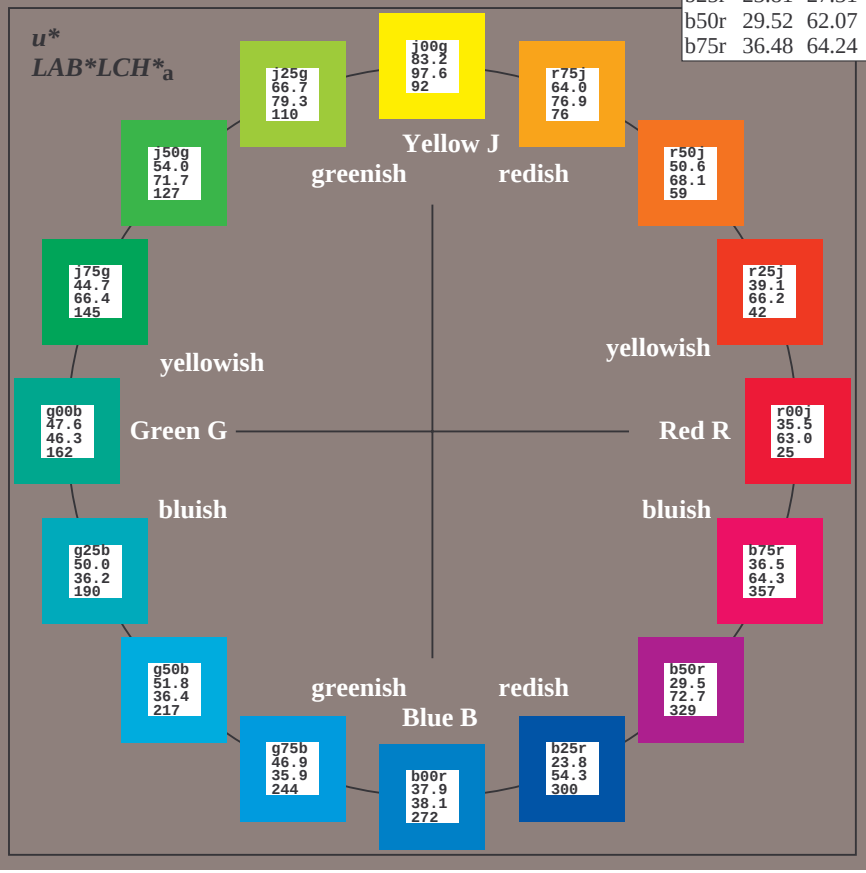
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

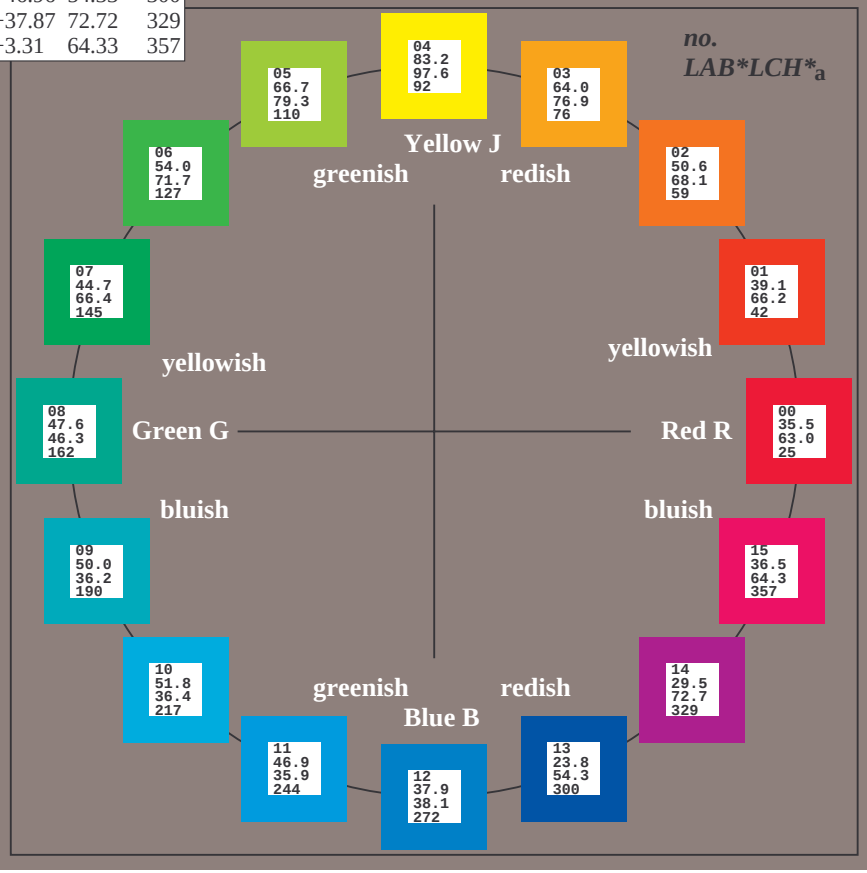



**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**

**FRS15_90aM; adapted (a) CIELAB data**

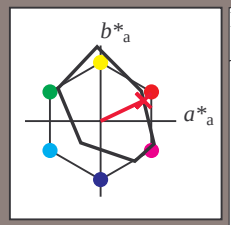
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 25/360 = 0.071$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
*u* = r00j*
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****



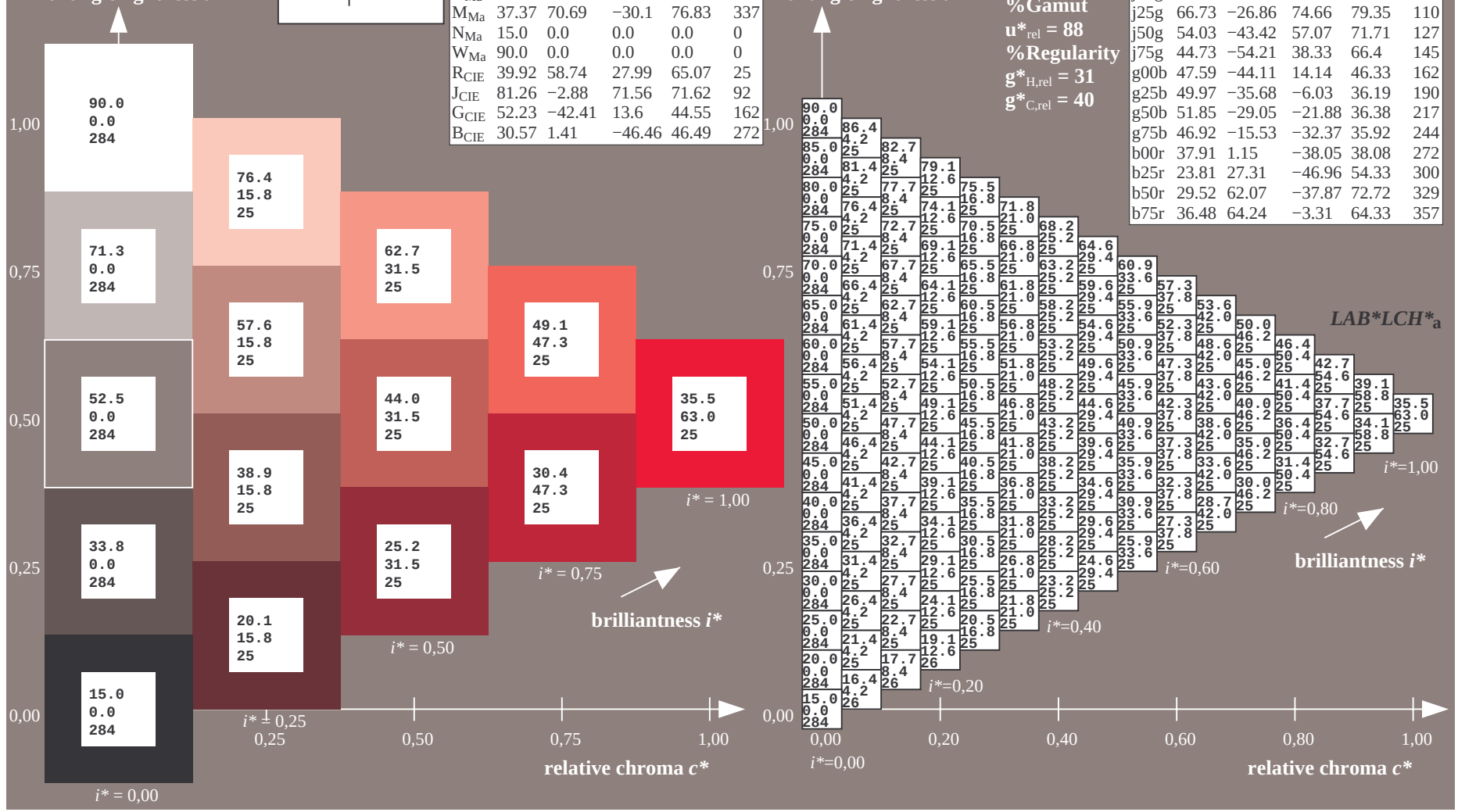

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 35 57 27**
***LAB*LCH*Ma*: 35 63 25**
***lab*rgb*Ma*: 1.0 0.0 0.0**
***lab*olv*Ma*: 1.0 0.0 0.18**

***u* = r00j***
***LAB*LCH*a***

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

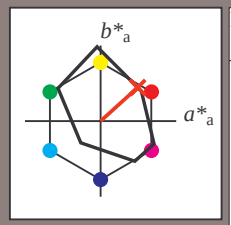
**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 42/360 = 0.117$**

**$u^* = r25j$**
**$LAB^*LCH^*_a$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
**$u^* = r25j$**
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness $t^*$**



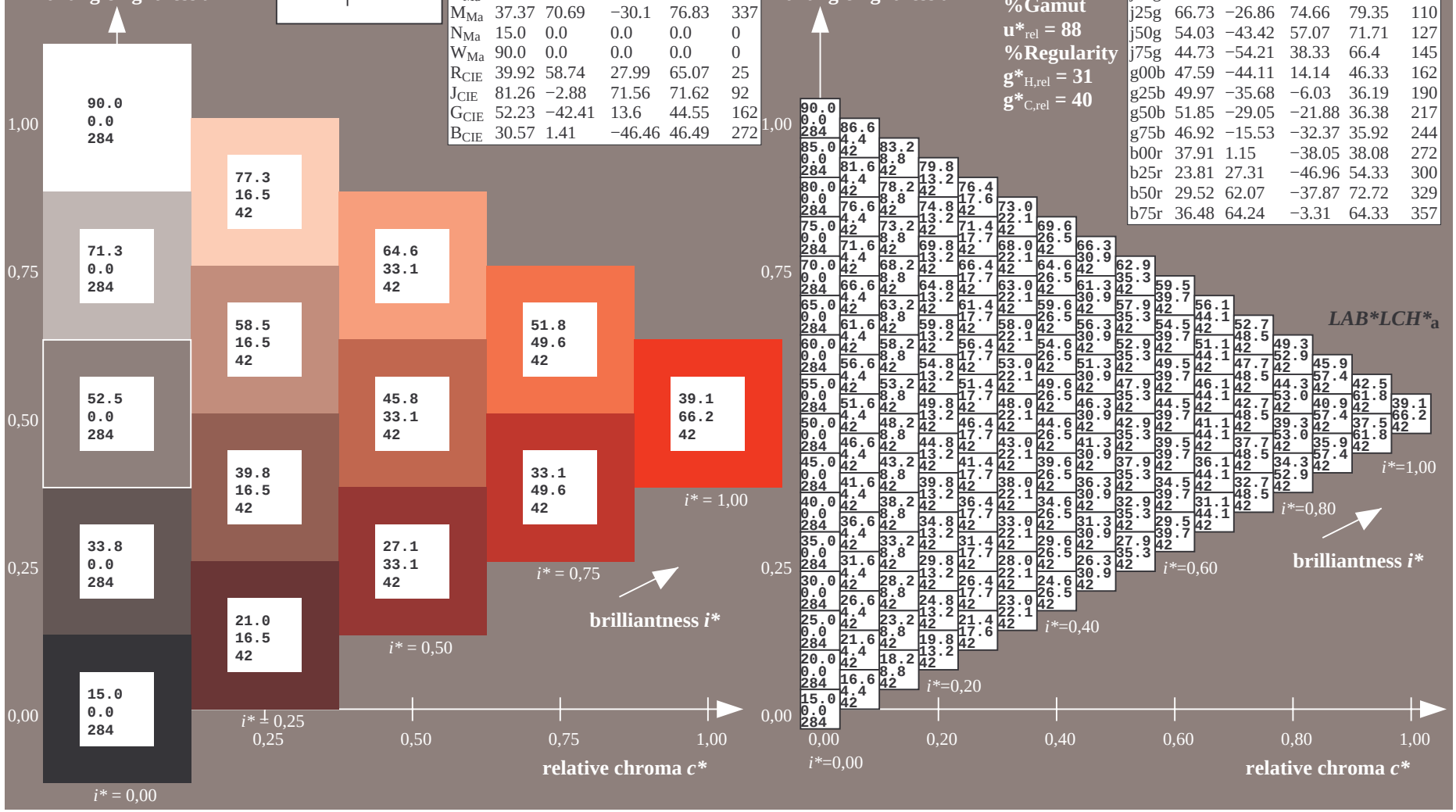

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB**$_{Ma}$: 39 49 44**
***LAB*LCH**$_{Ma}$: 39 66 42**
***lab*rgb**$_{Ma}$: 1.0 0.25 0.0**
***lab*olv**$_{Ma}$: 1.0 0.08 0.0**

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness $t^*$**

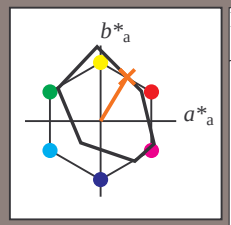
**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 59/360 = 0.164$**

**$u^* = r50j$**
**$LAB^*LCH^*_a$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
***u* = r50j***
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness *t****




**FRS15_90aM; adapted (a) CIELAB data**

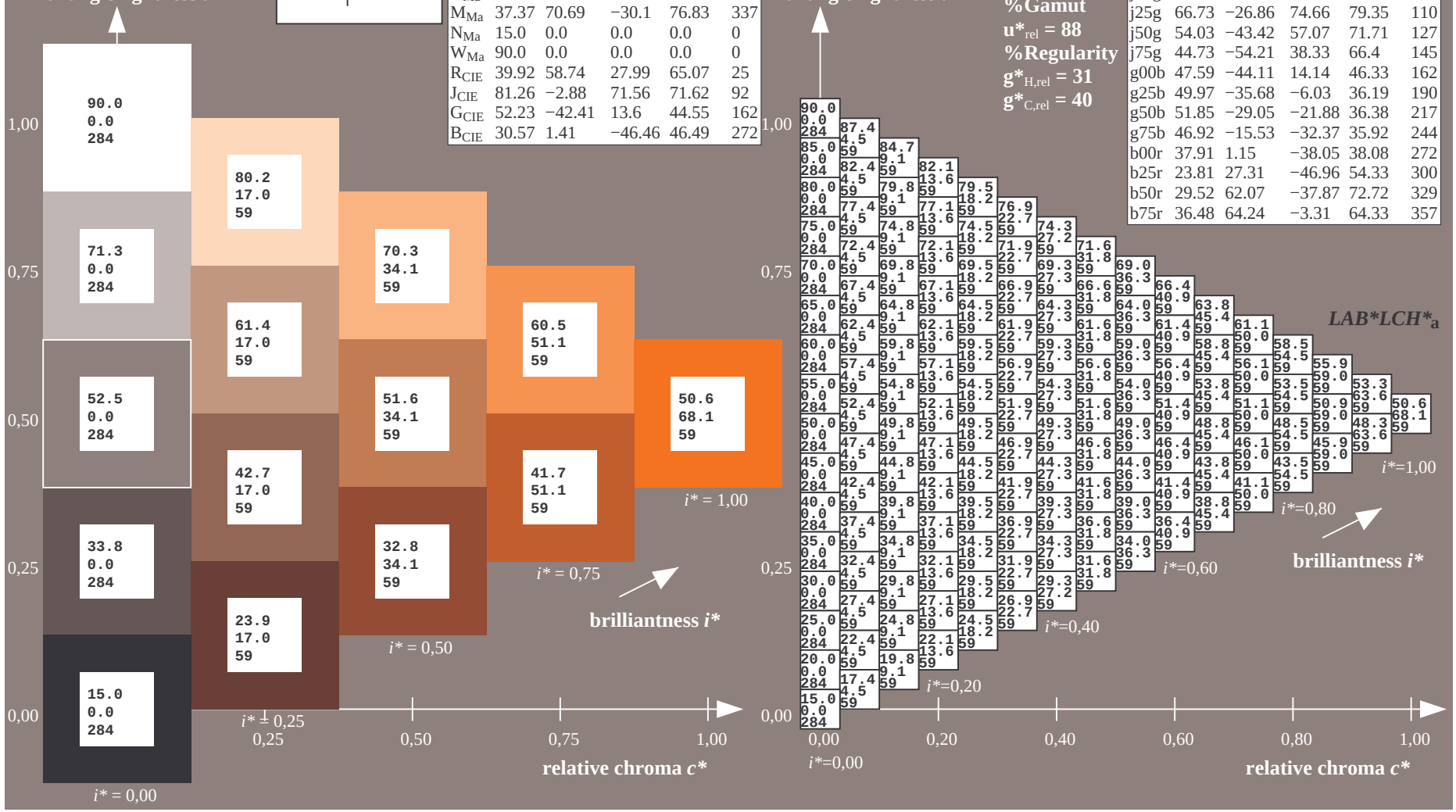
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB**$_{Ma}$: 51 35 58**
***LAB*LCH**$_{Ma}$: 51 68 59**
***lab*rgb**$_{Ma}$: 1.0 0.5 0.0**
***lab*olv**$_{Ma}$: 1.0 0.32 0.0**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

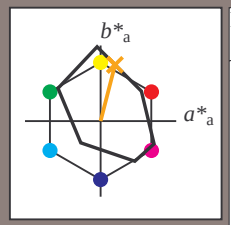
**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 76/360 = 0.21$**

**$u^* = r75j$**
**$LAB^*LCH^*_a$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
**$u^* = r75j$**
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness $t^*$**



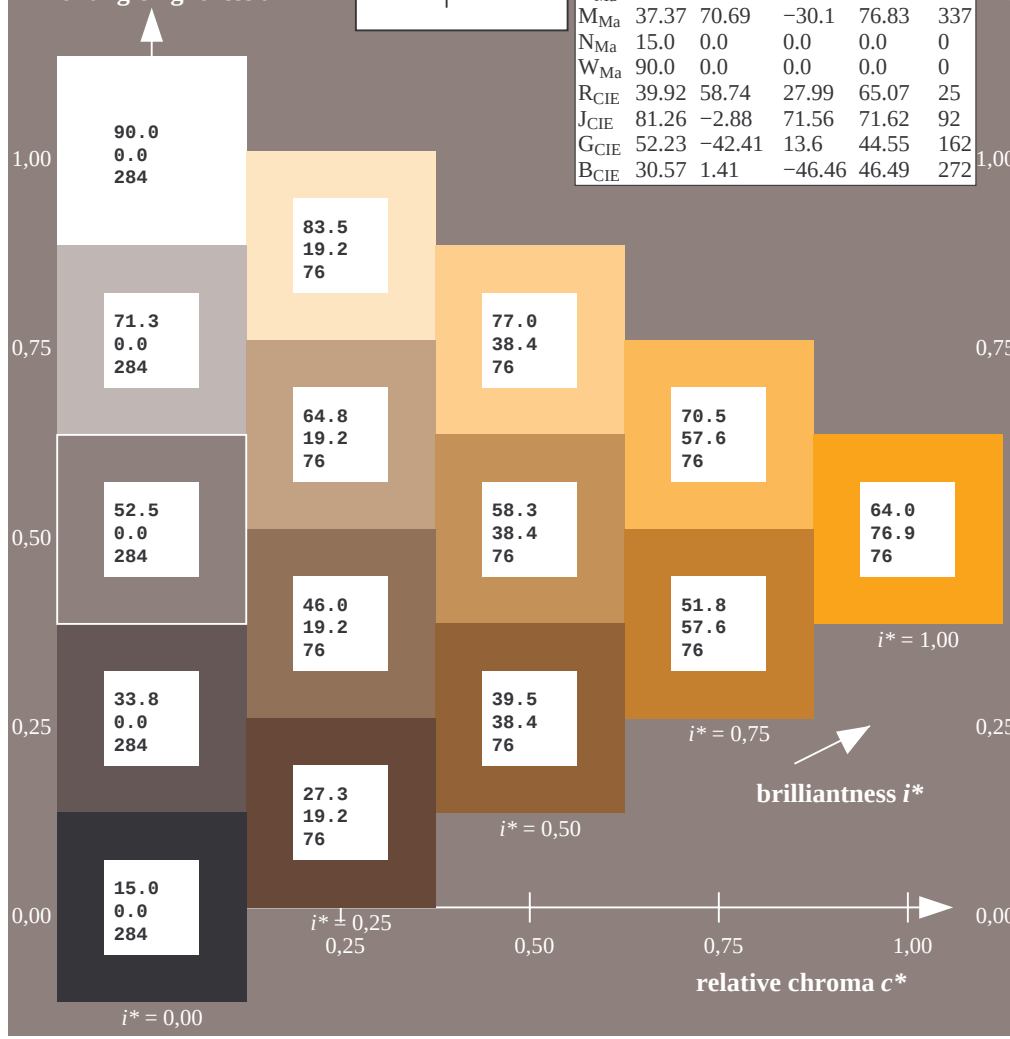

**FRS15_90aM; adapted (a) CIELAB data**

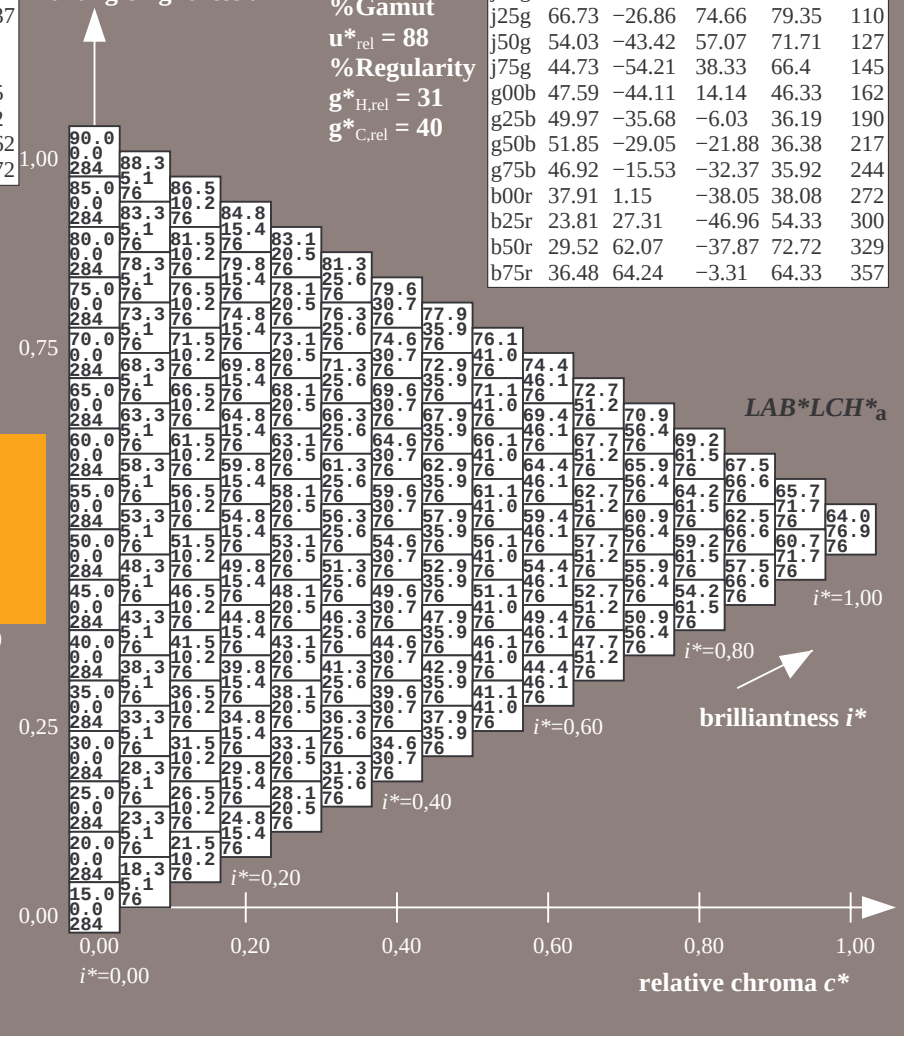
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB**$_{Ma}$: 64 19 74**
***LAB*LCH**$_{Ma}$: 64 77 76**
***lab*rgb**$_{Ma}$: 1.0 0.75 0.0**
***lab*olv**$_{Ma}$: 1.0 0.59 0.0**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

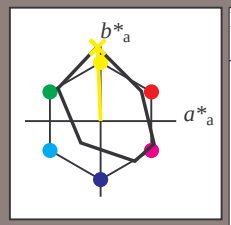


**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 92/360 = 0.256$**

**$u^* = j00g$**
**$LAB^*LCH^*_a$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
***$u^* = j00g$***
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness *t****

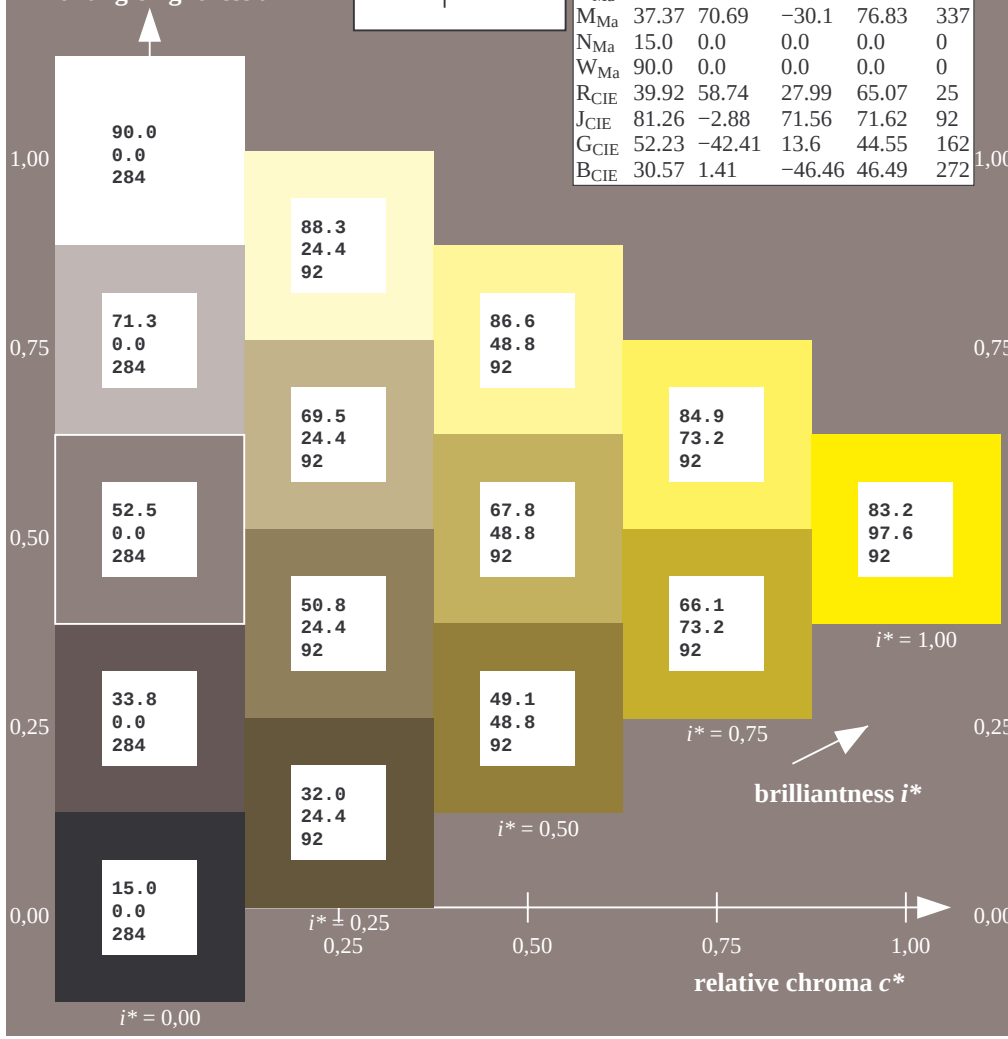


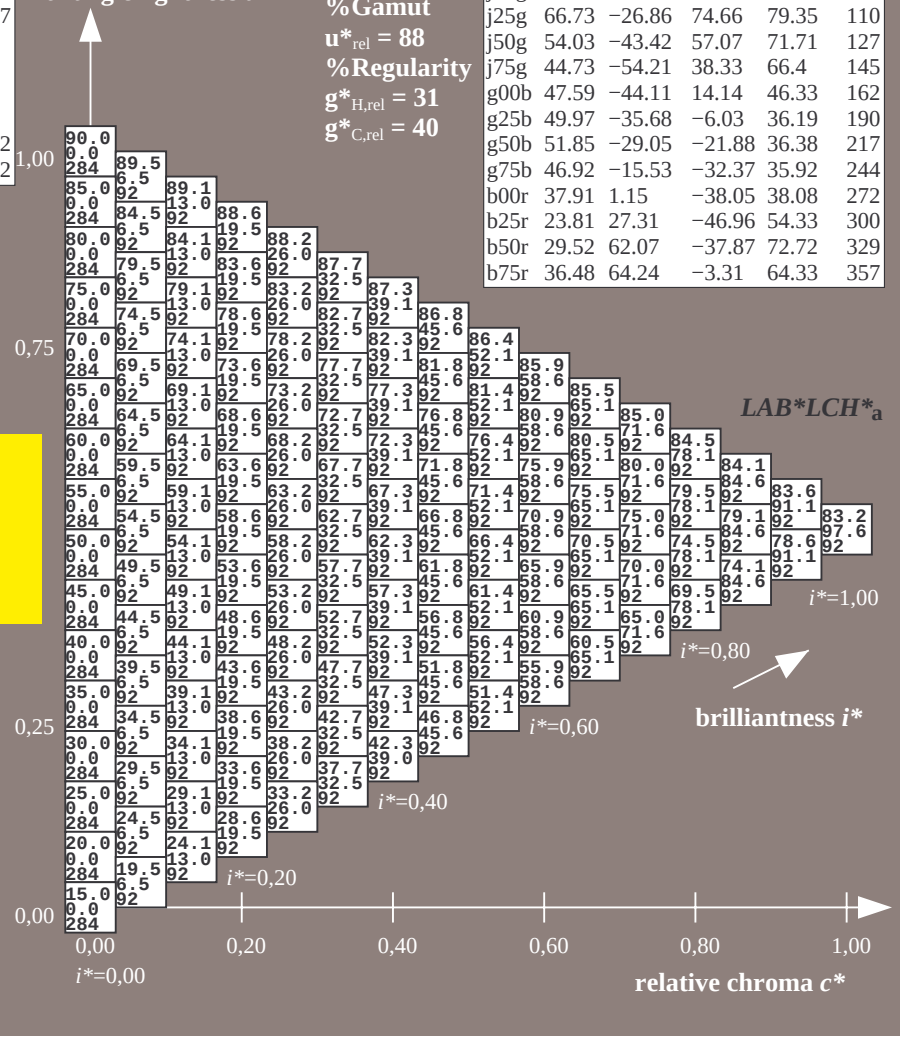

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***$LAB^*LAB^*_{Ma}$*: 83 −3 98**
***$LAB^*LCH^*_{Ma}$*: 83 98 92**
***$lab^*rgb^*_{Ma}$*: 1.0 1.0 0.0**
***$lab^*olv^*_{Ma}$*: 1.0 0.99 0.0**
**triangle lightness *t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 110/360 = 0.305$**

**$u^* = j25g$**

**$LAB^*LCH^*_a$**

**data for any colour:**

***lab*tch** and *lab*icu****

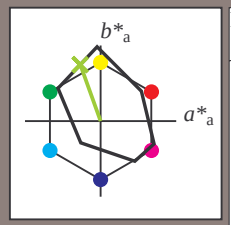
**elementary hue text:**

**$u^* = j25g$**

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness $t^*$**




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB**$_{Ma}$: 67 −26 75**

***LAB*LCH**$_{Ma}$: 67 79 110**

***lab*rgb**$_{Ma}$: 0.75 1.0 0.0**

***lab*olv**$_{Ma}$: 0.57 1.0 0.0**

**triangle lightness $t^*$**

**%Gamut**

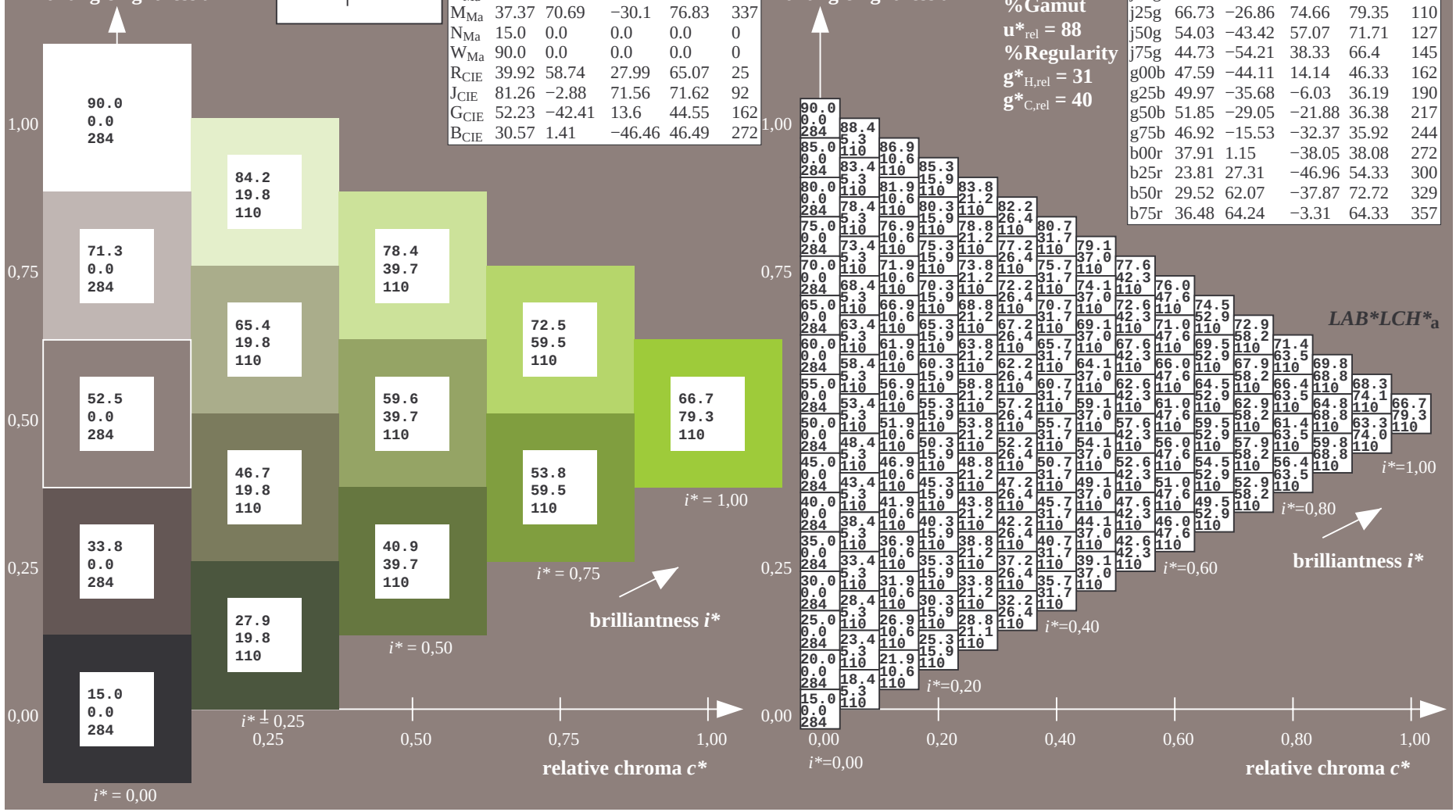
**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

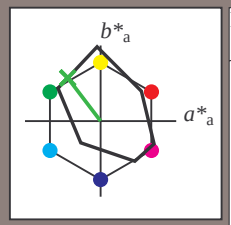
**$g^*_{C,rel} = 40$**

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 127/360 = 0.354$**

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
$u^* = j50g$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$




**FRS15_90aM; adapted (a) CIELAB data**

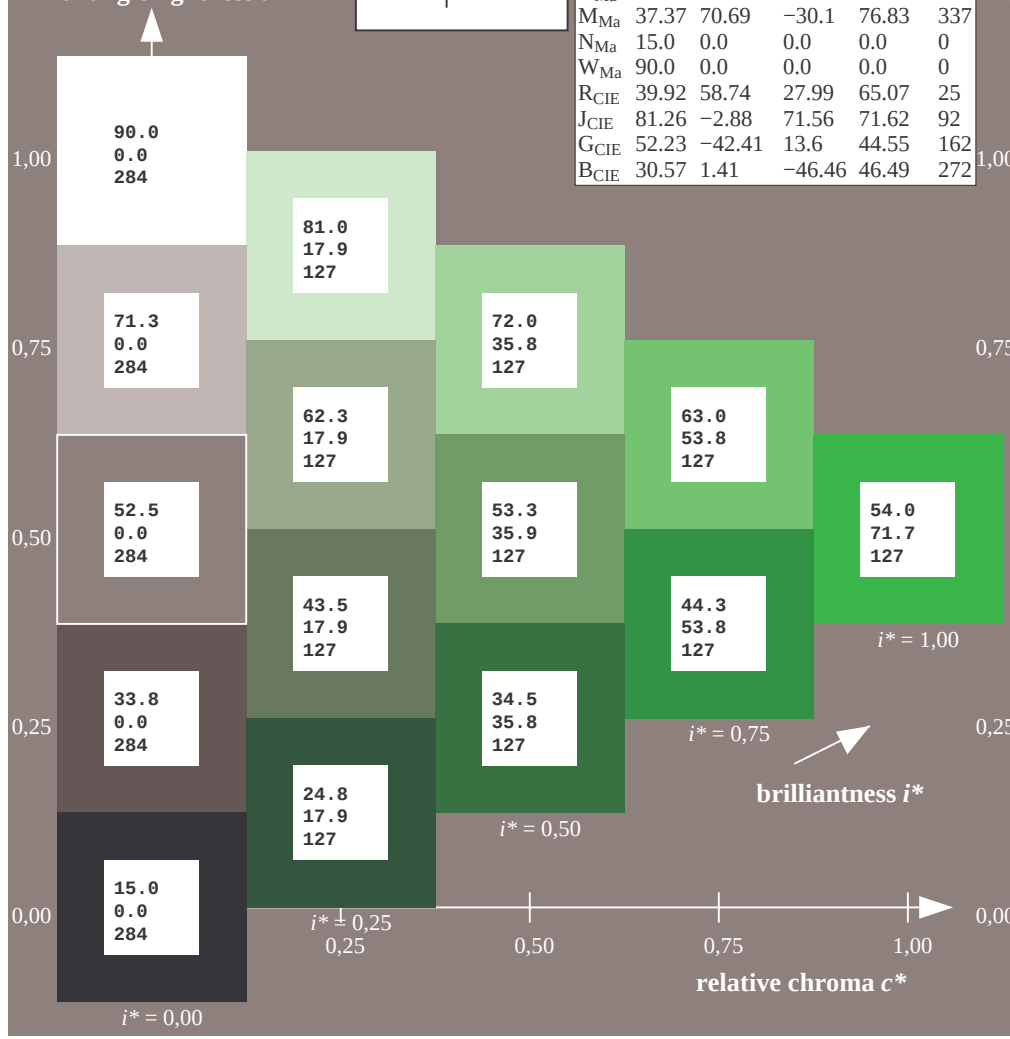
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

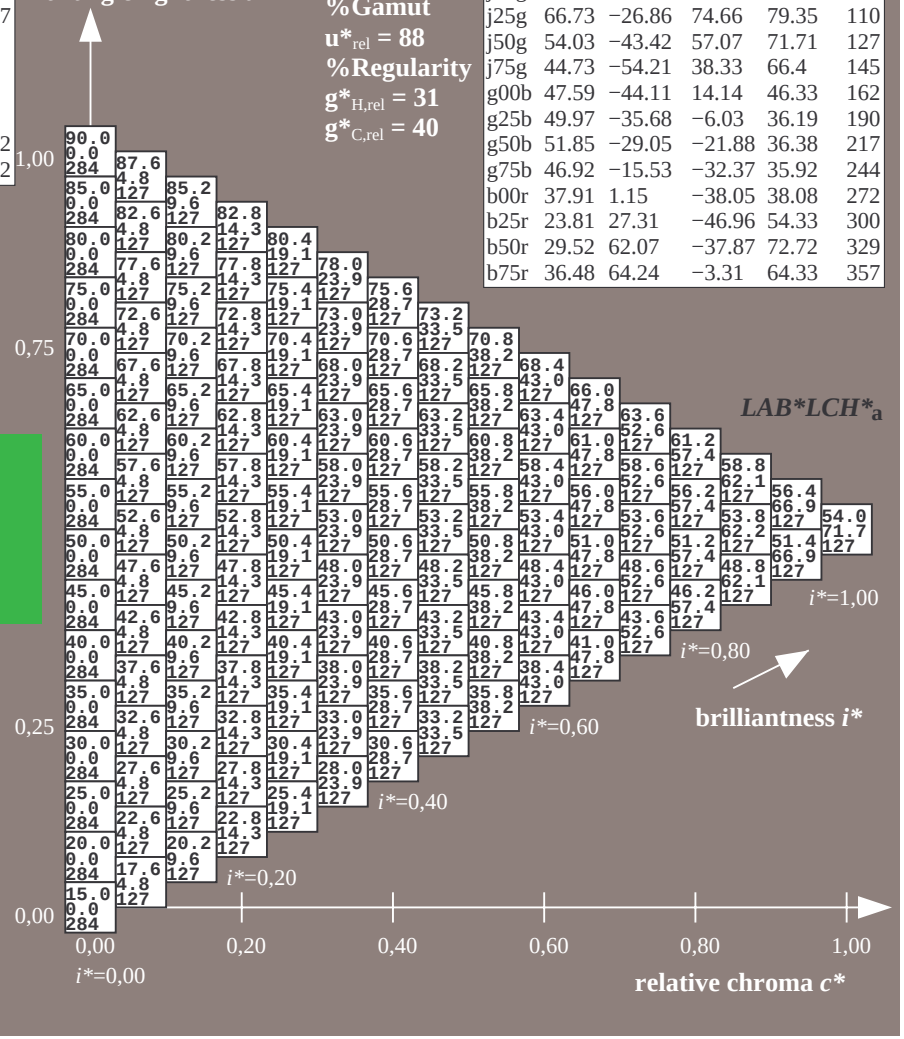
**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 54 −42 57**
***LAB*LCH****$_{Ma}$**: 54 72 127**
***lab*rgb****$_{Ma}$**: 0.5 1.0 0.0**
***lab*olv****$_{Ma}$**: 0.25 1.0 0.0**

$u^* = j50g$
***LAB*LCH****$^*_a$

**FRS15_90aM; adapted (a) CIELAB data**

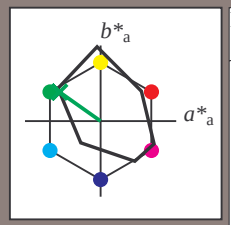
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 145/360 = 0.402$**

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
$u^* = j75g$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$




**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 45 −53 38**
***LAB*LCH****$_{Ma}$**: 45 66 145**
***lab*rgb****$_{Ma}$**: 0.25 1.0 0.0**
***lab*olv****$_{Ma}$**: 0.0 1.0 0.07**

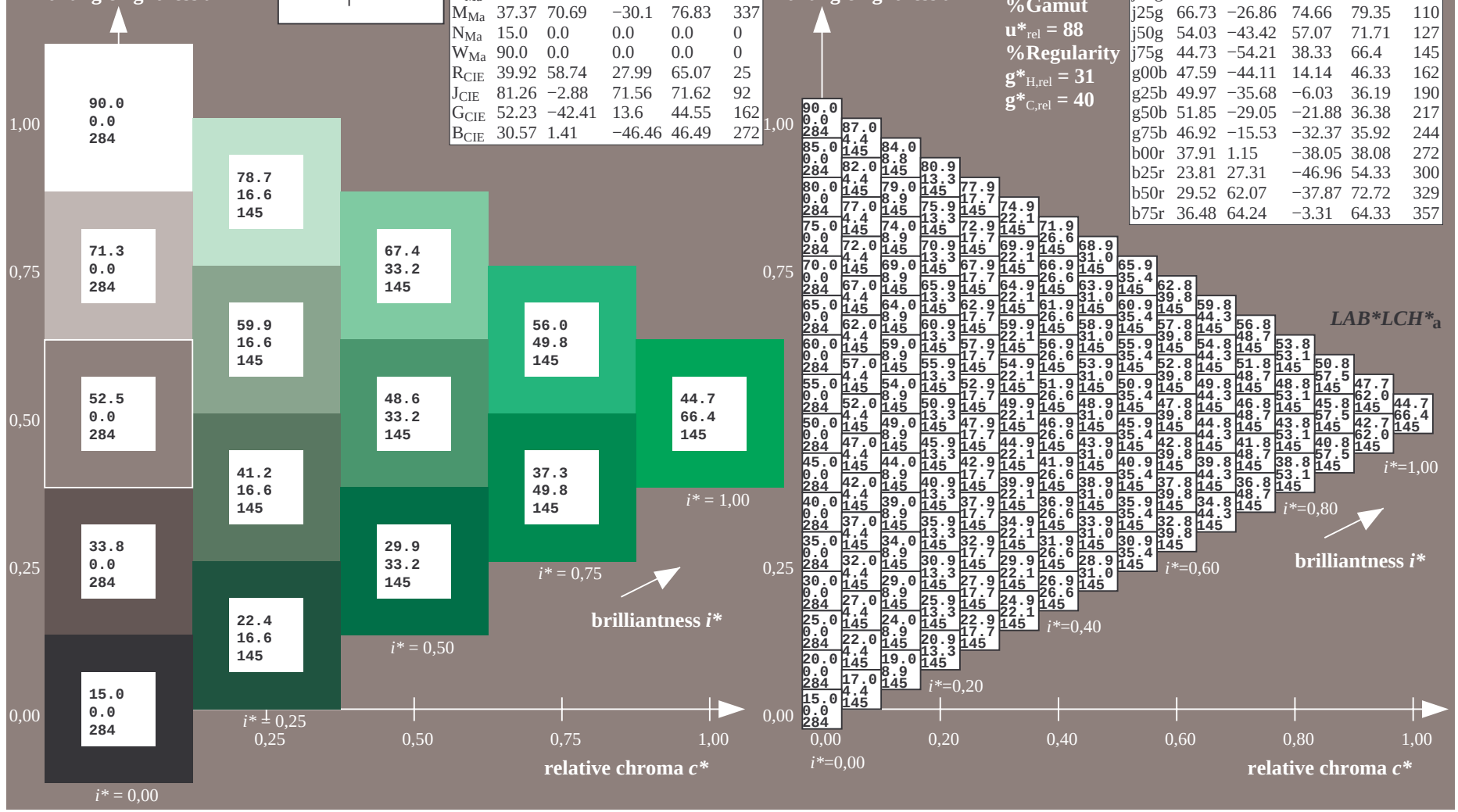
$u^* = j75g$
***LAB*LCH****$^*_a$

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness** $t^*$

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 162/360 = 0.451$**

**$u^* = g00b$**

**$LAB^*LCH^*_a$**

**data for any colour:**

***lab*tch** and *lab*icu****

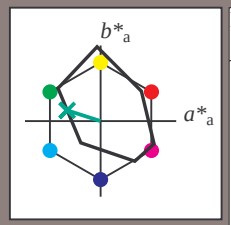
**elementary hue text:**

**$u^* = g00b$**

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness $t^*$**




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB**$_{Ma}$: 48 −43 14**

***LAB*LCH**$_{Ma}$: 48 46 162**

***lab*rgb**$_{Ma}$: 0.0 1.0 0.0**

***lab*olv**$_{Ma}$: 0.0 1.0 0.41**

**triangle lightness $t^*$**

**%Gamut**

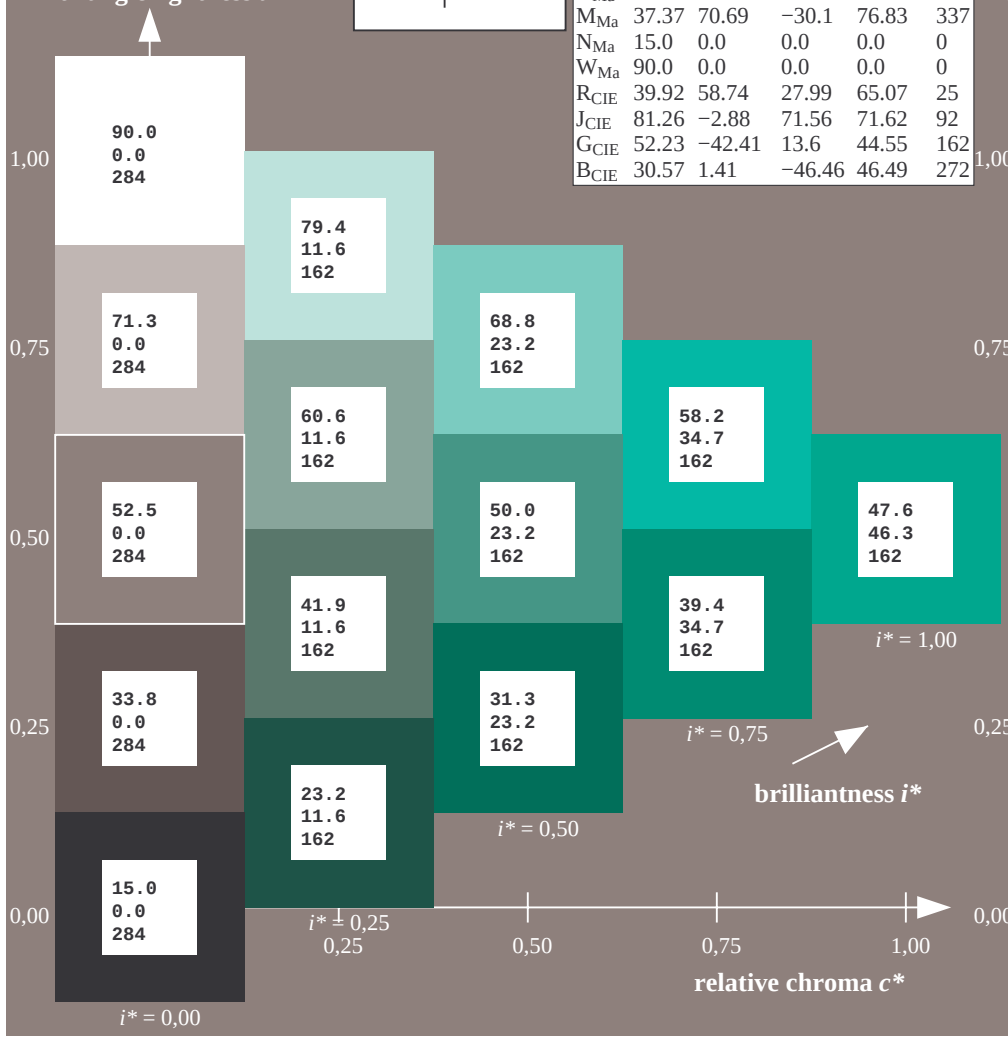
**$u^*_{rel} = 88$**

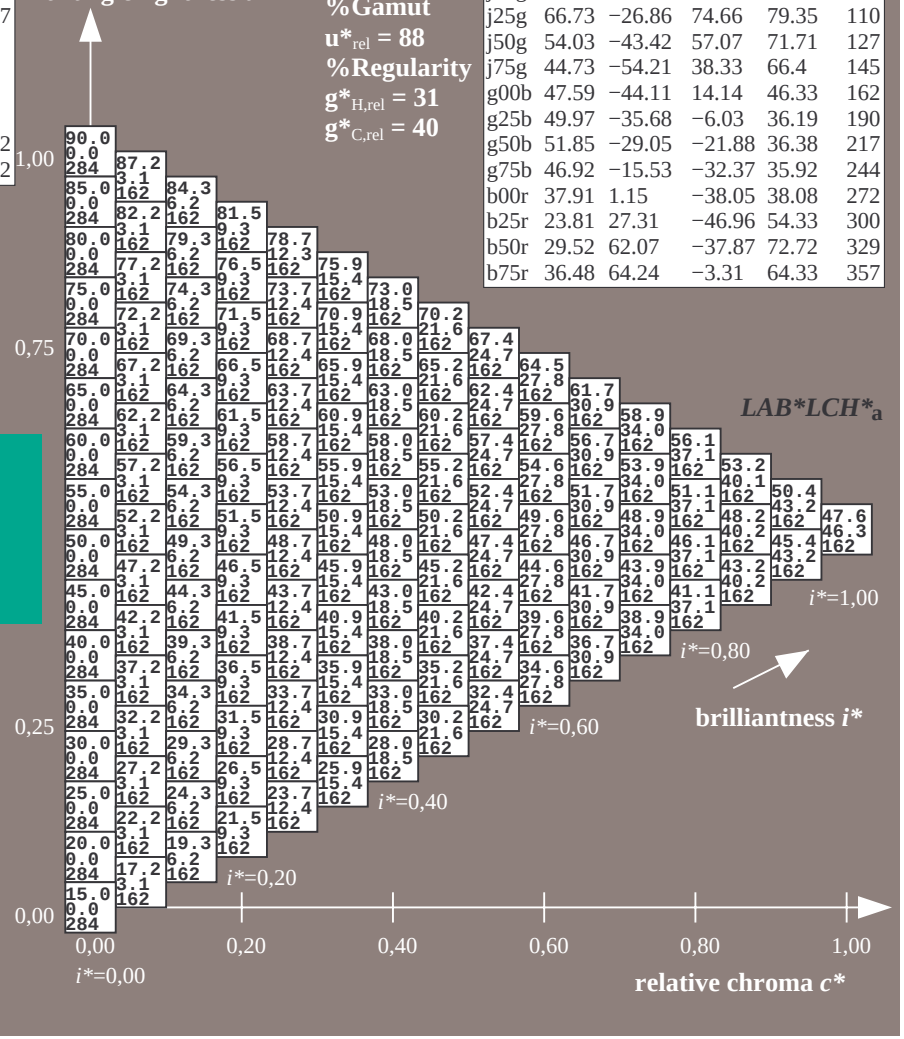
**%Regularity**

**$g^*_{H,rel} = 31$**

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

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 190/360 = 0.527$**

**$u^* = g25b$**

**$LAB^*LCH^*_a$**

**data for any colour:**

***lab*tch** and *lab*icu****

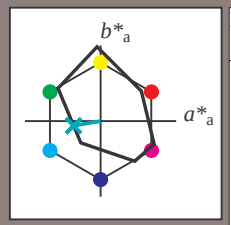
**elementary hue text:**

**$u^* = g25b$**

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness $t^*$**




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB**$_{Ma}$: 50 −35 −5**

***LAB*LCH**$_{Ma}$: 50 36 190**

***lab*rgb**$_{Ma}$: 0.0 1.0 0.5**

***lab*olv**$_{Ma}$: 0.0 1.0 0.69**

**triangle lightness $t^*$**

**%Gamut**

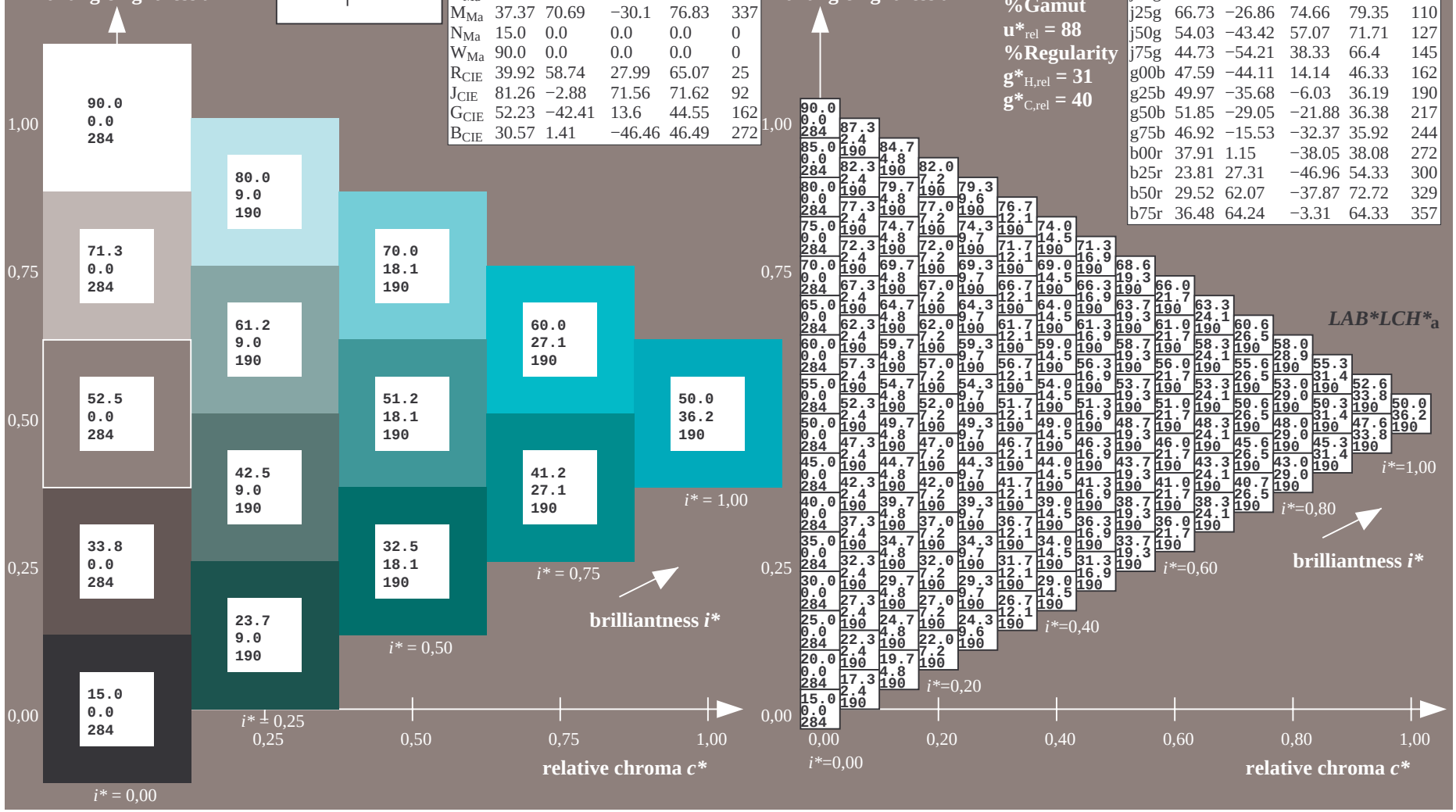
**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

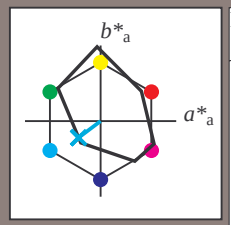
**$g^*_{C,rel} = 40$**

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 217/360 = 0.603$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
$u^* = g50b$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness $t^*$**




**FRS15_90aM; adapted (a) CIELAB data**

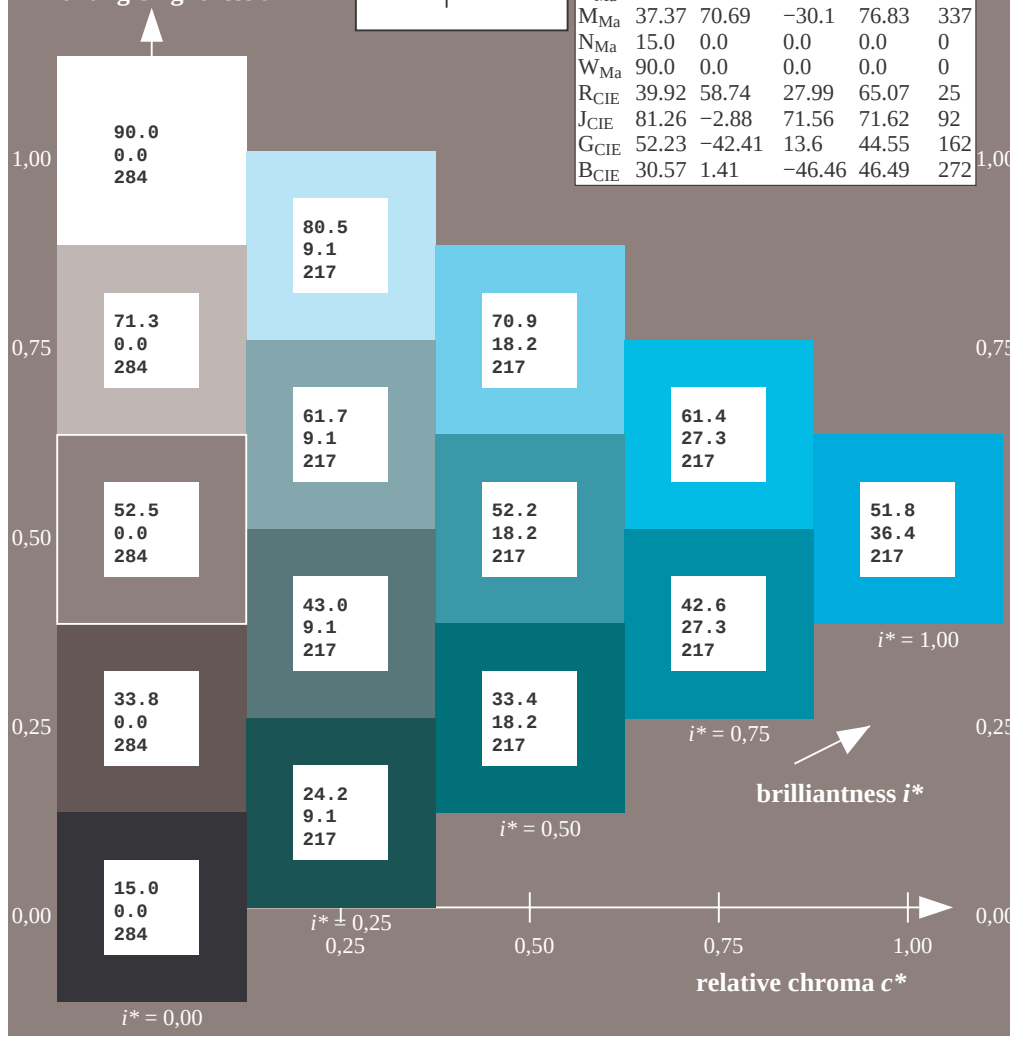
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

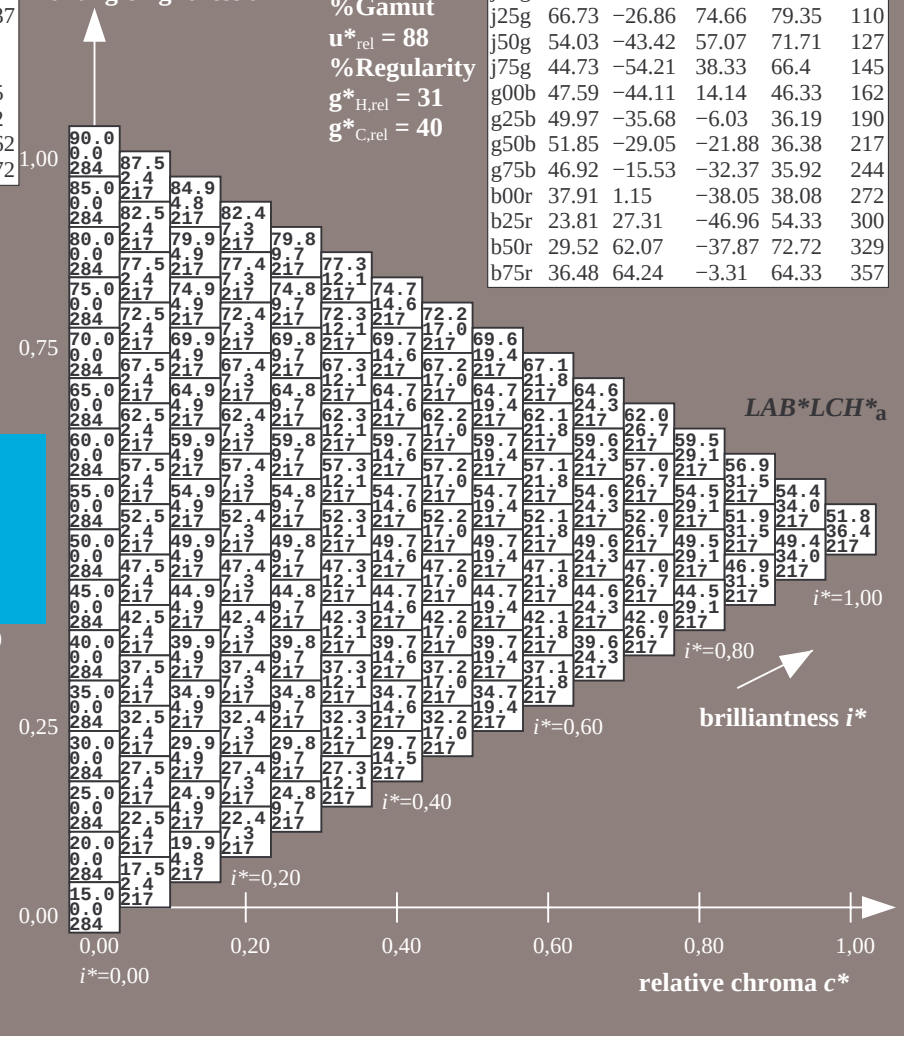
**Data for maximum colour (Ma):**
***LAB*LAB*$_{Ma}$*: 52 −28 −21**
***LAB*LCH*$_{Ma}$*: 52 36 217**
***lab*rgb*$_{Ma}$*: 0.0 1.0 1.0**
***lab*olv*$_{Ma}$*: 0.0 1.0 0.9**

***u* = g50b***
***LAB*LCH*$_a$***

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

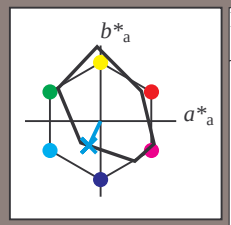


**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 244/360 = 0.679$**

**$u^* = g75b$**
**$LAB^*LCH^*_a$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
***$u^* = g75b$***
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness *t****



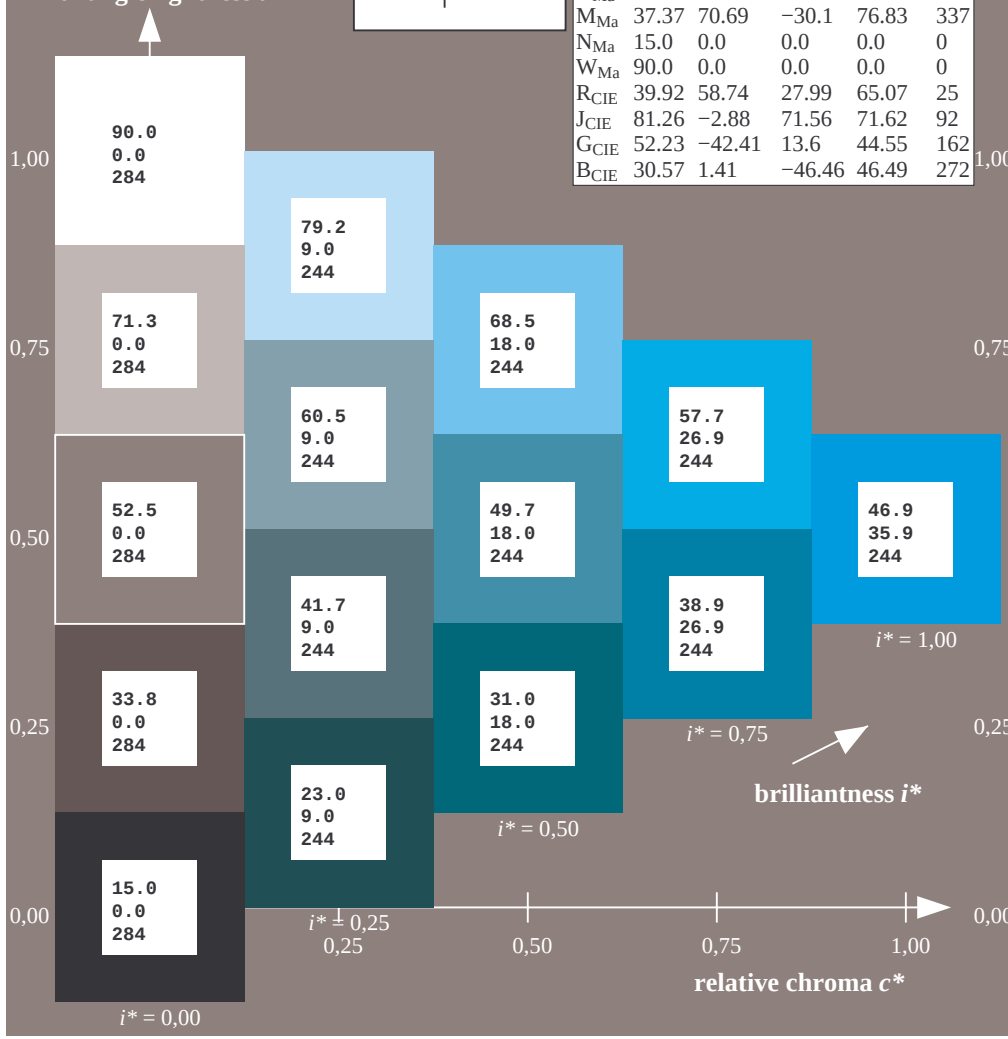

**FRS15_90aM; adapted (a) CIELAB data**

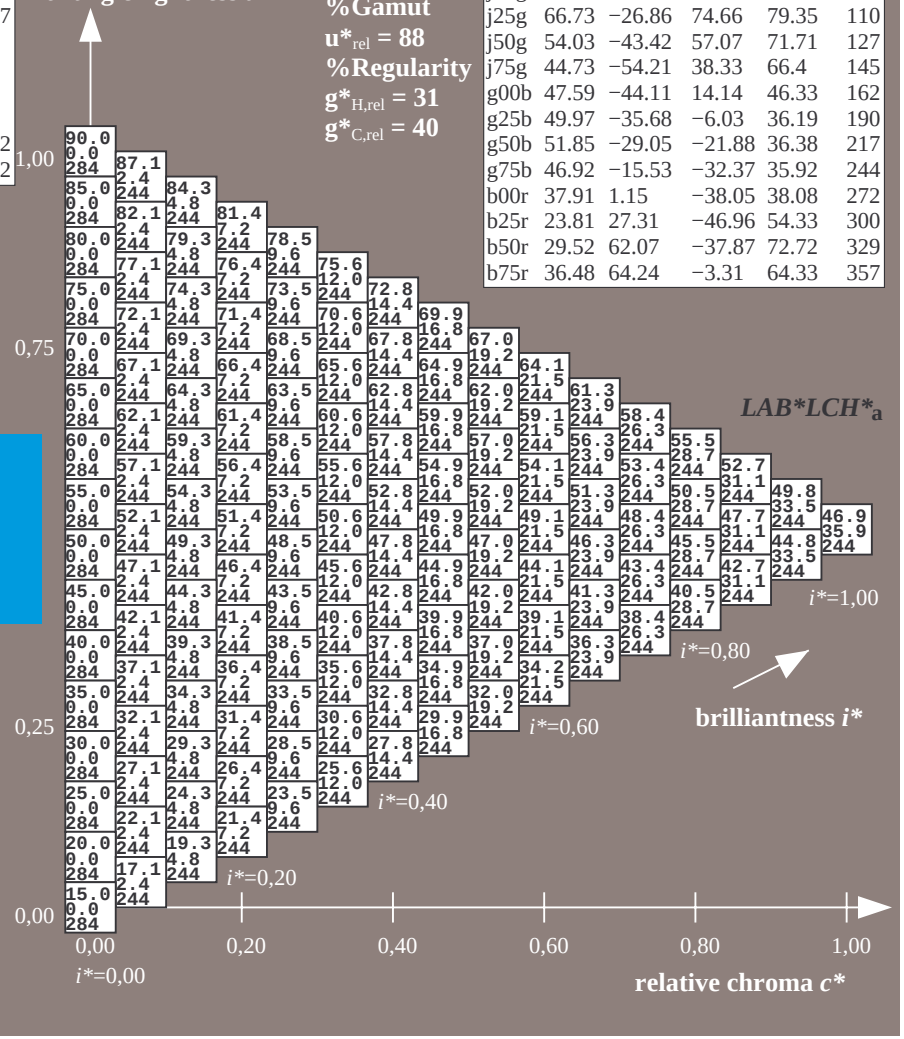
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***$LAB^*LAB^*_{Ma}$*: 47 −15 −31**
***$LAB^*LCH^*_{Ma}$*: 47 36 244**
***$lab^*rgb^*_{Ma}$*: 0.0 0.5 1.0**
***$lab^*olv^*_{Ma}$*: 0.0 0.85 1.0**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 272/360 = 0.755$**

**$u^* = b00r$**

**$LAB^*LCH^*_a$**

**data for any colour:**

***lab*tch** and *lab*icu****

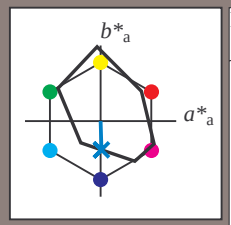
**elementary hue text:**

**$u^* = b00r$**

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness $t^*$**




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB**$_{Ma}$: 38 1 −37**

***LAB*LCH**$_{Ma}$: 38 38 272**

***lab*rgb**$_{Ma}$: 0.0 0.0 1.0**

***lab*olv**$_{Ma}$: 0.0 0.62 1.0**

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness $t^*$**

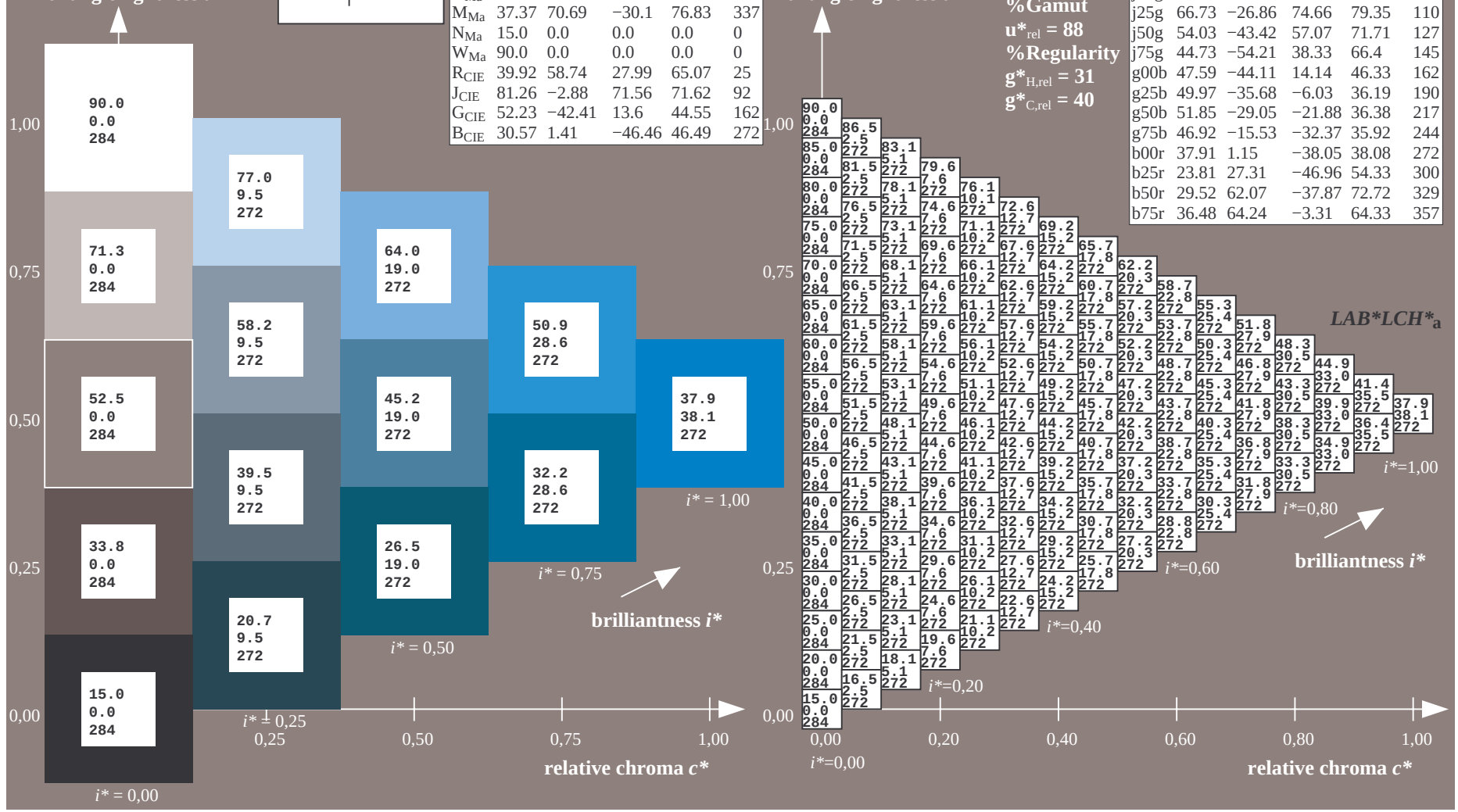
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 300/360 = 0.834$**

**$u^* = b25r$**

**$LAB^*LCH^*_a$**

**data for any colour:**

***lab*tch** and *lab*icu****

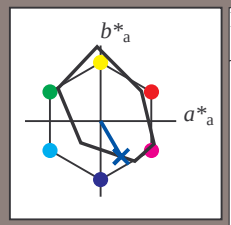
**elementary hue text:**

**$u^* = b25r$**

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness $t^*$**




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB**$_{Ma}$: 24 27 −46**

***LAB*LCH**$_{Ma}$: 24 54 300**

***lab*rgb**$_{Ma}$: 0.5 0.0 1.0**

***lab*olv**$_{Ma}$: 0.0 0.25 1.0**

**triangle lightness $t^*$**

**%Gamut**

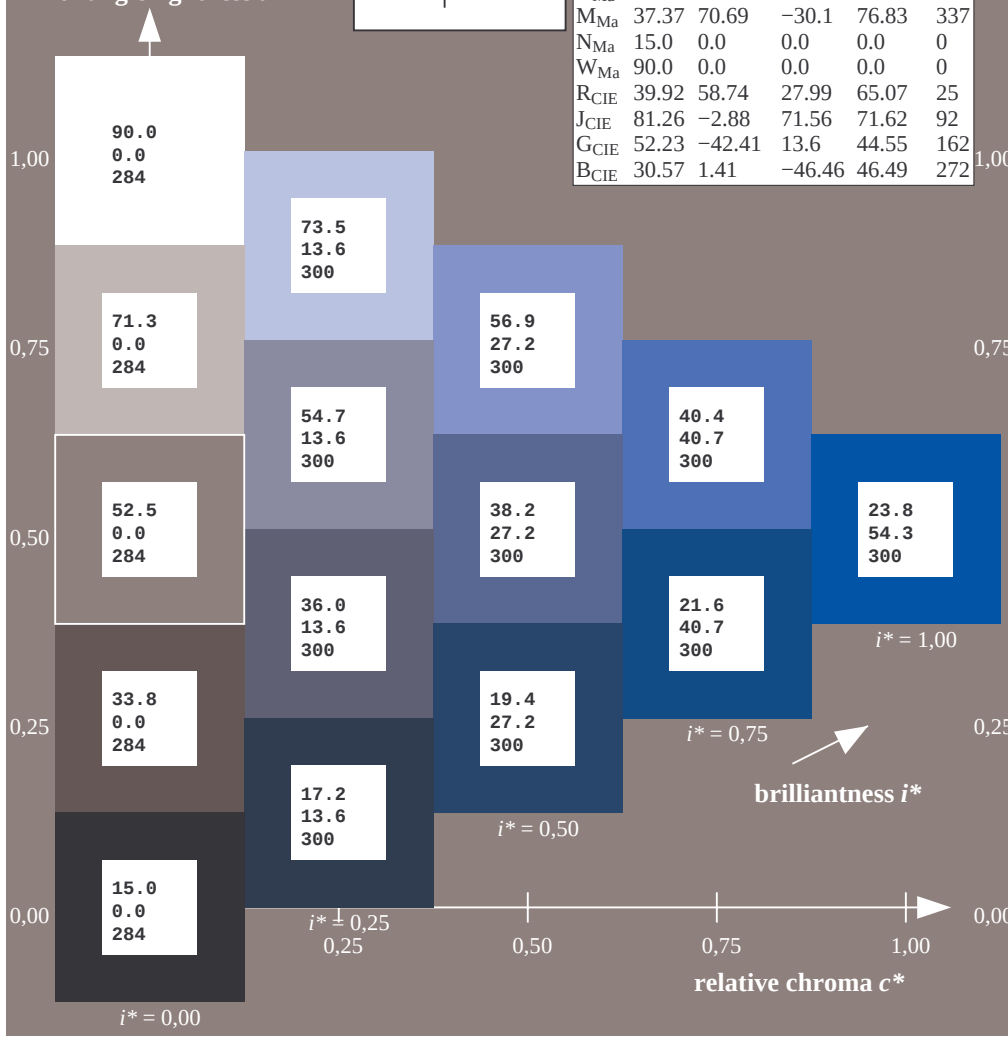
**$u^*_{rel} = 88$**

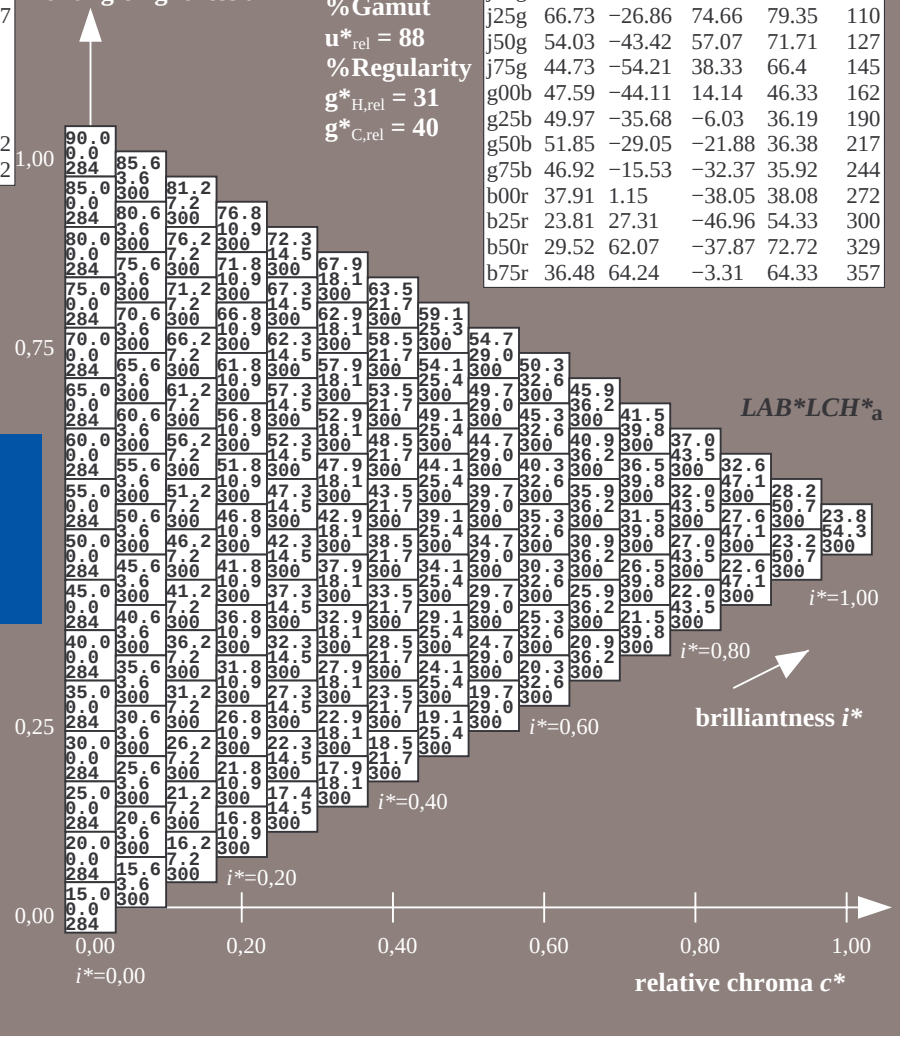
**%Regularity**

**$g^*_{H,rel} = 31$**

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

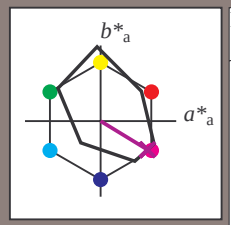
| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 329/360 = 0.913$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
$u^* = b50r$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness $t^*$**




**FRS15_90aM; adapted (a) CIELAB data**

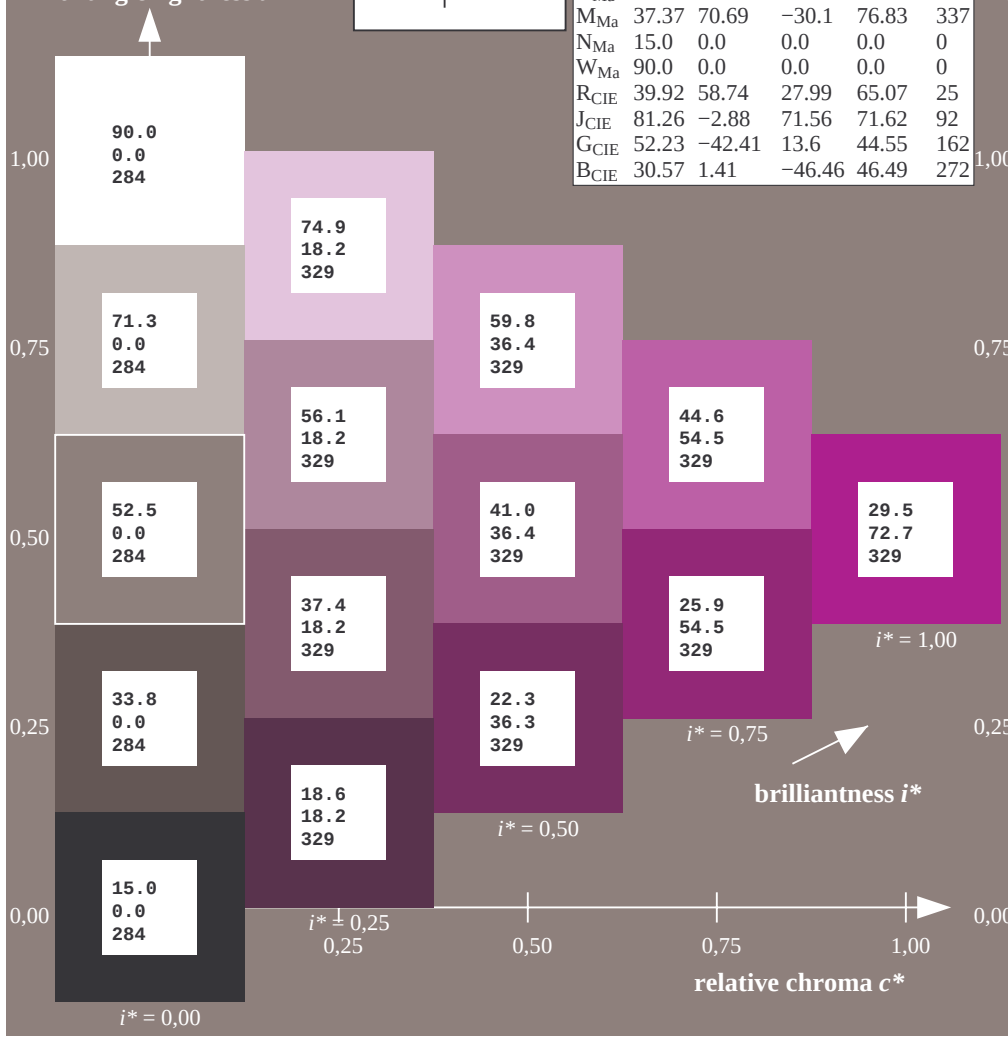
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

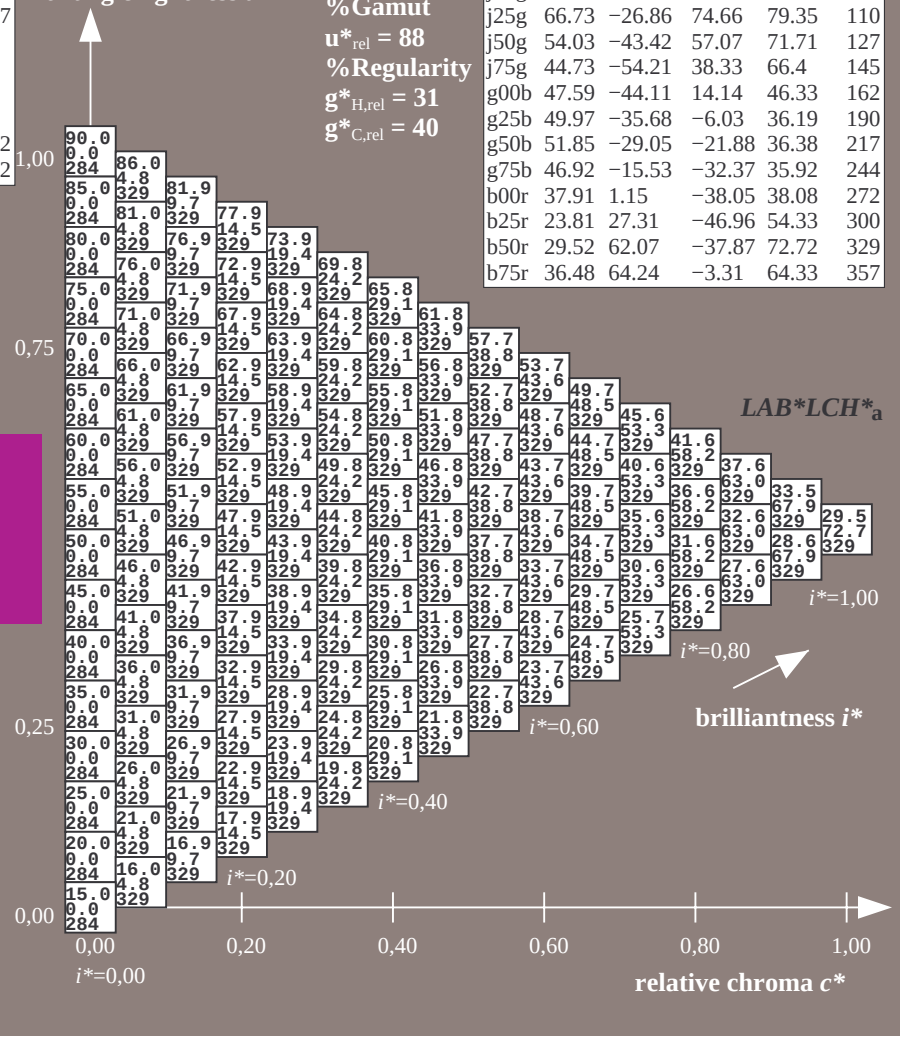
**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 30 62 −37**
***LAB*LCH*Ma*: 30 73 329**
***lab*rgb*Ma*: 1.0 0.0 1.0**
***lab*olv*Ma*: 0.66 0.0 1.0**

***u* = b50r***
***LAB*LCH*a***

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 357/360 = 0.992$**

**$u^* = b75r$**

**$LAB^*LCH^*_a$**

**data for any colour:**

***lab*tch** and *lab*icu****

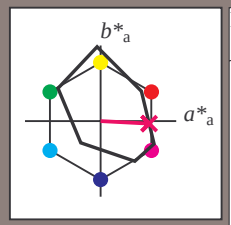
**elementary hue text:**

**$u^* = b75r$**

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness $t^*$**




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB**$_{Ma}$: 36 64 −2**

***LAB*LCH**$_{Ma}$: 36 64 357**

***lab*rgb**$_{Ma}$: 1.0 0.0 0.5**

***lab*olv**$_{Ma}$: 1.0 0.0 0.62**

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness $t^*$**

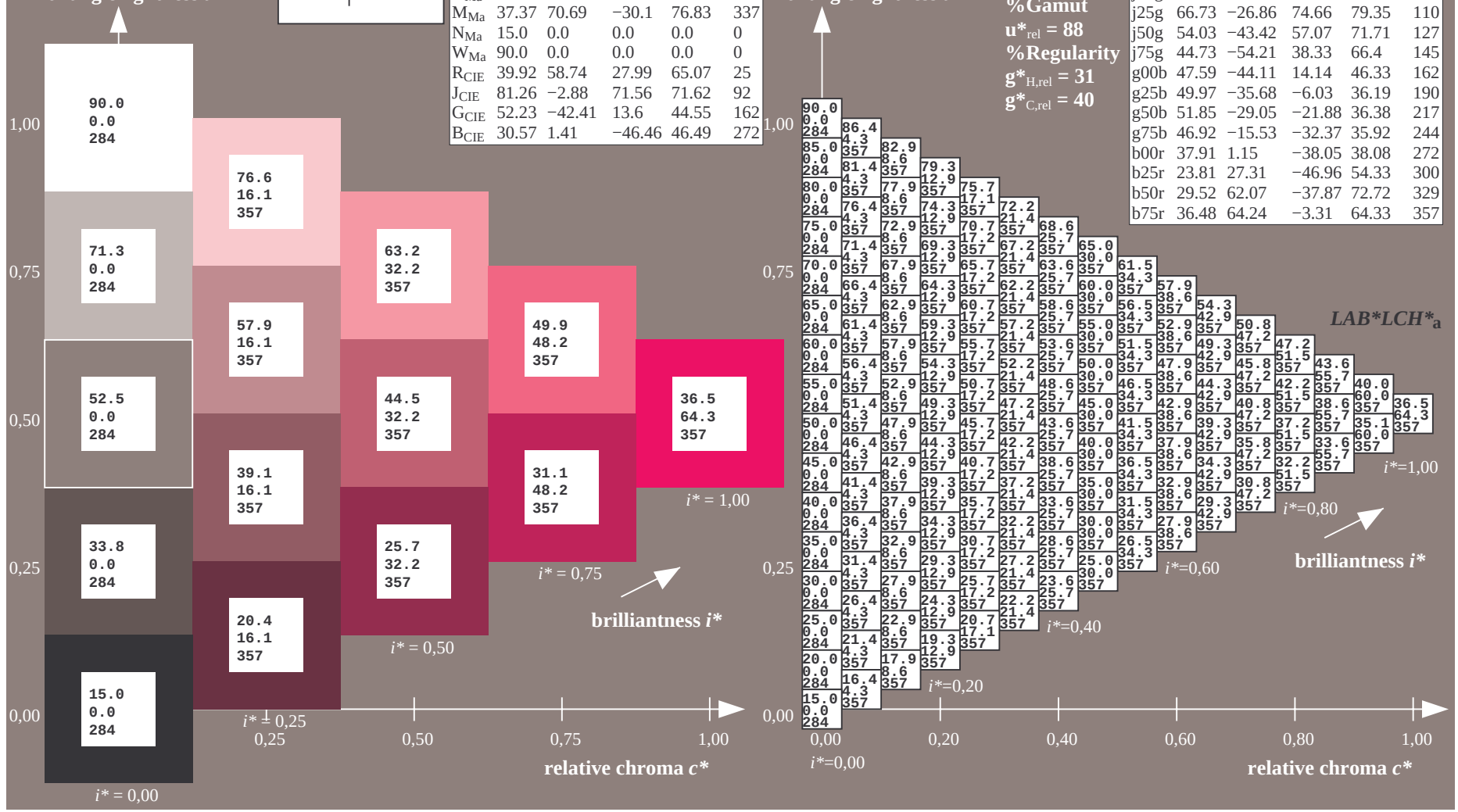
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

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

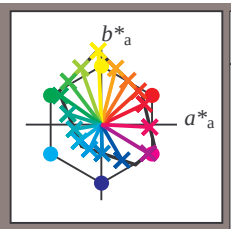


| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | a | b | c | d | e | f | g | h | i | j | k | LAB*LCH*a | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 15.0 | 18.6 | 22.3 | 25.9 | 29.6 | 33.2 | 36.9 | 40.5 | 44.1 | 17.5 | 23.6 | 27.2 | 30.9 | 34.5 | 38.2 | 41.8 | 45.4 | 49.1 | 20.0 | 26.1 | 32.2 | 35.8 | 39.5 | 43.1 | 46.8 | 50.4 | 54.0 | 90.0 | 83.1 | 76.3 | 69.4 | 62.5 | 55.7 | 48.8 | 41.9 | 35.1 | 15.0 | 15.0 | 15.0 | 15.0 |
| | 0.0 | 8.9 | 17.8 | 26.7 | 35.5 | 44.4 | 53.3 | 62.2 | 71.1 | 8.4 | 12.3 | 19.3 | 27.4 | 35.9 | 44.5 | 53.2 | 62.0 | 70.8 | 16.7 | 18.3 | 24.6 | 31.1 | 38.5 | 46.5 | 54.8 | 63.2 | 71.7 | 0.0 | 8.4 | 16.7 | 25.1 | 33.4 | 41.8 | 50.2 | 58.5 | 66.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 284 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 36 | 93 | 113 | 122 | 127 | 130 | 132 | 134 | 135 | 36 | 70 | 93 | 105 | 113 | 119 | 122 | 125 | 127 | 284 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 284 | 284 | 284 | 284 |
| 02 | 14.9 | 19.7 | 23.4 | 27.0 | 30.6 | 34.3 | 37.9 | 41.6 | 45.2 | 17.8 | 24.4 | 28.0 | 31.7 | 35.3 | 38.9 | 42.6 | 46.2 | 49.9 | 20.3 | 26.9 | 33.0 | 36.6 | 40.3 | 43.9 | 47.5 | 51.2 | 54.8 | 85.3 | 80.6 | 73.8 | 66.9 | 60.0 | 53.2 | 46.3 | 39.4 | 32.6 | 24.4 | 24.4 | 24.4 | 24.4 |
| | 8.7 | 4.9 | 10.5 | 18.8 | 27.5 | 36.3 | 45.1 | 53.9 | 62.8 | 9.6 | 0.0 | 8.9 | 17.8 | 26.7 | 35.5 | 44.4 | 53.3 | 62.2 | 15.6 | 8.4 | 12.3 | 19.3 | 27.4 | 35.9 | 44.5 | 53.2 | 62.0 | 4.9 | 0.0 | 8.4 | 16.7 | 25.1 | 33.4 | 41.8 | 50.2 | 58.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 310 | 228 | 170 | 157 | 153 | 150 | 149 | 148 | 147 | 337 | 284 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 4 | 36 | 93 | 113 | 122 | 127 | 130 | 132 | 134 | 228 | 284 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 284 | 284 | 284 | 284 |
| 03 | 14.8 | 19.6 | 24.4 | 28.1 | 31.7 | 35.3 | 39.0 | 42.6 | 46.3 | 17.7 | 24.3 | 29.1 | 32.7 | 36.4 | 40.0 | 43.6 | 47.3 | 50.9 | 20.6 | 27.2 | 33.8 | 37.4 | 41.0 | 44.7 | 48.3 | 52.0 | 55.6 | 80.7 | 76.0 | 71.3 | 64.4 | 57.5 | 50.6 | 43.8 | 36.9 | 30.1 | 33.8 | 33.8 | 33.8 | 33.8 |
| | 17.4 | 10.5 | 9.7 | 13.7 | 20.9 | 29.1 | 37.6 | 46.3 | 55.0 | 17.8 | 8.7 | 4.9 | 10.5 | 18.8 | 27.5 | 36.3 | 45.1 | 53.9 | 19.2 | 9.6 | 0.0 | 8.9 | 17.8 | 26.7 | 35.5 | 44.4 | 53.3 | 9.7 | 4.9 | 0.0 | 8.4 | 16.7 | 25.1 | 33.4 | 41.8 | 50.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 310 | 283 | 228 | 187 | 170 | 162 | 157 | 154 | 153 | 324 | 310 | 228 | 170 | 157 | 153 | 150 | 149 | 148 | 337 | 337 | 284 | 142 | 142 | 142 | 142 | 142 | 142 | 228 | 228 | 284 | 36 | 36 | 36 | 36 | 36 | 36 | 284 | 284 | 284 | 284 |
| 04 | 14.7 | 19.5 | 24.3 | 29.1 | 32.8 | 36.4 | 40.0 | 43.7 | 47.3 | 17.6 | 24.2 | 29.0 | 33.8 | 37.4 | 41.1 | 44.7 | 48.4 | 52.0 | 20.5 | 27.1 | 33.6 | 38.5 | 42.1 | 45.7 | 49.4 | 53.0 | 56.7 | 76.0 | 71.3 | 66.6 | 61.9 | 55.0 | 48.1 | 41.3 | 34.4 | 27.5 | 43.1 | 43.1 | 43.1 | 43.1 |
| | 26.1 | 18.7 | 13.8 | 14.6 | 17.7 | 23.9 | 31.4 | 39.5 | 47.9 | 26.4 | 17.4 | 10.5 | 9.7 | 13.7 | 21.0 | 29.1 | 37.6 | 46.3 | 27.3 | 17.8 | 8.7 | 4.9 | 10.5 | 18.8 | 27.5 | 36.3 | 45.1 | 14.6 | 9.7 | 4.9 | 0.0 | 8.4 | 16.7 | 25.1 | 33.4 | 41.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 310 | 295 | 266 | 228 | 198 | 180 | 170 | 164 | 160 | 320 | 310 | 283 | 228 | 187 | 170 | 162 | 157 | 155 | 329 | 324 | 310 | 228 | 170 | 157 | 153 | 150 | 149 | 228 | 228 | 228 | 284 | 36 | 36 | 36 | 36 | 36 | 284 | 284 | 284 | 284 |
| 05 | 14.6 | 19.4 | 24.2 | 29.0 | 33.8 | 37.5 | 41.1 | 44.8 | 48.4 | 17.5 | 24.1 | 28.9 | 33.7 | 38.5 | 42.1 | 45.8 | 49.4 | 53.1 | 20.4 | 27.0 | 33.5 | 38.4 | 43.2 | 46.8 | 50.4 | 54.1 | 57.7 | 71.3 | 66.6 | 61.9 | 57.2 | 52.5 | 45.6 | 38.8 | 31.9 | 25.0 | 52.5 | 52.5 | 52.5 | 52.5 |
| | 34.9 | 27.2 | 21.0 | 17.9 | 19.4 | 22.0 | 27.4 | 34.3 | 41.9 | 35.0 | 26.1 | 18.7 | 13.9 | 14.6 | 17.7 | 23.9 | 31.4 | 39.5 | 35.7 | 26.4 | 17.4 | 10.5 | 9.7 | 13.7 | 21.0 | 29.1 | 37.6 | 19.4 | 14.6 | 9.7 | 4.9 | 0.0 | 8.4 | 16.7 | 25.1 | 33.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 310 | 300 | 283 | 257 | 228 | 204 | 187 | 177 | 170 | 317 | 310 | 295 | 266 | 228 | 198 | 180 | 170 | 164 | 324 | 320 | 310 | 283 | 228 | 187 | 170 | 162 | 157 | 228 | 228 | 228 | 228 | 284 | 36 | 36 | 36 | 36 | 284 | 284 | 284 | 284 |
| 06 | 14.5 | 19.3 | 24.1 | 28.9 | 33.7 | 38.5 | 42.2 | 45.8 | 49.5 | 17.4 | 24.0 | 28.8 | 33.6 | 38.4 | 43.2 | 46.8 | 50.5 | 54.1 | 20.3 | 26.9 | 33.4 | 38.2 | 43.1 | 47.9 | 51.5 | 55.2 | 58.8 | 66.7 | 62.0 | 57.2 | 52.5 | 47.8 | 43.1 | 36.3 | 29.4 | 22.5 | 61.9 | 61.9 | 61.9 | 61.9 |
| | 43.6 | 35.8 | 29.0 | 24.1 | 22.3 | 24.3 | 26.6 | 31.3 | 37.5 | 43.7 | 34.9 | 27.2 | 21.0 | 17.9 | 19.4 | 22.0 | 27.4 | 34.3 | 44.2 | 35.0 | 26.1 | 18.7 | 13.9 | 14.6 | 17.7 | 23.9 | 31.4 | 24.3 | 19.4 | 14.6 | 9.7 | 4.9 | 0.0 | 8.4 | 16.7 | 25.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 310 | 303 | 291 | 274 | 250 | 228 | 208 | 193 | 183 | 316 | 310 | 300 | 283 | 257 | 228 | 204 | 187 | 177 | 322 | 317 | 310 | 295 | 266 | 228 | 198 | 180 | 170 | 228 | 228 | 228 | 228 | 228 | 284 | 36 | 36 | 36 | 284 | 284 | 284 | 284 |
| 07 | 14.4 | 19.2 | 24.0 | 28.8 | 33.6 | 38.4 | 43.2 | 46.9 | 50.5 | 17.3 | 23.8 | 28.7 | 33.5 | 38.3 | 43.1 | 47.9 | 51.6 | 55.2 | 20.2 | 26.7 | 33.3 | 38.1 | 43.0 | 47.8 | 52.6 | 56.2 | 59.9 | 62.0 | 57.3 | 52.6 | 47.9 | 43.2 | 38.5 | 33.8 | 26.9 | 20.0 | 71.3 | 71.3 | 71.3 | 71.3 |
| | 52.3 | 44.4 | 37.3 | 31.5 | 27.7 | 26.8 | 29.2 | 31.2 | 35.4 | 52.3 | 43.6 | 35.8 | 29.0 | 24.1 | 22.3 | 24.3 | 26.6 | 31.3 | 52.7 | 43.7 | 34.9 | 27.2 | 21.0 | 17.9 | 19.4 | 22.0 | 27.4 | 29.2 | 24.3 | 19.4 | 14.6 | 9.7 | 4.9 | 0.0 | 8.4 | 16.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 310 | 304 | 295 | 283 | 266 | 246 | 228 | 211 | 198 | 315 | 310 | 303 | 291 | 274 | 250 | 228 | 208 | 193 | 320 | 316 | 310 | 300 | 283 | 257 | 228 | 204 | 187 | 228 | 228 | 228 | 228 | 228 | 284 | 36 | 36 | 36 | 284 | 284 | 284 | 284 |
| 08 | 14.3 | 19.1 | 23.9 | 28.7 | 33.5 | 38.3 | 43.1 | 48.0 | 51.6 | 17.2 | 23.7 | 28.6 | 33.4 | 38.2 | 43.0 | 47.8 | 52.6 | 56.3 | 20.1 | 26.6 | 33.2 | 38.0 | 42.8 | 47.7 | 52.5 | 57.3 | 60.9 | 57.3 | 52.6 | 47.9 | 43.2 | 38.5 | 33.8 | 29.1 | 24.4 | 17.5 | 80.6 | 80.6 | 80.6 | 80.6 |
| | 61.0 | 53.1 | 45.8 | 39.4 | 34.5 | 31.6 | 31.5 | 34.0 | 35.9 | 61.0 | 52.3 | 44.4 | 37.4 | 31.5 | 27.7 | 26.8 | 29.2 | 31.2 | 61.4 | 52.3 | 43.6 | 35.8 | 29.0 | 24.1 | 22.3 | 24.3 | 26.6 | 34.0 | 29.2 | 24.3 | 19.4 | 14.6 | 9.7 | 4.9 | 0.0 | 8.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 310 | 305 | 298 | 289 | 276 | 261 | 244 | 228 | 213 | 314 | 310 | 304 | 295 | 283 | 266 | 246 | 228 | 211 | 318 | 315 | 310 | 303 | 291 | 274 | 250 | 228 | 208 | 228 | 228 | 228 | 228 | 228 | 228 | 228 | 284 | 36 | 284 | 284 | 284 | 284 |
| 09 | 14.2 | 19.0 | 23.8 | 28.6 | 33.4 | 38.2 | 43.0 | 47.9 | 52.7 | 17.1 | 23.6 | 28.4 | 33.3 | 38.1 | 42.9 | 47.7 | 52.5 | 57.3 | 20.0 | 26.5 | 33.1 | 37.9 | 42.7 | 47.6 | 52.4 | 57.2 | 62.0 | 52.7 | 48.0 | 43.2 | 38.5 | 33.8 | 29.1 | 24.4 | 19.7 | 15.0 | 90.0 | 90.0 | 90.0 | 90.0 |
| | 69.7 | 61.8 | 54.4 | 47.7 | 42.0 | 37.9 | 35.8 | 36.2 | 38.9 | 69.7 | 61.0 | 53.1 | 45.8 | 39.4 | 34.5 | 31.6 | 31.5 | 34.0 | 70.0 | 61.0 | 52.3 | 44.4 | 37.3 | 31.5 | 27.7 | 26.8 | 29.2 | 38.9 | 34.0 | 29.2 | 24.3 | 19.4 | 14.6 | 9.7 | 4.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 310 | 306 | 300 | 293 | 283 | 271 | 257 | 241 | 228 | 314 | 310 | 305 | 298 | 289 | 276 | 261 | 244 | 228 | 317 | 314 | 310 | 304 | 295 | 283 | 266 | 246 | 228 | 228 | 228 | 228 | 228 | 228 | 228 | 228 | 284 | 284 | 284 | 284 | 284 | 284 |
| 10 | 22.5 | 28.6 | 34.7 | 40.8 | 44.4 | 48.1 | 51.7 | 55.4 | 59.0 | 25.0 | 31.1 | 37.2 | 43.3 | 49.4 | 53.0 | 56.7 | 60.3 | 63.9 | 27.5 | 33.6 | 39.7 | 45.8 | 51.9 | 58.0 | 61.6 | 65.3 | 68.9 | 90.0 | 89.2 | 88.4 | 87.7 | 86.9 | 86.1 | 85.3 | 84.5 | 83.8 | 15.0 | 15.0 | 15.0 | 15.0 |
| | 25.1 | 25.6 | 30.0 | 36.9 | 43.2 | 50.2 | 57.8 | 65.7 | 73.8 | 33.4 | 33.5 | 36.6 | 42.1 | 49.2 | 55.3 | 62.2 | 69.5 | 77.1 | 41.8 | 41.5 | 43.8 | 48.2 | 54.2 | 61.5 | 67.6 | 74.2 | 81.3 | 0.0 | 12.3 | 24.6 | 36.9 | 49.2 | 61.5 | 73.8 | 86.1 | 98.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 36 | 60 | 79 | 93 | 102 | 108 | 113 | 117 | 120 | 36 | 54 | 70 | 83 | 93 | 100 | 105 | 110 | 113 | 36 | 51 | 64 | 76 | 85 | 93 | 98 | 103 | 107 | 284 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 284 | 284 | 284 | 284 |
| 11 | 22.8 | 29.4 | 35.5 | 41.6 | 45.2 | 48.8 | 52.5 | 56.1 | 59.8 | 25.3 | 31.9 | 38.0 | 44.1 | 50.2 | 53.8 | 57.4 | 61.1 | 64.7 | 27.8 | 34.4 | 40.5 | 46.6 | 52.7 | 58.8 | 62.4 | 66.0 | 69.7 | 80.5 | 80.6 | 79.8 | 79.1 | 78.3 | 77.5 | 76.7 | 76.0 | 75.2 | 20.0 | 20.0 | 20.0 | 20.0 |
| | 23.1 | 16.7 | 18.3 | 24.6 | 31.1 | 38.5 | 46.5 | 54.8 | 63.2 | 31.1 | 25.1 | 25.7 | 30.0 | 36.9 | 43.2 | 50.2 | 57.8 | 65.7 | 39.2 | 33.4 | 33.5 | 36.6 | 42.1 | 49.2 | 55.3 | 62.2 | 69.5 | 8.7 | 0.0 | 12.3 | 24.6 | 36.9 | 49.2 | 61.5 | 73.8 | 86.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 15 | 36 | 70 | 93 | 105 | 113 | 119 | 122 | 125 | 21 | 36 | 60 | 79 | 93 | 102 | 108 | 113 | 117 | 24 | 36 | 54 | 70 | 83 | 93 | 100 | 105 | 110 | 310 | 284 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 284 | 284 | 284 | 284 |
| 12 | 23.1 | 29.7 | 36.3 | 42.3 | 46.0 | 49.6 | 53.3 | 56.9 | 60.5 | 25.6 | 32.2 | 38.8 | 44.9 | 50.9 | 54.6 | 58.2 | 61.9 | 65.5 | 28.1 | 34.7 | 41.3 | 47.4 | 53.4 | 59.5 | 63.2 | 66.8 | 70.5 | 71.0 | 71.1 | 71.3 | 70.5 | 69.7 | 68.9 | 68.1 | 67.4 | 66.6 | 25.0 | 25.0 | 25.0 | 25.0 |
| | 24.5 | 15.6 | 8.4 | 12.3 | 19.3 | 27.4 | 35.9 | 44.5 | 53.2 | 31.2 | 23.1 | 16.7 | 18.3 | 24.6 | 31.1 | 38.5 | 46.5 | 54.8 | 38.6 | 31.1 | 25.1 | 25.7 | 30.0 | 36.9 | 43.2 | 50.2 | 57.8 | 17.4 | 8.7 | 0.0 | 12.3 | 24.6 | 36.9 | 49.2 | 61.5 | 73.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 354 | 4 | 36 | 93 | 113 | 122 | 127 | 130 | 132 | 4 | 15 | 36 | 70 | 93 | 105 | 113 | 119 | 122 | 11 | 21 | 36 | 60 | 79 | 93 | 102 | 108 | 113 | 310 | 310 | 284 | 93 | 93 | 93 | 93 | 93 | 93 | 284 | 284 | 284 | 284 |
| 13 | 23.4 | 30.0 | 36.5 | 43.1 | 46.8 | 50.4 | 54.0 | 57.7 | 61.3 | 25.9 | 32.5 | 39.1 | 45.6 | 51.7 | 55.4 | 59.0 | 62.6 | 66.3 | 28.4 | 35.0 | 41.6 | 48.1 | 54.2 | 60.3 | 64.0 | 67.6 | 71.2 | 61.6 | 61.7 | 61.8 | 61.9 | 61.1 | 60.3 | 59.5 | 58.8 | 58.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| | 28.8 | 19.2 | 9.6 | 0.0 | 8.9 | 17.8 | 26.7 | 35.5 | 44.4 | 33.8 | 24.5 | 15.6 | 8.4 | 12.3 | 19.3 | 27.4 | 35.9 | 44.5 | 40.0 | 31.2 | 23.1 | 16.7 | 18.3 | 24.6 | 31.1 | 38.5 | 46.5 | 26.1 | 17.4 | 8.7 | 0.0 | 12.3 | 24.6 | 36.9 | 49.2 | 61.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 337 | 337 | 337 | 284 | 142 | 142 | 142 | 142 | 142 | 349 | 354 | 4 | 36 | 93 | 113 | 122 | 127 | 130 | 358 | 4 | 15 | 36 | 70 | 93 | 105 | 113 | 119 | 310 | 310 | 310 | 284 | 93 | 93 | 93 | 93 | 93 | 284 | 284 | 284 | 284 |
| 14 | 23.3 | 29.9 | 36.4 | 43.0 | 47.8 | 51.5 | 55.1 | 58.8 | 62.4 | 26.2 | 32.8 | 39.3 | 45.9 | 52.5 | 56.1 | 59.8 | 63.4 | 67.1 | 28.7 | 35.3 | 41.8 | 48.4 | 55.0 | 61.1 | 64.7 | 68.4 | 72.0 | 52.1 | 52.2 | 52.3 | 52.4 | 52.5 | 51.7 | 50.9 | 50.2 | 49.4 | 35.0 | 35.0 | 35.0 | 35.0 |
| | 36.8 | 27.3 | 17.8 | 8.7 | 4.9 | 10.5 | 18.8 | 27.5 | 36.3 | 38.4 | 28.8 | 19.2 | 9.6 | 0.0 | 8.9 | 17.8 | 26.7 | 35.5 | 43.3 | 33.8 | 24.5 | 15.6 | 8.4 | 12.3 | 19.3 | 27.4 | 35.9 | 34.9 | 26.1 | 17.4 | 8.7 | 0.0 | 12.3 | 24.6 | 36.9 | 49.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 331 | 329 | 324 | 310 | 228 | 170 | 157 | 153 | 150 | 337 | 337 | 337 | 337 | 284 | 142 | 142 | 142 | 142 | 346 | 349 | 354 | 4 | 36 | 93 | 113 | 122 | 127 | 310 | 310 | 310 | 310 | 284 | 93 | 93 | 93 | 93 | 284 | 284 | 284 | 284 |
| 15 | 23.2 | 29.8 | 36.3 | 42.9 | 47.7 | 52.5 | 56.2 | 59.8 | 63.5 | 26.1 | 32.7 | 39.2 | 45.8 | 52.4 | 57.2 | 60.8 | 64.5 | 68.1 | 29.0 | 35.6 | 42.1 | 48.7 | 55.3 | 61.9 | 65.5 | 69.2 | 72.8 | 42.6 | 42.7 | 42.8 | 42.9 | 43.0 | 43.1 | 42.3 | 41.6 | 40.8 | 40.0 | 40.0 | 40.0 | 40.0 |
| | 45.1 | 35.7 | 26.4 | 17.4 | 10.5 | 9.7 | 13.7 | 21.0 | 29.1 | 46.4 | 36.8 | 27.3 | 17.8 | 8.7 | 4.9 | 10.5 | 18.8 | 27.5 | 48.0 | 38.4 | 28.8 | 19.2 | 9.6 | 0.0 | 8.9 | 17.8 | 26.7 | 43.6 | 34.9 | 26.1 | 17.4 | 8.7 | 0.0 | 12.3 | 24.6 | 36.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 327 | 324 | 320 | 310 | 283 | 228 | 187 | 170 | 162 | 332 | 331 | 329 | 324 | 310 | 228 | 170 | 157 | 153 | 337 | 337 | 337 | 337 | 337 | 284 | 142 | 142 | 142 | 310 | 310 | 310 | 310 | 310 | 284 | 93 | 93 | 93 | 284 | 284 | 284 | 284 |
| 16 | 23.1 | 29.6 | 36.2 | 42.8 | 47.6 | 52.4 | 57.2 | 60.9 | 64.5 | 26.0 | 32.6 | 39.1 | 45.7 | 52.3 | 57.1 | 61.9 | 65.6 | 69.2 | 28.9 | 35.5 | 42.0 | 48.6 | 55.2 | 61.8 | 66.6 | 70.2 | 73.9 | 33.1 | 33.2 | 33.3 | 33.4 | 33.5 | 33.6 | 33.8 | 33.0 | 32.2 | 45.0 | 45.0 | 45.0 | 45.0 |
| | 53.5 | 44.2 | 35.0 | 26.1 | 18.7 | 13.9 | 14.6 | 17.7 | 23.9 | 54.6 | 45.1 | 35.7 | 26.4 | 17.4 | 10.5 | 9.7 | 13.7 | 20.9 | 55.9 | 46.4 | 36.8 | 27.3 | 17.8 | 8.7 | 4.9 | 10.5 | 18.8 | 52.3 | 43.6 | 34.9 | 26.1 | 17.4 | 8.7 | 0.0 | 12.3 | 24.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 324 | 322 | 317 | 310 | 295 | 266 | 228 | 198 | 180 | 329 | 327 | 324 | 320 | 310 | 283 | 228 | 187 | 170 | 333 | 332 | 331 | 329 | 324 | 310 | 228 | 170 | 157 | 310 | 310 | 310 | 310 | 310 | 310 | 284 | 93 | 93 | 284 | 284 | 284 | 284 |
| 17 | 23.0 | 29.5 | 36.1 | 42.7 | 47.5 | 52.3 | 57.1 | 62.0 | 65.6 | 25.9 | 32.4 | 39.0 | 45.6 | 52.2 | 57.0 | 61.8 | 66.6 | 70.3 | 28.8 | 35.3 | 41.9 | 48.5 | 55.1 | 61.7 | 66.5 | 71.3 | 74.9 | 23.6 | 23.7 | 23.8 | 24.0 | 24.1 | 24.2 | 24.3 | 24.4 | 23.6 | 50.0 | 50.0 | 50.0 | 50.0 |
| | 62.0 | 52.8 | 43.7 | 34.9 | 27.2 | 21.0 | 17.9 | 19.4 | 22.0 | 62.9 | 53.5 | 44.2 | 35.0 | 26.1 | 18.7 | 13.9 | 14.6 | 17.7 | 64.1 | 54.6 | 45.1 | 35.7 | 26.4 | 17.4 | 10.5 | 9.7 | 13.7 | 61.0 | 52.3 | 43.6 | 34.9 | 26.1 | 17.4 | 8.7 | 0.0 | 12.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 322 | 320 | 316 | 310 | 300 | 283 | 257 | 228 | 204 | 326 | 324 | 322 | 317 | 310 | 295 | 266 | 228 | 198 | 330 | 329 | 327 | 324 | 320 | 310 | 283 | 228 | 187 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 284 | 93 | 284 | 284 | 284 | 284 |
| 18 | 22.9 | 29.4 | 36.0 | 42.6 | 47.4 | 52.2 | 57.0 | 61.8 | 66.7 | 25.8 | 32.3 | 38.9 | 45.5 | 52.1 | 56.9 | 61.7 | 66.5 | 71.3 | 28.7 | 35.2 | 41.8 | 48.4 | 55.0 | 61.6 | 66.4 | 71.2 | 76.0 | 14.2 | 14.3 | 14.4 | 14.5 | 14.6 | 14.7 | 14.8 | 14.9 | 15.0 | 55.0 | 55.0 | 55.0 | 55.0 |
| | 70.5 | 61.4 | 52.3 | 43.6 | 35.8 | 29.0 | 24.1 | 22.3 | 24.3 | 71.3 | 62.0 | 52.7 | 43.7 | 34.9 | 27.2 | 21.0 | 17.9 | 19.4 | 72.4 | 62.9 | 53.5 | 44.2 | 35.0 | 26.1 | 18.7 | 13.8 | 14.6 | 69.7 | 61.0 | 52.3 | 43.6 | 34.9 | 26.1 | 17.4 | 8.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 321 | 318 | 315 | 310 | 303 | 291 | 274 | 250 | 228 | 324 | 322 | 320 | 316 | 310 | 300 | 283 | 257 | 228 | 328 | 326 | 324 | 322 | 317 | 310 | 295 | 266 | 228 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 284 | 284 | 284 | 284 | 284 |
| 19 | 30.1 | 36.1 | 42.2 | 48.3 | 54.4 | 60.5 | 66.6 | 70.2 | 73.9 | 32.6 | 38.6 | 44.7 | 50.8 | 56.9 | 63.0 | 69.1 | 75.2 | 78.8 | 35.1 | 41.1 | 47.2 | 53.3 | 59.4 | 65.5 | 71.6 | 77.7 | 83.8 | 90.0 | 84.3 | 78.5 | 72.8 | 67.1 | 61.3 | 55.6 | 49.9 | 44.1 | 60.0 | 60.0 | 60.0 | 60.0 |
| | 50.2 | 49.7 | 51.3 | 54.9 | 60.1 | 66.5 | 73.8 | 79.8 | 86.3 | 58.5 | 57.9 | 59.1 | 62.0 | 66.4 | 72.1 | 78.7 | 86.1 | 92.1 | 66.9 | 66.1 | 67.0 | 69.4 | 73.2 | 78.2 | 84.2 | 90.9 | 98.4 | 0.0 | 8.9 | 17.8 | 26.7 | 35.5 | 44.4 | 53.3 | 62.2 | 71.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 36 | 48 | 60 | 70 | 79 | 87 | 93 | 98 | 102 | 36 | 46 | 57 | 66 | 74 | 82 | 88 | 93 | 97 | 36 | 45 | 54 | 63 | 70 | 77 | 83 | 88 | 93 | 284 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 284 | 284 | 284 | 284 |
| 20 | 30.3 | 36.9 | 43.0 | 49.1 | 55.2 | 61.3 | 67.4 | 71.0 | 74.6 | 32.8 | 39.4 | 45.5 | 51.6 | 57.7 | 63.8 | 69.9 | 76.0 | 79.6 | 35.4 | 41.9 | 48.0 | 54.1 | 60.2 | 66.3 | 72.4 | 78.5 | 84.5 | 83.4 | 80.6 | 74.9 | 69.2 | 63.4 | 57.7 | 52.0 | 46.2 | 40.5 | 65.0 | 65.0 | 65.0 | 65.0 |
| | 47.4 | 41.8 | 41.5 | 43.8 | 48.2 | 54.3 | 61.5 | 67.6 | 74.2 | 55.7 | 50.2 | 49.7 | 51.3 | 54.9 | 60.1 | 66.5 | 73.8 | 79.8 | 63.9 | 58.5 | 57.9 | 59.1 | 62.0 | 66.4 | 72.1 | 78.7 | 86.1 | 9.6 | 0.0 | 8.9 | 17.8 | 26.7 | 35.5 | 44.4 | 53.3 | 62.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 26 | 36 | 51 | 64 | 76 | 85 | 93 | 98 | 103 | 28 | 36 | 48 | 60 | 70 | 79 | 87 | 93 | 98 | 29 | 36 | 46 | 57 | 66 | 74 | 82 | 88 | 93 | 337 | 284 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 284 | 284 | 284 | 284 |
| 21 | 30.6 | 37.2 | 43.8 | 49.9 | 56.0 | 62.0 | 68.1 | 71.8 | 75.4 | 33.1 | 39.7 | 46.3 | 52.4 | 58.5 | 64.6 | 70.6 | 76.7 | 80.4 | 35.6 | 42.2 | 48.8 | 54.9 | 61.0 | 67.1 | 73.1 | 79.2 | 85.3 | 76.8 | 74.0 | 71.3 | 65.5 | 59.8 | 54.0 | 48.3 | 42.6 | 36.9 | 70.0 | 70.0 | 70.0 | 70.0 |
| | 46.3 | 39.2 | 33.4 | 33.5 | 36.6 | 42.1 | 49.2 | 55.3 | 62.2 | 54.2 | 47.4 | 41.8 | 41.5 | 43.8 | 48.2 | 54.3 | 61.5 | 67.6 | 62.2 | 55.7 | 50.2 | 49.7 | 51.3 | 54.9 | 60.1 | 66.5 | 73.8 | 19.2 | 9.6 | 0.0 | 8.9 | 17.8 | 26.7 | 35.5 | 44.4 | 53.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 15 | 24 | 36 | 54 | 70 | 83 | 93 | 100 | 105 | 19 | 26 | 36 | 51 | 64 | 76 | 85 | 93 | 98 | 21 | 28 | 36 | 48 | 60 | 70 | 79 | 87 | 93 | 337 | 337 | 284 | 142 | 142 | 142 | 142 | 142 | 142 | 284 | 284 | 284 | 284 |
| 22 | 30.9 | 37.5 | 44.1 | 50.6 | 56.7 | 62.8 | 68.9 | 72.6 | 76.2 | 33.4 | 40.0 | 46.6 | 53.2 | 59.2 | 65.3 | 71.4 | 77.5 | 81.1 | 35.9 | 42.5 | 49.1 | 55.7 | 61.7 | 67.8 | 73.9 | 80.0 | 86.1 | 70.3 | 67.5 | 64.7 | 61.9 | 56.1 | 50.4 | 44.7 | 38.9 | 33.2 | 75.0 | 75.0 | 75.0 | 75.0 |
| | 46.9 | 38.6 | 31.1 | 25.1 | 25.7 | 30.0 | 36.9 | 43.2 | 50.2 | 54.1 | 46.3 | 39.2 | 33.4 | 33.5 | 36.6 | 42.1 | 49.2 | 55.3 | 61.7 | 54.2 | 47.4 | 41.8 | 41.5 | 43.8 | 48.2 | 54.3 | 61.5 | 28.8 | 19.2 | 9.6 | 0.0 | 8.9 | 17.8 | 26.7 | 35.5 | 44.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 4 | 11 | 21 | 36 | 60 | 79 | 93 | 102 | 108 | 9 | 15 | 24 | 36 | 54 | 70 | 83 | 93 | 100 | 13 | 18 | 26 | 36 | 51 | 64 | 76 | 85 | 93 | 337 | 337 | 337 | 284 | 142 | 142 | 142 | 142 | 142 | 284 | 284 | 284 | 284 |
| 23 | 31.2 | 37.8 | 44.4 | 50.9 | 57.5 | 63.6 | 69.7 | 73.3 | 77.0 | 33.7 | 40.3 | 46.9 | 53.4 | 60.0 | 66.1 | 72.2 | 78.3 | 81.9 | 36.2 | 42.8 | 49.4 | 55.9 | 62.5 | 68.6 | 74.7 | 80.8 | 86.9 | 63.7 | 60.9 | 58.1 | 55.3 | 52.5 | 46.8 | 41.0 | 35.3 | 29.6 | 80.0 | 80.0 | 80.0 | 80.0 |
| | 49.1 | 40.0 | 31.2 | 23.1 | 16.7 | 18.3 | 24.6 | 31.1 | 38.5 | 55.6 | 46.9 | 38.6 | 31.1 | 25.1 | 25.7 | 30.0 | 36.9 | 43.2 | 62.5 | 54.1 | 46.3 | 39.2 | 33.4 | 33.5 | 36.6 | 42.1 | 49.2 | 38.4 | 28.8 | 19.2 | 9.6 | 0.0 | 8.9 | 17.8 | 26.7 | 35.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 354 | 358 | 4 | 15 | 36 | 70 | 93 | 105 | 113 | 360 | 4 | 11 | 21 | 36 | 60 | 79 | 93 | 102 | 4 | 9 | 15 | 24 | 36 | 54 | 70 | 83 | 93 | 337 | 337 | 337 | 337 | 284 | 142 | 142 | 142 | 142 | 284 | 284 | 284 | 284 |
| 24 | 31.5 | 38.1 | 44.6 | 51.2 | 57.8 | 64.4 | 70.5 | 74.1 | 77.8 | 34.0 | 40.6 | 47.2 | 53.7 | 60.3 | 66.9 | 73.0 | 79.1 | 82.7 | 36.5 | 43.1 | 49.7 | 56.2 | 62.8 | 69.4 | 75.5 | 81.6 | 87.7 | 57.1 | 54.3 | 51.5 | 48.7 | 45.9 | 43.1 | 37.4 | 31.7 | 25.9 | 85.0 | 85.0 | 85.0 | 85.0 |
| | 52.8 | 43.3 | 33.8 | 24.5 | 15.6 | 8.4 | 12.3 | 19.3 | 27.4 | 58.3 | 49.1 | 40.0 | 31.2 | 23.1 | 16.7 | 18.3 | 24.6 | 31.1 | 64.5 | 55.6 | 46.9 | 38.6 | 31.1 | 25.1 | 25.6 | 30.0 | 36.9 | 48.0 | 38.4 | 28.8 | 19.2 | 9.6 | 0.0 | 8.9 | 17.8 | 26.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 345 | 346 | 349 | 354 | 4 | 36 | 93 | 113 | 122 | 351 | 354 | 358 | 4 | 15 | 36 | 70 | 93 | 105 | 356 | 360 | 4 | 11 | 21 | 36 | 60 | 79 | 93 | 337 | 337 | 337 | 337 | 337 | 284 | 142 | 142 | 142 | 284 | 284 | 284 | 284 |
| 25 | 31.8 | 38.4 | 44.9 | 51.5 | 58.1 | 64.7 | 71.3 | 74.9 | 78.5 | 34.3 | 40.9 | 47.4 | 54.0 | 60.6 | 67.2 | 73.8 | 79.8 | 83.5 | 36.8 | 43.4 | 49.9 | 56.5 | 63.1 | 69.7 | 76.3 | 82.4 |

**Input and output:**
**Colorimetric Printer Reflective System FRS15_90aM**
**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u**** **= 16 hues** ***r00j, r25j, ..., b75r***
**contrast reduction factor:**
$c_R = 0.9$

**FRS15_90aM; adapted (a) CIELAB data**

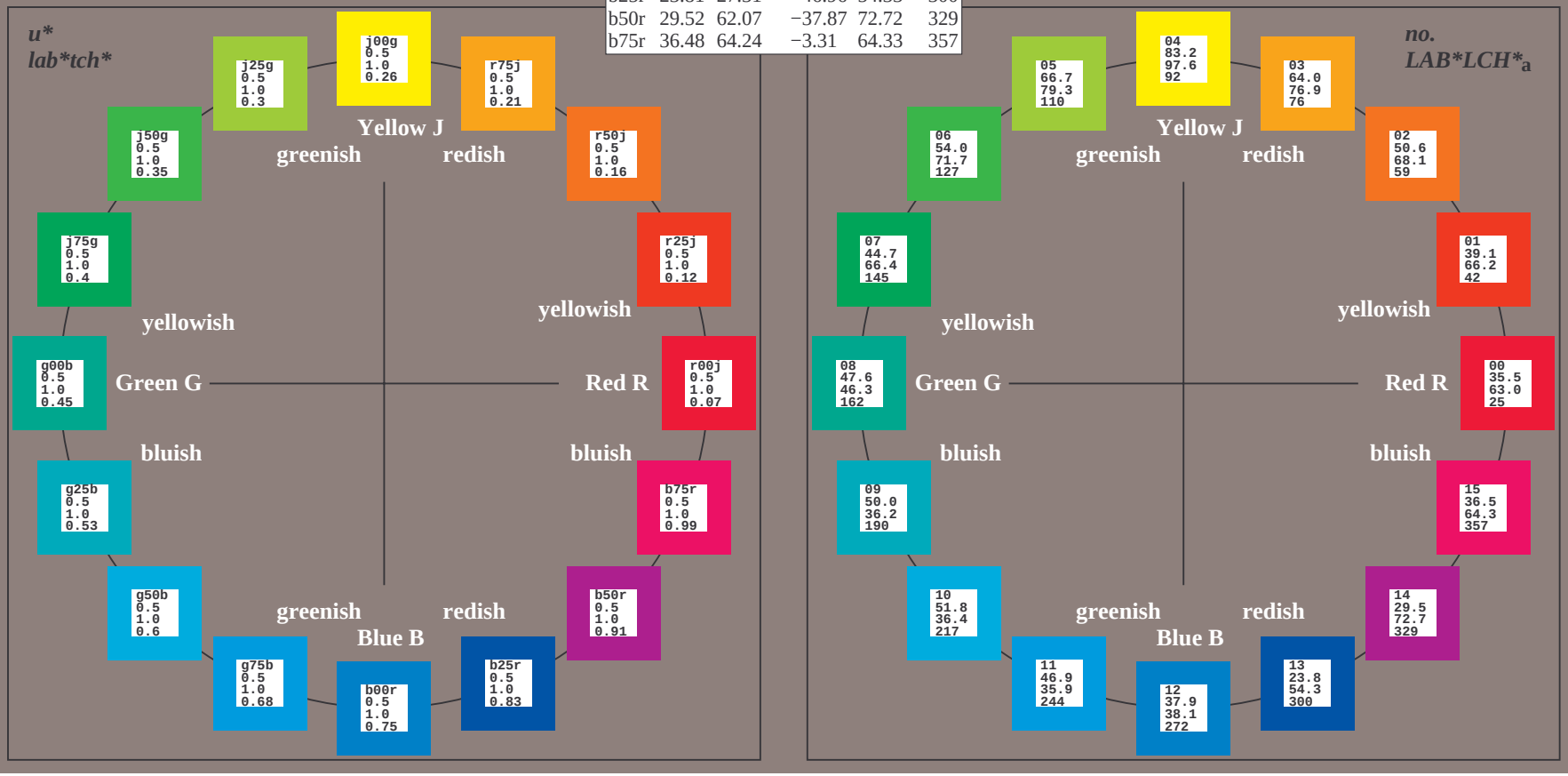
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |




**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 25/360 = 0.071$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

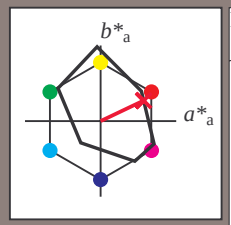
**elementary hue text:**

***u* = r00j***

**contrast reduction factor:**

$c_R = 0.9$

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 35 57 27**

***LAB*LCH****$_{Ma}$**: 35 63 25**

***lab*rgb****$_{Ma}$**: 1.0 0.0 0.0**

***lab*olv****$_{Ma}$**: 1.0 0.0 0.18**

***u* = r00j***

***lab*tch****

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness *t****

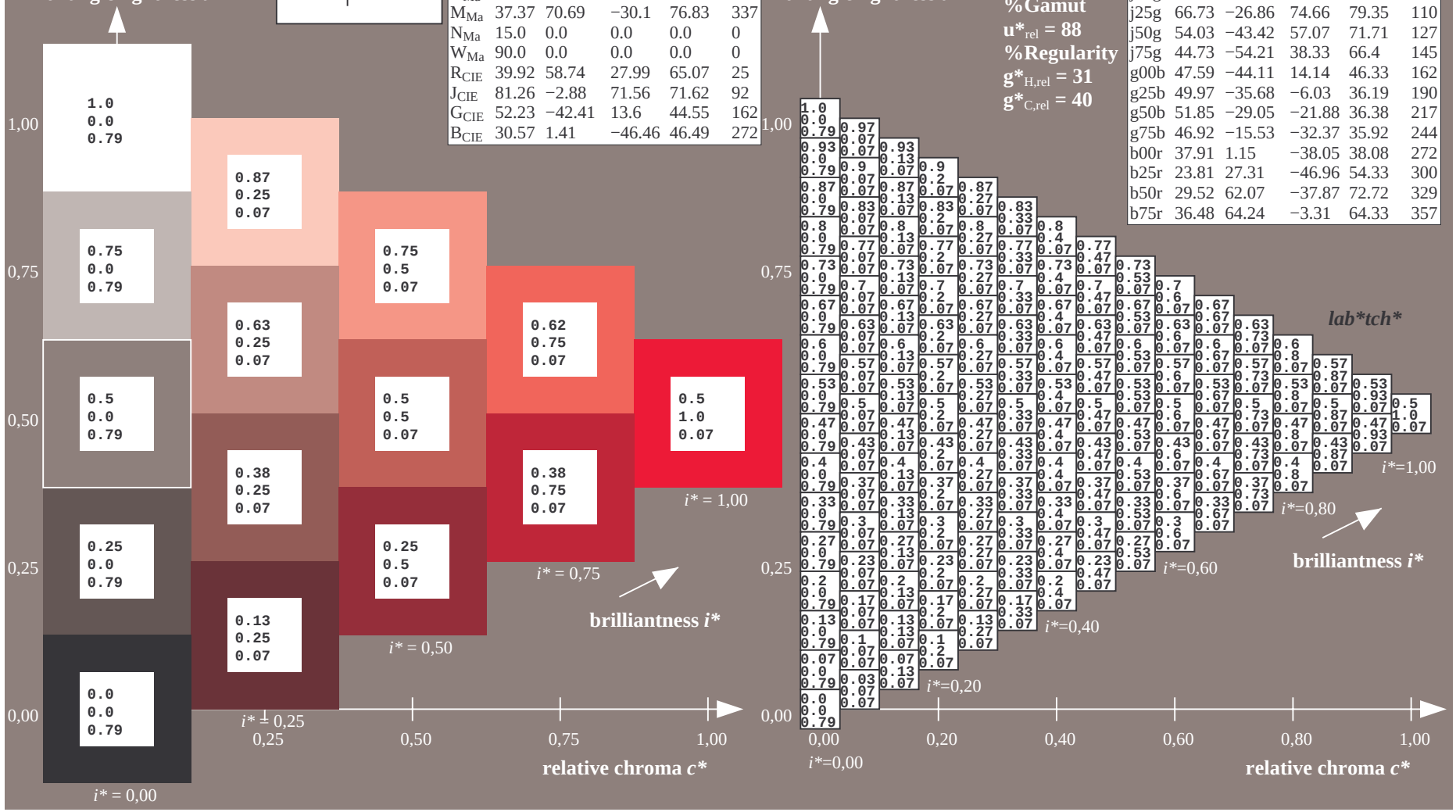
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

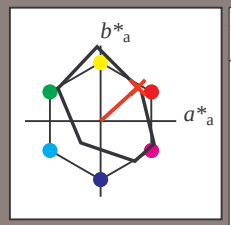
**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 42/360 = 0.117$**

**data for any colour:**
*lab*tch** **and** *lab*icu**
**elementary hue text:**
$u^* = r25j$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$



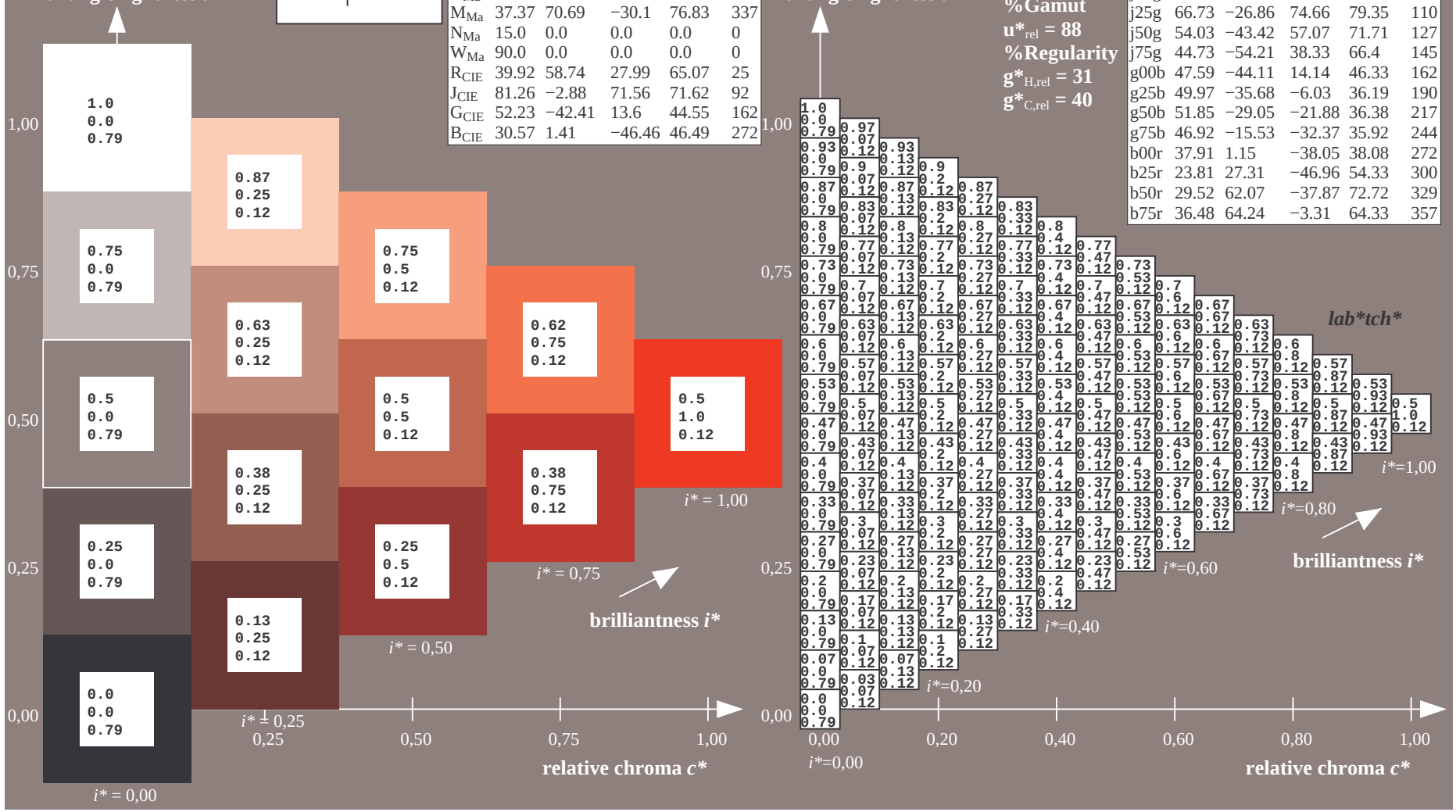

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 39 49 44**
***LAB*LCH*Ma*: 39 66 42**
***lab*rgb*Ma*: 1.0 0.25 0.0**
***lab*olv*Ma*: 1.0 0.08 0.0**
**triangle lightness** $t^*$

***u* = r25j***
***lab*tch****

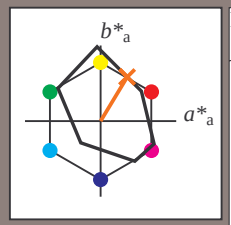
| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 59/360 = 0.164$**

**data for any colour:**
*lab*tch** **and** *lab*icu**
**elementary hue text:**
$u^* = r50j$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$




**FRS15_90aM; adapted (a) CIELAB data**

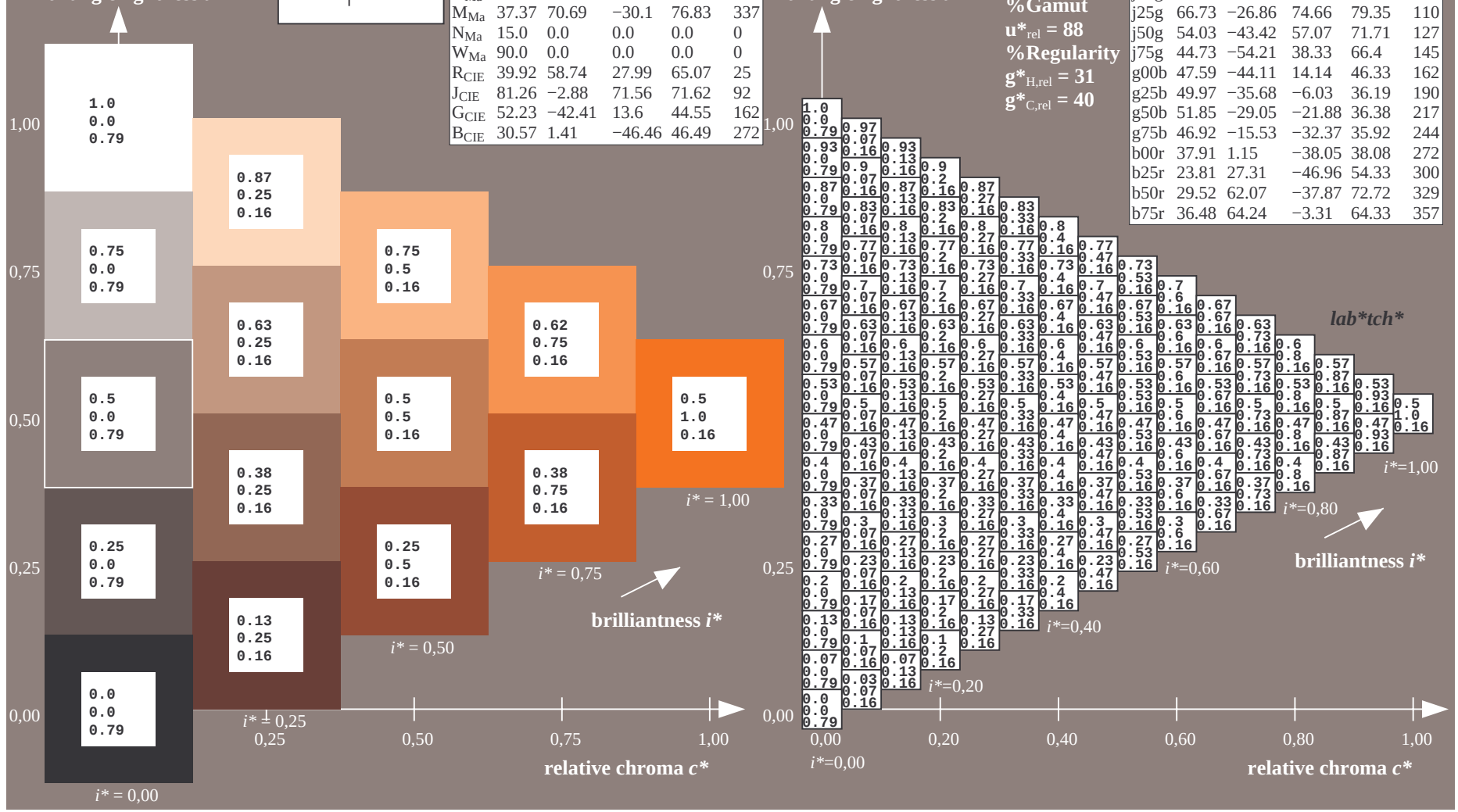
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 51 35 58**
***LAB*LCH*Ma*: 51 68 59**
***lab*rgb*Ma*: 1.0 0.5 0.0**
***lab*olv*Ma*: 1.0 0.32 0.0**

***u** = r50j***
***lab*tch****

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 76/360 = 0.21$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

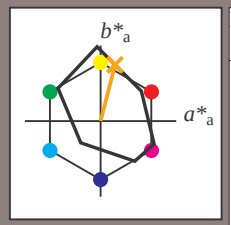
**elementary hue text:**

$u^* = r75j$

**contrast reduction factor:**

$c_R = 0.9$

**triangle lightness** $t^*$




**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 64 19 74**

***LAB*LCH****$_{Ma}$**: 64 77 76**

***lab*rgb****$_{Ma}$**: 1.0 0.75 0.0**

***lab*olv****$_{Ma}$**: 1.0 0.59 0.0**

**%Gamut**

$u^*_{rel} = 88$

**%Regularity**

$g^*_{H,rel} = 31$

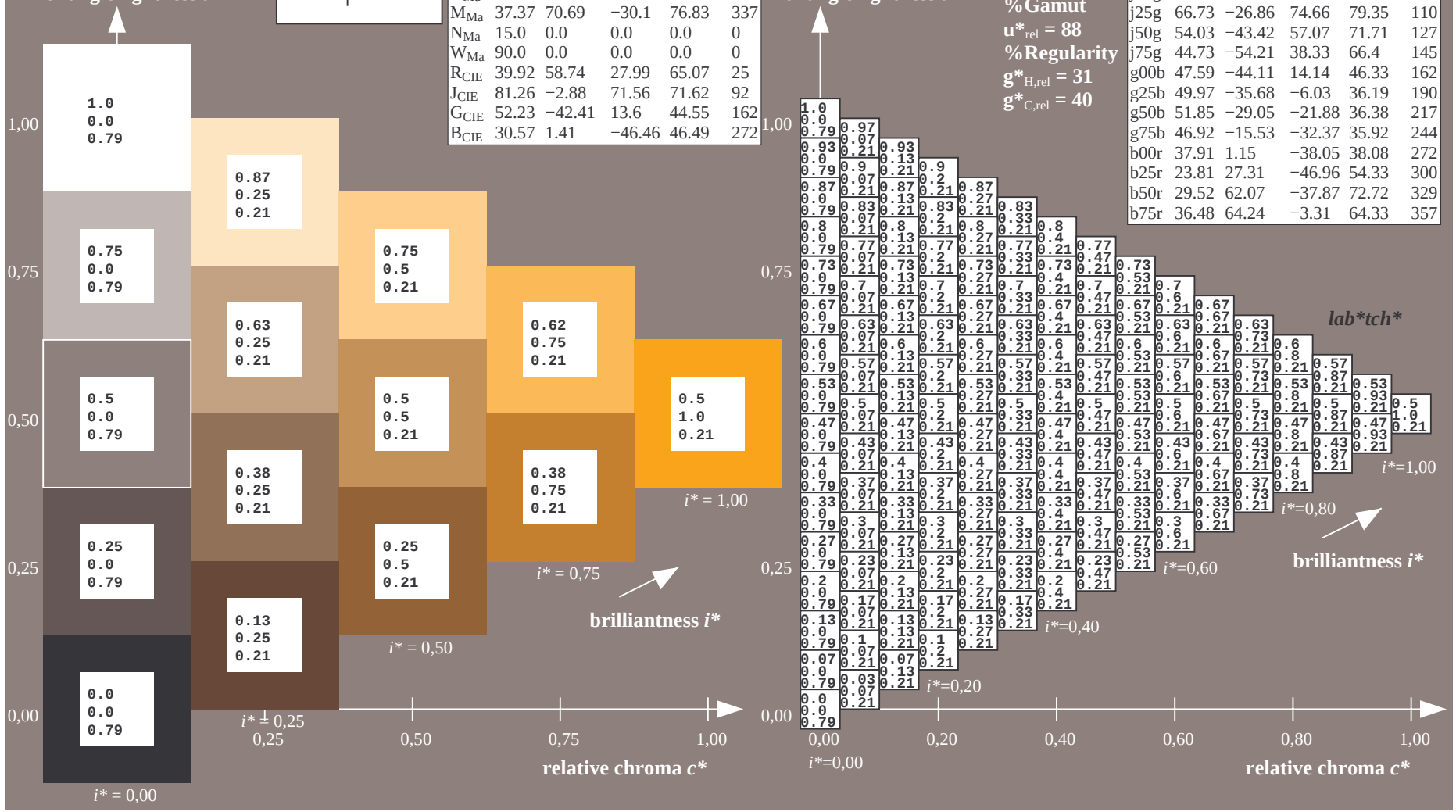
$g^*_{C,rel} = 40$

$u^* = r75j$

***lab*tch****

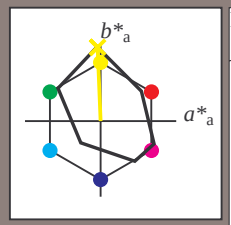
**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 92/360 = 0.256$**

**data for any colour:**
*lab*tch** **and** *lab*icu**
**elementary hue text:**
$u^* = j00g$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$



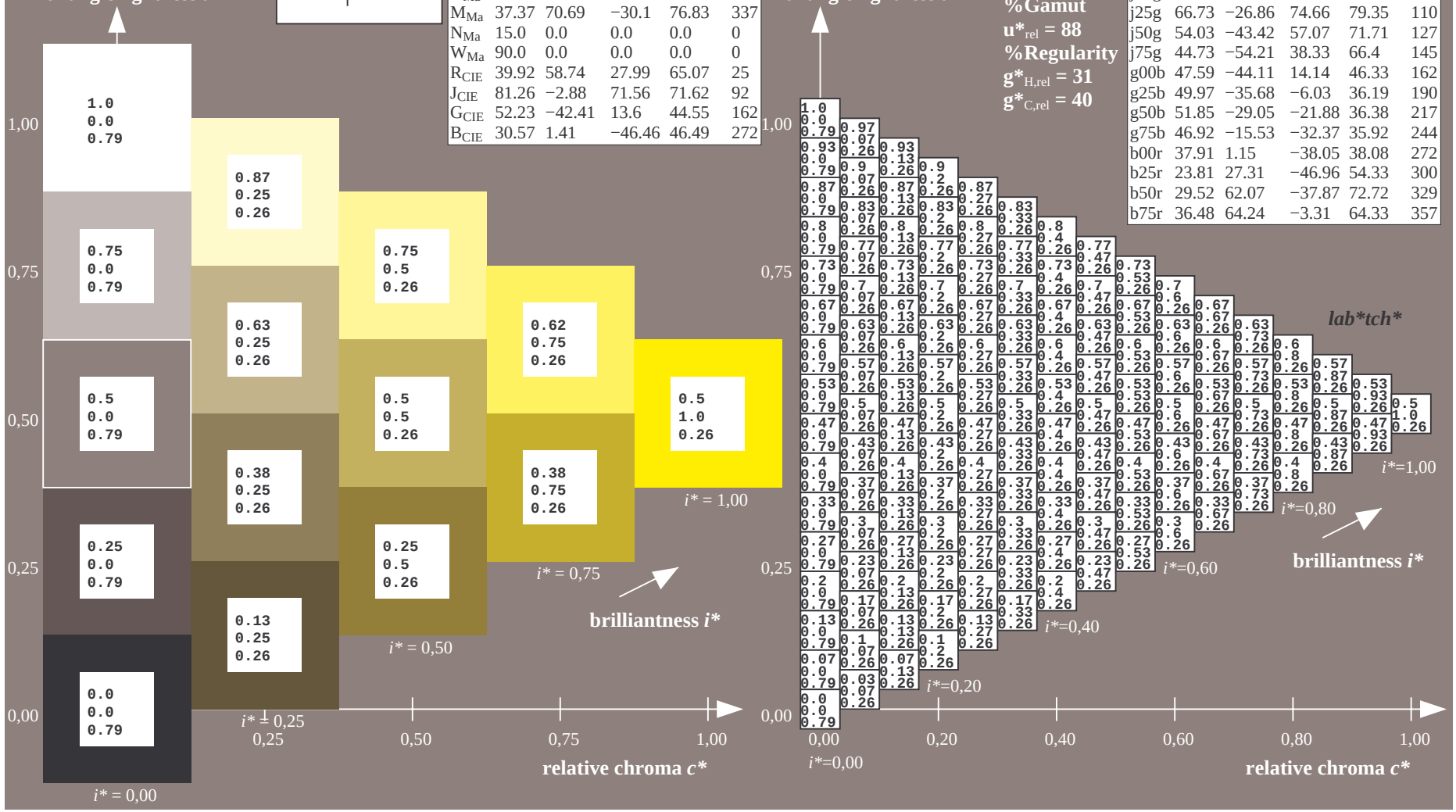

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
$LAB^*LAB^*_{Ma}$: 83 −3 98
$LAB^*LCH^*_{Ma}$: 83 98 92
$lab^*rgb^*_{Ma}$: 1.0 1.0 0.0
$lab^*olv^*_{Ma}$: 1.0 0.99 0.0

$u^* = j00g$
*lab*tch**

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 110/360 = 0.305$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

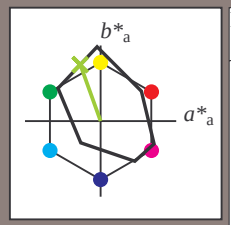
**elementary hue text:**

$u^* = j25g$

**contrast reduction factor:**

$c_R = 0.9$

**triangle lightness** $t^*$




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 67 −26 75**

***LAB*LCH****$_{Ma}$**: 67 79 110**

***lab*rgb****$_{Ma}$**: 0.75 1.0 0.0**

***lab*olv****$_{Ma}$**: 0.57 1.0 0.0**

**triangle lightness** $t^*$

**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

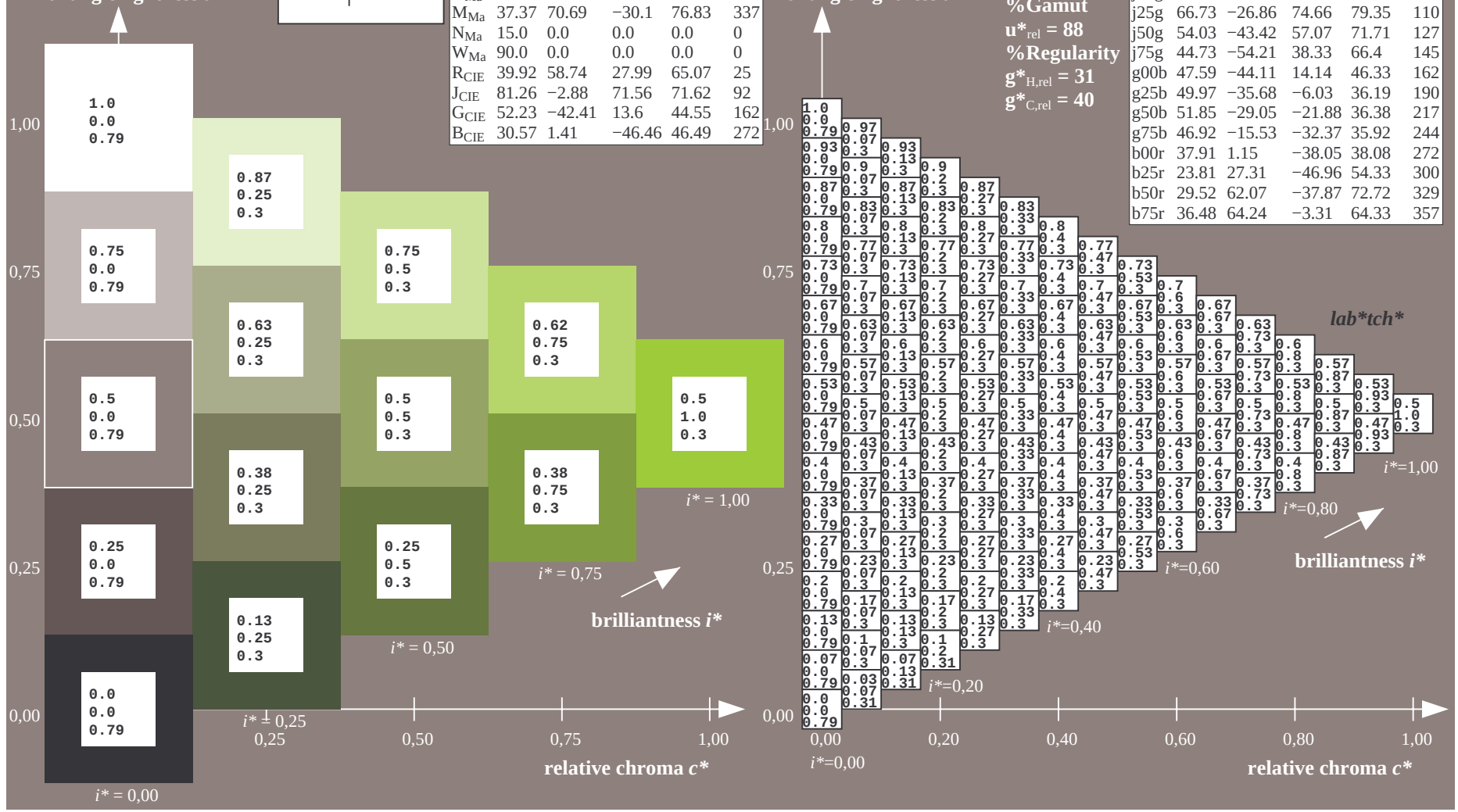
**$g^*_{H,rel} = 31$**

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

***u* = j25g***

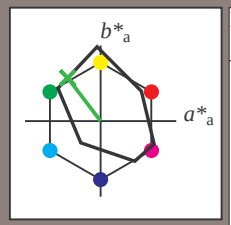
***lab*tch****

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 127/360 = 0.354$**

**data for any colour:**
*lab*tch** **and** *lab*icu**
**elementary hue text:**
$u^* = j50g$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$



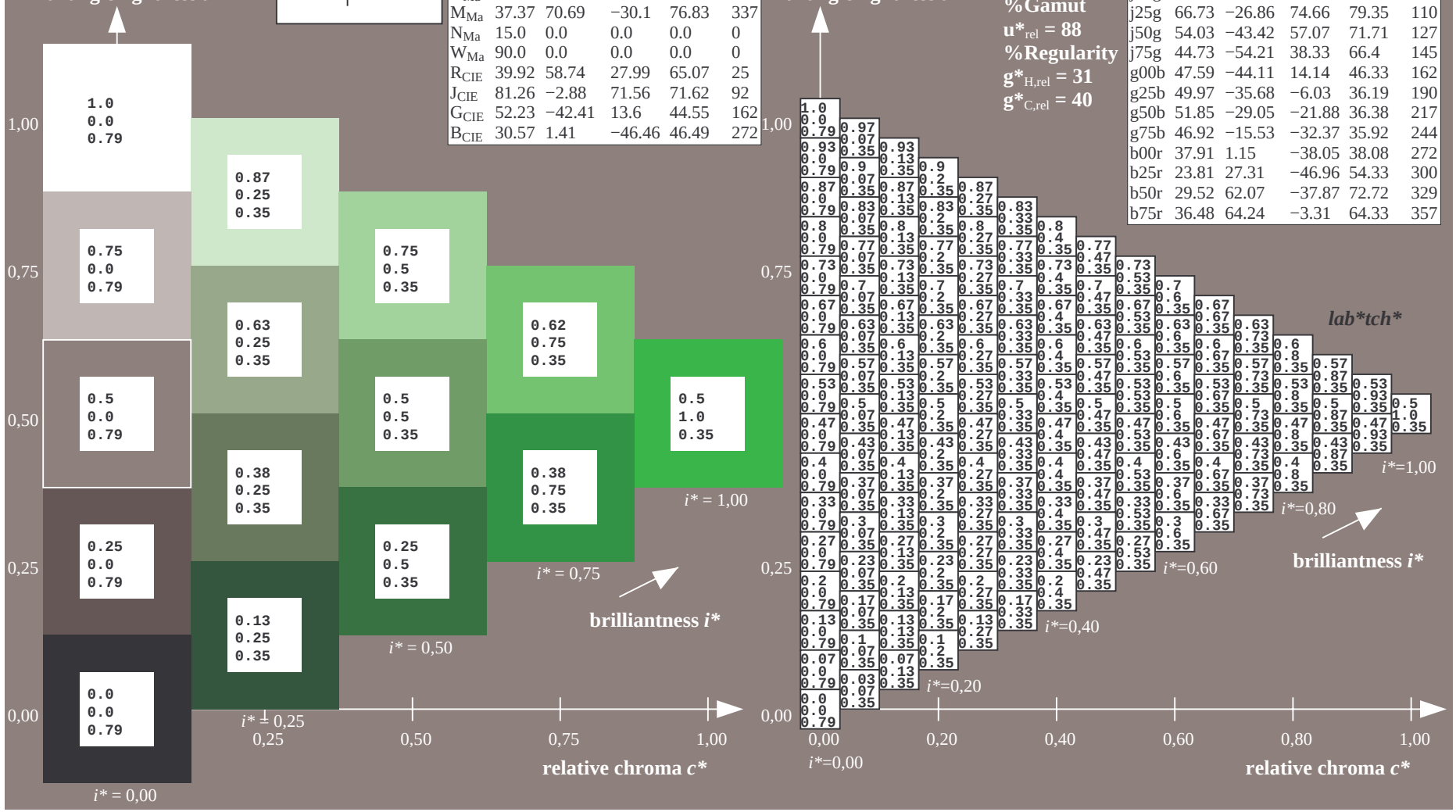

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
$LAB^*LAB^*_{Ma}$: 54 −42 57
$LAB^*LCH^*_{Ma}$: 54 72 127
$lab^*rgb^*_{Ma}$: 0.5 1.0 0.0
$lab^*olv^*_{Ma}$: 0.25 1.0 0.0
**triangle lightness** $t^*$

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

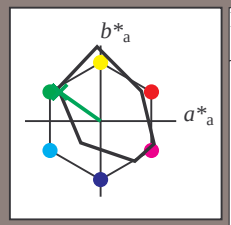
*u* = j50g*
*lab*tch**

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



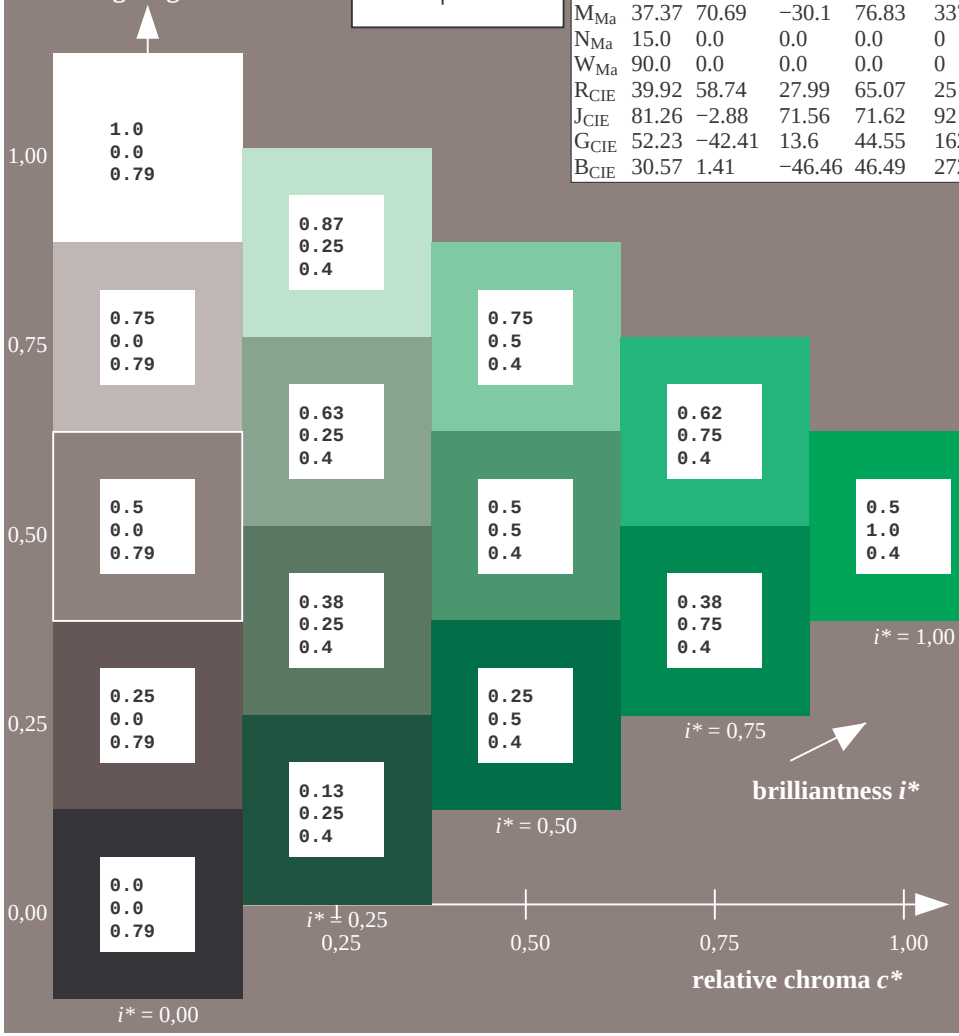
**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 145/360 = 0.402$**

**data for any colour:**
*lab*tch** **and** *lab*icu**
**elementary hue text:**
$u^* = j75g$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$




**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |



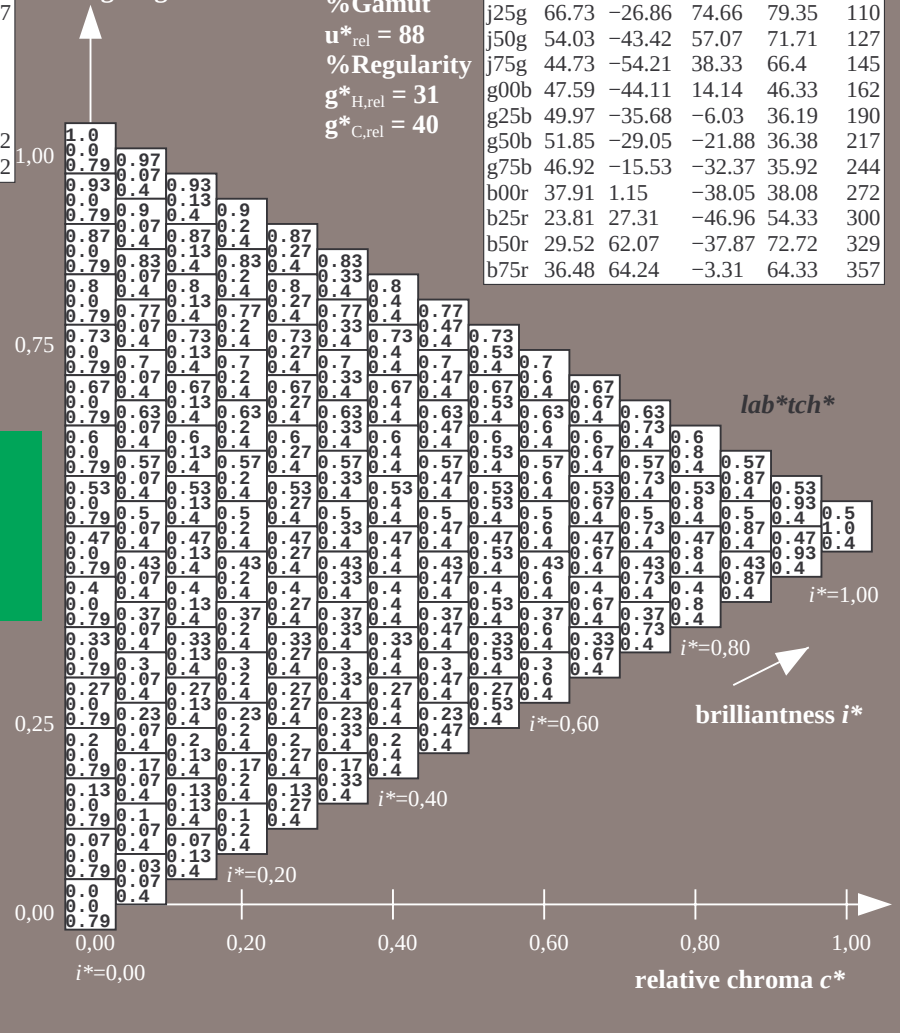

**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 45 −53 38**
***LAB*LCH*Ma*: 45 66 145**
***lab*rgb*Ma*: 0.25 1.0 0.0**
***lab*olv*Ma*: 0.0 1.0 0.07**
**triangle lightness** $t^*$

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

$u^* = j75g$
*lab*tch**

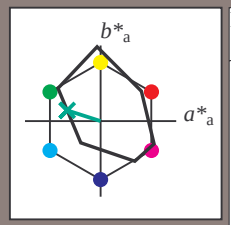
**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 162/360 = 0.451$**

**data for any colour:**
*lab*tch** **and** *lab*icu**
**elementary hue text:**
$u^* = g00b$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$



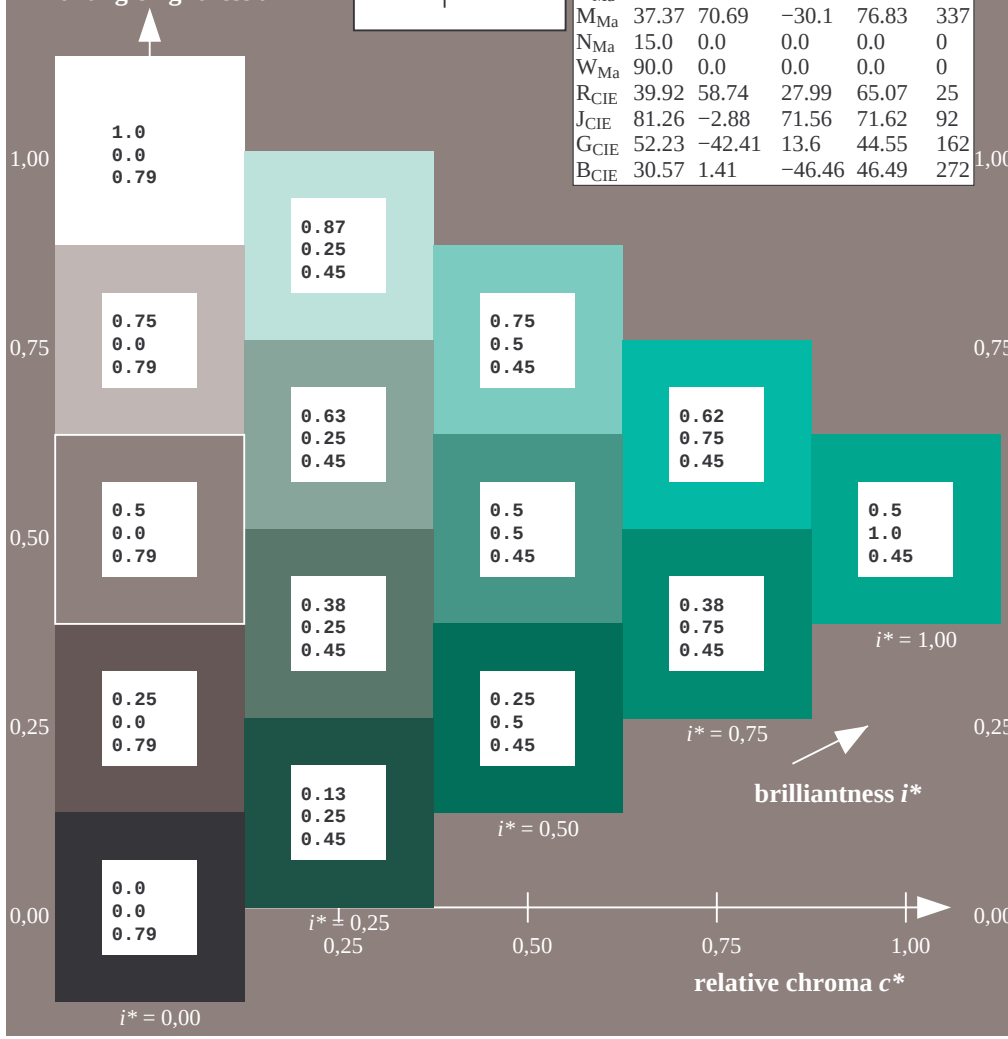

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

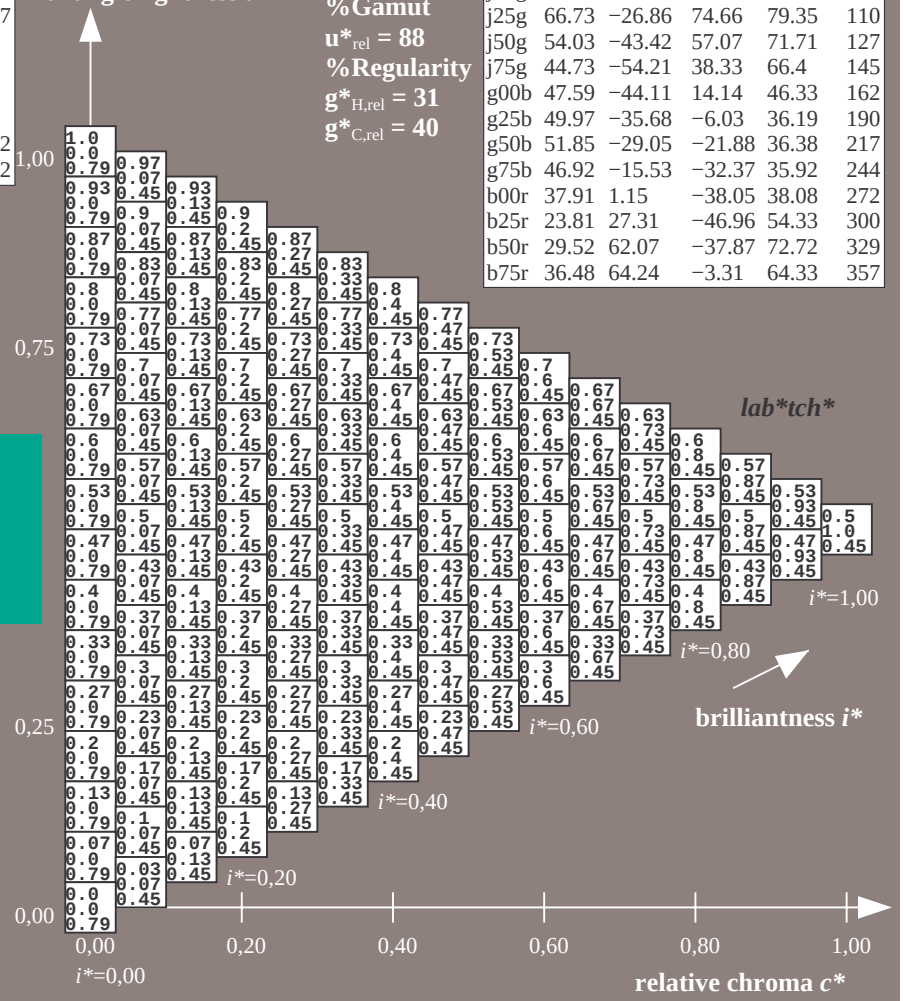
**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 48 −43 14**
***LAB*LCH*Ma*: 48 46 162**
***lab*rgb*Ma*: 0.0 1.0 0.0**
***lab*olv*Ma*: 0.0 1.0 0.41**
**triangle lightness** $t^*$

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

***u* = g00b***
***lab*tch****

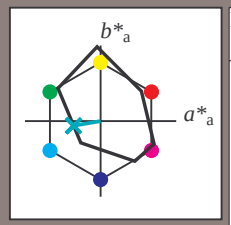
| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 190/360 = 0.527$**

**data for any colour:**
*lab*tch** **and** *lab*icu**
**elementary hue text:**
$u^* = g25b$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$



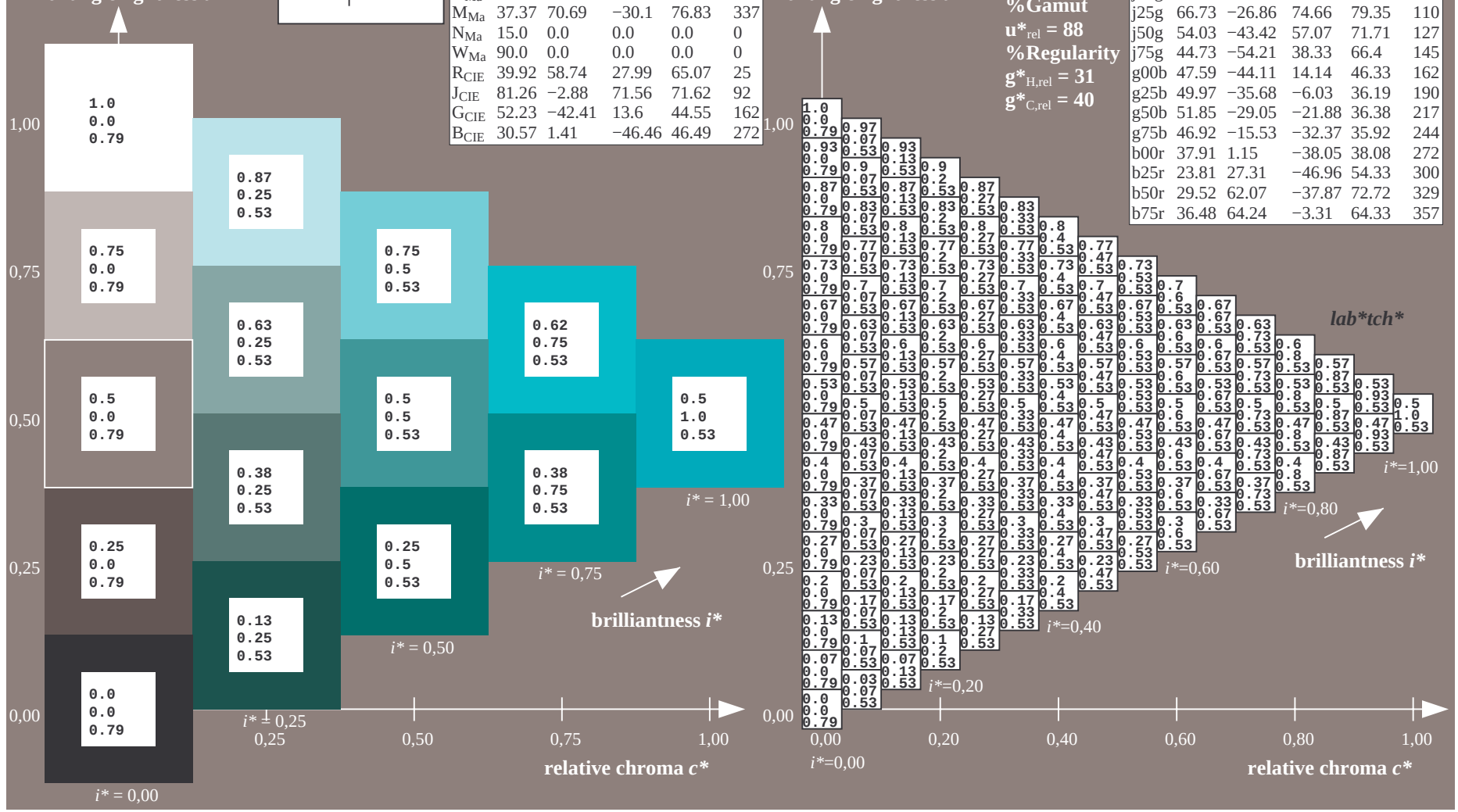

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
$LAB^*LAB^*_{Ma}$: 50 −35 −5
$LAB^*LCH^*_{Ma}$: 50 36 190
$lab^*rgb^*_{Ma}$: 0.0 1.0 0.5
$lab^*olv^*_{Ma}$: 0.0 1.0 0.69
**triangle lightness** $t^*$

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

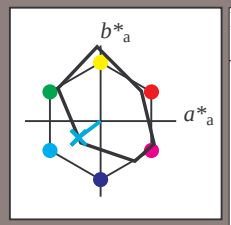
$u^* = g25b$
$lab^*tch^*$

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 217/360 = 0.603$**

**data for any colour:**
*lab*tch** **and** *lab*icu**
**elementary hue text:**
$u^* = g50b$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

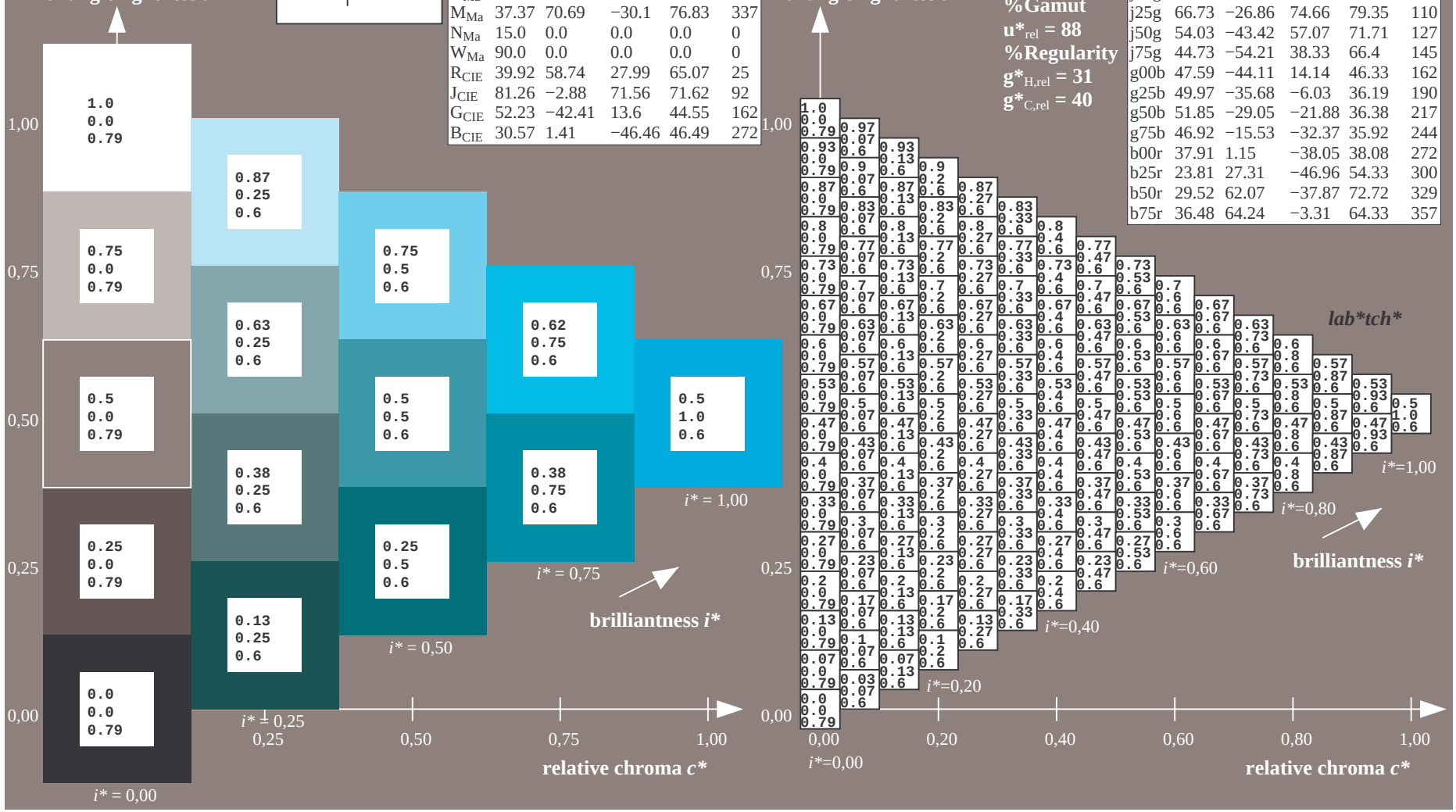
**Data for maximum colour (Ma):**
$LAB^*LAB^*_{Ma}$: 52 −28 −21
$LAB^*LCH^*_{Ma}$: 52 36 217
$lab^*rgb^*_{Ma}$: 0.0 1.0 1.0
$lab^*olv^*_{Ma}$: 0.0 1.0 0.9

$u^* = g50b$
$lab^*tch^*$

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

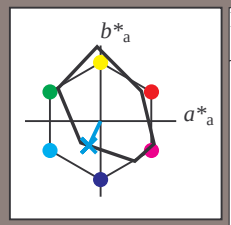
**triangle lightness** $t^*$

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 244/360 = 0.679$**

**data for any colour:**
*lab*tch** **and** *lab*icu**
**elementary hue text:**
$u^* = g75b$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$



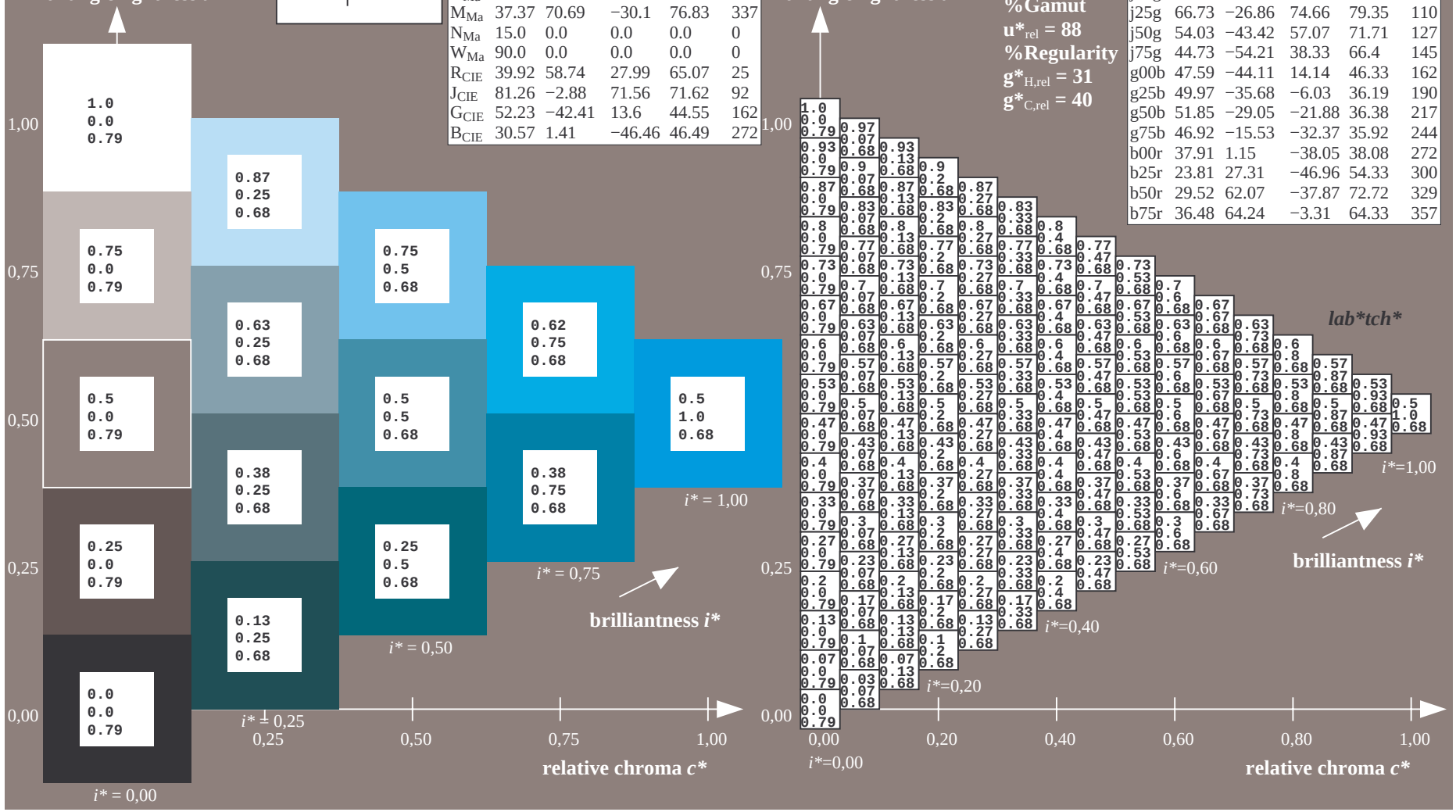

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
$LAB^*LAB^*_{Ma}$: 47 −15 −31
$LAB^*LCH^*_{Ma}$: 47 36 244
$lab^*rgb^*_{Ma}$: 0.0 0.5 1.0
$lab^*olv^*_{Ma}$: 0.0 0.85 1.0
**triangle lightness** $t^*$

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

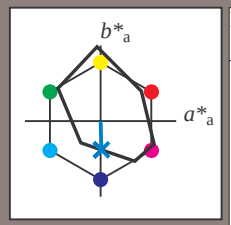
$u^* = g75b$
$lab^*tch^*$

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

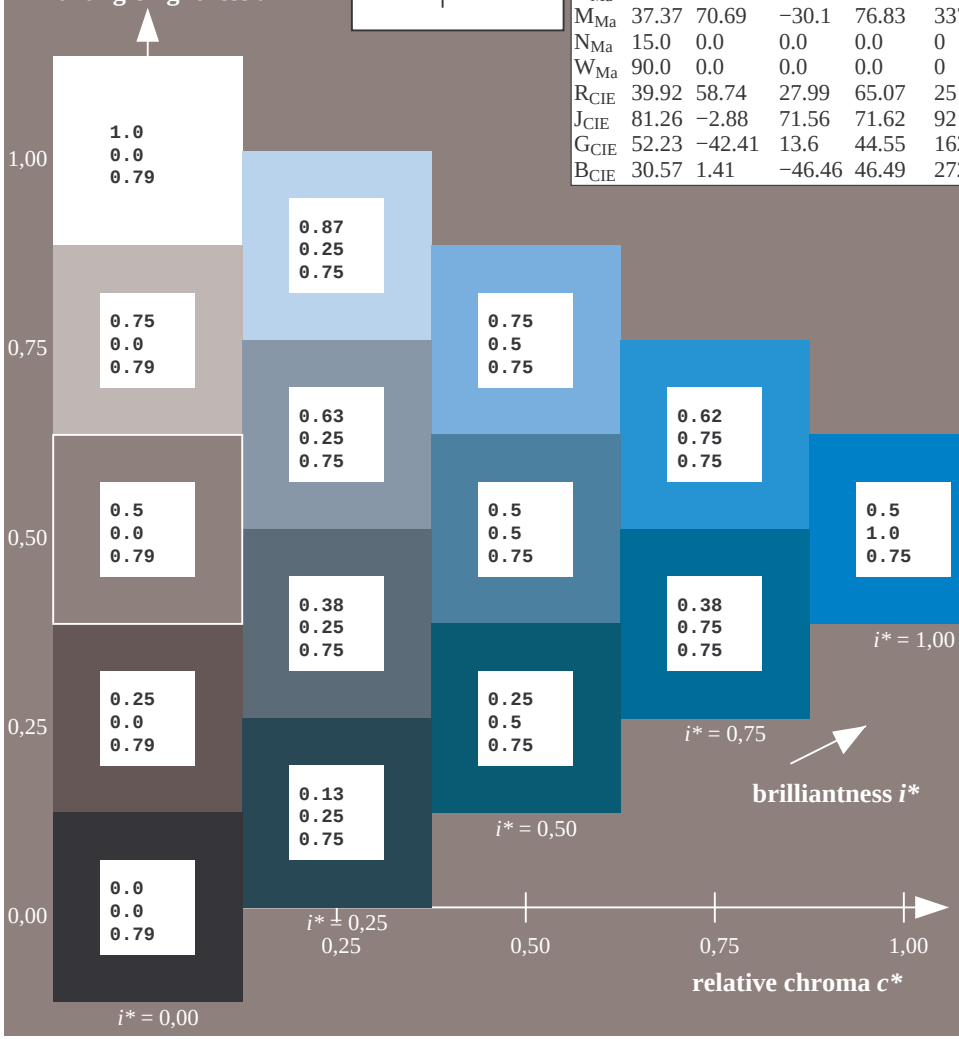


**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 272/360 = 0.755$**

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = b00r***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

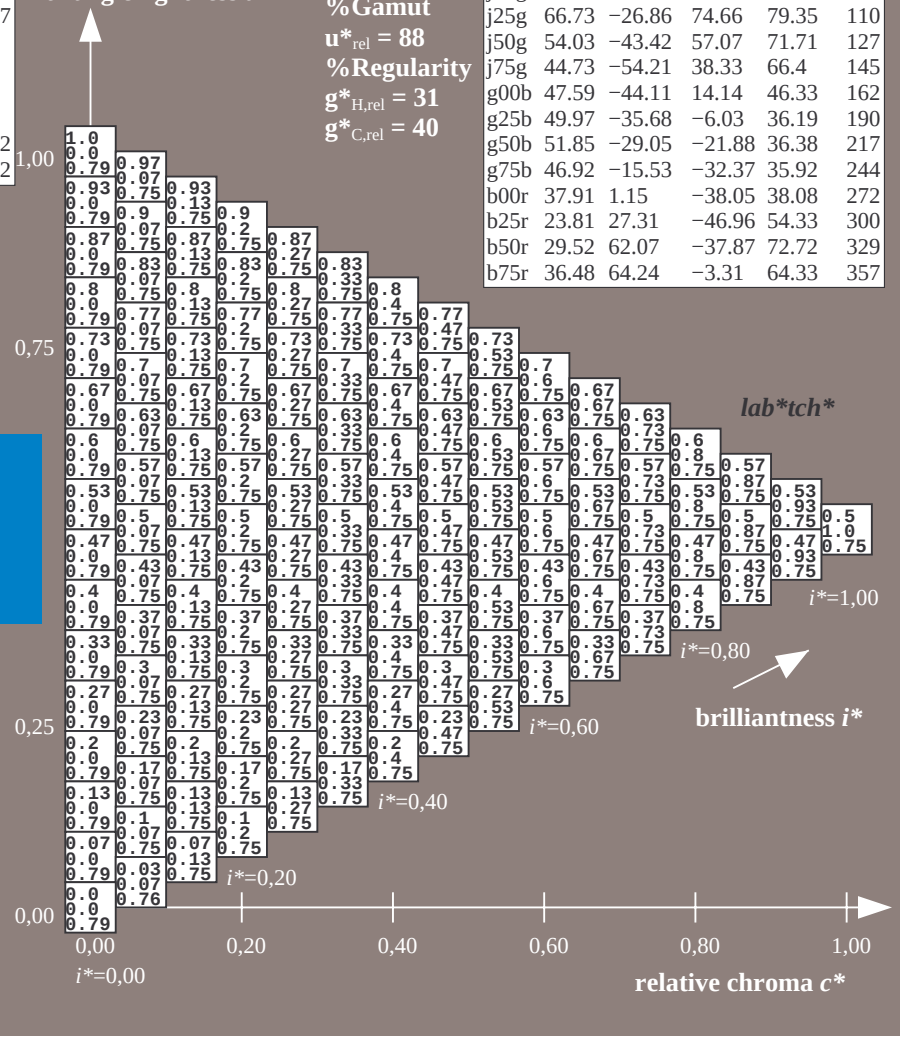



**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 38 1 −37**
***LAB*LCH****$_{Ma}$**: 38 38 272**
***lab*rgb****$_{Ma}$**: 0.0 0.0 1.0**
***lab*olv****$_{Ma}$**: 0.0 0.62 1.0**
**triangle lightness *t****

***u* = b00r***
***lab*tch****

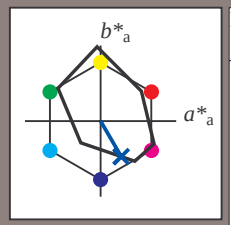
| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 300/360 = 0.834$**

**data for any colour:**
*lab*tch** **and** *lab*icu**
**elementary hue text:**
$u^* = b25r$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$



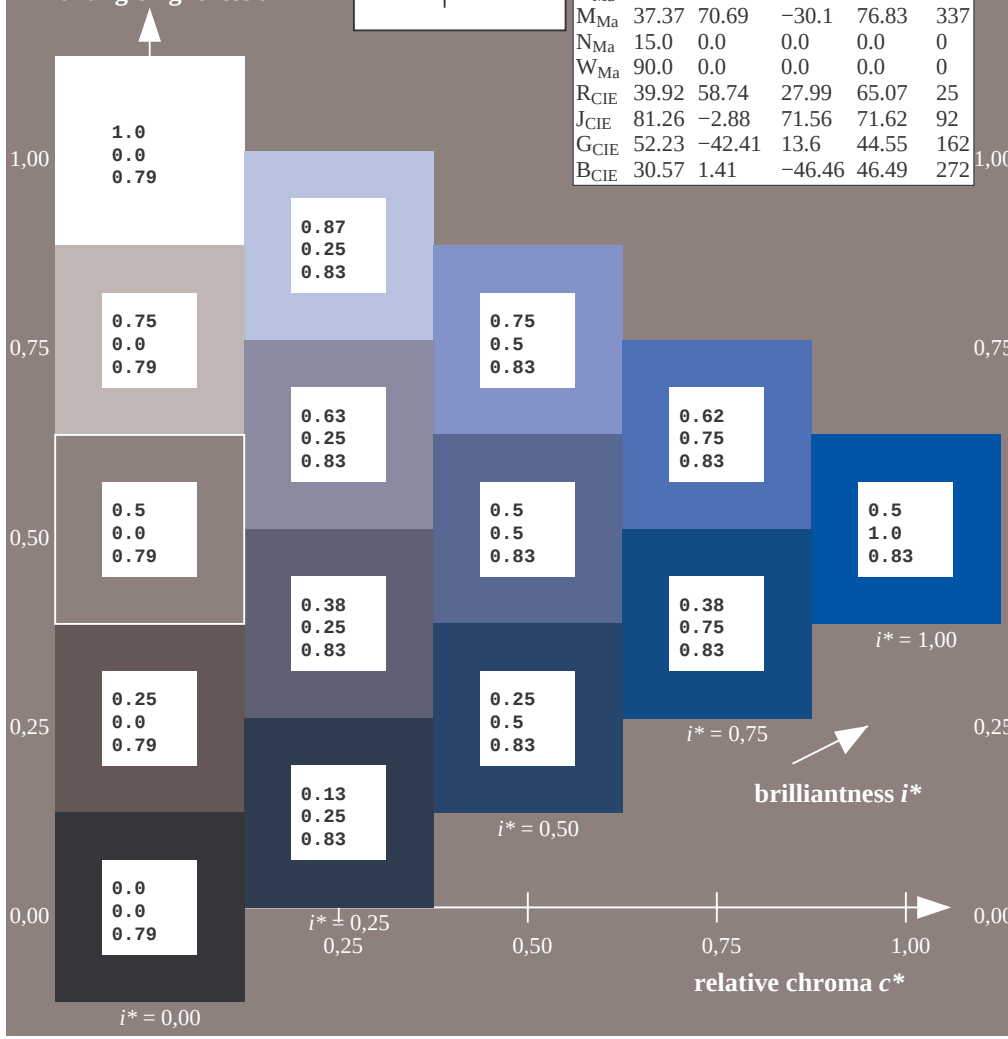

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

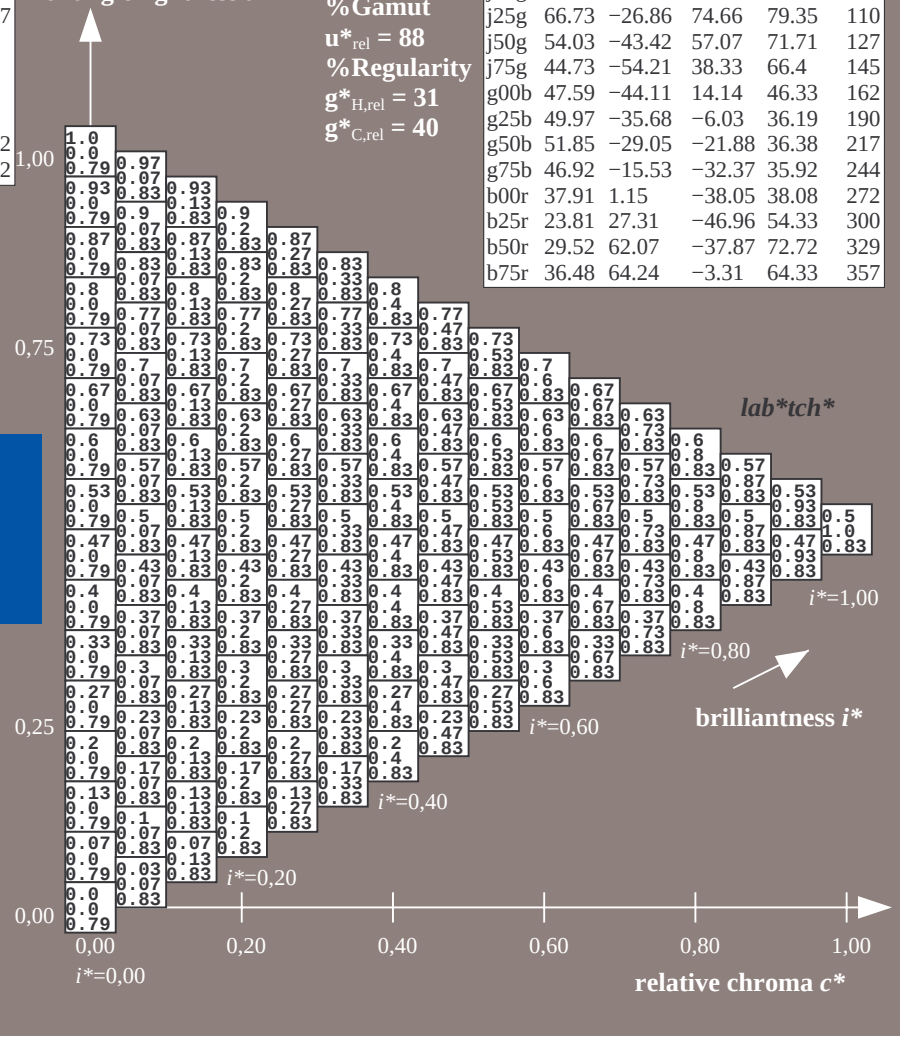
**Data for maximum colour (Ma):**
$LAB^*LAB^*_{Ma}$: 24 27 −46
$LAB^*LCH^*_{Ma}$: 24 54 300
$lab^*rgb^*_{Ma}$: 0.5 0.0 1.0
$lab^*olv^*_{Ma}$: 0.0 0.25 1.0
**triangle lightness** $t^*$

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

*u* = b25r*
*lab*tch**

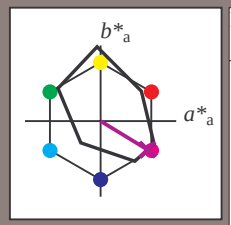
| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 329/360 = 0.913$**

**data for any colour:**
*lab*tch** **and** *lab*icu**
**elementary hue text:**
$u^* = b50r$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$



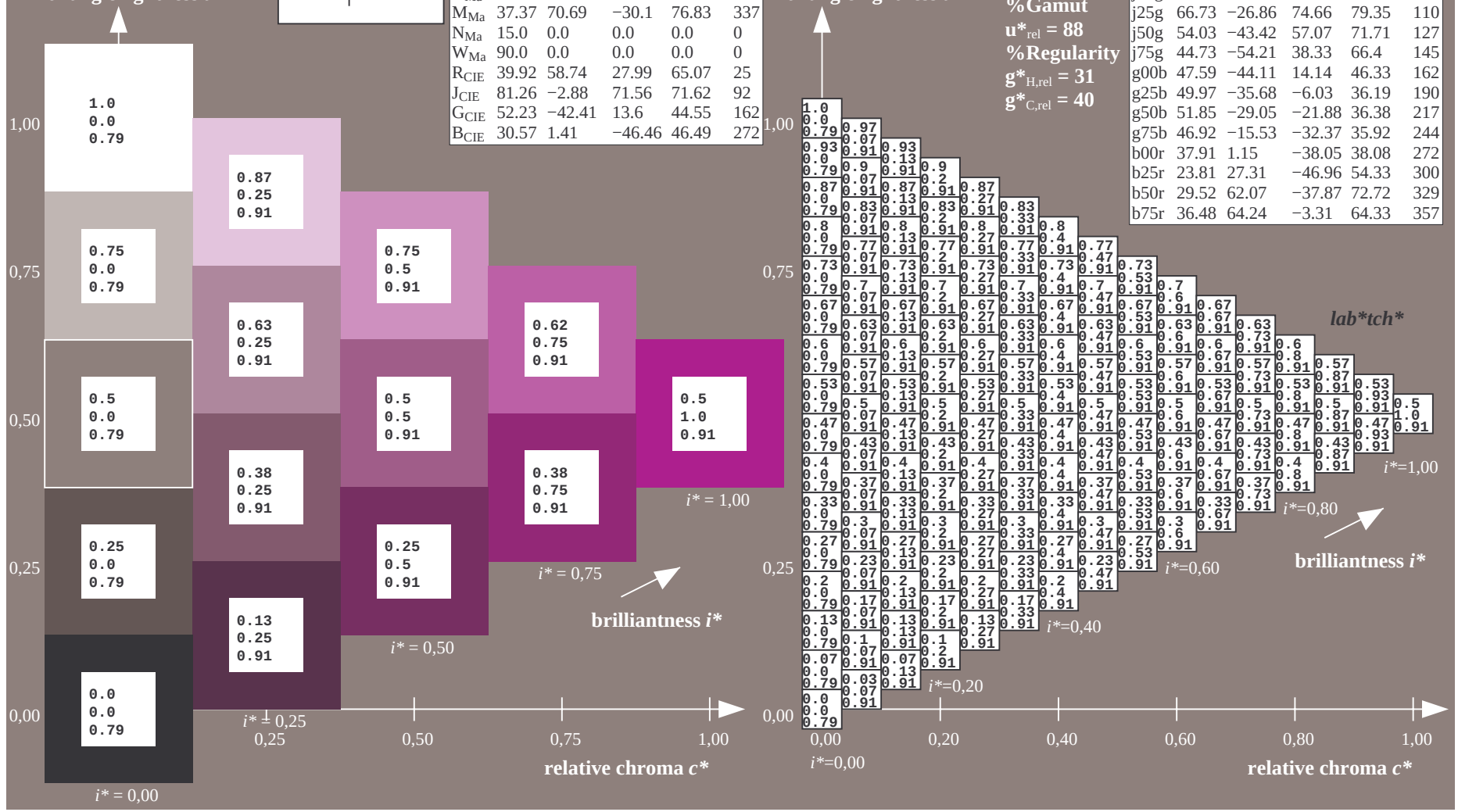

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
$LAB^*LAB^*_{Ma}$: 30 62 −37
$LAB^*LCH^*_{Ma}$: 30 73 329
$lab^*rgb^*_{Ma}$: 1.0 0.0 1.0
$lab^*olv^*_{Ma}$: 0.66 0.0 1.0
**triangle lightness** $t^*$

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

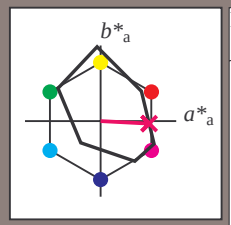
*u* = b50r*
*lab*tch**

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 357/360 = 0.992$**

**data for any colour:**
*lab*tch** **and** *lab*icu**
**elementary hue text:**
$u^* = b75r$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$



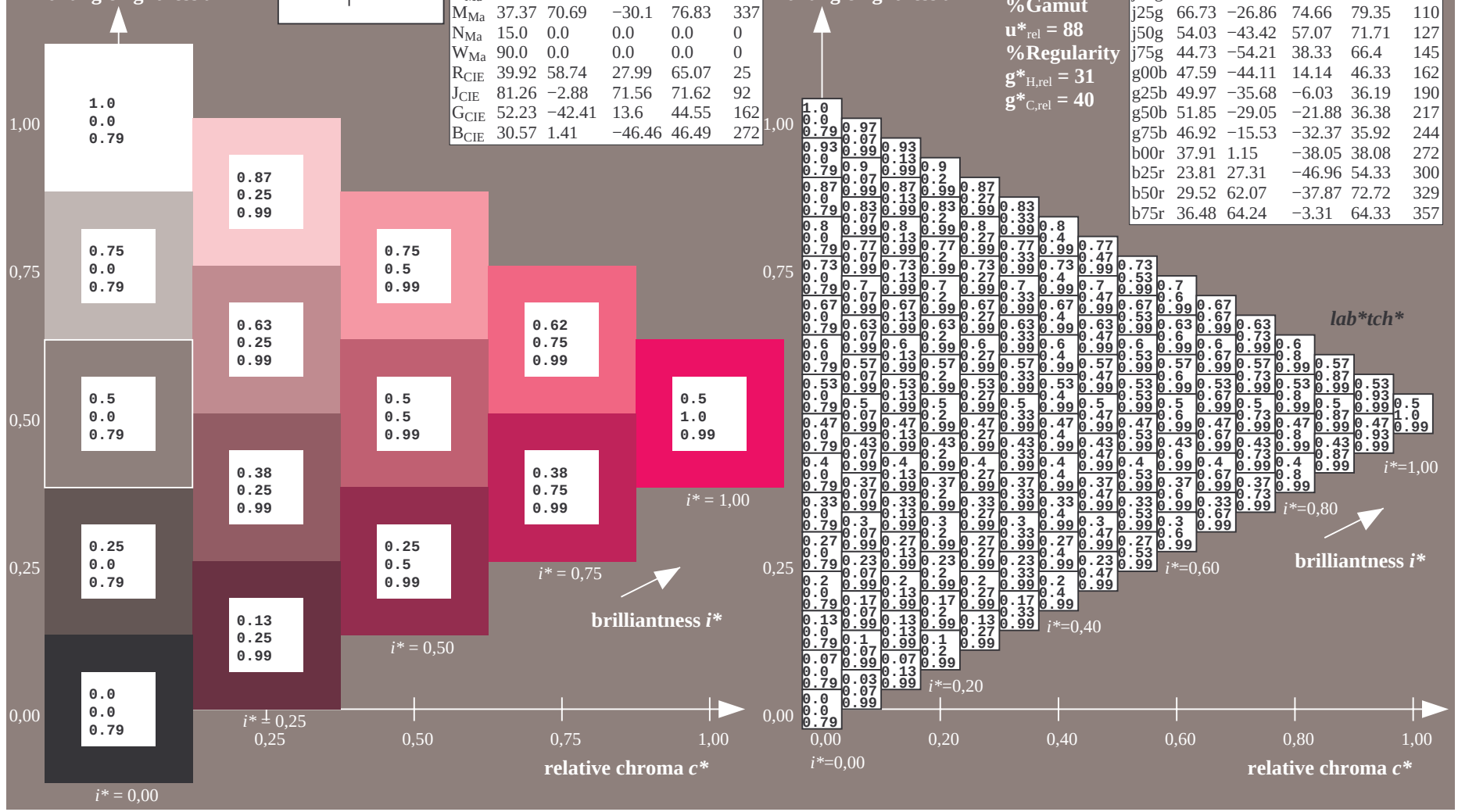

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
$LAB^*LAB^*_{Ma}$: 36 64 −2
$LAB^*LCH^*_{Ma}$: 36 64 357
$lab^*rgb^*_{Ma}$: 1.0 0.0 0.5
$lab^*olv^*_{Ma}$: 1.0 0.0 0.62
**triangle lightness** $t^*$

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

$u^* = b75r$
*lab*tch**

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

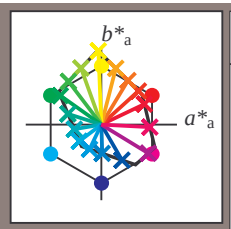


| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | a | b | c | d | e | f | g | h | i | j | k | *lab*tch** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 0.0 | 0.06 | 0.13 | 0.19 | 0.25 | 0.31 | 0.38 | 0.44 | 0.5 | 0.06 | 0.06 | 0.13 | 0.19 | 0.25 | 0.31 | 0.38 | 0.44 | 0.5 | 0.13 | 0.13 | 0.13 | 0.19 | 0.25 | 0.31 | 0.38 | 0.44 | 0.5 | 1.0 | 0.94 | 0.87 | 0.81 | 0.75 | 0.69 | 0.62 | 0.56 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.0 | 0.12 | 0.25 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.12 | 0.12 | 0.25 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.25 | 0.25 | 0.25 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.0 | 0.12 | 0.25 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.79 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.1 | 0.26 | 0.31 | 0.34 | 0.35 | 0.36 | 0.37 | 0.37 | 0.37 | 0.1 | 0.2 | 0.26 | 0.29 | 0.31 | 0.33 | 0.34 | 0.35 | 0.35 | 0.79 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.79 | 0.79 | 0.79 | 0.79 |
| 02 | 0.06 | 0.06 | 0.13 | 0.19 | 0.25 | 0.31 | 0.38 | 0.44 | 0.5 | 0.06 | 0.13 | 0.19 | 0.25 | 0.31 | 0.38 | 0.44 | 0.5 | 0.56 | 0.13 | 0.19 | 0.19 | 0.25 | 0.31 | 0.38 | 0.44 | 0.5 | 0.56 | 0.94 | 0.88 | 0.81 | 0.75 | 0.69 | 0.63 | 0.56 | 0.5 | 0.44 | 0.13 | 0.13 | 0.13 | 0.13 |
| | 0.12 | 0.12 | 0.25 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.12 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.87 | 0.25 | 0.13 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.87 | 0.12 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.87 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.86 | 0.63 | 0.47 | 0.44 | 0.42 | 0.42 | 0.41 | 0.41 | 0.41 | 0.94 | 0.79 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.01 | 0.1 | 0.26 | 0.31 | 0.34 | 0.35 | 0.36 | 0.37 | 0.37 | 0.63 | 0.79 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.79 | 0.79 | 0.79 | 0.79 |
| 03 | 0.13 | 0.13 | 0.13 | 0.19 | 0.25 | 0.31 | 0.38 | 0.44 | 0.5 | 0.13 | 0.19 | 0.19 | 0.25 | 0.31 | 0.38 | 0.44 | 0.5 | 0.56 | 0.13 | 0.19 | 0.25 | 0.31 | 0.38 | 0.44 | 0.5 | 0.56 | 0.62 | 0.87 | 0.81 | 0.75 | 0.69 | 0.63 | 0.56 | 0.5 | 0.44 | 0.38 | 0.25 | 0.25 | 0.25 | 0.25 |
| | 0.25 | 0.25 | 0.25 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.25 | 0.13 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.87 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.86 | 0.79 | 0.63 | 0.52 | 0.47 | 0.45 | 0.44 | 0.43 | 0.42 | 0.9 | 0.86 | 0.63 | 0.47 | 0.44 | 0.42 | 0.42 | 0.41 | 0.41 | 0.94 | 0.94 | 0.79 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.63 | 0.63 | 0.79 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.79 | 0.79 | 0.79 | 0.79 |
| 04 | 0.19 | 0.19 | 0.19 | 0.19 | 0.25 | 0.31 | 0.38 | 0.44 | 0.5 | 0.19 | 0.25 | 0.25 | 0.25 | 0.31 | 0.38 | 0.44 | 0.5 | 0.56 | 0.19 | 0.25 | 0.31 | 0.31 | 0.38 | 0.44 | 0.5 | 0.56 | 0.62 | 0.81 | 0.75 | 0.69 | 0.63 | 0.56 | 0.5 | 0.44 | 0.38 | 0.31 | 0.38 | 0.38 | 0.38 | 0.38 |
| | 0.37 | 0.37 | 0.37 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.37 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.87 | 0.37 | 0.25 | 0.13 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.37 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.62 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.86 | 0.82 | 0.74 | 0.63 | 0.55 | 0.5 | 0.47 | 0.46 | 0.44 | 0.89 | 0.86 | 0.79 | 0.63 | 0.52 | 0.47 | 0.45 | 0.44 | 0.43 | 0.91 | 0.9 | 0.86 | 0.63 | 0.47 | 0.44 | 0.42 | 0.42 | 0.41 | 0.63 | 0.63 | 0.63 | 0.79 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.79 | 0.79 | 0.79 | 0.79 |
| 05 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.31 | 0.38 | 0.44 | 0.5 | 0.25 | 0.31 | 0.31 | 0.31 | 0.31 | 0.38 | 0.44 | 0.5 | 0.56 | 0.25 | 0.31 | 0.38 | 0.38 | 0.38 | 0.44 | 0.5 | 0.56 | 0.62 | 0.75 | 0.69 | 0.63 | 0.56 | 0.5 | 0.44 | 0.38 | 0.31 | 0.25 | 0.5 | 0.5 | 0.5 | 0.5 |
| | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.5 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.63 | 0.75 | 0.87 | 0.5 | 0.38 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.86 | 0.83 | 0.79 | 0.71 | 0.63 | 0.57 | 0.52 | 0.49 | 0.47 | 0.88 | 0.86 | 0.82 | 0.74 | 0.63 | 0.55 | 0.5 | 0.47 | 0.46 | 0.9 | 0.89 | 0.86 | 0.79 | 0.63 | 0.52 | 0.47 | 0.45 | 0.44 | 0.63 | 0.63 | 0.63 | 0.63 | 0.79 | 0.1 | 0.1 | 0.1 | 0.1 | 0.79 | 0.79 | 0.79 | 0.79 |
| 06 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | 0.38 | 0.44 | 0.5 | 0.31 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.44 | 0.5 | 0.56 | 0.31 | 0.38 | 0.44 | 0.44 | 0.44 | 0.44 | 0.5 | 0.56 | 0.62 | 0.69 | 0.63 | 0.56 | 0.5 | 0.44 | 0.38 | 0.31 | 0.25 | 0.19 | 0.63 | 0.63 | 0.63 | 0.63 |
| | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.75 | 0.87 | 1.0 | 0.62 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.75 | 0.87 | 0.62 | 0.5 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.63 | 0.75 | 0.62 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.37 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.86 | 0.84 | 0.81 | 0.76 | 0.7 | 0.63 | 0.58 | 0.54 | 0.51 | 0.88 | 0.86 | 0.83 | 0.79 | 0.71 | 0.63 | 0.57 | 0.52 | 0.49 | 0.89 | 0.88 | 0.86 | 0.82 | 0.74 | 0.63 | 0.55 | 0.5 | 0.47 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.79 | 0.1 | 0.1 | 0.1 | 0.79 | 0.79 | 0.79 | 0.79 |
| 07 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.44 | 0.5 | 0.38 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.5 | 0.56 | 0.38 | 0.44 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.56 | 0.62 | 0.62 | 0.56 | 0.5 | 0.44 | 0.38 | 0.31 | 0.25 | 0.19 | 0.13 | 0.75 | 0.75 | 0.75 | 0.75 |
| | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.87 | 1.0 | 0.75 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 0.87 | 0.75 | 0.63 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.75 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.86 | 0.85 | 0.82 | 0.79 | 0.74 | 0.68 | 0.63 | 0.59 | 0.55 | 0.88 | 0.86 | 0.84 | 0.81 | 0.76 | 0.7 | 0.63 | 0.58 | 0.54 | 0.89 | 0.88 | 0.86 | 0.83 | 0.79 | 0.71 | 0.63 | 0.57 | 0.52 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.79 | 0.1 | 0.1 | 0.79 | 0.79 | 0.79 | 0.79 |
| 08 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.5 | 0.44 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.56 | 0.44 | 0.5 | 0.56 | 0.56 | 0.56 | 0.56 | 0.56 | 0.56 | 0.62 | 0.56 | 0.5 | 0.44 | 0.38 | 0.31 | 0.25 | 0.19 | 0.13 | 0.06 | 0.88 | 0.88 | 0.88 | 0.88 |
| | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 1.0 | 0.87 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.87 | 0.87 | 0.75 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 0.87 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.12 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.86 | 0.85 | 0.83 | 0.8 | 0.77 | 0.72 | 0.68 | 0.63 | 0.59 | 0.87 | 0.86 | 0.85 | 0.82 | 0.79 | 0.74 | 0.68 | 0.63 | 0.59 | 0.88 | 0.88 | 0.86 | 0.84 | 0.81 | 0.76 | 0.7 | 0.63 | 0.58 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.79 | 0.1 | 0.79 | 0.79 | 0.79 | 0.79 |
| 09 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.56 | 0.56 | 0.56 | 0.56 | 0.56 | 0.56 | 0.56 | 0.5 | 0.5 | 0.56 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.5 | 0.44 | 0.38 | 0.31 | 0.25 | 0.19 | 0.13 | 0.06 | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 1.0 | 0.87 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 1.0 | 0.87 | 0.75 | 0.62 | 0.5 | 0.37 | 0.25 | 0.12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.86 | 0.85 | 0.83 | 0.81 | 0.79 | 0.75 | 0.71 | 0.67 | 0.63 | 0.87 | 0.86 | 0.85 | 0.83 | 0.8 | 0.77 | 0.72 | 0.68 | 0.63 | 0.88 | 0.87 | 0.86 | 0.85 | 0.82 | 0.79 | 0.74 | 0.68 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| 10 | 0.19 | 0.19 | 0.19 | 0.19 | 0.25 | 0.31 | 0.38 | 0.44 | 0.5 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.31 | 0.38 | 0.44 | 0.5 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | 0.38 | 0.44 | 0.5 | 1.0 | 0.94 | 0.87 | 0.81 | 0.75 | 0.69 | 0.62 | 0.56 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.37 | 0.37 | 0.37 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.75 | 0.87 | 1.0 | 0.0 | 0.12 | 0.25 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.1 | 0.17 | 0.22 | 0.26 | 0.28 | 0.3 | 0.31 | 0.33 | 0.33 | 0.1 | 0.15 | 0.2 | 0.23 | 0.26 | 0.28 | 0.29 | 0.3 | 0.31 | 0.1 | 0.14 | 0.18 | 0.21 | 0.24 | 0.26 | 0.27 | 0.29 | 0.3 | 0.79 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.79 | 0.79 | 0.79 | 0.79 |
| 11 | 0.19 | 0.25 | 0.25 | 0.25 | 0.31 | 0.38 | 0.44 | 0.5 | 0.56 | 0.25 | 0.31 | 0.31 | 0.31 | 0.31 | 0.38 | 0.44 | 0.5 | 0.56 | 0.31 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.44 | 0.5 | 0.56 | 0.94 | 0.88 | 0.81 | 0.75 | 0.69 | 0.63 | 0.56 | 0.5 | 0.44 | 0.07 | 0.07 | 0.07 | 0.07 |
| | 0.37 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.87 | 0.5 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.63 | 0.75 | 0.87 | 0.62 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.75 | 0.87 | 0.12 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.87 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.04 | 0.1 | 0.2 | 0.26 | 0.29 | 0.31 | 0.33 | 0.34 | 0.35 | 0.06 | 0.1 | 0.17 | 0.22 | 0.26 | 0.28 | 0.3 | 0.31 | 0.33 | 0.07 | 0.1 | 0.15 | 0.2 | 0.23 | 0.26 | 0.28 | 0.29 | 0.3 | 0.86 | 0.79 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.79 | 0.79 | 0.79 | 0.79 |
| 12 | 0.19 | 0.25 | 0.31 | 0.31 | 0.38 | 0.44 | 0.5 | 0.56 | 0.62 | 0.25 | 0.31 | 0.38 | 0.38 | 0.38 | 0.44 | 0.5 | 0.56 | 0.62 | 0.31 | 0.38 | 0.44 | 0.44 | 0.44 | 0.44 | 0.5 | 0.56 | 0.62 | 0.87 | 0.81 | 0.75 | 0.69 | 0.63 | 0.56 | 0.5 | 0.44 | 0.38 | 0.13 | 0.13 | 0.13 | 0.13 |
| | 0.37 | 0.25 | 0.13 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.5 | 0.38 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.62 | 0.5 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.63 | 0.75 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.98 | 0.01 | 0.1 | 0.26 | 0.31 | 0.34 | 0.35 | 0.36 | 0.37 | 0.01 | 0.04 | 0.1 | 0.2 | 0.26 | 0.29 | 0.31 | 0.33 | 0.34 | 0.03 | 0.06 | 0.1 | 0.17 | 0.22 | 0.26 | 0.28 | 0.3 | 0.31 | 0.86 | 0.86 | 0.79 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.79 | 0.79 | 0.79 | 0.79 |
| 13 | 0.19 | 0.25 | 0.31 | 0.38 | 0.44 | 0.5 | 0.56 | 0.63 | 0.69 | 0.25 | 0.31 | 0.38 | 0.44 | 0.44 | 0.5 | 0.56 | 0.63 | 0.69 | 0.31 | 0.38 | 0.44 | 0.5 | 0.5 | 0.5 | 0.56 | 0.63 | 0.69 | 0.81 | 0.75 | 0.69 | 0.63 | 0.56 | 0.5 | 0.44 | 0.38 | 0.31 | 0.2 | 0.2 | 0.2 | 0.2 |
| | 0.37 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.62 | 0.5 | 0.38 | 0.25 | 0.13 | 0.13 | 0.25 | 0.38 | 0.5 | 0.62 | 0.62 | 0.5 | 0.38 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.62 | 0.37 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.62 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.94 | 0.94 | 0.94 | 0.79 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.97 | 0.98 | 0.01 | 0.1 | 0.26 | 0.31 | 0.34 | 0.35 | 0.36 | 0.99 | 0.01 | 0.04 | 0.1 | 0.2 | 0.26 | 0.29 | 0.31 | 0.33 | 0.86 | 0.86 | 0.86 | 0.79 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.79 | 0.79 | 0.79 | 0.79 |
| 14 | 0.25 | 0.31 | 0.38 | 0.44 | 0.44 | 0.5 | 0.56 | 0.63 | 0.69 | 0.25 | 0.31 | 0.38 | 0.44 | 0.5 | 0.56 | 0.63 | 0.69 | 0.75 | 0.31 | 0.38 | 0.44 | 0.5 | 0.56 | 0.56 | 0.63 | 0.69 | 0.75 | 0.75 | 0.69 | 0.63 | 0.56 | 0.5 | 0.44 | 0.38 | 0.31 | 0.25 | 0.27 | 0.27 | 0.27 | 0.27 |
| | 0.5 | 0.38 | 0.25 | 0.13 | 0.13 | 0.25 | 0.38 | 0.5 | 0.62 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.62 | 0.5 | 0.38 | 0.25 | 0.13 | 0.13 | 0.25 | 0.38 | 0.5 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.92 | 0.91 | 0.9 | 0.86 | 0.63 | 0.47 | 0.44 | 0.42 | 0.42 | 0.94 | 0.94 | 0.94 | 0.94 | 0.79 | 0.4 | 0.4 | 0.4 | 0.4 | 0.96 | 0.97 | 0.98 | 0.01 | 0.1 | 0.26 | 0.31 | 0.34 | 0.35 | 0.86 | 0.86 | 0.86 | 0.86 | 0.79 | 0.26 | 0.26 | 0.26 | 0.26 | 0.79 | 0.79 | 0.79 | 0.79 |
| 15 | 0.31 | 0.38 | 0.44 | 0.5 | 0.5 | 0.5 | 0.56 | 0.63 | 0.69 | 0.31 | 0.38 | 0.44 | 0.5 | 0.56 | 0.56 | 0.63 | 0.69 | 0.75 | 0.31 | 0.38 | 0.44 | 0.5 | 0.56 | 0.63 | 0.69 | 0.75 | 0.81 | 0.69 | 0.63 | 0.56 | 0.5 | 0.44 | 0.38 | 0.31 | 0.25 | 0.19 | 0.33 | 0.33 | 0.33 | 0.33 |
| | 0.62 | 0.5 | 0.38 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.62 | 0.62 | 0.5 | 0.38 | 0.25 | 0.13 | 0.13 | 0.25 | 0.38 | 0.5 | 0.62 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.37 | 0.62 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.37 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.91 | 0.9 | 0.89 | 0.86 | 0.79 | 0.63 | 0.52 | 0.47 | 0.45 | 0.92 | 0.92 | 0.91 | 0.9 | 0.86 | 0.63 | 0.47 | 0.44 | 0.42 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.79 | 0.4 | 0.4 | 0.4 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.79 | 0.26 | 0.26 | 0.26 | 0.79 | 0.79 | 0.79 | 0.79 |
| 16 | 0.38 | 0.44 | 0.5 | 0.56 | 0.56 | 0.56 | 0.56 | 0.63 | 0.69 | 0.38 | 0.44 | 0.5 | 0.56 | 0.63 | 0.63 | 0.63 | 0.69 | 0.75 | 0.38 | 0.44 | 0.5 | 0.56 | 0.63 | 0.69 | 0.69 | 0.75 | 0.81 | 0.62 | 0.56 | 0.5 | 0.44 | 0.38 | 0.31 | 0.25 | 0.19 | 0.13 | 0.4 | 0.4 | 0.4 | 0.4 |
| | 0.75 | 0.63 | 0.5 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.62 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.13 | 0.25 | 0.37 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.9 | 0.89 | 0.88 | 0.86 | 0.82 | 0.74 | 0.63 | 0.55 | 0.5 | 0.91 | 0.91 | 0.9 | 0.89 | 0.86 | 0.79 | 0.63 | 0.52 | 0.47 | 0.92 | 0.92 | 0.92 | 0.91 | 0.9 | 0.86 | 0.63 | 0.47 | 0.44 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.79 | 0.26 | 0.26 | 0.26 | 0.79 | 0.79 | 0.79 | 0.79 |
| 17 | 0.44 | 0.5 | 0.56 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.69 | 0.44 | 0.5 | 0.56 | 0.63 | 0.69 | 0.69 | 0.69 | 0.69 | 0.75 | 0.44 | 0.5 | 0.56 | 0.63 | 0.69 | 0.75 | 0.75 | 0.75 | 0.81 | 0.56 | 0.5 | 0.44 | 0.38 | 0.31 | 0.25 | 0.19 | 0.13 | 0.06 | 0.47 | 0.47 | 0.47 | 0.47 |
| | 0.87 | 0.75 | 0.63 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.62 | 0.87 | 0.75 | 0.63 | 0.5 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.87 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.25 | 0.25 | 0.37 | 0.87 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.12 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.9 | 0.89 | 0.88 | 0.86 | 0.83 | 0.79 | 0.71 | 0.63 | 0.57 | 0.91 | 0.9 | 0.89 | 0.88 | 0.86 | 0.82 | 0.74 | 0.63 | 0.55 | 0.92 | 0.91 | 0.91 | 0.9 | 0.89 | 0.86 | 0.79 | 0.63 | 0.52 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.79 | 0.26 | 0.79 | 0.79 | 0.79 | 0.79 |
| 18 | 0.5 | 0.56 | 0.62 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.5 | 0.56 | 0.62 | 0.69 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.5 | 0.56 | 0.62 | 0.69 | 0.75 | 0.81 | 0.81 | 0.81 | 0.81 | 0.5 | 0.44 | 0.38 | 0.31 | 0.25 | 0.19 | 0.13 | 0.06 | 0.0 | 0.53 | 0.53 | 0.53 | 0.53 |
| | 1.0 | 0.87 | 0.75 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 1.0 | 0.87 | 0.75 | 0.62 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 | 0.87 | 0.75 | 0.62 | 0.5 | 0.37 | 0.37 | 0.37 | 0.37 | 1.0 | 0.87 | 0.75 | 0.62 | 0.5 | 0.37 | 0.25 | 0.12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.89 | 0.88 | 0.88 | 0.86 | 0.84 | 0.81 | 0.76 | 0.7 | 0.63 | 0.9 | 0.9 | 0.89 | 0.88 | 0.86 | 0.83 | 0.79 | 0.71 | 0.63 | 0.91 | 0.91 | 0.9 | 0.89 | 0.88 | 0.86 | 0.82 | 0.74 | 0.63 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| 19 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.44 | 0.5 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 | 0.94 | 0.87 | 0.81 | 0.75 | 0.69 | 0.62 | 0.56 | 0.5 | 0.6 | 0.6 | 0.6 | 0.6 |
| | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.87 | 1.0 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 | 0.12 | 0.25 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.1 | 0.13 | 0.17 | 0.2 | 0.22 | 0.24 | 0.26 | 0.27 | 0.28 | 0.1 | 0.13 | 0.16 | 0.18 | 0.21 | 0.23 | 0.24 | 0.26 | 0.27 | 0.1 | 0.13 | 0.15 | 0.17 | 0.2 | 0.21 | 0.23 | 0.25 | 0.26 | 0.79 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.79 | 0.79 | 0.79 | 0.79 |
| 20 | 0.38 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.5 | 0.56 | 0.44 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.56 | 0.5 | 0.56 | 0.56 | 0.56 | 0.56 | 0.56 | 0.56 | 0.56 | 0.56 | 0.94 | 0.88 | 0.81 | 0.75 | 0.69 | 0.63 | 0.56 | 0.5 | 0.44 | 0.67 | 0.67 | 0.67 | 0.67 |
| | 0.75 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 0.87 | 0.87 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.87 | 1.0 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 1.0 | 0.87 | 0.75 | 0.63 | 0.5 | 0.37 | 0.25 | 0.12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.07 | 0.1 | 0.14 | 0.18 | 0.21 | 0.24 | 0.26 | 0.27 | 0.29 | 0.08 | 0.1 | 0.13 | 0.17 | 0.2 | 0.22 | 0.24 | 0.26 | 0.27 | 0.08 | 0.1 | 0.13 | 0.16 | 0.18 | 0.21 | 0.23 | 0.24 | 0.26 | 0.94 | 0.79 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.79 | 0.79 | 0.79 | 0.79 |
| 21 | 0.38 | 0.44 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.56 | 0.62 | 0.44 | 0.5 | 0.56 | 0.56 | 0.56 | 0.56 | 0.56 | 0.56 | 0.62 | 0.5 | 0.56 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.87 | 0.81 | 0.75 | 0.69 | 0.63 | 0.56 | 0.5 | 0.44 | 0.38 | 0.73 | 0.73 | 0.73 | 0.73 |
| | 0.75 | 0.63 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.75 | 0.87 | 0.75 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 1.0 | 0.87 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.04 | 0.07 | 0.1 | 0.15 | 0.2 | 0.23 | 0.26 | 0.28 | 0.29 | 0.05 | 0.07 | 0.1 | 0.14 | 0.18 | 0.21 | 0.24 | 0.26 | 0.27 | 0.06 | 0.08 | 0.1 | 0.13 | 0.17 | 0.2 | 0.22 | 0.24 | 0.26 | 0.94 | 0.94 | 0.79 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.79 | 0.79 | 0.79 | 0.79 |
| 22 | 0.38 | 0.44 | 0.5 | 0.56 | 0.56 | 0.56 | 0.56 | 0.63 | 0.69 | 0.44 | 0.5 | 0.56 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.69 | 0.5 | 0.56 | 0.62 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.81 | 0.75 | 0.69 | 0.63 | 0.56 | 0.5 | 0.44 | 0.38 | 0.31 | 0.8 | 0.8 | 0.8 | 0.8 |
| | 0.75 | 0.63 | 0.5 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.62 | 0.87 | 0.75 | 0.63 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.62 | 1.0 | 0.87 | 0.75 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.37 | 0.25 | 0.13 | 0.0 | 0.

**Input and output:**
**Colorimetric Printer Reflective System FRS15_90aM**
**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u**** **= 16 hues** ***r00j, r25j, ..., b75r***
**contrast reduction factor:**
$c_R = 0.9$

**FRS15_90aM; adapted (a) CIELAB data**

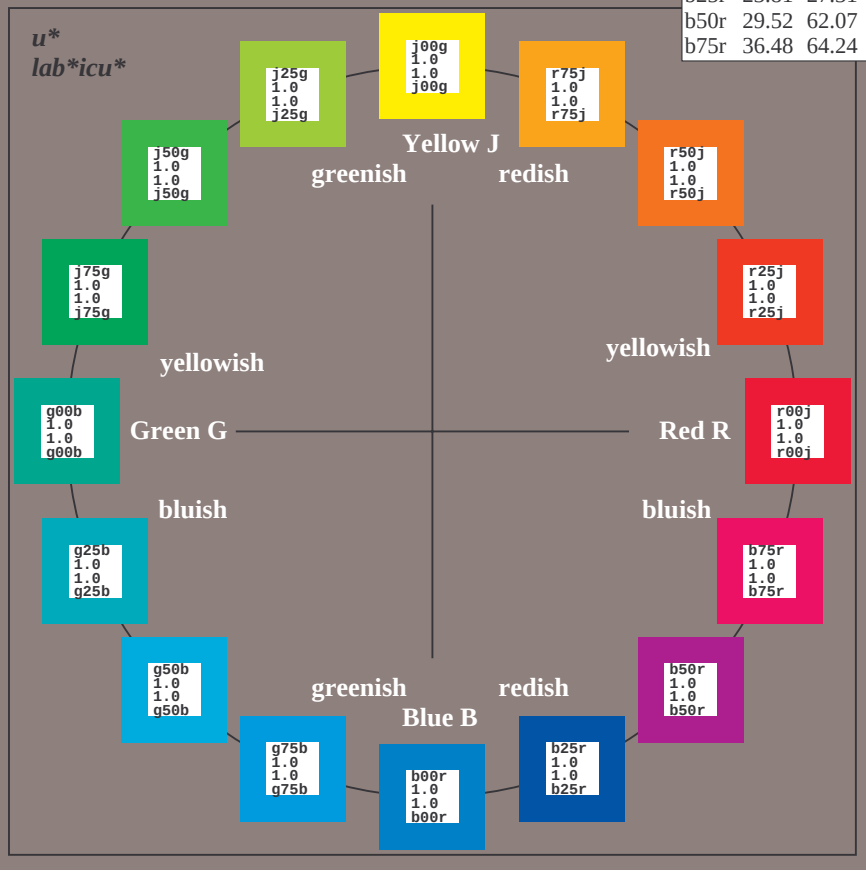
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

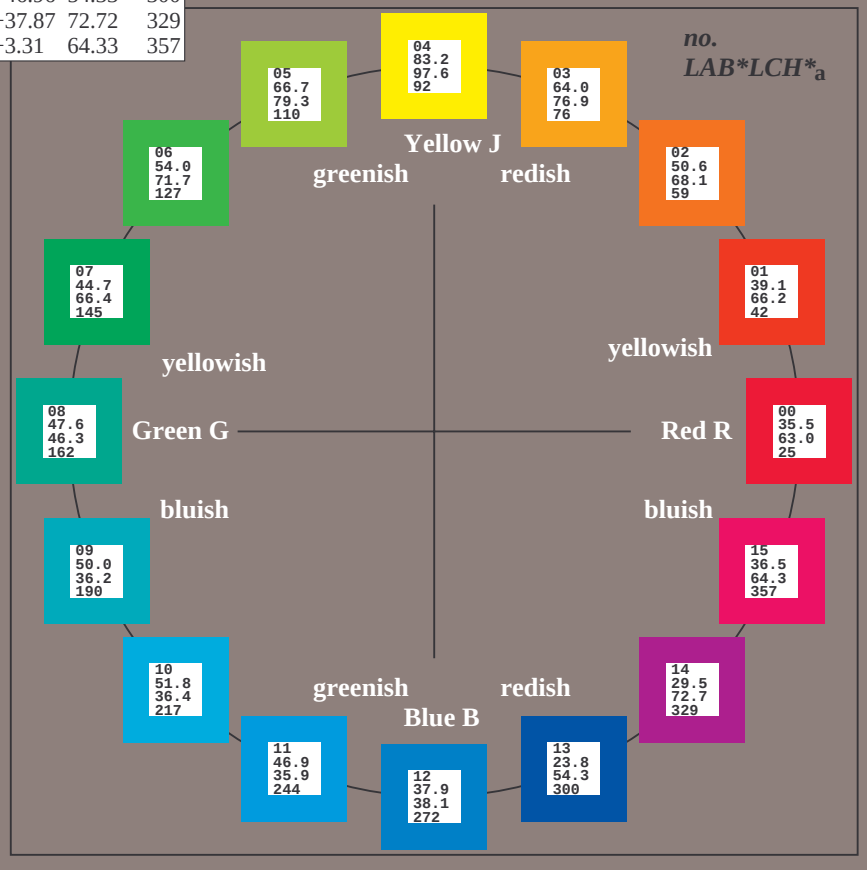



**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 25/360 = 0.071$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

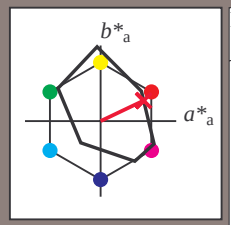
**elementary hue text:**

***u* = r00j***

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 35 57 27**

***LAB*LCH****$_{Ma}$**: 35 63 25**

***lab*rgb****$_{Ma}$**: 1.0 0.0 0.0**

***lab*olv****$_{Ma}$**: 1.0 0.0 0.18**

***u* = r00j***

***lab*icu****

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness *t****

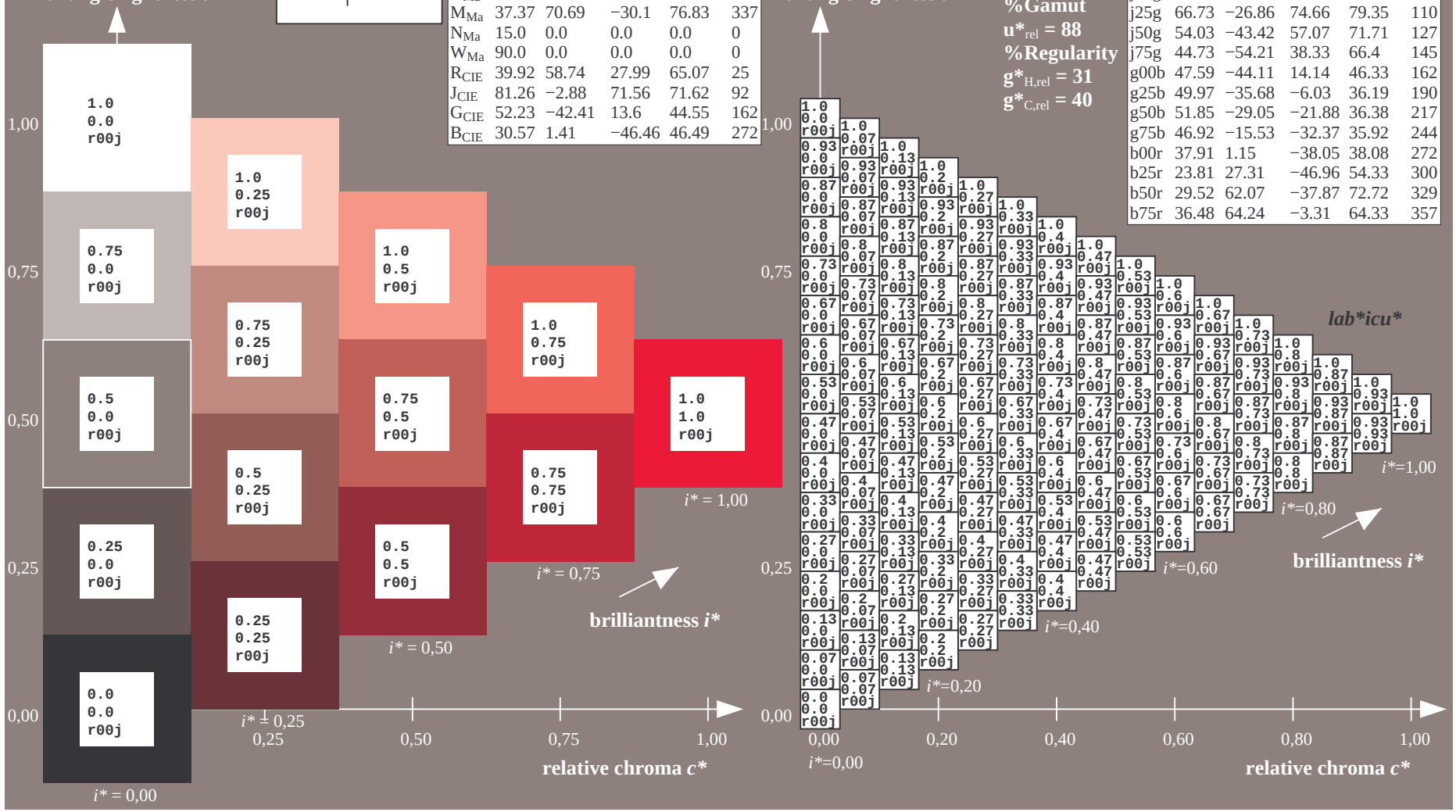
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

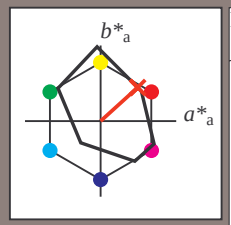
**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 42/360 = 0.117$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
$u^* = r25j$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness $t^*$**




**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

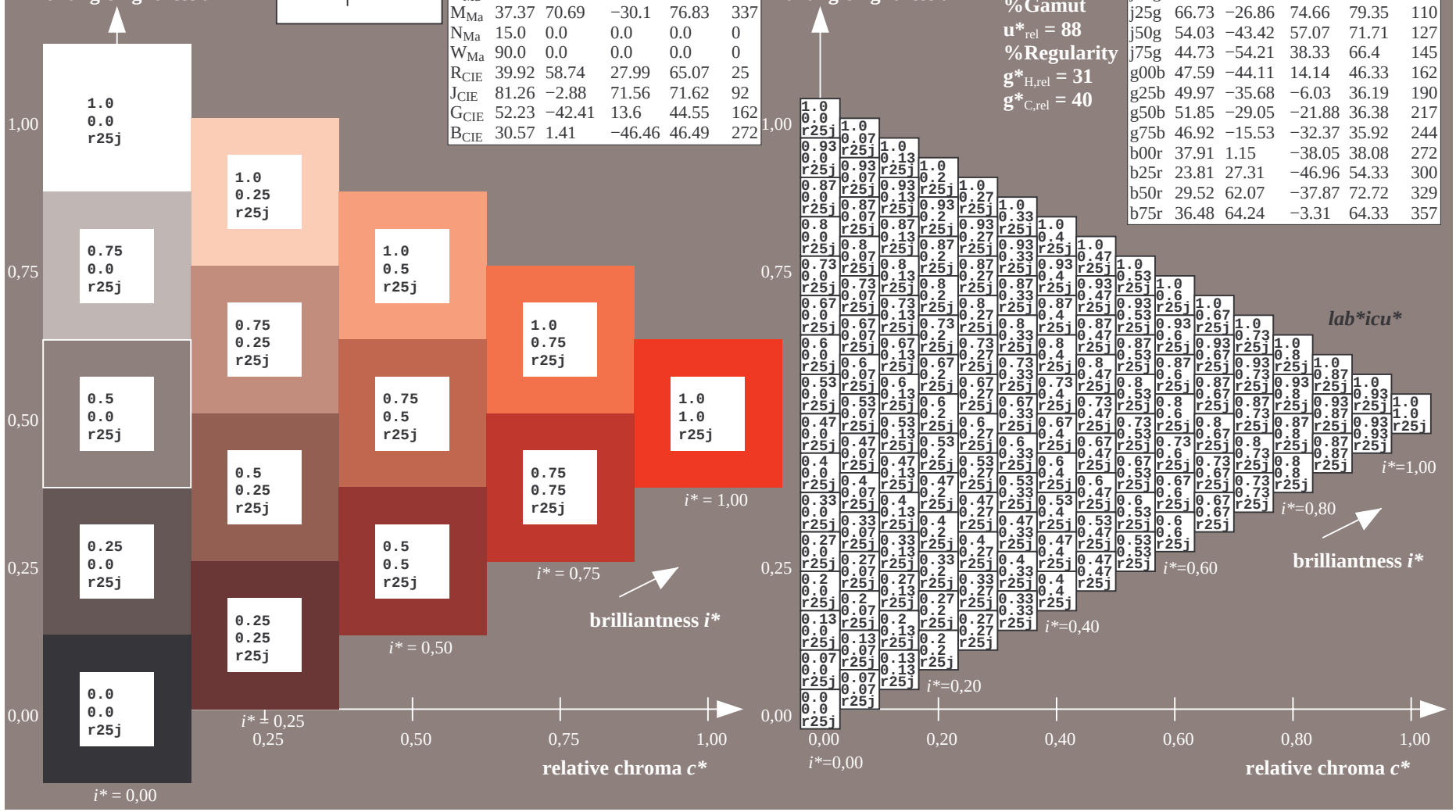
**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 39 49 44**
***LAB*LCH*Ma*: 39 66 42**
***lab*rgb*Ma*: 1.0 0.25 0.0**
***lab*olv*Ma*: 1.0 0.08 0.0**

***u* = r25j***
***lab*icu****

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 59/360 = 0.164$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

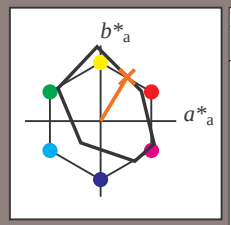
**elementary hue text:**

***u* = r50j***

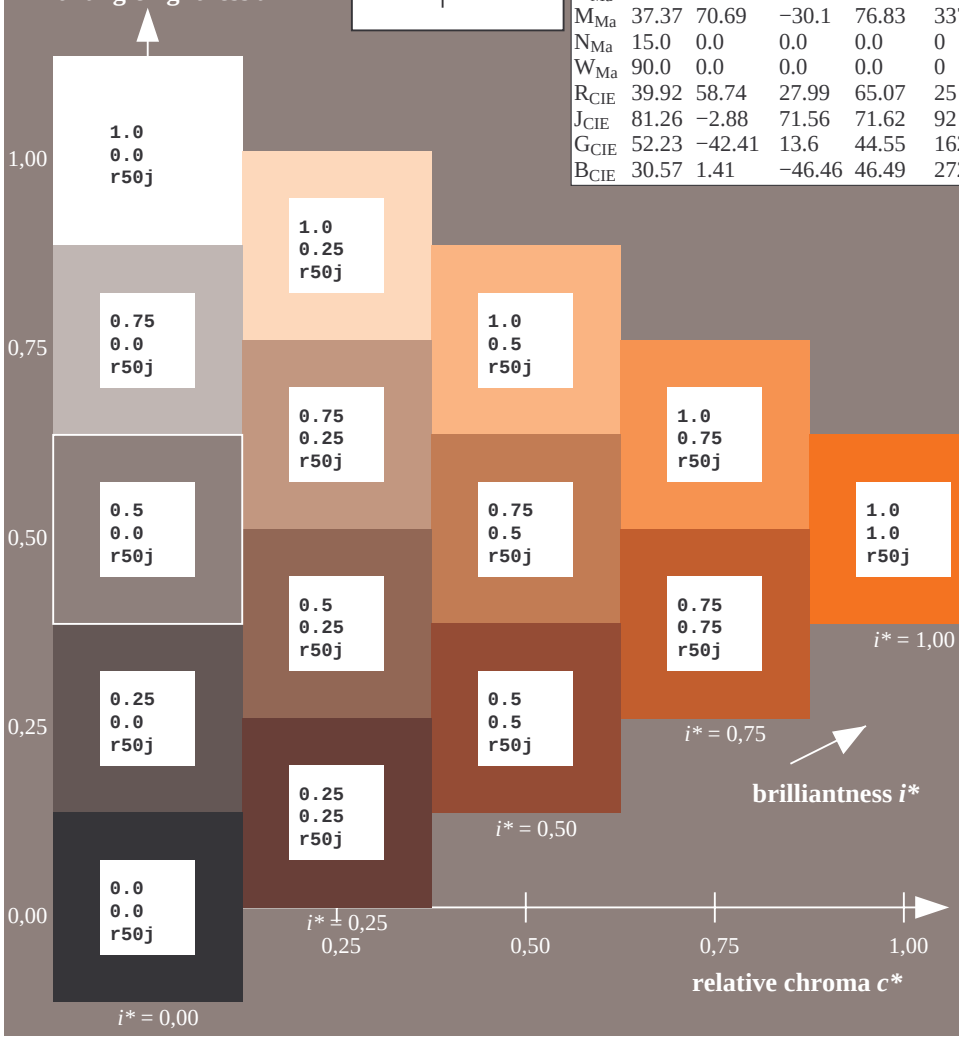
**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |




**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 51 35 58**

***LAB*LCH****$_{Ma}$**: 51 68 59**

***lab*rgb****$_{Ma}$**: 1.0 0.5 0.0**

***lab*olv****$_{Ma}$**: 1.0 0.32 0.0**

**triangle lightness *t****

***u* = r50j***

***lab*icu****

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

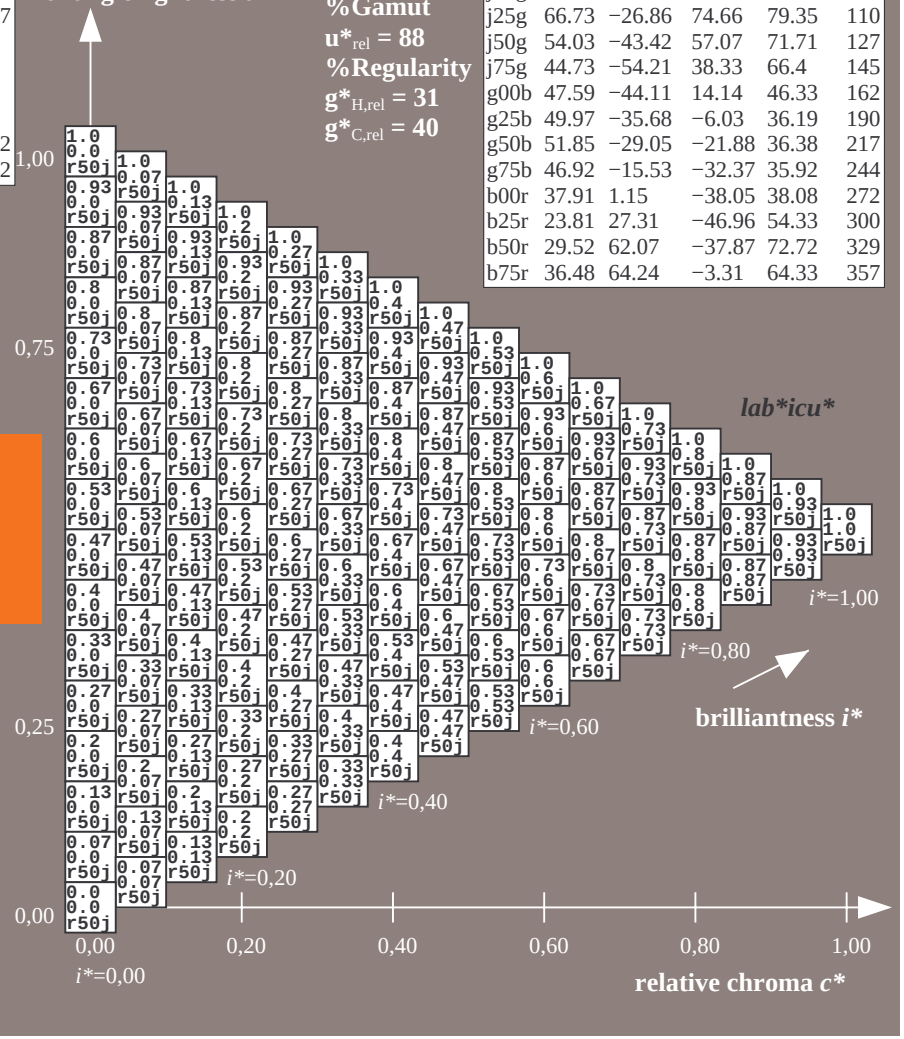
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

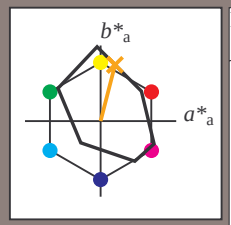
**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 76/360 = 0.21$**

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
$u^* = r75j$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$

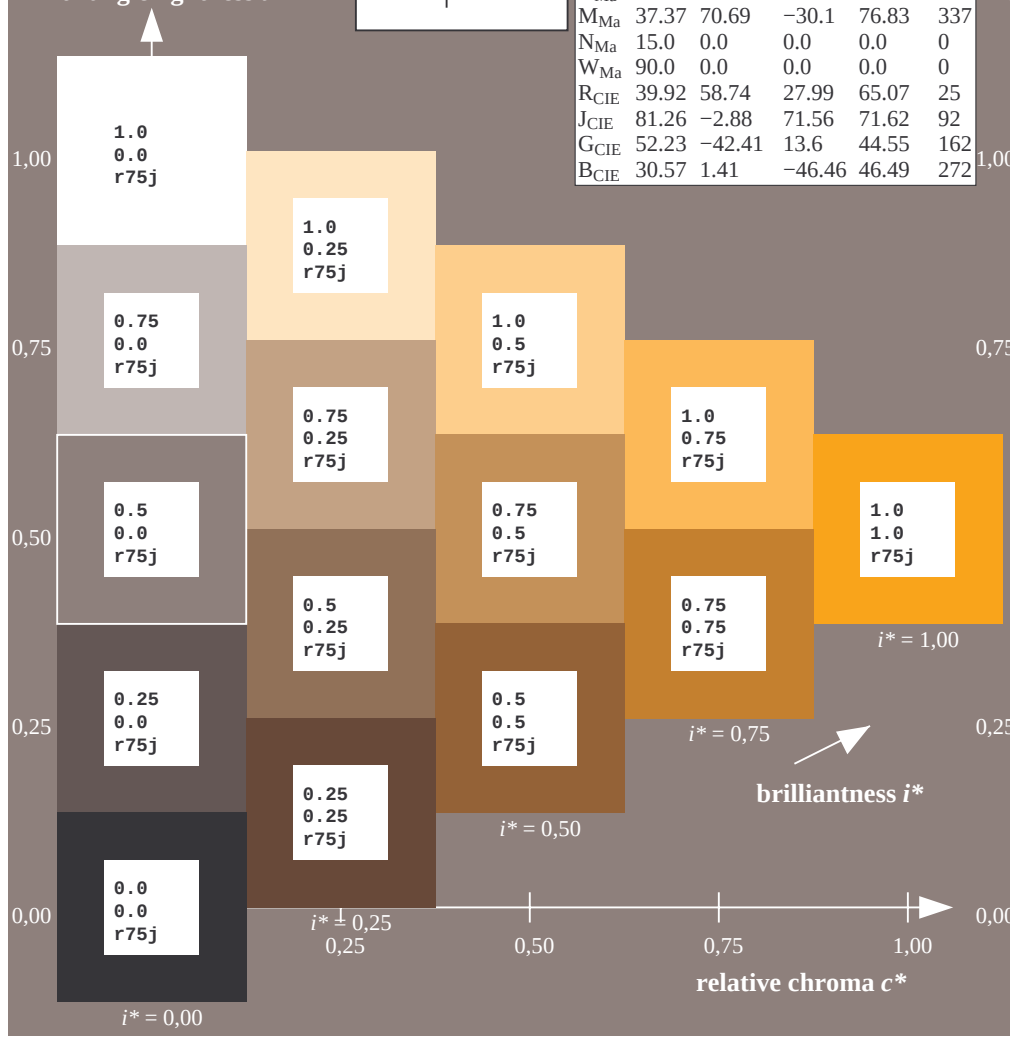



| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 64 19 74**
***LAB*LCH****$_{Ma}$**: 64 77 76**
***lab*rgb****$_{Ma}$**: 1.0 0.75 0.0**
***lab*olv****$_{Ma}$**: 1.0 0.59 0.0**

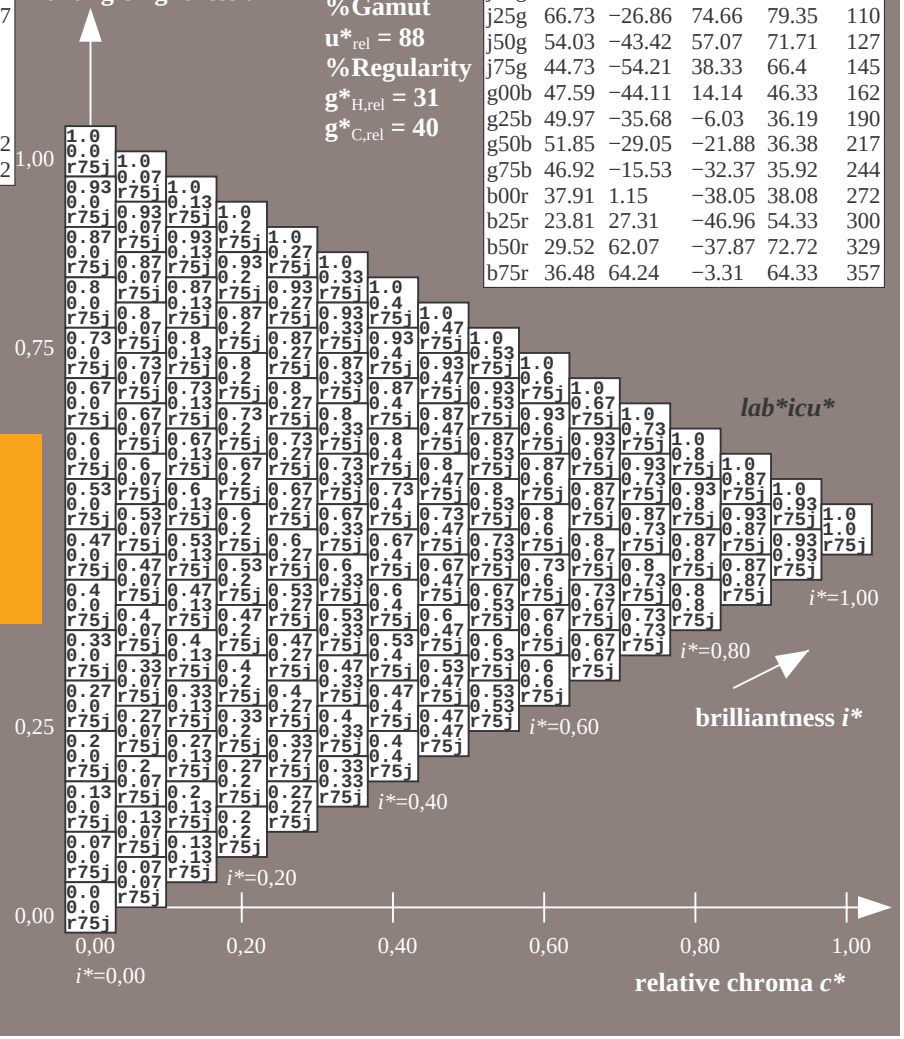
***u* = r75j***
***lab*icu****

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |




**triangle lightness** $t^*$

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 92/360 = 0.256$**

**data for any colour:**

***lab*tch** and *lab*icu****

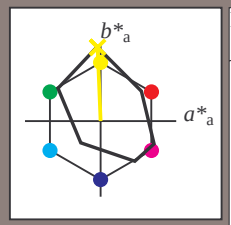
**elementary hue text:**

***u* = j00g***

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB**$_{Ma}$: 83 −3 98**

***LAB*LCH**$_{Ma}$: 83 98 92**

***lab*rgb**$_{Ma}$: 1.0 1.0 0.0**

***lab*olv**$_{Mа}$: 1.0 0.99 0.0**

***u* = j00g***

***lab*icu****

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness *t****

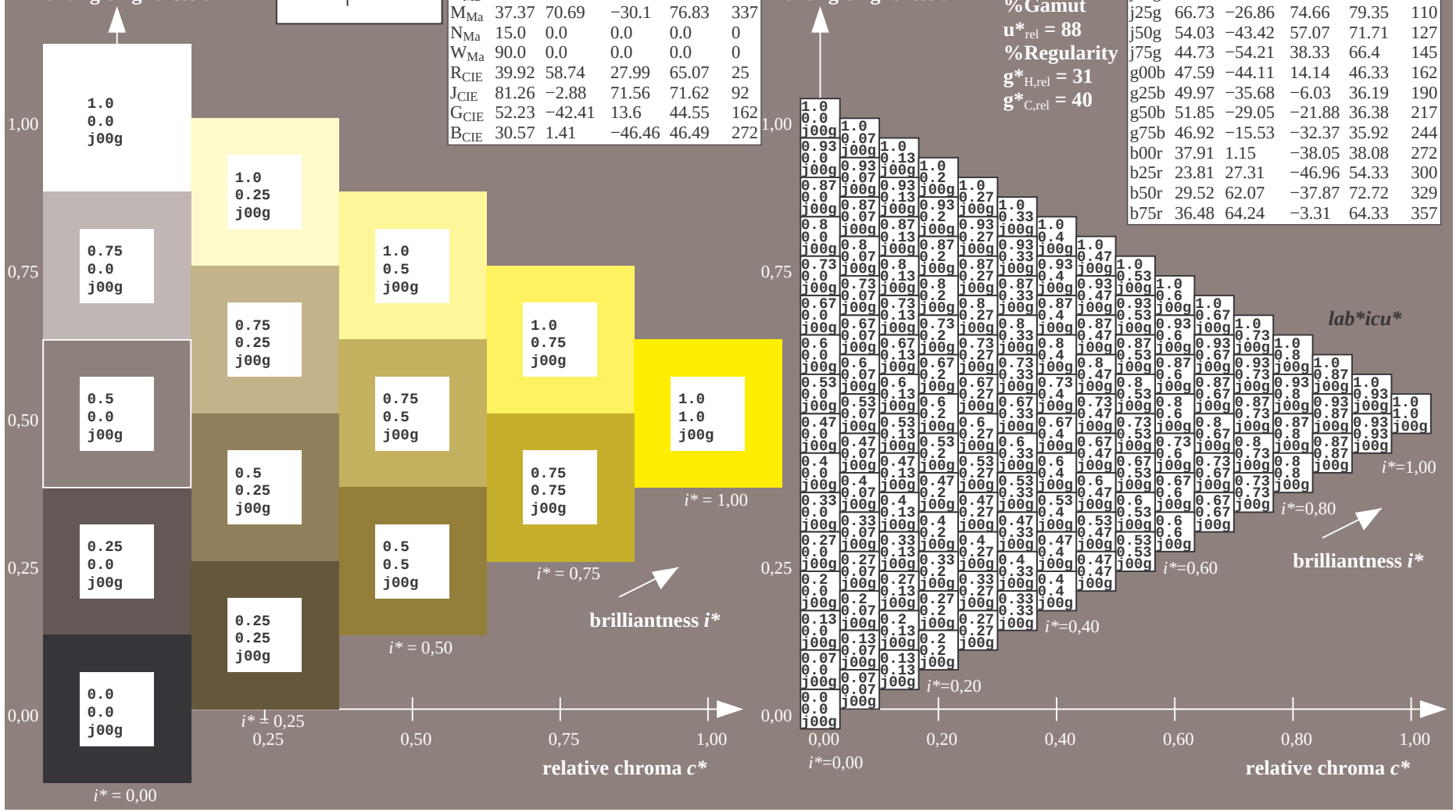
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 110/360 = 0.305$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

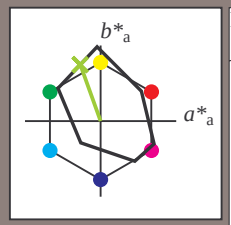
**elementary hue text:**

***u* = j25g***

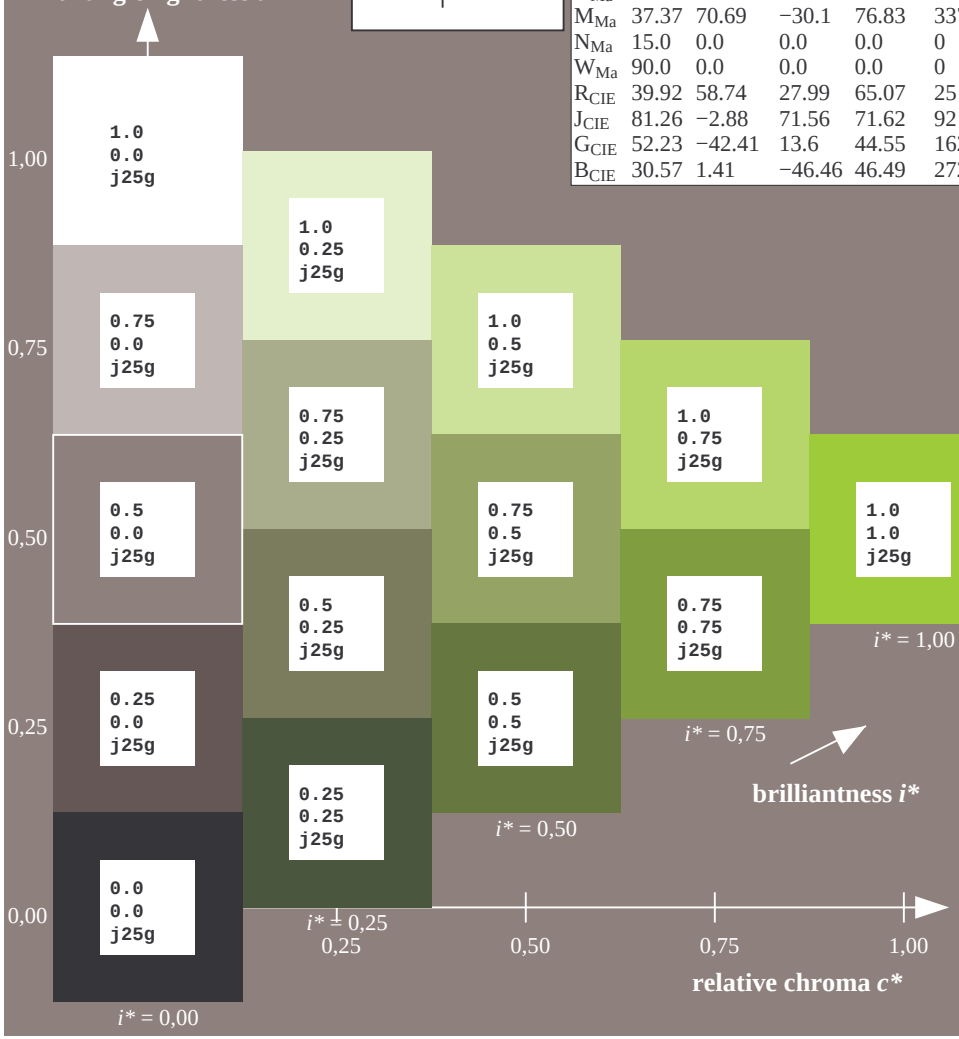
**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |




**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 67 −26 75**

***LAB*LCH****$_{Ma}$**: 67 79 110**

***lab*rgb****$_{Ma}$**: 0.75 1.0 0.0**

***lab*olv****$_{Ma}$**: 0.57 1.0 0.0**

***u* = j25g***

***lab*icu****

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness *t****

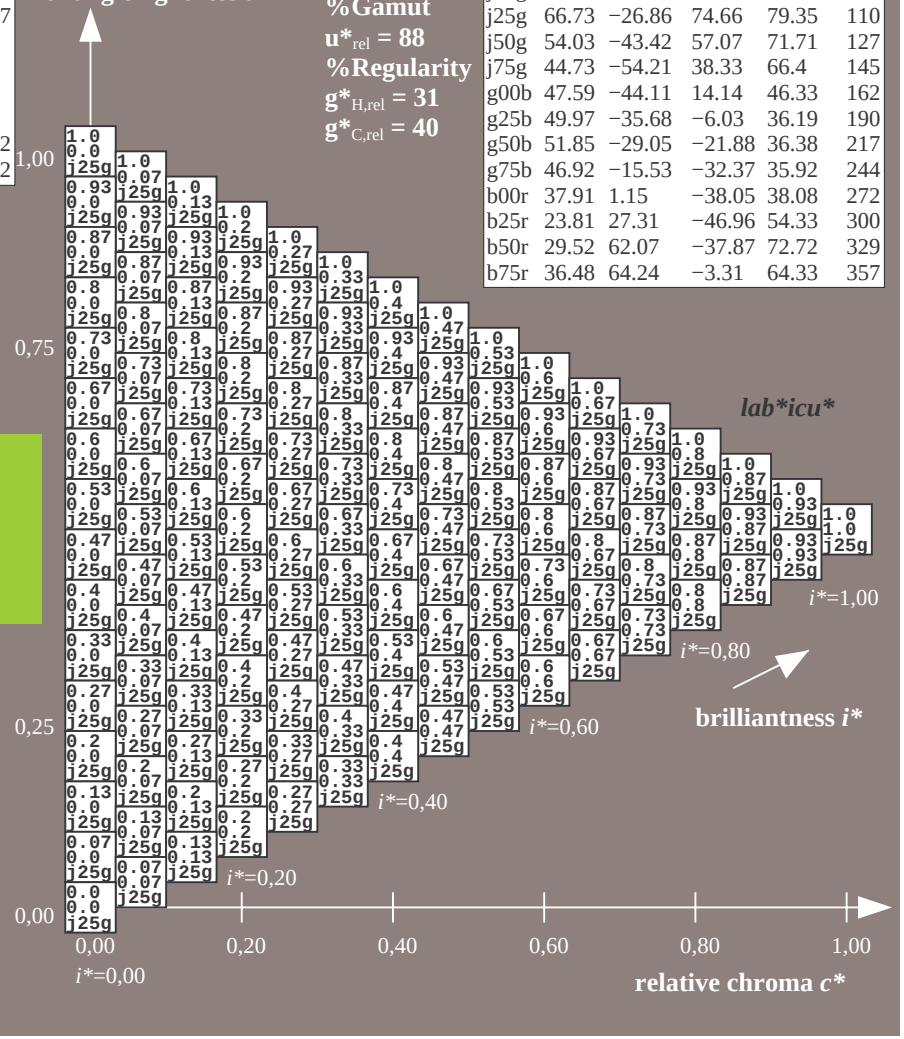
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 127/360 = 0.354$**

**data for any colour:**

***lab*tch** and *lab*icu****

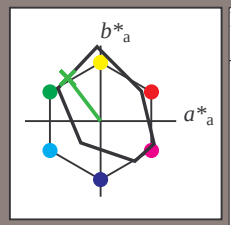
**elementary hue text:**

***u* = j50g***

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB**$_{Ma}$: 54 −42 57**

***LAB*LCH**$_{Ma}$: 54 72 127**

***lab*rgb**$_{Ma}$: 0.5 1.0 0.0**

***lab*olv**$_{Ma}$: 0.25 1.0 0.0**

**triangle lightness *t****

**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

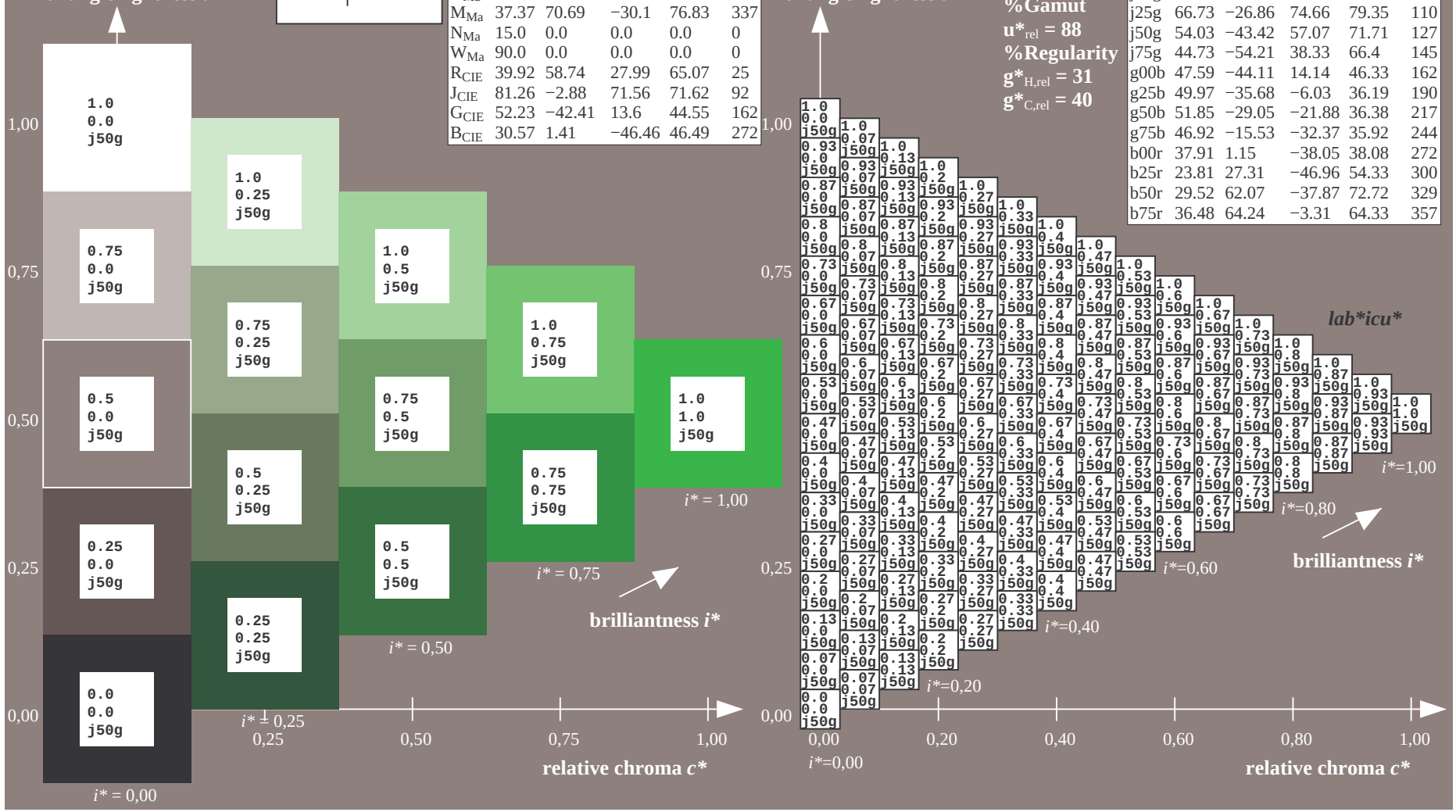
**$g^*_{H,rel} = 31$**

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

***u* = j50g***

***lab*icu****

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 145/360 = 0.402$**

**data for any colour:**

***lab*tch** and *lab*icu****

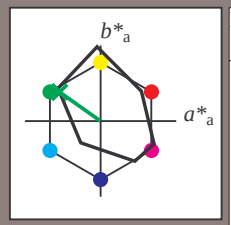
**elementary hue text:**

***u* = j75g***

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB**$_{Ma}$: 45 −53 38**

***LAB*LCH**$_{Ma}$: 45 66 145**

***lab*rgb**$_{Ma}$: 0.25 1.0 0.0**

***lab*olv**$_{Ma}$: 0.0 1.0 0.07**

**triangle lightness *t****

**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

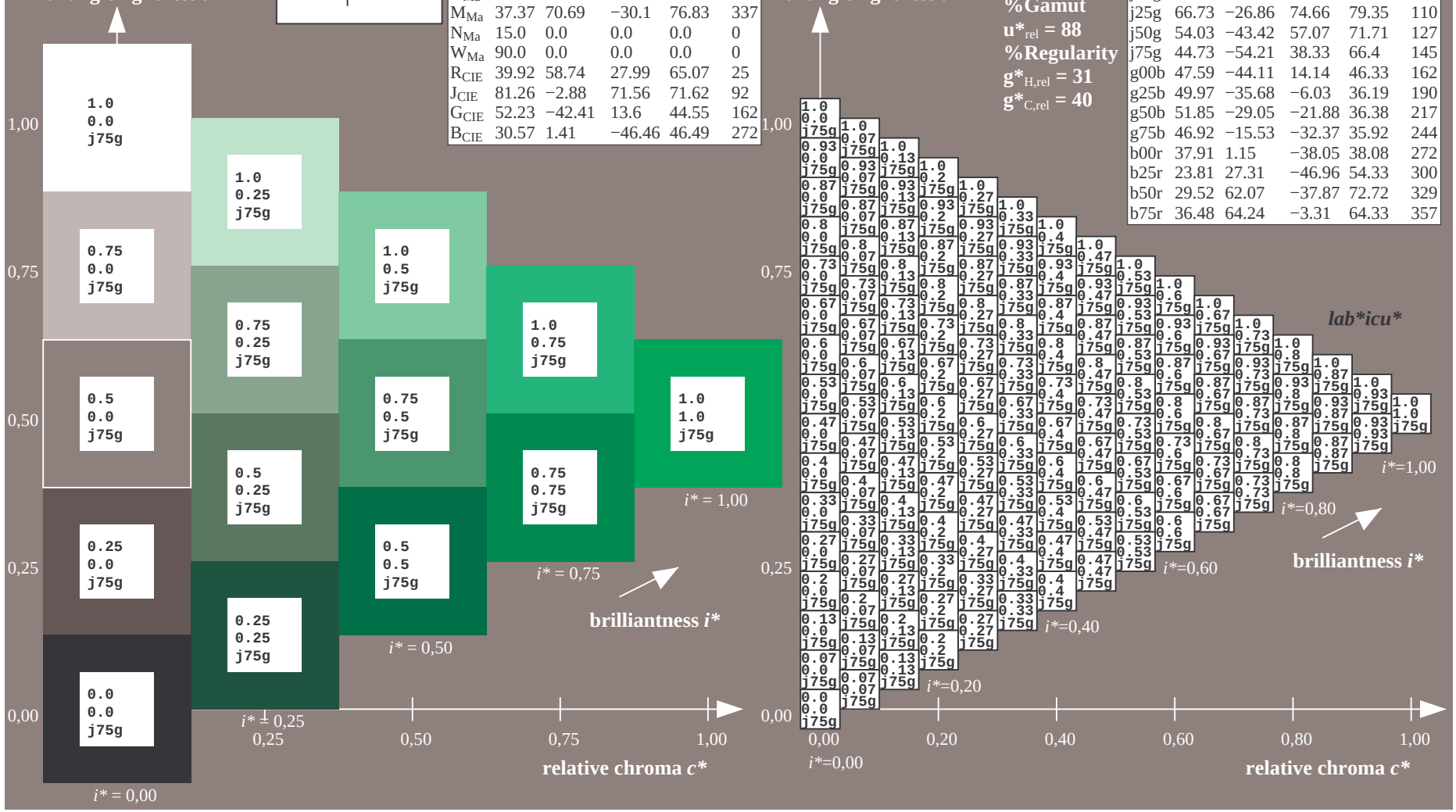
**$g^*_{H,rel} = 31$**

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

***u* = j75g***

***lab*icu****

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 162/360 = 0.451$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

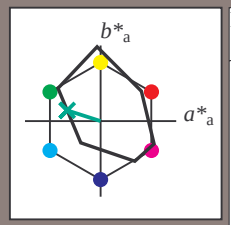
**elementary hue text:**

***u* = g00b***

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 48 −43 14**

***LAB*LCH****$_{Ma}$**: 48 46 162**

***lab*rgb****$_{Ma}$**: 0.0 1.0 0.0**

***lab*olv****$_{Ma}$**: 0.0 1.0 0.41**

***u* = g00b***

***lab*icu****

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness *t****

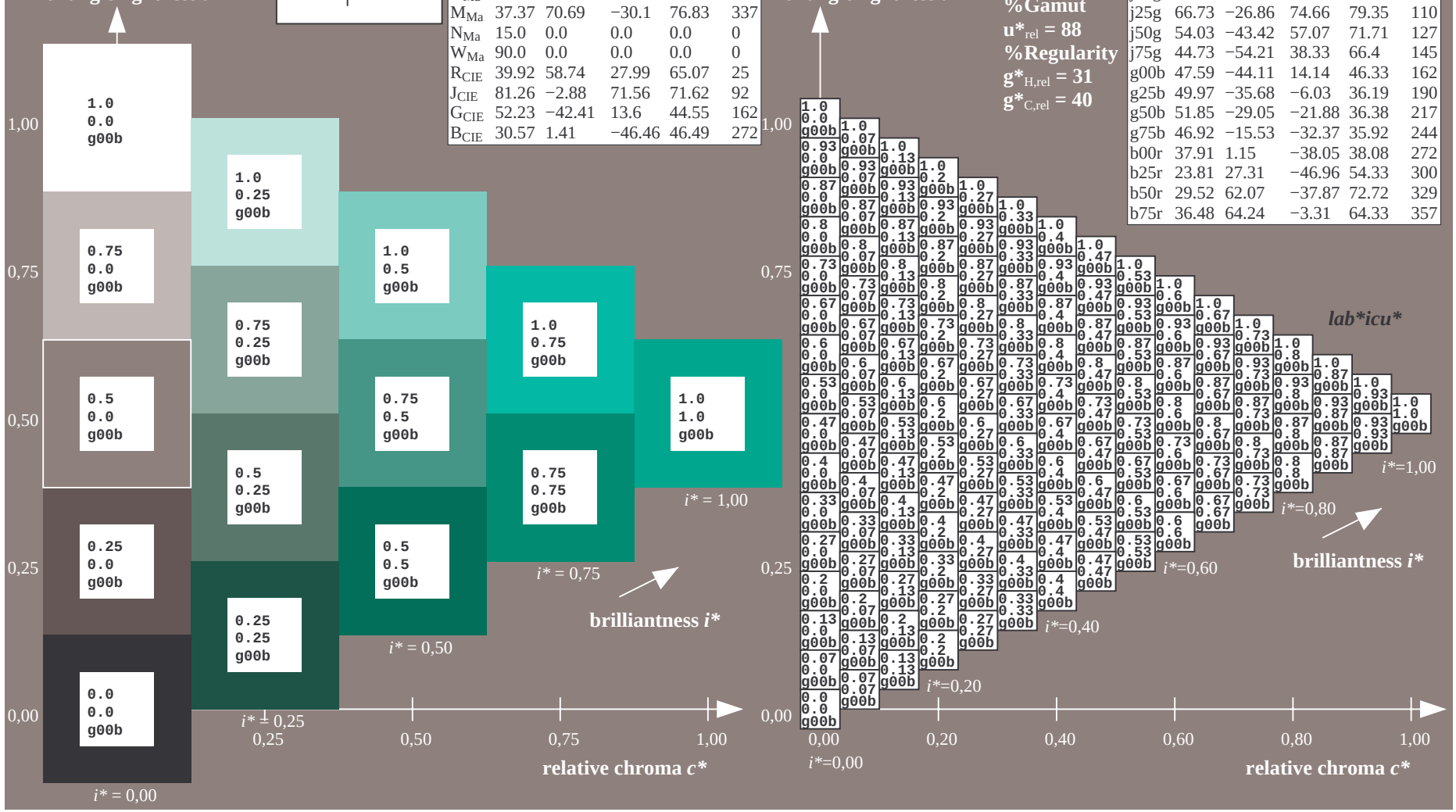
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

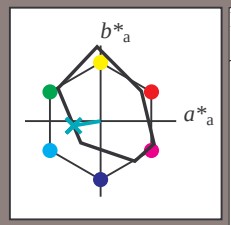
**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 190/360 = 0.527$**

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = g25b***
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness *t****



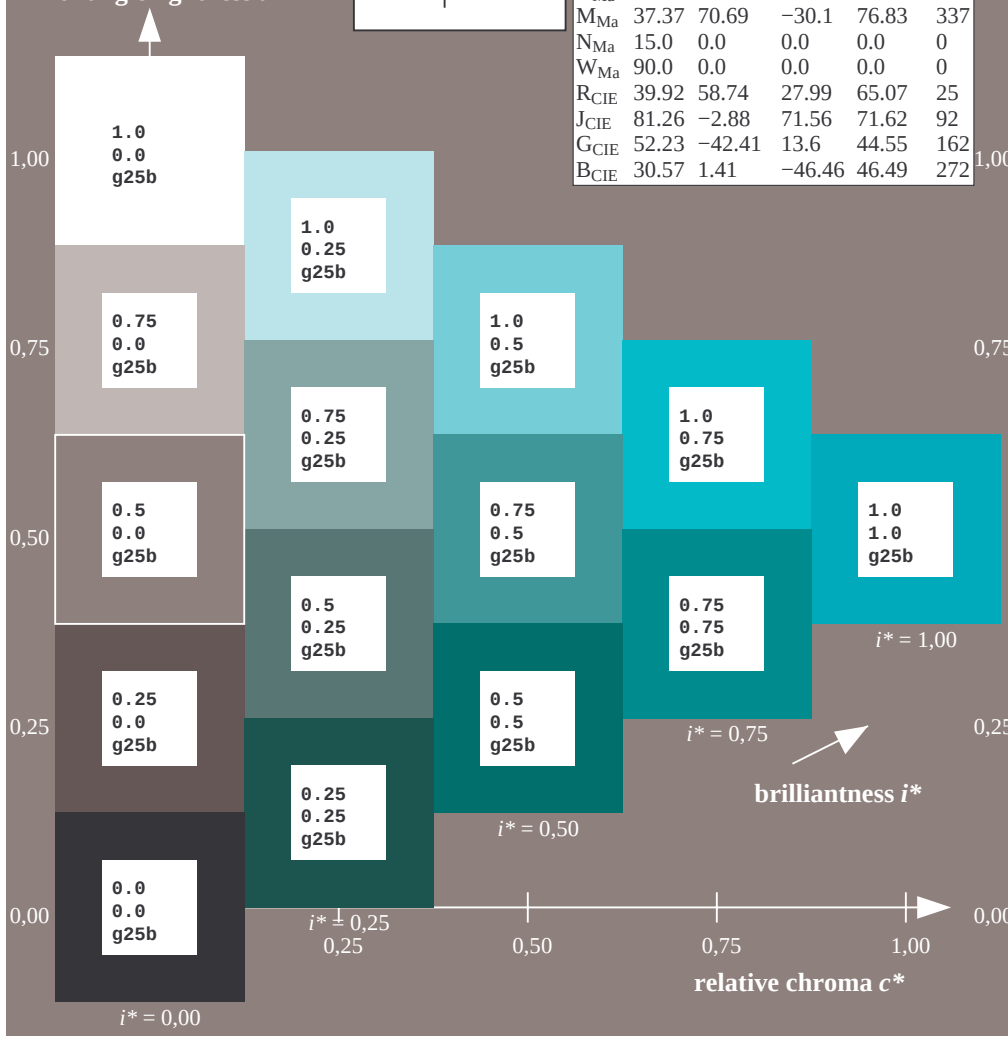

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

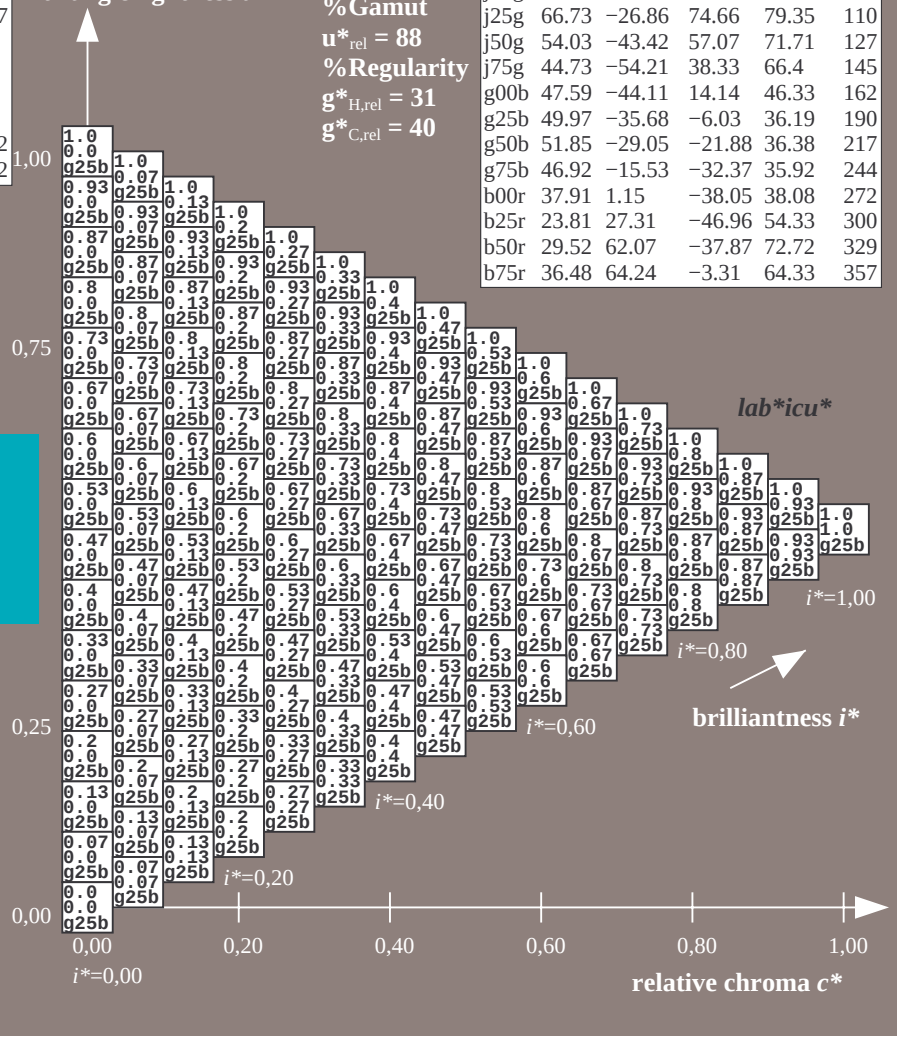
**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 50 −35 −5**
***LAB*LCH****$_{Ma}$**: 50 36 190**
***lab*rgb****$_{Ma}$**: 0.0 1.0 0.5**
***lab*olv****$_{Ma}$**: 0.0 1.0 0.69**
**triangle lightness *t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

***u* = g25b***
***lab*icu****

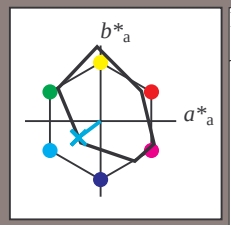
| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 217/360 = 0.603$**

**data for any colour:**
*lab*tch** **and** *lab*icu**
**elementary hue text:**
$u^* = g50b$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$

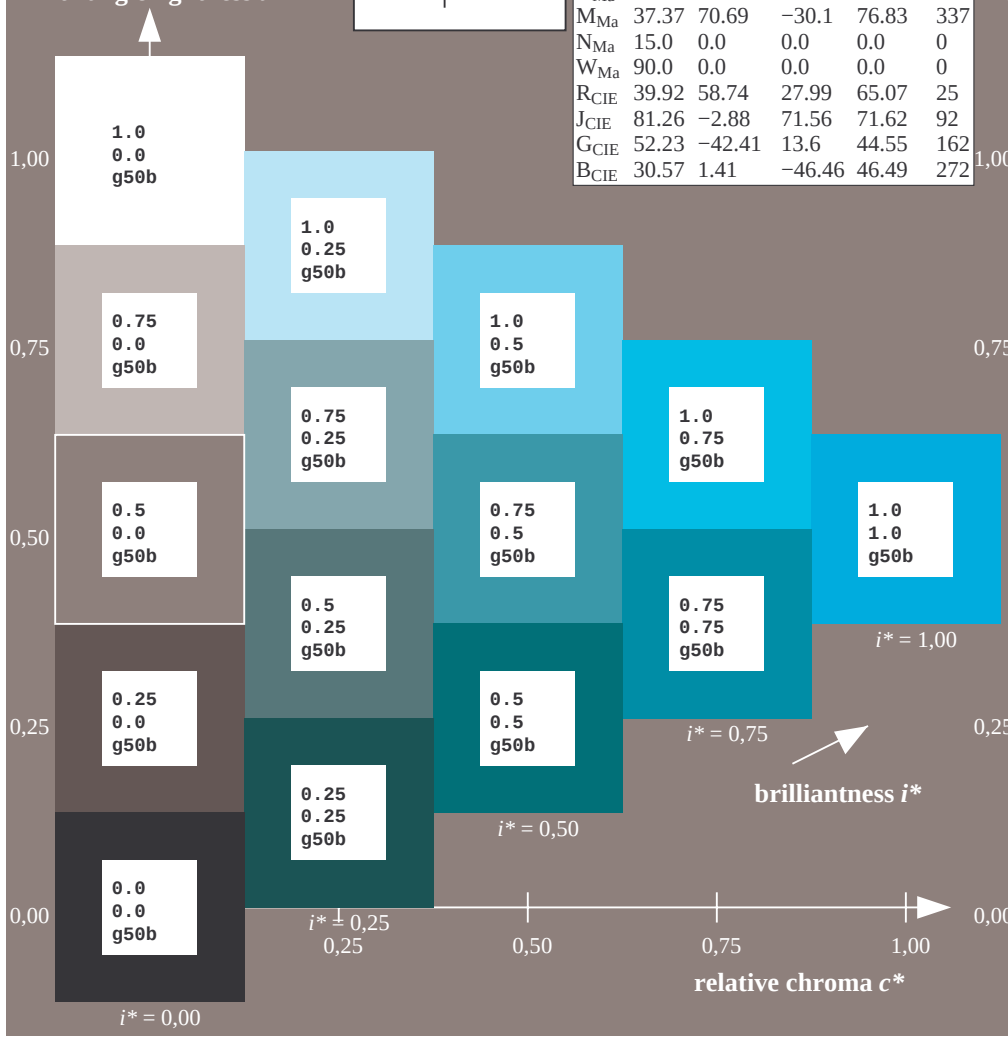


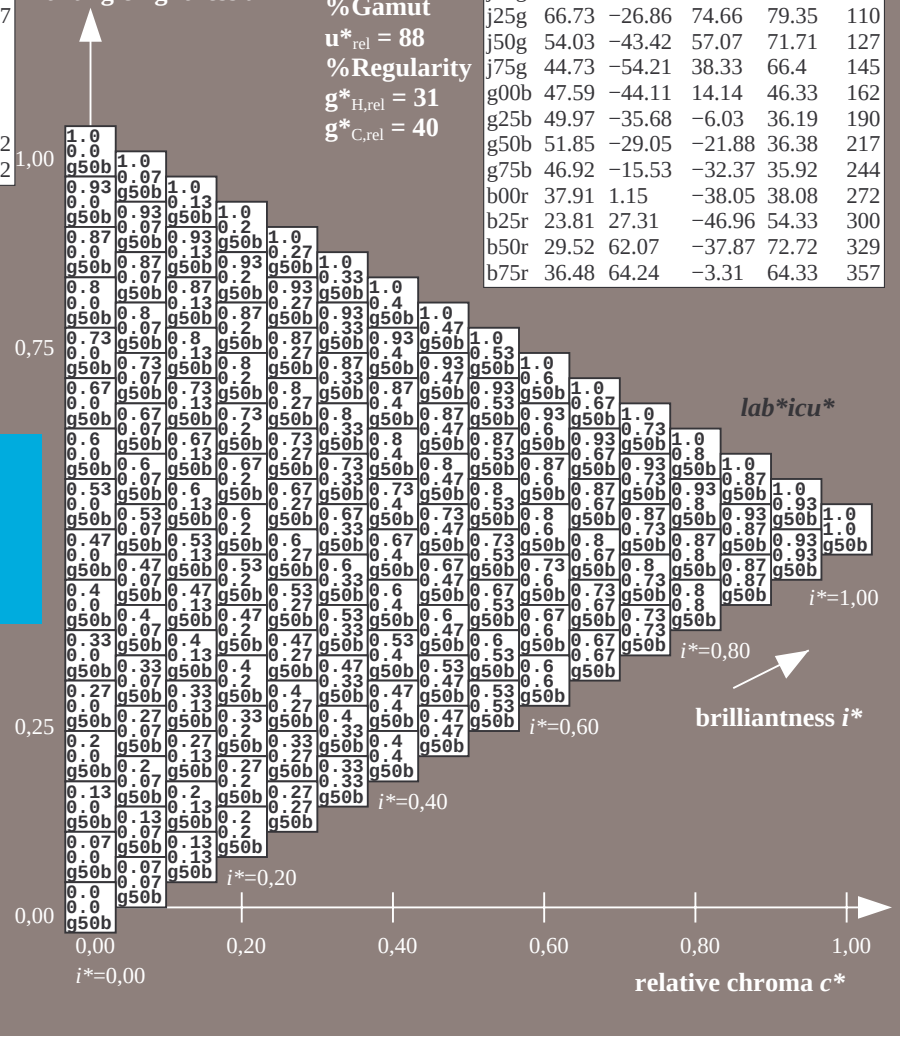

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
$LAB^*LAB^*_{Ma}$: 52 −28 −21
$LAB^*LCH^*_{Ma}$: 52 36 217
$lab^*rgb^*_{Ma}$: 0.0 1.0 1.0
$lab^*olv^*_{Ma}$: 0.0 1.0 0.9

$u^* = g50b$
$lab^*icu^*$

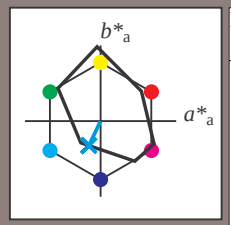
| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 244/360 = 0.679$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
*u* = g75b*
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****



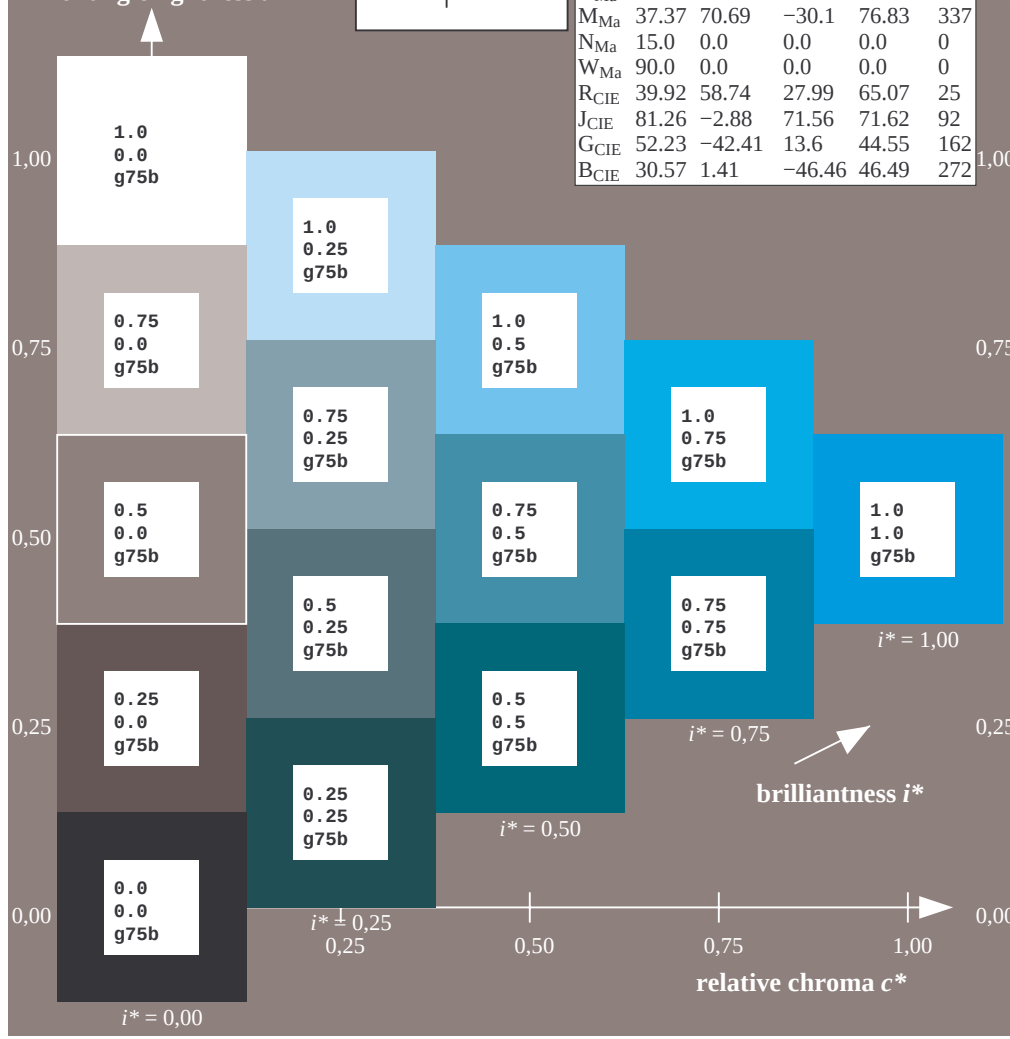

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

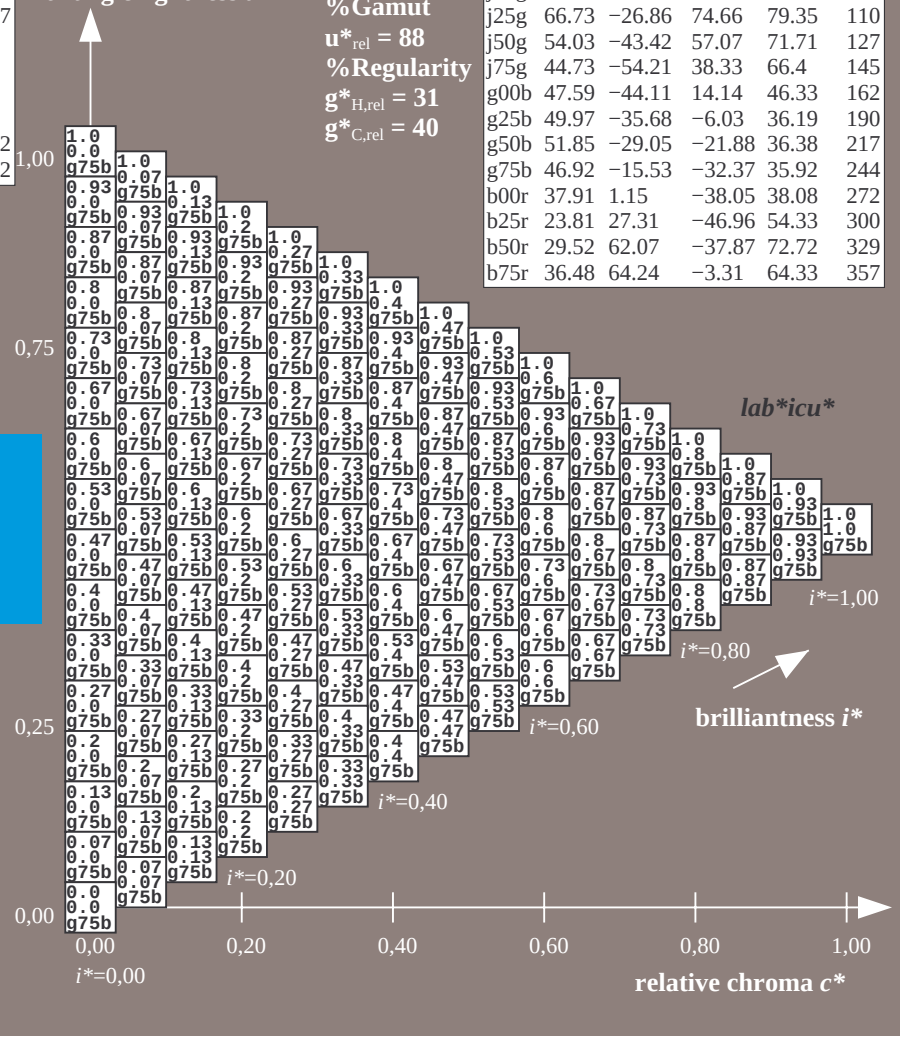
**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 47 −15 −31**
***LAB*LCH*Ma*: 47 36 244**
***lab*rgb*Ma*: 0.0 0.5 1.0**
***lab*olv*Ma*: 0.0 0.85 1.0**
**triangle lightness *t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

***u* = g75b***
***lab*icu****

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 272/360 = 0.755$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

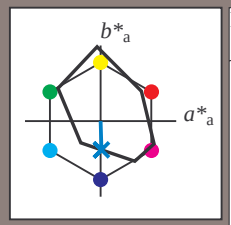
**elementary hue text:**

***u* = b00r***

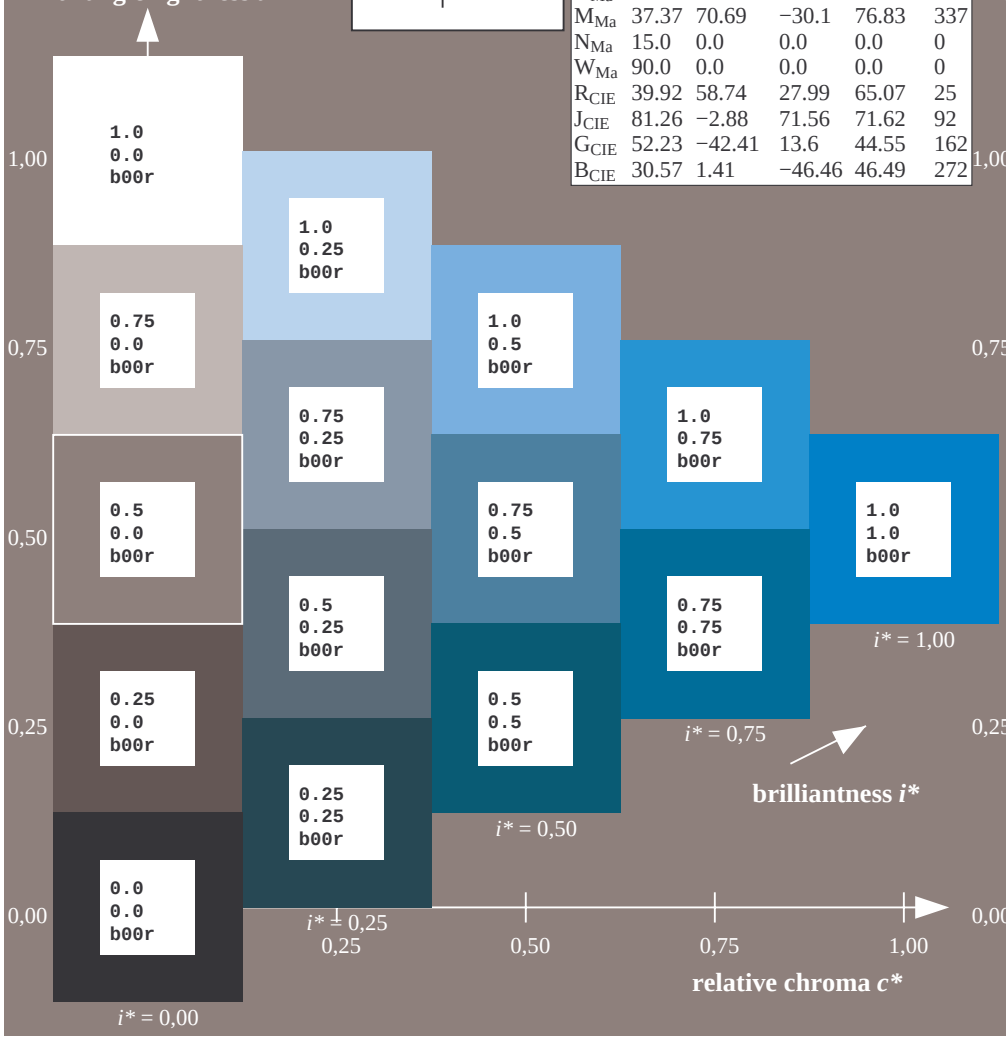
**contrast reduction factor:**

$c_R = 0.9$

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |




**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 38 1 −37**

***LAB*LCH****$_{Ma}$**: 38 38 272**

***lab*rgb****$_{Ma}$**: 0.0 0.0 1.0**

***lab*olv****$_{Ma}$**: 0.0 0.62 1.0**

***u* = b00r***

***lab*icu****

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness *t****

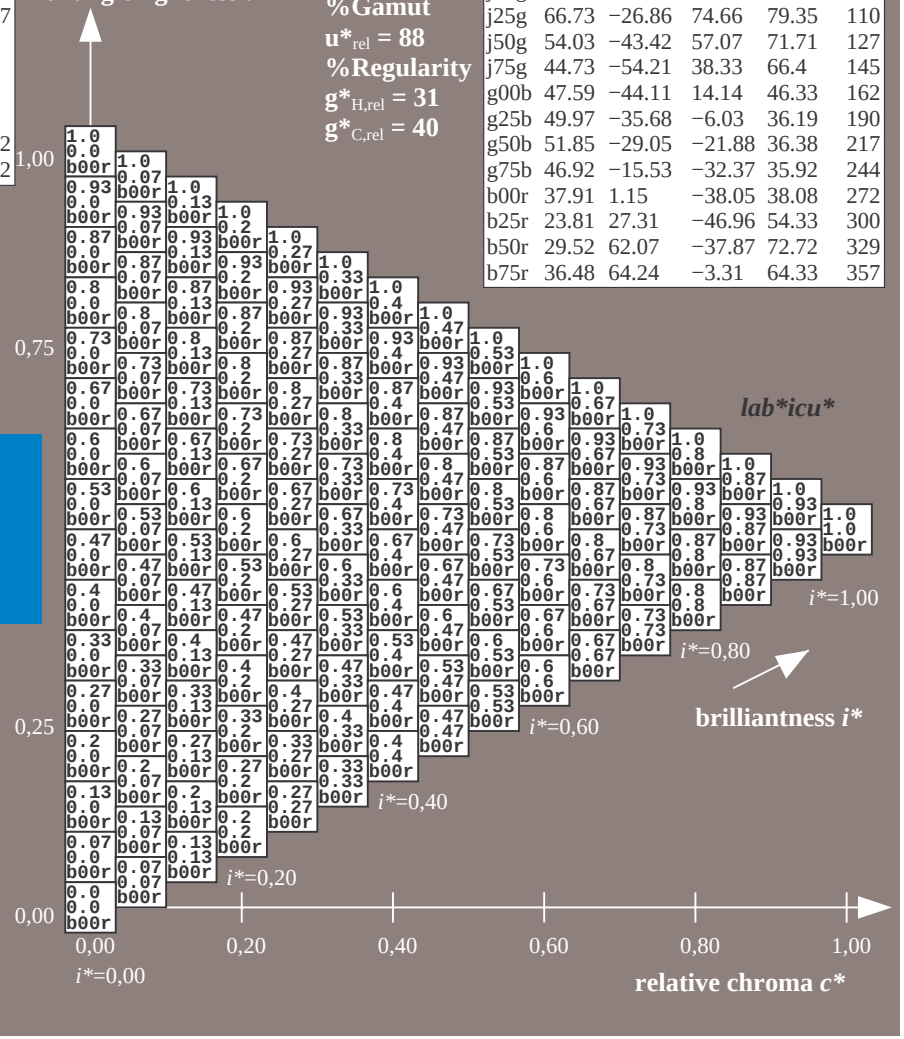
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

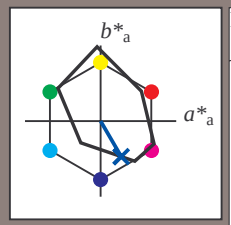
**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 300/360 = 0.834$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
*u* = b25r*
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****

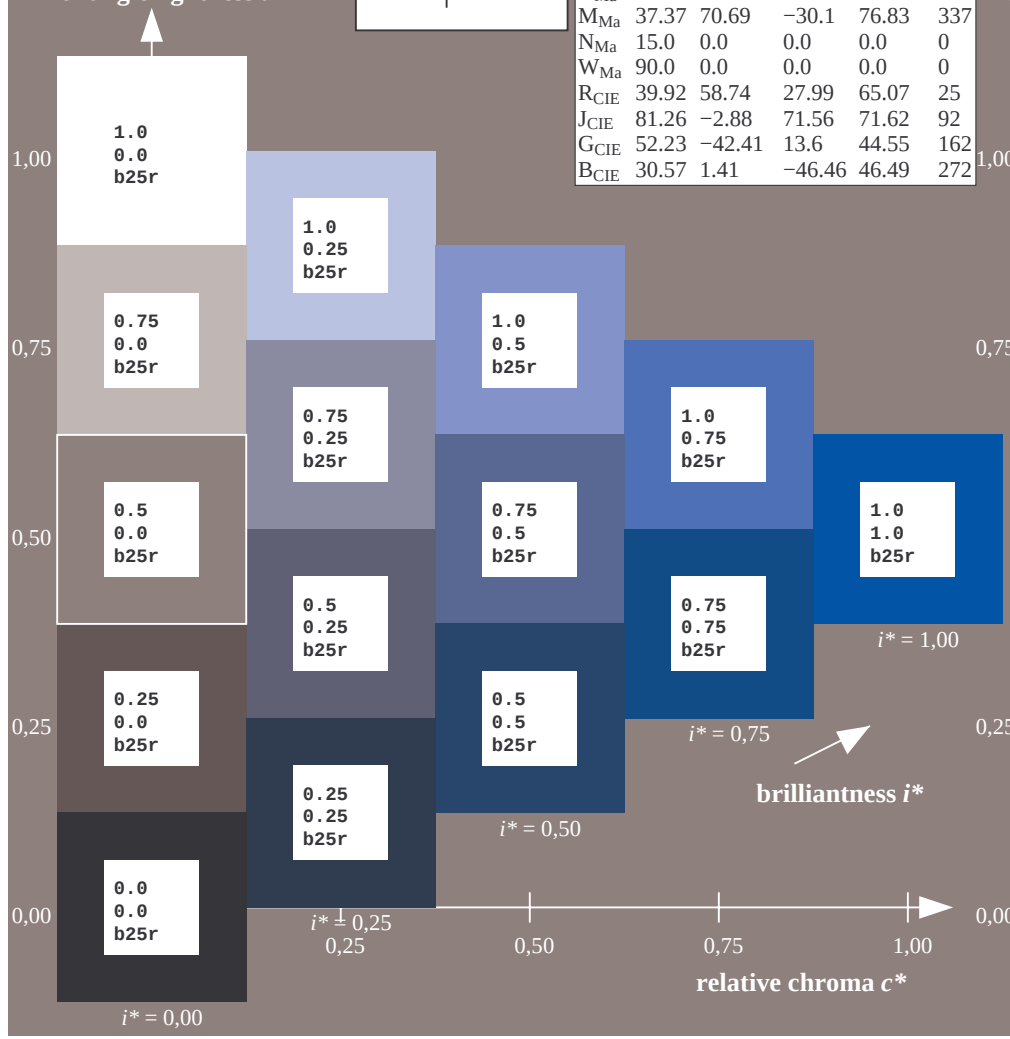



| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

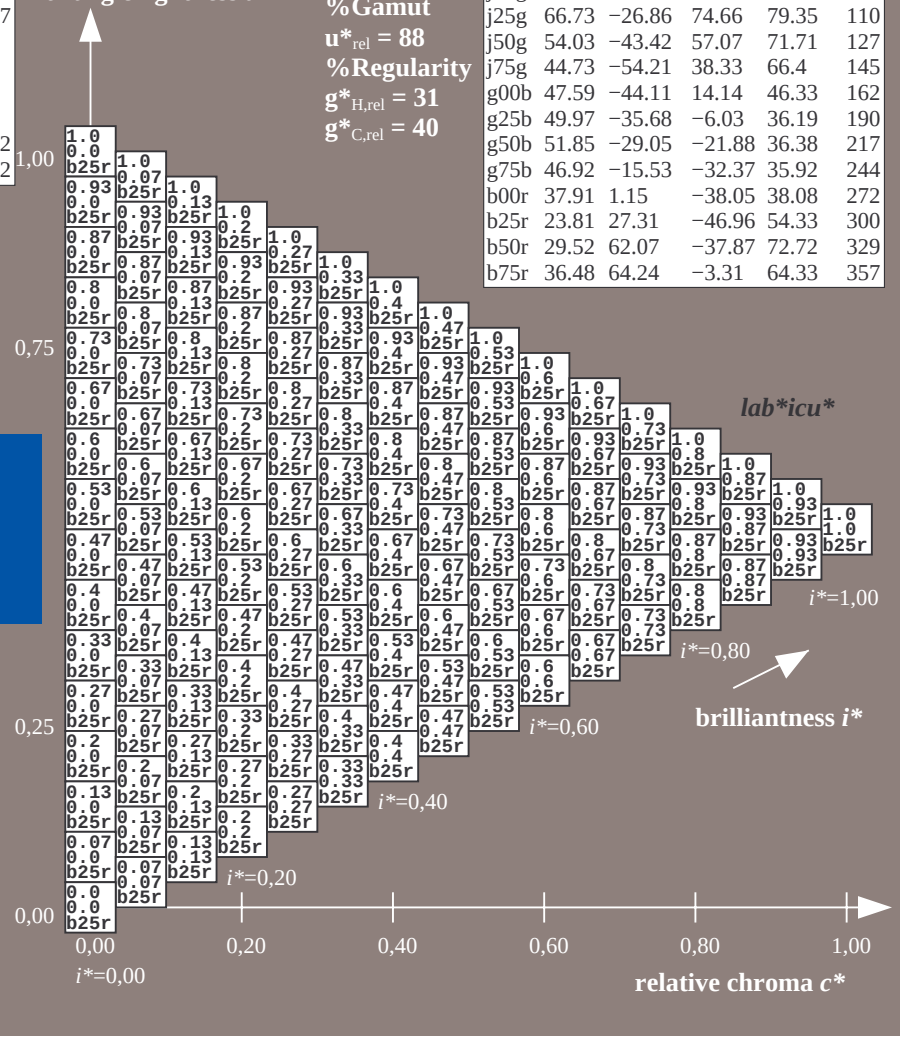
**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 24 27 −46**
***LAB*LCH*Ma*: 24 54 300**
***lab*rgb*Ma*: 0.5 0.0 1.0**
***lab*olv*Ma*: 0.0 0.25 1.0**

***u* = b25r***
***lab*icu****

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |




**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 329/360 = 0.913$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

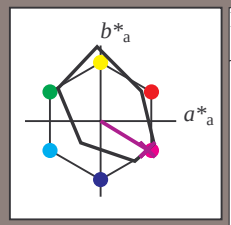
**elementary hue text:**

***u* = b50r***

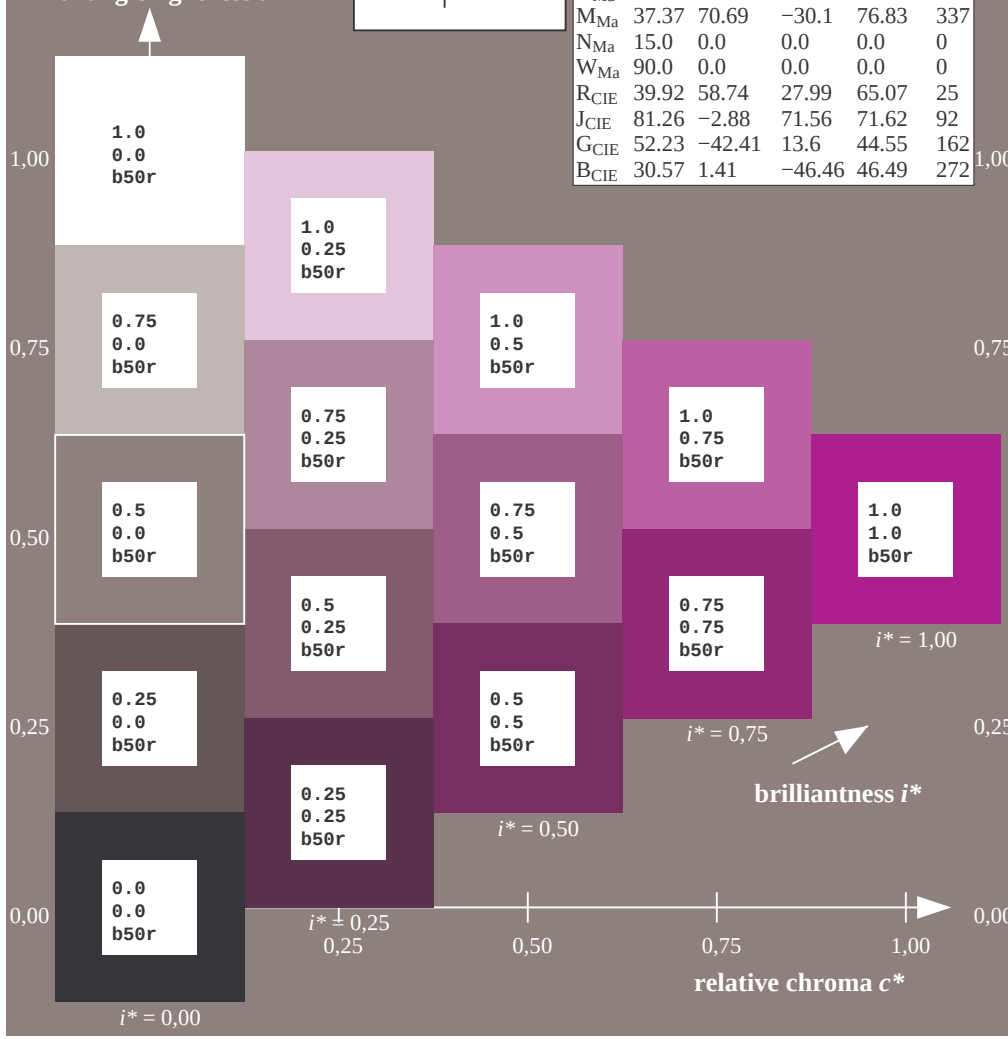
**contrast reduction factor:**

$c_R = 0.9$

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |




**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 30 62 −37**

***LAB*LCH****$_{Ma}$**: 30 73 329**

***lab*rgb****$_{Ma}$**: 1.0 0.0 1.0**

***lab*olv****$_{Ma}$**: 0.66 0.0 1.0**

***u* = b50r***

***lab*icu****

| FRS15_90aM; adapted (a) CIELAB data | | | | | |
|---|---|---|---|---|---|
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness *t****

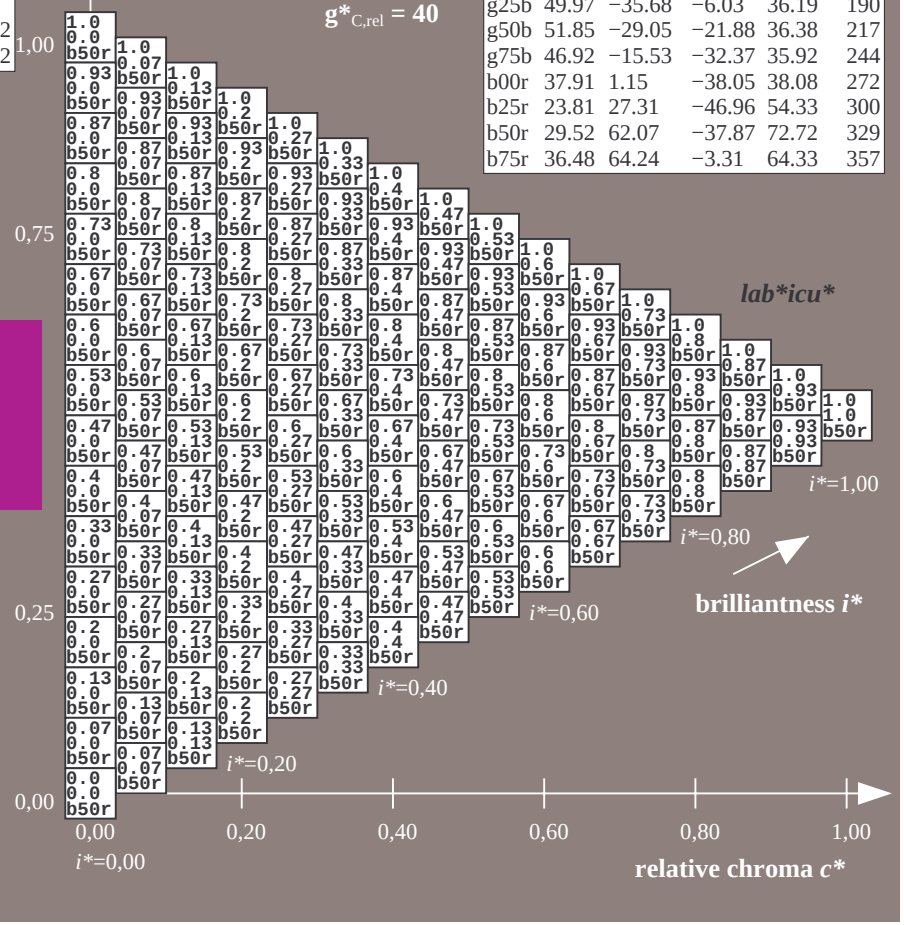
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 357/360 = 0.992$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

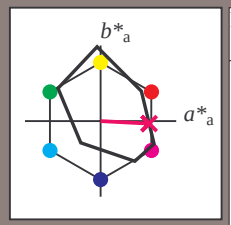
**elementary hue text:**

***u* = b75r***

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness *t****




| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| $O_{Ma}$ | 35.06 | 53.93 | 39.55 | 66.88 | 36 |
| $Y_{Ma}$ | 83.77 | −4.63 | 98.26 | 98.37 | 93 |
| $L_{Ma}$ | 44.13 | −56.32 | 43.36 | 71.09 | 142 |
| $C_{Ma}$ | 52.66 | −26.18 | −28.74 | 38.89 | 228 |
| $V_{Ma}$ | 14.15 | 45.22 | −53.06 | 69.72 | 310 |
| $M_{Ma}$ | 37.37 | 70.69 | −30.1 | 76.83 | 337 |
| $N_{Ma}$ | 15.0 | 0.0 | 0.0 | 0.0 | 0 |
| $W_{Ma}$ | 90.0 | 0.0 | 0.0 | 0.0 | 0 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 36 64 −2**

***LAB*LCH****$_{Ma}$**: 36 64 357**

***lab*rgb****$_{Ma}$**: 1.0 0.0 0.5**

***lab*olv****$_{Ma}$**: 1.0 0.0 0.62**

***u* = b75r***

***lab*icu****

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness *t****

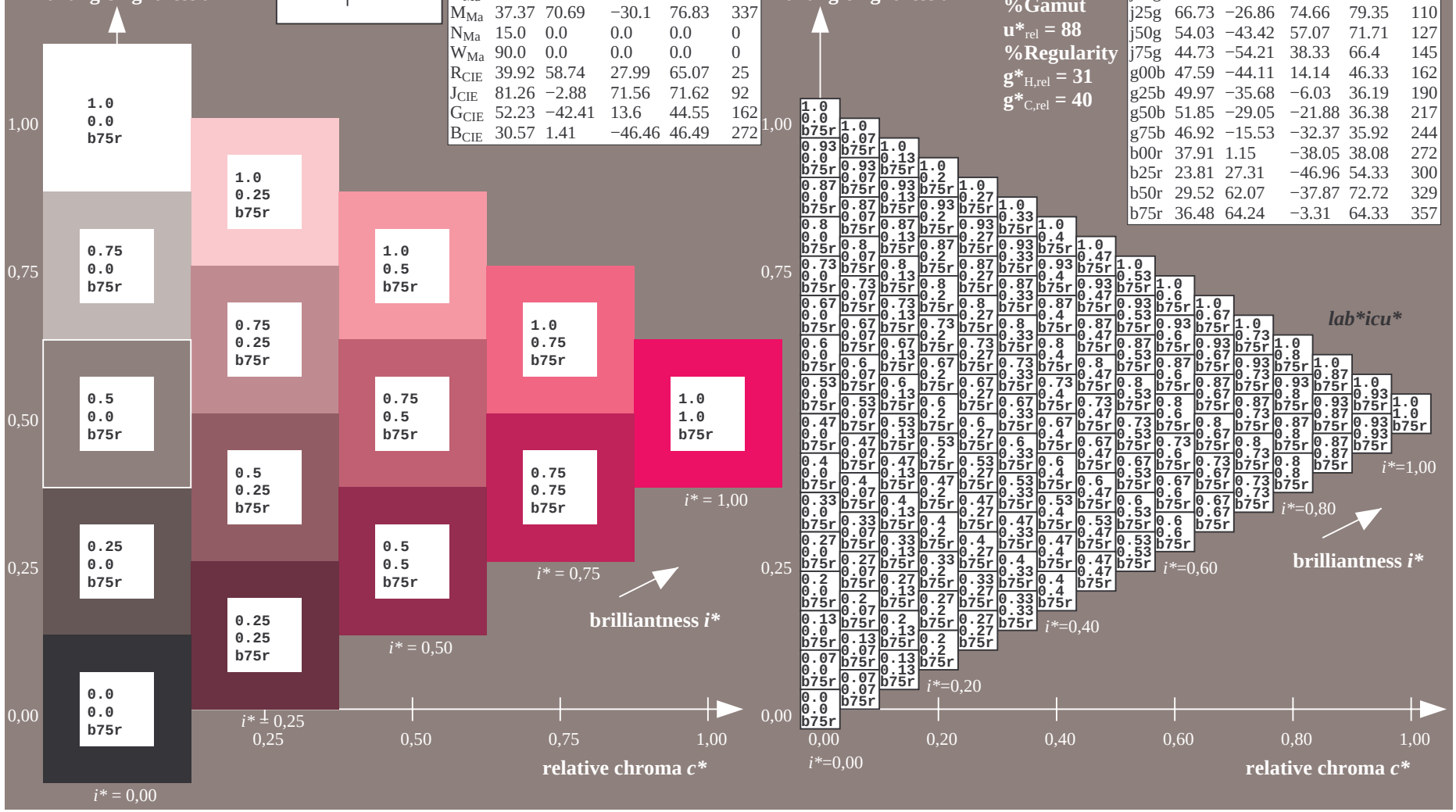
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

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

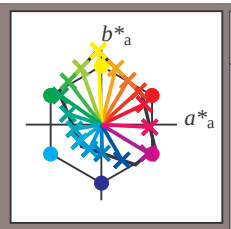


| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | a | b | c | d | e | f | g | h | i | j | k | *lab*icu** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.13 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.0 | 0.12 | 0.25 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.12 | 0.12 | 0.25 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.25 | 0.25 | 0.25 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.0 | 0.12 | 0.25 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b10r | j70g | j70g | j70g | j70g | j70g | j70g | j70g | j70g | r15j | j00g | j29g | j42g | j49g | j53g | j56g | j58g | j60g | r15j | r66j | j00g | j18g | j29g | j37g | j42g | j46g | j49g | b10r | r15j | r15j | r15j | r15j | r15j | r15j | r15j | r15j | b10r | b10r | b10r | b10r |
| 02 | 0.13 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.13 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.13 | 0.13 | 0.13 | 0.13 |
| | 0.12 | 0.12 | 0.25 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.12 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.87 | 0.25 | 0.13 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.87 | 0.12 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.87 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b33r | g59b | g06b | j92g | j85g | j81g | j79g | j78g | j77g | b56r | b10r | j70g | j70g | j70g | j70g | j70g | j70g | j70g | b80r | r15j | j00g | j29g | j42g | j49g | j53g | j56g | j58g | g59b | b10r | r15j | r15j | r15j | r15j | r15j | r15j | r15j | b10r | b10r | b10r | b10r |
| 03 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.25 | 0.25 | 0.25 | 0.25 |
| | 0.25 | 0.25 | 0.25 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.25 | 0.13 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.87 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b33r | b09r | g59b | g22b | g06b | j98g | j92g | j88g | j85g | b45r | b33r | g59b | g06b | j92g | j85g | j81g | j79g | j78g | b56r | b56r | b10r | j70g | j70g | j70g | j70g | j70g | j70g | g59b | g59b | b10r | r15j | r15j | r15j | r15j | r15j | r15j | b10r | b10r | b10r | b10r |
| 04 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.38 | 0.38 | 0.38 | 0.38 |
| | 0.37 | 0.37 | 0.37 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.37 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.87 | 0.37 | 0.25 | 0.13 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.37 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.62 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b33r | b20r | g94b | g59b | g32b | g15b | g06b | g01b | j95g | b41r | b33r | b09r | g59b | g22b | g06b | j98g | j92g | j88g | b49r | b45r | b33r | g59b | g06b | j92g | j85g | j81g | j79g | g59b | g59b | g59b | g59b | b10r | r15j | r15j | r15j | r15j | b10r | b10r | b10r | b10r |
| 05 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.5 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.63 | 0.75 | 0.87 | 0.5 | 0.38 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b33r | b24r | b09r | g85b | g59b | g37b | g22b | g13b | g06b | b39r | b33r | b20r | g94b | g59b | g32b | g15b | g06b | g01b | b45r | b41r | b33r | b09r | g59b | g22b | g06b | j98g | j92g | g59b | g59b | g59b | g59b | b10r | r15j | r15j | r15j | r15j | b10r | b10r | b10r | b10r |
| 06 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 0.88 | 1.0 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 0.88 | 1.0 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.38 | 0.38 | 0.38 | 0.63 | 0.63 | 0.63 | 0.63 |
| | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.75 | 0.87 | 1.0 | 0.62 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.75 | 0.87 | 0.62 | 0.5 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.63 | 0.75 | 0.62 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.37 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b33r | b26r | b16r | b01r | g79b | g59b | g41b | g27b | g18b | b38r | b33r | b24r | b09r | g85b | g59b | g37b | g22b | g13b | b43r | b39r | b33r | b20r | g94b | g59b | g32b | g15b | g06b | g59b | g59b | g59b | g59b | g59b | b10r | r15j | r15j | r15j | b10r | b10r | b10r | b10r |
| 07 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 1.0 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 1.0 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.25 | 0.25 | 0.75 | 0.75 | 0.75 | 0.75 |
| | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.87 | 1.0 | 0.75 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 0.87 | 0.75 | 0.63 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.75 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b33r | b28r | b20r | b09r | g94b | g76b | g59b | g44b | g32b | b37r | b33r | b26r | b16r | b01r | g79b | g59b | g41b | g27b | b41r | b38r | b33r | b24r | b09r | g85b | g59b | g37b | g22b | g59b | g59b | g59b | g59b | g59b | g59b | b10r | r15j | r15j | b10r | b10r | b10r | b10r |
| 08 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.13 | 0.88 | 0.88 | 0.88 | 0.88 |
| | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 1.0 | 0.87 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.87 | 0.87 | 0.75 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 0.87 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.12 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b33r | b29r | b23r | b14r | b04r | g89b | g73b | g59b | g46b | b37r | b33r | b28r | b20r | b09r | g94b | g76b | g59b | g44b | b40r | b37r | b33r | b26r | b16r | b01r | g79b | g59b | g41b | g59b | g59b | g59b | g59b | g59b | g59b | g59b | b10r | r15j | b10r | b10r | b10r | b10r |
| 09 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 1.0 | 0.87 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 1.0 | 0.87 | 0.75 | 0.62 | 0.5 | 0.37 | 0.25 | 0.12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b33r | b29r | b24r | b18r | b09r | g98b | g85b | g71b | g59b | b36r | b33r | b29r | b23r | b14r | b04r | g89b | g73b | g59b | b39r | b37r | b33r | b28r | b20r | b09r | g94b | g76b | g59b | g59b | g59b | g59b | g59b | g59b | g59b | g59b | g59b | g59b | b10r | b10r | b10r | b10r |
| 10 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.37 | 0.37 | 0.37 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.75 | 0.87 | 1.0 | 0.0 | 0.12 | 0.25 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | r15j | r50j | r79j | j00g | j13g | j22g | j29g | j35g | j39g | r15j | r42j | r66j | r85j | j00g | j10g | j18g | j24g | j29g | r15j | r37j | r57j | r74j | r88j | j00g | j08g | j15g | j21g | b10r | j00g | j00g | j00g | j00g | j00g | j00g | j00g | j00g | b10r | b10r | b10r | b10r |
| 11 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.07 | 0.07 | 0.07 | 0.07 |
| | 0.37 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.87 | 0.5 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.63 | 0.75 | 0.87 | 0.62 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.75 | 0.87 | 0.12 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.87 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b90r | r15j | r66j | j00g | j18g | j29g | j37g | j42g | j46g | b94r | r15j | r50j | r79j | j00g | j13g | j22g | j29g | j35g | b97r | r15j | r42j | r66j | r85j | j00g | j10g | j18g | j24g | b33r | b10r | j00g | j00g | j00g | j00g | j00g | j00g | j00g | b10r | b10r | b10r | b10r |
| 12 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.13 | 0.13 | 0.13 | 0.13 |
| | 0.37 | 0.25 | 0.13 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.5 | 0.38 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.62 | 0.5 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.63 | 0.75 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b71r | b80r | r15j | j00g | j29g | j42g | j49g | j53g | j56g | b80r | b90r | r15j | r66j | j00g | j18g | j29g | j37g | j42g | b86r | b94r | r15j | r50j | r79j | j00g | j13g | j22g | j29g | b33r | b33r | b10r | j00g | j00g | j00g | j00g | j00g | j00g | b10r | b10r | b10r | b10r |
| 13 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.2 | 0.2 | 0.2 | 0.2 |
| | 0.37 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.62 | 0.5 | 0.38 | 0.25 | 0.13 | 0.13 | 0.25 | 0.38 | 0.5 | 0.62 | 0.62 | 0.5 | 0.38 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.62 | 0.37 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.62 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b56r | b56r | b56r | b10r | j70g | j70g | j70g | j70g | j70g | b67r | b71r | b80r | r15j | j00g | j29g | j42g | j49g | j53g | b75r | b80r | b90r | r15j | r66j | j00g | j18g | j29g | j37g | b33r | b33r | b33r | b10r | j00g | j00g | j00g | j00g | j00g | b10r | b10r | b10r | b10r |
| 14 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.27 | 0.27 | 0.27 | 0.27 |
| | 0.5 | 0.38 | 0.25 | 0.13 | 0.13 | 0.25 | 0.38 | 0.5 | 0.62 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.62 | 0.5 | 0.38 | 0.25 | 0.13 | 0.13 | 0.25 | 0.38 | 0.5 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b51r | b49r | b45r | b33r | g59b | g06b | j92g | j85g | j81g | b56r | b56r | b56r | b56r | b10r | j70g | j70g | j70g | j70g | b65r | b67r | b71r | b80r | r15j | j00g | j29g | j42g | j49g | b33r | b33r | b33r | b33r | b10r | j00g | j00g | j00g | j00g | b10r | b10r | b10r | b10r |
| 15 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 0.88 | 1.0 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 0.88 | 1.0 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.38 | 0.38 | 0.38 | 0.33 | 0.33 | 0.33 | 0.33 |
| | 0.62 | 0.5 | 0.38 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.62 | 0.62 | 0.5 | 0.38 | 0.25 | 0.13 | 0.13 | 0.25 | 0.38 | 0.5 | 0.62 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.37 | 0.62 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.37 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b48r | b45r | b41r | b33r | b09r | g59b | g22b | g06b | j98g | b52r | b51r | b49r | b45r | b33r | g59b | g06b | j92g | j85g | b56r | b56r | b56r | b56r | b56r | b10r | j70g | j70g | j70g | b33r | b33r | b33r | b33r | b33r | b10r | j00g | j00g | j00g | b10r | b10r | b10r | b10r |
| 16 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 1.0 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 1.0 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.25 | 0.25 | 0.4 | 0.4 | 0.4 | 0.4 |
| | 0.75 | 0.63 | 0.5 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.62 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.13 | 0.25 | 0.37 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b45r | b43r | b39r | b33r | b20r | g94b | g59b | g32b | g15b | b49r | b48r | b45r | b41r | b33r | b09r | g59b | g22b | g07b | b53r | b52r | b51r | b49r | b45r | b33r | g59b | g06b | j92g | b33r | b33r | b33r | b33r | b33r | b33r | b10r | j00g | j00g | b10r | b10r | b10r | b10r |
| 17 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.13 | 0.47 | 0.47 | 0.47 | 0.47 |
| | 0.87 | 0.75 | 0.63 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.62 | 0.87 | 0.75 | 0.63 | 0.5 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.87 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.25 | 0.25 | 0.37 | 0.87 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.12 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b44r | b41r | b38r | b33r | b24r | b09r | g85b | g59b | g37b | b47r | b45r | b43r | b39r | b33r | b20r | g94b | g59b | g32b | b50r | b49r | b48r | b45r | b41r | b33r | b09r | g59b | g22b | b33r | b33r | b33r | b33r | b33r | b33r | b33r | b10r | j00g | b10r | b10r | b10r | b10r |
| 18 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.53 | 0.53 | 0.53 | 0.53 |
| | 1.0 | 0.87 | 0.75 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 1.0 | 0.87 | 0.75 | 0.62 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 | 0.87 | 0.75 | 0.62 | 0.5 | 0.37 | 0.37 | 0.37 | 0.37 | 1.0 | 0.87 | 0.75 | 0.62 | 0.5 | 0.37 | 0.25 | 0.12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b42r | b40r | b37r | b33r | b26r | b16r | b01r | g79b | g59b | b45r | b44r | b41r | b38r | b33r | b24r | b09r | g85b | g59b | b48r | b47r | b45r | b43r | b39r | b33r | b20r | g94b | g59b | b33r | b33r | b33r | b33r | b33r | b33r | b33r | b33r | b10r | b10r | b10r | b10r | b10r |
| 19 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 1.0 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.6 | 0.6 | 0.6 | 0.6 |
| | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.87 | 1.0 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 | 0.12 | 0.25 | 0.37 | 0.5 | 0.62 | 0.75 | 0.87 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | r15j | r33j | r50j | r66j | r79j | r90j | j00g | j07g | j13g | r15j | r31j | r46j | r60j | r72j | r83j | r92j | j00g | j06g | r15j | r29j | r42j | r54j | r66j | r76j | r85j | r93j | j00g | b10r | j70g | j70g | j70g | j70g | j70g | j70g | j70g | j70g | b10r | b10r | b10r | b10r |
| 20 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 1.0 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.67 | 0.67 | 0.67 | 0.67 |
| | 0.75 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 0.87 | 0.87 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.87 | 1.0 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.12 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.87 | 0.0 | 0.0 | 0.0 | 0.0 |
| | r01j | r15j | r37j | r57j | r74j | r88j | j00g | j08g | j15g | r03j | r15j | r33j | r50j | r66j | r79j | r90j | j00g | j07g | r04j | r15j | r31j | r46j | r60j | r72j | r83j | r92j | j00g | b56r | b10r | j70g | j70g | j70g | j70g | j70g | j70g | j70g | b10r | b10r | b10r | b10r |
| 21 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 1.0 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.88 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.73 | 0.73 | 0.73 | 0.73 |
| | 0.75 | 0.63 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.75 | 0.87 | 0.75 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 1.0 | 0.87 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b90r | b97r | r15j | r42j | r66j | r85j | j00g | j10g | j18g | b92r | r01j | r15j | r37j | r57j | r74j | r88j | j00g | j08g | b94r | r03j | r15j | r33j | r50j | r66j | r79j | r90j | j00g | b56r | b56r | b10r | j70g | j70g | j70g | j70g | j70g | j70g | b10r | b10r | b10r | b10r |
| 22 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 1.0 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.8 | 0.8 | 0.8 | 0.8 |
| | 0.75 | 0.63 | 0.5 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.62 | 0.87 | 0.75 | 0.63 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.62 | 1.0 | 0.87 | 0.75 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.62 | 0.37 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.62 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b80r | b86r | b94r | r15j | r50j | r79j | j00g | j13g | j22g | b84r | b90r | b97r | r15j | r42j | r66j | r85j | j00g | j10g | b87r | b92r | r01j | r15j | r37j | r57j | r74j | r88j | j00g | b56r | b56r | b56r | b10r | j70g | j70g | j70g | j70g | j70g | b10r | b10r | b10r | b10r |
| 23 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 1.0 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.87 | 0.87 | 0.87 | 0.87 |
| | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.25 | 0.25 | 0.38 | 0.5 | 0.87 | 0.75 | 0.63 | 0.5 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 1.0 | 0.87 | 0.75 | 0.62 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b71r | b75r | b80r | b90r | r15j | r66j | j00g | j18g | j29g | b76r | b80r | b86r | b94r | r15j | r50j | r79j | j00g | j13g | b80r | b84r | b90r | b97r | r15j | r42j | r66j | r85j | j00g | b56r | b56r | b56r | b56r | b10r | j70g | j70g | j70g | j70g | b10r | b10r | b10r | b10r |
| 24 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 1.0 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.38 | 0.38 | 0.38 | 0.93 | 0.93 | 0.93 | 0.93 |
| | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.13 | 0.25 | 0.37 | 0.87 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.25 | 0.25 | 0.37 | 1.0 | 0.87 | 0.75 | 0.62 | 0.5 | 0.37 | 0.37 | 0.37 | 0.37 | 0.62 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.25 | 0.37 | 0.0 | 0.0 | 0.0 | 0.0 |
| | b63r | b65r | b67r | b71r | b80r | r15j | j00g | j29g | j42g | b69r | b71r | b75r | b80r | b90r | r15j | r66j | j00g | j18g | b73r | b76r | b80r | b86r | b94r | r15j | r50j | r79j | j00g | b56r | b56r | b56r | b56r | b10r | j70g | j70g | j70g | j70g | b10r | b10r | b10r | b10r |
| 25 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 1.0 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1

**Input and output:**
**Colorimetric Printer Reflective System FRS15_90aM**
**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u**** **= 16 hues** ***r00j, r25j, ..., b75r***
**contrast reduction factor:**
$c_R = 0.9$

**FRS15_90aM; adapted (a) CIELAB data**

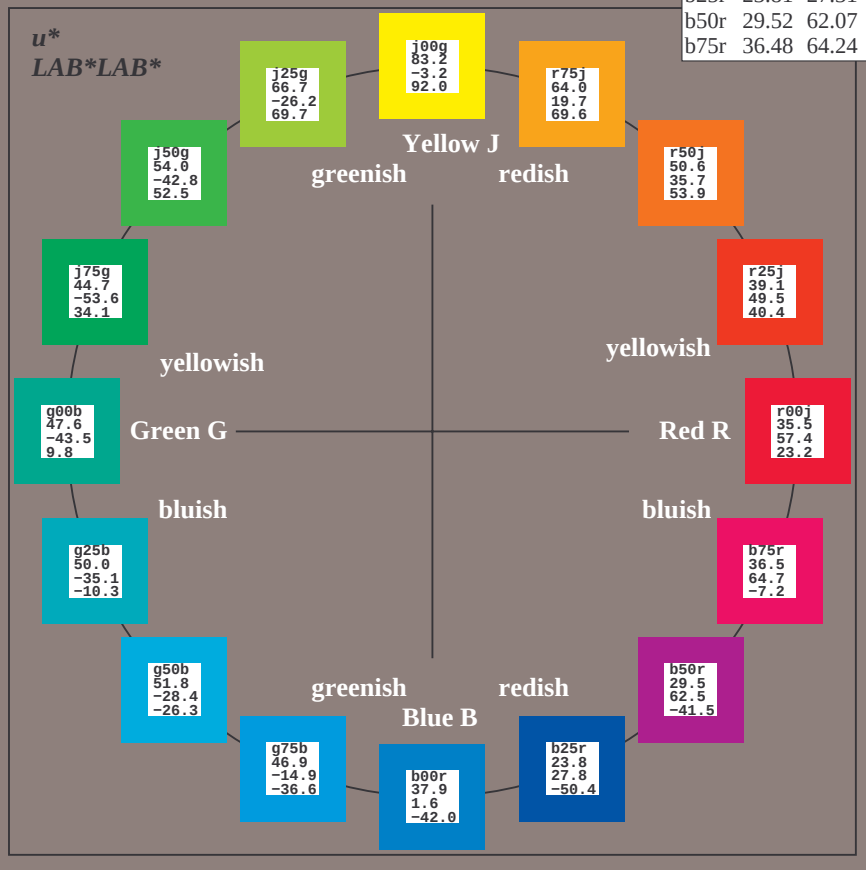
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

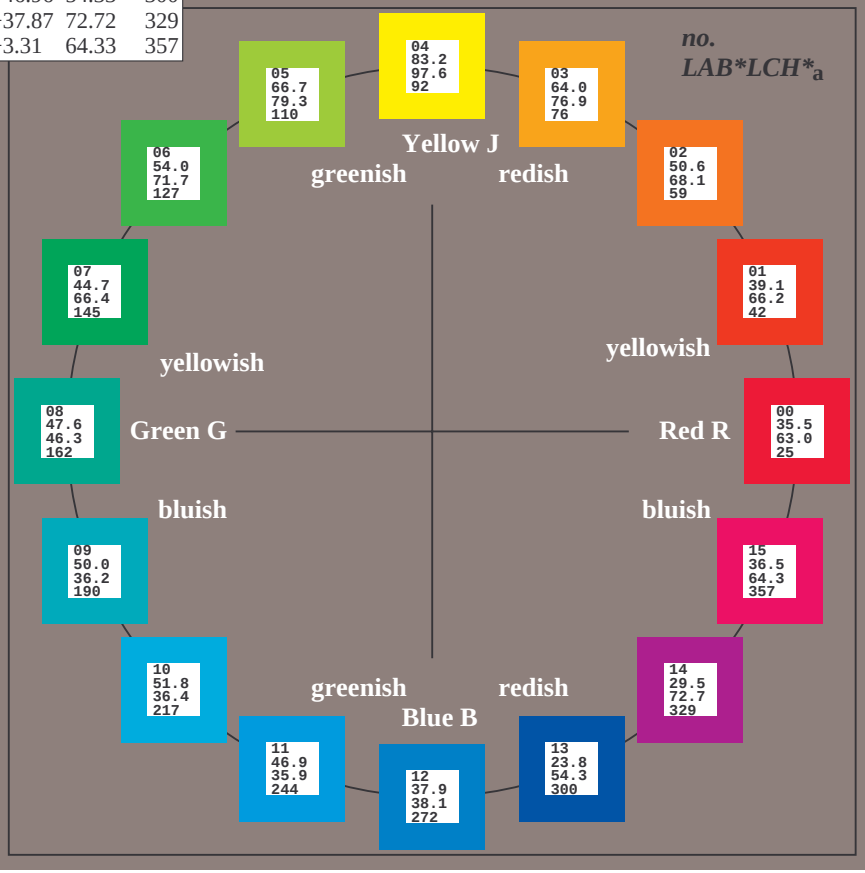



**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**

**FRS15_90M; CIELAB data**

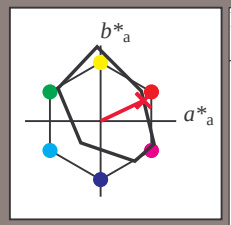
| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 25/360 = 0.071$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
*u* = r00j*
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****




**FRS15_90M; CIELAB data**

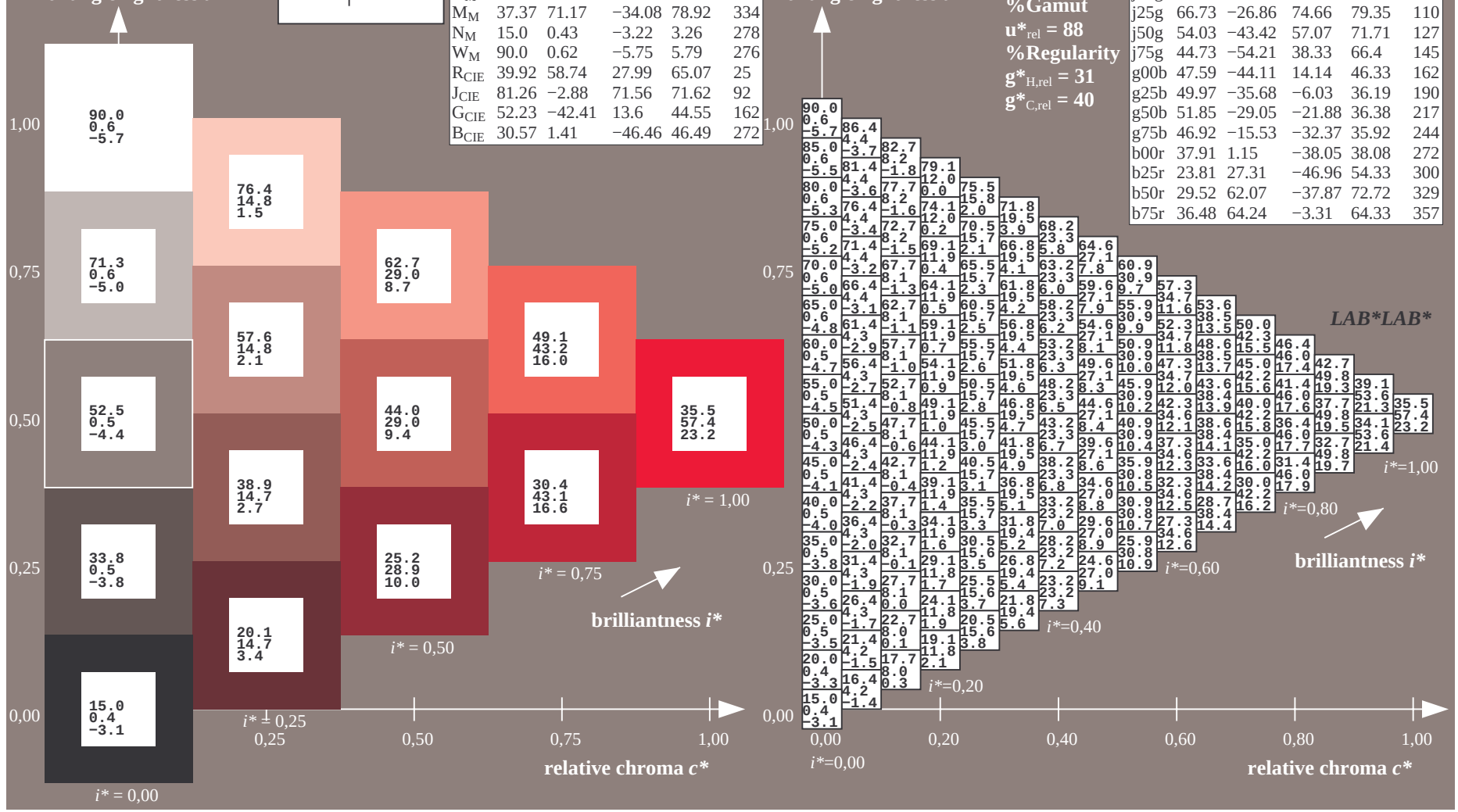
| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
*LAB*LAB**$_{Ma}$: 35 57 27
*LAB*LCH**$_{Ma}$: 35 63 25
*lab*rgb**$_{Ma}$: 1.0 0.0 0.0
*lab*olv**$_{Ma}$: 1.0 0.0 0.18
**triangle lightness *t****

***u* = r00j***
***LAB*LAB****

**FRS15_90aM; adapted (a) CIELAB data**

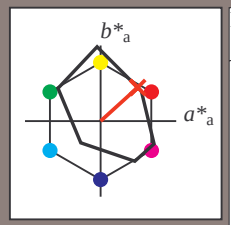
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 42/360 = 0.117$**

**$u^* = r25j$**
**$LAB^*LAB^*$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
**$u^* = r25j$**
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness $t^*$**




**FRS15_90M; CIELAB data**

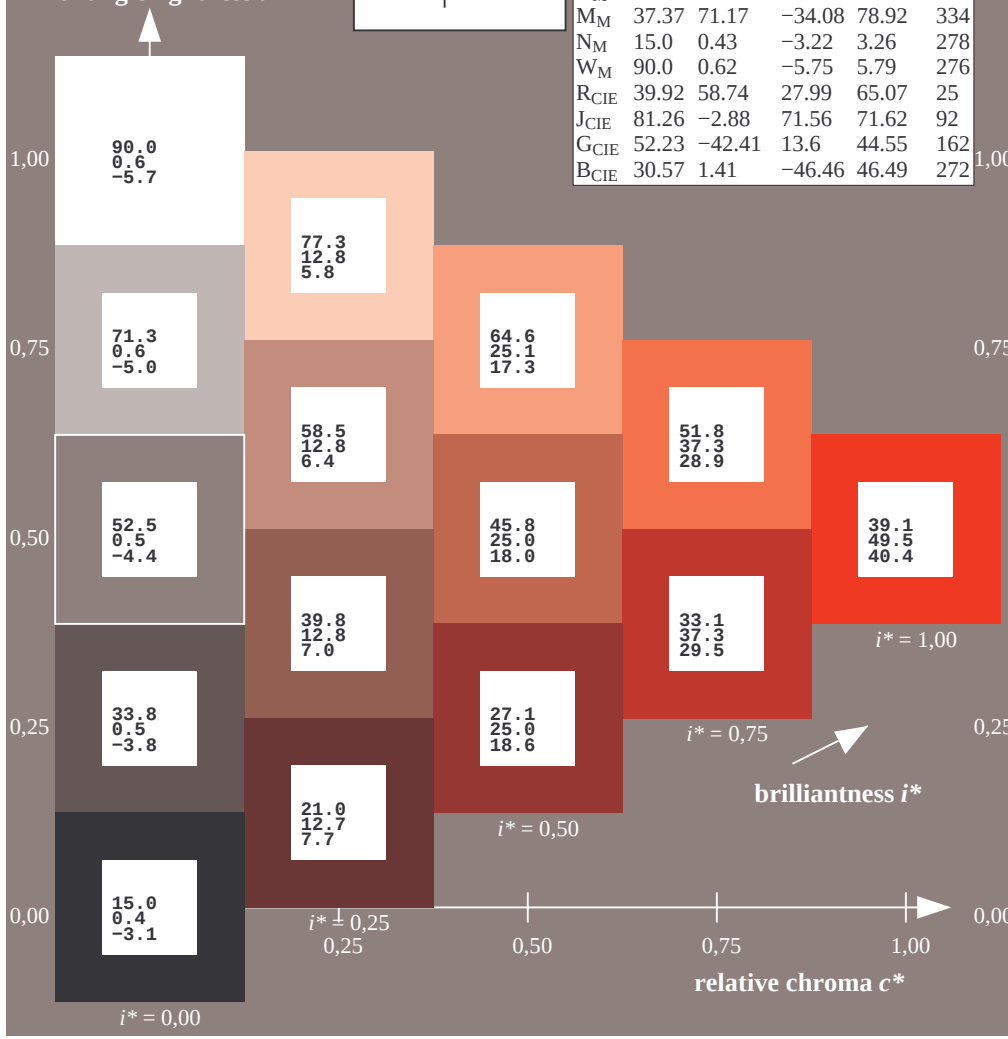
| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

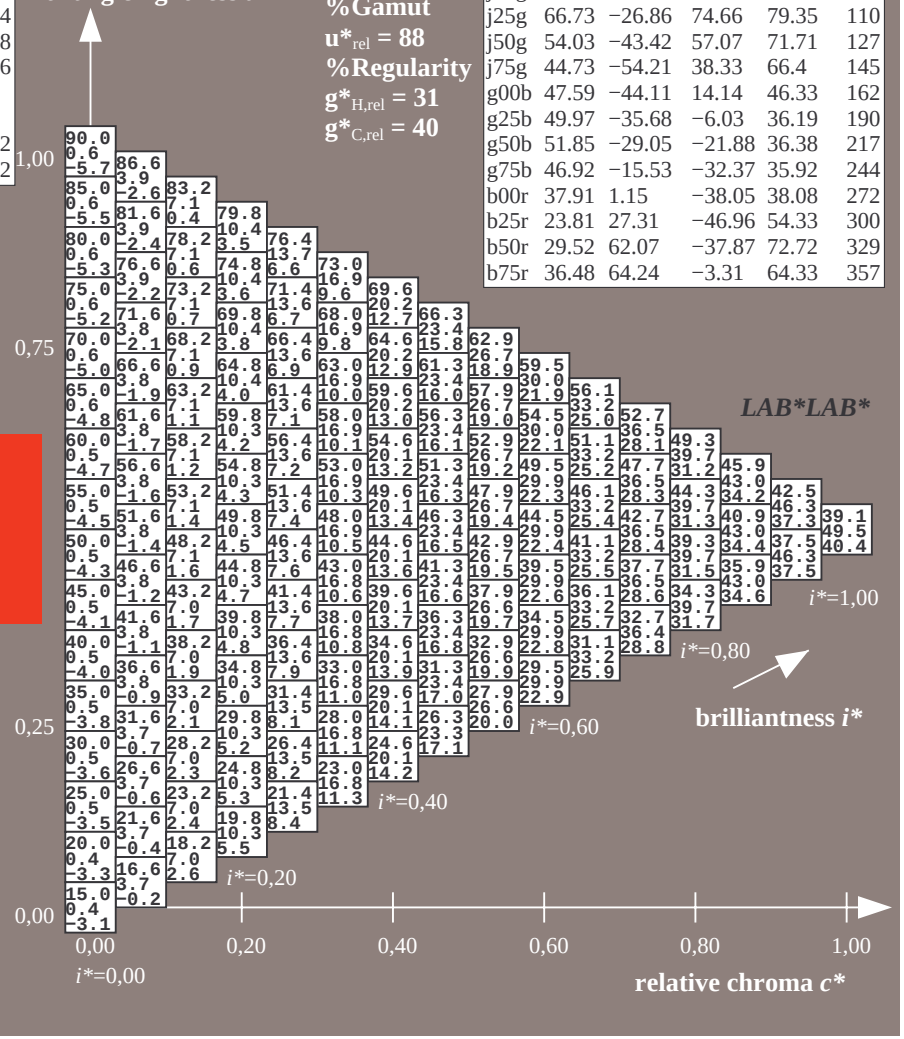
**Data for maximum colour (Ma):**
***$LAB^*LAB^*_{Ma}$*: 39 49 44**
***$LAB^*LCH^*_{Ma}$*: 39 66 42**
***$lab^*rgb^*_{Ma}$*: 1.0 0.25 0.0**
***$lab^*olv^*_{Ma}$*: 1.0 0.08 0.0**
**triangle lightness $t^*$**

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

**FRS15_90aM; adapted (a) CIELAB data**

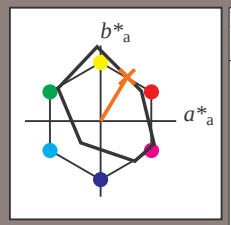
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 59/360 = 0.164$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
*u* = r50j*
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****




**FRS15_90M; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

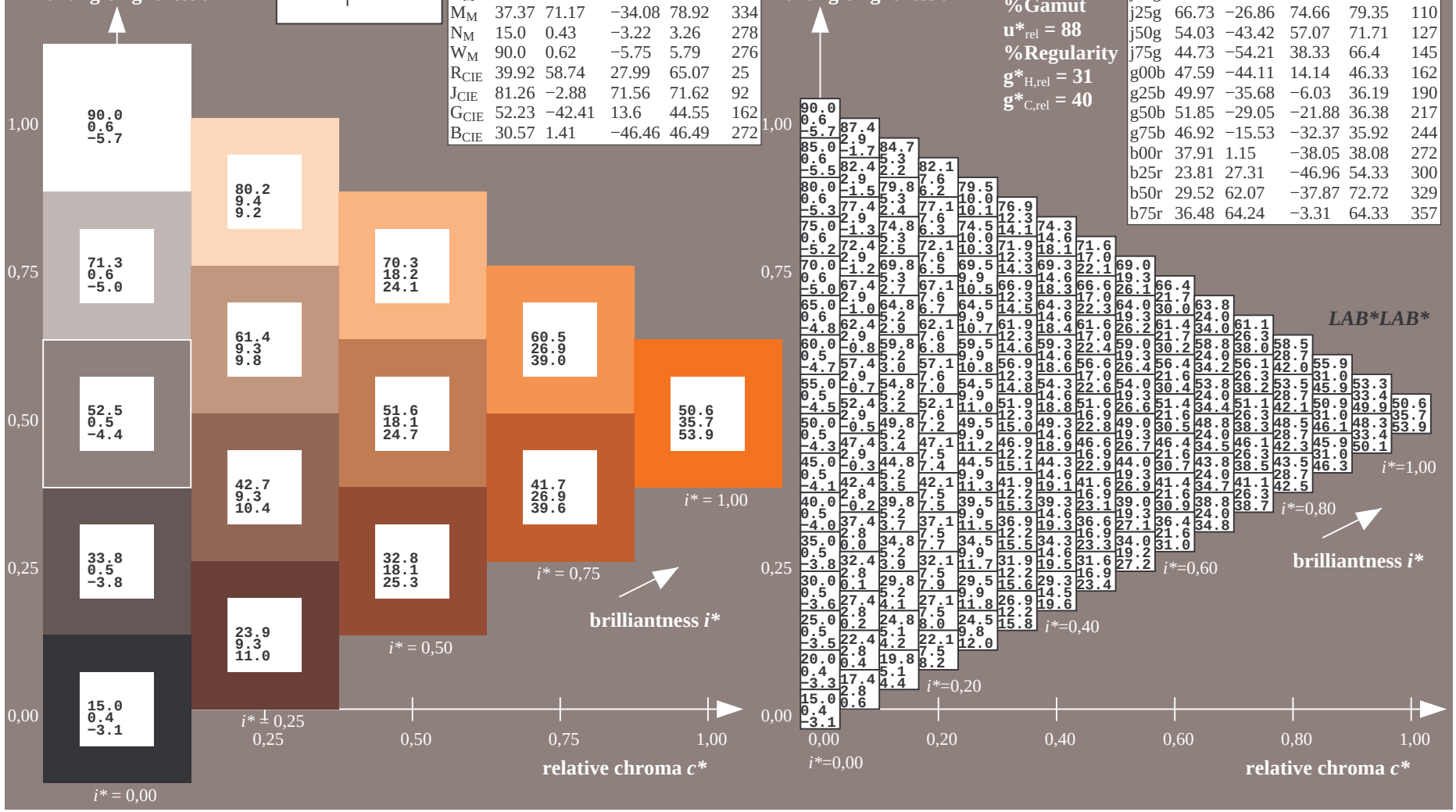
**Data for maximum colour (Ma):**
***LAB*LAB*$_{Ma}$*: 51 35 58**
***LAB*LCH*$_{Ma}$*: 51 68 59**
***lab*rgb*$_{Ma}$*: 1.0 0.5 0.0**
***lab*olv*$_{Ma}$*: 1.0 0.32 0.0**
**triangle lightness *t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

***u* = r50j***
***LAB*LAB****

**FRS15_90aM; adapted (a) CIELAB data**

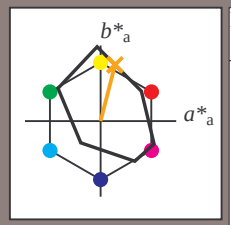
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 76/360 = 0.21$**

**$u^* = r75j$**
***LAB*LAB****

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
***u* = r75j***
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness *t****




**FRS15_90M; CIELAB data**

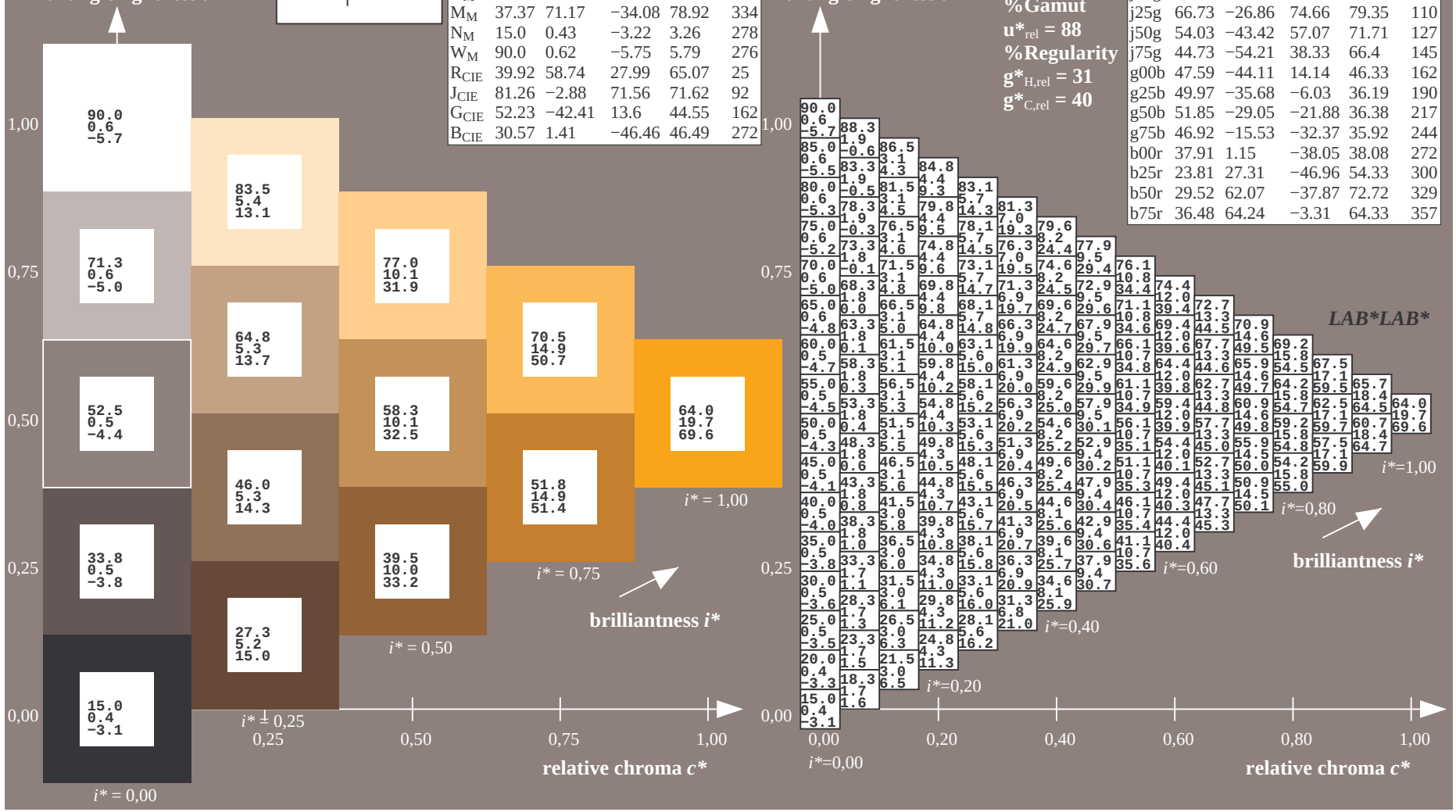
| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB**$_{Ma}$: 64 19 74**
***LAB*LCH**$_{Ma}$: 64 77 76**
***lab*rgb**$_{Ma}$: 1.0 0.75 0.0**
***lab*olv**$_{Ma}$: 1.0 0.59 0.0**

**FRS15_90aM; adapted (a) CIELAB data**

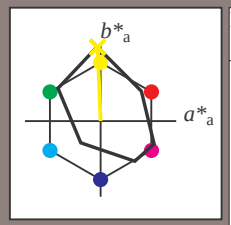
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 92/360 = 0.256$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
*u* = j00g*
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****




**FRS15_90M; CIELAB data**

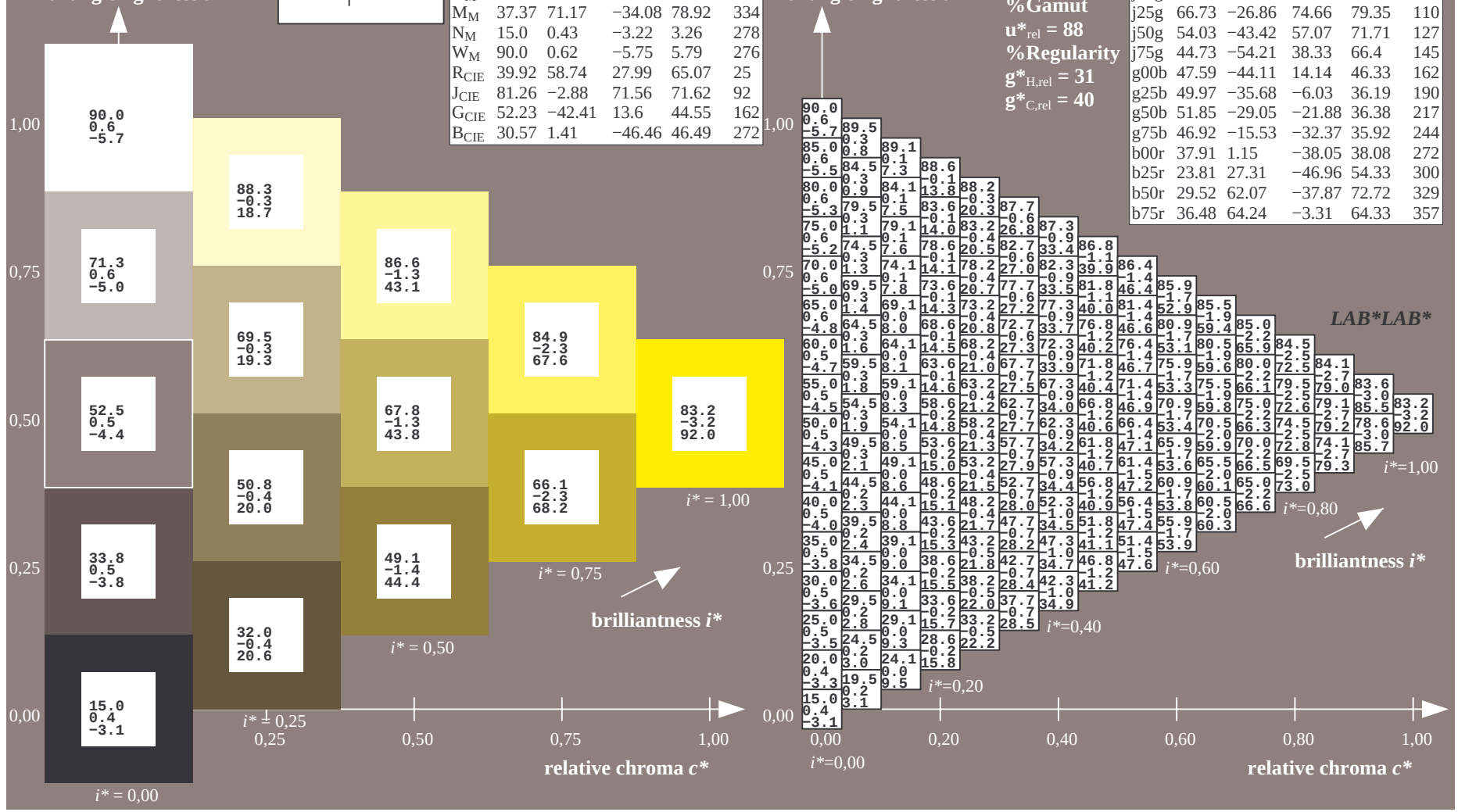
| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB**** $_{Ma}$: 83 −3 98
***LAB*LCH**** $_{Ma}$: 83 98 92
***lab*rgb**** $_{Ma}$: 1.0 1.0 0.0
***lab*olv**** $_{Ma}$: 1.0 0.99 0.0

***u* = j00g***
***LAB*LAB****

**FRS15_90aM; adapted (a) CIELAB data**

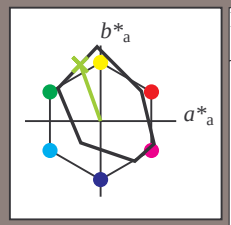
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 110/360 = 0.305$**

**$u^* = j25g$**
**$LAB^*LAB^*$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
***u* = j25g***
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness *t****




**FRS15_90M; CIELAB data**

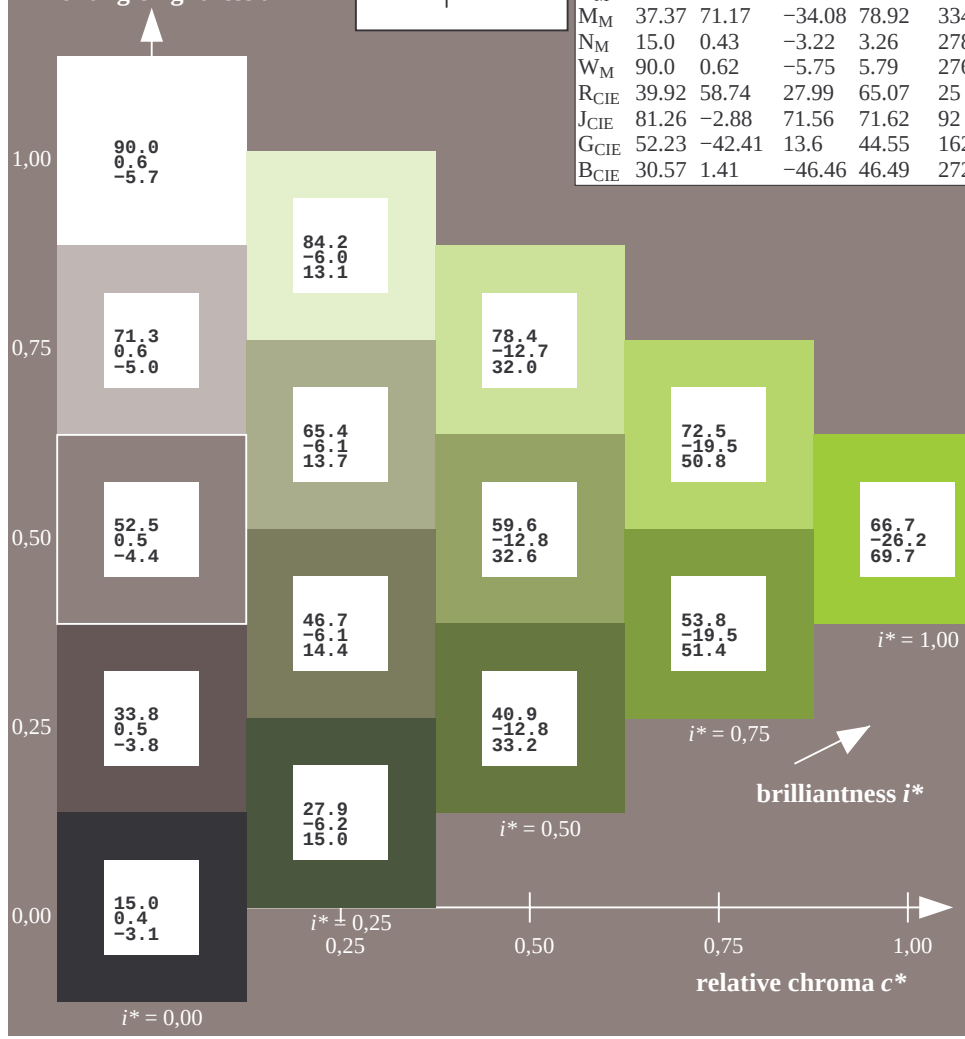
| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***$LAB^*LAB^*_{Ma}$*: 67 −26 75**
***$LAB^*LCH^*_{Ma}$*: 67 79 110**
***$lab^*rgb^*_{Ma}$*: 0.75 1.0 0.0**
***$lab^*olv^*_{Ma}$*: 0.57 1.0 0.0**

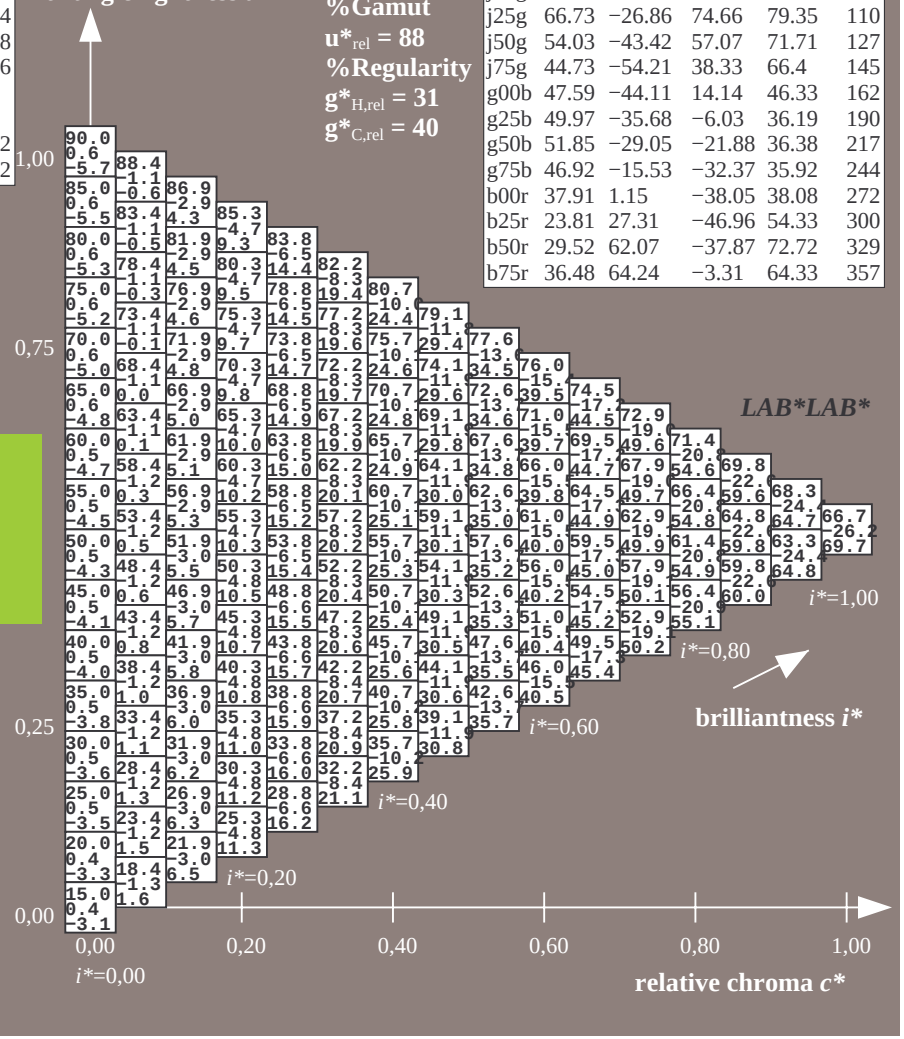
**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness *t****



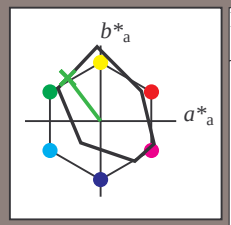

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 127/360 = 0.354$**

**$u^* = j50g$**
**$LAB^*LAB^*$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
**$u^* = j50g$**
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness $t^*$**




**FRS15_90M; CIELAB data**

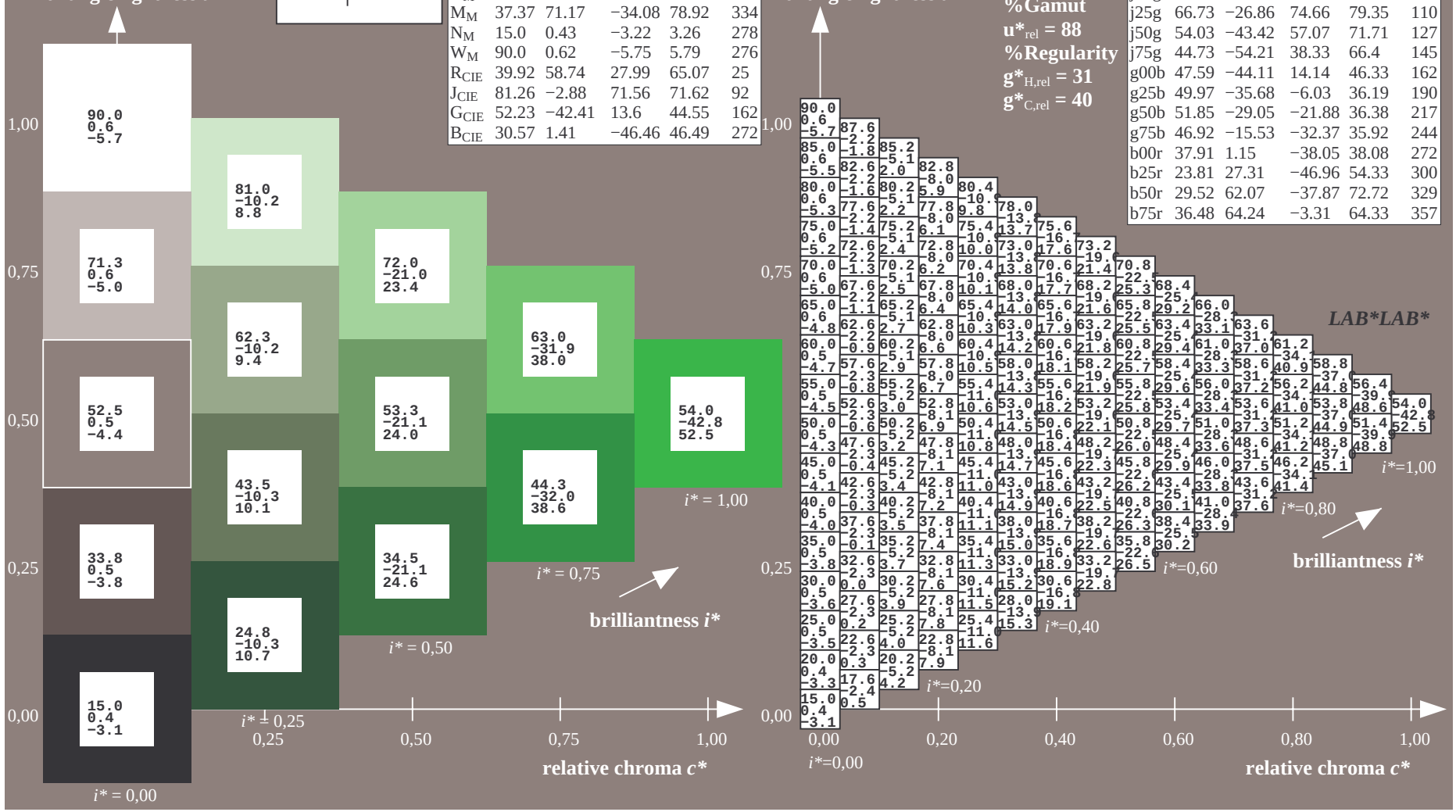
| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***$LAB^*LAB^*_{Ma}$*: 54 −42 57**
***$LAB^*LCH^*_{Ma}$*: 54 72 127**
***$lab^*rgb^*_{Ma}$*: 0.5 1.0 0.0**
***$lab^*olv^*_{Ma}$*: 0.25 1.0 0.0**
**triangle lightness $t^*$**

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

**FRS15_90aM; adapted (a) CIELAB data**

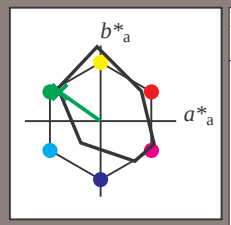
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 145/360 = 0.402$**

**$u^* = j75g$**
**$LAB^*LAB^*$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
**$u^* = j75g$**
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness $t^*$**




**FRS15_90M; CIELAB data**

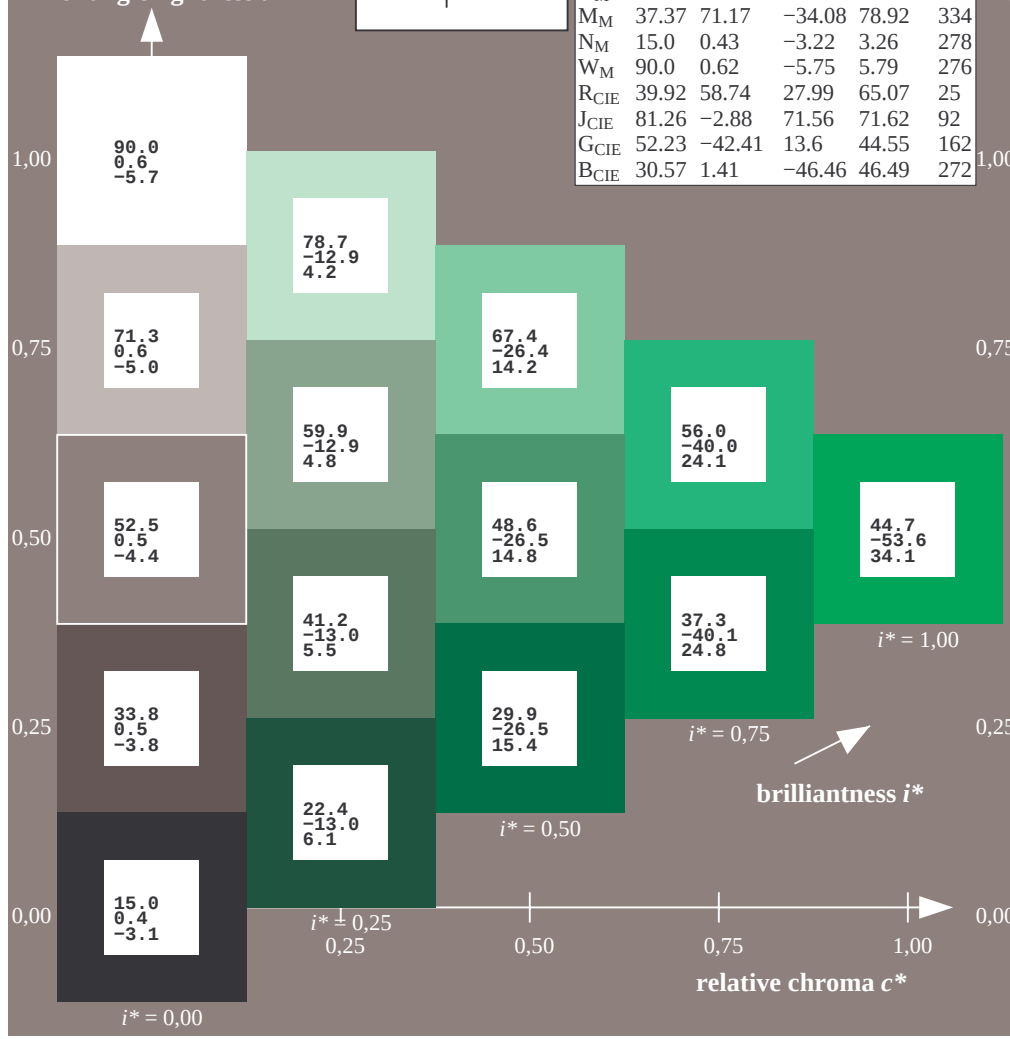
| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

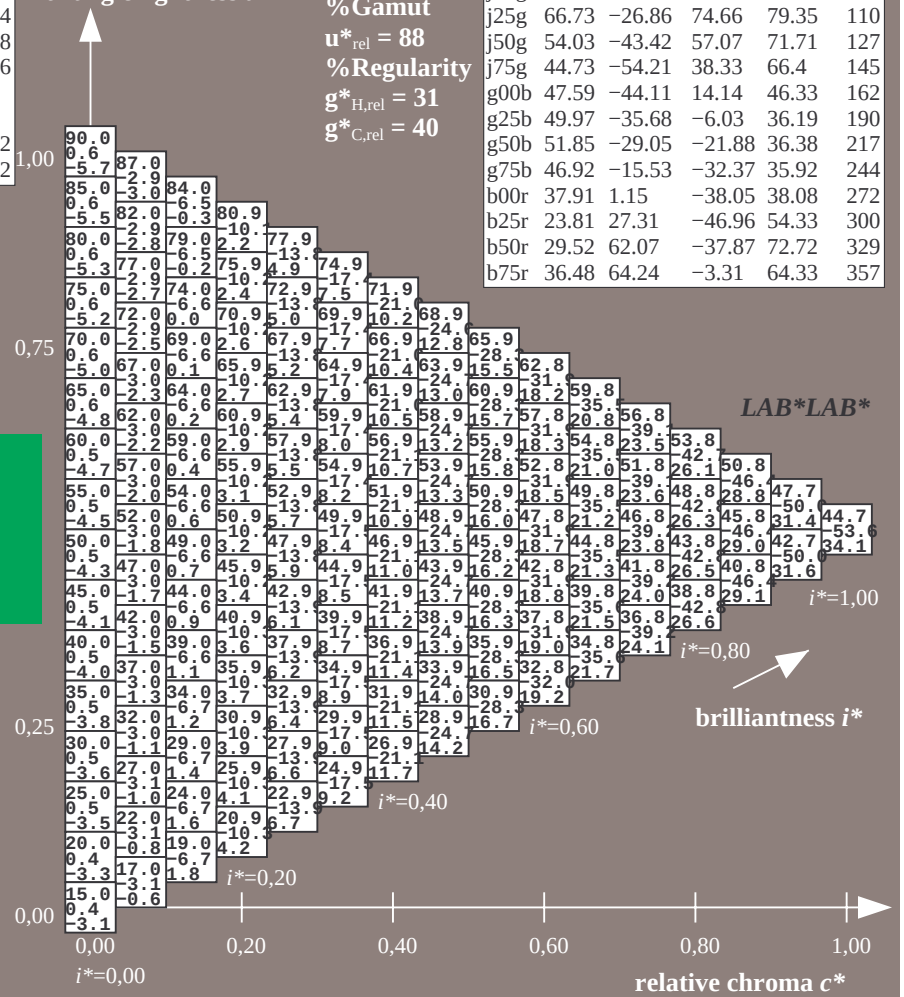
**Data for maximum colour (Ma):**
***$LAB^*LAB^*_{Ma}$*: 45 −53 38**
***$LAB^*LCH^*_{Ma}$*: 45 66 145**
***$lab^*rgb^*_{Ma}$*: 0.25 1.0 0.0**
***$lab^*olv^*_{Ma}$*: 0.0 1.0 0.07**
**triangle lightness $t^*$**

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

**FRS15_90aM; adapted (a) CIELAB data**

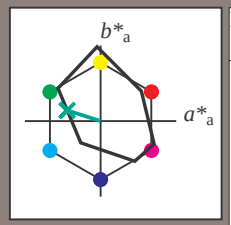
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 162/360 = 0.451$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
*u* = g00b*
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****




**FRS15_90M; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

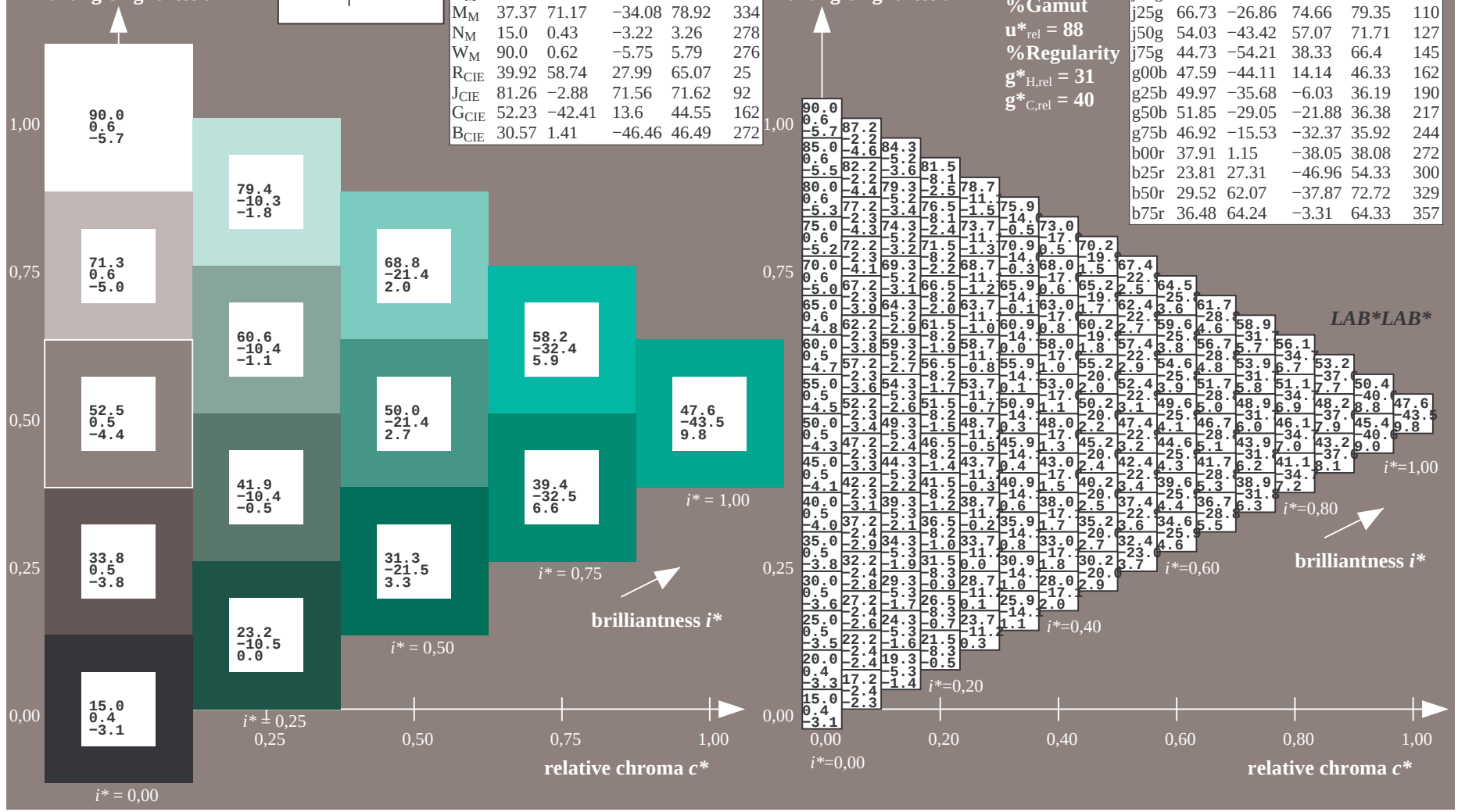
**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 48 −43 14**
***LAB*LCH*Ma*: 48 46 162**
***lab*rgb*Ma*: 0.0 1.0 0.0**
***lab*olv*Ma*: 0.0 1.0 0.41**
**triangle lightness *t****

***u* = g00b***
***LAB*LAB****

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

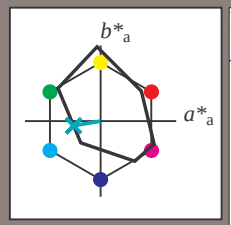
**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 190/360 = 0.527$**

**$u^* = g25b$**
**$LAB^*LAB^*$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
***u* = g25b***
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness *t****




**FRS15_90M; CIELAB data**

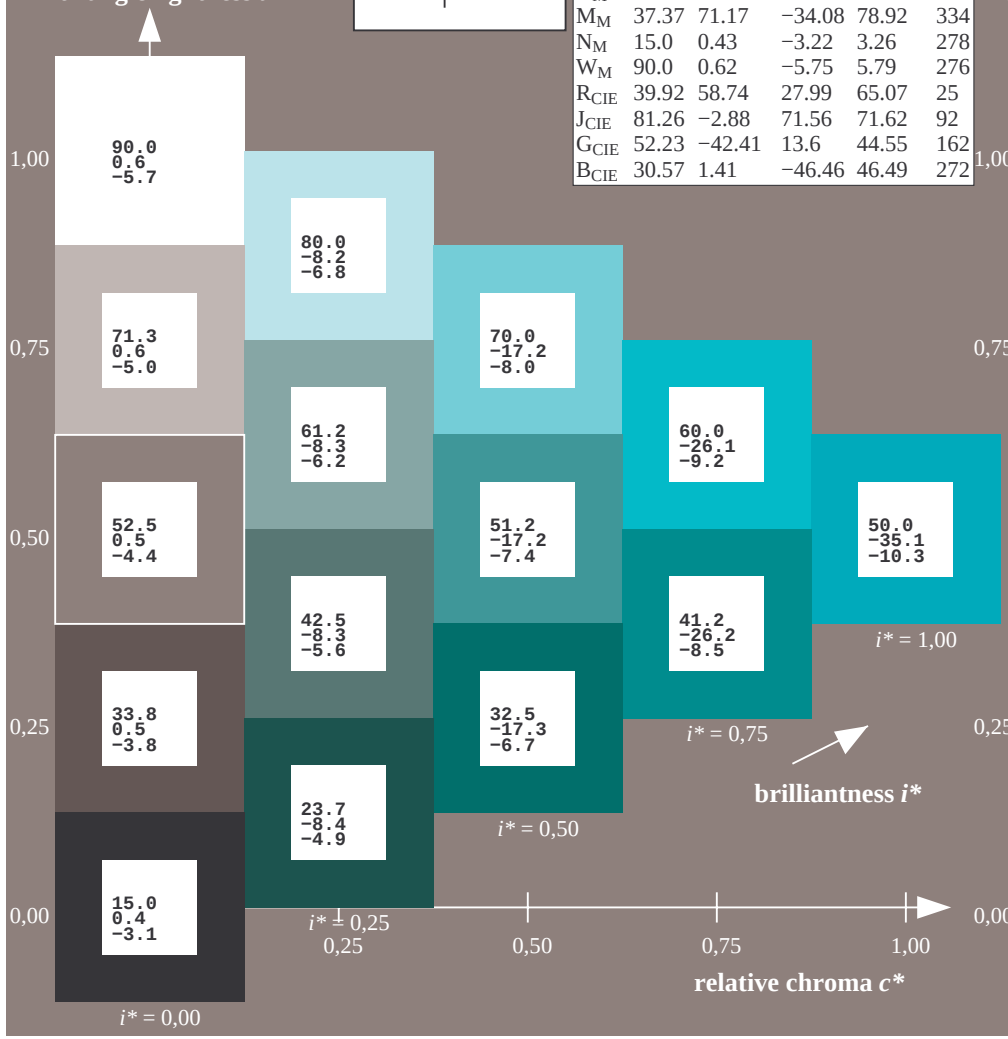
| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

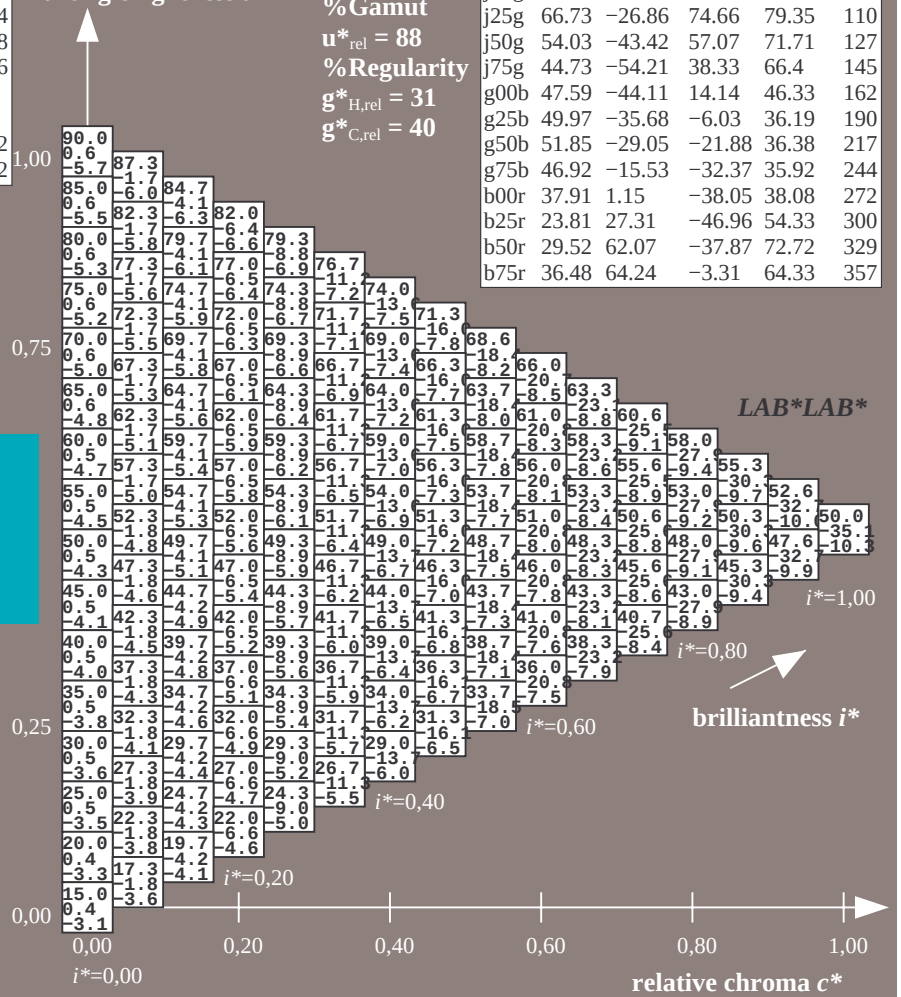
**Data for maximum colour (Ma):**
***$LAB^*LAB^*_{Ma}$*: 50 −35 −5**
***$LAB^*LCH^*_{Ma}$*: 50 36 190**
***$lab^*rgb^*_{Ma}$*: 0.0 1.0 0.5**
***$lab^*olv^*_{Ma}$*: 0.0 1.0 0.69**
**triangle lightness *t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

**FRS15_90aM; adapted (a) CIELAB data**

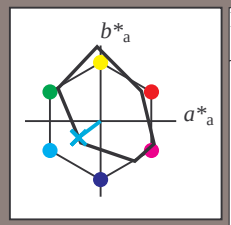
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 217/360 = 0.603$**

**data for any colour:**
*lab*tch** **and** *lab*icu**
**elementary hue text:**
$u^* = g50b$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$




**FRS15_90M; CIELAB data**

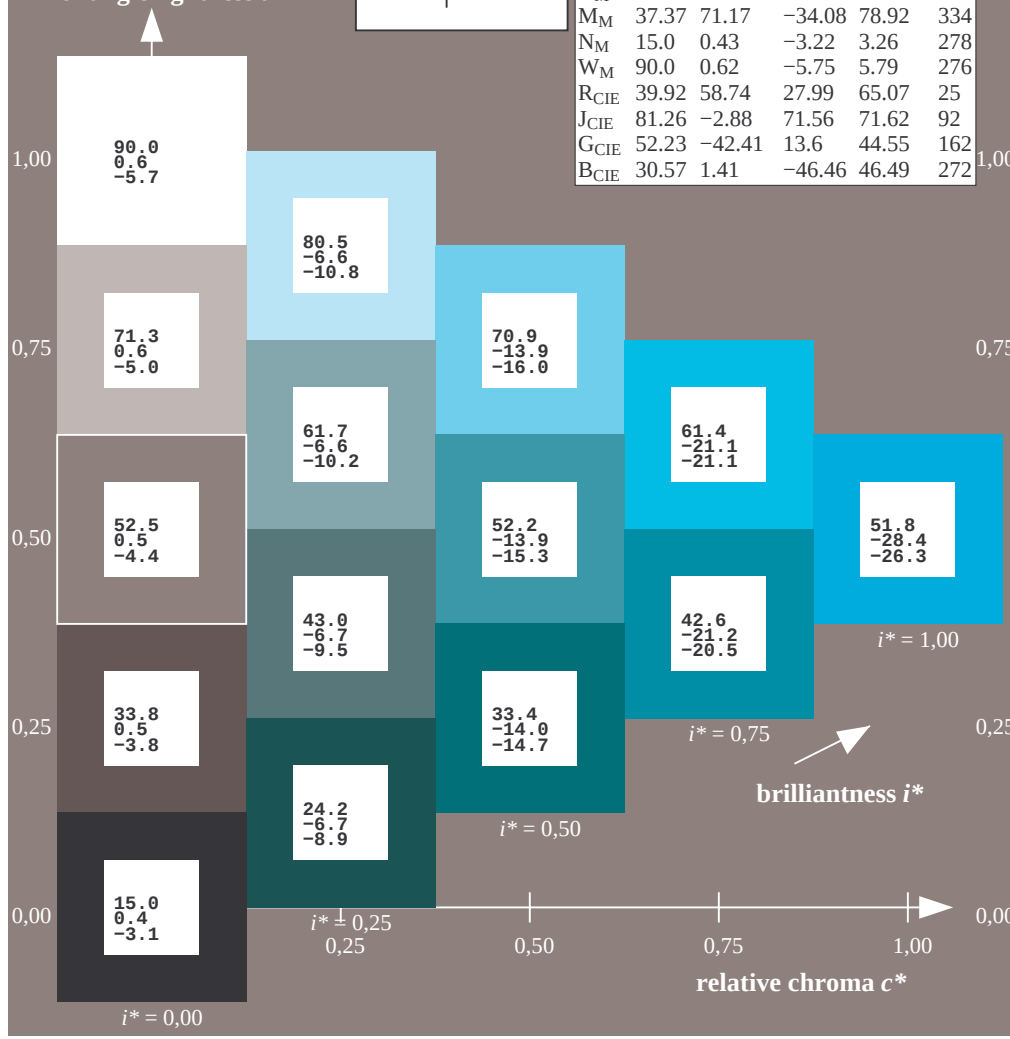
| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 52 −28 −21**
***LAB*LCH*Ma*: 52 36 217**
***lab*rgb*Ma*: 0.0 1.0 1.0**
***lab*olv*Ma*: 0.0 1.0 0.9**
**triangle lightness** $t^*$

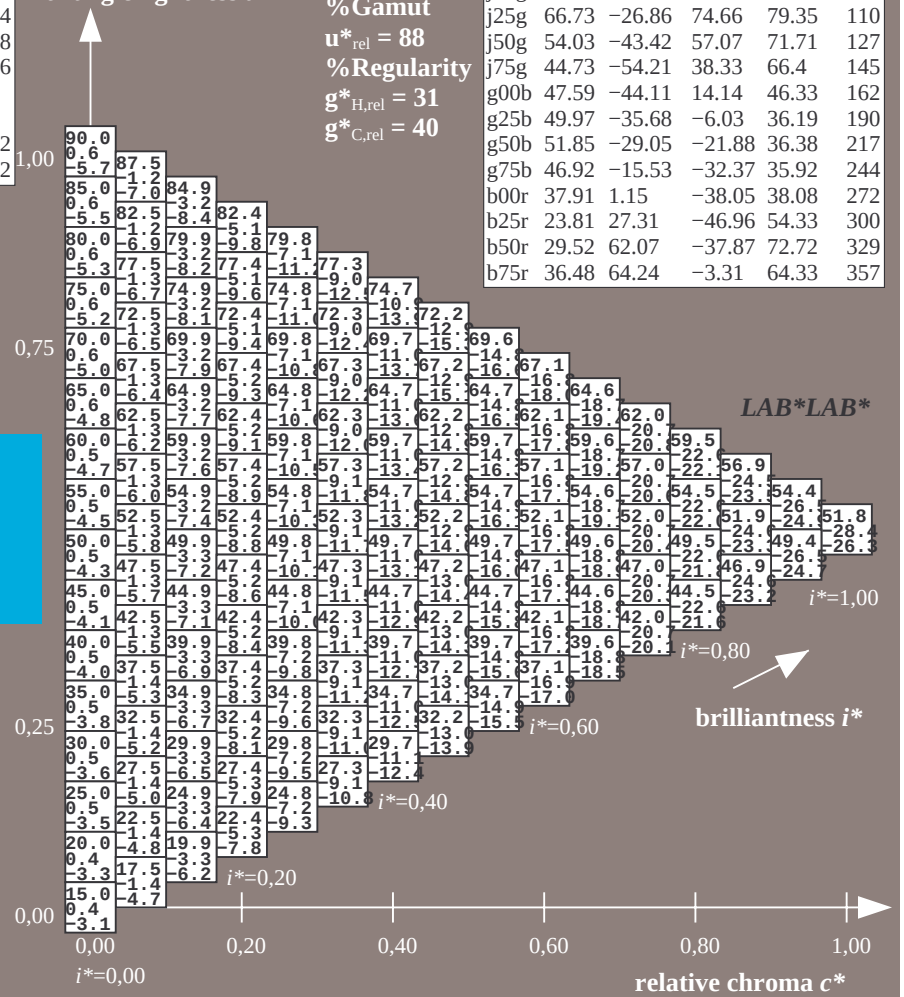
***u* = g50b***
***LAB*LAB****

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



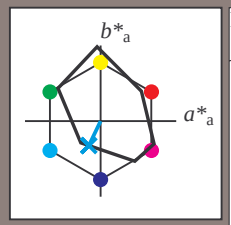

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 244/360 = 0.679$**

**$u^* = g75b$**
**$LAB^*LAB^*$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
**$u^* = g75b$**
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness $t^*$**




**FRS15_90M; CIELAB data**

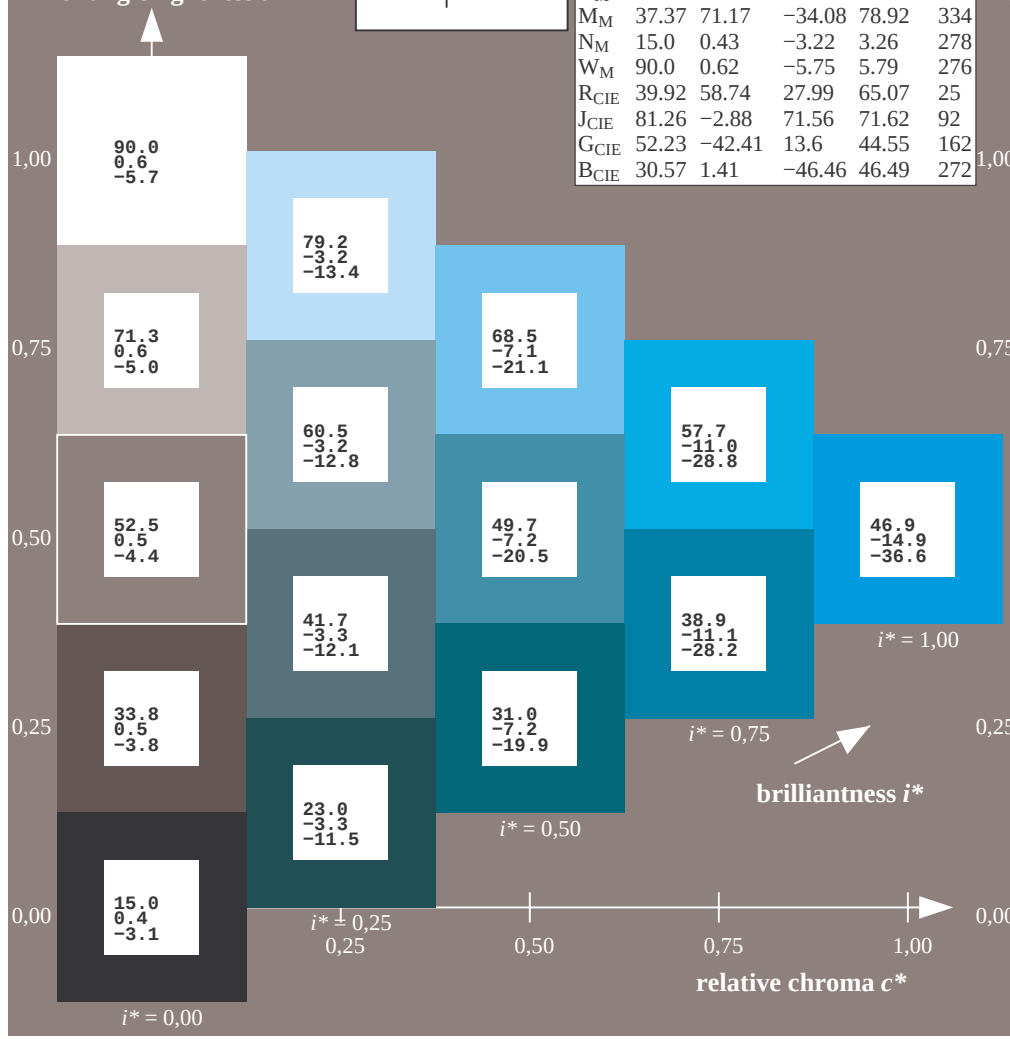
| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

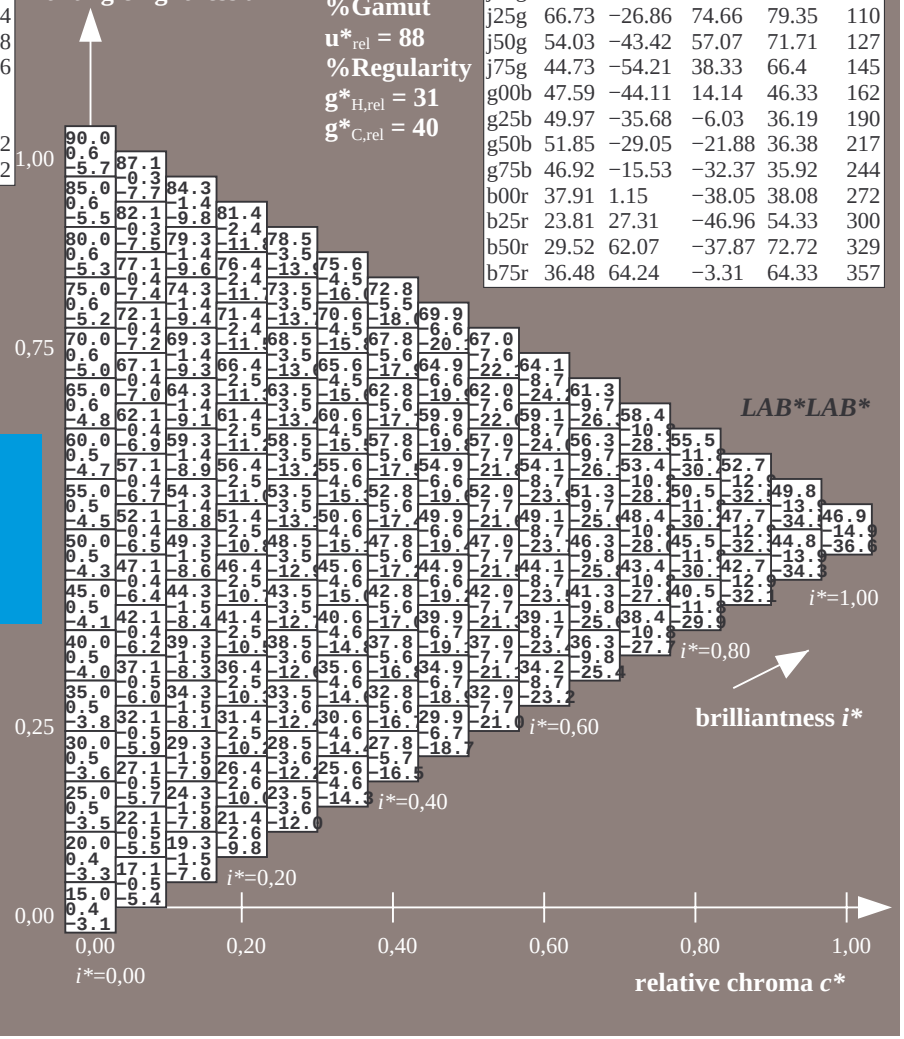
**Data for maximum colour (Ma):**
**$LAB^*LAB^*_{Ma}$: 47 −15 −31**
**$LAB^*LCH^*_{Ma}$: 47 36 244**
***lab*rgb**$_{Ma}$: 0.0 0.5 1.0**
***lab*olv**$_{Ma}$: 0.0 0.85 1.0**
**triangle lightness $t^*$**

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

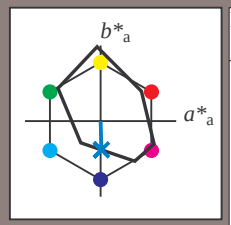


**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 272/360 = 0.755$**

***u* = b00r***
***LAB*LAB****

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = b00r***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****




**FRS15_90M; CIELAB data**

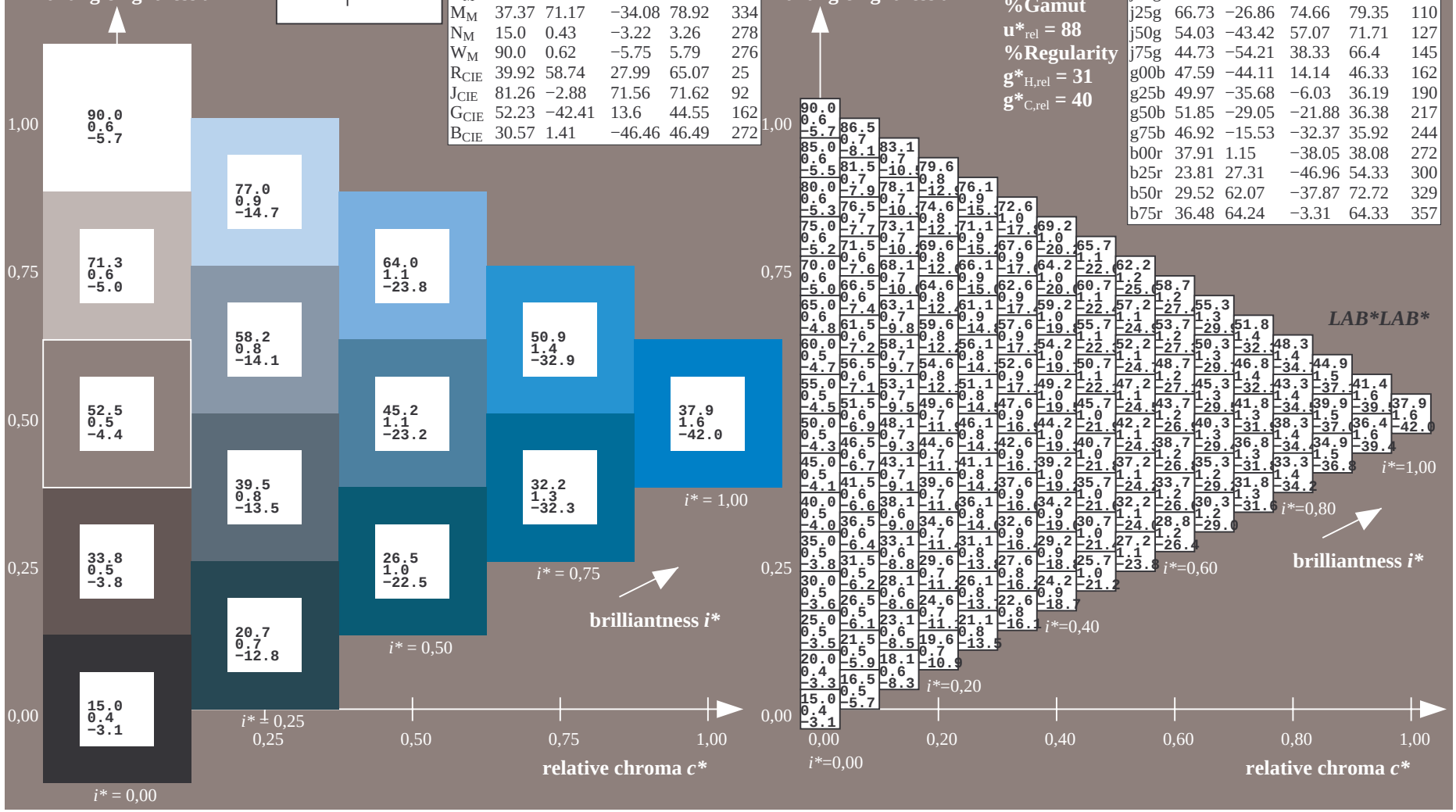
| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 38 1 −37**
***LAB*LCH****$_{Ma}$**: 38 38 272**
***lab*rgb****$_{Ma}$**: 0.0 0.0 1.0**
***lab*olv****$_{Ma}$**: 0.0 0.62 1.0**
**triangle lightness *t****

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

**FRS15_90aM; adapted (a) CIELAB data**

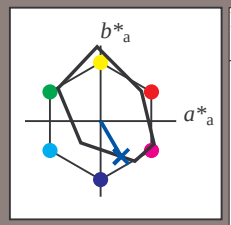
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 300/360 = 0.834$**

**$u^* = b25r$**
**$LAB^*LAB^*$**

**data for any colour:**
***lab*tch** and *lab*icu****
**elementary hue text:**
**$u^* = b25r$**
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness $t^*$**




**FRS15_90M; CIELAB data**

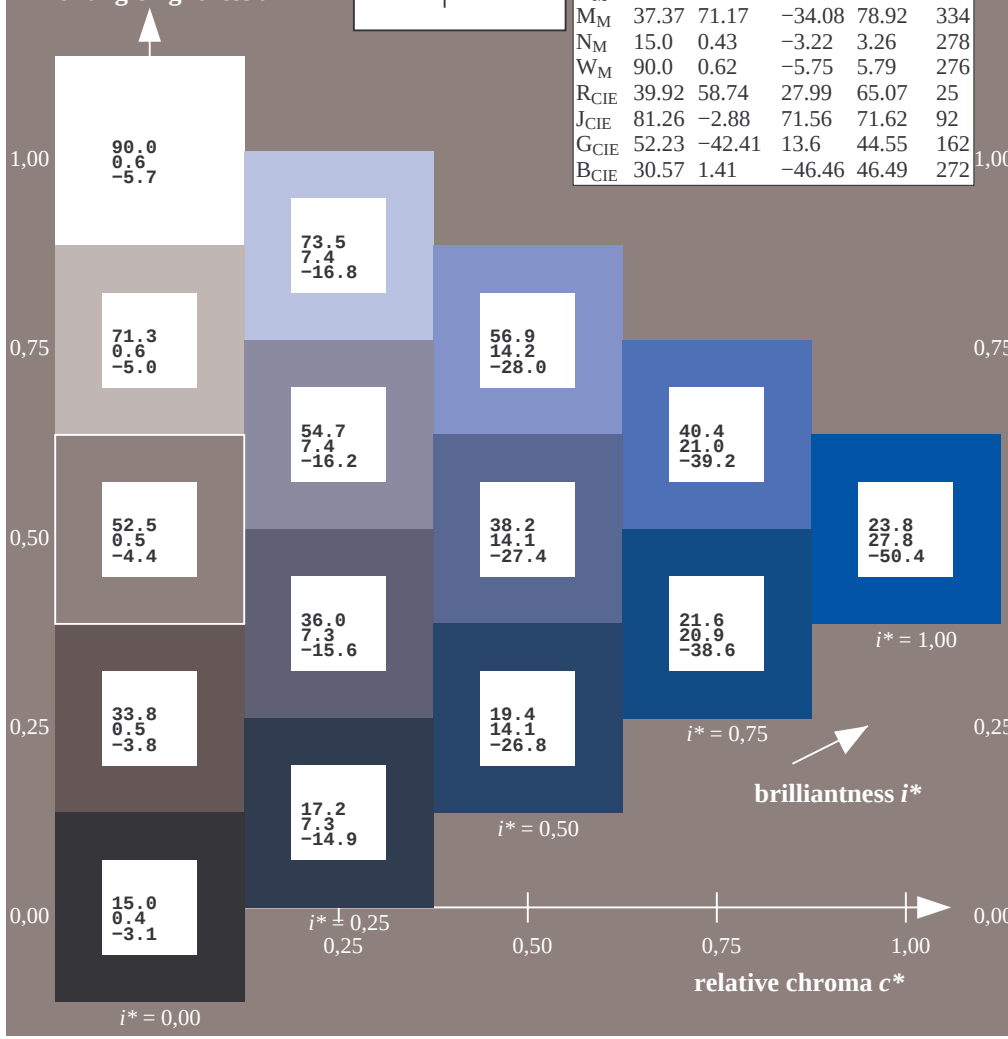
| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

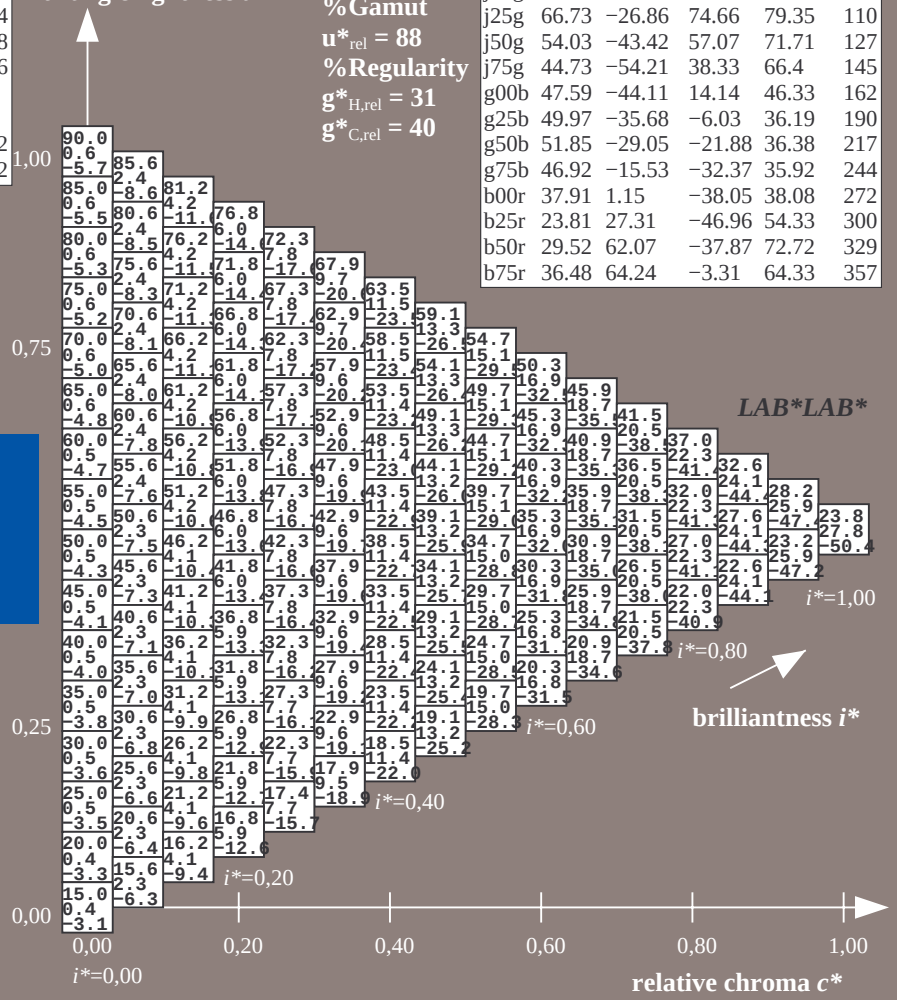
**Data for maximum colour (Ma):**
***LAB*LAB**$_{Ma}$: 24 27 −46**
***LAB*LCH**$_{Ma}$: 24 54 300**
***lab*rgb**$_{Ma}$: 0.5 0.0 1.0**
***lab*olv**$_{Ma}$: 0.0 0.25 1.0**
**triangle lightness $t^*$**

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

**FRS15_90aM; adapted (a) CIELAB data**

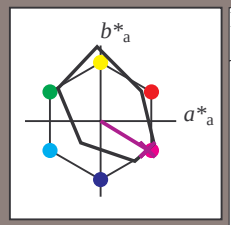
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 329/360 = 0.913$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
*u* = b50r*
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****




**FRS15_90M; CIELAB data**

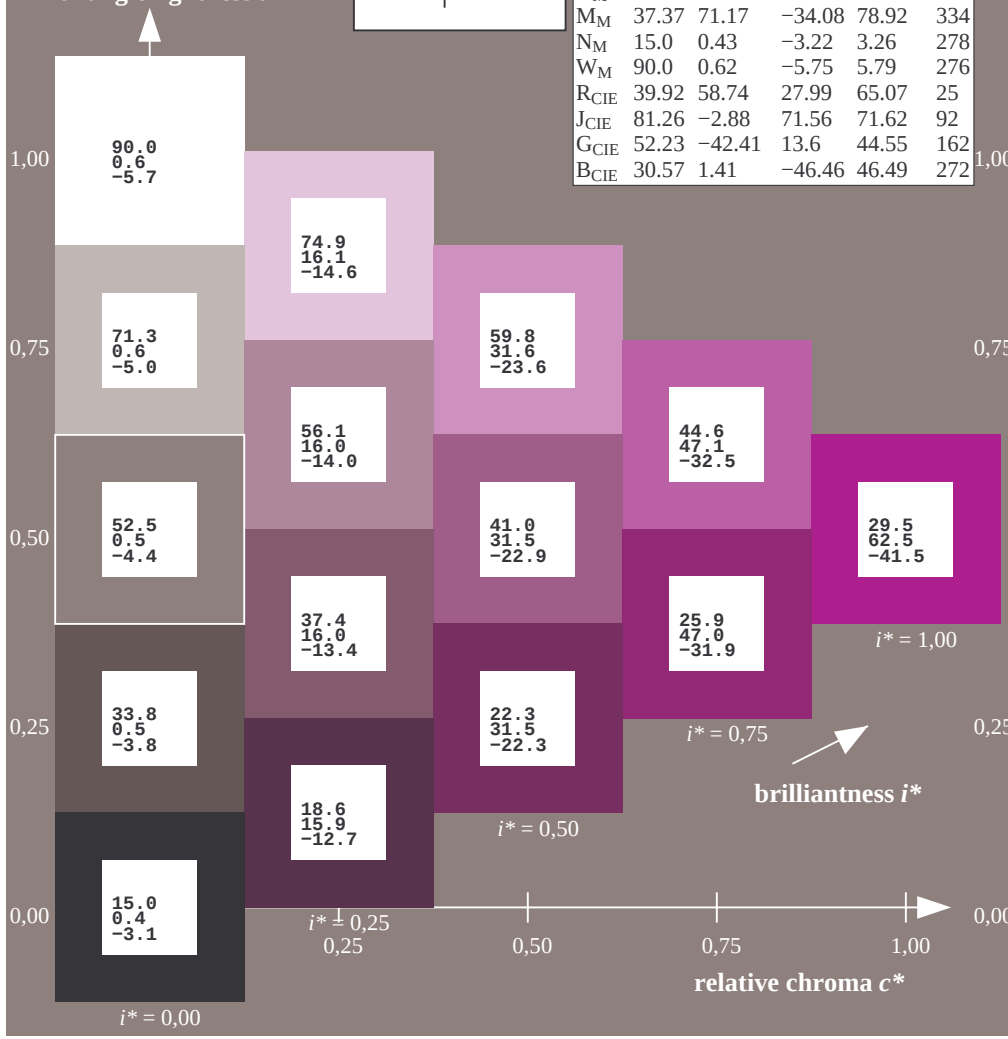
| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

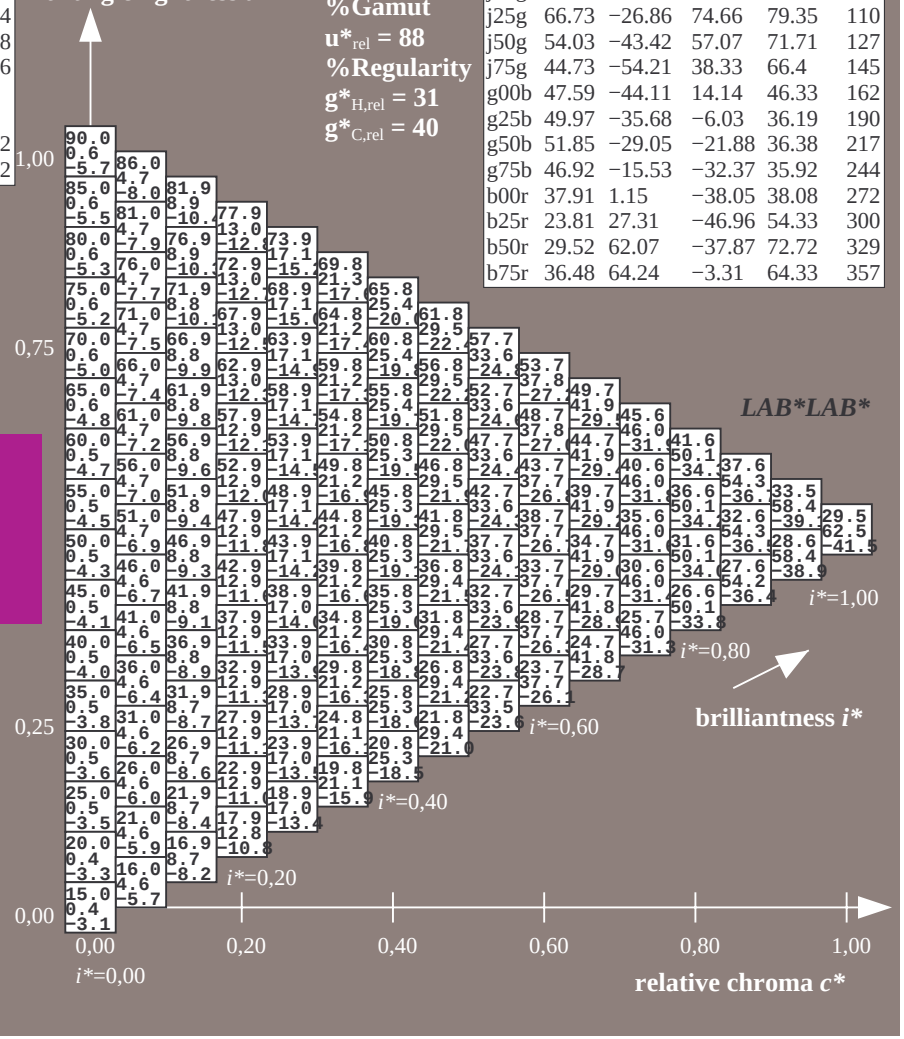
**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 30 62 −37**
***LAB*LCH*Ma*: 30 73 329**
***lab*rgb*Ma*: 1.0 0.0 1.0**
***lab*olv*Ma*: 0.66 0.0 1.0**

***u* = b50r***
***LAB*LAB****

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

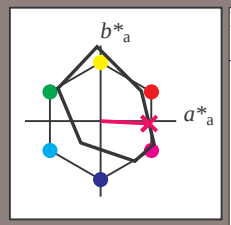


**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 357/360 = 0.992$**

**$u^* = b75r$**
***LAB*LAB****

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = b75r***
**contrast reduction factor:**
**$c_R = 0.9$**
**triangle lightness *t****




**FRS15_90M; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

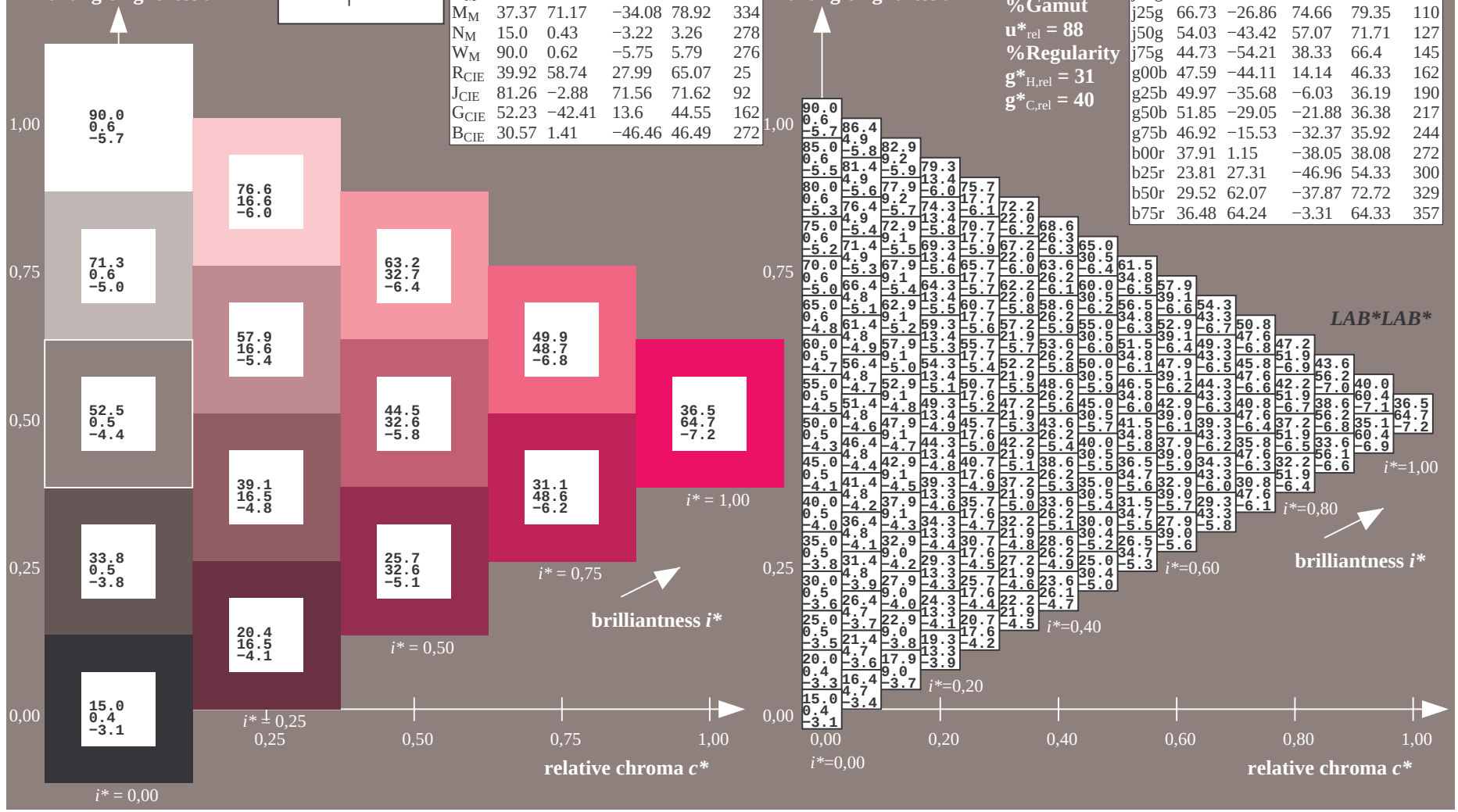
**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 36 64 −2**
***LAB*LCH****$_{Ma}$**: 36 64 357**
***lab*rgb****$_{Ma}$**: 1.0 0.0 0.5**
***lab*olv****$_{Ma}$**: 1.0 0.0 0.62**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness *t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

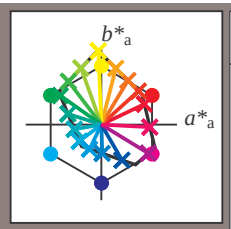


| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | a | b | c | d | e | f | g | h | i | j | k | LAB* | LAB* | LAB* | LAB* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 15.0 | 18.6 | 22.3 | 25.9 | 29.6 | 33.2 | 36.9 | 40.5 | 44.1 | 17.5 | 23.6 | 27.2 | 30.9 | 34.5 | 38.2 | 41.8 | 45.4 | 49.1 | 20.0 | 26.1 | 32.2 | 35.8 | 39.5 | 43.1 | 46.8 | 50.4 | 54.0 | 90.0 | 83.1 | 76.3 | 69.4 | 62.5 | 55.7 | 48.8 | 41.9 | 35.1 | 15.0 | 15.0 | 15.0 | 15.0 |
| | 0.4 | -6.5 | -13.5 | -20.6 | -27.6 | -34.6 | -41.7 | -48.7 | -55.7 | 7.2 | 0.0 | -7.1 | -14.1 | -21.1 | -28.2 | -35.2 | -42.2 | -49.2 | 13.9 | 6.6 | -0.6 | -7.6 | -14.7 | -21.7 | -28.7 | -35.7 | -42.8 | 0.6 | 7.3 | 14.1 | 20.8 | 27.5 | 34.2 | 41.0 | 47.7 | 54.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| | -3.1 | 2.1 | 7.4 | 12.7 | 18.0 | 23.3 | 28.6 | 33.9 | 39.1 | 1.6 | 8.8 | 14.1 | 19.4 | 24.6 | 29.9 | 35.2 | 40.5 | 45.8 | 6.5 | 13.6 | 20.7 | 26.0 | 31.3 | 36.6 | 41.9 | 47.2 | 52.5 | -5.7 | -0.5 | 4.6 | 9.8 | 14.9 | 20.1 | 25.3 | 30.5 | 35.6 | -3.1 | -3.1 | -3.1 | -3.1 |
| 02 | 14.9 | 19.7 | 23.4 | 27.0 | 30.6 | 34.3 | 37.9 | 41.6 | 45.2 | 17.8 | 24.4 | 28.0 | 31.7 | 35.3 | 38.9 | 42.6 | 46.2 | 49.9 | 20.3 | 26.9 | 33.0 | 36.6 | 40.3 | 43.9 | 47.5 | 51.2 | 54.8 | 85.3 | 80.6 | 73.8 | 66.9 | 60.0 | 53.2 | 46.3 | 39.4 | 32.6 | 24.4 | 24.4 | 24.4 | 24.4 |
| | 6.1 | -2.7 | -9.8 | -16.8 | -23.8 | -30.9 | -37.9 | -44.9 | -51.9 | 9.3 | 0.5 | -6.5 | -13.5 | -20.5 | -27.6 | -34.6 | -41.6 | -48.7 | 16.0 | 7.2 | 0.0 | -7.0 | -14.1 | -21.1 | -28.1 | -35.2 | -42.2 | -2.6 | 0.6 | 7.3 | 14.0 | 20.8 | 27.5 | 34.2 | 40.9 | 47.7 | 0.5 | 0.5 | 0.5 | 0.5 |
| | -9.8 | -6.9 | -1.6 | 3.6 | 8.9 | 14.2 | 19.5 | 24.8 | 30.1 | -7.0 | -3.5 | 1.8 | 7.1 | 12.3 | 17.6 | 22.9 | 28.2 | 33.5 | -2.1 | 1.3 | 8.4 | 13.7 | 19.0 | 24.3 | 29.6 | 34.9 | 40.2 | -9.1 | -5.3 | -0.2 | 4.9 | 10.1 | 15.3 | 20.4 | 25.6 | 30.8 | -3.5 | -3.5 | -3.5 | -3.5 |
| 03 | 14.8 | 19.6 | 24.4 | 28.1 | 31.7 | 35.3 | 39.0 | 42.6 | 46.3 | 17.7 | 24.3 | 29.1 | 32.7 | 36.4 | 40.0 | 43.6 | 47.3 | 50.9 | 20.6 | 27.2 | 33.8 | 37.4 | 41.0 | 44.7 | 48.3 | 52.0 | 55.6 | 80.7 | 76.0 | 71.3 | 64.4 | 57.5 | 50.6 | 43.8 | 36.9 | 30.1 | 33.8 | 33.8 | 33.8 | 33.8 |
| | 11.7 | 2.8 | -6.0 | -13.0 | -20.1 | -27.1 | -34.1 | -41.2 | -48.2 | 14.9 | 6.1 | -2.7 | -9.7 | -16.8 | -23.8 | -30.8 | -37.9 | -44.9 | 18.1 | 9.3 | 0.5 | -6.5 | -13.5 | -20.5 | -27.6 | -34.6 | -41.6 | -5.9 | -2.6 | 0.6 | 7.3 | 14.0 | 20.7 | 27.5 | 34.2 | 40.9 | 0.5 | 0.5 | 0.5 | 0.5 |
| | -16.4 | -13.5 | -10.6 | -5.3 | 0.0 | 5.2 | 10.5 | 15.8 | 21.1 | -13.6 | -10.1 | -7.2 | -1.9 | 3.3 | 8.6 | 13.9 | 19.2 | 24.5 | -10.8 | -7.3 | -3.8 | 1.4 | 6.7 | 12.0 | 17.3 | 22.6 | 27.9 | -12.5 | -8.8 | -5.0 | 0.1 | 5.2 | 10.4 | 15.6 | 20.8 | 25.9 | -3.8 | -3.8 | -3.8 | -3.8 |
| 04 | 14.7 | 19.5 | 24.3 | 29.1 | 32.8 | 36.4 | 40.0 | 43.7 | 47.3 | 17.6 | 24.2 | 29.0 | 33.8 | 37.4 | 41.1 | 44.7 | 48.4 | 52.0 | 20.5 | 27.1 | 33.6 | 38.5 | 42.1 | 45.7 | 49.4 | 53.0 | 56.7 | 76.0 | 71.3 | 66.6 | 61.9 | 55.0 | 48.1 | 41.3 | 34.4 | 27.5 | 43.1 | 43.1 | 43.1 | 43.1 |
| | 17.4 | 8.5 | -0.3 | -9.3 | -16.3 | -23.3 | -30.4 | -37.4 | -44.4 | 20.6 | 11.8 | 2.8 | -6.0 | -13.0 | -20.0 | -27.1 | -34.1 | -41.1 | 23.8 | 14.9 | 6.1 | -2.7 | -9.7 | -16.8 | -23.8 | -30.8 | -37.8 | -9.1 | -5.9 | -2.6 | 0.5 | 7.3 | 14.0 | 20.7 | 27.4 | 34.2 | 0.5 | 0.5 | 0.5 | 0.5 |
| | -23.0 | -20.1 | -17.3 | -14.4 | -9.1 | -3.8 | 1.4 | 6.7 | 12.0 | -20.2 | -16.7 | -13.8 | -10.9 | -5.7 | -0.4 | 4.8 | 10.1 | 15.4 | -17.5 | -13.9 | -10.4 | -7.5 | -2.2 | 3.0 | 8.3 | 13.6 | 18.9 | -16.0 | -12.2 | -8.5 | -4.7 | 0.4 | 5.5 | 10.7 | 15.9 | 21.1 | -4.1 | -4.1 | -4.1 | -4.1 |
| 05 | 14.6 | 19.4 | 24.2 | 29.0 | 33.8 | 37.5 | 41.1 | 44.8 | 48.4 | 17.5 | 24.1 | 28.9 | 33.7 | 38.5 | 42.1 | 45.8 | 49.4 | 53.1 | 20.4 | 27.0 | 33.5 | 38.4 | 43.2 | 46.8 | 50.4 | 54.1 | 57.7 | 71.3 | 66.6 | 61.9 | 57.2 | 52.5 | 45.6 | 38.8 | 31.9 | 25.0 | 52.5 | 52.5 | 52.5 | 52.5 |
| | 23.0 | 14.1 | 5.2 | -3.6 | -12.5 | -19.6 | -26.6 | -33.6 | -40.6 | 26.2 | 17.4 | 8.5 | -0.3 | -9.2 | -16.3 | -23.3 | -30.3 | -37.4 | 29.4 | 20.6 | 11.8 | 2.9 | -5.9 | -13.0 | -20.0 | -27.0 | -34.1 | -12.4 | -9.2 | -5.9 | -2.6 | 0.5 | 7.2 | 14.0 | 20.7 | 27.4 | 0.5 | 0.5 | 0.5 | 0.5 |
| | -29.6 | -26.8 | -23.9 | -21.0 | -18.1 | -12.8 | -7.5 | -2.2 | 3.0 | -26.9 | -23.3 | -20.5 | -17.6 | -14.7 | -9.4 | -4.1 | 1.1 | 6.4 | -24.1 | -20.6 | -17.0 | -14.1 | -11.3 | -6.0 | -0.7 | 4.5 | 9.8 | -19.4 | -15.6 | -11.9 | -8.1 | -4.4 | 0.7 | 5.9 | 11.0 | 16.2 | -4.4 | -4.4 | -4.4 | -4.4 |
| 06 | 14.5 | 19.3 | 24.1 | 28.9 | 33.7 | 38.5 | 42.2 | 45.8 | 49.5 | 17.4 | 24.0 | 28.8 | 33.6 | 38.4 | 43.2 | 46.8 | 50.5 | 54.1 | 20.3 | 26.9 | 33.4 | 38.2 | 43.1 | 47.9 | 51.5 | 55.2 | 58.8 | 66.7 | 62.0 | 57.2 | 52.5 | 47.8 | 43.1 | 36.3 | 29.4 | 22.5 | 61.9 | 61.9 | 61.9 | 61.9 |
| | 28.7 | 19.8 | 10.9 | 1.9 | -6.9 | -15.8 | -22.8 | -29.8 | -36.9 | 31.9 | 23.1 | 14.1 | 5.2 | -3.6 | -12.5 | -19.5 | -26.6 | -33.6 | 35.1 | 26.3 | 17.4 | 8.5 | -0.3 | -9.2 | -16.2 | -23.3 | -30.3 | -15.7 | -12.5 | -9.2 | -5.9 | -2.7 | 0.5 | 7.2 | 13.9 | 20.7 | 0.5 | 0.5 | 0.5 | 0.5 |
| | -36.3 | -33.4 | -30.5 | -27.6 | -24.8 | -21.9 | -16.6 | -11.3 | -6.0 | -33.5 | -30.0 | -27.1 | -24.2 | -21.3 | -18.5 | -13.2 | -7.9 | -2.6 | -30.7 | -27.2 | -23.6 | -20.8 | -17.9 | -15.0 | -9.7 | -4.4 | 0.8 | -22.8 | -19.1 | -15.3 | -11.6 | -7.8 | -4.1 | 1.0 | 6.2 | 11.3 | -4.7 | -4.7 | -4.7 | -4.7 |
| 07 | 14.4 | 19.2 | 24.0 | 28.8 | 33.6 | 38.4 | 43.2 | 46.9 | 50.5 | 17.3 | 23.8 | 28.7 | 33.5 | 38.3 | 43.1 | 47.9 | 51.6 | 55.2 | 20.2 | 26.7 | 33.3 | 38.1 | 43.0 | 47.8 | 52.6 | 56.2 | 59.9 | 62.0 | 57.3 | 52.6 | 47.9 | 43.2 | 38.5 | 33.8 | 26.9 | 20.0 | 71.3 | 71.3 | 71.3 | 71.3 |
| | 34.3 | 25.4 | 16.5 | 7.6 | -1.2 | -10.1 | -19.0 | -26.1 | -33.1 | 37.5 | 28.7 | 19.8 | 10.9 | 2.0 | -6.8 | -15.8 | -22.8 | -29.8 | 40.7 | 31.9 | 23.1 | 14.2 | 5.3 | -3.6 | -12.5 | -19.5 | -26.5 | -19.0 | -15.7 | -12.5 | -9.2 | -5.9 | -2.7 | 0.5 | 7.2 | 13.9 | 0.6 | 0.6 | 0.6 | 0.6 |
| | -42.9 | -40.0 | -37.2 | -34.3 | -31.4 | -28.5 | -25.6 | -20.3 | -15.0 | -40.1 | -36.6 | -33.7 | -30.8 | -28.0 | -25.1 | -22.2 | -16.9 | -11.6 | -37.4 | -33.8 | -30.3 | -27.4 | -24.5 | -21.6 | -18.8 | -13.5 | -8.2 | -26.3 | -22.5 | -18.8 | -15.0 | -11.3 | -7.5 | -3.8 | 1.3 | 6.5 | -5.0 | -5.0 | -5.0 | -5.0 |
| 08 | 14.3 | 19.1 | 23.9 | 28.7 | 33.5 | 38.3 | 43.1 | 48.0 | 51.6 | 17.2 | 23.7 | 28.6 | 33.4 | 38.2 | 43.0 | 47.8 | 52.6 | 56.3 | 20.1 | 26.6 | 33.2 | 38.0 | 42.8 | 47.7 | 52.5 | 57.3 | 60.9 | 57.3 | 52.6 | 47.9 | 43.2 | 38.5 | 33.8 | 29.1 | 24.4 | 17.5 | 80.6 | 80.6 | 80.6 | 80.6 |
| | 40.0 | 31.1 | 22.2 | 13.3 | 4.3 | -4.5 | -13.4 | -22.3 | -29.3 | 43.2 | 34.4 | 25.4 | 16.5 | 7.6 | -1.2 | -10.1 | -19.0 | -26.0 | 46.4 | 37.6 | 28.7 | 19.8 | 10.9 | 2.0 | -6.8 | -15.7 | -22.8 | -22.3 | -19.0 | -15.8 | -12.5 | -9.2 | -6.0 | -2.7 | 0.5 | 7.2 | 0.6 | 0.6 | 0.6 | 0.6 |
| | -49.5 | -46.7 | -43.8 | -40.9 | -38.0 | -35.1 | -32.3 | -29.4 | -24.1 | -46.8 | -43.2 | -40.3 | -37.5 | -34.6 | -31.7 | -28.8 | -26.0 | -20.7 | -44.0 | -40.5 | -36.9 | -34.0 | -31.2 | -28.3 | -25.4 | -22.5 | -17.2 | -29.7 | -26.0 | -22.2 | -18.5 | -14.7 | -10.9 | -7.2 | -3.5 | 1.6 | -5.3 | -5.3 | -5.3 | -5.3 |
| 09 | 14.2 | 19.0 | 23.8 | 28.6 | 33.4 | 38.2 | 43.0 | 47.9 | 52.7 | 17.1 | 23.6 | 28.4 | 33.3 | 38.1 | 42.9 | 47.7 | 52.5 | 57.3 | 20.0 | 26.5 | 33.1 | 37.9 | 42.7 | 47.6 | 52.4 | 57.2 | 62.0 | 52.7 | 48.0 | 43.2 | 38.5 | 33.8 | 29.1 | 24.4 | 19.7 | 15.0 | 90.0 | 90.0 | 90.0 | 90.0 |
| | 45.6 | 36.7 | 27.8 | 18.9 | 10.0 | 1.1 | -7.7 | -16.7 | -25.6 | 48.8 | 40.0 | 31.1 | 22.2 | 13.3 | 4.4 | -4.5 | -13.4 | -22.3 | 52.0 | 43.2 | 34.4 | 25.5 | 16.6 | 7.6 | -1.2 | -10.1 | -19.0 | -25.6 | -22.3 | -19.0 | -15.8 | -12.5 | -9.3 | -6.0 | -2.7 | 0.4 | 0.6 | 0.6 | 0.6 | 0.6 |
| | -56.2 | -53.3 | -50.4 | -47.5 | -44.7 | -41.8 | -38.9 | -36.0 | -33.1 | -53.4 | -49.8 | -47.0 | -44.1 | -41.2 | -38.3 | -35.5 | -32.6 | -29.7 | -50.6 | -47.1 | -43.5 | -40.7 | -37.8 | -34.9 | -32.0 | -29.1 | -26.3 | -33.1 | -29.4 | -25.6 | -21.9 | -18.1 | -14.4 | -10.6 | -6.9 | -3.1 | -5.7 | -5.7 | -5.7 | -5.7 |
| 10 | 22.5 | 28.6 | 34.7 | 40.8 | 44.4 | 48.1 | 51.7 | 55.4 | 59.0 | 25.0 | 31.1 | 37.2 | 43.3 | 49.4 | 53.0 | 56.7 | 60.3 | 63.9 | 27.5 | 33.6 | 39.7 | 45.8 | 51.9 | 58.0 | 61.6 | 65.3 | 68.9 | 90.0 | 89.2 | 88.4 | 87.7 | 86.9 | 86.1 | 85.3 | 84.5 | 83.8 | 15.0 | 15.0 | 15.0 | 15.0 |
| | 20.7 | 13.4 | 6.1 | -1.1 | -8.2 | -15.2 | -22.2 | -29.3 | -36.3 | 27.4 | 20.1 | 12.8 | 5.5 | -1.7 | -8.7 | -15.8 | -22.8 | -29.8 | 34.2 | 26.9 | 19.6 | 12.2 | 4.9 | -2.3 | -9.3 | -16.3 | -23.4 | 0.6 | 0.0 | -0.4 | -1.0 | -1.6 | -2.2 | -2.8 | -3.4 | -3.9 | 0.4 | 0.4 | 0.4 | 0.4 |
| | 11.3 | 18.5 | 25.6 | 32.7 | 38.0 | 43.3 | 48.6 | 53.9 | 59.2 | 16.2 | 23.3 | 30.5 | 37.6 | 44.7 | 50.0 | 55.3 | 60.6 | 65.9 | 21.1 | 28.2 | 35.3 | 42.5 | 49.6 | 56.7 | 62.0 | 67.3 | 72.6 | -5.7 | 6.5 | 18.9 | 31.2 | 43.5 | 55.8 | 68.1 | 80.4 | 92.7 | -3.1 | -3.1 | -3.1 | -3.1 |
| 11 | 22.8 | 29.4 | 35.5 | 41.6 | 45.2 | 48.8 | 52.5 | 56.1 | 59.8 | 25.3 | 31.9 | 38.0 | 44.1 | 50.2 | 53.8 | 57.4 | 61.1 | 64.7 | 27.8 | 34.4 | 40.5 | 46.6 | 52.7 | 58.8 | 62.4 | 66.0 | 69.7 | 80.5 | 80.6 | 79.8 | 79.1 | 78.3 | 77.5 | 76.7 | 76.0 | 75.2 | 20.0 | 20.0 | 20.0 | 20.0 |
| | 22.8 | 13.9 | 6.6 | -0.6 | -7.6 | -14.6 | -21.7 | -28.7 | -35.7 | 29.5 | 20.7 | 13.4 | 6.1 | -1.1 | -8.2 | -15.2 | -22.2 | -29.2 | 36.3 | 27.4 | 20.1 | 12.8 | 5.5 | -1.7 | -8.7 | -15.7 | -22.8 | 6.2 | 0.6 | 0.0 | -0.5 | -1.1 | -1.6 | -2.2 | -2.8 | -3.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| | 2.6 | 6.2 | 13.3 | 20.4 | 25.7 | 31.0 | 36.3 | 41.6 | 46.9 | 7.5 | 11.0 | 18.2 | 25.3 | 32.4 | 37.7 | 43.0 | 48.3 | 53.6 | 12.4 | 15.9 | 23.0 | 30.2 | 37.3 | 44.4 | 49.7 | 55.0 | 60.3 | -12.0 | -5.3 | 6.9 | 19.2 | 31.5 | 43.8 | 56.1 | 68.4 | 80.7 | -3.3 | -3.3 | -3.3 | -3.3 |
| 12 | 23.1 | 29.7 | 36.3 | 42.3 | 46.0 | 49.6 | 53.3 | 56.9 | 60.5 | 25.6 | 32.2 | 38.8 | 44.9 | 50.9 | 54.6 | 58.2 | 61.9 | 65.5 | 28.1 | 34.7 | 41.3 | 47.4 | 53.4 | 59.5 | 63.2 | 66.8 | 70.5 | 71.0 | 71.1 | 71.3 | 70.5 | 69.7 | 68.9 | 68.1 | 67.4 | 66.6 | 25.0 | 25.0 | 25.0 | 25.0 |
| | 24.9 | 16.0 | 7.2 | 0.0 | -7.0 | -14.0 | -21.1 | -28.1 | -35.1 | 31.6 | 22.8 | 14.0 | 6.7 | -0.5 | -7.6 | -14.6 | -21.6 | -28.7 | 38.3 | 29.5 | 20.7 | 13.4 | 6.1 | -1.1 | -8.1 | -15.2 | -22.2 | 11.9 | 6.2 | 0.6 | 0.0 | -0.5 | -1.1 | -1.7 | -2.2 | -2.8 | 0.5 | 0.5 | 0.5 | 0.5 |
| | -6.0 | -2.4 | 1.0 | 8.1 | 13.4 | 18.7 | 24.0 | 29.3 | 34.6 | -1.1 | 2.3 | 5.9 | 13.0 | 20.1 | 25.4 | 30.7 | 36.0 | 41.3 | 3.6 | 7.2 | 10.7 | 17.9 | 25.0 | 32.1 | 37.4 | 42.7 | 48.0 | -18.3 | -11.7 | -5.0 | 7.2 | 19.5 | 31.8 | 44.1 | 56.4 | 68.7 | -3.5 | -3.5 | -3.5 | -3.5 |
| 13 | 23.4 | 30.0 | 36.5 | 43.1 | 46.8 | 50.4 | 54.0 | 57.7 | 61.3 | 25.9 | 32.5 | 39.1 | 45.6 | 51.7 | 55.4 | 59.0 | 62.6 | 66.3 | 28.4 | 35.0 | 41.6 | 48.1 | 54.2 | 60.3 | 64.0 | 67.6 | 71.2 | 61.6 | 61.7 | 61.8 | 61.9 | 61.1 | 60.3 | 59.5 | 58.8 | 58.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| | 27.0 | 18.1 | 9.3 | 0.5 | -6.4 | -13.5 | -20.5 | -27.5 | -34.6 | 33.7 | 24.9 | 16.1 | 7.2 | 0.0 | -7.0 | -14.0 | -21.1 | -28.1 | 40.4 | 31.6 | 22.8 | 14.0 | 6.7 | -0.5 | -7.6 | -14.6 | -21.6 | 17.5 | 11.8 | 6.2 | 0.5 | 0.0 | -0.5 | -1.1 | -1.7 | -2.3 | 0.5 | 0.5 | 0.5 | 0.5 |
| | -14.7 | -11.2 | -7.6 | -4.1 | 1.1 | 6.4 | 11.7 | 17.0 | 22.3 | -9.8 | -6.3 | -2.8 | 0.7 | 7.8 | 13.1 | 18.4 | 23.7 | 29.0 | -5.0 | -1.4 | 2.0 | 5.5 | 12.7 | 19.8 | 25.1 | 30.4 | 35.7 | -24.6 | -18.0 | -11.3 | -4.7 | 7.5 | 19.8 | 32.1 | 44.4 | 56.7 | -3.6 | -3.6 | -3.6 | -3.6 |
| 14 | 23.3 | 29.9 | 36.4 | 43.0 | 47.8 | 51.5 | 55.1 | 58.8 | 62.4 | 26.2 | 32.8 | 39.3 | 45.9 | 52.5 | 56.1 | 59.8 | 63.4 | 67.1 | 28.7 | 35.3 | 41.8 | 48.4 | 55.0 | 61.1 | 64.7 | 68.4 | 72.0 | 52.1 | 52.2 | 52.3 | 52.4 | 52.5 | 51.7 | 50.9 | 50.2 | 49.4 | 35.0 | 35.0 | 35.0 | 35.0 |
| | 32.6 | 23.8 | 15.0 | 6.2 | -2.7 | -9.7 | -16.7 | -23.8 | -30.8 | 35.8 | 27.0 | 18.2 | 9.3 | 0.5 | -6.4 | -13.4 | -20.5 | -27.5 | 42.5 | 33.7 | 24.9 | 16.1 | 7.3 | 0.0 | -7.0 | -14.0 | -21.0 | 23.1 | 17.5 | 11.8 | 6.2 | 0.5 | 0.0 | -0.5 | -1.1 | -1.7 | 0.5 | 0.5 | 0.5 | 0.5 |
| | -21.3 | -17.8 | -14.2 | -10.7 | -7.8 | -2.5 | 2.7 | 8.0 | 13.3 | -18.6 | -15.0 | -11.5 | -7.9 | -4.4 | 0.8 | 6.1 | 11.4 | 16.7 | -13.7 | -10.2 | -6.6 | -3.1 | 0.4 | 7.5 | 12.8 | 18.1 | 23.4 | -30.9 | -24.3 | -17.7 | -11.0 | -4.4 | 7.8 | 20.1 | 32.4 | 44.7 | -3.8 | -3.8 | -3.8 | -3.8 |
| 15 | 23.2 | 29.8 | 36.3 | 42.9 | 47.7 | 52.5 | 56.2 | 59.8 | 63.5 | 26.1 | 32.7 | 39.2 | 45.8 | 52.4 | 57.2 | 60.8 | 64.5 | 68.1 | 29.0 | 35.6 | 42.1 | 48.7 | 55.3 | 61.9 | 65.5 | 69.2 | 72.8 | 42.6 | 42.7 | 42.8 | 42.9 | 43.0 | 43.1 | 42.3 | 41.6 | 40.8 | 40.0 | 40.0 | 40.0 | 40.0 |
| | 38.3 | 29.4 | 20.6 | 11.8 | 2.9 | -5.9 | -13.0 | -20.0 | -27.0 | 41.4 | 32.6 | 23.8 | 15.0 | 6.2 | -2.6 | -9.7 | -16.7 | -23.7 | 44.6 | 35.8 | 27.0 | 18.2 | 9.4 | 0.5 | -6.4 | -13.4 | -20.4 | 28.8 | 23.1 | 17.5 | 11.8 | 6.2 | 0.5 | 0.0 | -0.6 | -1.1 | 0.5 | 0.5 | 0.5 | 0.5 |
| | -28.0 | -24.4 | -20.9 | -17.3 | -14.5 | -11.6 | -6.3 | -1.0 | 4.2 | -25.2 | -21.6 | -18.1 | -14.6 | -11.0 | -8.1 | -2.8 | 2.4 | 7.6 | -22.4 | -18.9 | -15.3 | -11.8 | -8.3 | -4.7 | 0.5 | 5.8 | 11.1 | -37.2 | -30.6 | -24.0 | -17.3 | -10.7 | -4.1 | 8.1 | 20.4 | 32.7 | -4.0 | -4.0 | -4.0 | -4.0 |
| 16 | 23.1 | 29.6 | 36.2 | 42.8 | 47.6 | 52.4 | 57.2 | 60.9 | 64.5 | 26.0 | 32.6 | 39.1 | 45.7 | 52.3 | 57.1 | 61.9 | 65.6 | 69.2 | 28.9 | 35.5 | 42.0 | 48.6 | 55.2 | 61.8 | 66.6 | 70.2 | 73.9 | 33.1 | 33.2 | 33.3 | 33.4 | 33.5 | 33.6 | 33.8 | 33.0 | 32.2 | 45.0 | 45.0 | 45.0 | 45.0 |
| | 43.9 | 35.1 | 26.3 | 17.5 | 8.5 | -0.3 | -9.2 | -16.2 | -23.2 | 47.1 | 38.3 | 29.5 | 20.6 | 11.8 | 2.9 | -5.9 | -12.9 | -20.0 | 50.3 | 41.5 | 32.7 | 23.8 | 15.0 | 6.2 | -2.6 | -9.6 | -16.7 | 34.4 | 28.7 | 23.1 | 17.4 | 11.8 | 6.1 | 0.5 | 0.0 | -0.6 | 0.5 | 0.5 | 0.5 | 0.5 |
| | -34.6 | -31.1 | -27.5 | -24.0 | -21.1 | -18.2 | -15.3 | -10.0 | -4.7 | -31.8 | -28.3 | -24.7 | -21.2 | -17.7 | -14.8 | -11.9 | -6.6 | -1.3 | -29.0 | -25.5 | -22.0 | -18.4 | -14.9 | -11.3 | -8.5 | -3.2 | 2.0 | -43.5 | -36.9 | -30.3 | -23.6 | -17.0 | -10.4 | -3.8 | 8.4 | 20.7 | -4.1 | -4.1 | -4.1 | -4.1 |
| 17 | 23.0 | 29.5 | 36.1 | 42.7 | 47.5 | 52.3 | 57.1 | 62.0 | 65.6 | 25.9 | 32.4 | 39.0 | 45.6 | 52.2 | 57.0 | 61.8 | 66.6 | 70.3 | 28.8 | 35.3 | 41.9 | 48.5 | 55.1 | 61.7 | 66.5 | 71.3 | 74.9 | 23.6 | 23.7 | 23.8 | 24.0 | 24.1 | 24.2 | 24.3 | 24.4 | 23.6 | 50.0 | 50.0 | 50.0 | 50.0 |
| | 49.6 | 40.7 | 31.9 | 23.1 | 14.2 | 5.3 | -3.5 | -12.5 | -19.5 | 52.7 | 43.9 | 35.1 | 26.3 | 17.5 | 8.6 | -0.3 | -9.2 | -16.2 | 55.9 | 47.1 | 38.3 | 29.5 | 20.7 | 11.8 | 2.9 | -5.9 | -12.9 | 40.0 | 34.4 | 28.7 | 23.1 | 17.4 | 11.8 | 6.1 | 0.5 | 0.0 | 0.5 | 0.5 | 0.5 | 0.5 |
| | -41.2 | -37.7 | -34.1 | -30.6 | -27.7 | -24.8 | -22.0 | -19.1 | -13.8 | -38.4 | -34.9 | -31.4 | -27.8 | -24.3 | -21.4 | -18.5 | -15.6 | -10.4 | -35.7 | -32.1 | -28.6 | -25.1 | -21.5 | -18.0 | -15.1 | -12.2 | -6.9 | -49.8 | -43.2 | -36.6 | -30.0 | -23.3 | -16.7 | -10.1 | -3.5 | 8.8 | -4.3 | -4.3 | -4.3 | -4.3 |
| 18 | 22.9 | 29.4 | 36.0 | 42.6 | 47.4 | 52.2 | 57.0 | 61.8 | 66.7 | 25.8 | 32.3 | 38.9 | 45.5 | 52.1 | 56.9 | 61.7 | 66.5 | 71.3 | 28.7 | 35.2 | 41.8 | 48.4 | 55.0 | 61.6 | 66.4 | 71.2 | 76.0 | 14.2 | 14.3 | 14.4 | 14.5 | 14.6 | 14.7 | 14.8 | 14.9 | 15.0 | 55.0 | 55.0 | 55.0 | 55.0 |
| | 55.2 | 46.4 | 37.6 | 28.8 | 19.8 | 10.9 | 2.0 | -6.8 | -15.7 | 58.4 | 49.6 | 40.8 | 31.9 | 23.1 | 14.2 | 5.3 | -3.5 | -12.4 | 61.6 | 52.8 | 44.0 | 35.1 | 26.3 | 17.5 | 8.6 | -0.2 | -9.1 | 45.6 | 40.0 | 34.3 | 28.7 | 23.0 | 17.4 | 11.7 | 6.1 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 |
| | -47.8 | -44.3 | -40.8 | -37.2 | -34.3 | -31.5 | -28.6 | -25.7 | -22.8 | -45.1 | -41.5 | -38.0 | -34.4 | -30.9 | -28.0 | -25.2 | -22.3 | -19.4 | -42.3 | -38.8 | -35.2 | -31.7 | -28.1 | -24.6 | -21.7 | -18.8 | -16.0 | -56.2 | -49.5 | -42.9 | -36.3 | -29.6 | -23.0 | -16.4 | -9.8 | -3.1 | -4.5 | -4.5 | -4.5 | -4.5 |
| 19 | 30.1 | 36.1 | 42.2 | 48.3 | 54.4 | 60.5 | 66.6 | 70.2 | 73.9 | 32.6 | 38.6 | 44.7 | 50.8 | 56.9 | 63.0 | 69.1 | 75.2 | 78.8 | 35.1 | 41.1 | 47.2 | 53.3 | 59.4 | 65.5 | 71.6 | 77.7 | 83.8 | 90.0 | 84.3 | 78.5 | 72.8 | 67.1 | 61.3 | 55.6 | 49.9 | 44.1 | 60.0 | 60.0 | 60.0 | 60.0 |
| | 40.9 | 33.6 | 26.3 | 19.0 | 11.7 | 4.4 | -2.8 | -9.9 | -16.9 | 47.7 | 40.4 | 33.0 | 25.7 | 18.4 | 11.1 | 3.8 | -3.4 | -10.4 | 54.4 | 47.1 | 39.8 | 32.5 | 25.2 | 17.9 | 10.6 | 3.3 | -3.9 | 0.6 | -6.3 | -13.4 | -20.4 | -27.5 | -34.6 | -41.6 | -48.7 | -55.7 | 0.5 | 0.5 | 0.5 | 0.5 |
| | 25.9 | 33.1 | 40.2 | 47.3 | 54.5 | 61.6 | 68.7 | 74.0 | 79.3 | 30.8 | 37.9 | 45.0 | 52.2 | 59.3 | 66.4 | 73.6 | 80.7 | 86.0 | 35.6 | 42.8 | 49.9 | 57.0 | 64.2 | 71.3 | 78.4 | 85.6 | 92.7 | -5.7 | 0.0 | 5.5 | 11.1 | 16.7 | 22.3 | 27.9 | 33.5 | 39.1 | -4.7 | -4.7 | -4.7 | -4.7 |
| 20 | 30.3 | 36.9 | 43.0 | 49.1 | 55.2 | 61.3 | 67.4 | 71.0 | 74.6 | 32.8 | 39.4 | 45.5 | 51.6 | 57.7 | 63.8 | 69.9 | 76.0 | 79.6 | 35.4 | 41.9 | 48.0 | 54.1 | 60.2 | 66.3 | 72.4 | 78.5 | 84.5 | 83.4 | 80.6 | 74.9 | 69.2 | 63.4 | 57.7 | 52.0 | 46.2 | 40.5 | 65.0 | 65.0 | 65.0 | 65.0 |
| | 43.0 | 34.2 | 26.9 | 19.6 | 12.3 | 5.0 | -2.2 | -9.3 | -16.3 | 49.7 | 40.9 | 33.6 | 26.3 | 19.0 | 11.7 | 4.4 | -2.8 | -9.8 | 56.5 | 47.7 | 40.4 | 33.1 | 25.8 | 18.5 | 11.1 | 3.8 | -3.4 | 9.4 | 0.6 | -6.4 | -13.4 | -20.5 | -27.5 | -34.6 | -41.6 | -48.7 | 0.6 | 0.6 | 0.6 | 0.6 |
| | 17.2 | 20.8 | 27.9 | 35.0 | 42.2 | 49.3 | 56.4 | 61.7 | 67.0 | 22.1 | 25.6 | 32.7 | 39.9 | 47.0 | 54.1 | 61.3 | 68.4 | 73.7 | 26.9 | 30.5 | 37.6 | 44.7 | 51.9 | 59.0 | 66.1 | 73.3 | 80.4 | -9.2 | -5.3 | 0.2 | 5.8 | 11.4 | 17.0 | 22.6 | 28.2 | 33.9 | -4.8 | -4.8 | -4.8 | -4.8 |
| 21 | 30.6 | 37.2 | 43.8 | 49.9 | 56.0 | 62.0 | 68.1 | 71.8 | 75.4 | 33.1 | 39.7 | 46.3 | 52.4 | 58.5 | 64.6 | 70.6 | 76.7 | 80.4 | 35.6 | 42.2 | 48.8 | 54.9 | 61.0 | 67.1 | 73.1 | 79.2 | 85.3 | 76.8 | 74.0 | 71.3 | 65.5 | 59.8 | 54.0 | 48.3 | 42.6 | 36.9 | 70.0 | 70.0 | 70.0 | 70.0 |
| | 45.1 | 36.3 | 27.5 | 20.2 | 12.9 | 5.5 | -1.7 | -8.7 | -15.7 | 51.8 | 43.0 | 34.2 | 26.9 | 19.6 | 12.3 | 5.0 | -2.2 | -9.2 | 58.6 | 49.8 | 41.0 | 33.6 | 26.3 | 19.0 | 11.7 | 4.4 | -2.8 | 18.2 | 9.4 | 0.6 | -6.4 | -13.4 | -20.5 | -27.6 | -34.6 | -41.7 | 0.6 | 0.6 | 0.6 | 0.6 |
| | 8.5 | 12.0 | 15.6 | 22.7 | 29.8 | 37.0 | 44.1 | 49.4 | 54.7 | 13.4 | 16.9 | 20.4 | 27.6 | 34.7 | 41.8 | 49.0 | 56.1 | 61.4 | 18.2 | 21.8 | 25.3 | 32.4 | 39.6 | 46.7 | 53.8 | 61.0 | 68.1 | -12.7 | -8.9 | -5.0 | 0.5 | 6.1 | 11.7 | 17.3 | 22.9 | 28.6 | -5.0 | -5.0 | -5.0 | -5.0 |
| 22 | 30.9 | 37.5 | 44.1 | 50.6 | 56.7 | 62.8 | 68.9 | 72.6 | 76.2 | 33.4 | 40.0 | 46.6 | 53.2 | 59.2 | 65.3 | 71.4 | 77.5 | 81.1 | 35.9 | 42.5 | 49.1 | 55.7 | 61.7 | 67.8 | 73.9 | 80.0 | 86.1 | 70.3 | 67.5 | 64.7 | 61.9 | 56.1 | 50.4 | 44.7 | 38.9 | 33.2 | 75.0 | 75.0 | 75.0 | 75.0 |
| | 47.2 | 38.4 | 29.6 | 20.7 | 13.4 | 6.1 | -1.1 | -8.1 | -15.1 | 53.9 | 45.1 | 36.3 | 27.5 | 20.2 | 12.9 | 5.6 | -1.6 | -8.7 | 60.7 | 51.9 | 43.0 | 34.2 | 26.9 | 19.6 | 12.3 | 5.0 | -2.2 | 27.1 | 18.2 | 9.4 | 0

**Input and output:**
**Colorimetric Printer Reflective System FRS15_90aM**
**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u**** **= 16 hues** ***r00j, r25j, ..., b75r***
**contrast reduction factor:**
$c_R = 0.9$

**FRS15_90aM; adapted (a) CIELAB data**

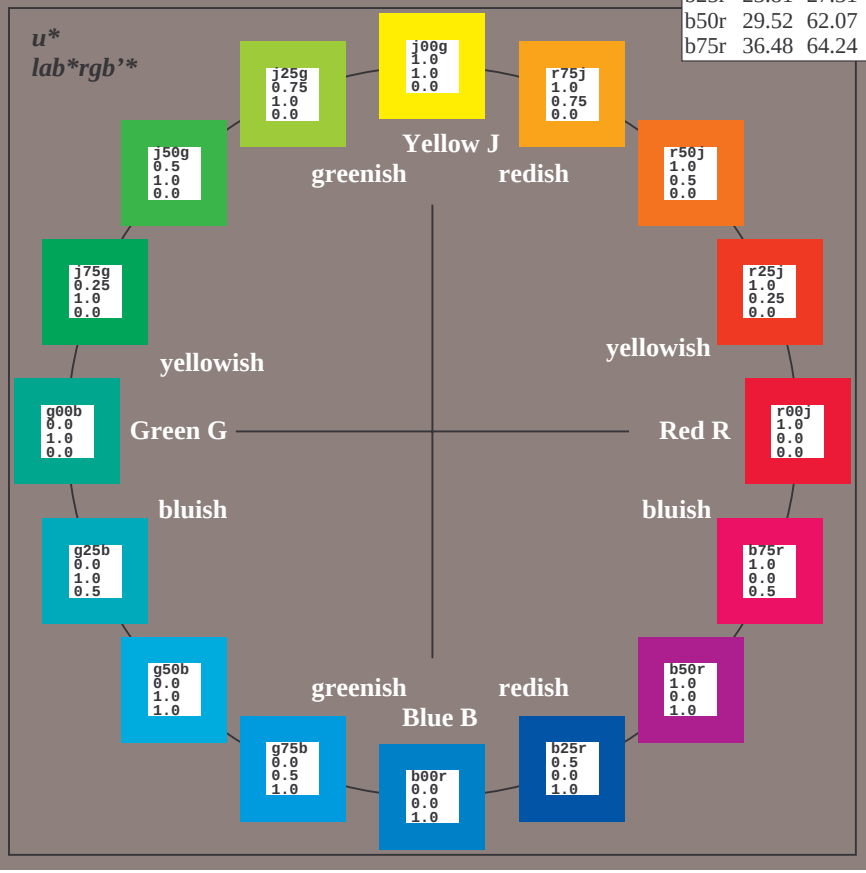
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

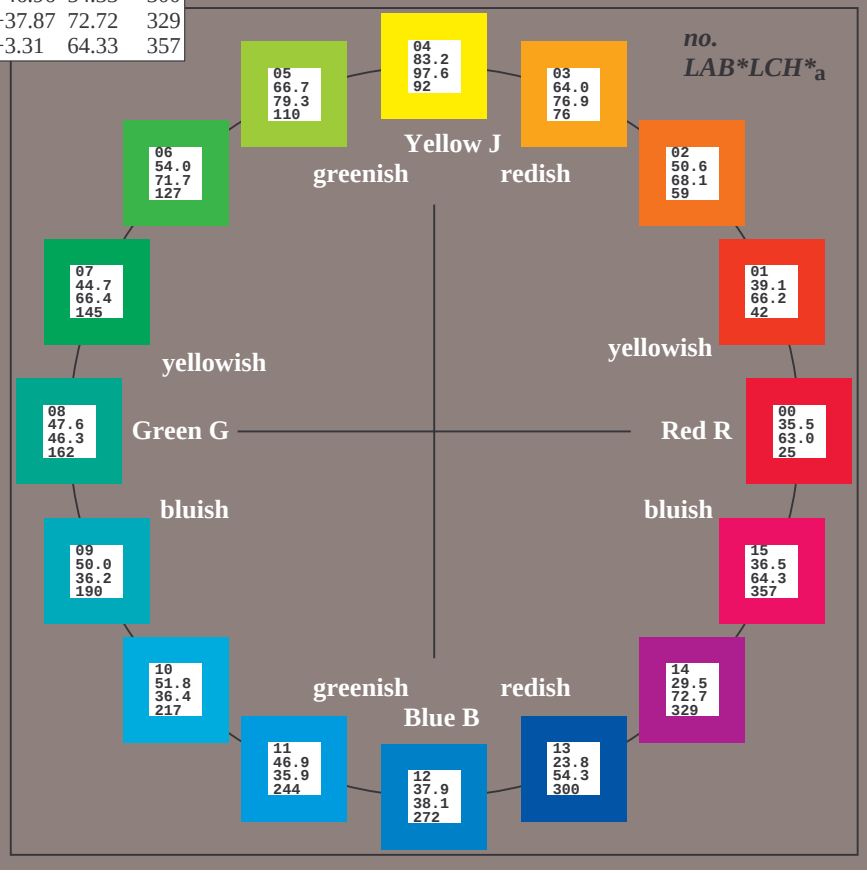



**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**

**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 25/360 = 0.071$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

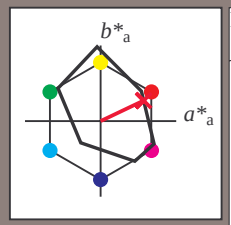
**elementary hue text:**

***u* = r00j***

**contrast reduction factor:**

$c_R = 0.9$

**triangle lightness *t****




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$: 35 57 27

***LAB*LCH****$_{Ma}$: 35 63 25

***lab*rgb****$_{Ma}$: 1.0 0.0 0.0

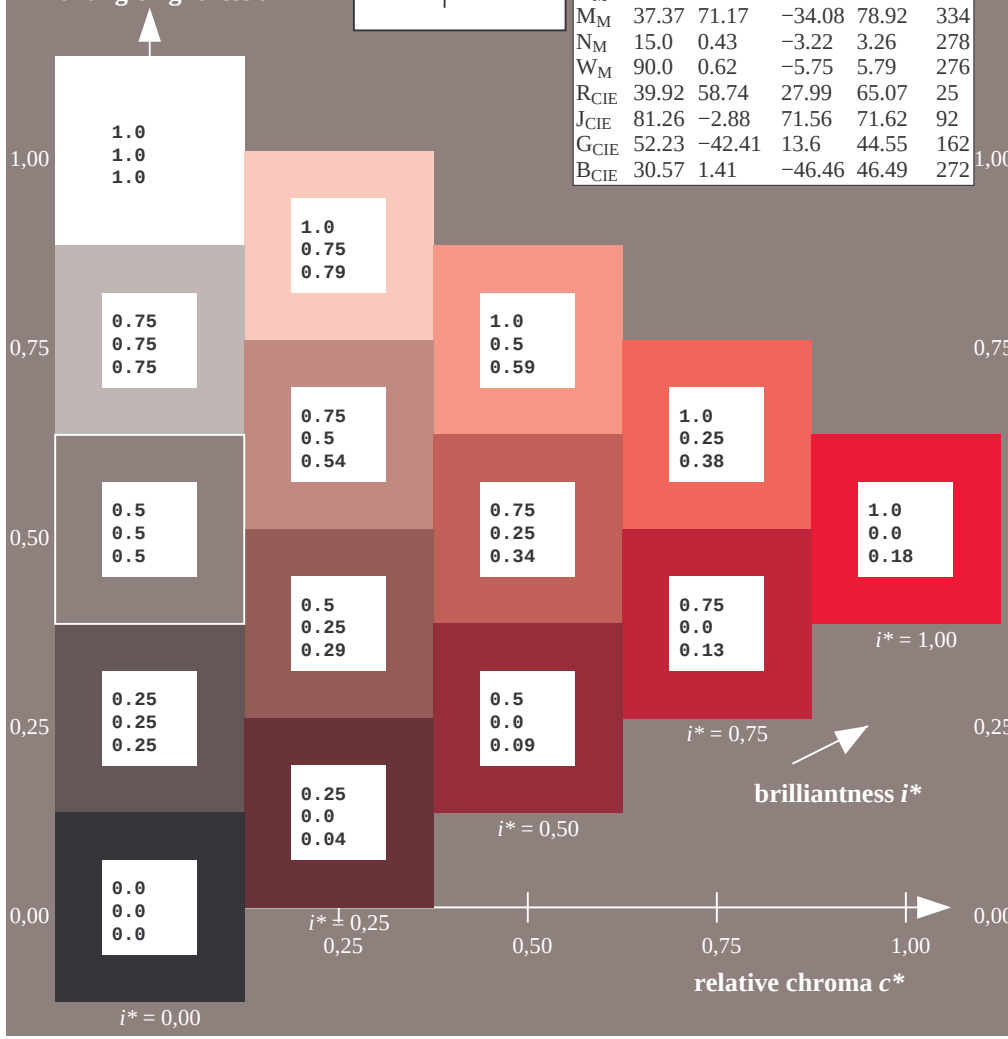
***lab*olv****$_{Ma}$: 1.0 0.0 0.18

***u* = r00j***

***lab*rgb'****

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



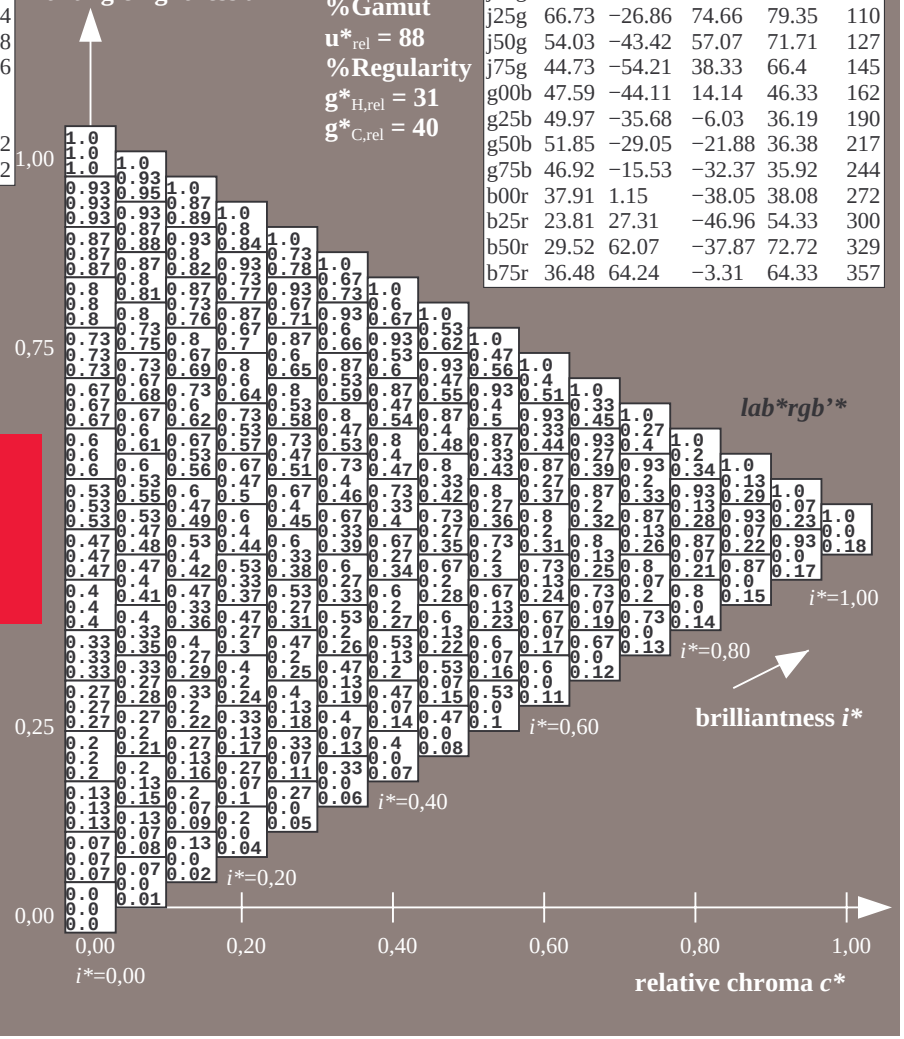

**%Gamut**

$u^*_{rel} = 88$

**%Regularity**

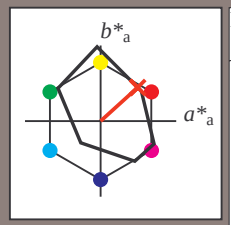
$g^*_{H,rel} = 31$

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 42/360 = 0.117$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
$u^* = r25j$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness $t^*$**




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 39 49 44**
***LAB*LCH*Ma*: 39 66 42**
***lab*rgb*Ma*: 1.0 0.25 0.0**
***lab*olv*Ma*: 1.0 0.08 0.0**

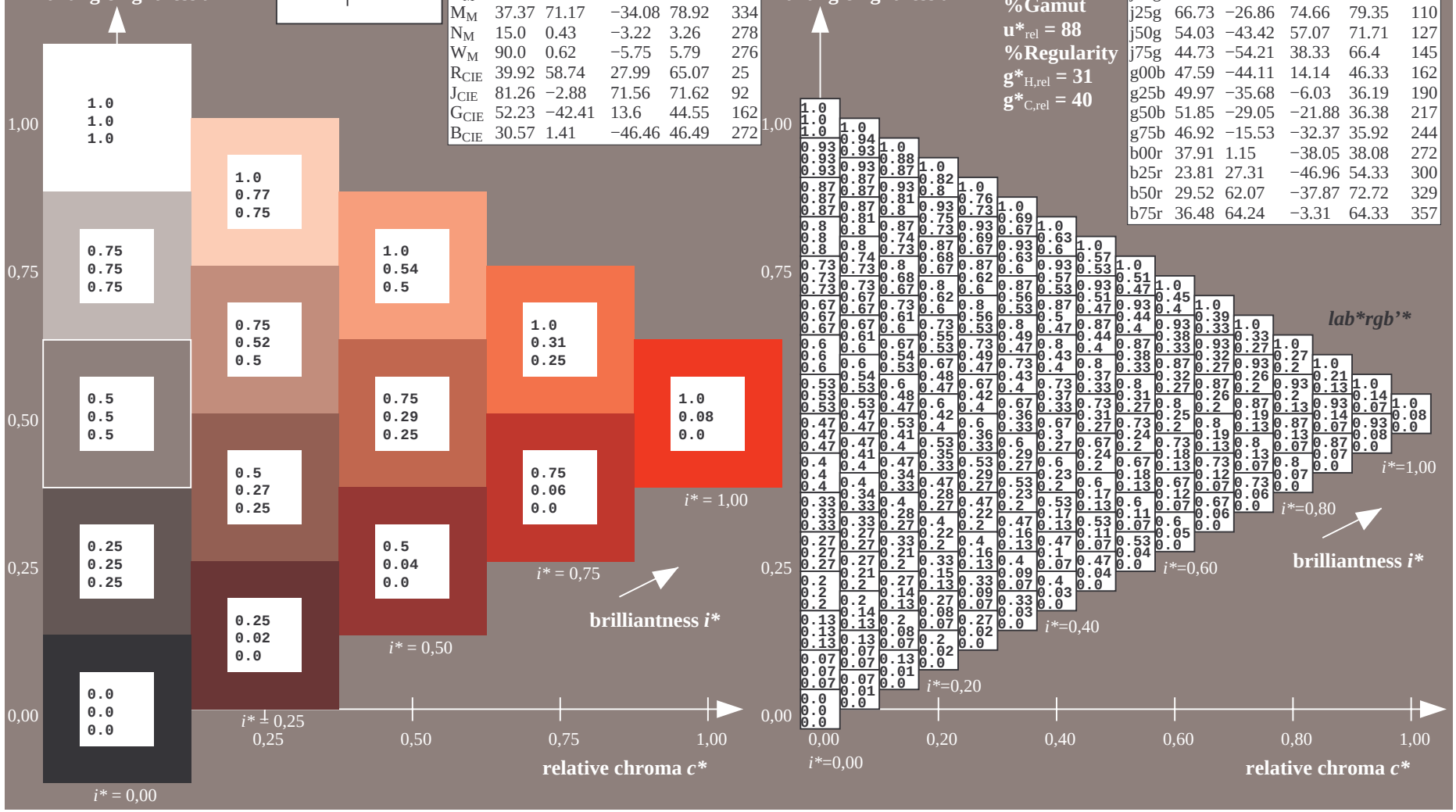
$u^* = r25j$
*lab*rgb'**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

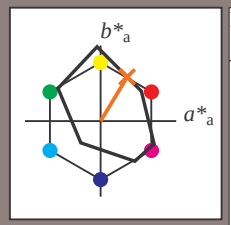
**triangle lightness $t^*$**

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 59/360 = 0.164$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
*u* = r50j*
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

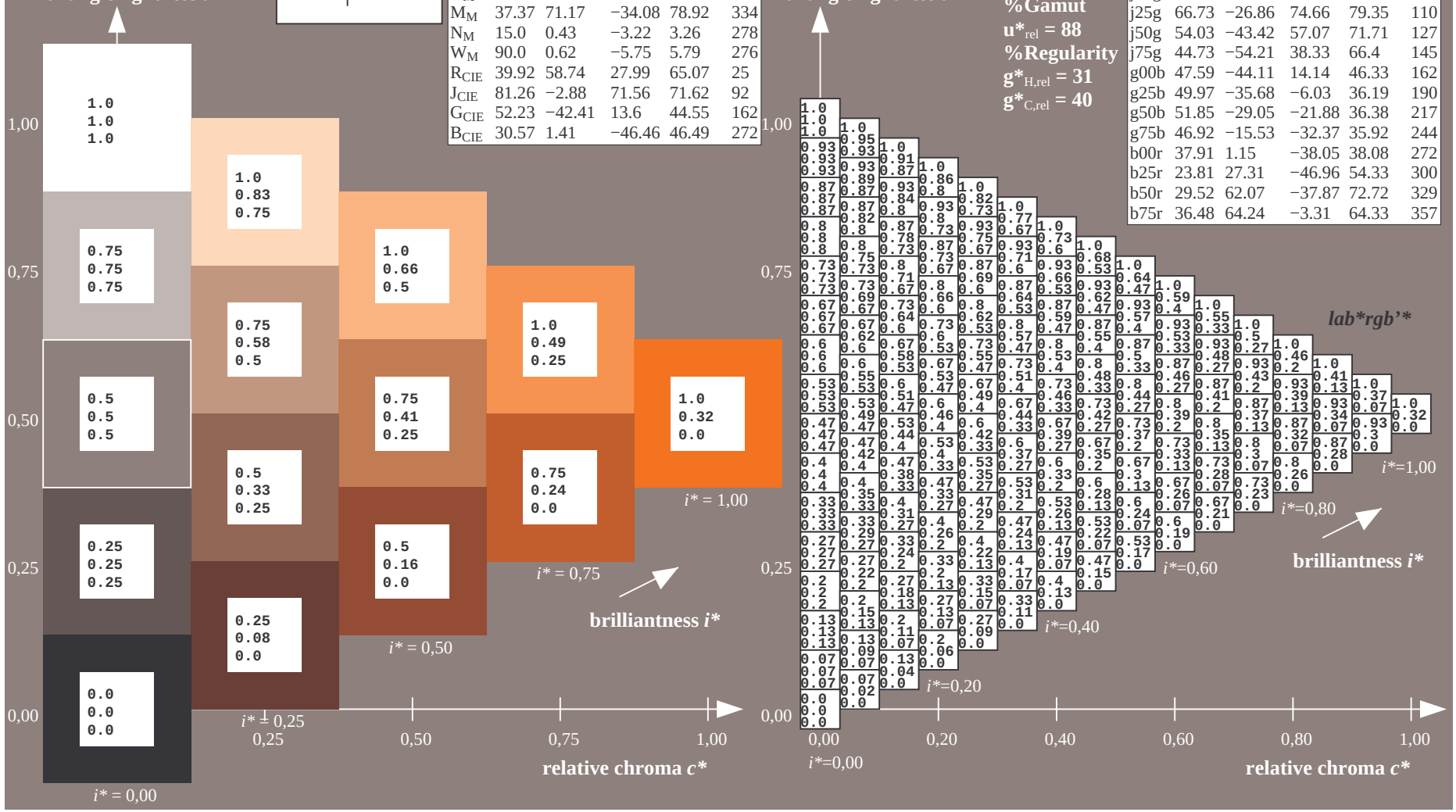
**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 51 35 58**
***LAB*LCH*Ma*: 51 68 59**
***lab*rgb*Ma*: 1.0 0.5 0.0**
***lab*olv*Ma*: 1.0 0.32 0.0**

***u* = r50j***
***lab*rgb'****

**FRS15_90aM; adapted (a) CIELAB data**

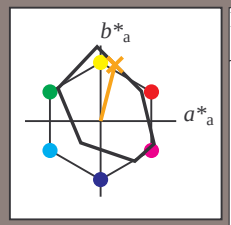
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 76/360 = 0.21$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
$u^* = r75j$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness $t^*$**




**FRS15_90aM; CIELAB data**

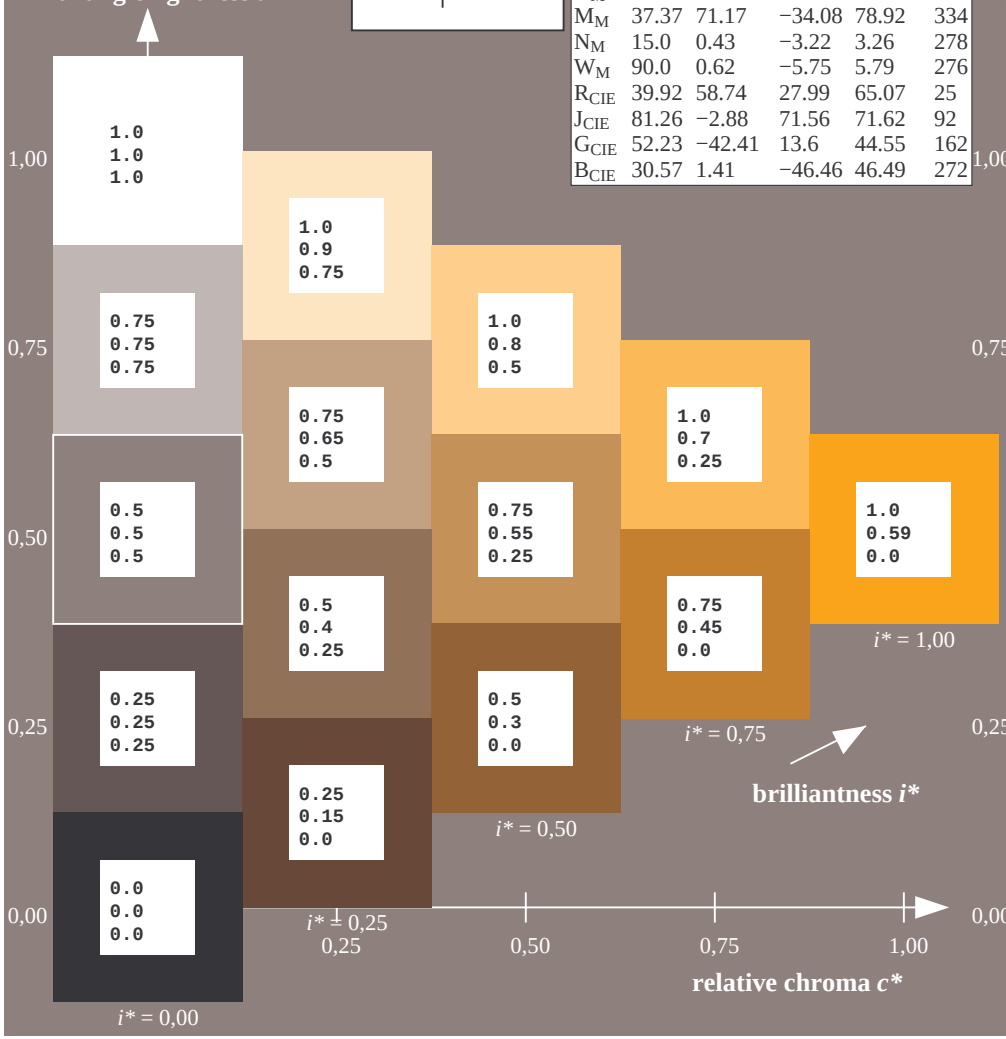
| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

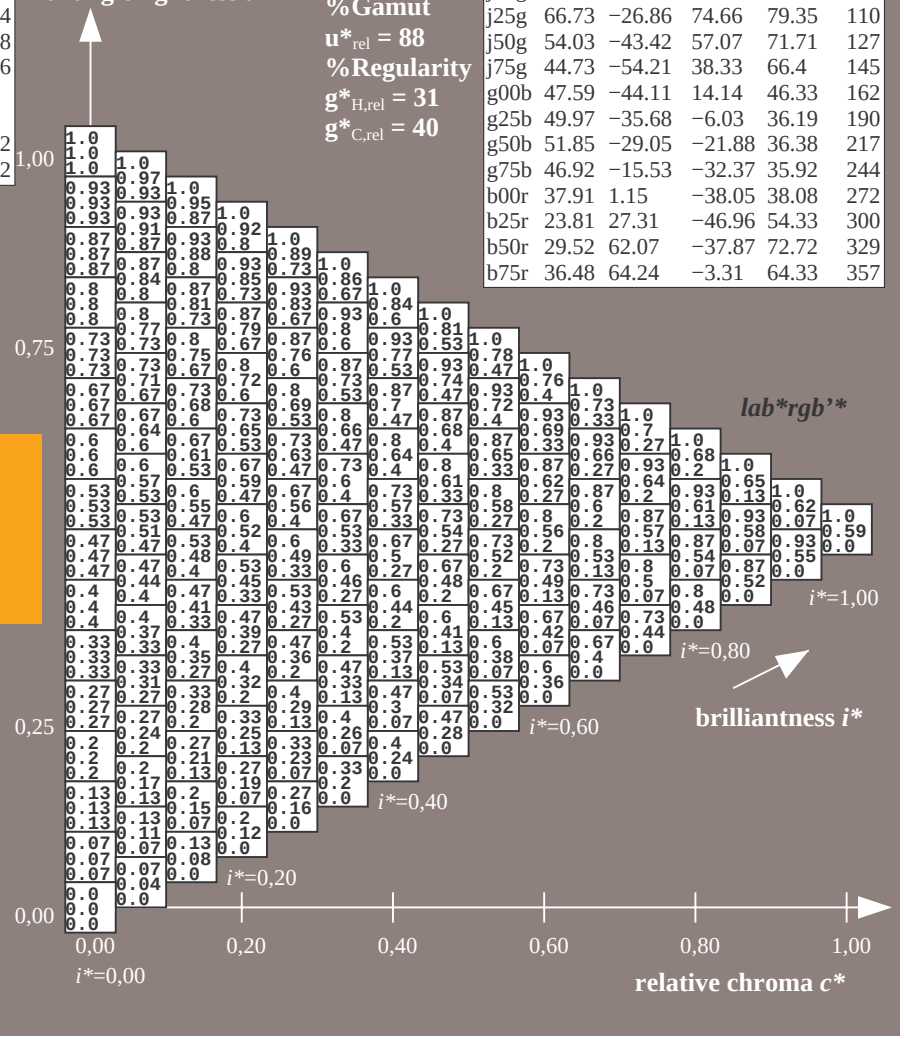
**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 64 19 74**
***LAB*LCH*Ma*: 64 77 76**
***lab*rgb*Ma*: 1.0 0.75 0.0**
***lab*olv*Ma*: 1.0 0.59 0.0**

***u* = r75j***
***lab*rgb'****

**FRS15_90aM; adapted (a) CIELAB data**

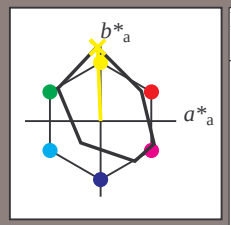
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 92/360 = 0.256$**

**data for any colour:**
*lab*tch** **and** *lab*icu**
**elementary hue text:**
$u^* = j00g$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

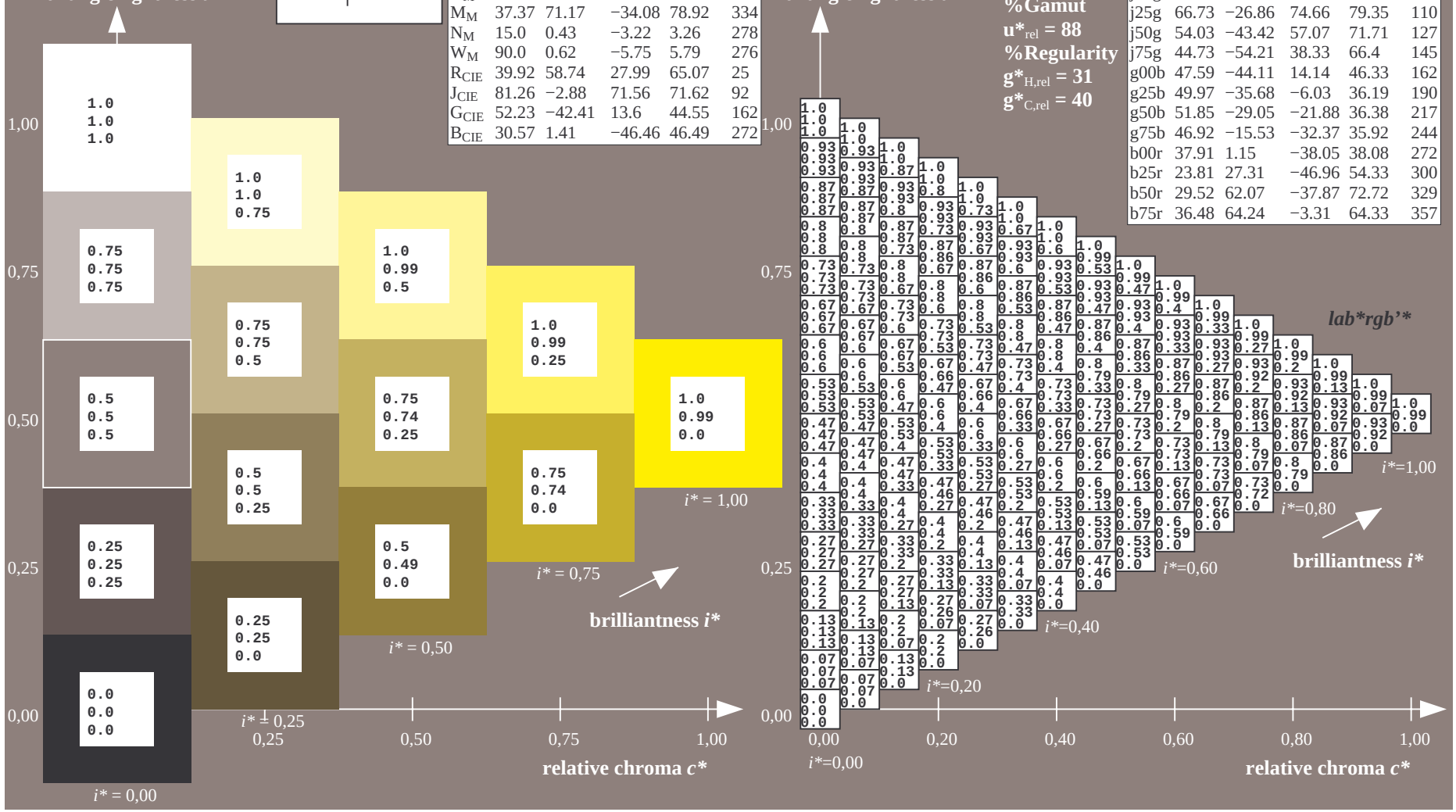
**Data for maximum colour (Ma):**
$LAB^*LAB^*_{Ma}$: 83 −3 98
$LAB^*LCH^*_{Ma}$: 83 98 92
$lab^*rgb^*_{Ma}$: 1.0 1.0 0.0
$lab^*olv^*_{Ma}$: 1.0 0.99 0.0
**triangle lightness** $t^*$

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

$u^* = j00g$
$lab^*rgb'^*$

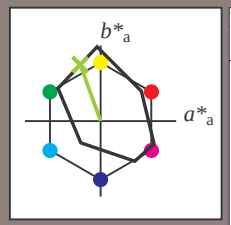
**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 110/360 = 0.305$**

**data for any colour:**
*lab*tch** **and** *lab*icu**
**elementary hue text:**
$u^* = j25g$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

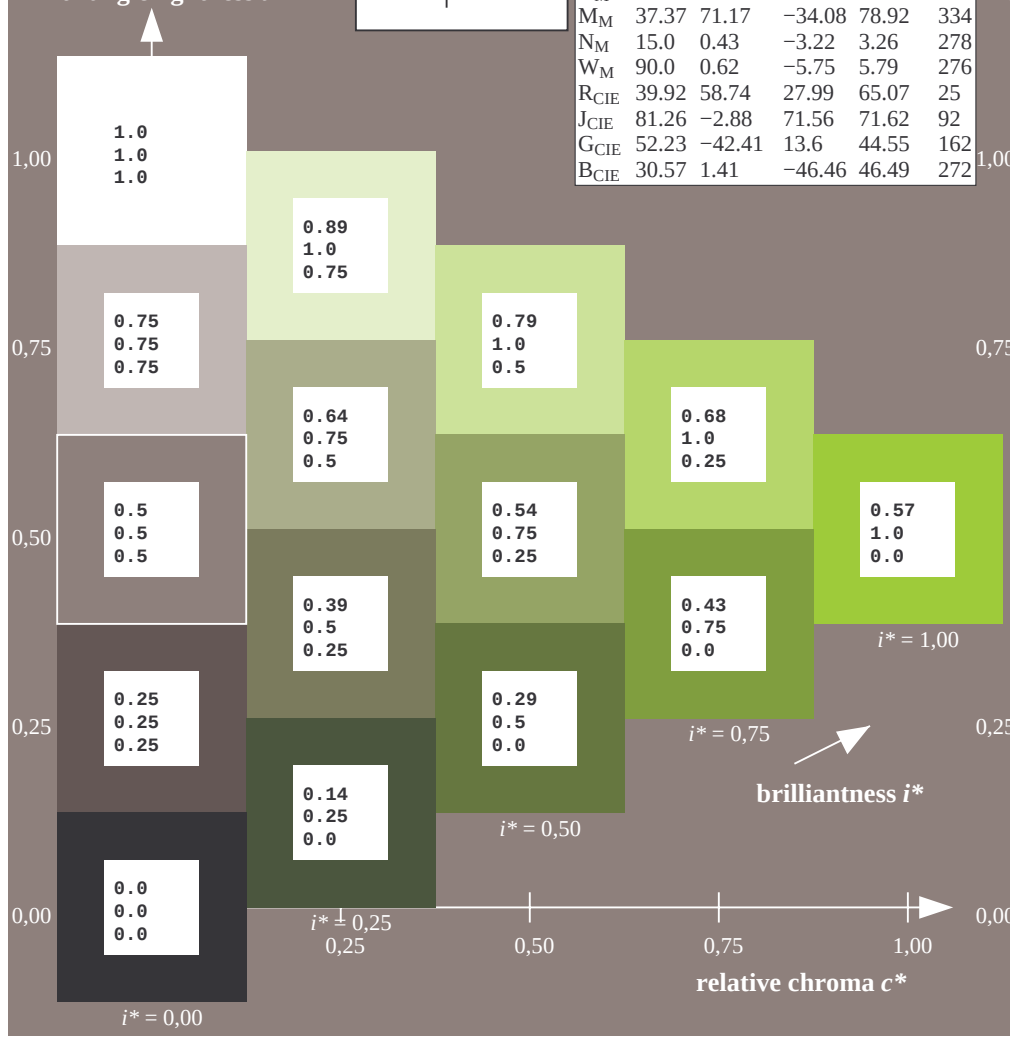
**Data for maximum colour (Ma):**
$LAB^*LAB^*_{Ma}$: 67 −26 75
$LAB^*LCH^*_{Ma}$: 67 79 110
$lab^*rgb^*_{Ma}$: 0.75 1.0 0.0
$lab^*olv^*_{Ma}$: 0.57 1.0 0.0

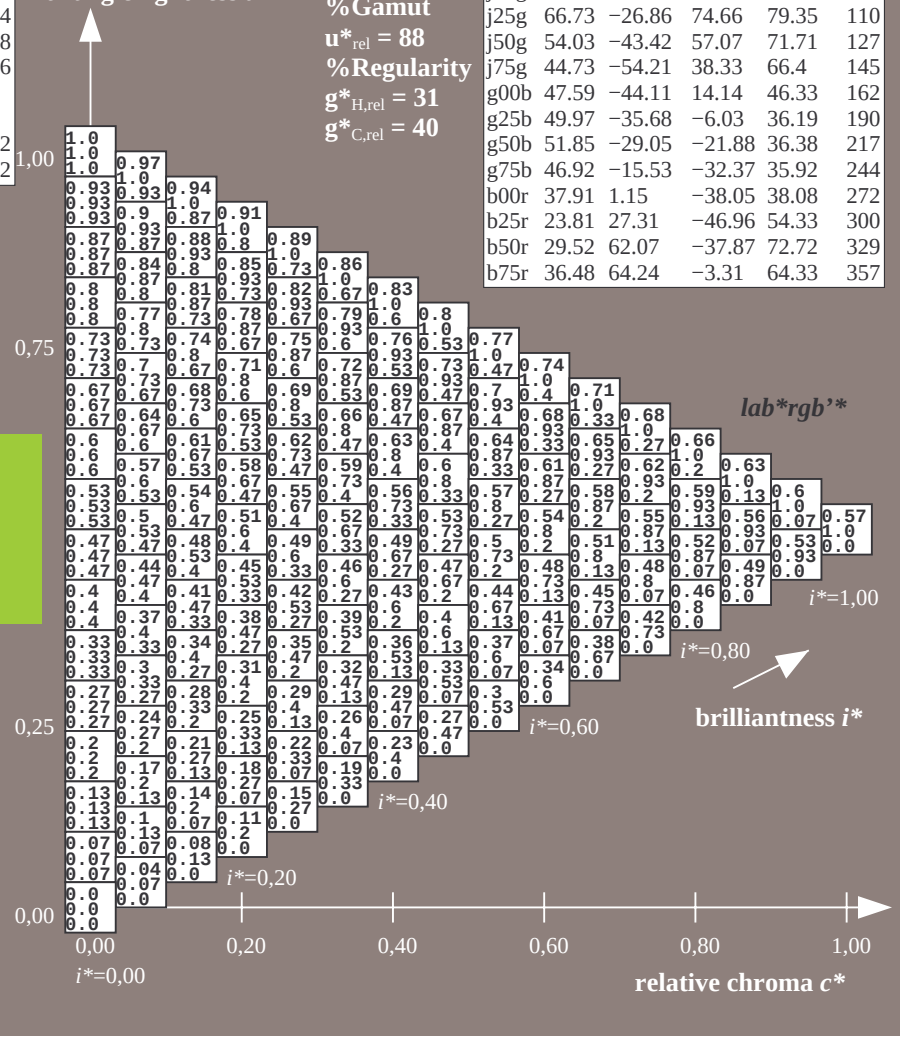
**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

$u^* = j25g$
$lab^*rgb'^*$

**FRS15_90aM; adapted (a) CIELAB data**

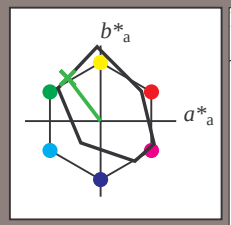
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 127/360 = 0.354$**

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
$u^* = j50g$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

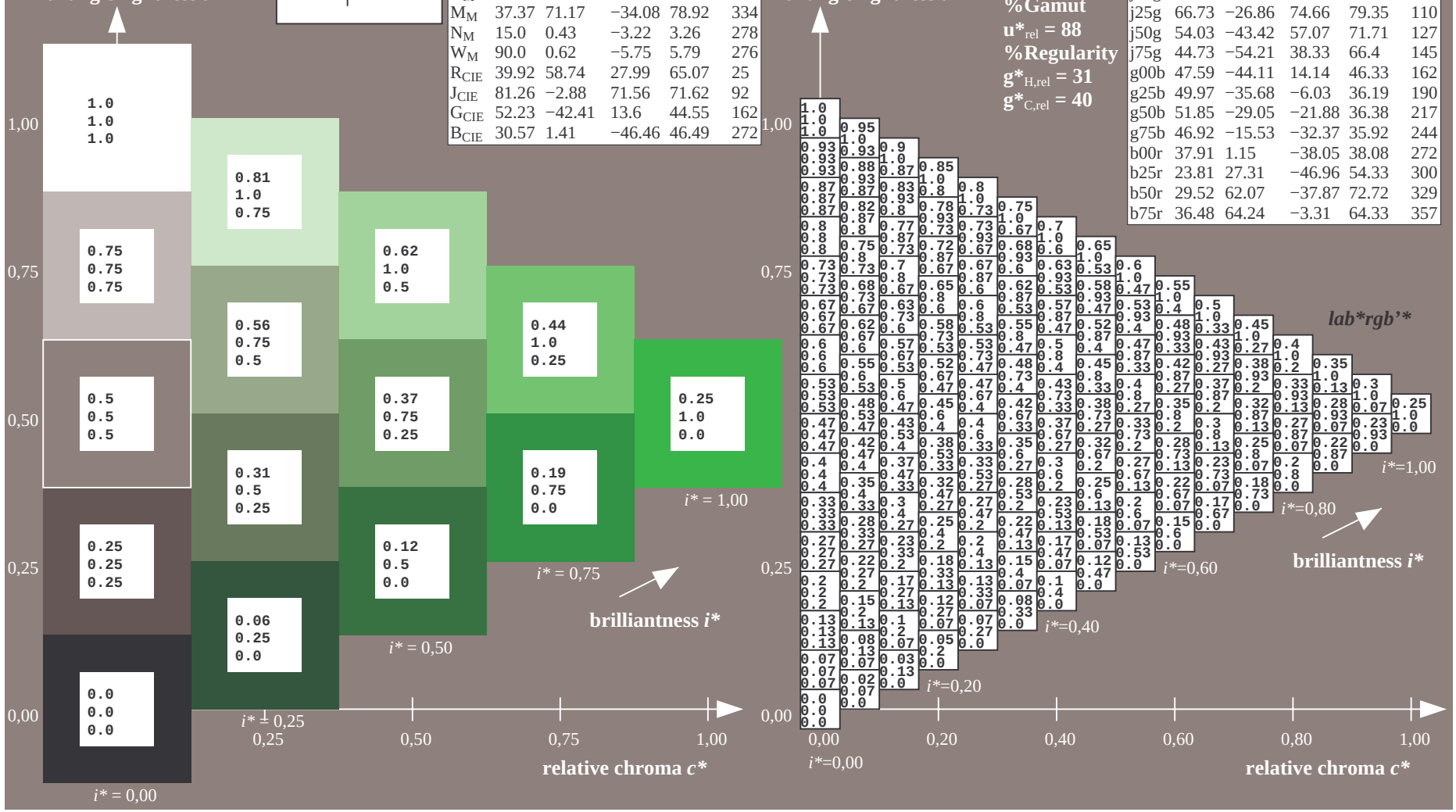
**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$: 54 −42 57
***LAB*LCH****$_{Ma}$: 54 72 127
***lab*rgb****$_{Ma}$: 0.5 1.0 0.0
***lab*olv****$_{Ma}$: 0.25 1.0 0.0

$u^* = j50g$
***lab*rgb'****

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 145/360 = 0.402$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

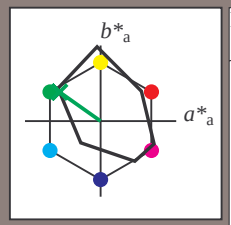
**elementary hue text:**

$u^* = j75g$

**contrast reduction factor:**

$c_R = 0.9$

**triangle lightness** $t^*$




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 45 −53 38**

***LAB*LCH****$_{Ma}$**: 45 66 145**

***lab*rgb****$_{Ma}$**: 0.25 1.0 0.0**

***lab*olv****$_{Ma}$**: 0.0 1.0 0.07**

**triangle lightness** $t^*$

**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

**$g^*_{H,rel} = 31$**

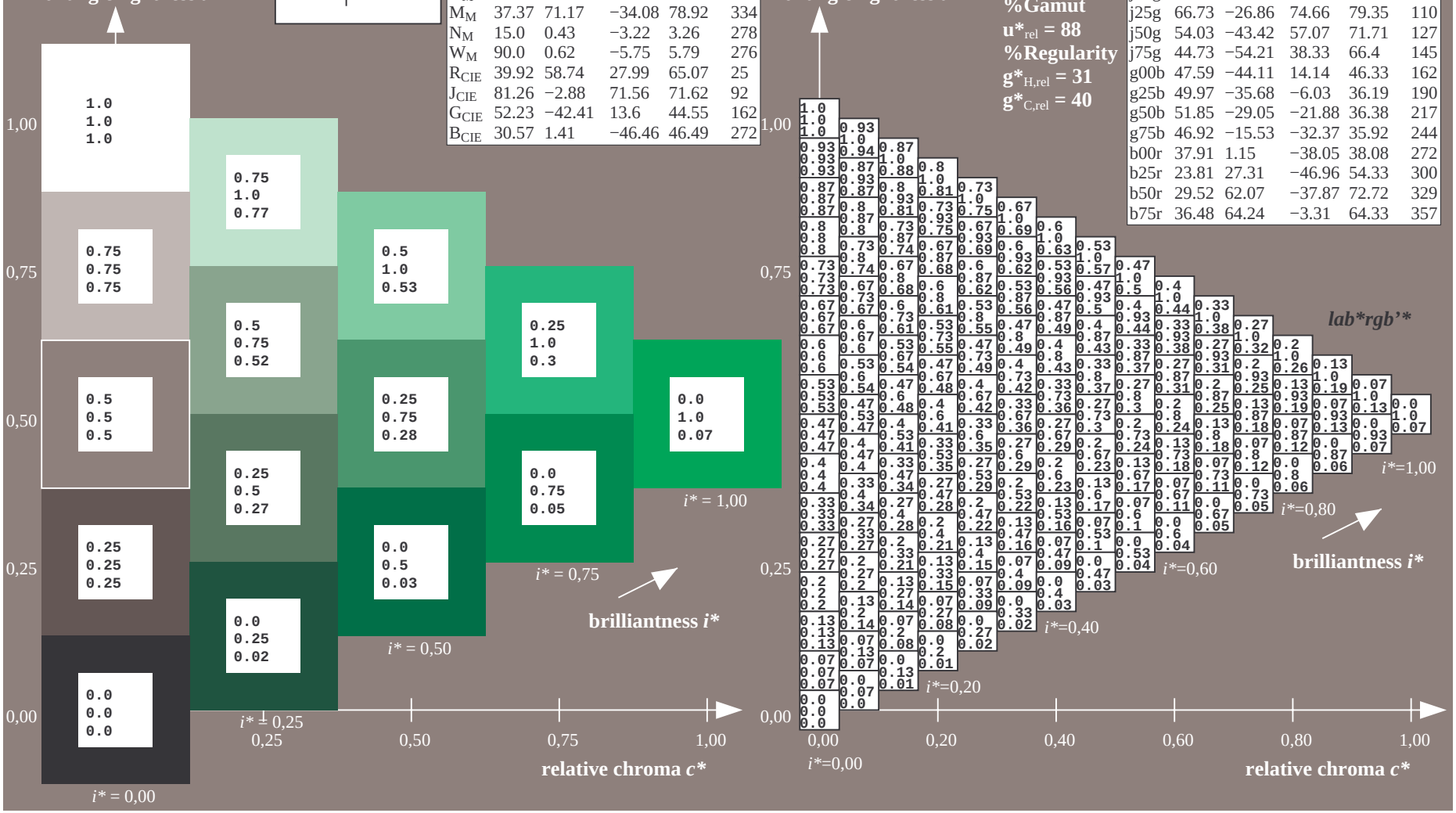
**$g^*_{C,rel} = 40$**

***u* = j75g***

***lab*rgb'****

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 162/360 = 0.451$**

**data for any colour:**

***lab*tch** and *lab*icu****

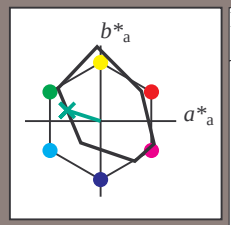
**elementary hue text:**

***u* = g00b***

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness *t****




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB**$_{Ma}$: 48 −43 14**

***LAB*LCH**$_{Ma}$: 48 46 162**

***lab*rgb**$_{Ma}$: 0.0 1.0 0.0**

***lab*olv**$_{Ma}$: 0.0 1.0 0.41**

***u* = g00b***

***lab*rgb'****

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

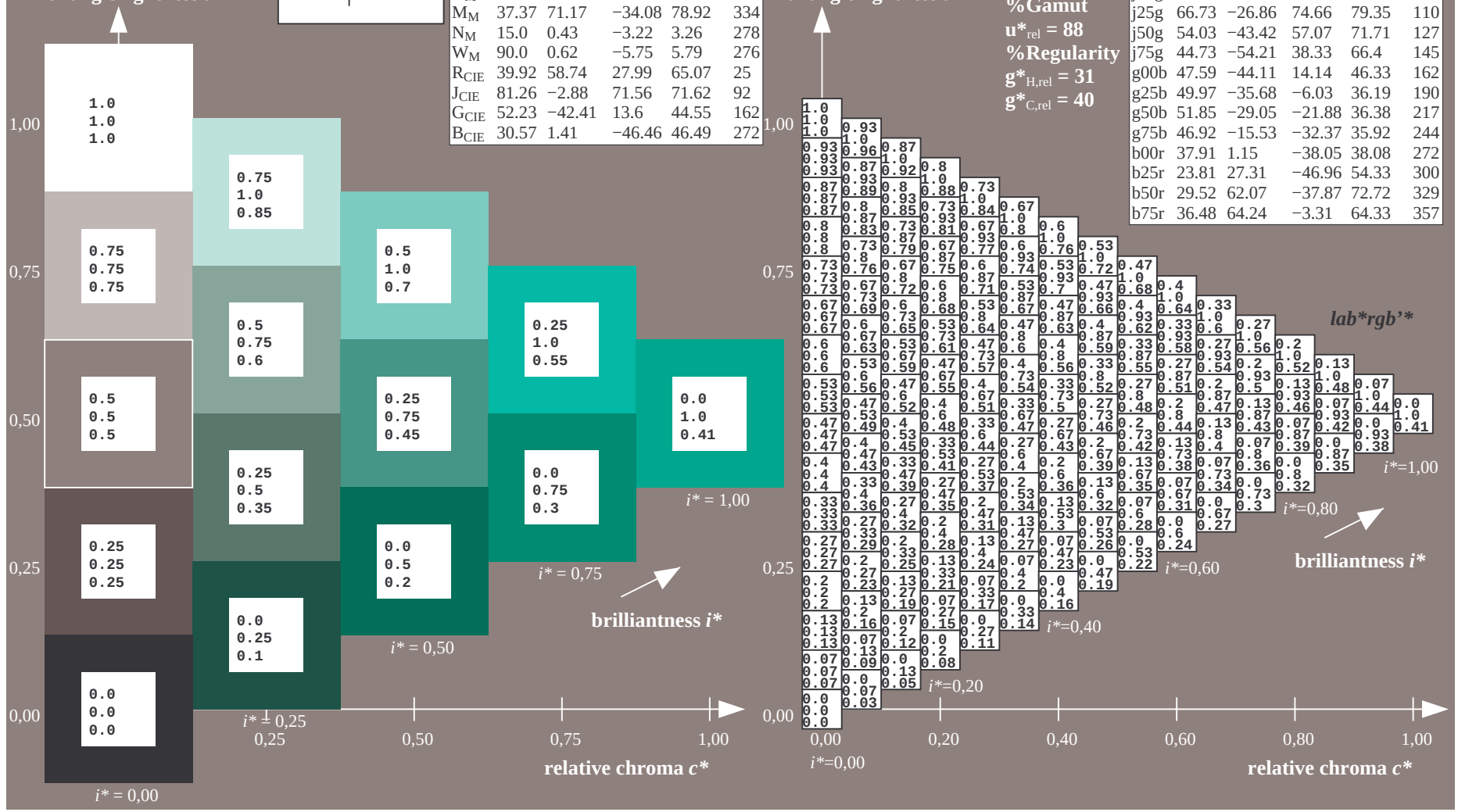
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

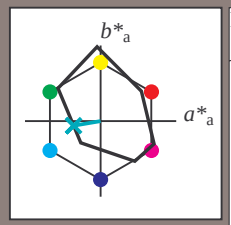
**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 190/360 = 0.527$**

**data for any colour:**
*lab*tch** **and** *lab*icu**
**elementary hue text:**
*u* = g25b*
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** *t**




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

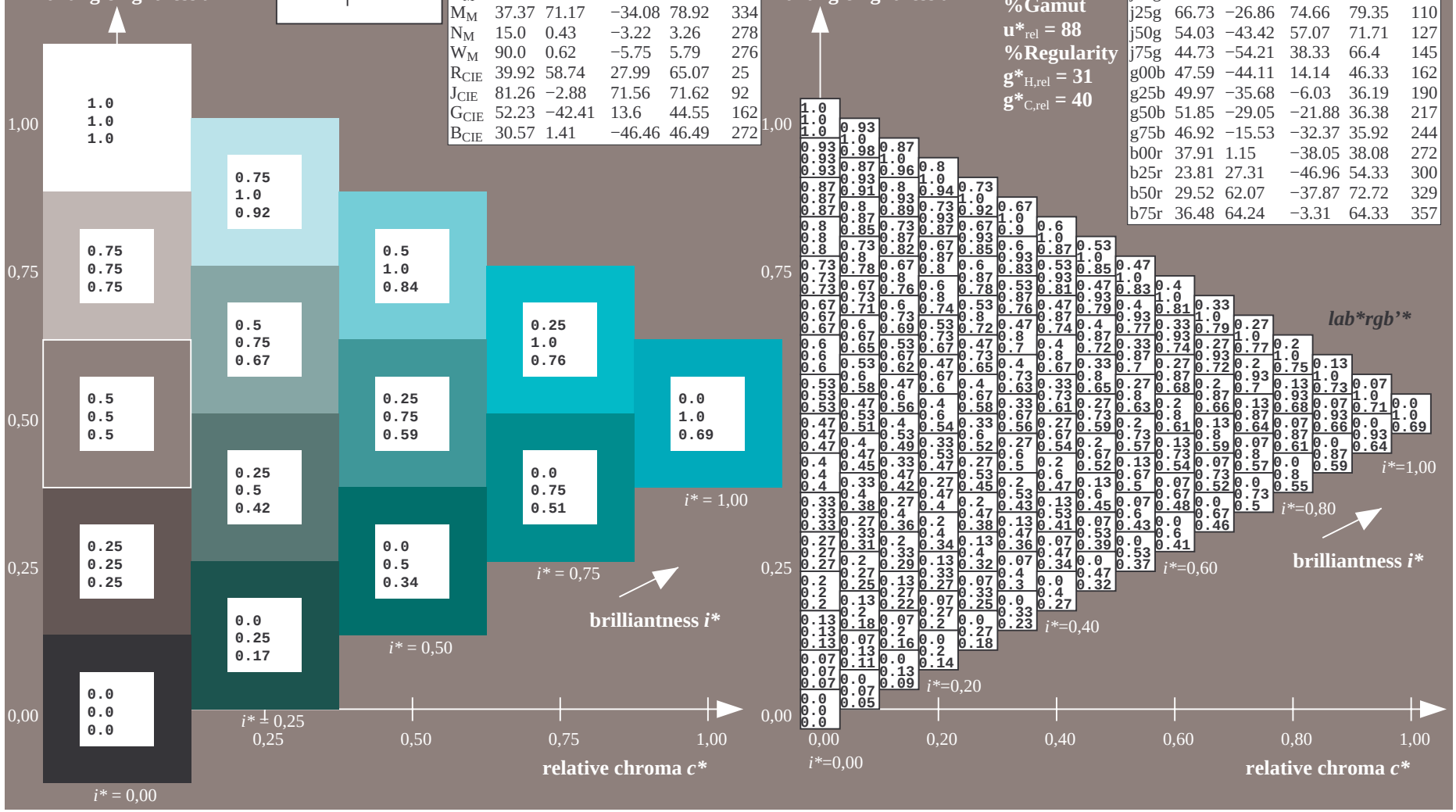
**Data for maximum colour (Ma):**
$LAB^*LAB^*_{Ma}$: 50 −35 −5
$LAB^*LCH^*_{Ma}$: 50 36 190
$lab^*rgb^*_{Ma}$: 0.0 1.0 0.5
$lab^*olv^*_{Ma}$: 0.0 1.0 0.69

*u* = g25b*
*lab*rgb'**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 217/360 = 0.603$**

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

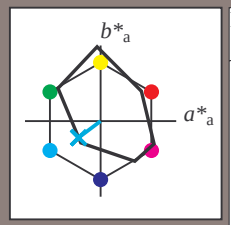
**elementary hue text:**

***u* = g50b***

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness *t****




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 52 −28 −21**

***LAB*LCH****$_{Ma}$**: 52 36 217**

***lab*rgb****$_{Ma}$**: 0.0 1.0 1.0**

***lab*olv****$_{Ma}$**: 0.0 1.0 0.9**

***u* = g50b***

***lab*rgb'****

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**triangle lightness *t****

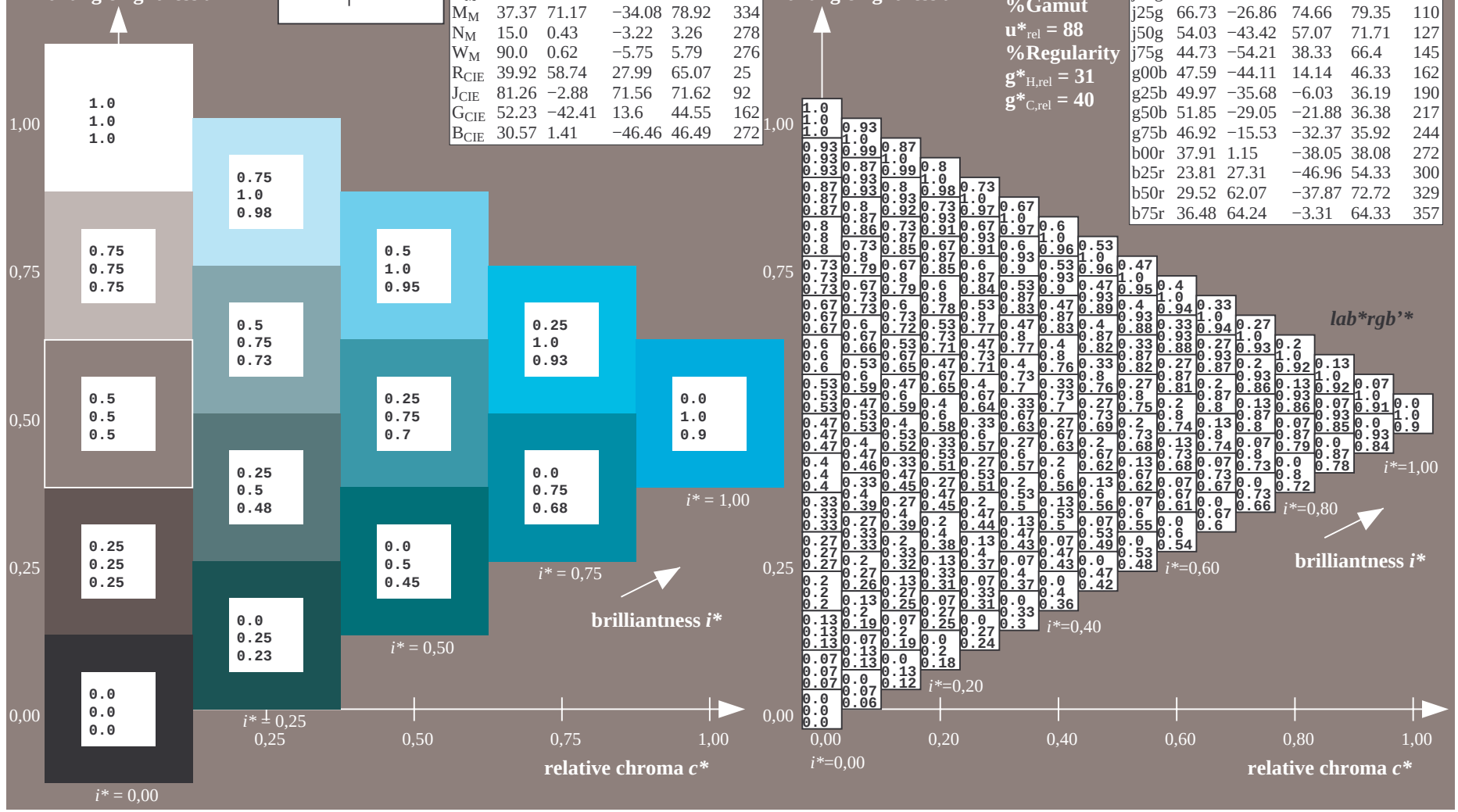
**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

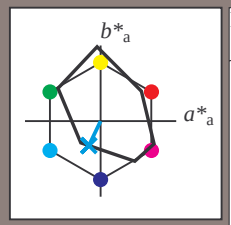
**$g^*_{H,rel} = 31$**

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



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 244/360 = 0.679$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
*u* = g75b*
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

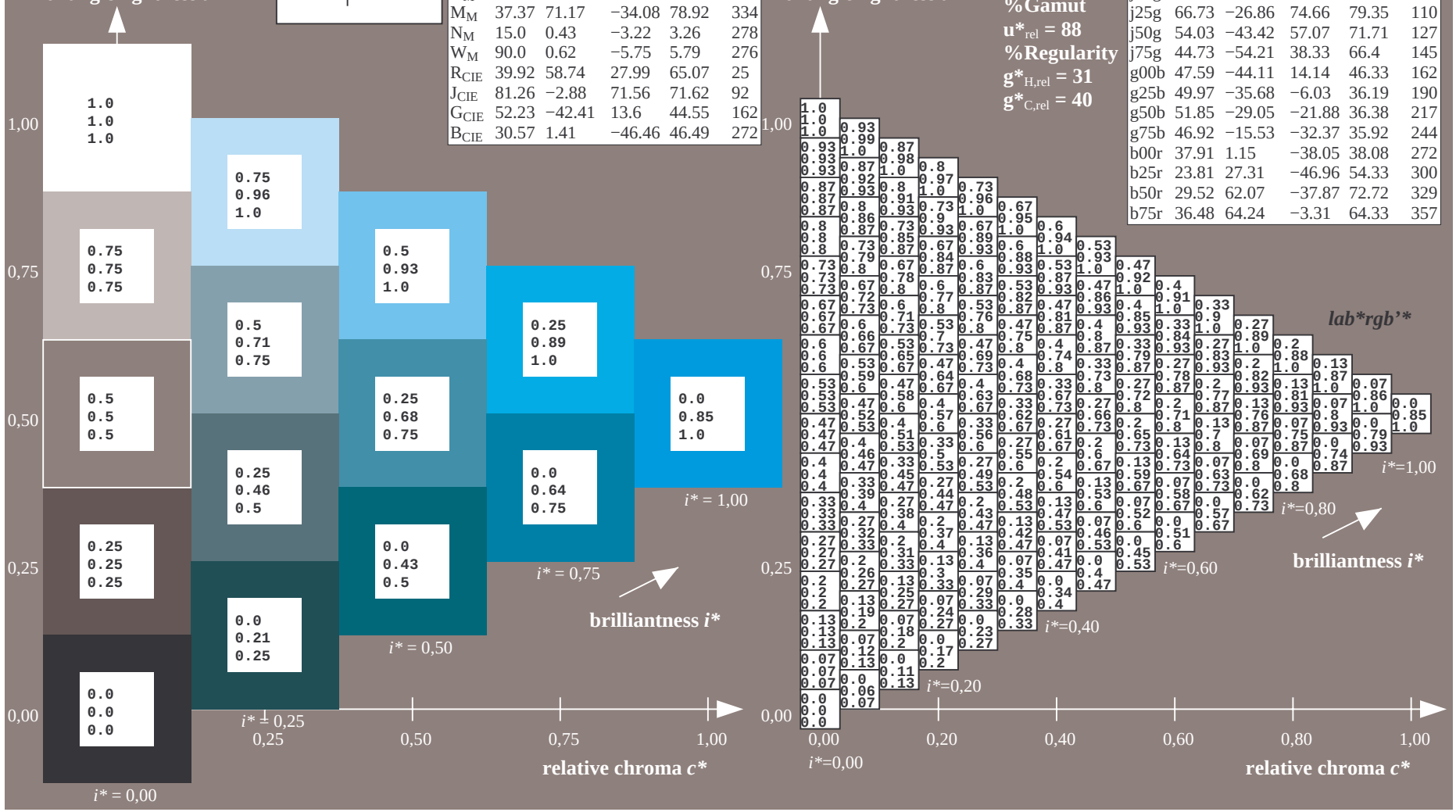
**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 47 −15 −31**
***LAB*LCH*Ma*: 47 36 244**
***lab*rgb*Ma*: 0.0 0.5 1.0**
***lab*olv*Ma*: 0.0 0.85 1.0**
**triangle lightness *t****

***u* = g75b***
***lab*rgb'****

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

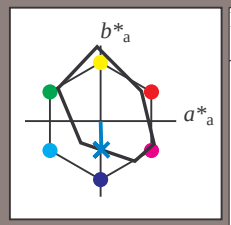
**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 272/360 = 0.755$**

***u* = b00r***
***lab*rgb'****

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = b00r***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****




**FRS15_90aM; CIELAB data**

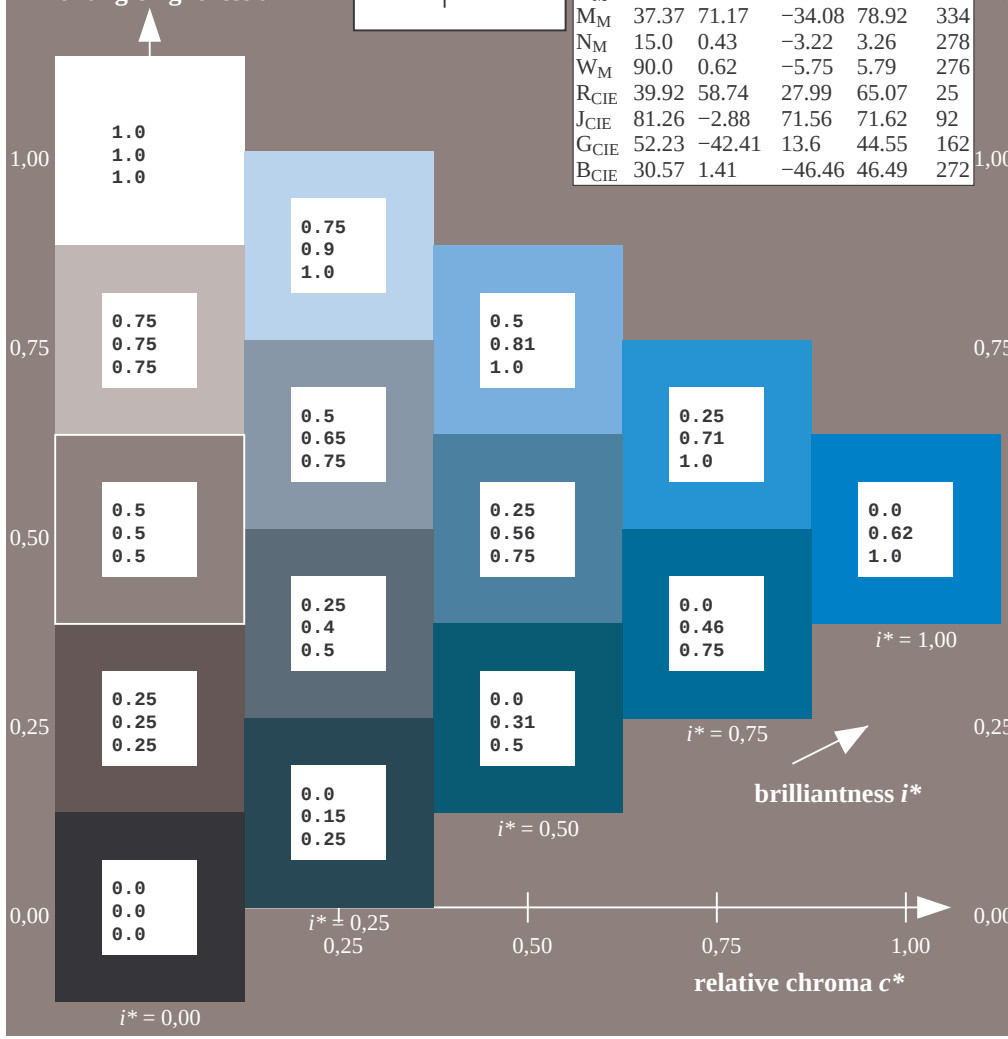
| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

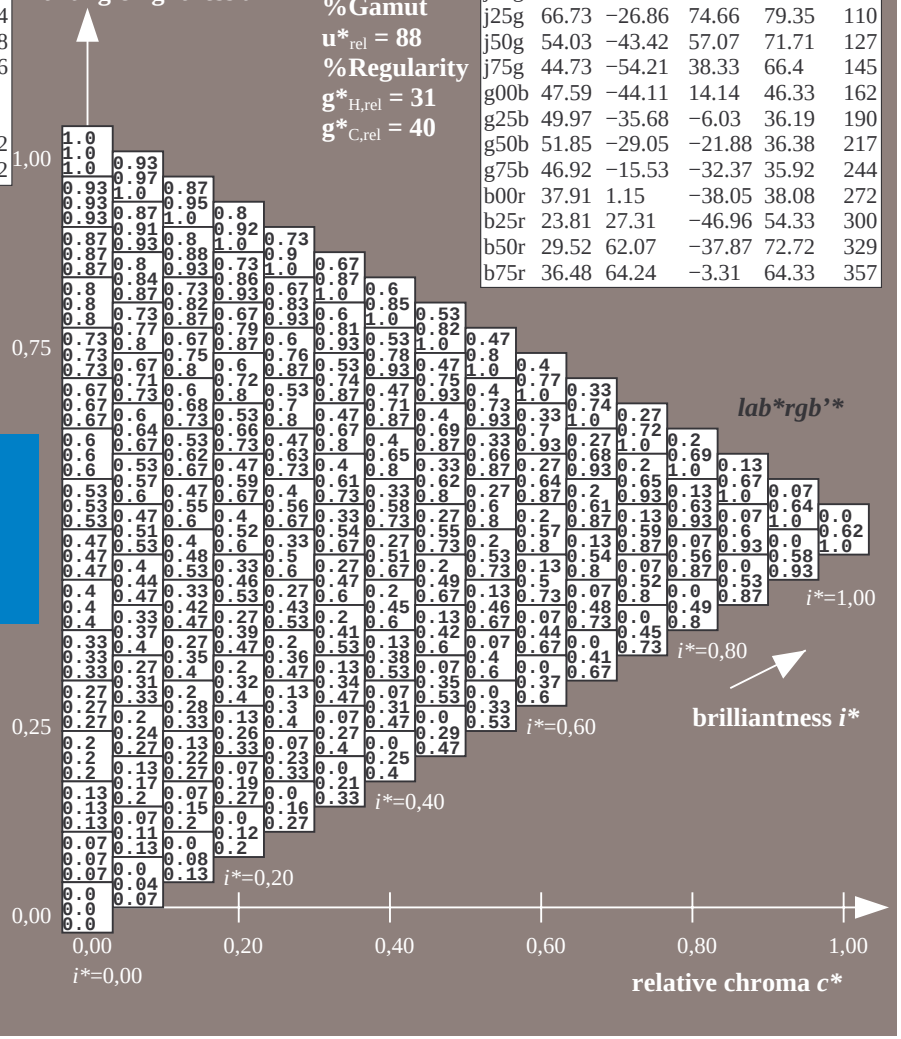
**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 38 1 −37**
***LAB*LCH****$_{Ma}$**: 38 38 272**
***lab*rgb****$_{Ma}$**: 0.0 0.0 1.0**
***lab*olv****$_{Ma}$**: 0.0 0.62 1.0**

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 300/360 = 0.834$**

**data for any colour:**

***lab*tch** and *lab*icu****

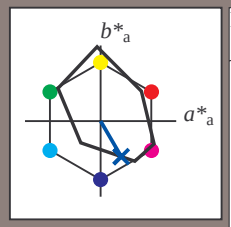
**elementary hue text:**

***u* = b25r***

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness *t****




| FRS15_90aM; CIELAB data | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB**$_{Ma}$: 24 27 −46**

***LAB*LCH**$_{Ma}$: 24 54 300**

***lab*rgb**$_{Ma}$: 0.5 0.0 1.0**

***lab*olv**$_{Ma}$: 0.0 0.25 1.0**

**triangle lightness *t****

**%Gamut**

**$u^*_{rel} = 88$**

**%Regularity**

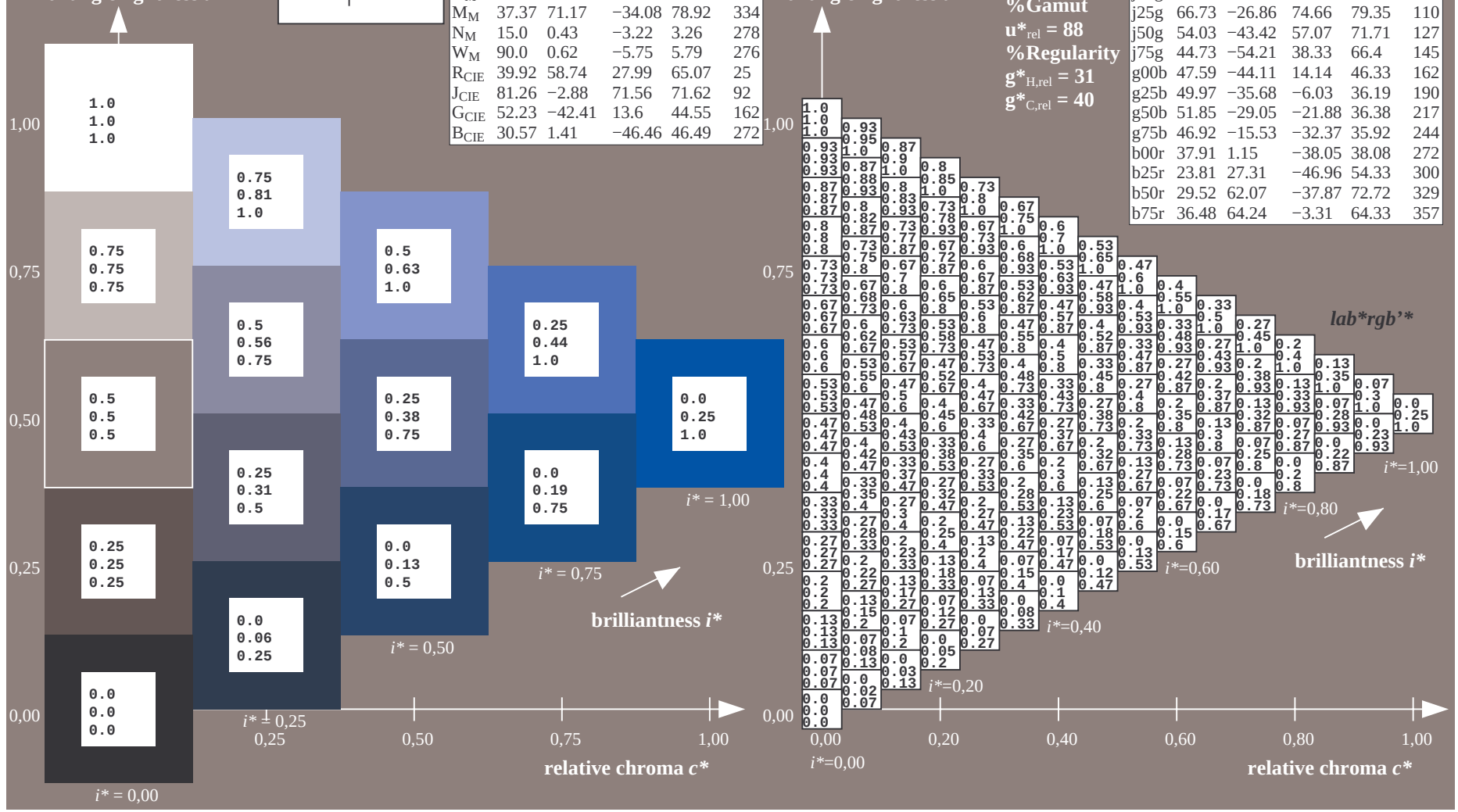
**$g^*_{H,rel} = 31$**

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

***u* = b25r***

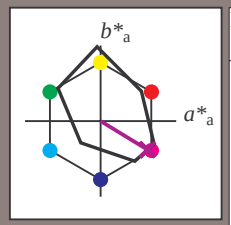
***lab*rgb'****

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 329/360 = 0.913$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
*u* = b50r*
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

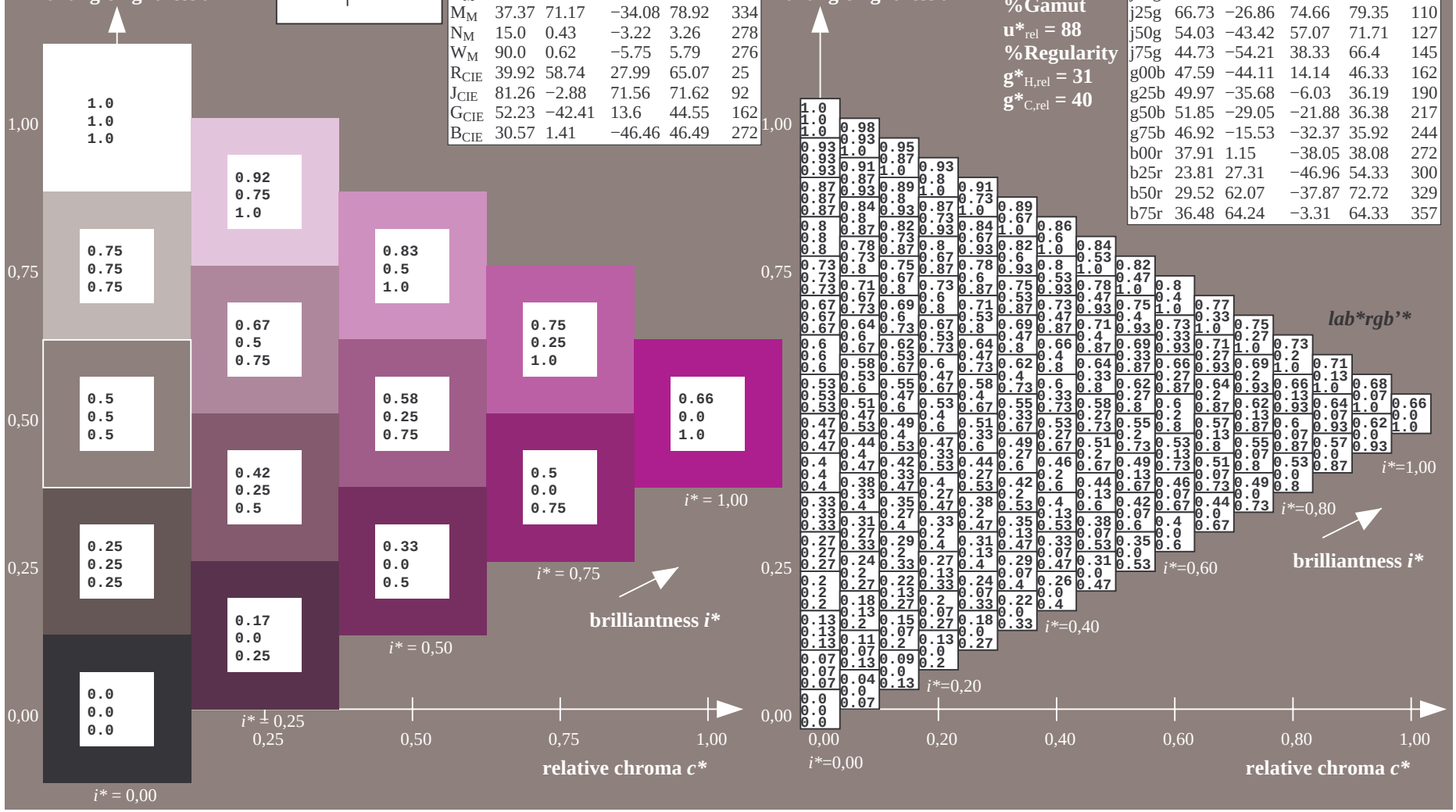
**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 30 62 −37**
***LAB*LCH*Ma*: 30 73 329**
***lab*rgb*Ma*: 1.0 0.0 1.0**
***lab*olv*Ma*: 0.66 0.0 1.0**

***u* = b50r***
***lab*rgb'****

**FRS15_90aM; adapted (a) CIELAB data**

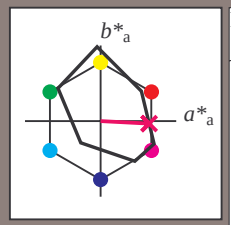
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 357/360 = 0.992$**

**data for any colour:**
*lab*tch** **and** *lab*icu**
**elementary hue text:**
$u^* = b75r$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness** $t^*$




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

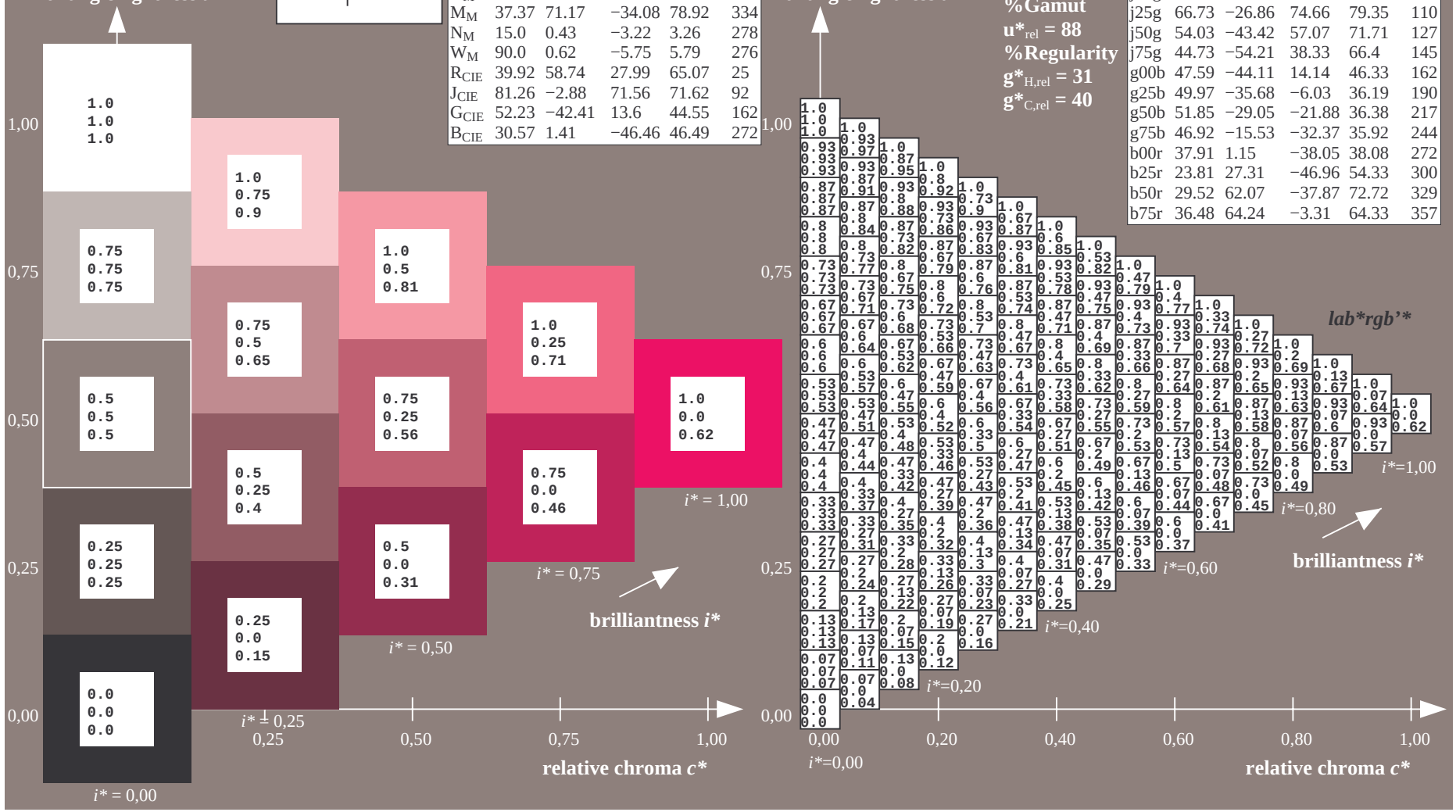
**Data for maximum colour (Ma):**
$LAB^*LAB^*_{Ma}$: 36 64 −2
$LAB^*LCH^*_{Ma}$: 36 64 357
$lab^*rgb^*_{Ma}$: 1.0 0.0 0.5
$lab^*olv^*_{Ma}$: 1.0 0.0 0.62

$u^* = b75r$
$lab^*rgb'^*$

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**%Gamut**
$u^*_{rel} = 88$
**%Regularity**
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

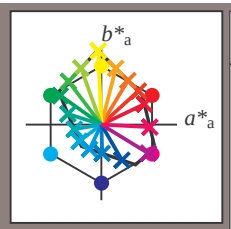


| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | a | b | c | d | e | f | g | h | i | j | k | *lab*rgb'** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 02 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.13 | 0.13 | 0.13 | 0.13 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 |
| | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 |
| 03 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.25 | 0.25 | 0.25 | 0.25 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.25 | 0.25 | 0.25 | 0.25 |
| | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.25 | 0.25 | 0.25 | 0.25 |
| 04 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.38 | 0.38 | 0.38 | 0.38 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.38 | 0.38 | 0.38 | 0.38 |
| | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.38 | 0.38 | 0.38 | 0.38 |
| 05 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.5 | 0.5 | 0.5 | 0.5 |
| | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.5 | 0.5 | 0.5 | 0.5 |
| 06 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.63 | 0.63 | 0.63 | 0.63 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.63 | 0.63 | 0.63 | 0.63 |
| | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.63 | 0.63 | 0.63 | 0.63 |
| 07 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.75 | 0.75 | 0.75 | 0.75 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.75 | 0.75 | 0.75 | 0.75 |
| | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.75 | 0.75 | 0.75 | 0.75 |
| 08 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.88 | 0.88 | 0.88 | 0.88 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.88 | 0.88 | 0.88 | 0.88 |
| | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.88 | 0.88 | 0.88 | 0.88 |
| 09 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 10 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.07 | 0.07 | 0.07 | 0.07 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.07 | 0.07 | 0.07 | 0.07 |
| | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.07 | 0.07 | 0.07 | 0.07 |
| 12 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.13 | 0.13 | 0.13 | 0.13 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.13 | 0.13 | 0.13 | 0.13 |
| | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.13 | 0.13 | 0.13 | 0.13 |
| 13 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.2 | 0.2 | 0.2 | 0.2 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.2 | 0.2 | 0.2 | 0.2 |
| | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.2 | 0.2 | 0.2 | 0.2 |
| 14 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.27 | 0.27 | 0.27 | 0.27 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.27 | 0.27 | 0.27 | 0.27 |
| | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.27 | 0.27 | 0.27 | 0.27 |
| 15 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.33 | 0.33 | 0.33 | 0.33 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.33 | 0.33 | 0.33 | 0.33 |
| | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.33 | 0.33 | 0.33 | 0.33 |
| 16 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.4 | 0.4 | 0.4 | 0.4 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.4 | 0.4 | 0.4 | 0.4 |
| | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.4 | 0.4 | 0.4 | 0.4 |
| 17 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.47 | 0.47 | 0.47 | 0.47 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.47 | 0.47 | 0.47 | 0.47 |
| | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.47 | 0.47 | 0.47 | 0.47 |
| 18 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.63 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.53 | 0.53 | 0.53 | 0.53 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.53 | 0.53 | 0.53 | 0.53 |
| | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.53 | 0.53 | 0.53 | 0.53 |
| 19 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.6 | 0.6 | 0.6 | 0.6 |
| | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 |
| 20 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.67 | 0.67 | 0.67 | 0.67 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.67 | 0.67 | 0.67 | 0.67 |
| | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.67 | 0.67 | 0.67 | 0.67 |
| 21 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.73 | 0.73 | 0.73 | 0.73 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.73 | 0.73 | 0.73 | 0.73 |
| | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.73 | 0.73 | 0.73 | 0.73 |
| 22 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.88 | 0.75 | 0.63 | 0.5 | 0.38 | 0.25 | 0.13 | 0.0 | 0.8 | 0.8 | 0.8 | 0.8 |
| | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.0 | 0.13 | 0.25 | 0.38 | 0.5 | 0.63 | 0.75 | 0.88 | 1.0 | 0.63 | 0.63 | 0.63 | 0.63 | 

**Input and output:**
**Colorimetric Printer Reflective System FRS15_90aM**
**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u**** **= 16 hues** ***r00j, r25j, ..., b75r***
**contrast reduction factor:**
$c_R = 0.9$

**FRS15_90aM; adapted (a) CIELAB data**

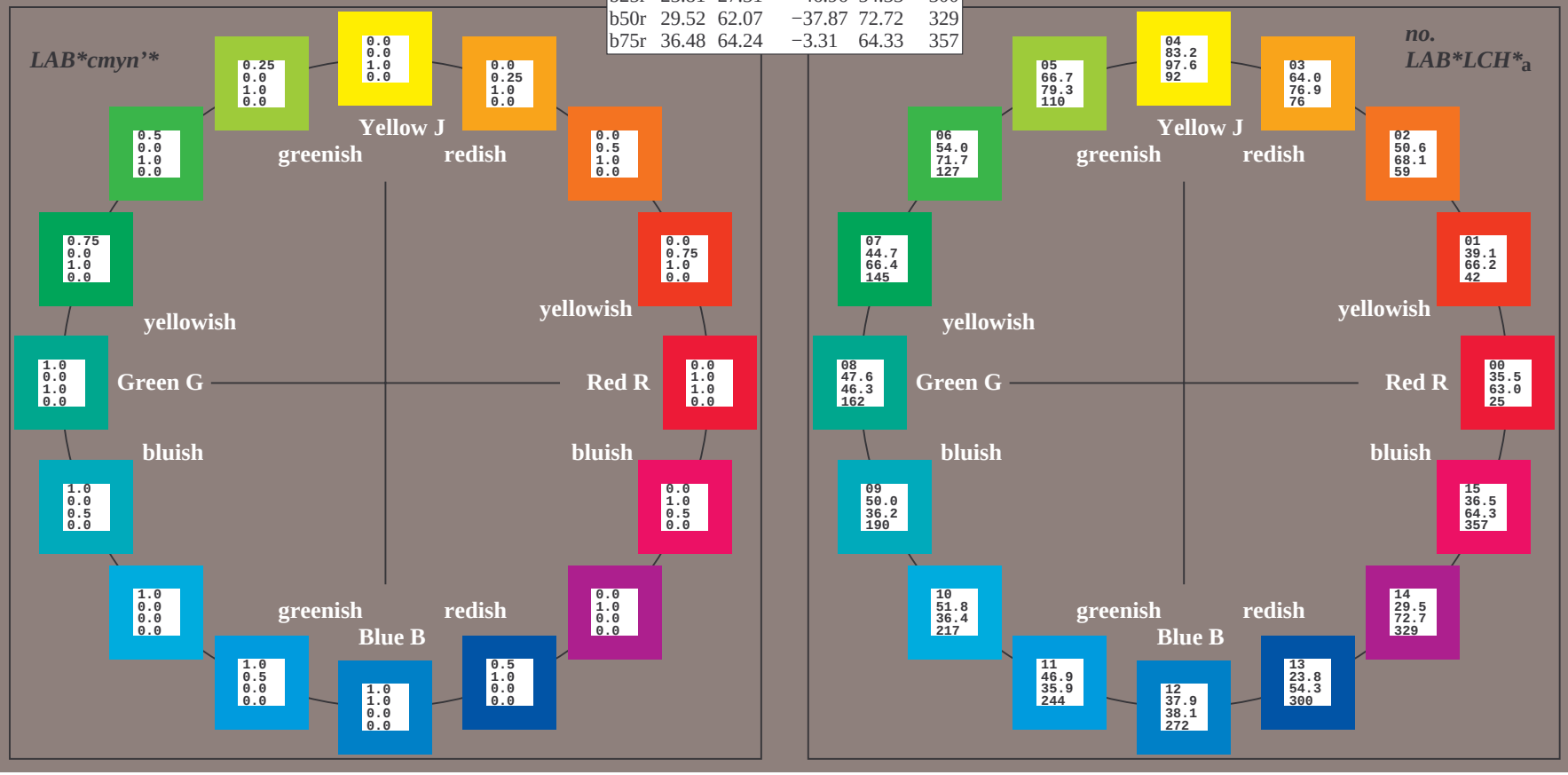
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |




**%Gamut**
**$u^*_{rel}$ = 88**
**%Regularity**
**$g^*_{H,rel}$ = 31**
**$g^*_{C,rel}$ = 40**

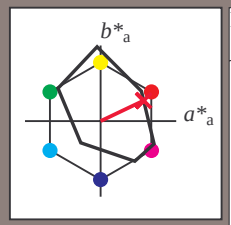
**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 25/360 = 0.071$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
*u* = r00j*
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****




**FRS15_90aM; CIELAB data**

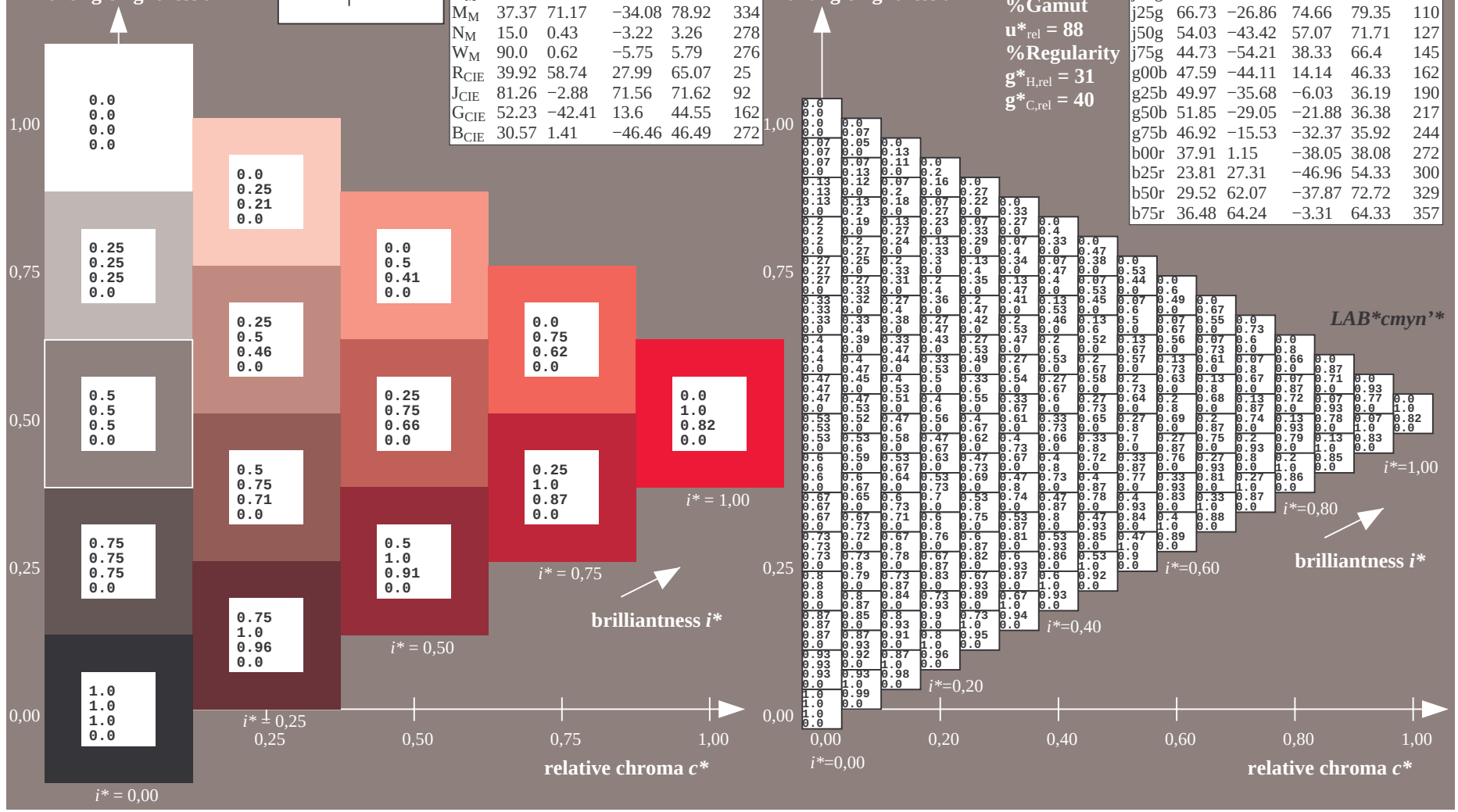
| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 35 57 27**
***LAB*LCH*Ma*: 35 63 25**
***lab*rgb*Ma*: 1.0 0.0 0.0**
***lab*olv*Ma*: 1.0 0.0 0.18**

***u* = r00j***
***LAB*cmyn'****

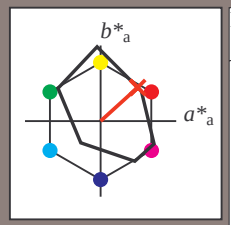
**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 42/360 = 0.117$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
*u* = r25j*
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****



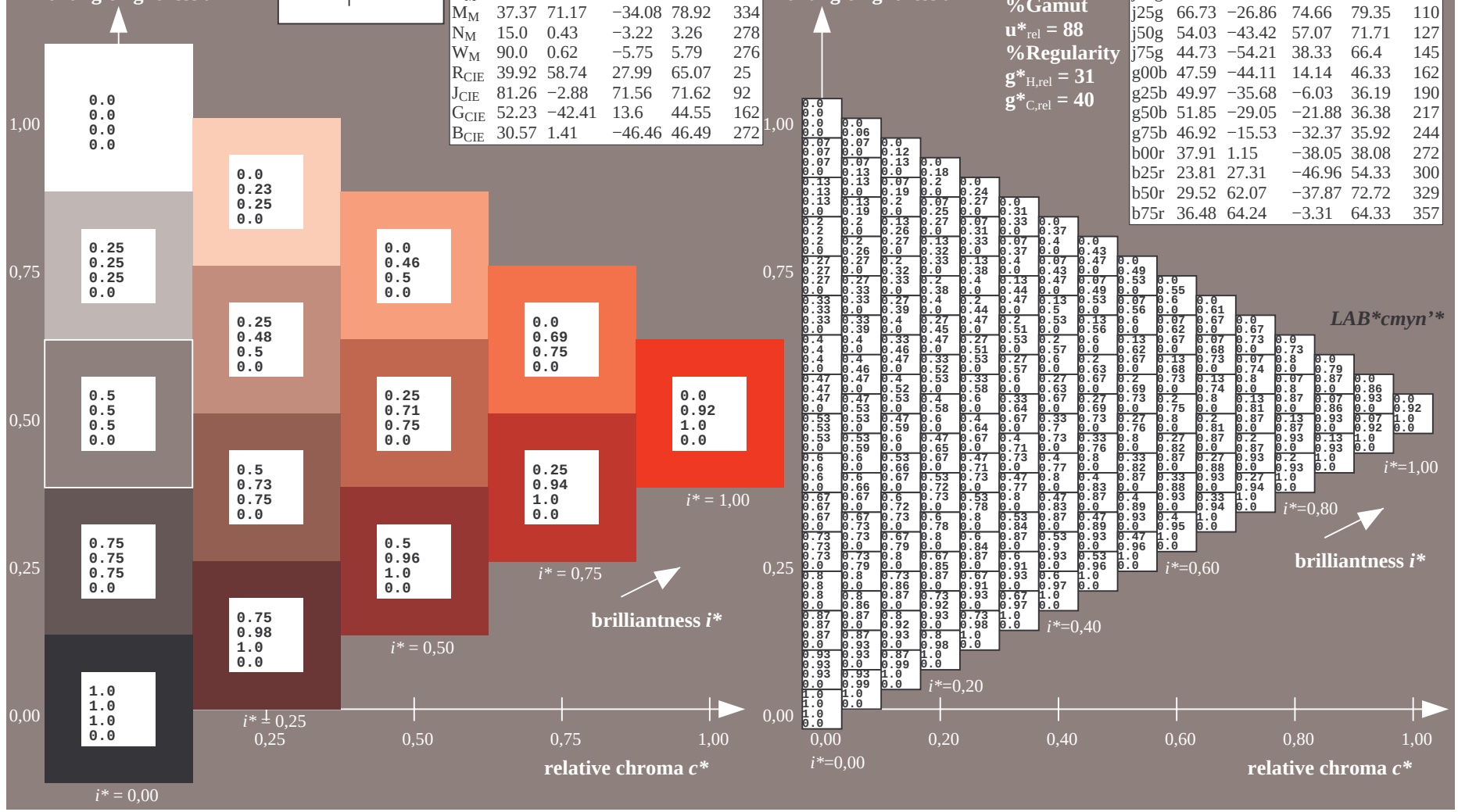

| FRS15_90aM; CIELAB data | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 39 49 44**
***LAB*LCH*Ma*: 39 66 42**
***lab*rgb*Ma*: 1.0 0.25 0.0**
***lab*olv*Ma*: 1.0 0.08 0.0**
**triangle lightness *t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

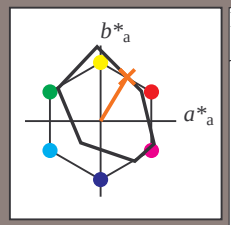
***u* = r25j***
***LAB*cmyn'****

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 59/360 = 0.164$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
*u* = r50j*
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

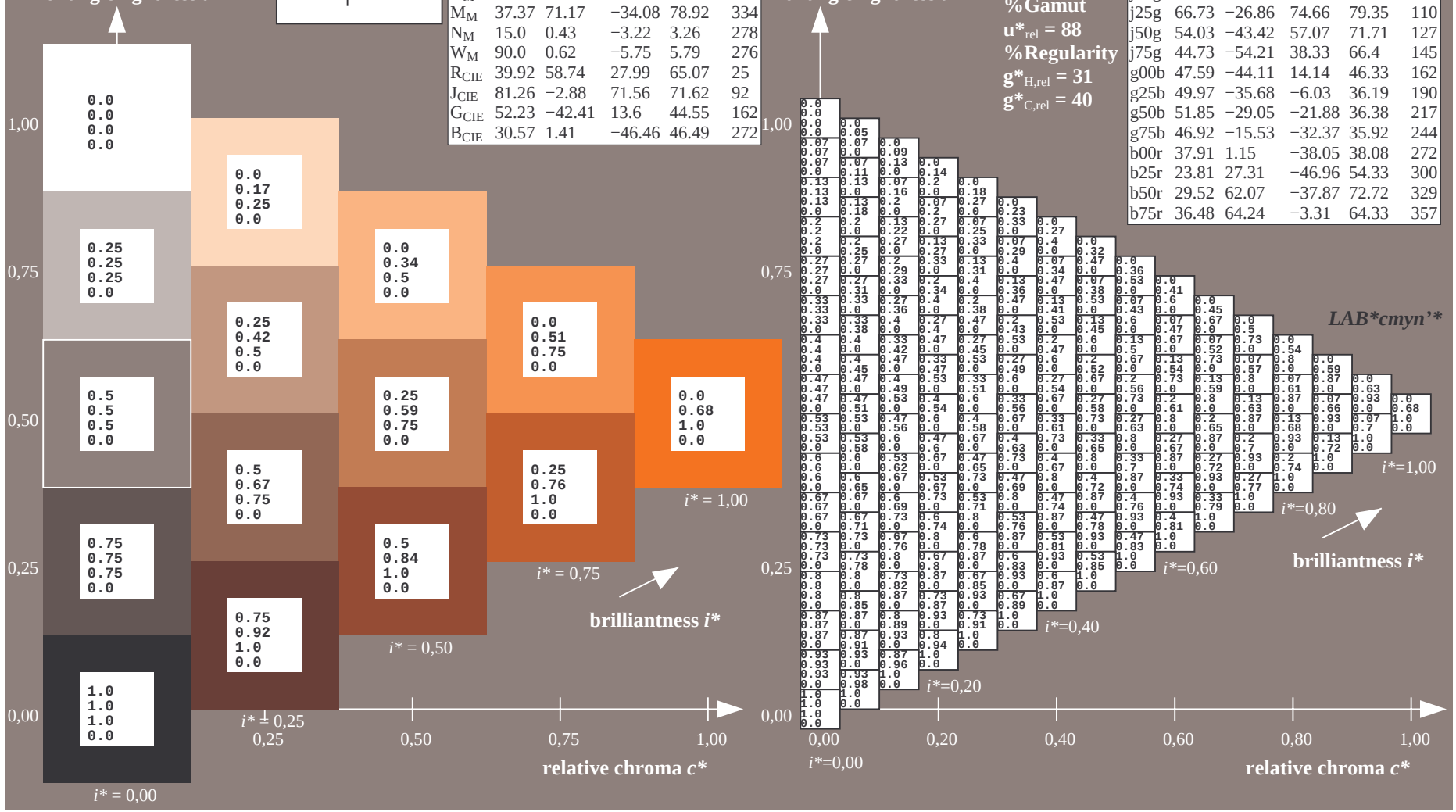
**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 51 35 58**
***LAB*LCH*Ma*: 51 68 59**
***lab*rgb*Ma*: 1.0 0.5 0.0**
***lab*olv*Ma*: 1.0 0.32 0.0**

***u* = r50j***
***LAB*cmyn'****

**FRS15_90aM; adapted (a) CIELAB data**

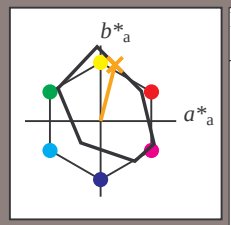
| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 76/360 = 0.21$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
*u* = r75j*
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****



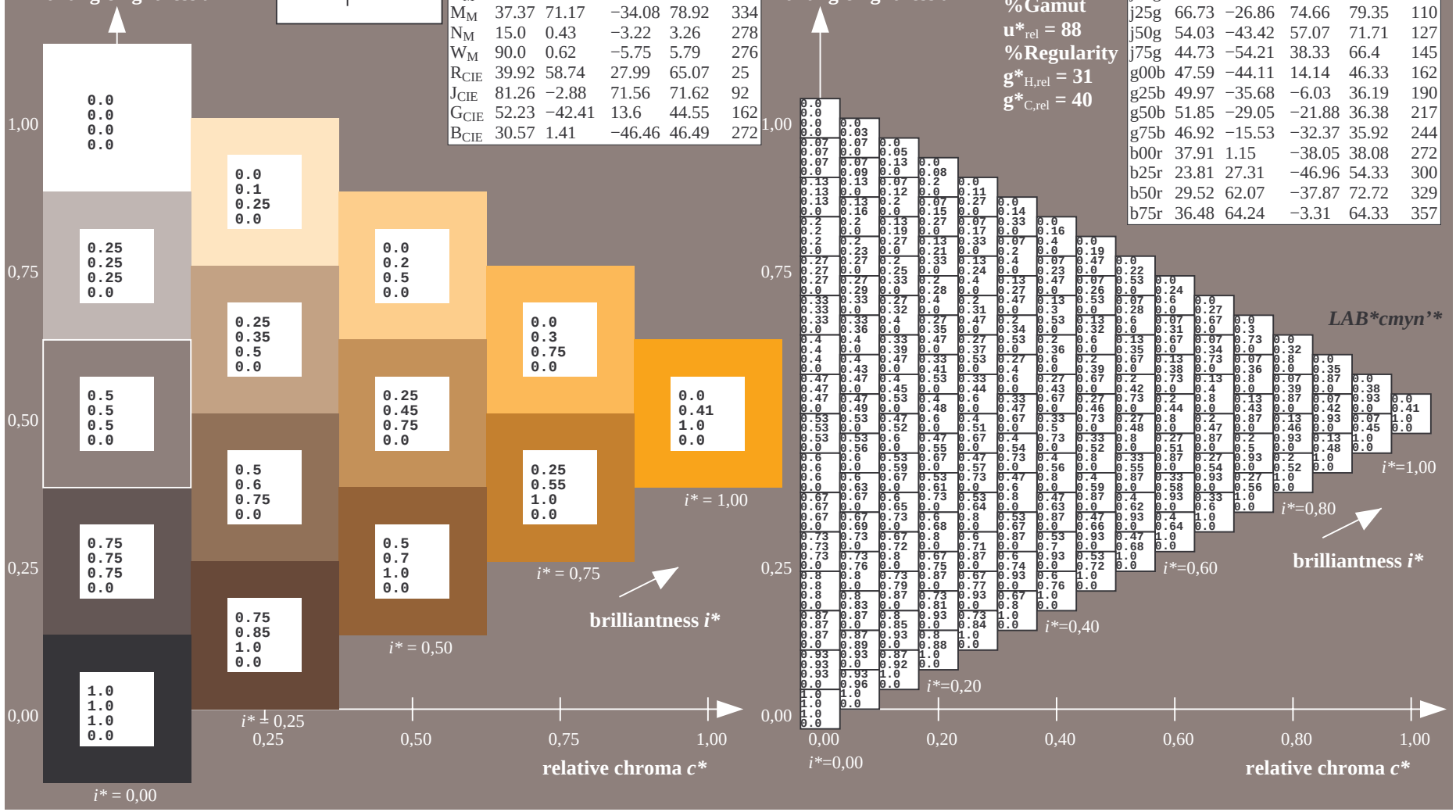

| FRS15_90aM; CIELAB data | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 64 19 74**
***LAB*LCH*Ma*: 64 77 76**
***lab*rgb*Ma*: 1.0 0.75 0.0**
***lab*olv*Ma*: 1.0 0.59 0.0**
**triangle lightness *t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

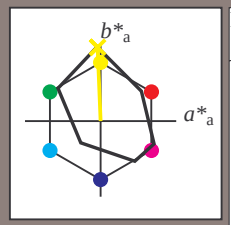
***u* = r75j***
***LAB*cmyn'****

| FRS15_90aM; adapted (a) CIELAB data | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 92/360 = 0.256$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
*u* = j00g*
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****




**FRS15_90aM; CIELAB data**

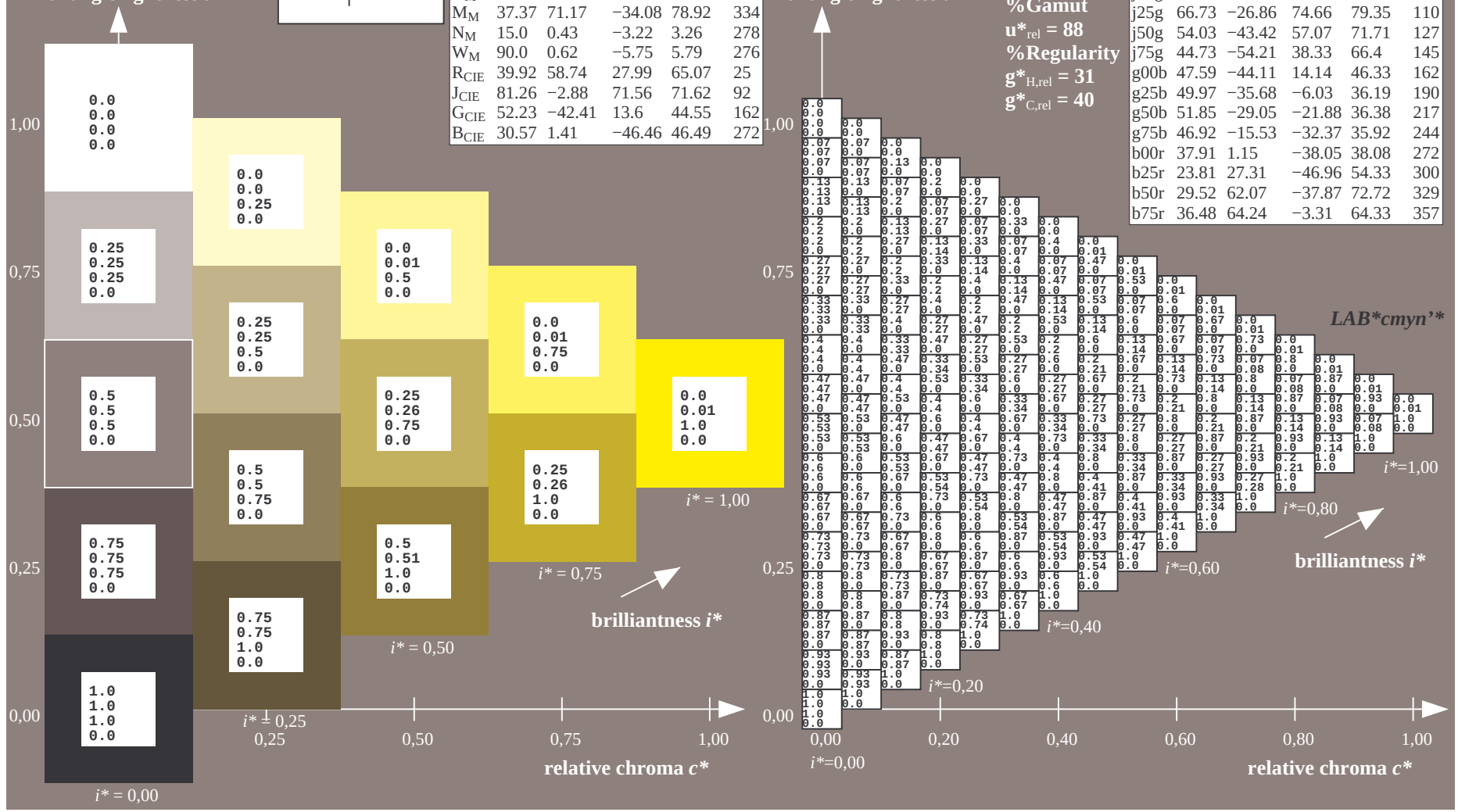
| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 83 −3 98**
***LAB*LCH*Ma*: 83 98 92**
***lab*rgb*Ma*: 1.0 1.0 0.0**
***lab*olv*Ma*: 1.0 0.99 0.0**

***u* = j00g***
***LAB*cmyn'****

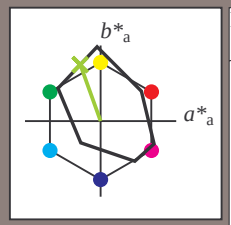
**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 110/360 = 0.305$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
$u^* = j25g$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness $t^*$**




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

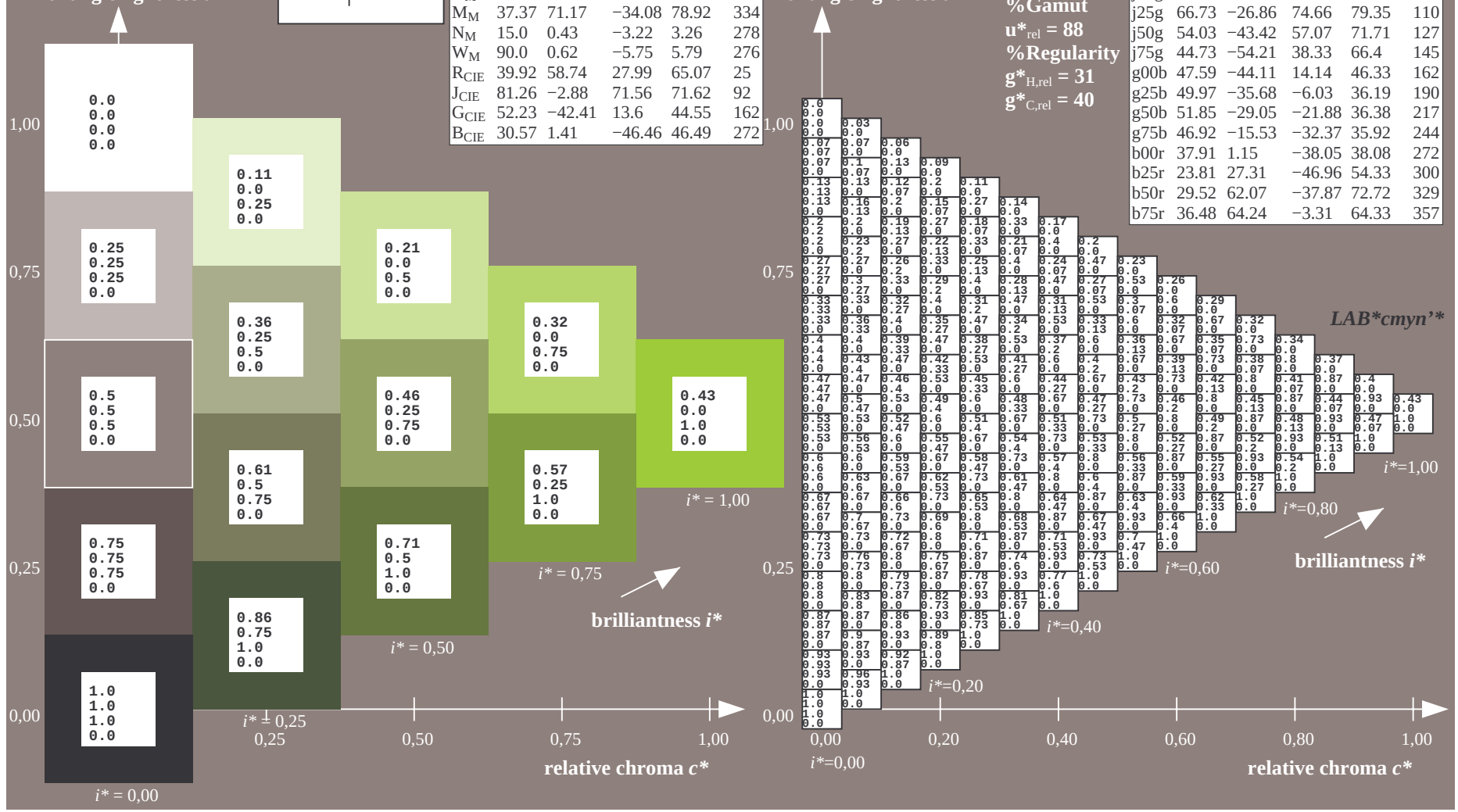
**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 67 −26 75**
***LAB*LCH*Ma*: 67 79 110**
***lab*rgb*Ma*: 0.75 1.0 0.0**
***lab*olv*Ma*: 0.57 1.0 0.0**

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

***u* = j25g***
***LAB*cmyn'****

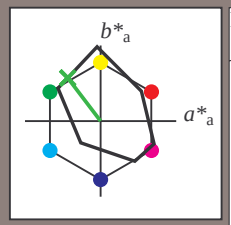
**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 127/360 = 0.354$**

**data for any colour:**
***lab*tch**** **and** ***lab*icu****
**elementary hue text:**
***u* = j50g***
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness *t****




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

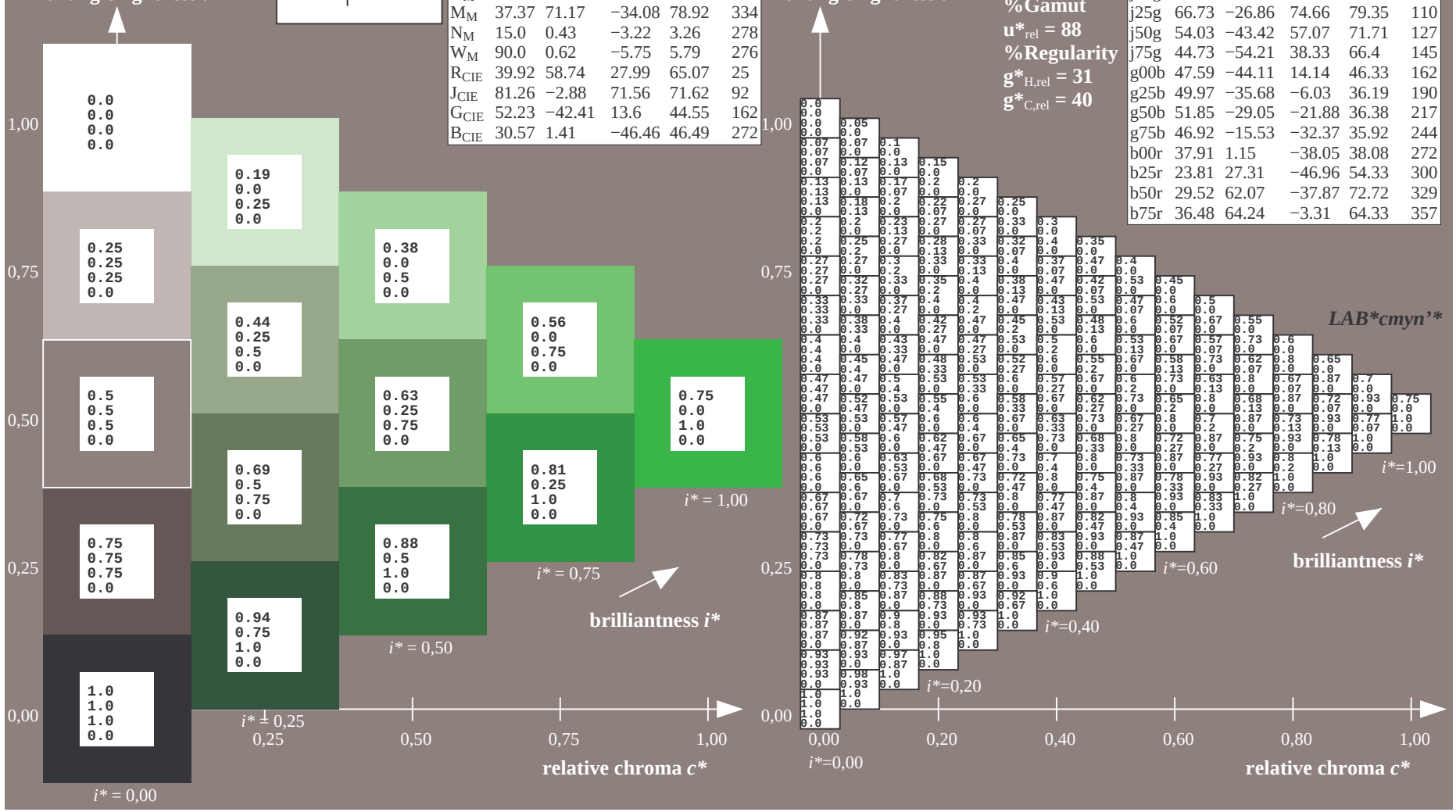
**Data for maximum colour (Ma):**
***LAB*LAB****$_{Ma}$**: 54 −42 57**
***LAB*LCH****$_{Ma}$**: 54 72 127**
***lab*rgb****$_{Ma}$**: 0.5 1.0 0.0**
***lab*olv****$_{Ma}$**: 0.25 1.0 0.0**
**triangle lightness *t****

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

***u* = j50g***
***LAB*cmyn'****

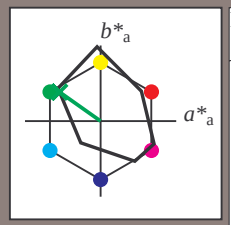
**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 145/360 = 0.402$**

**data for any colour:**
*lab*tch** and *lab*icu**
**elementary hue text:**
$u^* = j75g$
**contrast reduction factor:**
$c_R = 0.9$
**triangle lightness $t^*$**




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

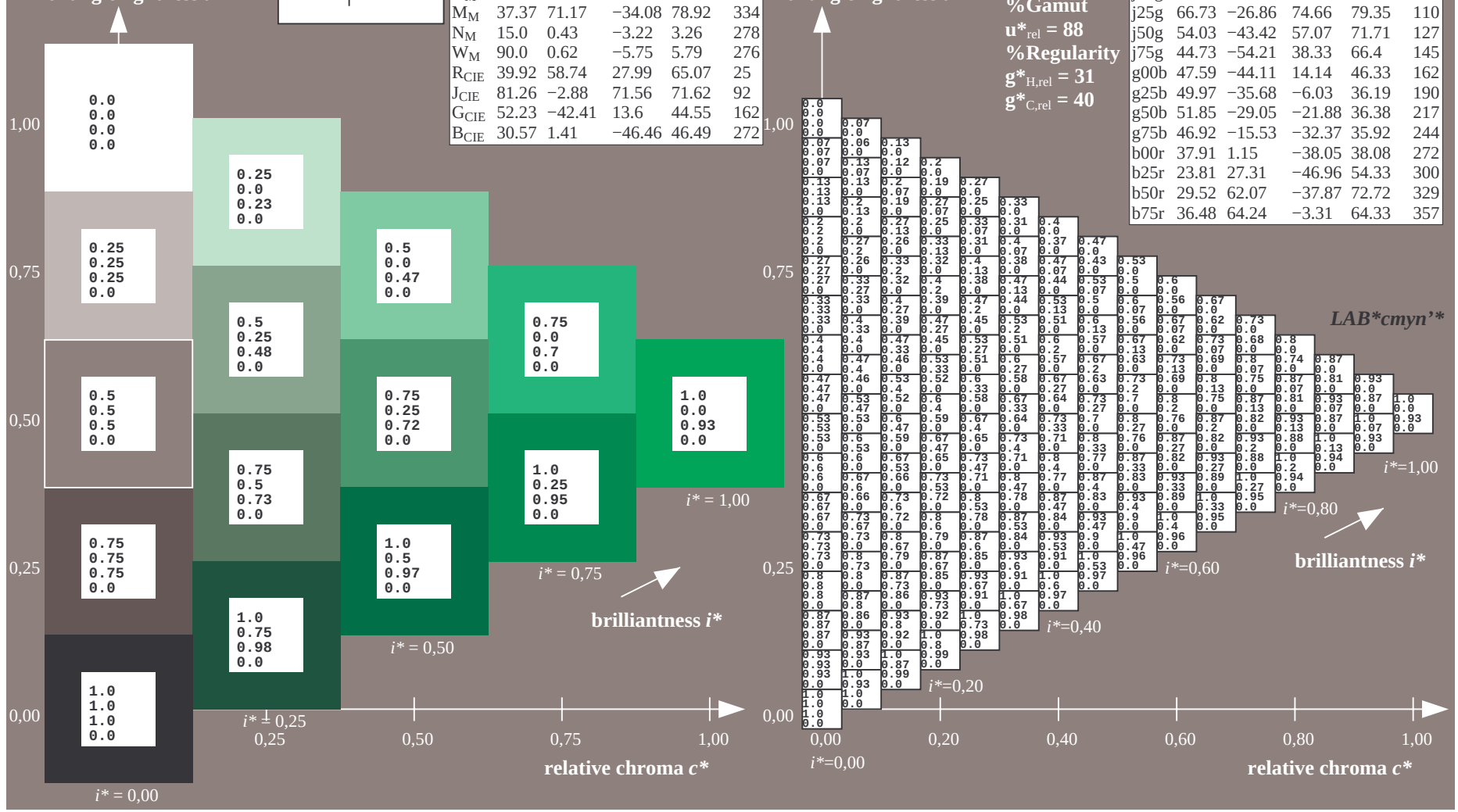
**Data for maximum colour (Ma):**
***LAB*LAB*Ma*: 45 −53 38**
***LAB*LCH*Ma*: 45 66 145**
***lab*rgb*Ma*: 0.25 1.0 0.0**
***lab*olv*Ma*: 0.0 1.0 0.07**
**triangle lightness $t^*$**

**%Gamut**
**$u^*_{rel} = 88$**
**%Regularity**
**$g^*_{H,rel} = 31$**
**$g^*_{C,rel} = 40$**

***u* = j75g***
***LAB*cmyn'****

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 162/360 = 0.451$**

***u* = g00b***

***LAB*cmyn'****

**data for any colour:**

***lab*tch** and *lab*icu****

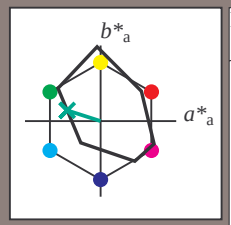
**elementary hue text:**

***u* = g00b***

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness *t****




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB**$_{Ma}$: 48 −43 14**

***LAB*LCH**$_{Ma}$: 48 46 162**

***lab*rgb**$_{Ma}$: 0.0 1.0 0.0**

***lab*olv**$_{Ma}$: 0.0 1.0 0.41**

**triangle lightness *t****

**%Gamut**

**$u^*_{rel} = 88$**

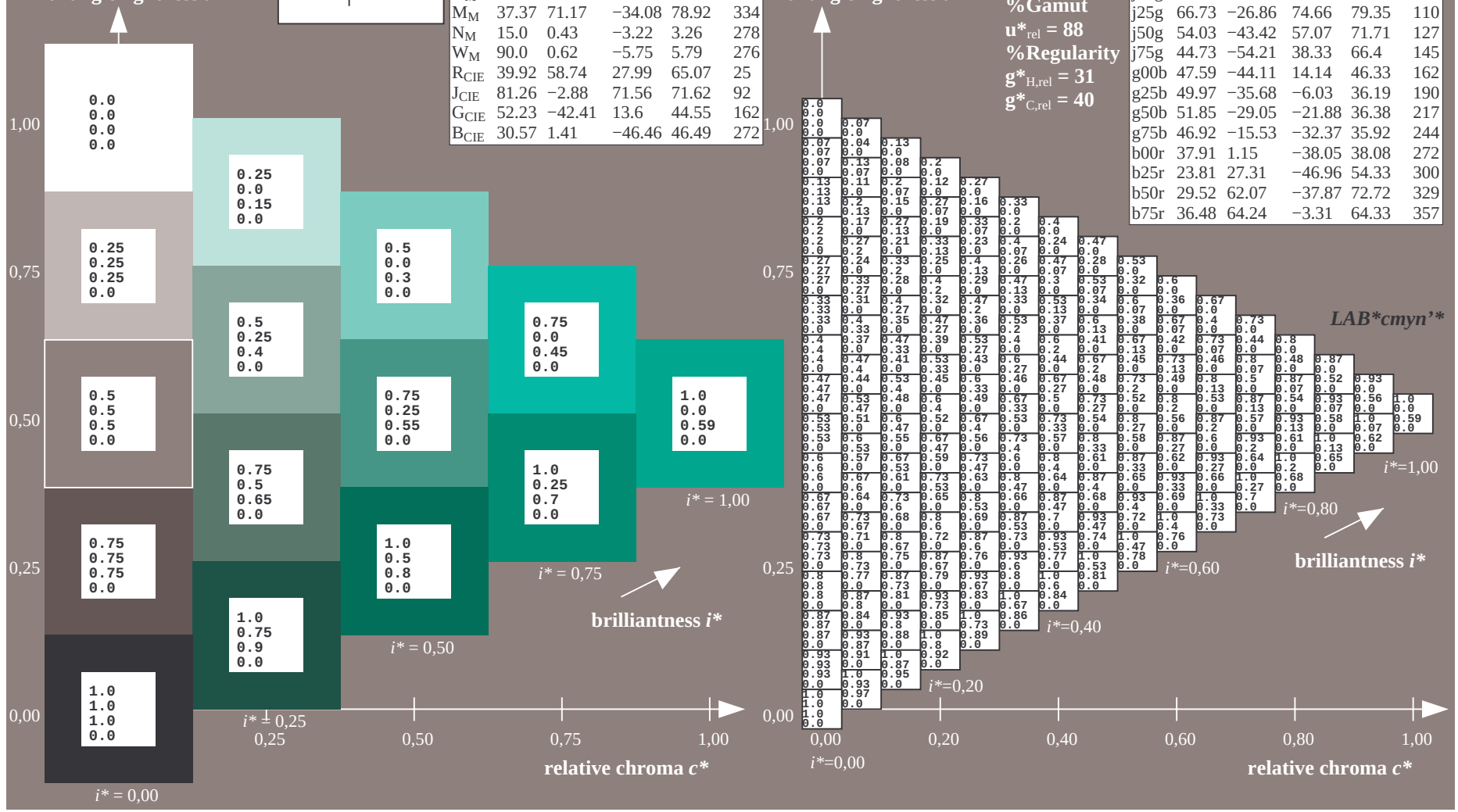
**%Regularity**

**$g^*_{H,rel} = 31$**

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

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 190/360 = 0.527$**

***u* = g25b***

***LAB*cmyn'****

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

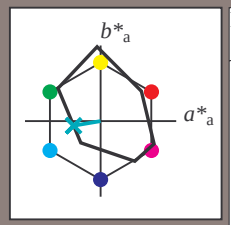
**elementary hue text:**

***u* = g25b***

**contrast reduction factor:**

$c_R = 0.9$

**triangle lightness *t****




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 50 −35 −5**

***LAB*LCH****$_{Ma}$**: 50 36 190**

***lab*rgb****$_{Ma}$**: 0.0 1.0 0.5**

***lab*olv****$_{Ma}$**: 0.0 1.0 0.69**

**%Gamut**

**$u^*_{rel}$ = 88**

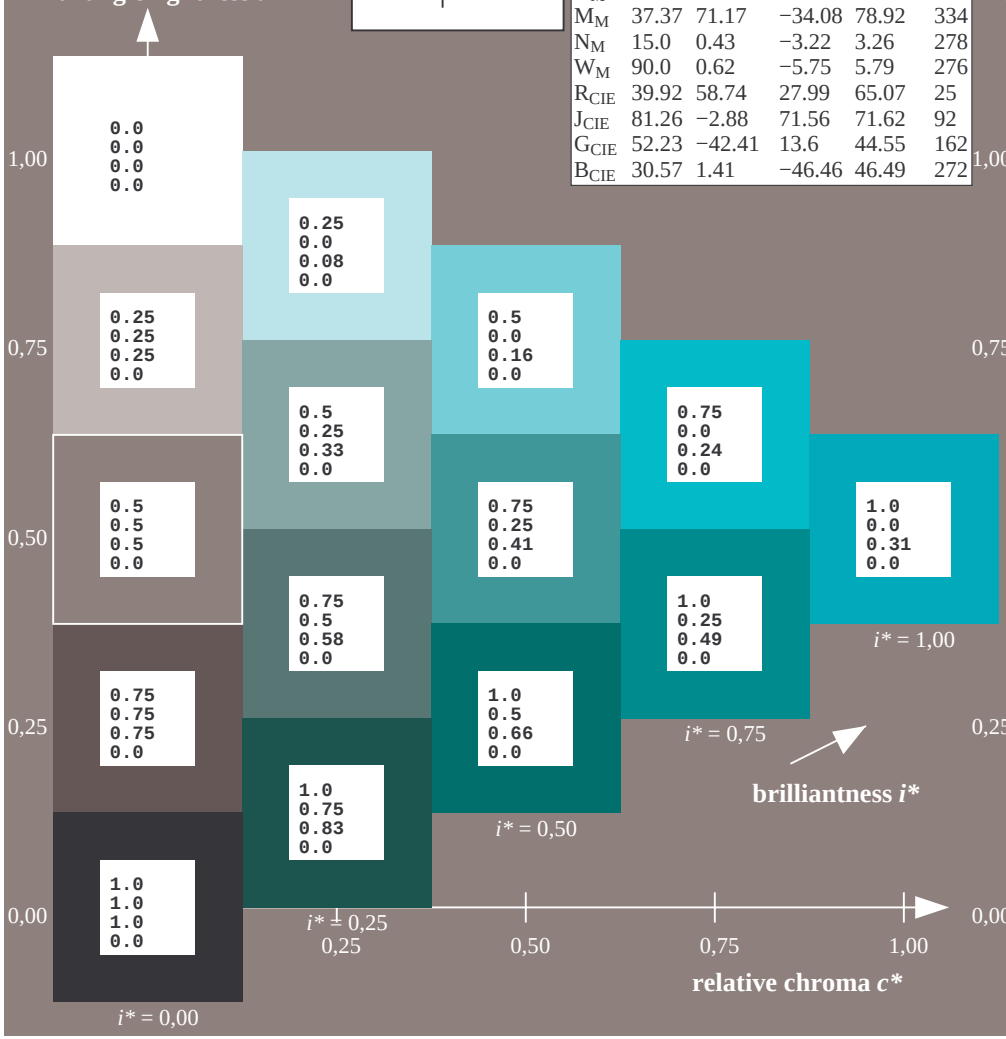
**%Regularity**

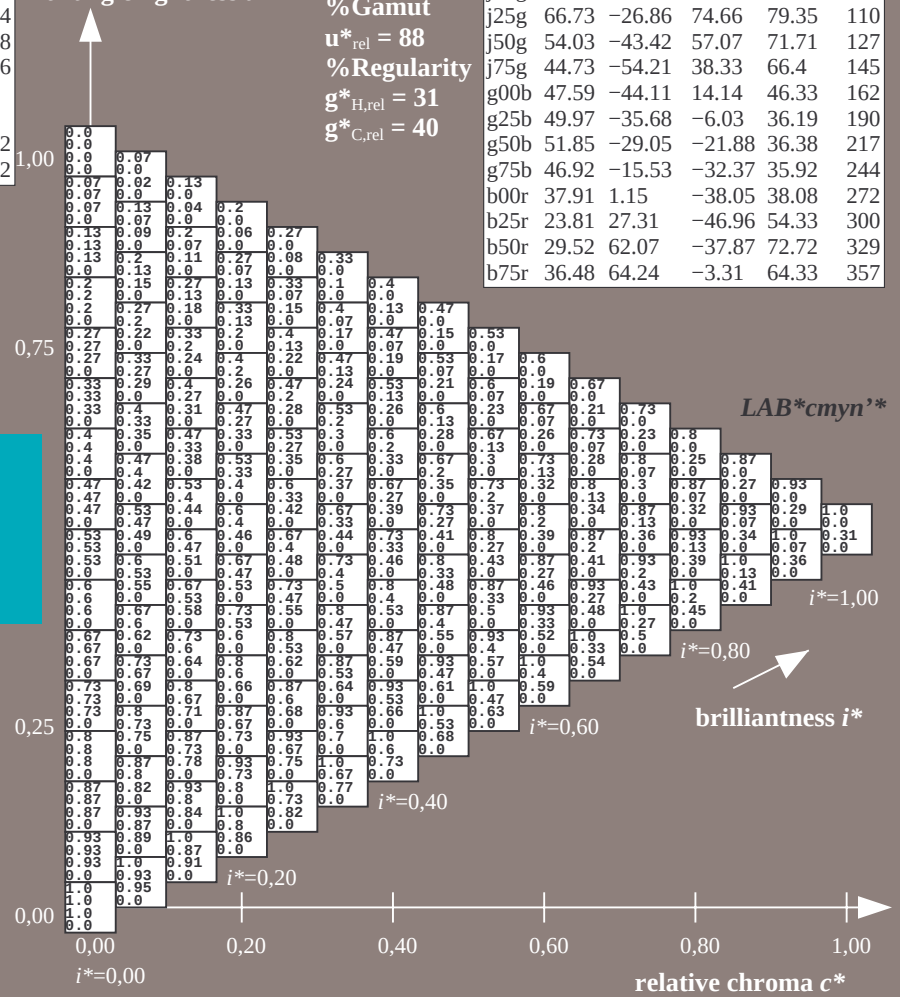
**$g^*_{H,rel}$ = 31**

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

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 217/360 = 0.603$**

***u* = g50b***

***LAB*cmyn'****

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

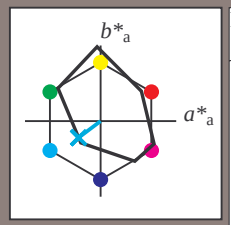
**elementary hue text:**

***u* = g50b***

**contrast reduction factor:**

$c_R = 0.9$

**triangle lightness *t****




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 52 −28 −21**

***LAB*LCH****$_{Ma}$**: 52 36 217**

***lab*rgb****$_{Ma}$**: 0.0 1.0 1.0**

***lab*olv****$_{Ma}$**: 0.0 1.0 0.9**

**%Gamut**

**$u^*_{rel} = 88$**

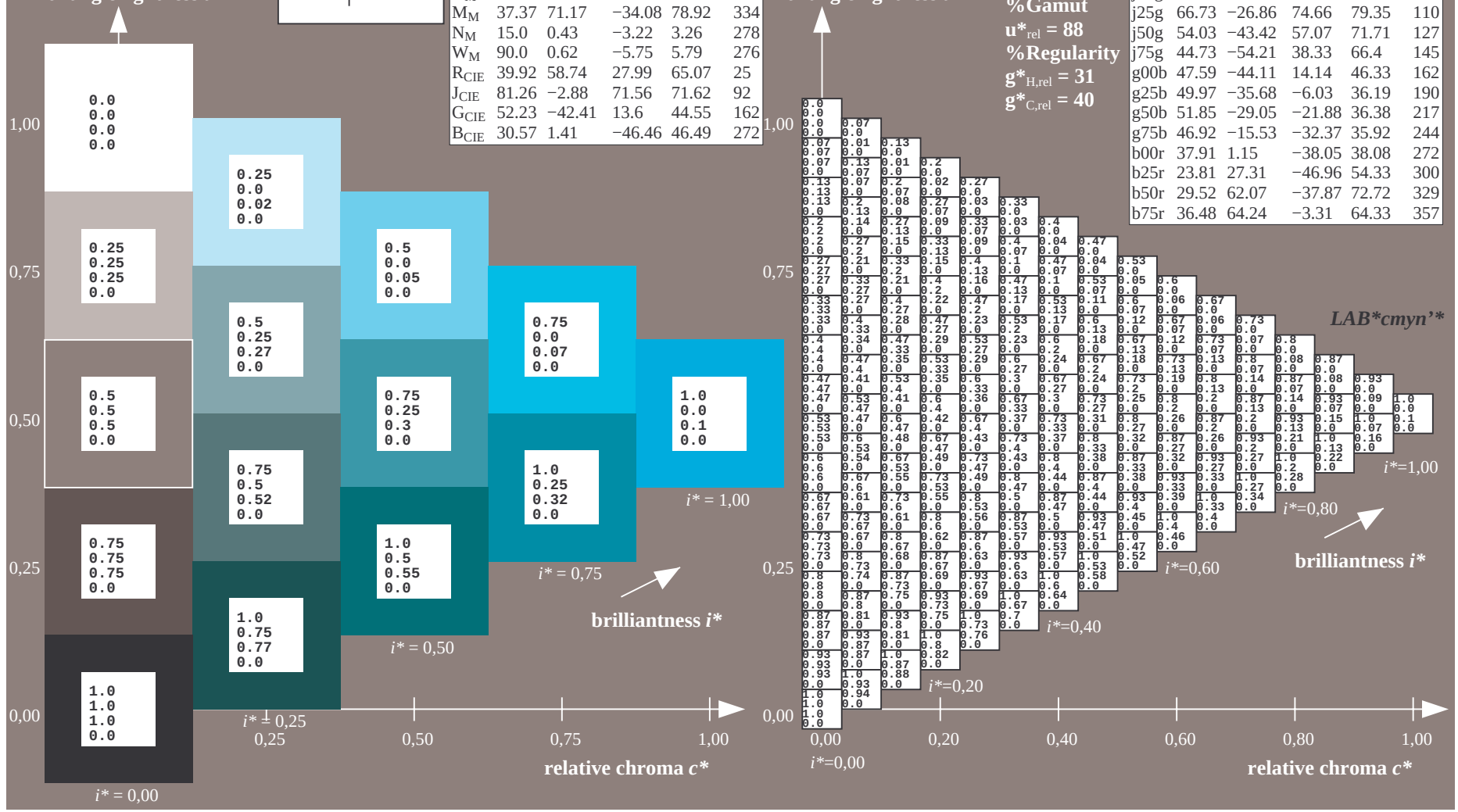
**%Regularity**

**$g^*_{H,rel} = 31$**

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

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 244/360 = 0.679$**

**$u^* = g75b$**

**$LAB^*cmyn'^*$**

**data for any colour:**

***lab*tch** and *lab*icu****

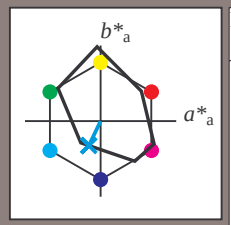
**elementary hue text:**

**$u^* = g75b$**

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness $t^*$**




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB**$_{Ma}$: 47 −15 −31**

***LAB*LCH**$_{Ma}$: 47 36 244**

***lab*rgb**$_{Ma}$: 0.0 0.5 1.0**

***lab*olv**$_{Ma}$: 0.0 0.85 1.0**

**triangle lightness $t^*$**

**%Gamut**

**$u^*_{rel} = 88$**

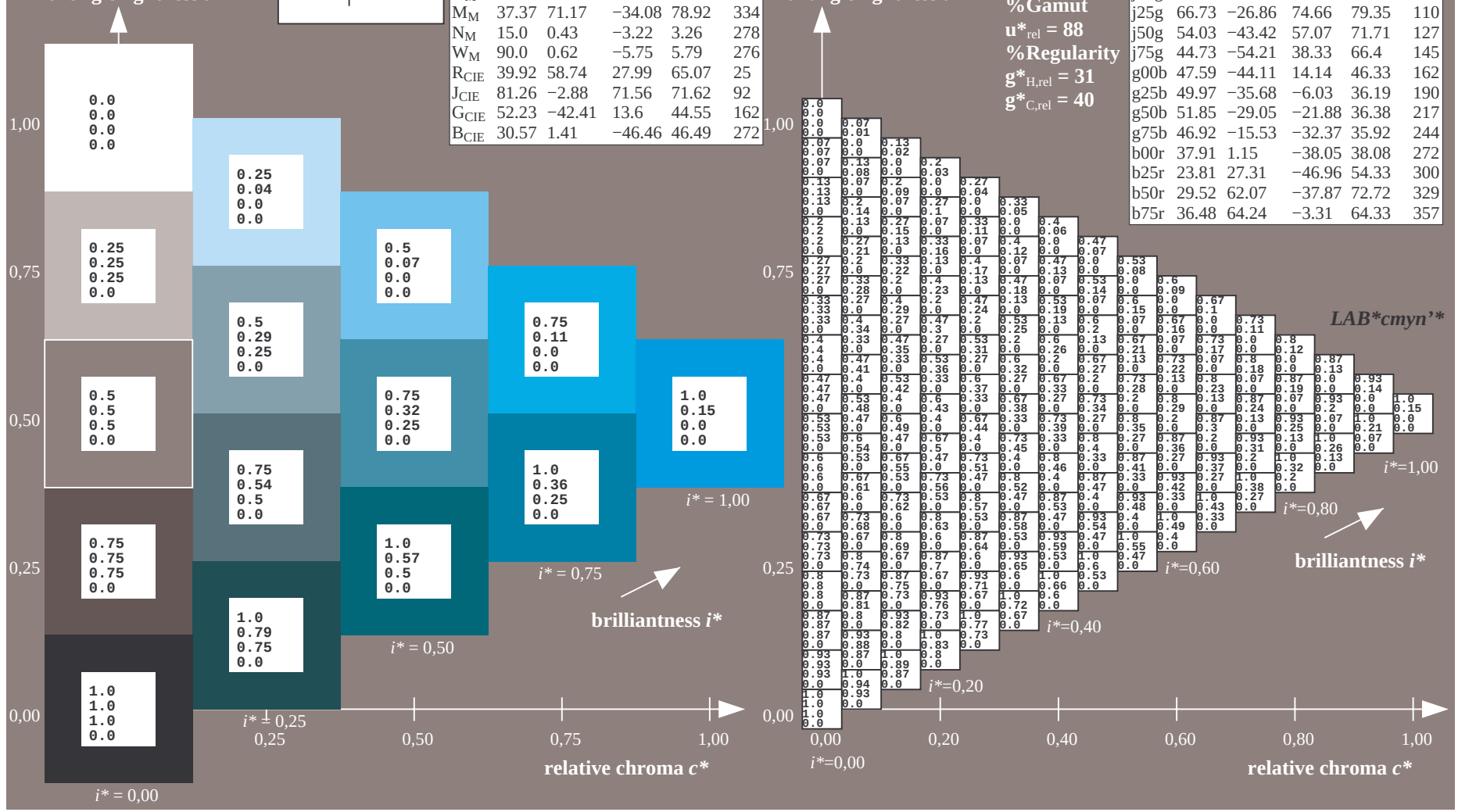
**%Regularity**

**$g^*_{H,rel} = 31$**

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

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 272/360 = 0.755$**

***u* = b00r***

***LAB*cmyn'****

**data for any colour:**

***lab*tch**** **and** ***lab*icu****

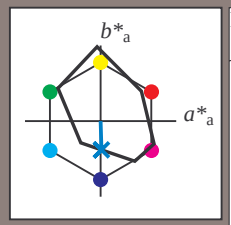
**elementary hue text:**

***u* = b00r***

**contrast reduction factor:**

$c_R = 0.9$

**triangle lightness *t****




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB****$_{Ma}$**: 38 1 −37**

***LAB*LCH****$_{Ma}$**: 38 38 272**

***lab*rgb****$_{Ma}$**: 0.0 0.0 1.0**

***lab*olv****$_{Ma}$**: 0.0 0.62 1.0**

**triangle lightness *t****

**%Gamut**

**$u^*_{rel} = 88$**

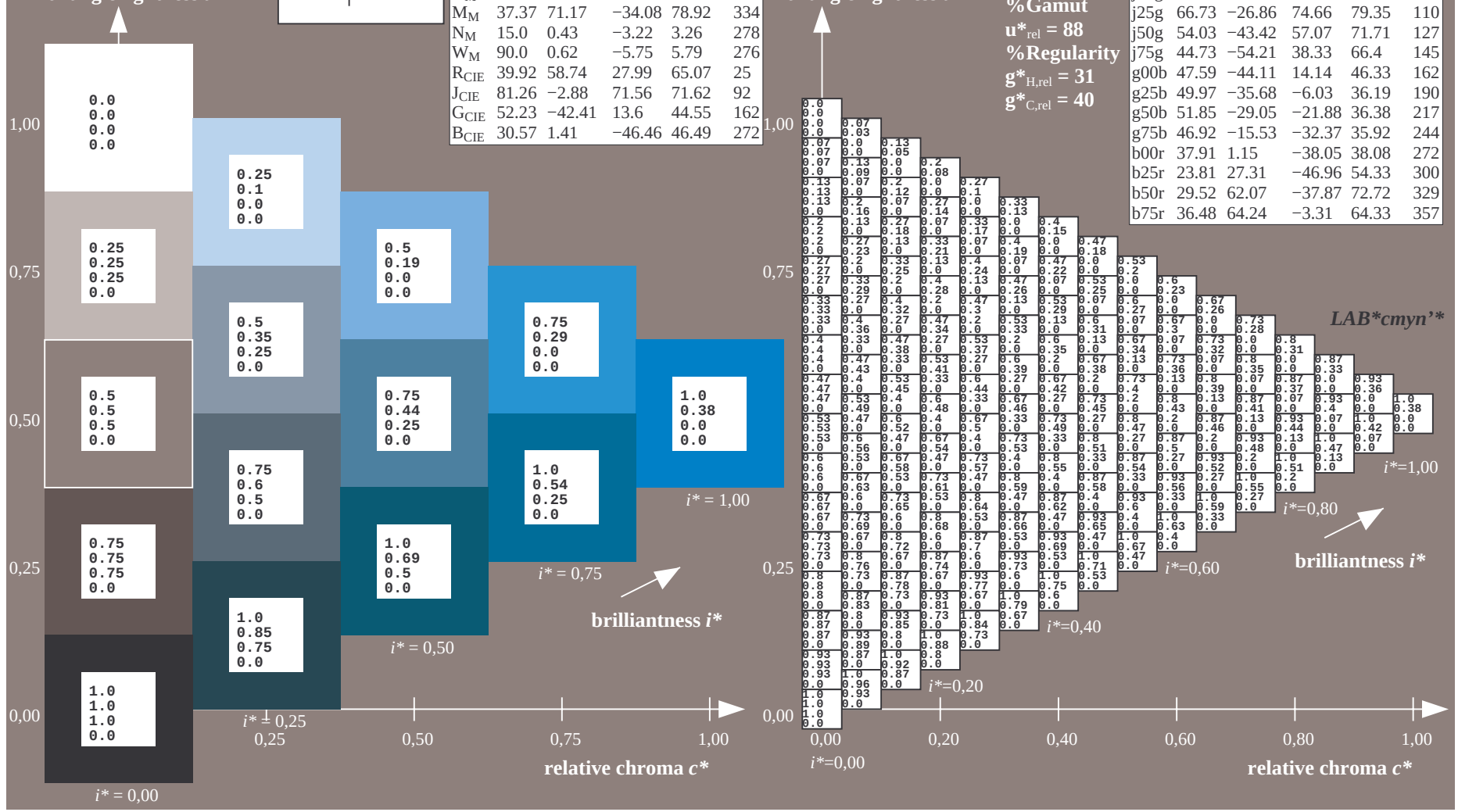
**%Regularity**

**$g^*_{H,rel} = 31$**

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

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 300/360 = 0.834$**

**$u^* = b25r$**

**$LAB^*cmyn'^*$**

**data for any colour:**

***lab*tch** and *lab*icu****

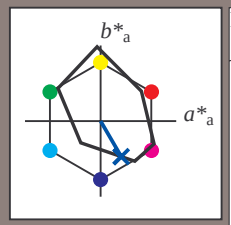
**elementary hue text:**

**$u^* = b25r$**

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness $t^*$**




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB**$_{Ma}$: 24 27 −46**

***LAB*LCH**$_{Ma}$: 24 54 300**

***lab*rgb**$_{Ma}$: 0.5 0.0 1.0**

***lab*olv**$_{Ma}$: 0.0 0.25 1.0**

**triangle lightness $t^*$**

**%Gamut**

**$u^*_{rel} = 88$**

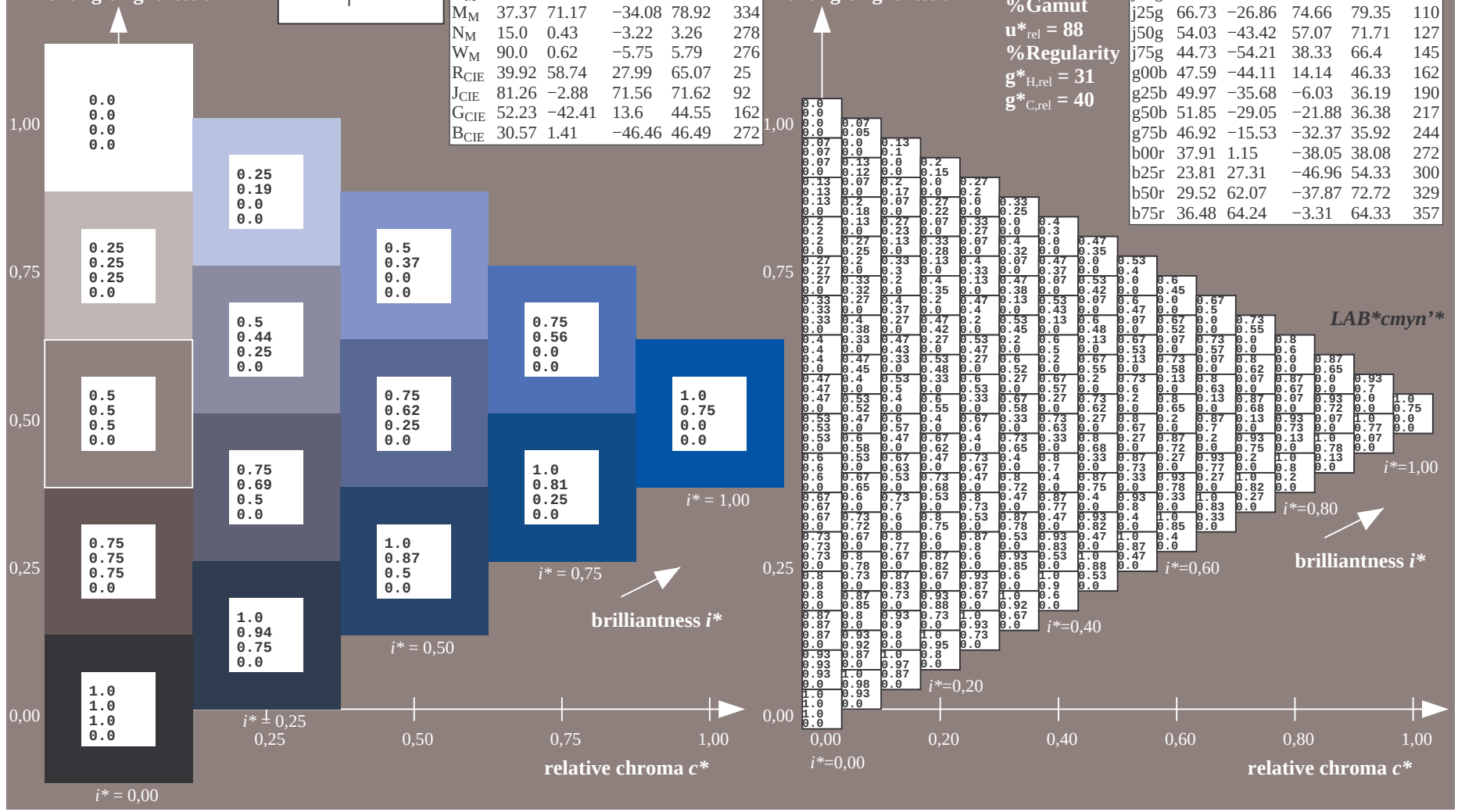
**%Regularity**

**$g^*_{H,rel} = 31$**

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

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 329/360 = 0.913$**

**$u^* = b50r$**

**$LAB^*cmyn'^*$**

**data for any colour:**

***lab*tch** and *lab*icu****

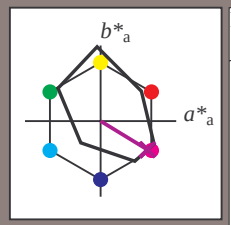
**elementary hue text:**

**$u^* = b50r$**

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness $t^*$**




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB**$_{Ma}$: 30 62 −37**

***LAB*LCH**$_{Ma}$: 30 73 329**

***lab*rgb**$_{Ma}$: 1.0 0.0 1.0**

***lab*olv**$_{Ma}$: 0.66 0.0 1.0**

**triangle lightness $t^*$**

**%Gamut**

**$u^*_{rel} = 88$**

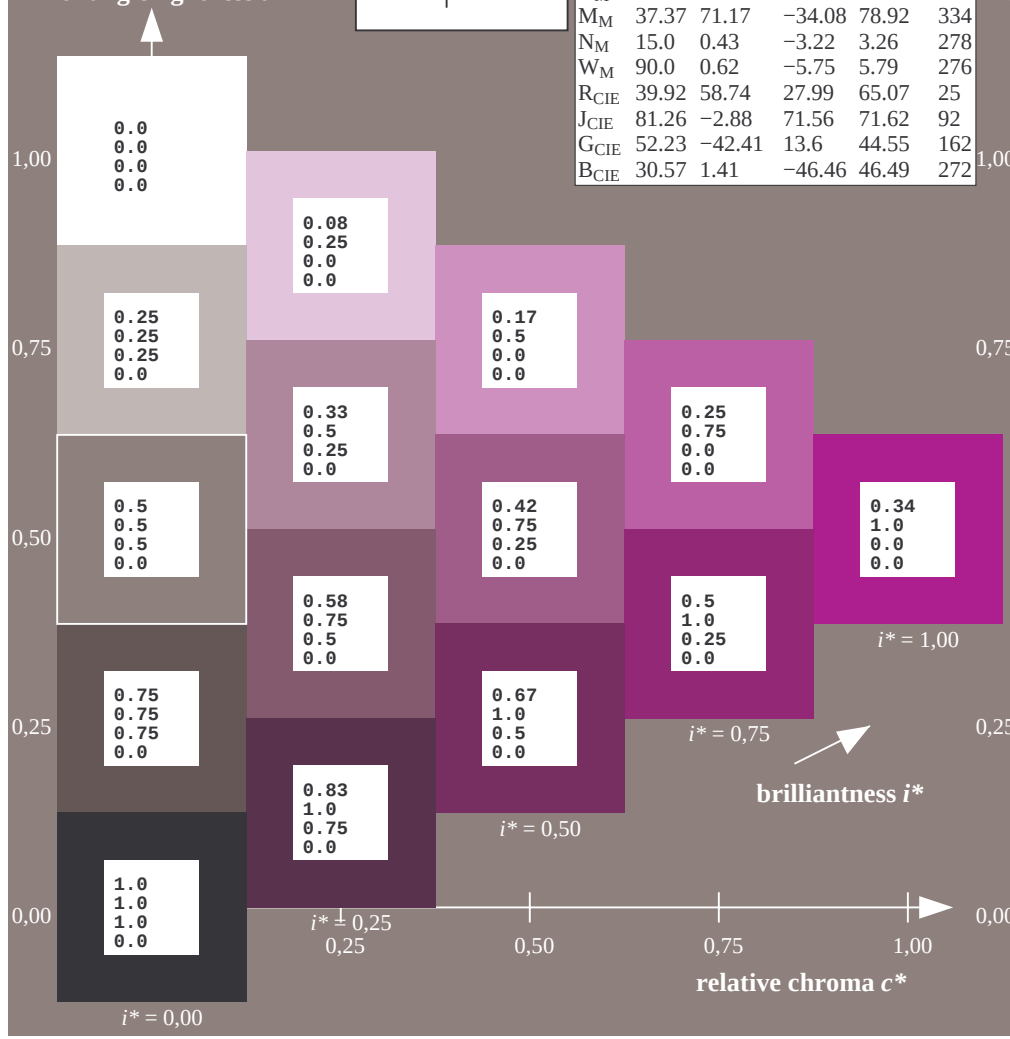
**%Regularity**

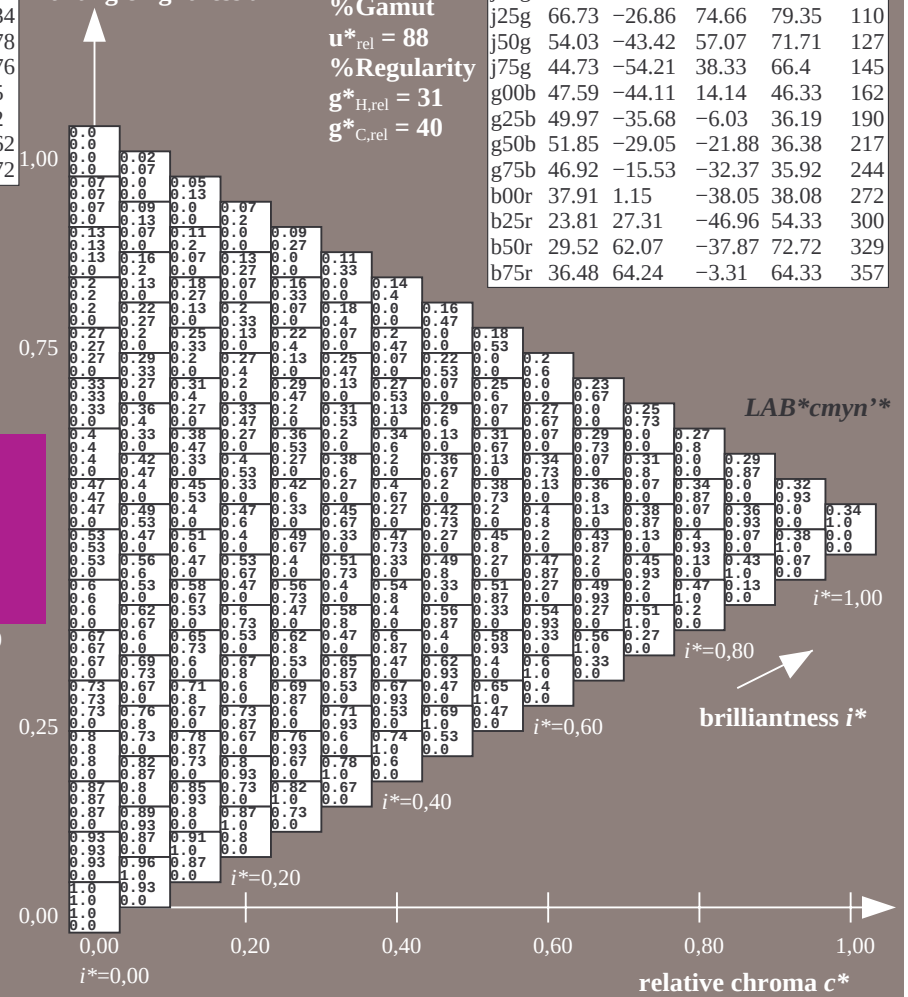
**$g^*_{H,rel} = 31$**

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

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



**Input and output: Colorimetric Printer Reflective System FRS15_90aM for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 357/360 = 0.992$**

**$u^* = b75r$**

**$LAB^*cmyn'^*$**

**data for any colour:**

***lab*tch** and *lab*icu****

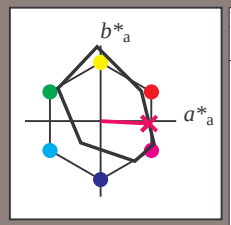
**elementary hue text:**

**$u^* = b75r$**

**contrast reduction factor:**

**$c_R = 0.9$**

**triangle lightness $t^*$**




**FRS15_90aM; CIELAB data**

| | $L^*=L^*$ | $a^*$ | $b^*$ | $C^*_{ab}$ | $h^*_{ab}$ |
|---|---|---|---|---|---|
| $O_M$ | 35.06 | 54.41 | 35.65 | 65.05 | 33 |
| $Y_M$ | 83.77 | −4.03 | 92.72 | 92.8 | 92 |
| $L_M$ | 44.13 | −55.82 | 39.15 | 68.19 | 145 |
| $C_M$ | 52.66 | −25.66 | −33.24 | 42.01 | 232 |
| $V_M$ | 14.15 | 45.64 | −56.26 | 72.45 | 309 |
| $M_M$ | 37.37 | 71.17 | −34.08 | 78.92 | 334 |
| $N_M$ | 15.0 | 0.43 | −3.22 | 3.26 | 278 |
| $W_M$ | 90.0 | 0.62 | −5.75 | 5.79 | 276 |
| $R_{CIE}$ | 39.92 | 58.74 | 27.99 | 65.07 | 25 |
| $J_{CIE}$ | 81.26 | −2.88 | 71.56 | 71.62 | 92 |
| $G_{CIE}$ | 52.23 | −42.41 | 13.6 | 44.55 | 162 |
| $B_{CIE}$ | 30.57 | 1.41 | −46.46 | 46.49 | 272 |

**Data for maximum colour (Ma):**

***LAB*LAB**$_{Ma}$: 36 64 −2**

***LAB*LCH**$_{Ma}$: 36 64 357**

***lab*rgb**$_{Ma}$: 1.0 0.0 0.5**

***lab*olv**$_{Ma}$: 1.0 0.0 0.62**

**triangle lightness $t^*$**

**%Gamut**

**$u^*_{rel} = 88$**

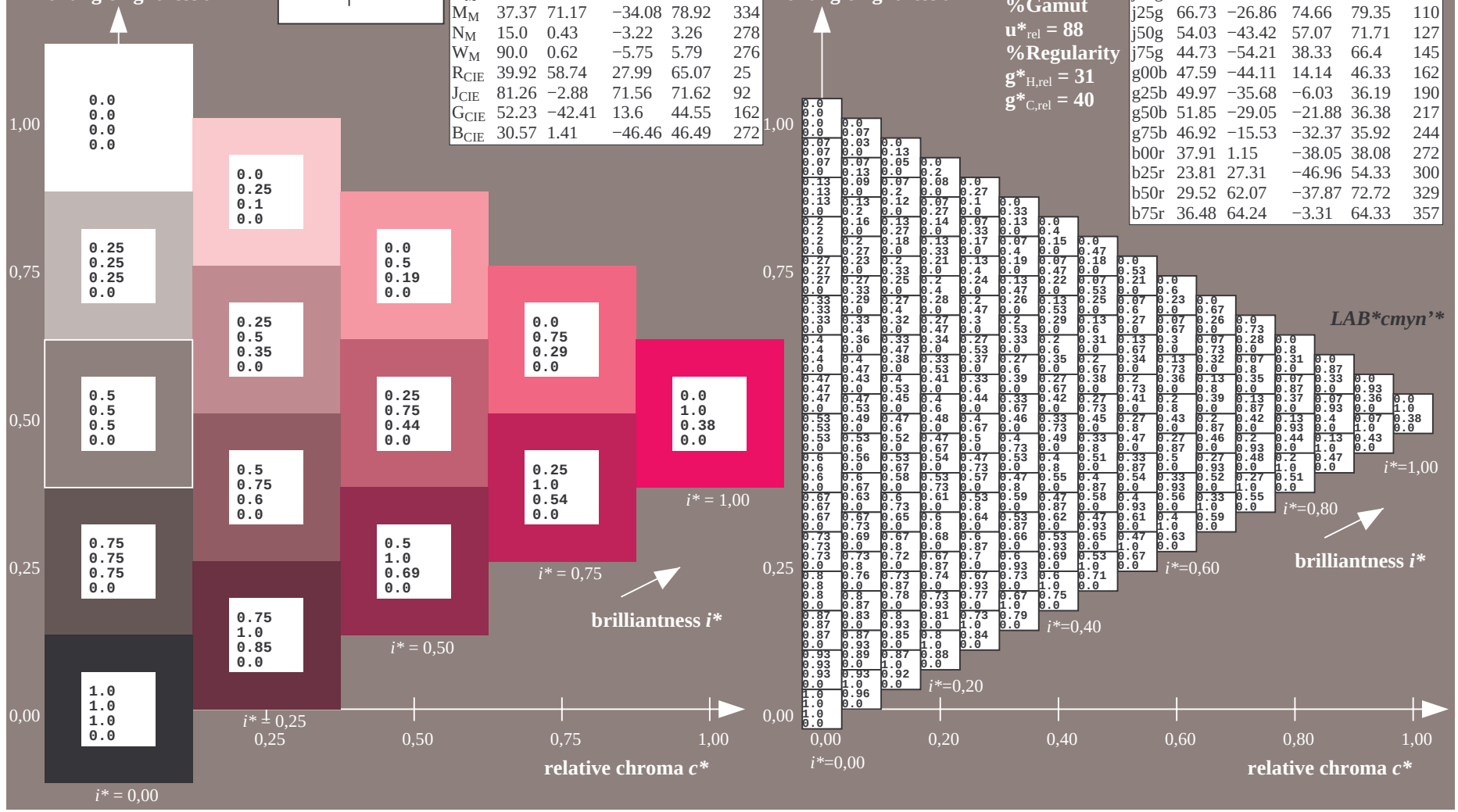
**%Regularity**

**$g^*_{H,rel} = 31$**

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

**FRS15_90aM; adapted (a) CIELAB data**

| | $L^*=L^*_a$ | $a^*_a$ | $b^*_a$ | $C^*_{ab,a}$ | $h^*_{ab,a}$ |
|---|---|---|---|---|---|
| r00j | 35.47 | 56.92 | 27.12 | 63.05 | 25 |
| r25j | 39.12 | 49.04 | 44.45 | 66.19 | 42 |
| r50j | 50.64 | 35.19 | 58.33 | 68.13 | 59 |
| r75j | 64.01 | 19.11 | 74.45 | 76.87 | 76 |
| j00g | 83.18 | −3.93 | 97.56 | 97.64 | 92 |
| j25g | 66.73 | −26.86 | 74.66 | 79.35 | 110 |
| j50g | 54.03 | −43.42 | 57.07 | 71.71 | 127 |
| j75g | 44.73 | −54.21 | 38.33 | 66.4 | 145 |
| g00b | 47.59 | −44.11 | 14.14 | 46.33 | 162 |
| g25b | 49.97 | −35.68 | −6.03 | 36.19 | 190 |
| g50b | 51.85 | −29.05 | −21.88 | 36.38 | 217 |
| g75b | 46.92 | −15.53 | −32.37 | 35.92 | 244 |
| b00r | 37.91 | 1.15 | −38.05 | 38.08 | 272 |
| b25r | 23.81 | 27.31 | −46.96 | 54.33 | 300 |
| b50r | 29.52 | 62.07 | −37.87 | 72.72 | 329 |
| b75r | 36.48 | 64.24 | −3.31 | 64.33 | 357 |



| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | a | b | c | d | e | f | g | h | i | j | k | LAB*cmyn'* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 1.0<br>1.0<br>1.0<br>0.0 | 1.0<br>0.88<br>1.0<br>0.0 | 1.0<br>0.75<br>1.0<br>0.0 | 1.0<br>0.63<br>1.0<br>0.0 | 1.0<br>0.5<br>1.0<br>0.0 | 1.0<br>0.38<br>1.0<br>0.0 | 1.0<br>0.25<br>1.0<br>0.0 | 1.0<br>0.13<br>1.0<br>0.0 | 1.0<br>0.0<br>1.0<br>0.0 | 0.88<br>1.0<br>1.0<br>0.0 | 0.88<br>0.88<br>1.0<br>0.0 | 0.88<br>0.75<br>1.0<br>0.0 | 0.88<br>0.63<br>1.0<br>0.0 | 0.88<br>0.5<br>1.0<br>0.0 | 0.88<br>0.38<br>1.0<br>0.0 | 0.88<br>0.25<br>1.0<br>0.0 | 0.88<br>0.13<br>1.0<br>0.0 | 0.88<br>0.0<br>1.0<br>0.0 | 0.75<br>1.0<br>1.0<br>0.0 | 0.75<br>0.88<br>1.0<br>0.0 | 0.75<br>0.75<br>1.0<br>0.0 | 0.75<br>0.63<br>1.0<br>0.0 | 0.75<br>0.5<br>1.0<br>0.0 | 0.75<br>0.38<br>1.0<br>0.0 | 0.75<br>0.25<br>1.0<br>0.0 | 0.75<br>0.13<br>1.0<br>0.0 | 0.75<br>0.0<br>1.0<br>0.0 | 0.0<br>0.0<br>0.0<br>0.0 | 0.0<br>0.13<br>0.0<br>0.0 | 0.0<br>0.25<br>0.0<br>0.0 | 0.0<br>0.38<br>0.0<br>0.0 | 0.0<br>0.5<br>0.0<br>0.0 | 0.0<br>0.63<br>0.0<br>0.0 | 0.0<br>0.75<br>0.0<br>0.0 | 0.0<br>0.88<br>0.0<br>0.0 | 0.0<br>1.0<br>0.0<br>0.0 | 1.0<br>1.0<br>1.0<br>0.0 | 1.0<br>1.0<br>1.0<br>0.0 | 1.0<br>1.0<br>1.0<br>0.0 | 1.0<br>1.0<br>1.0<br>0.0 |
| 02 | 1.0<br>1.0<br>0.88<br>0.0 | 1.0<br>0.88<br>0.88<br>0.0 | 1.0<br>0.75<br>0.88<br>0.0 | 1.0<br>0.63<br>0.88<br>0.0 | 1.0<br>0.5<br>0.88<br>0.0 | 1.0<br>0.38<br>0.88<br>0.0 | 1.0<br>0.25<br>0.88<br>0.0 | 1.0<br>0.13<br>0.88<br>0.0 | 1.0<br>0.0<br>0.88<br>0.0 | 0.88<br>1.0<br>0.88<br>0.0 | 0.88<br>0.88<br>0.88<br>0.0 | 0.88<br>0.75<br>0.88<br>0.0 | 0.88<br>0.63<br>0.88<br>0.0 | 0.88<br>0.5<br>0.88<br>0.0 | 0.88<br>0.38<br>0.88<br>0.0 | 0.88<br>0.25<br>0.88<br>0.0 | 0.88<br>0.13<br>0.88<br>0.0 | 0.88<br>0.0<br>0.88<br>0.0 | 0.75<br>1.0<br>0.88<br>0.0 | 0.75<br>0.88<br>0.88<br>0.0 | 0.75<br>0.75<br>0.88<br>0.0 | 0.75<br>0.63<br>0.88<br>0.0 | 0.75<br>0.5<br>0.88<br>0.0 | 0.75<br>0.38<br>0.88<br>0.0 | 0.75<br>0.25<br>0.88<br>0.0 | 0.75<br>0.13<br>0.88<br>0.0 | 0.75<br>0.0<br>0.88<br>0.0 | 0.13<br>0.0<br>0.0<br>0.0 | 0.13<br>0.13<br>0.0<br>0.0 | 0.13<br>0.25<br>0.0<br>0.0 | 0.13<br>0.38<br>0.0<br>0.0 | 0.13<br>0.5<br>0.0<br>0.0 | 0.13<br>0.63<br>0.0<br>0.0 | 0.13<br>0.75<br>0.0<br>0.0 | 0.13<br>0.88<br>0.0<br>0.0 | 0.13<br>1.0<br>0.0<br>0.0 | 0.88<br>0.88<br>0.88<br>0.0 | 0.88<br>0.88<br>0.88<br>0.0 | 0.88<br>0.88<br>0.88<br>0.0 | 0.88<br>0.88<br>0.88<br>0.0 |
| 03 | 1.0<br>1.0<br>0.75<br>0.0 | 1.0<br>0.88<br>0.75<br>0.0 | 1.0<br>0.75<br>0.75<br>0.0 | 1.0<br>0.63<br>0.75<br>0.0 | 1.0<br>0.5<br>0.75<br>0.0 | 1.0<br>0.38<br>0.75<br>0.0 | 1.0<br>0.25<br>0.75<br>0.0 | 1.0<br>0.13<br>0.75<br>0.0 | 1.0<br>0.0<br>0.75<br>0.0 | 0.88<br>1.0<br>0.75<br>0.0 | 0.88<br>0.88<br>0.75<br>0.0 | 0.88<br>0.75<br>0.75<br>0.0 | 0.88<br>0.63<br>0.75<br>0.0 | 0.88<br>0.5<br>0.75<br>0.0 | 0.88<br>0.38<br>0.75<br>0.0 | 0.88<br>0.25<br>0.75<br>0.0 | 0.88<br>0.13<br>0.75<br>0.0 | 0.88<br>0.0<br>0.75<br>0.0 | 0.75<br>1.0<br>0.75<br>0.0 | 0.75<br>0.88<br>0.75<br>0.0 | 0.75<br>0.75<br>0.75<br>0.0 | 0.75<br>0.63<br>0.75<br>0.0 | 0.75<br>0.5<br>0.75<br>0.0 | 0.75<br>0.38<br>0.75<br>0.0 | 0.75<br>0.25<br>0.75<br>0.0 | 0.75<br>0.13<br>0.75<br>0.0 | 0.75<br>0.0<br>0.75<br>0.0 | 0.25<br>0.0<br>0.0<br>0.0 | 0.25<br>0.13<br>0.0<br>0.0 | 0.25<br>0.25<br>0.0<br>0.0 | 0.25<br>0.38<br>0.0<br>0.0 | 0.25<br>0.5<br>0.0<br>0.0 | 0.25<br>0.63<br>0.0<br>0.0 | 0.25<br>0.75<br>0.0<br>0.0 | 0.25<br>0.88<br>0.0<br>0.0 | 0.25<br>1.0<br>0.0<br>0.0 | 0.75<br>0.75<br>0.75<br>0.0 | 0.75<br>0.75<br>0.75<br>0.0 | 0.75<br>0.75<br>0.75<br>0.0 | 0.75<br>0.75<br>0.75<br>0.0 |
| 04 | 1.0<br>1.0<br>0.63<br>0.0 | 1.0<br>0.88<br>0.63<br>0.0 | 1.0<br>0.75<br>0.63<br>0.0 | 1.0<br>0.63<br>0.63<br>0.0 | 1.0<br>0.5<br>0.63<br>0.0 | 1.0<br>0.38<br>0.63<br>0.0 | 1.0<br>0.25<br>0.63<br>0.0 | 1.0<br>0.13<br>0.63<br>0.0 | 1.0<br>0.0<br>0.63<br>0.0 | 0.88<br>1.0<br>0.63<br>0.0 | 0.88<br>0.88<br>0.63<br>0.0 | 0.88<br>0.75<br>0.63<br>0.0 | 0.88<br>0.63<br>0.63<br>0.0 | 0.88<br>0.5<br>0.63<br>0.0 | 0.88<br>0.38<br>0.63<br>0.0 | 0.88<br>0.25<br>0.63<br>0.0 | 0.88<br>0.13<br>0.63<br>0.0 | 0.88<br>0.0<br>0.63<br>0.0 | 0.75<br>1.0<br>0.63<br>0.0 | 0.75<br>0.88<br>0.63<br>0.0 | 0.75<br>0.75<br>0.63<br>0.0 | 0.75<br>0.63<br>0.63<br>0.0 | 0.75<br>0.5<br>0.63<br>0.0 | 0.75<br>0.38<br>0.63<br>0.0 | 0.75<br>0.25<br>0.63<br>0.0 | 0.75<br>0.13<br>0.63<br>0.0 | 0.75<br>0.0<br>0.63<br>0.0 | 0.38<br>0.0<br>0.0<br>0.0 | 0.38<br>0.13<br>0.0<br>0.0 | 0.38<br>0.25<br>0.0<br>0.0 | 0.38<br>0.38<br>0.0<br>0.0 | 0.38<br>0.5<br>0.0<br>0.0 | 0.38<br>0.63<br>0.0<br>0.0 | 0.38<br>0.75<br>0.0<br>0.0 | 0.38<br>0.88<br>0.0<br>0.0 | 0.38<br>1.0<br>0.0<br>0.0 | 0.63<br>0.63<br>0.63<br>0.0 | 0.63<br>0.63<br>0.63<br>0.0 | 0.63<br>0.63<br>0.63<br>0.0 | 0.63<br>0.63<br>0.63<br>0.0 |
| 05 | 1.0<br>1.0<br>0.5<br>0.0 | 1.0<br>0.88<br>0.5<br>0.0 | 1.0<br>0.75<br>0.5<br>0.0 | 1.0<br>0.63<br>0.5<br>0.0 | 1.0<br>0.5<br>0.5<br>0.0 | 1.0<br>0.38<br>0.5<br>0.0 | 1.0<br>0.25<br>0.5<br>0.0 | 1.0<br>0.13<br>0.5<br>0.0 | 1.0<br>0.0<br>0.5<br>0.0 | 0.88<br>1.0<br>0.5<br>0.0 | 0.88<br>0.88<br>0.5<br>0.0 | 0.88<br>0.75<br>0.5<br>0.0 | 0.88<br>0.63<br>0.5<br>0.0 | 0.88<br>0.5<br>0.5<br>0.0 | 0.88<br>0.38<br>0.5<br>0.0 | 0.88<br>0.25<br>0.5<br>0.0 | 0.88<br>0.13<br>0.5<br>0.0 | 0.88<br>0.0<br>0.5<br>0.0 | 0.75<br>1.0<br>0.5<br>0.0 | 0.75<br>0.88<br>0.5<br>0.0 | 0.75<br>0.75<br>0.5<br>0.0 | 0.75<br>0.63<br>0.5<br>0.0 | 0.75<br>0.5<br>0.5<br>0.0 | 0.75<br>0.38<br>0.5<br>0.0 | 0.75<br>0.25<br>0.5<br>0.0 | 0.75<br>0.13<br>0.5<br>0.0 | 0.75<br>0.0<br>0.5<br>0.0 | 0.5<br>0.0<br>0.0<br>0.0 | 0.5<br>0.13<br>0.0<br>0.0 | 0.5<br>0.25<br>0.0<br>0.0 | 0.5<br>0.38<br>0.0<br>0.0 | 0.5<br>0.5<br>0.0<br>0.0 | 0.5<br>0.63<br>0.0<br>0.0 | 0.5<br>0.75<br>0.0<br>0.0 | 0.5<br>0.88<br>0.0<br>0.0 | 0.5<br>1.0<br>0.0<br>0.0 | 0.5<br>0.5<br>0.5<br>0.0 | 0.5<br>0.5<br>0.5<br>0.0 | 0.5<br>0.5<br>0.5<br>0.0 | 0.5<br>0.5<br>0.5<br>0.0 |
| 06 | 1.0<br>1.0<br>0.38<br>0.0 | 1.0<br>0.88<br>0.38<br>0.0 | 1.0<br>0.75<br>0.38<br>0.0 | 1.0<br>0.63<br>0.38<br>0.0 | 1.0<br>0.5<br>0.38<br>0.0 | 1.0<br>0.38<br>0.38<br>0.0 | 1.0<br>0.25<br>0.38<br>0.0 | 1.0<br>0.13<br>0.38<br>0.0 | 1.0<br>0.0<br>0.38<br>0.0 | 0.88<br>1.0<br>0.38<br>0.0 | 0.88<br>0.88<br>0.38<br>0.0 | 0.88<br>0.75<br>0.38<br>0.0 | 0.88<br>0.63<br>0.38<br>0.0 | 0.88<br>0.5<br>0.38<br>0.0 | 0.88<br>0.38<br>0.38<br>0.0 | 0.88<br>0.25<br>0.38<br>0.0 | 0.88<br>0.13<br>0.38<br>0.0 | 0.88<br>0.0<br>0.38<br>0.0 | 0.75<br>1.0<br>0.38<br>0.0 | 0.75<br>0.88<br>0.38<br>0.0 | 0.75<br>0.75<br>0.38<br>0.0 | 0.75<br>0.63<br>0.38<br>0.0 | 0.75<br>0.5<br>0.38<br>0.0 | 0.75<br>0.38<br>0.38<br>0.0 | 0.75<br>0.25<br>0.38<br>0.0 | 0.75<br>0.13<br>0.38<br>0.0 | 0.75<br>0.0<br>0.38<br>0.0 | 0.63<br>0.0<br>0.0<br>0.0 | 0.63<br>0.13<br>0.0<br>0.0 | 0.63<br>0.25<br>0.0<br>0.0 | 0.63<br>0.38<br>0.0<br>0.0 | 0.63<br>0.5<br>0.0<br>0.0 | 0.63<br>0.63<br>0.0<br>0.0 | 0.63<br>0.75<br>0.0<br>0.0 | 0.63<br>0.88<br>0.0<br>0.0 | 0.63<br>1.0<br>0.0<br>0.0 | 0.38<br>0.38<br>0.38<br>0.0 | 0.38<br>0.38<br>0.38<br>0.0 | 0.38<br>0.38<br>0.38<br>0.0 | 0.38<br>0.38<br>0.38<br>0.0 |
| 07 | 1.0<br>1.0<br>0.25<br>0.0 | 1.0<br>0.88<br>0.25<br>0.0 | 1.0<br>0.75<br>0.25<br>0.0 | 1.0<br>0.63<br>0.25<br>0.0 | 1.0<br>0.5<br>0.25<br>0.0 | 1.0<br>0.38<br>0.25<br>0.0 | 1.0<br>0.25<br>0.25<br>0.0 | 1.0<br>0.13<br>0.25<br>0.0 | 1.0<br>0.0<br>0.25<br>0.0 | 0.88<br>1.0<br>0.25<br>0.0 | 0.88<br>0.88<br>0.25<br>0.0 | 0.88<br>0.75<br>0.25<br>0.0 | 0.88<br>0.63<br>0.25<br>0.0 | 0.88<br>0.5<br>0.25<br>0.0 | 0.88<br>0.38<br>0.25<br>0.0 | 0.88<br>0.25<br>0.25<br>0.0 | 0.88<br>0.13<br>0.25<br>0.0 | 0.88<br>0.0<br>0.25<br>0.0 | 0.75<br>1.0<br>0.25<br>0.0 | 0.75<br>0.88<br>0.25<br>0.0 | 0.75<br>0.75<br>0.25<br>0.0 | 0.75<br>0.63<br>0.25<br>0.0 | 0.75<br>0.5<br>0.25<br>0.0 | 0.75<br>0.38<br>0.25<br>0.0 | 0.75<br>0.25<br>0.25<br>0.0 | 0.75<br>0.13<br>0.25<br>0.0 | 0.75<br>0.0<br>0.25<br>0.0 | 0.75<br>0.0<br>0.0<br>0.0 | 0.75<br>0.13<br>0.0<br>0.0 | 0.75<br>0.25<br>0.0<br>0.0 | 0.75<br>0.38<br>0.0<br>0.0 | 0.75<br>0.5<br>0.0<br>0.0 | 0.75<br>0.63<br>0.0<br>0.0 | 0.75<br>0.75<br>0.0<br>0.0 | 0.75<br>0.88<br>0.0<br>0.0 | 0.75<br>1.0<br>0.0<br>0.0 | 0.25<br>0.25<br>0.25<br>0.0 | 0.25<br>0.25<br>0.25<br>0.0 | 0.25<br>0.25<br>0.25<br>0.0 | 0.25<br>0.25<br>0.25<br>0.0 |
| 08 | 1.0<br>1.0<br>0.13<br>0.0 | 1.0<br>0.88<br>0.13<br>0.0 | 1.0<br>0.75<br>0.13<br>0.0 | 1.0<br>0.63<br>0.13<br>0.0 | 1.0<br>0.5<br>0.13<br>0.0 | 1.0<br>0.38<br>0.13<br>0.0 | 1.0<br>0.25<br>0.13<br>0.0 | 1.0<br>0.13<br>0.13<br>0.0 | 1.0<br>0.0<br>0.13<br>0.0 | 0.88<br>1.0<br>0.13<br>0.0 | 0.88<br>0.88<br>0.13<br>0.0 | 0.88<br>0.75<br>0.13<br>0.0 | 0.88<br>0.63<br>0.13<br>0.0 | 0.88<br>0.5<br>0.13<br>0.0 | 0.88<br>0.38<br>0.13<br>0.0 | 0.88<br>0.25<br>0.13<br>0.0 | 0.88<br>0.13<br>0.13<br>0.0 | 0.88<br>0.0<br>0.13<br>0.0 | 0.75<br>1.0<br>0.13<br>0.0 | 0.75<br>0.88<br>0.13<br>0.0 | 0.75<br>0.75<br>0.13<br>0.0 | 0.75<br>0.63<br>0.13<br>0.0 | 0.75<br>0.5<br>0.13<br>0.0 | 0.75<br>0.38<br>0.13<br>0.0 | 0.75<br>0.25<br>0.13<br>0.0 | 0.75<br>0.13<br>0.13<br>0.0 | 0.75<br>0.0<br>0.13<br>0.0 | 0.88<br>0.0<br>0.0<br>0.0 | 0.88<br>0.13<br>0.0<br>0.0 | 0.88<br>0.25<br>0.0<br>0.0 | 0.88<br>0.38<br>0.0<br>0.0 | 0.88<br>0.5<br>0.0<br>0.0 | 0.88<br>0.63<br>0.0<br>0.0 | 0.88<br>0.75<br>0.0<br>0.0 | 0.88<br>0.88<br>0.0<br>0.0 | 0.88<br>1.0<br>0.0<br>0.0 | 0.13<br>0.13<br>0.13<br>0.0 | 0.13<br>0.13<br>0.13<br>0.0 | 0.13<br>0.13<br>0.13<br>0.0 | 0.13<br>0.13<br>0.13<br>0.0 |
| 09 | 1.0<br>1.0<br>0.0<br>0.0 | 1.0<br>0.88<br>0.0<br>0.0 | 1.0<br>0.75<br>0.0<br>0.0 | 1.0<br>0.63<br>0.0<br>0.0 | 1.0<br>0.5<br>0.0<br>0.0 | 1.0<br>0.38<br>0.0<br>0.0 | 1.0<br>0.25<br>0.0<br>0.0 | 1.0<br>0.13<br>0.0<br>0.0 | 1.0<br>0.0<br>0.0<br>0.0 | 0.88<br>1.0<br>0.0<br>0.0 | 0.88<br>0.88<br>0.0<br>0.0 | 0.88<br>0.75<br>0.0<br>0.0 | 0.88<br>0.63<br>0.0<br>0.0 | 0.88<br>0.5<br>0.0<br>0.0 | 0.88<br>0.38<br>0.0<br>0.0 | 0.88<br>0.25<br>0.0<br>0.0 | 0.88<br>0.13<br>0.0<br>0.0 | 0.88<br>0.0<br>0.0<br>0.0 | 0.75<br>1.0<br>0.0<br>0.0 | 0.75<br>0.88<br>0.0<br>0.0 | 0.75<br>0.75<br>0.0<br>0.0 | 0.75<br>0.63<br>0.0<br>0.0 | 0.75<br>0.5<br>0.0<br>0.0 | 0.75<br>0.38<br>0.0<br>0.0 | 0.75<br>0.25<br>0.0<br>0.0 | 0.75<br>0.13<br>0.0<br>0.0 | 0.75<br>0.0<br>0.0<br>0.0 | 1.0<br>0.0<br>0.0<br>0.0 | 1.0<br>0.13<br>0.0<br>0.0 | 1.0<br>0.25<br>0.0<br>0.0 | 1.0<br>0.38<br>0.0<br>0.0 | 1.0<br>0.5<br>0.0<br>0.0 | 1.0<br>0.63<br>0.0<br>0.0 | 1.0<br>0.75<br>0.0<br>0.0 | 1.0<br>0.88<br>0.0<br>0.0 | 1.0<br>1.0<br>0.0<br>0.0 | 0.0<br>0.0<br>0.0<br>0.0 | 0.0<br>0.0<br>0.0<br>0.0 | 0.0<br>0.0<br>0.0<br>0.0 | 0.0<br>0.0<br>0.0<br>0.0 |
| 10 | 0.63<br>1.0<br>0.0<br>0.0 | 0.63<br>0.88<br>0.0<br>0.0 | 0.63<br>0.75<br>0.0<br>0.0 | 0.63<br>0.63<br>0.0<br>0.0 | 0.63<br>0.5<br>0.0<br>0.0 | 0.63<br>0.38<br>0.0<br>0.0 | 0.63<br>0.25<br>0.0<br>0.0 | 0.63<br>0.13<br>0.0<br>0.0 | 0.63<br>0.0<br>0.0<br>0.0 | 0.5<br>1.0<br>0.0<br>0.0 | 0.5<br>0.88<br>0.0<br>0.0 | 0.5<br>0.75<br>0.0<br>0.0 | 0.5<br>0.63<br>0.0<br>0.0 | 0.5<br>0.5<br>0.0<br>0.0 | 0.5<br>0.38<br>0.0<br>0.0 | 0.5<br>0.25<br>0.0<br>0.0 | 0.5<br>0.13<br>0.0<br>0.0 | 0.5<br>0.0<br>0.0<br>0.0 | 0.38<br>1.0<br>0.0<br>0.0 | 0.38<br>0.88<br>0.0<br>0.0 | 0.38<br>0.75<br>0.0<br>0.0 | 0.38<br>0.63<br>0.0<br>0.0 | 0.38<br>0.5<br>0.0<br>0.0 | 0.38<br>0.38<br>0.0<br>0.0 | 0.38<br>0.25<br>0.0<br>0.0 | 0.38<br>0.13<br>0.0<br>0.0 | 0.38<br>0.0<br>0.0<br>0.0 | 0.0<br>0.0<br>0.0<br>0.0 | 0.0<br>0.13<br>0.0<br>0.0 | 0.0<br>0.25<br>0.0<br>0.0 | 0.0<br>0.38<br>0.0<br>0.0 | 0.0<br>0.5<br>0.0<br>0.0 | 0.0<br>0.63<br>0.0<br>0.0 | 0.0<br>0.75<br>0.0<br>0.0 | 0.0<br>0.88<br>0.0<br>0.0 | 0.0<br>1.0<br>0.0<br>0.0 | 1.0<br>1.0<br>1.0<br>0.0 | 1.0<br>1.0<br>1.0<br>0.0 | 1.0<br>1.0<br>1.0<br>0.0 | 1.0<br>1.0<br>1.0<br>0.0 |
| 11 | 0.63<br>1.0<br>0.88<br>0.0 | 0.63<br>0.88<br>0.88<br>0.0 | 0.63<br>0.75<br>0.88<br>0.0 | 0.63<br>0.63<br>0.88<br>0.0 | 0.63<br>0.5<br>0.88<br>0.0 | 0.63<br>0.38<br>0.88<br>0.0 | 0.63<br>0.25<br>0.88<br>0.0 | 0.63<br>0.13<br>0.88<br>0.0 | 0.63<br>0.0<br>0.88<br>0.0 | 0.5<br>1.0<br>0.88<br>0.0 | 0.5<br>0.88<br>0.88<br>0.0 | 0.5<br>0.75<br>0.88<br>0.0 | 0.5<br>0.63<br>0.88<br>0.0 | 0.5<br>0.5<br>0.88<br>0.0 | 0.5<br>0.38<br>0.88<br>0.0 | 0.5<br>0.25<br>0.88<br>0.0 | 0.5<br>0.13<br>0.88<br>0.0 | 0.5<br>0.0<br>0.88<br>0.0 | 0.38<br>1.0<br>0.88<br>0.0 | 0.38<br>0.88<br>0.88<br>0.0 | 0.38<br>0.75<br>0.88<br>0.0 | 0.38<br>0.63<br>0.88<br>0.0 | 0.38<br>0.5<br>0.88<br>0.0 | 0.38<br>0.38<br>0.88<br>0.0 | 0.38<br>0.25<br>0.88<br>0.0 | 0.38<br>0.13<br>0.88<br>0.0 | 0.38<br>0.0<br>0.88<br>0.0 | 0.13<br>0.0<br>0.0<br>0.0 | 0.13<br>0.13<br>0.0<br>0.0 | 0.13<br>0.25<br>0.0<br>0.0 | 0.13<br>0.38<br>0.0<br>0.0 | 0.13<br>0.5<br>0.0<br>0.0 | 0.13<br>0.63<br>0.0<br>0.0 | 0.13<br>0.75<br>0.0<br>0.0 | 0.13<br>0.88<br>0.0<br>0.0 | 0.13<br>1.0<br>0.0<br>0.0 | 0.93<br>0.93<br>0.93<br>0.0 | 0.93<br>0.93<br>0.93<br>0.0 | 0.93<br>0.93<br>0.93<br>0.0 | 0.93<br>0.93<br>0.93<br>0.0 |
| 12 | 0.63<br>1.0<br>0.75<br>0.0 | 0.63<br>0.88<br>0.75<br>0.0 | 0.63<br>0.75<br>0.75<br>0.0 | 0.63<br>0.63<br>0.75<br>0.0 | 0.63<br>0.5<br>0.75<br>0.0 | 0.63<br>0.38<br>0.75<br>0.0 | 0.63<br>0.25<br>0.75<br>0.0 | 0.63<br>0.13<br>0.75<br>0.0 | 0.63<br>0.0<br>0.75<br>0.0 | 0.5<br>1.0<br>0.75<br>0.0 | 0.5<br>0.88<br>0.75<br>0.0 | 0.5<br>0.75<br>0.75<br>0.0 | 0.5<br>0.63<br>0.75<br>0.0 | 0.5<br>0.5<br>0.75<br>0.0 | 0.5<br>0.38<br>0.75<br>0.0 | 0.5<br>0.25<br>0.75<br>0.0 | 0.5<br>0.13<br>0.75<br>0.0 | 0.5<br>0.0<br>0.75<br>0.0 | 0.38<br>1.0<br>0.75<br>0.0 | 0.38<br>0.88<br>0.75<br>0.0 | 0.38<br>0.75<br>0.75<br>0.0 | 0.38<br>0.63<br>0.75<br>0.0 | 0.38<br>0.5<br>0.75<br>0.0 | 0.38<br>0.38<br>0.75<br>0.0 | 0.38<br>0.25<br>0.75<br>0.0 | 0.38<br>0.13<br>0.75<br>0.0 | 0.38<br>0.0<br>0.75<br>0.0 | 0.25<br>0.0<br>0.0<br>0.0 | 0.25<br>0.13<br>0.0<br>0.0 | 0.25<br>0.25<br>0.0<br>0.0 | 0.25<br>0.38<br>0.0<br>0.0 | 0.25<br>0.5<br>0.0<br>0.0 | 0.25<br>0.63<br>0.0<br>0.0 | 0.25<br>0.75<br>0.0<br>0.0 | 0.25<br>0.88<br>0.0<br>0.0 | 0.25<br>1.0<br>0.0<br>0.0 | 0.87<br>0.87<br>0.87<br>0.0 | 0.87<br>0.87<br>0.87<br>0.0 | 0.87<br>0.87<br>0.87<br>0.0 | 0.87<br>0.87<br>0.87<br>0.0 |
| 13 | 0.63<br>1.0<br>0.63<br>0.0 | 0.63<br>0.88<br>0.63<br>0.0 | 0.63<br>0.75<br>0.63<br>0.0 | 0.63<br>0.63<br>0.63<br>0.0 | 0.63<br>0.5<br>0.63<br>0.0 | 0.63<br>0.38<br>0.63<br>0.0 | 0.63<br>0.25<br>0.63<br>0.0 | 0.63<br>0.13<br>0.63<br>0.0 | 0.63<br>0.0<br>0.63<br>0.0 | 0.5<br>1.0<br>0.63<br>0.0 | 0.5<br>0.88<br>0.63<br>0.0 | 0.5<br>0.75<br>0.63<br>0.0 | 0.5<br>0.63<br>0.63<br>0.0 | 0.5<br>0.5<br>0.63<br>0.0 | 0.5<br>0.38<br>0.63<br>0.0 | 0.5<br>0.25<br>0.63<br>0.0 | 0.5<br>0.13<br>0.63<br>0.0 | 0.5<br>0.0<br>0.63<br>0.0 | 0.38<br>1.0<br>0.63<br>0.0 | 0.38<br>0.88<br>0.63<br>0.0 | 0.38<br>0.75<br>0.63<br>0.0 | 0.38<br>0.63<br>0.63<br>0.0 | 0.38<br>0.5<br>0.63<br>0.0 | 0.38<br>0.38<br>0.63<br>0.0 | 0.38<br>0.25<br>0.63<br>0.0 | 0.38<br>0.13<br>0.63<br>0.0 | 0.38<br>0.0<br>0.63<br>0.0 | 0.5<br>0.0<br>0.0<br>0.0 | 0.5<br>0.13<br>0.0<br>0.0 | 0.5<br>0.25<br>0.0<br>0.0 | 0.5<br>0.38<br>0.0<br>0.0 | 0.5<br>0.5<br>0.0<br>0.0 | 0.5<br>0.63<br>0.0<br>0.0 | 0.5<br>0.75<br>0.0<br>0.0 | 0.5<br>0.88<br>0.0<br>0.0 | 0.5<br>1.0<br>0.0<br>0.0 | 0.8<br>0.8<br>0.8<br>0.0 | 0.8<br>0.8<br>0.8<br>0.0 | 0.8<br>0.8<br>0.8<br>0.0 | 0.8<br>0.8<br>0.8<br>0.0 |
| 14 | 0.63<br>1.0<br>0.0<br>0.0 | 0.63<br>0.88<br>0.0<br>0.0 | 0.63<br>0.75<br>0.0<br>0.0 | 0.63<br>0.63<br>0.0<br>0.0 | 0.63<br>0.5<br>0.0<br>0.0 | 0.63<br>0.38<br>0.0<br>0.0 | 0.63<br>0.25<br>0.0<br>0.0 | 0.63<br>0.13<br>0.0<br>0.0 | 0.63<br>0.0<br>0.0<br>0.0 | 0.5<br>1.0<br>0.0<br>0.0 | 0.5<br>0.88<br>0.0<br>0.0 | 0.5<br>0.75<br>0.0<br>0.0 | 0.5<br>0.63<br>0.0<br>0.0 | 0.5<br>0.5<br>0.0<br>0.0 | 0.5<br>0.38<br>0.0<br>0.0 | 0.5<br>0.25<br>0.0<br>0.0 | 0.5<br>0.13<br>0.0<br>0.0 | 0.5<br>0.0<br>0.0<br>0.0 | 0.38<br>1.0<br>0.0<br>0.0 | 0.38<br>0.88<br>0.0<br>0.0 | 0.38<br>0.75<br>0.0<br>0.0 | 0.38<br>0.63<br>0.0<br>0.0 | 0.38<br>0.5<br>0.0<br>0.0 | 0.38<br>0.38<br>0.0<br>0.0 | 0.38<br>0.25<br>0.0<br>0.0 | 0.38<br>0.13<br>0.0<br>0.0 | 0.38<br>0.0<br>0.0<br>0.0 | 0.5<br>0.0<br>0.0<br>0.0 | 0.5<br>0.13<br>0.0<br>0.0 | 0.5<br>0.25<br>0.0<br>0.0 | 0.5<br>0.38<br>0.0<br>0.0 | 0.5<br>0.5<br>0.0<br>0.0 | 0.5<br>0.63<br>0.0<br>0.0 | 0.5<br>0.75<br>0.0<br>0.0 | 0.5<br>0.88<br>0.0<br>0.0 | 0.5<br>1.0<br>0.0<br>0.0 | 0.73<br>0.73<br>0.73<br>0.0 | 0.73<br>0.73<br>0.73<br>0.0 | 0.73<br>0.73<br>0.73<br>0.0 | 0.73<br>0.73<br>0.73<br>0.0 |
| 15 | 0.63<br>1.0<br>0.38<br>0.0 | 0.63<br>0.88<br>0.38<br>0.0 | 0.63<br>0.75<br>0.38<br>0.0 | 0.63<br>0.63<br>0.38<br>0.0 | 0.63<br>0.5<br>0.38<br>0.0 | 0.63<br>0.38<br>0.38<br>0.0 | 0.63<br>0.25<br>0.38<br>0.0 | 0.63<br>0.13<br>0.38<br>0.0 | 0.63<br>0.0<br>0.38<br>0.0 | 0.5<br>1.0<br>0.38<br>0.0 | 0.5<br>0.88<br>0.38<br>0.0 | 0.5<br>0.75<br>0.38<br>0.0 | 0.5<br>0.63<br>0.38<br>0.0 | 0.5<br>0.5<br>0.38<br>0.0 | 0.5<br>0.38<br>0.38<br>0.0 | 0.5<br>0.25<br>0.38<br>0.0 | 0.5<br>0.13<br>0.38<br>0.0 | 0.5<br>0.0<br>0.38<br>0.0 | 0.38<br>1.0<br>0.38<br>0.0 | 0.38<br>0.88<br>0.38<br>0.0 | 0.38<br>0.75<br>0.38<br>0.0 | 0.38<br>0.63<br>0.38<br>0.0 | 0.38<br>0.5<br>0.38<br>0.0 | 0.38<br>0.38<br>0.38<br>0.0 | 0.38<br>0.25<br>0.38<br>0.0 | 0.38<br>0.13<br>0.38<br>0.0 | 0.38<br>0.0<br>0.38<br>0.0 | 0.63<br>0.0<br>0.0<br>0.0 | 0.63<br>0.13<br>0.0<br>0.0 | 0.63<br>0.25<br>0.0<br>0.0 | 0.63<br>0.38<br>0.0<br>0.0 | 0.63<br>0.5<br>0.0<br>0.0 | 0.63<br>0.63<br>0.0<br>0.0 | 0.63<br>0.75<br>0.0<br>0.0 | 0.63<br>0.88<br>0.0<br>0.0 | 0.63<br>1.0<br>0.0<br>0.0 | 0.67<br>0.67<br>0.67<br>0.0 | 0.67<br>0.67<br>0.67<br>0.0 | 0.67<br>0.67<br>0.67<br>0.0 | 0.67<br>0.67<br>0.67<br>0.0 |
| 16 | 0.63<br>1.0<br>0.25<br>0.0 | 0.63<br>0.88<br>0.25<br>0.0 | 0.63<br>0.75<br>0.25<br>0.0 | 0.63<br>0.63<br>0.25<br>0.0 | 0.63<br>0.5<br>0.25<br>0.0 | 0.63<br>0.38<br>0.25<br>0.0 | 0.63<br>0.25<br>0.25<br>0.0 | 0.63<br>0.13<br>0.25<br>0.0 | 0.63<br>0.0<br>0.25<br>0.0 | 0.5<br>1.0<br>0.25<br>0.0 | 0.5<br>0.88<br>0.25<br>0.0 | 0.5<br>0.75<br>0.25<br>0.0 | 0.5<br>0.63<br>0.25<br>0.0 | 0.5<br>0.5<br>0.25<br>0.0 | 0.5<br>0.38<br>0.25<br>0.0 | 0.5<br>0.25<br>0.25<br>0.0 | 0.5<br>0.13<br>0.25<br>0.0 | 0.5<br>0.0<br>0.25<br>0.0 | 0.38<br>1.0<br>0.25<br>0.0 | 0.38<br>0.88<br>0.25<br>0.0 | 0.38<br>0.75<br>0.25<br>0.0 | 0.38<br>0.63<br>0.25<br>0.0 | 0.38<br>0.5<br>0.25<br>0.0 | 0.38<br>0.38<br>0.25<br>0.0 | 0.38<br>0.25<br>0.25<br>0.0 | 0.38<br>0.13<br>0.25<br>0.0 | 0.38<br>0.0<br>0.25<br>0.0 | 0.75<br>0.0<br>0.0<br>0.0 | 0.75<br>0.13<br>0.0<br>0.0 | 0.75<br>0.25<br>0.0<br>0.0 | 0.75<br>0.38<br>0.0<br>0.0 | 0.75<br>0.5<br>0.0<br>0.0 | 0.75<br>0.63<br>0.0<br>0.0 | 0.75<br>0.75<br>0.0<br>0.0 | 0.75<br>0.88<br>0.0<br>0.0 | 0.75<br>1.0<br>0.0<br>0.0 | 0.6<br>0.6<br>0.6<br>0.0 | 0.6<br>0.6<br>0.6<br>0.0 | 0.6<br>0.6<br>0.6<br>0.0 | 0.6<br>0.6<br>0.6<br>0.0 |
| 17 | 0.63<br>1.0<br>0.13<br>0.0 | 0.63<br>0.88<br>0.13<br>0.0 | 0.63<br>0.75<br>0.13<br>0.0 | 0.63<br>0.63<br>0.13<br>0.0 | 0.63<br>0.5<br>0.13<br>0.0 | 0.63<br>0.38<br>0.13<br>0.0 | 0.63<br>0.25<br>0.13<br>0.0 | 0.63<br>0.13<br>0.13<br>0.0 | 0.63<br>0.0<br>0.13<br>0.0 | 0.5<br>1.0<br>0.13<br>0.0 | 0.5<br>0.88<br>0.13<br>0.0 | 0.5<br>0.75<br>0.13<br>0.0 | 0.5<br>0.63<br>0.13<br>0.0 | 0.5<br>0.5<br>0.13<br>0.0 | 0.5<br>0.38<br>0.13<br>0