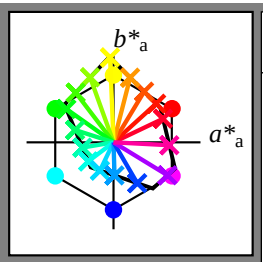
Input and output:
Colorimetric Printer Reflective System FRS15_90a
data for any colour:
lab*tch* **and** ***lab*icu****
elementary hue text:
u* **= 16 hues** ***r00j, r25j, ..., b75r***
contrast reduction factor:
$c_R = 0.9$

FRS15_90a; adapted (a) CIELAB data

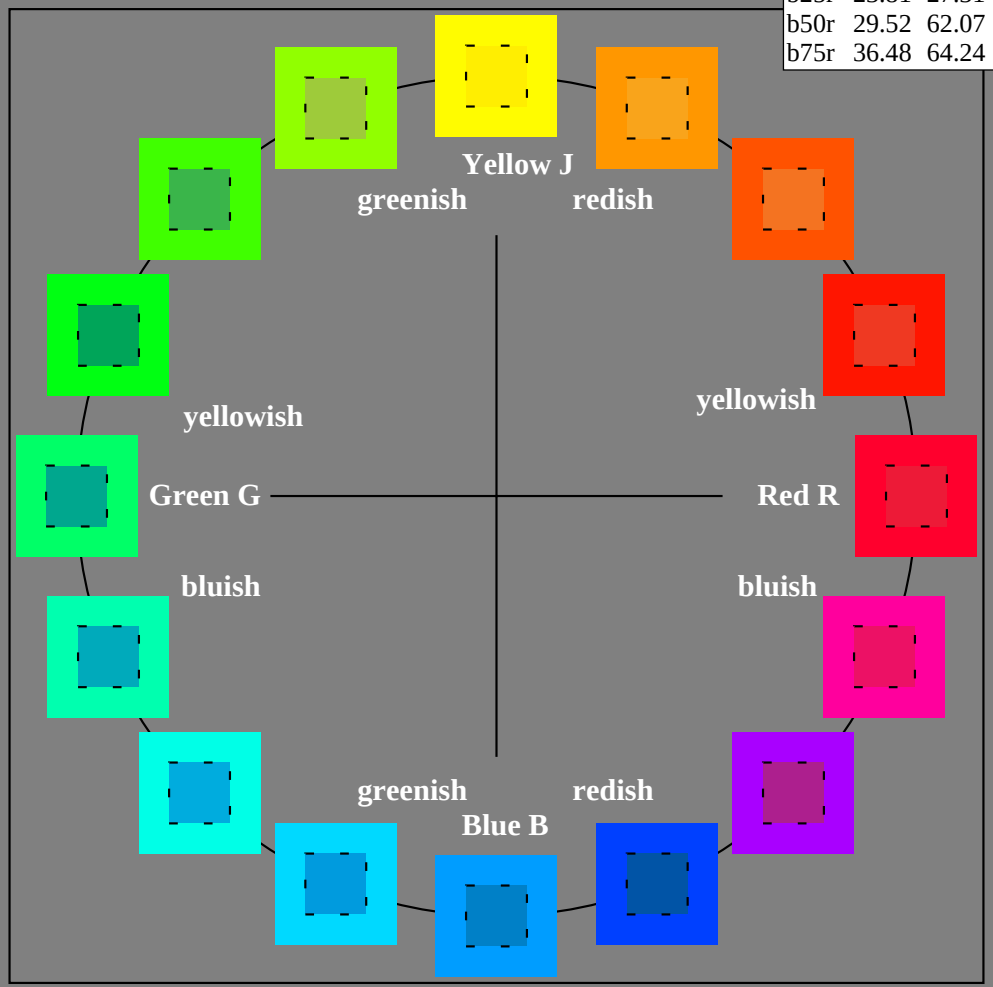
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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

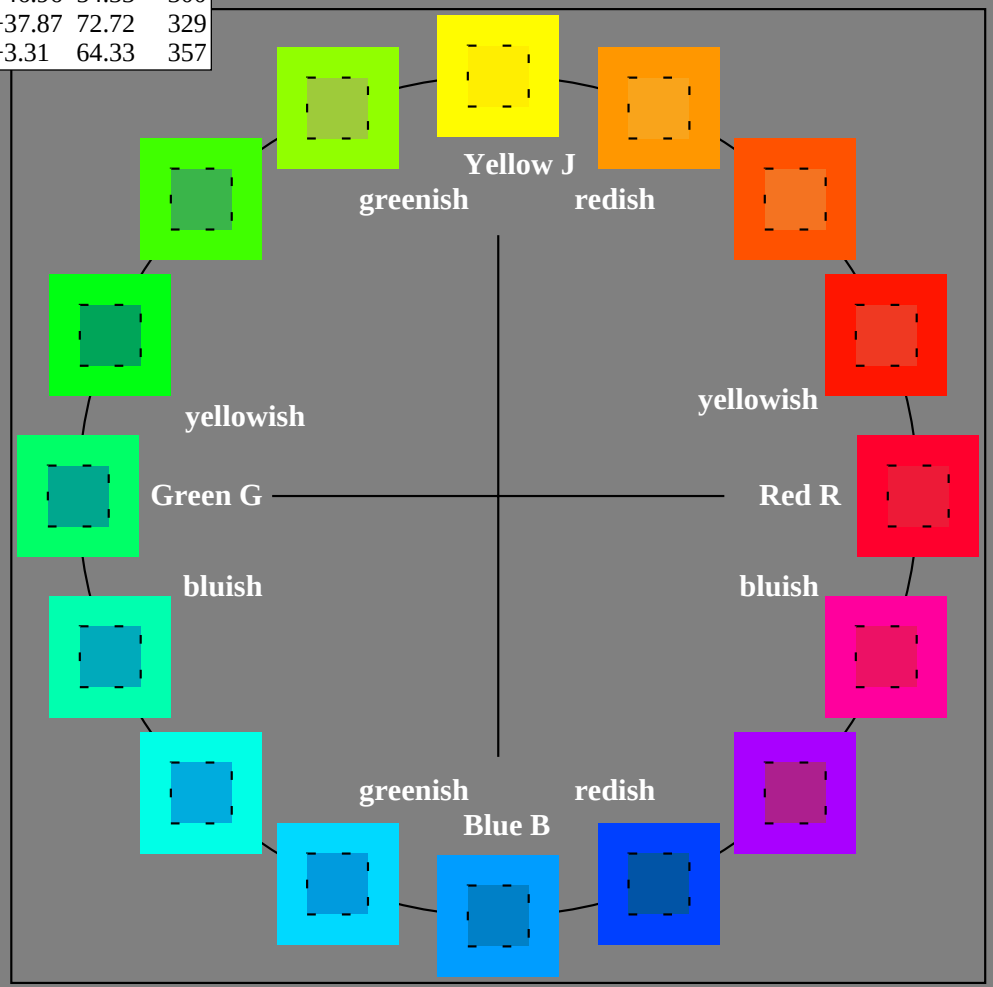


%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; adapted (a) CIELAB data

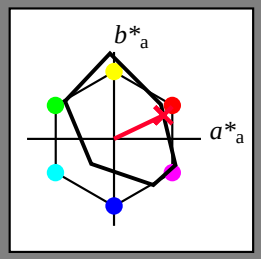
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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_90a 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**

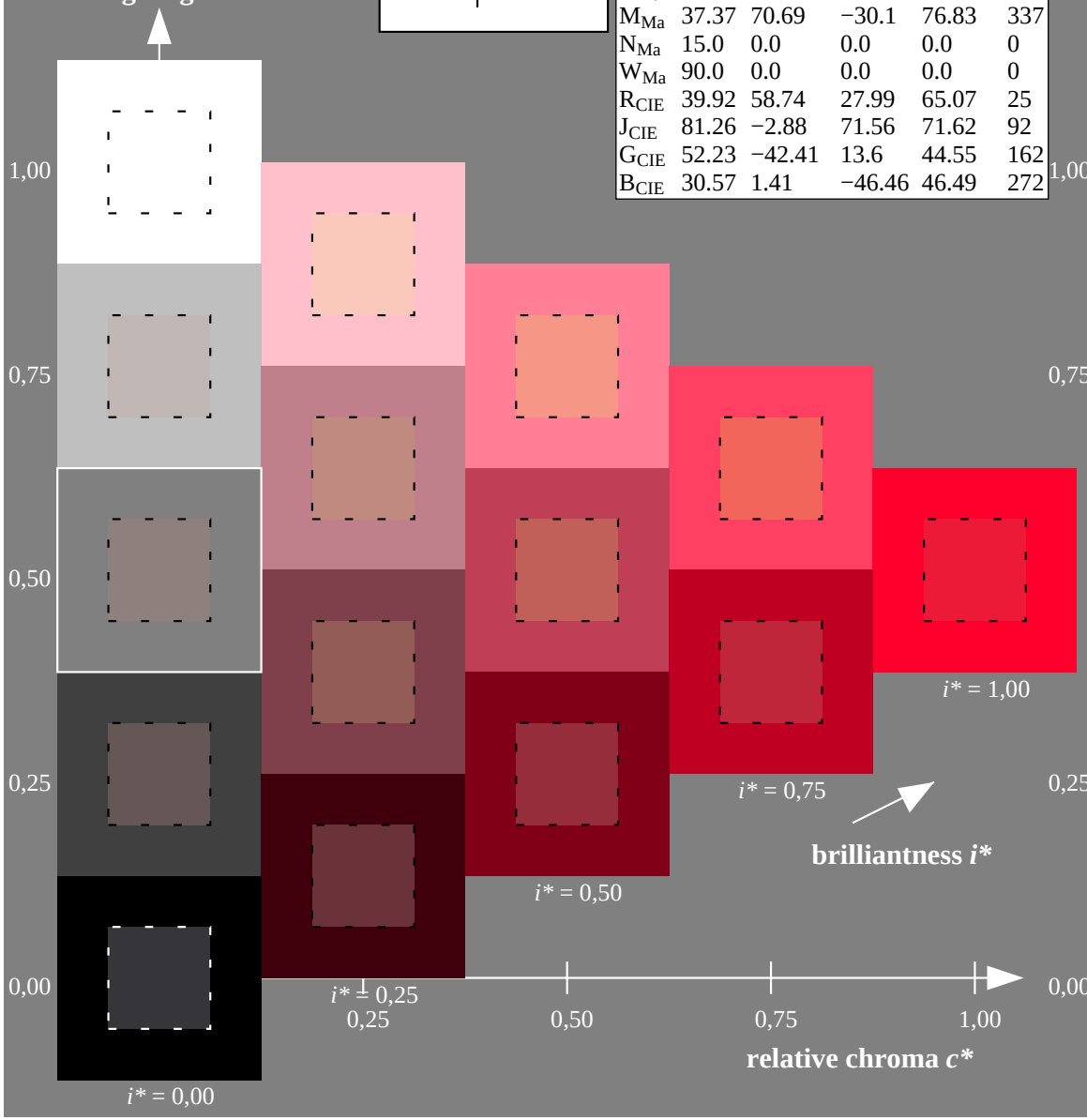


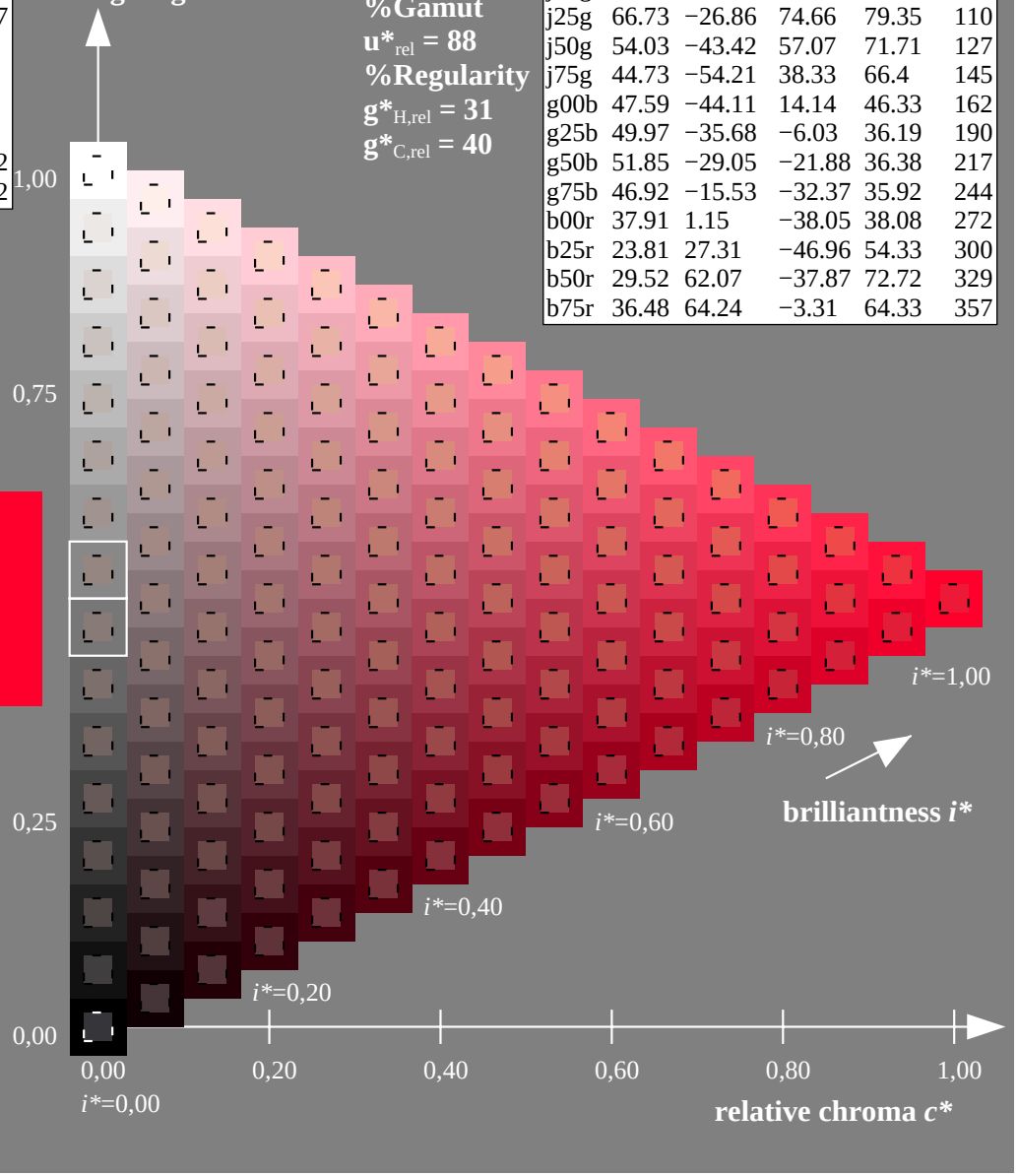
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**
triangle lightness *t**

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

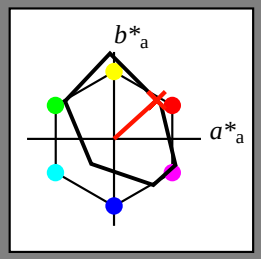
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	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_90a 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_90a; adapted (a) CIELAB data

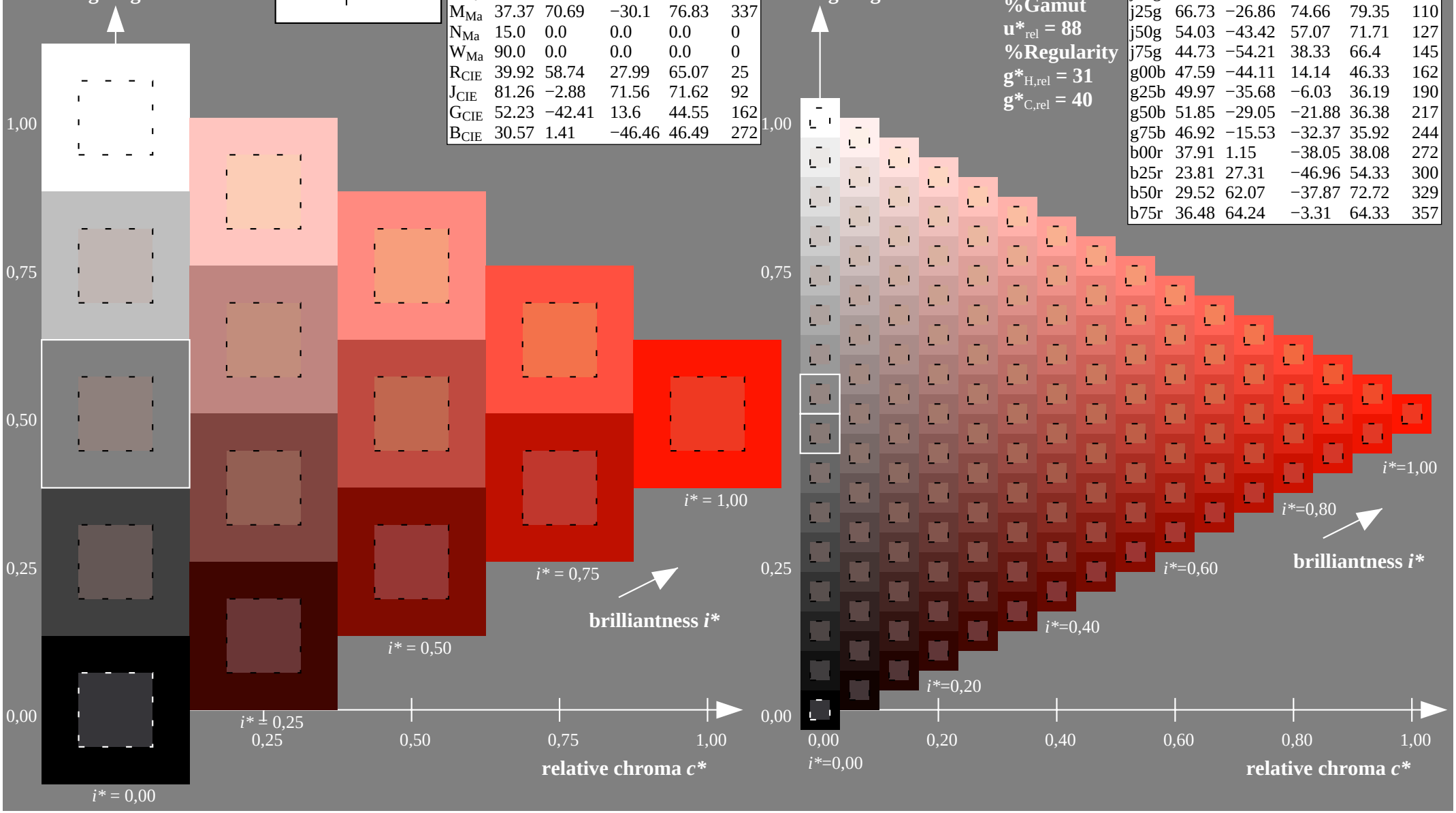
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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**

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

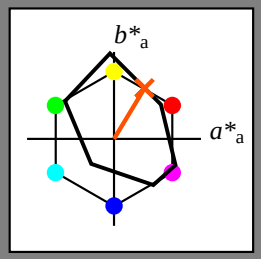
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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**

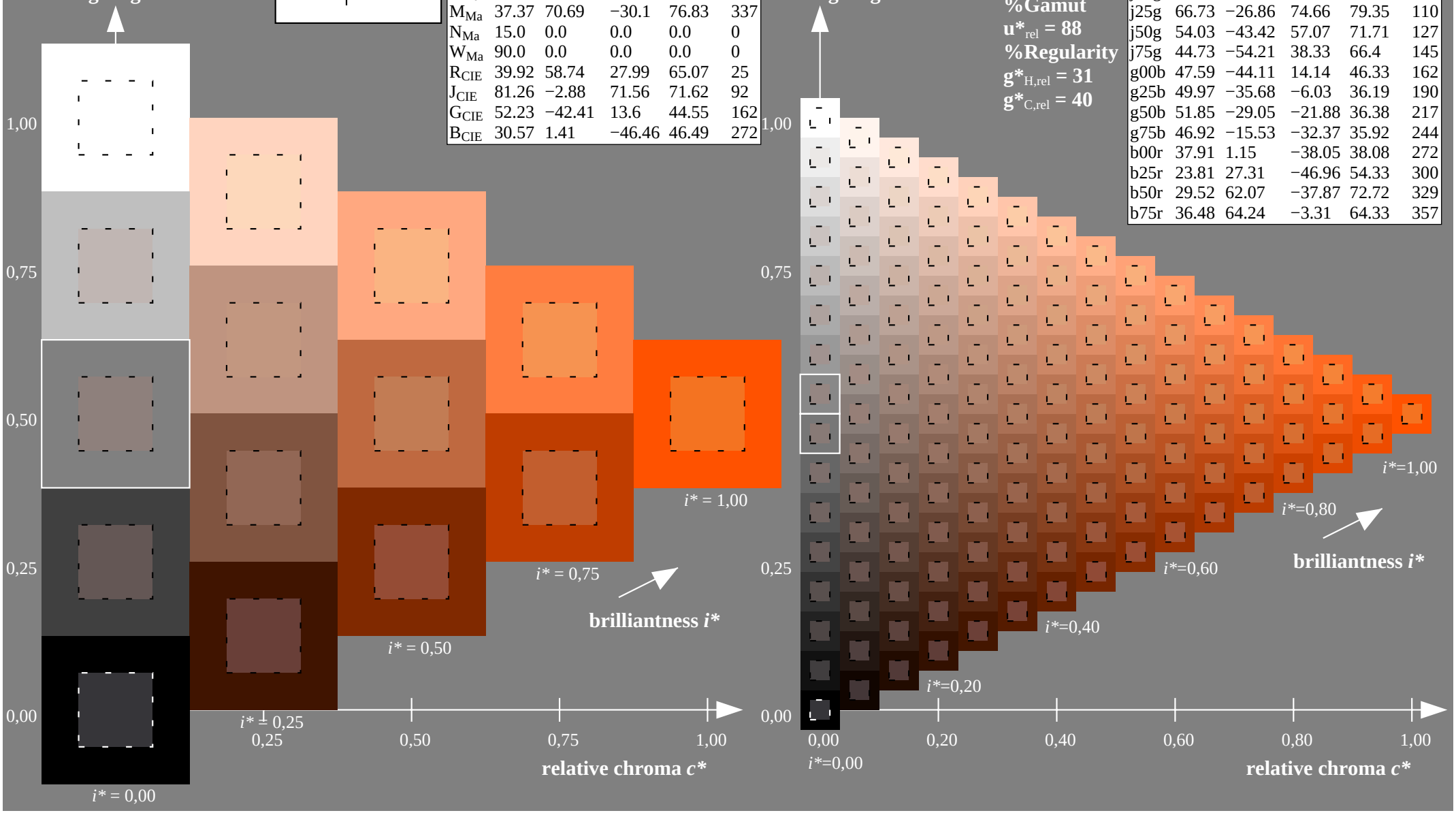


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

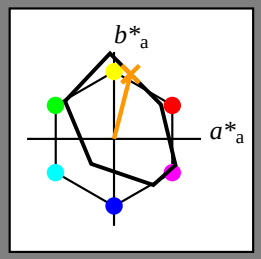
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; 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_90a 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_90a; adapted (a) CIELAB data

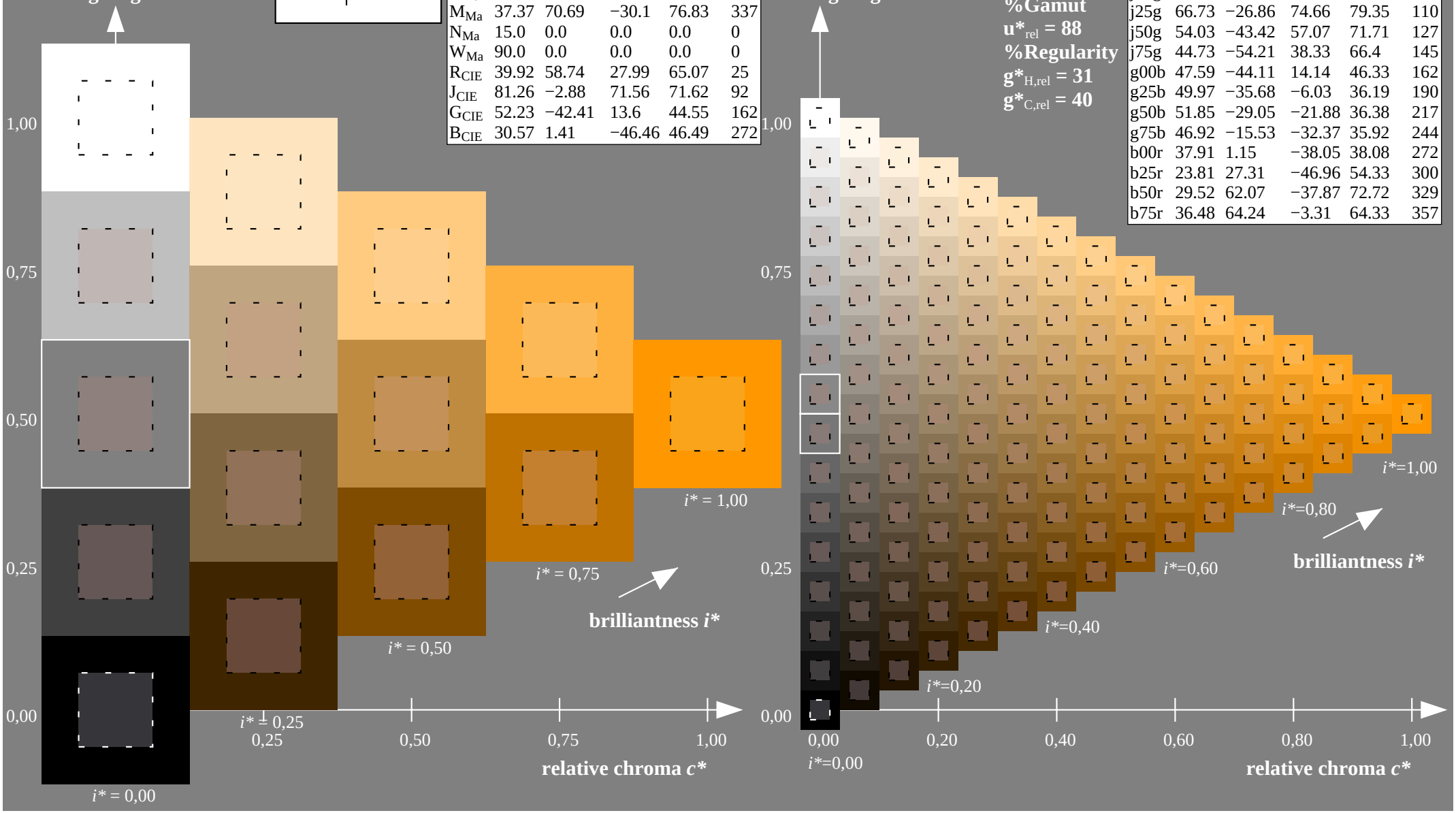
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

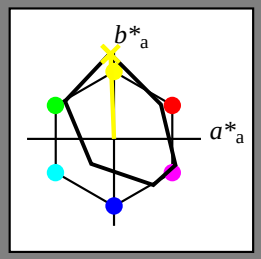
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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**

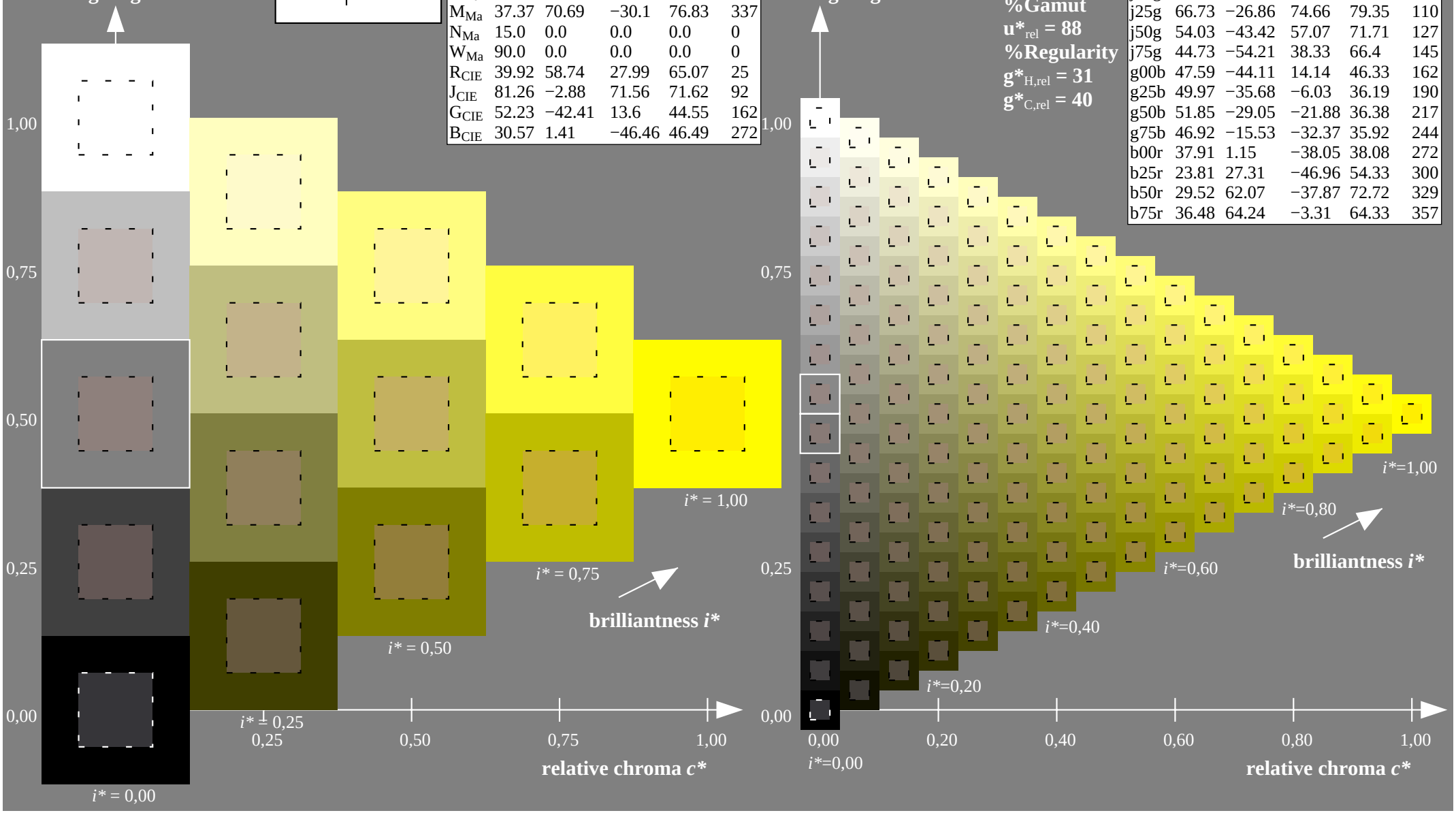


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

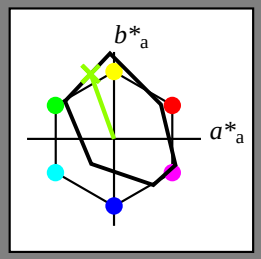
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; 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_90a 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**

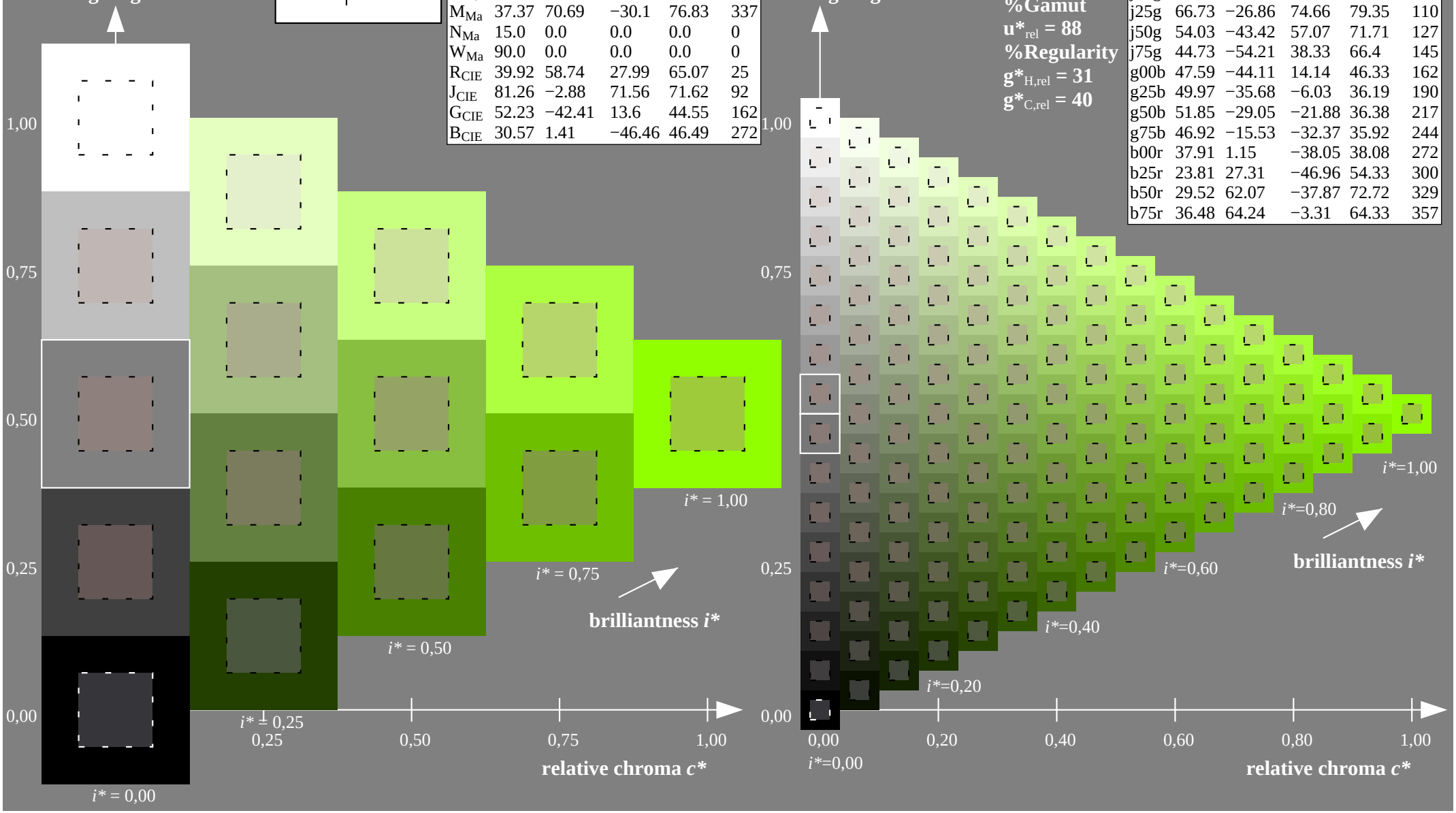


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

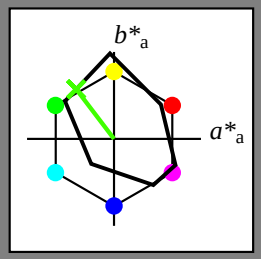
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; 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_90a 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**

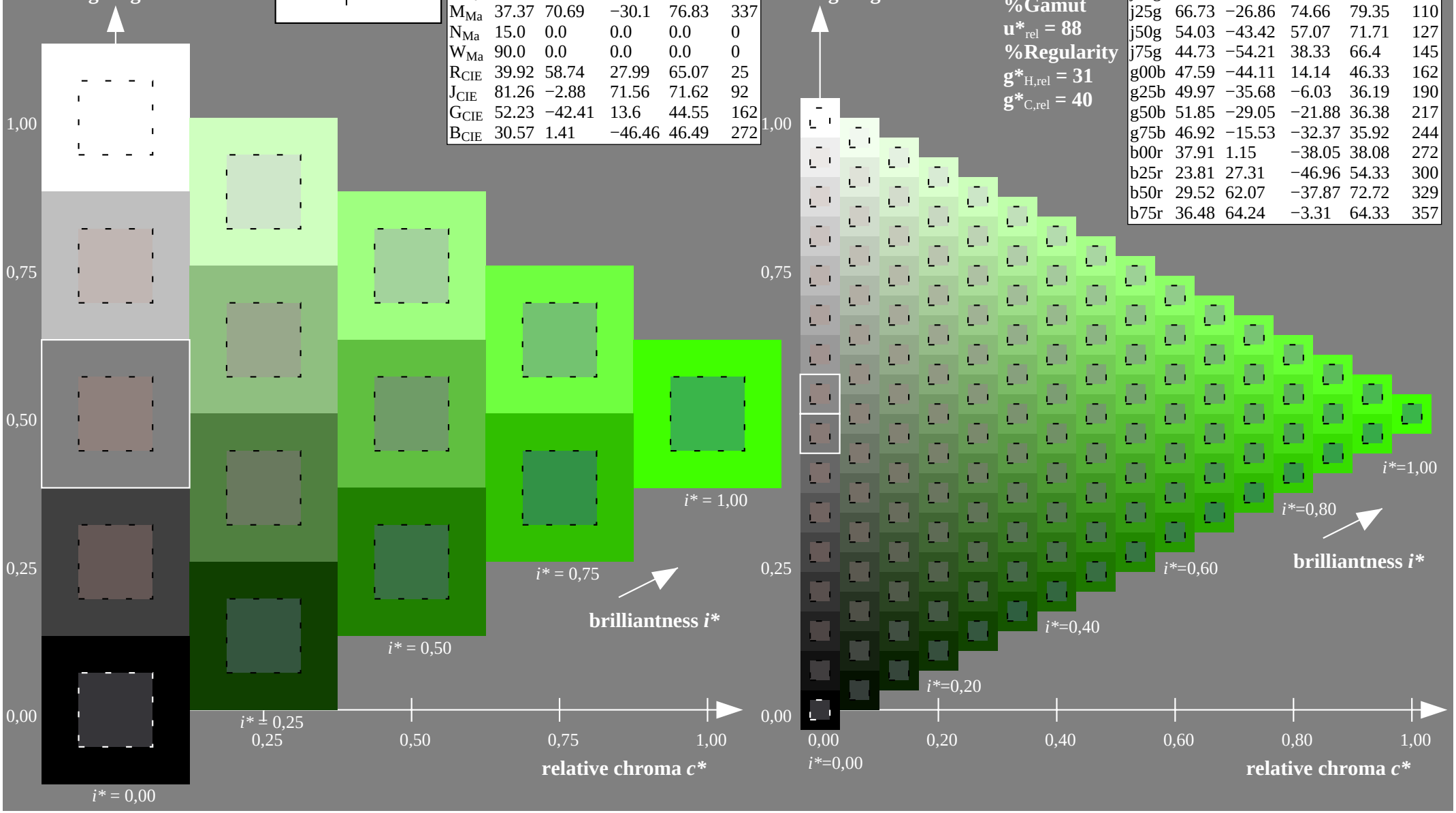


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

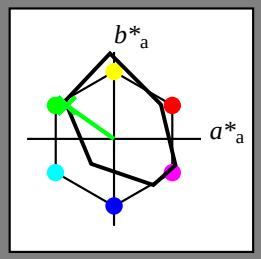
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; 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_90a 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_90a; adapted (a) CIELAB data

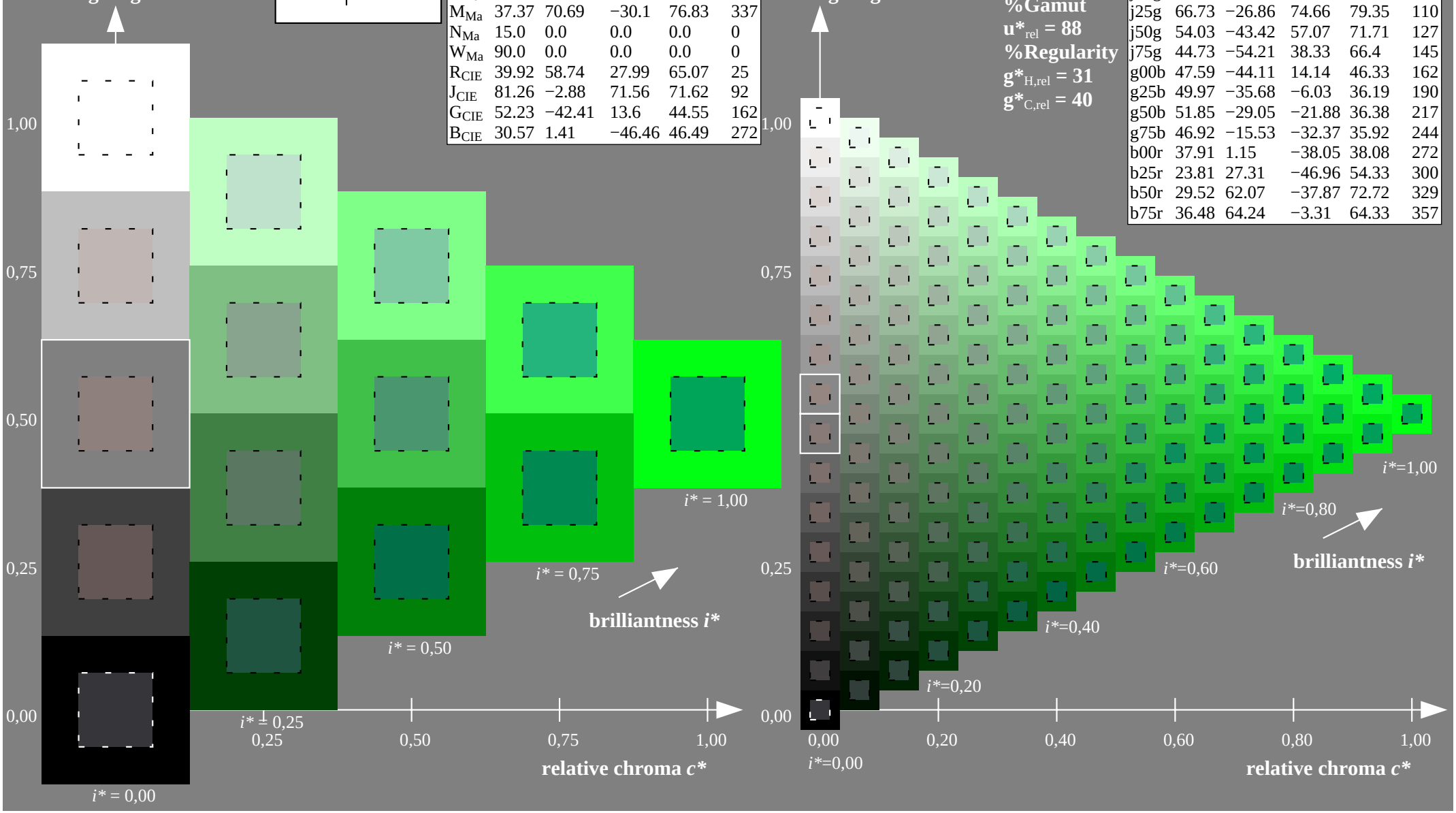
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

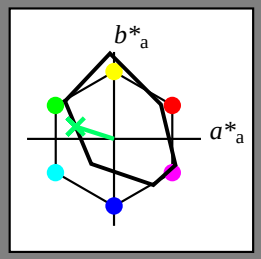
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; adapted (a) CIELAB data

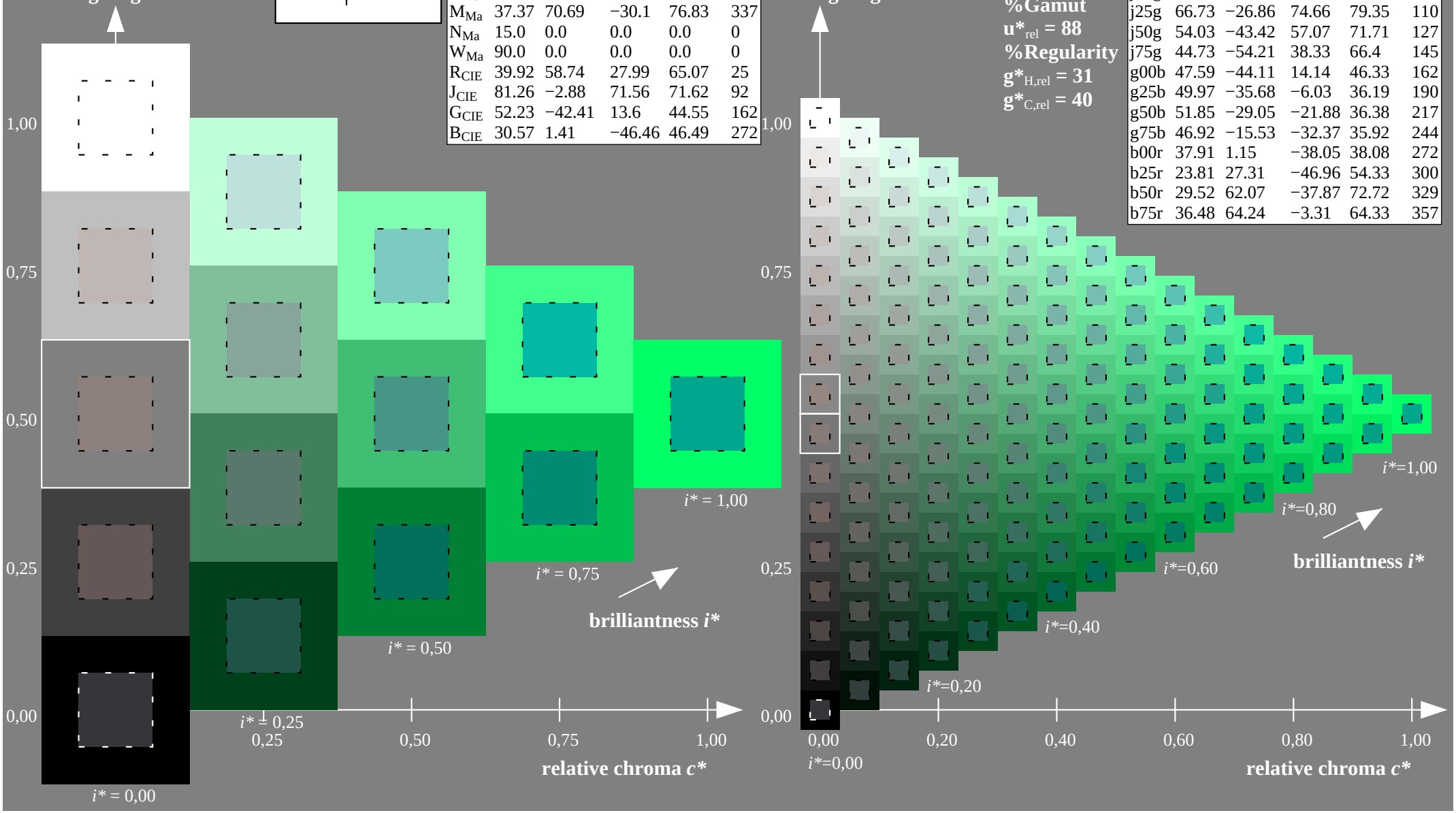
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

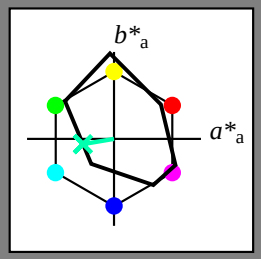
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; adapted (a) CIELAB data

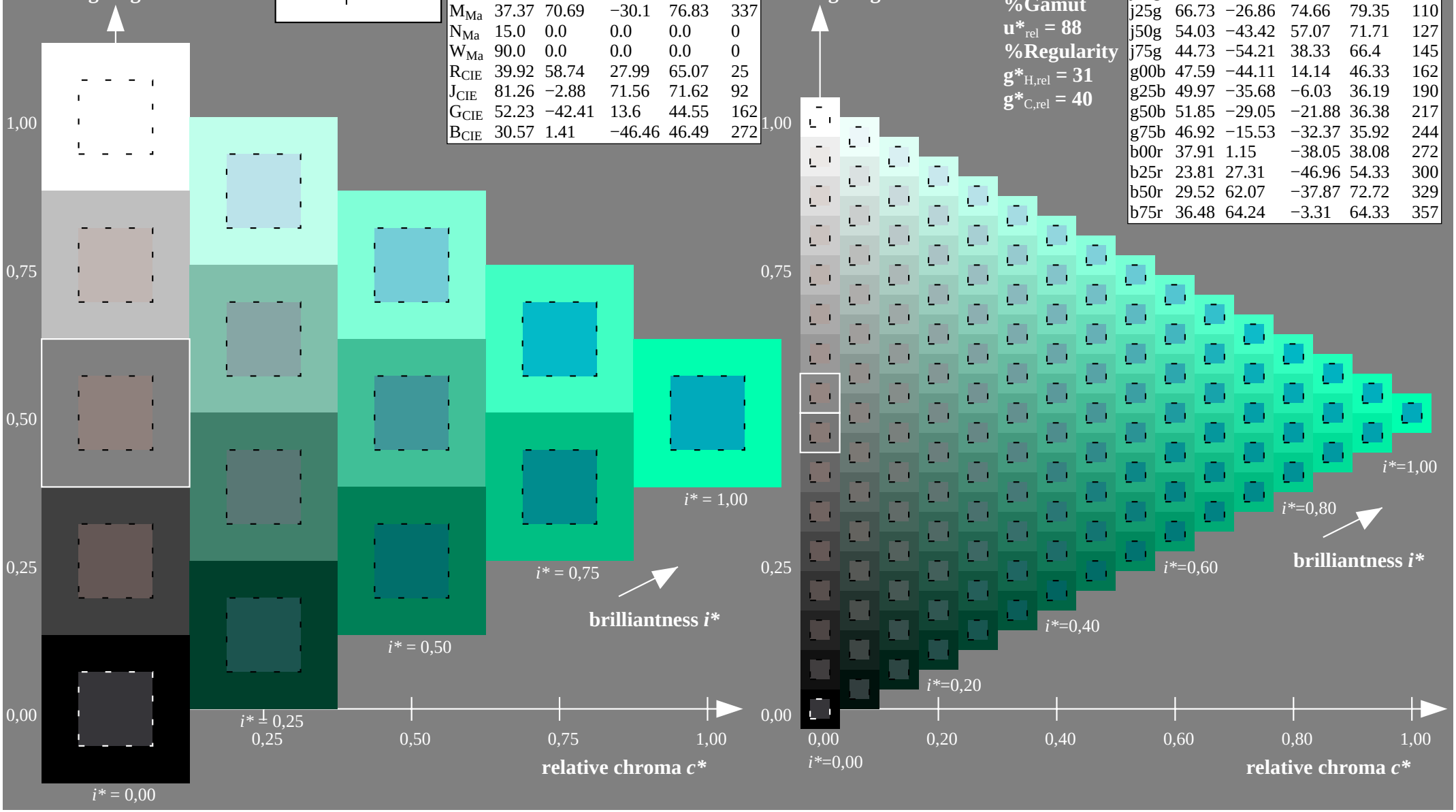
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

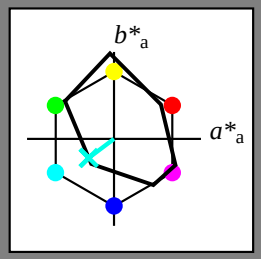
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; adapted (a) CIELAB data

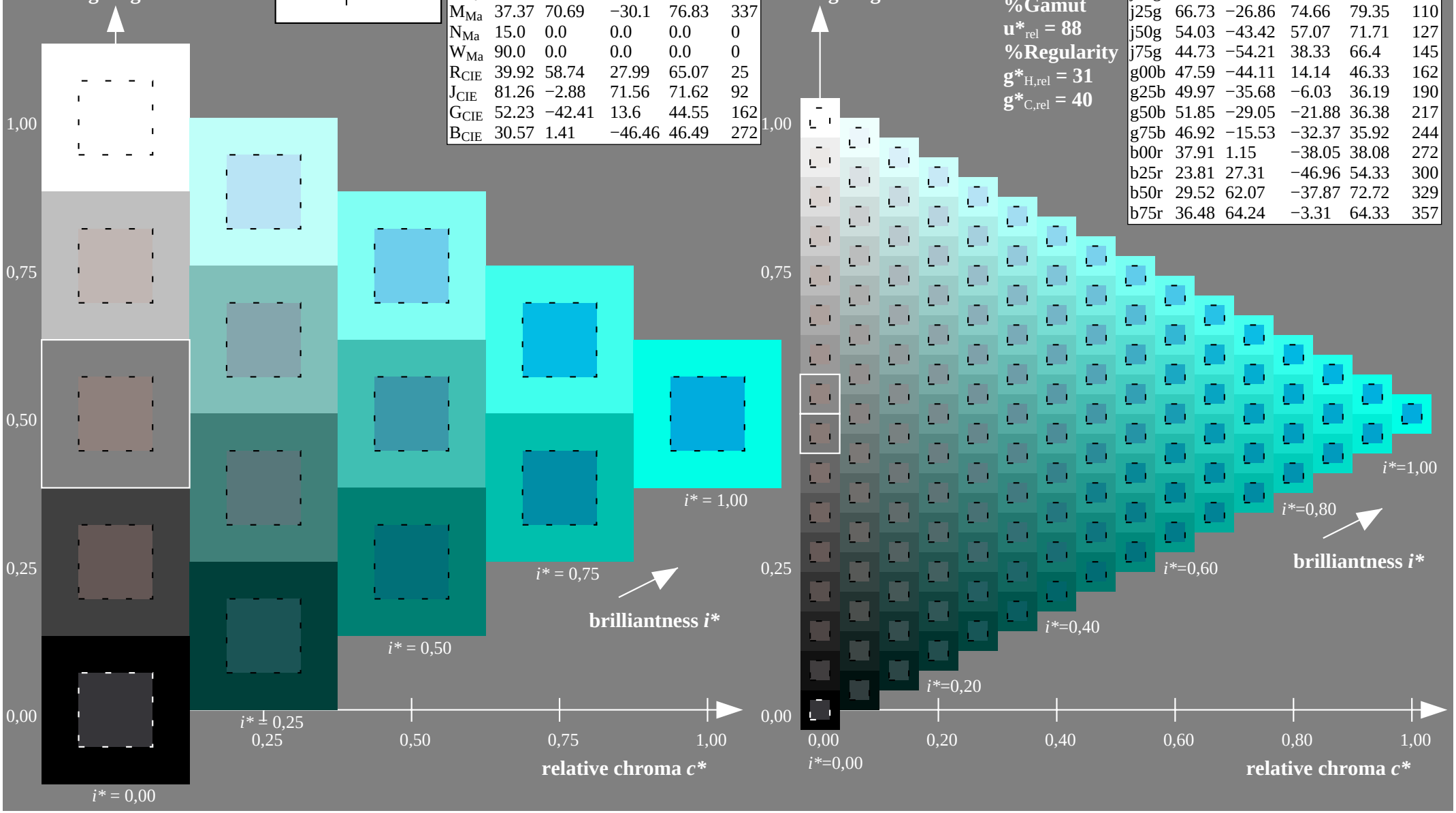
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

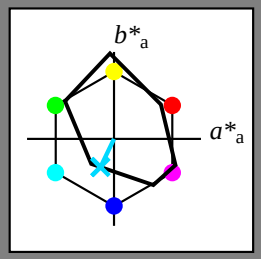
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; adapted (a) CIELAB data

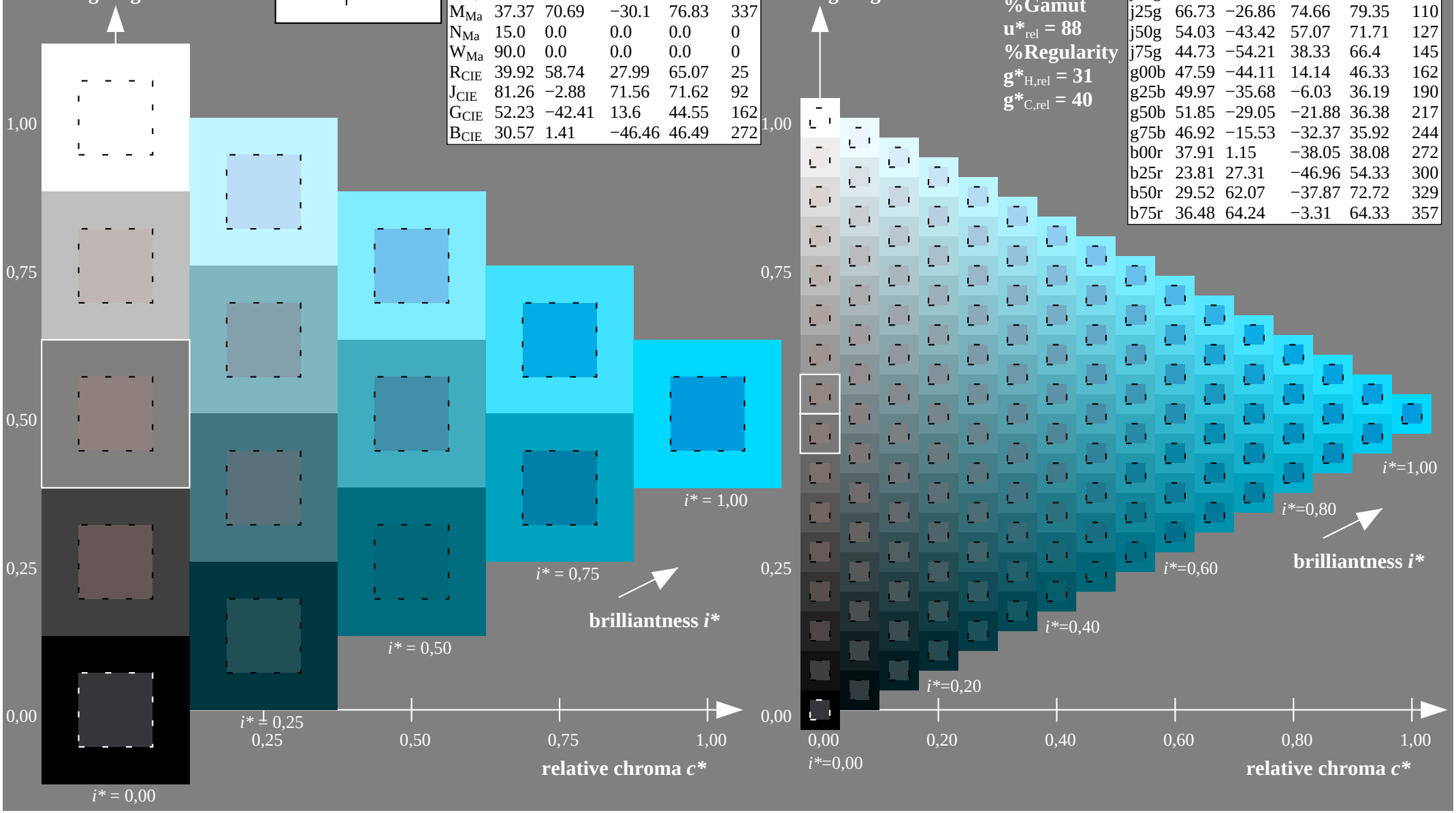
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

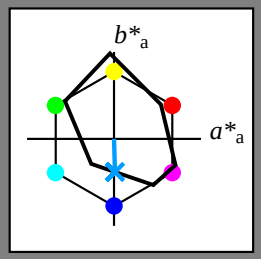
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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**

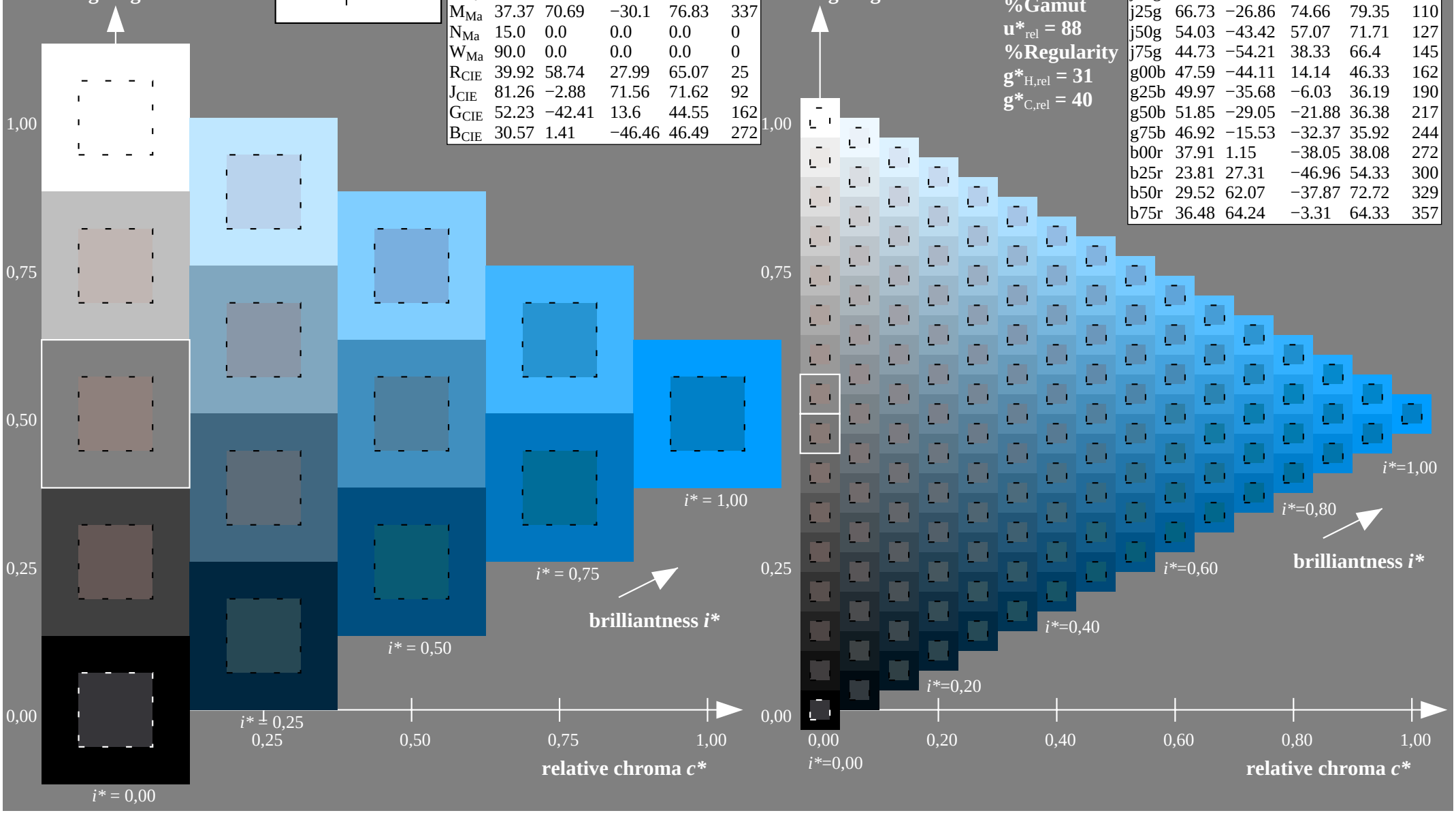


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

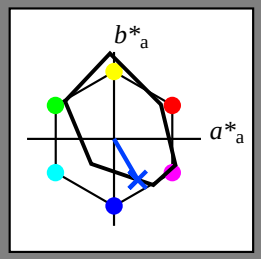
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; 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_90a 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**

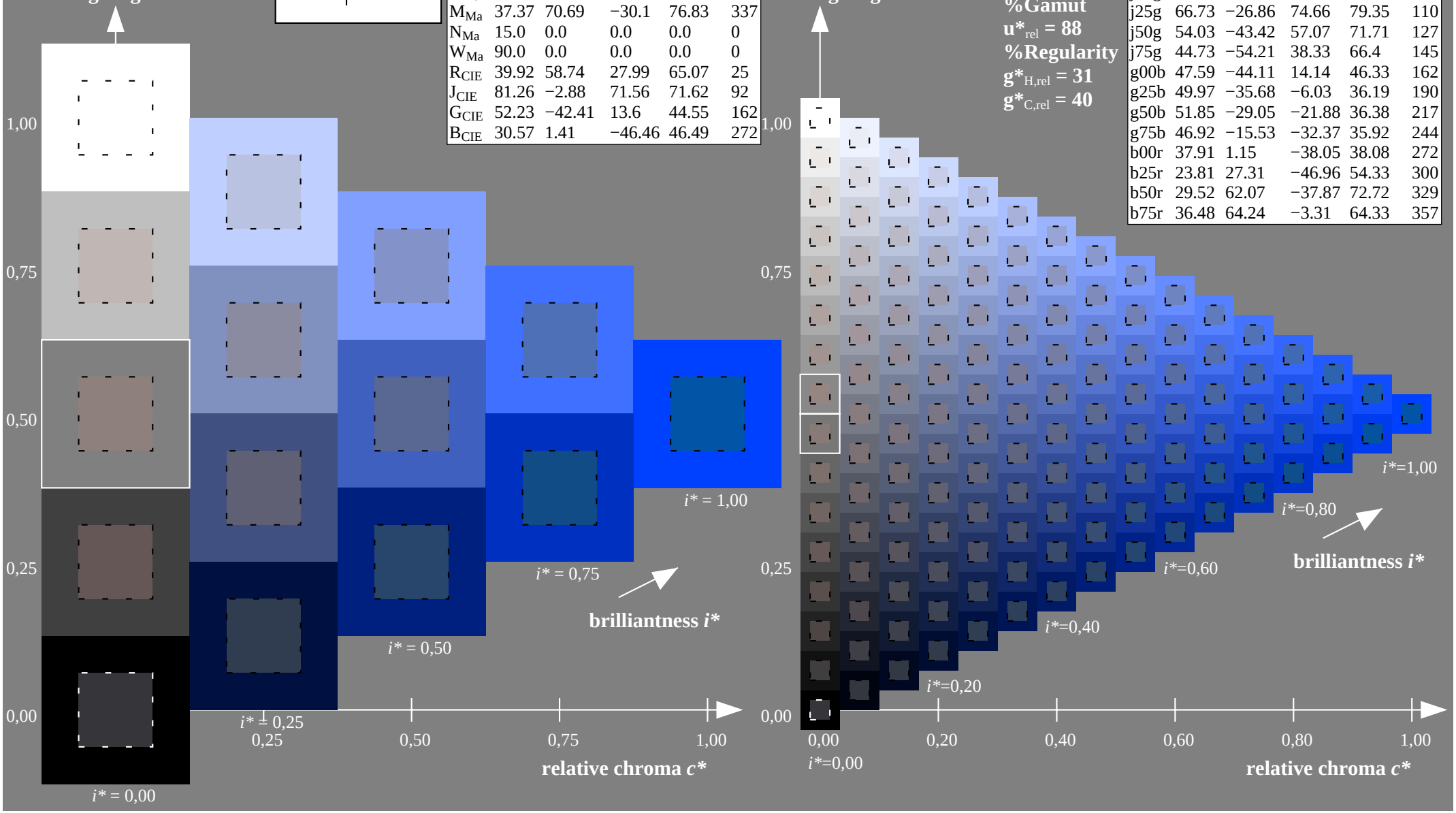


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

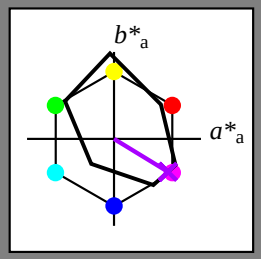
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; 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_90a 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_90a; adapted (a) CIELAB data

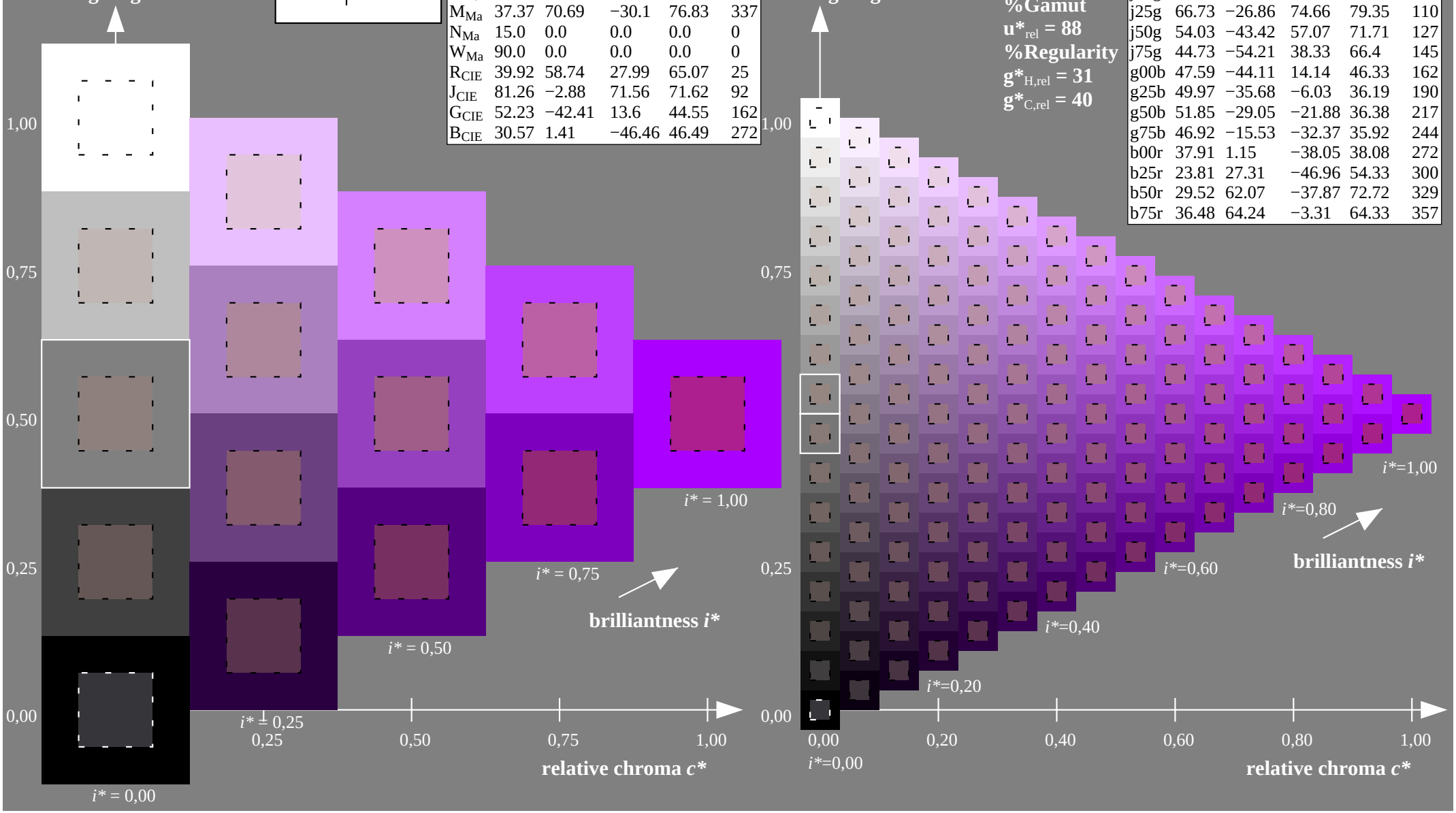
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

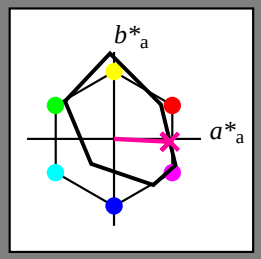
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; adapted (a) CIELAB data

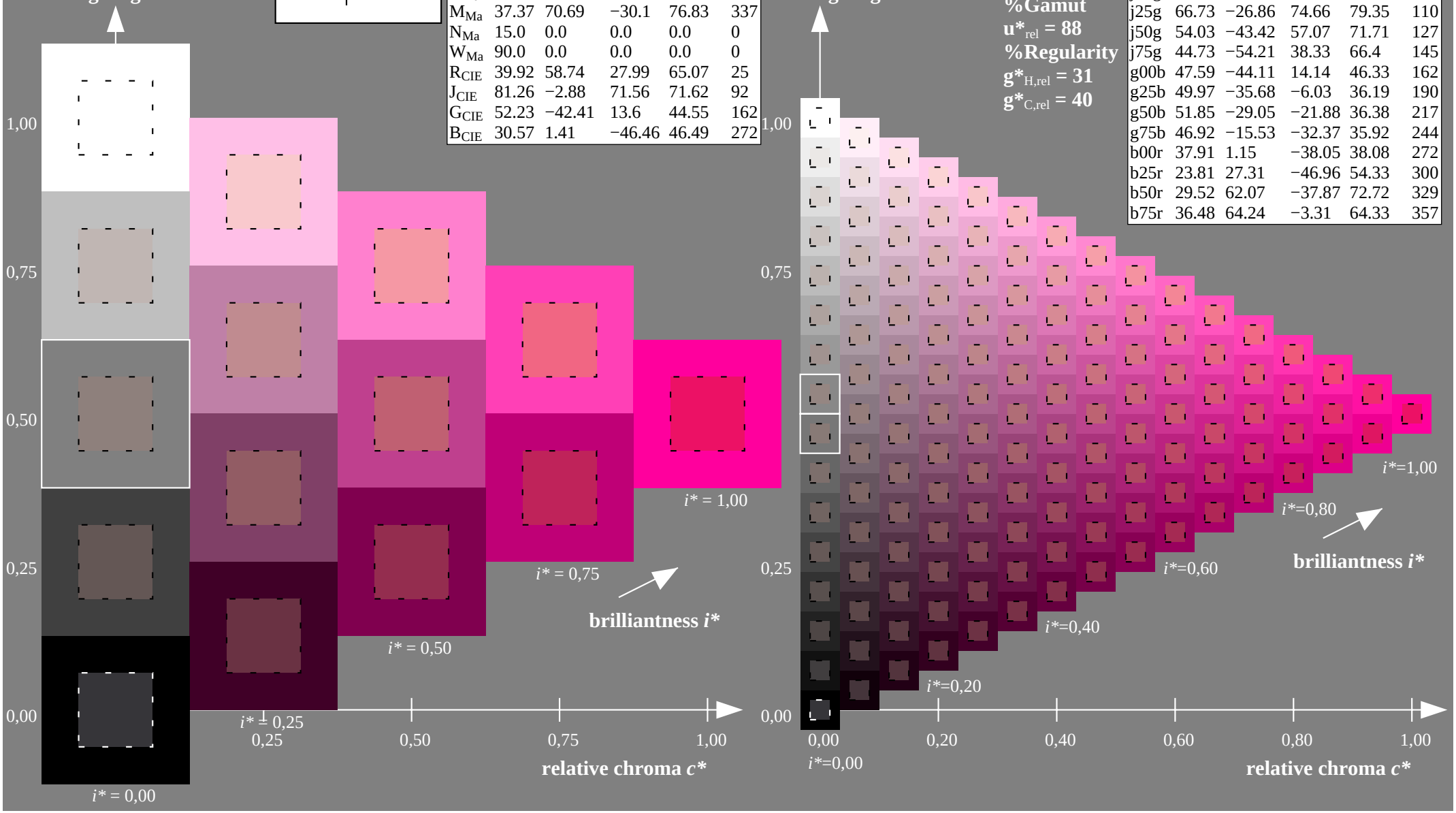
	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{CIE}	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

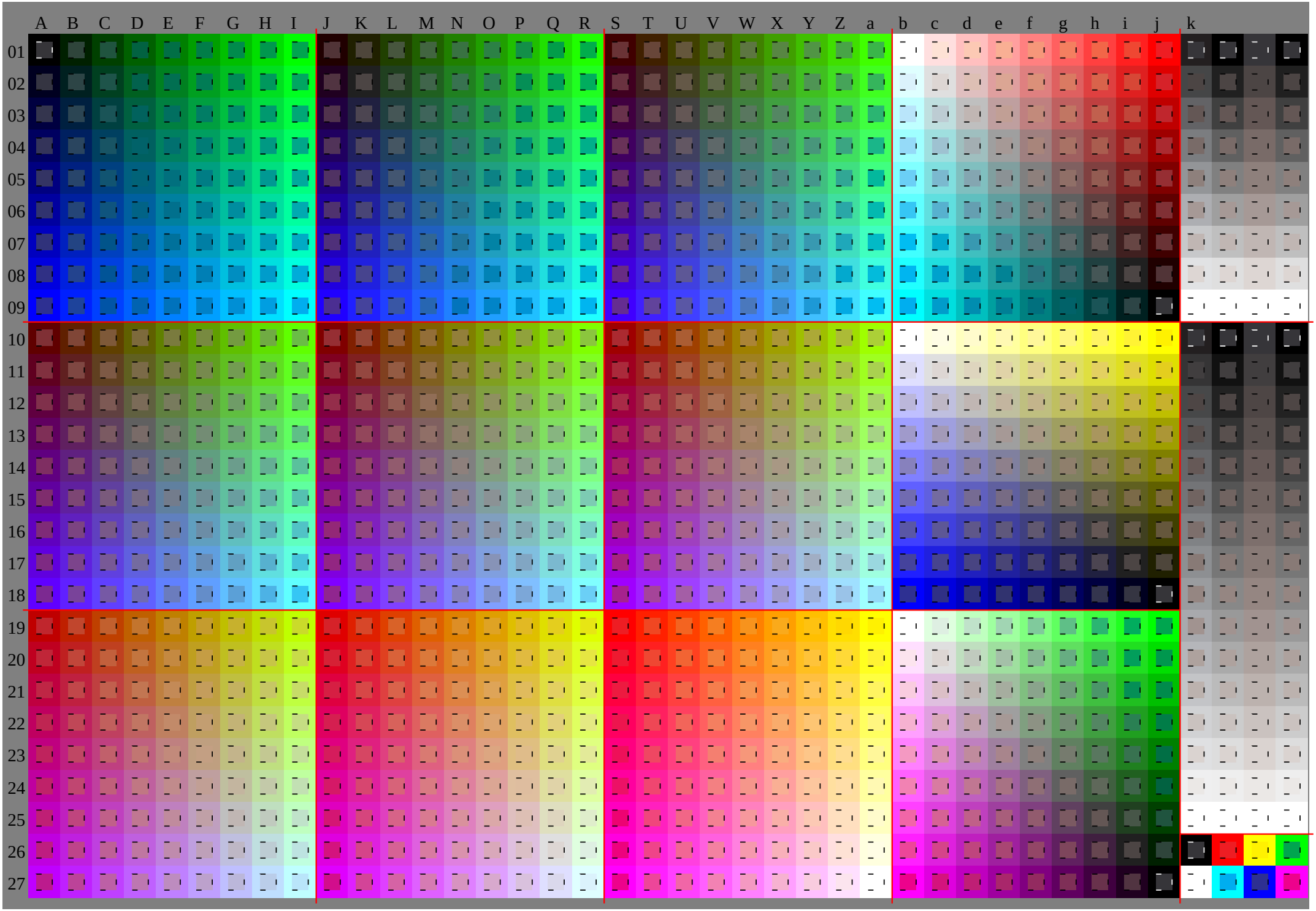
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 36 64 −2**
LAB*LCH*$_{Ma}$**: 36 64 357**
lab*rgb*$_{Ma}$**: 1.0 0.0 0.5**
lab*olv*$_{Ma}$**: 1.0 0.0 0.62**
triangle lightness *t**

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

FRS15_90a; 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

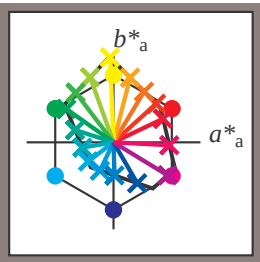



A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

Input and output:
Colorimetric Printer Reflective System FRS15_90a
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_90a; adapted (a) CIELAB data

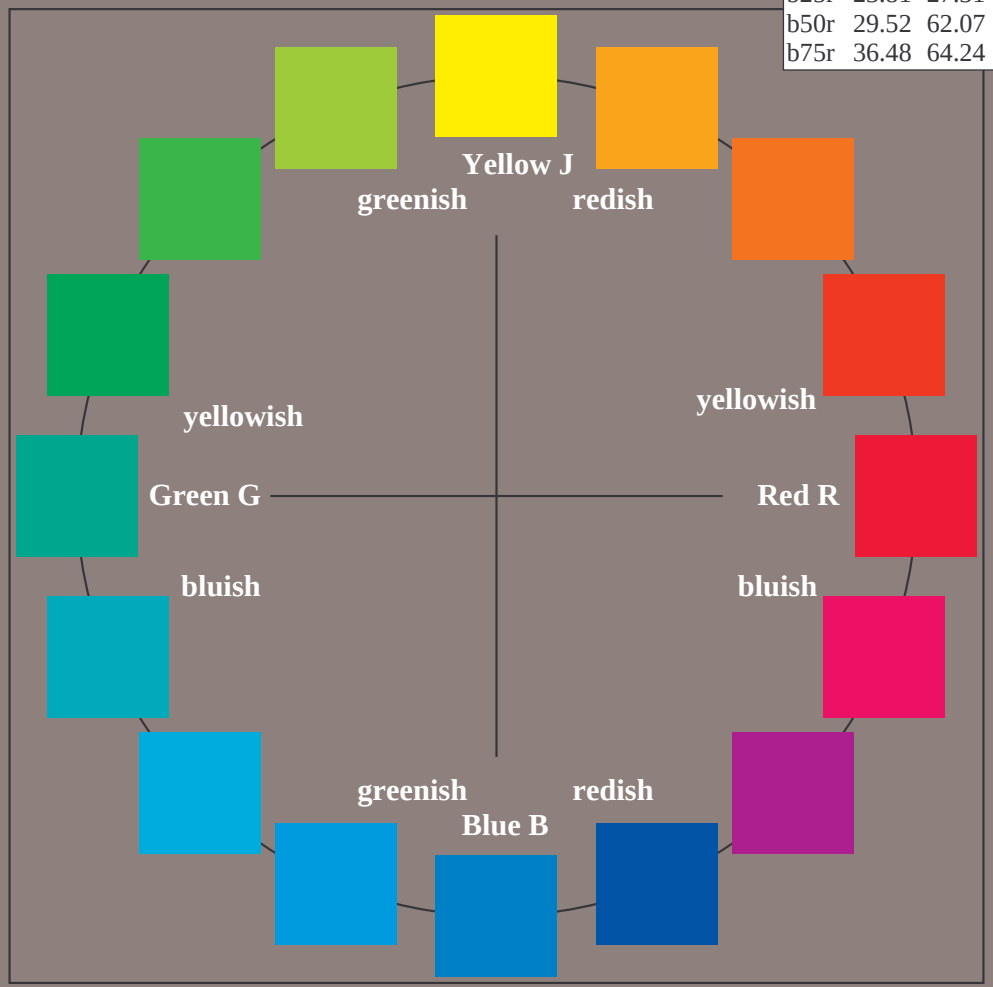
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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

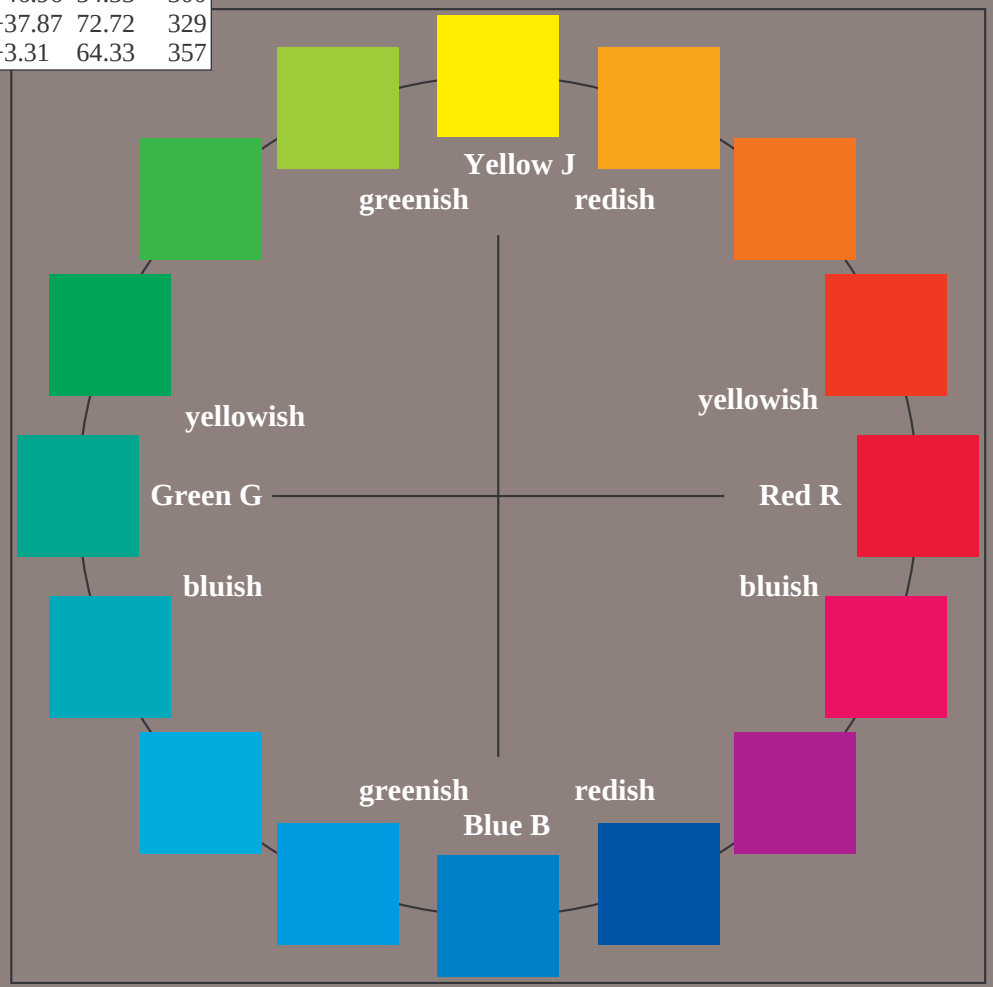


%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; adapted (a) CIELAB data

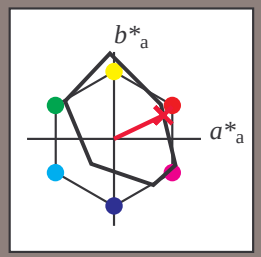
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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_90a 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_90a; adapted (a) CIELAB data

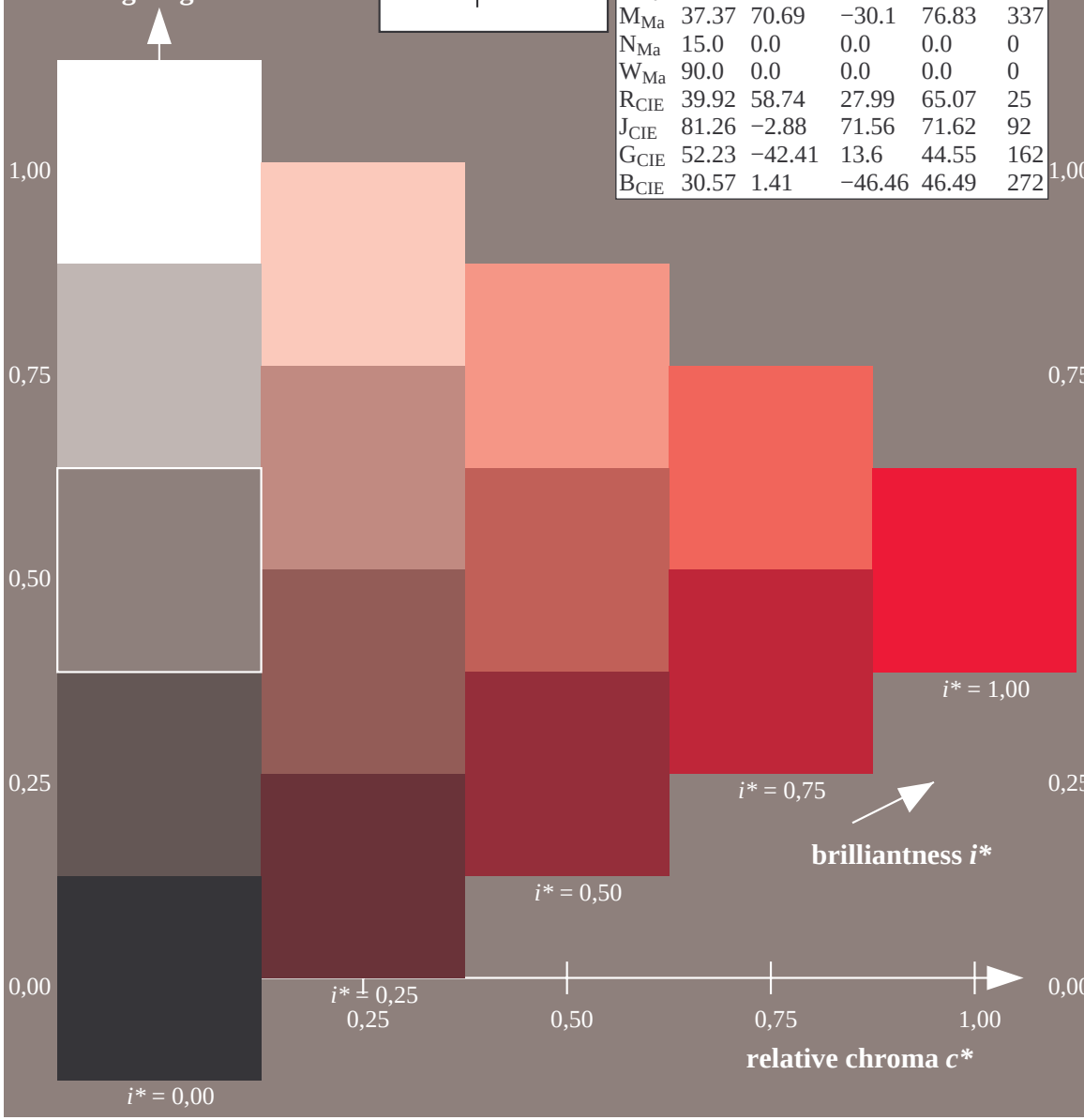
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

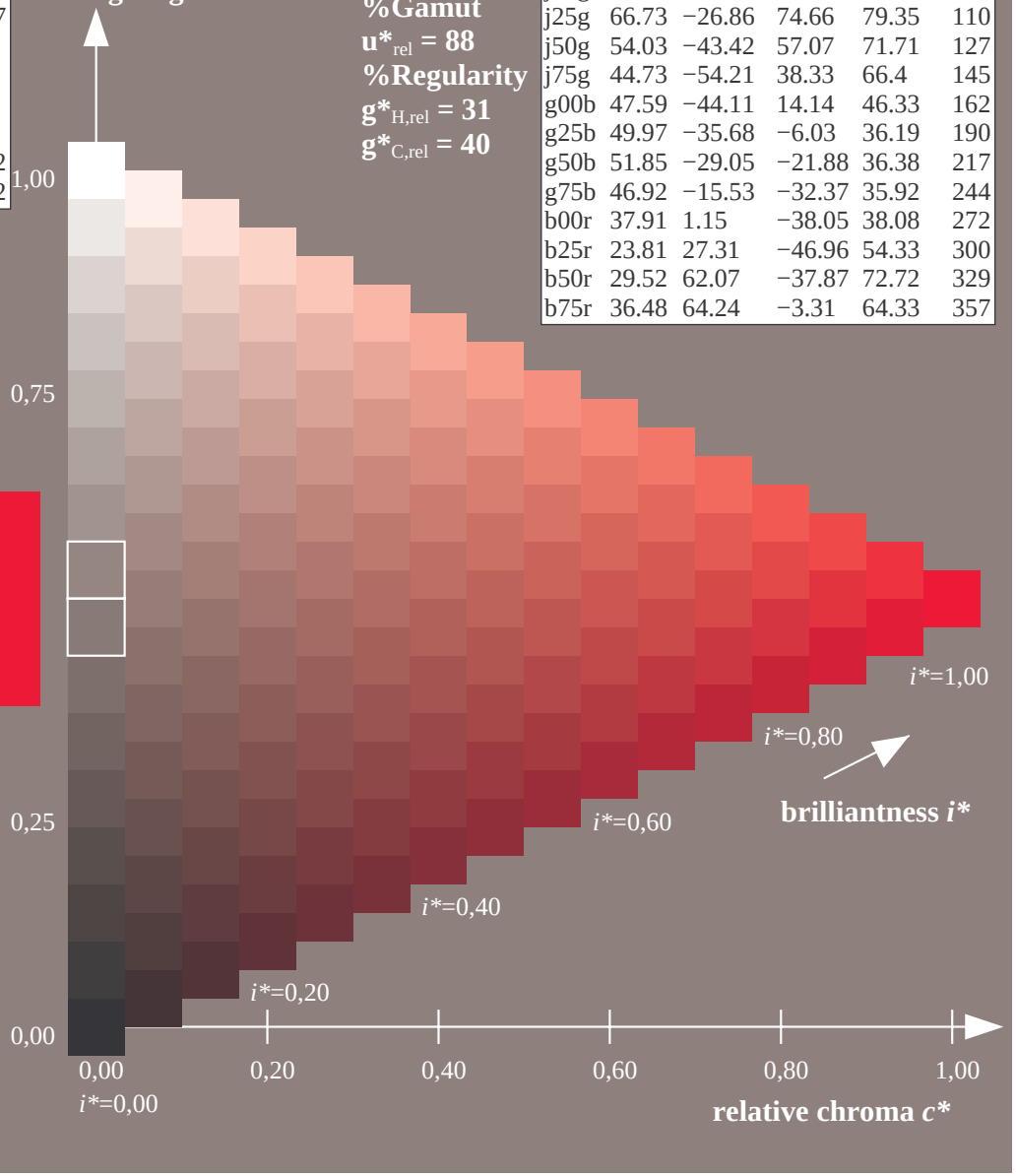
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 35 57 27**
LAB*LCH*$_{Ma}$**: 35 63 25**
lab*rgb*$_{Ma}$**: 1.0 0.0 0.0**
lab*olv*$_{Ma}$**: 1.0 0.0 0.18**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

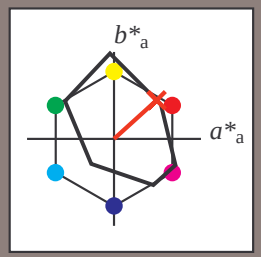
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a 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_90a; adapted (a) CIELAB data

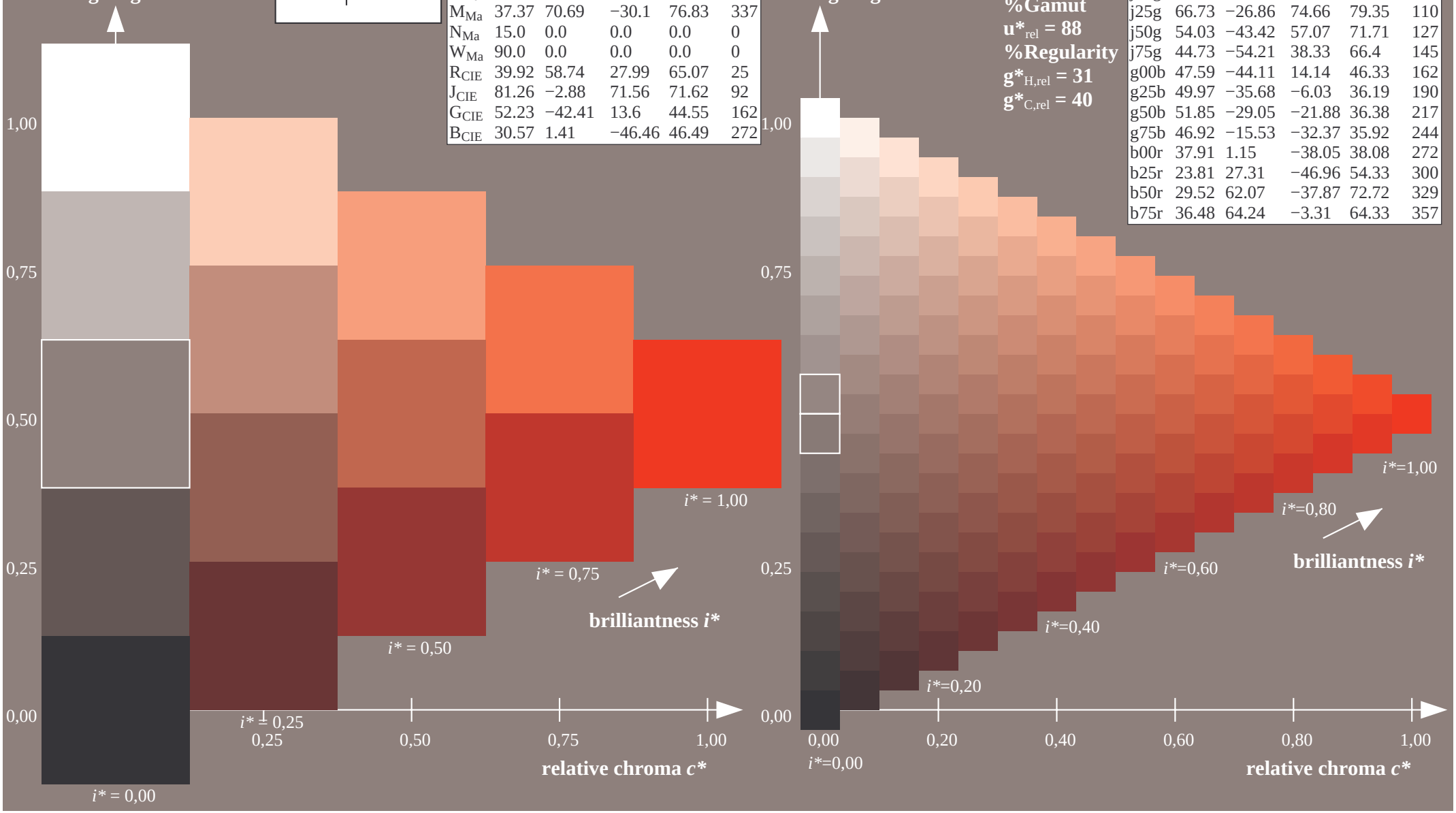
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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**

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

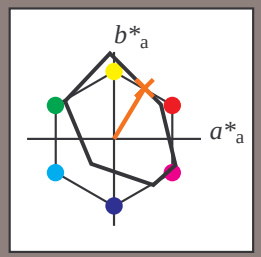
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; adapted (a) CIELAB data

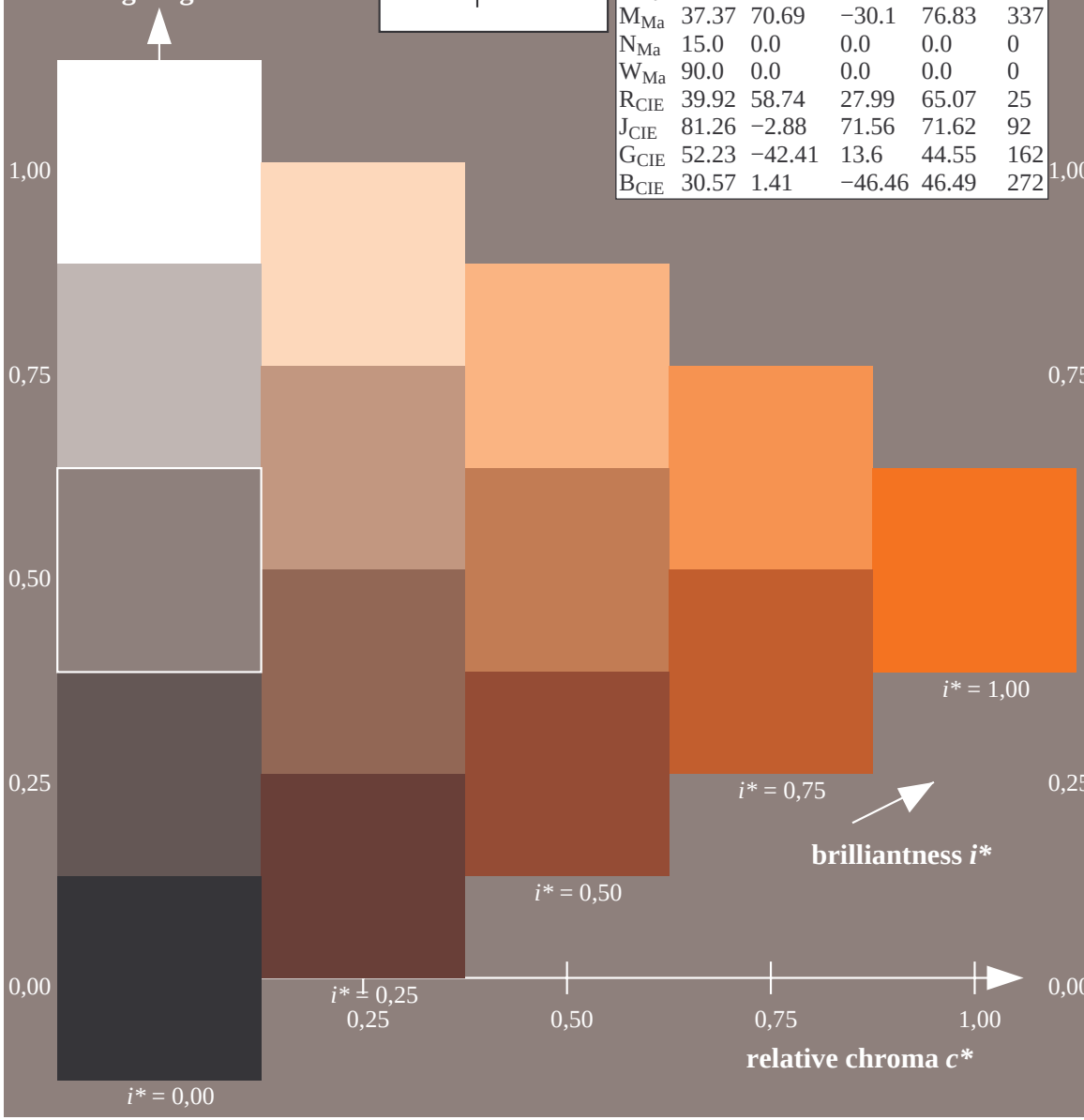
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

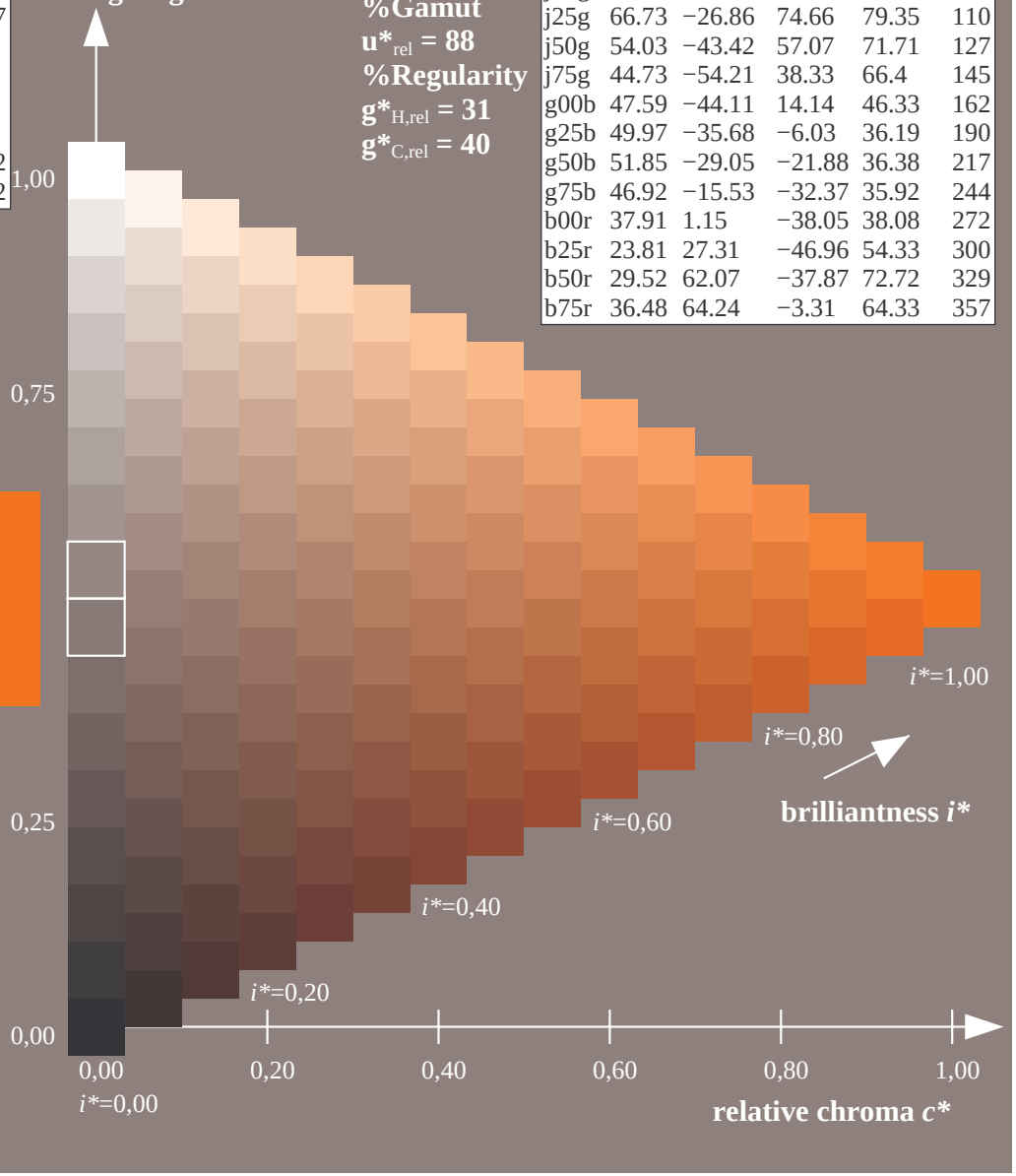
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 51 35 58**
***LAB*LCH*Ma*: 51 68 59**
***lab*rgb*Ma*: 1.0 0.5 0.0**
***lab*olv*Ma*: 1.0 0.32 0.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

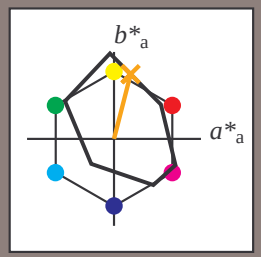
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a 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_90a; adapted (a) CIELAB data

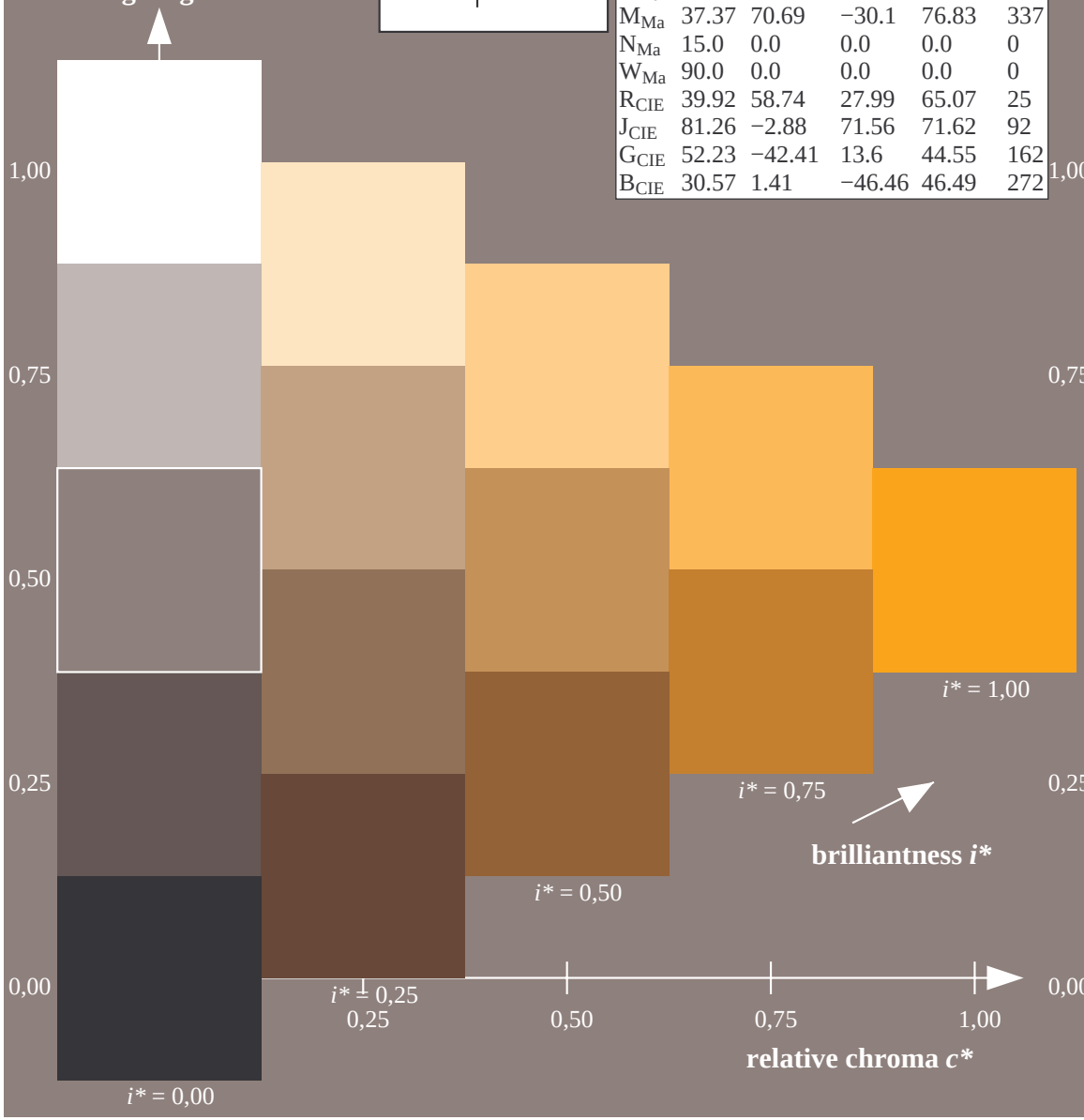
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

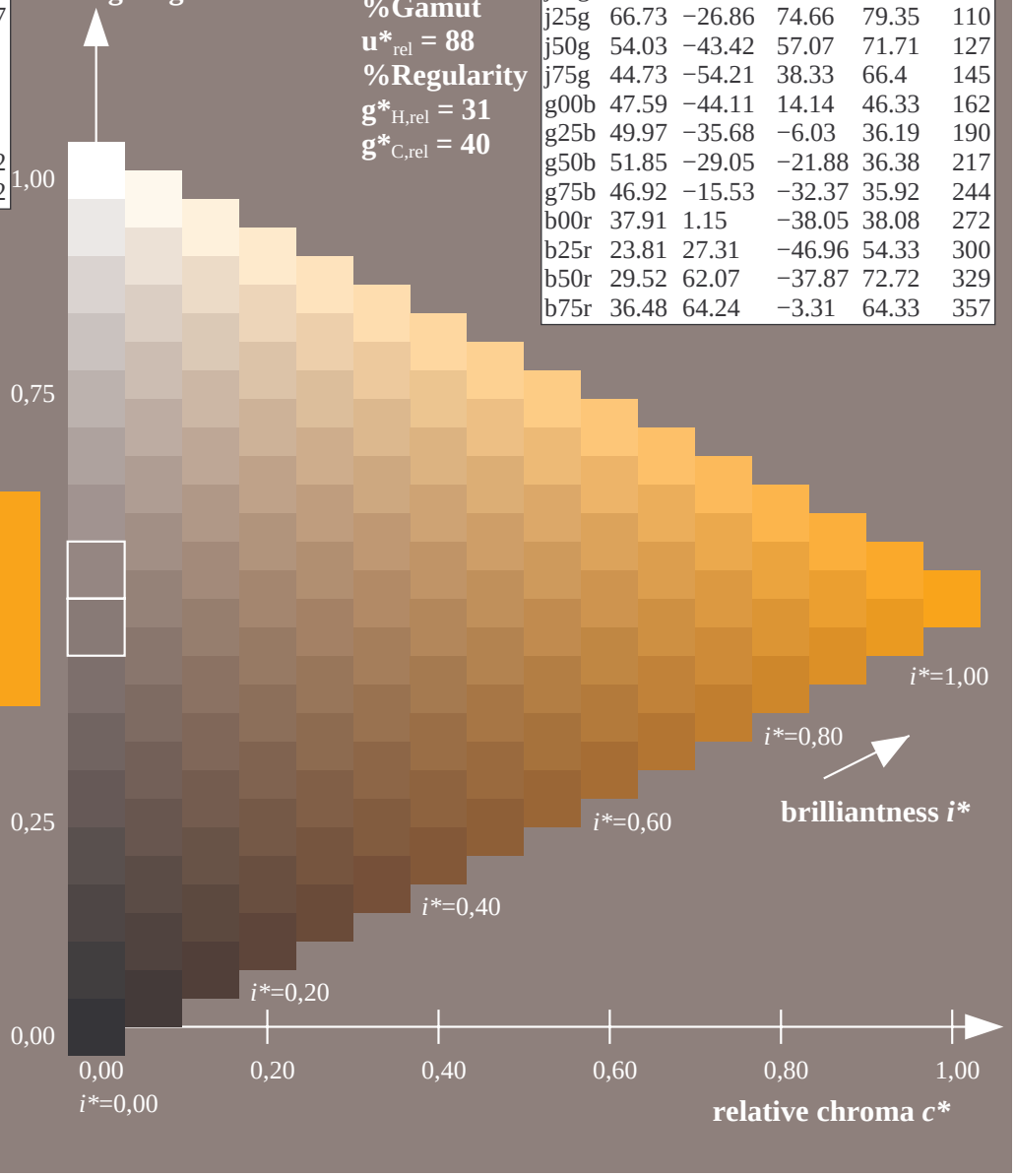
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 64 19 74**
LAB*LCH*$_{Ma}$**: 64 77 76**
lab*rgb*$_{Ma}$**: 1.0 0.75 0.0**
lab*olv*$_{Ma}$**: 1.0 0.59 0.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

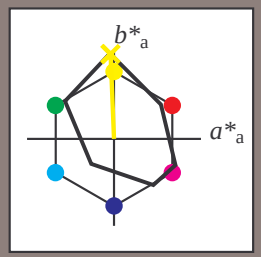
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a 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****

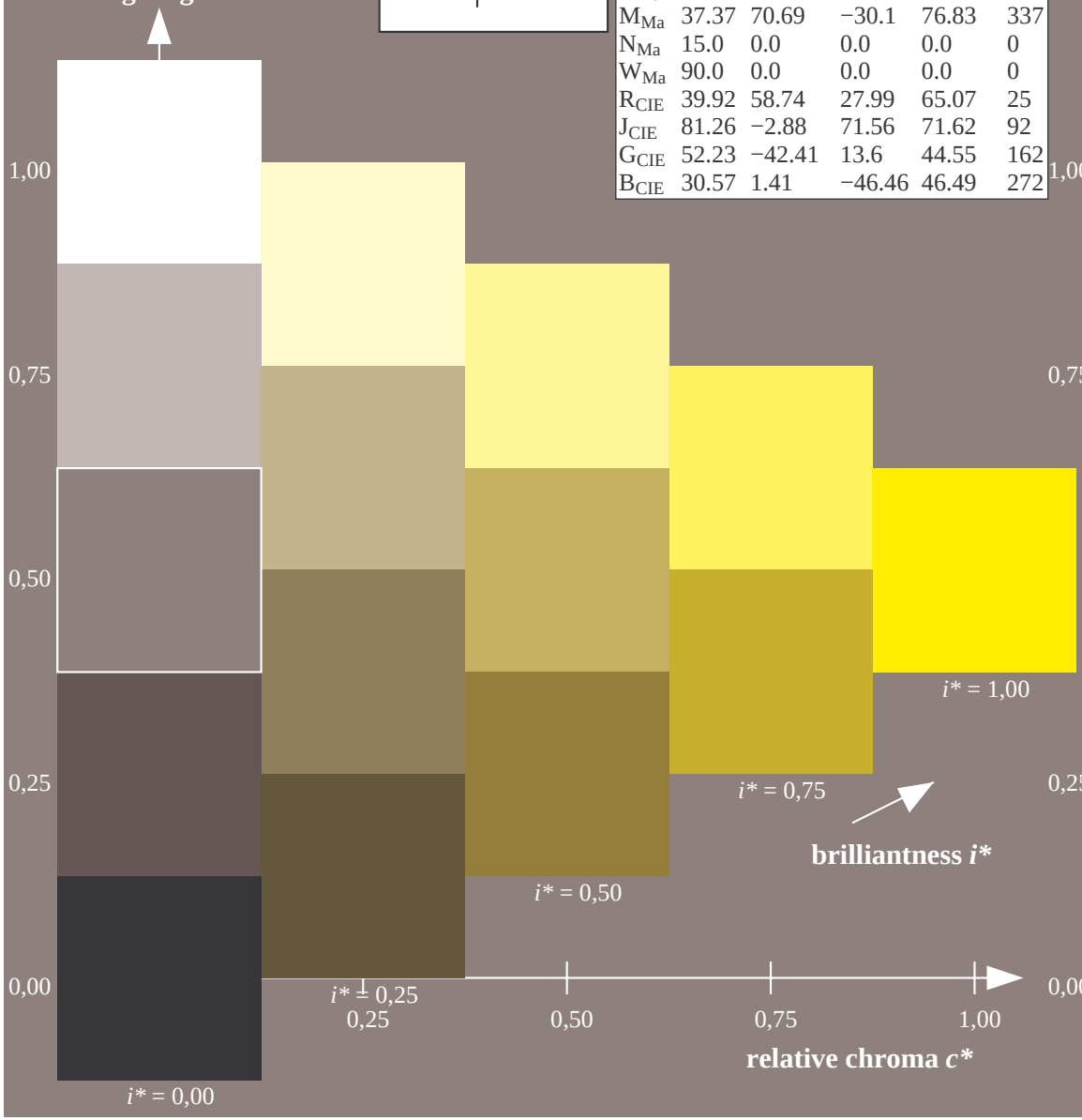


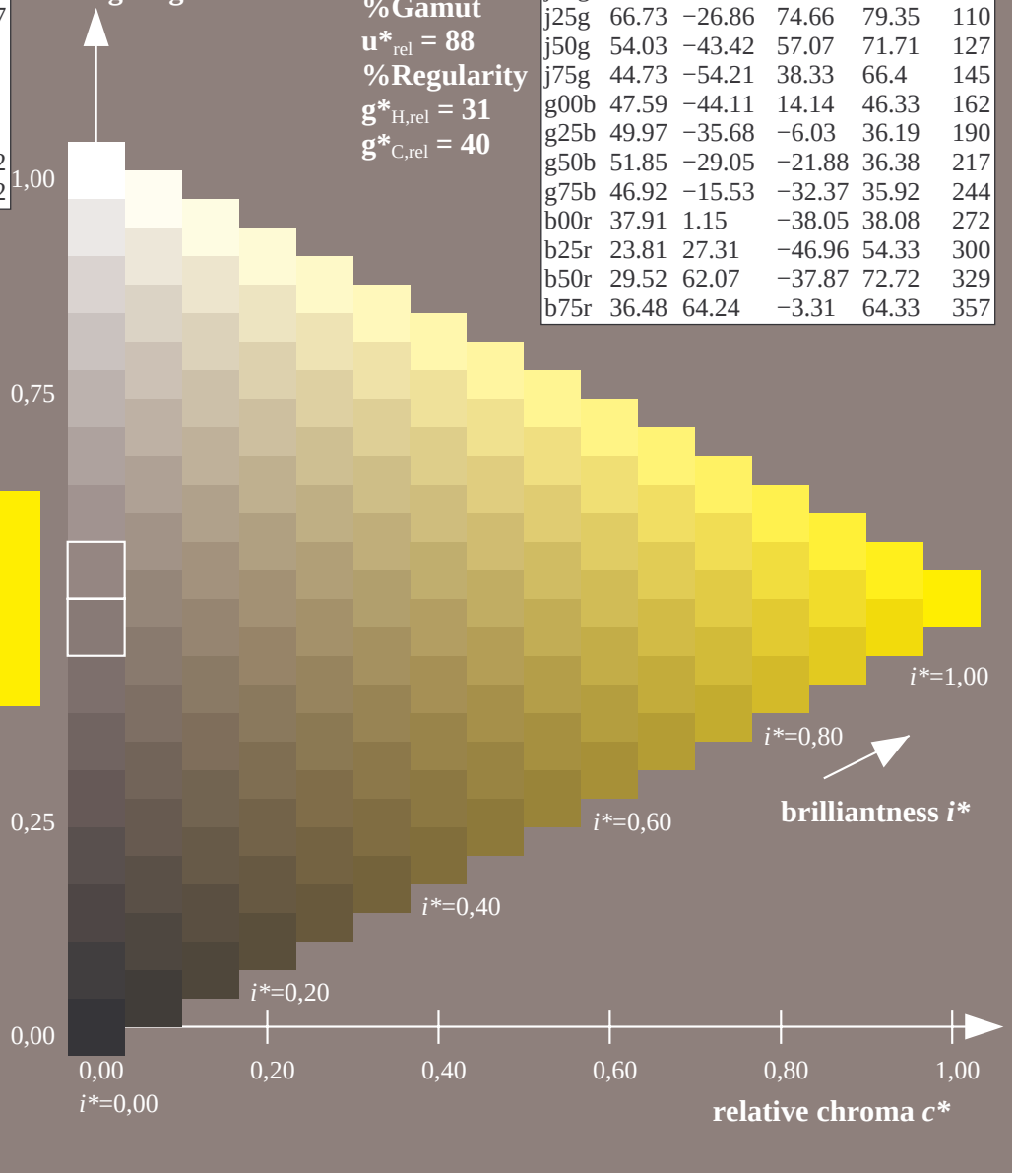
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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

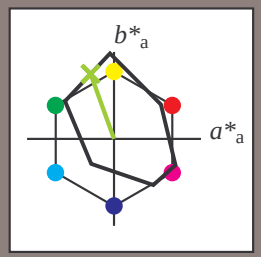
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	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_90a 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_90a; adapted (a) CIELAB data

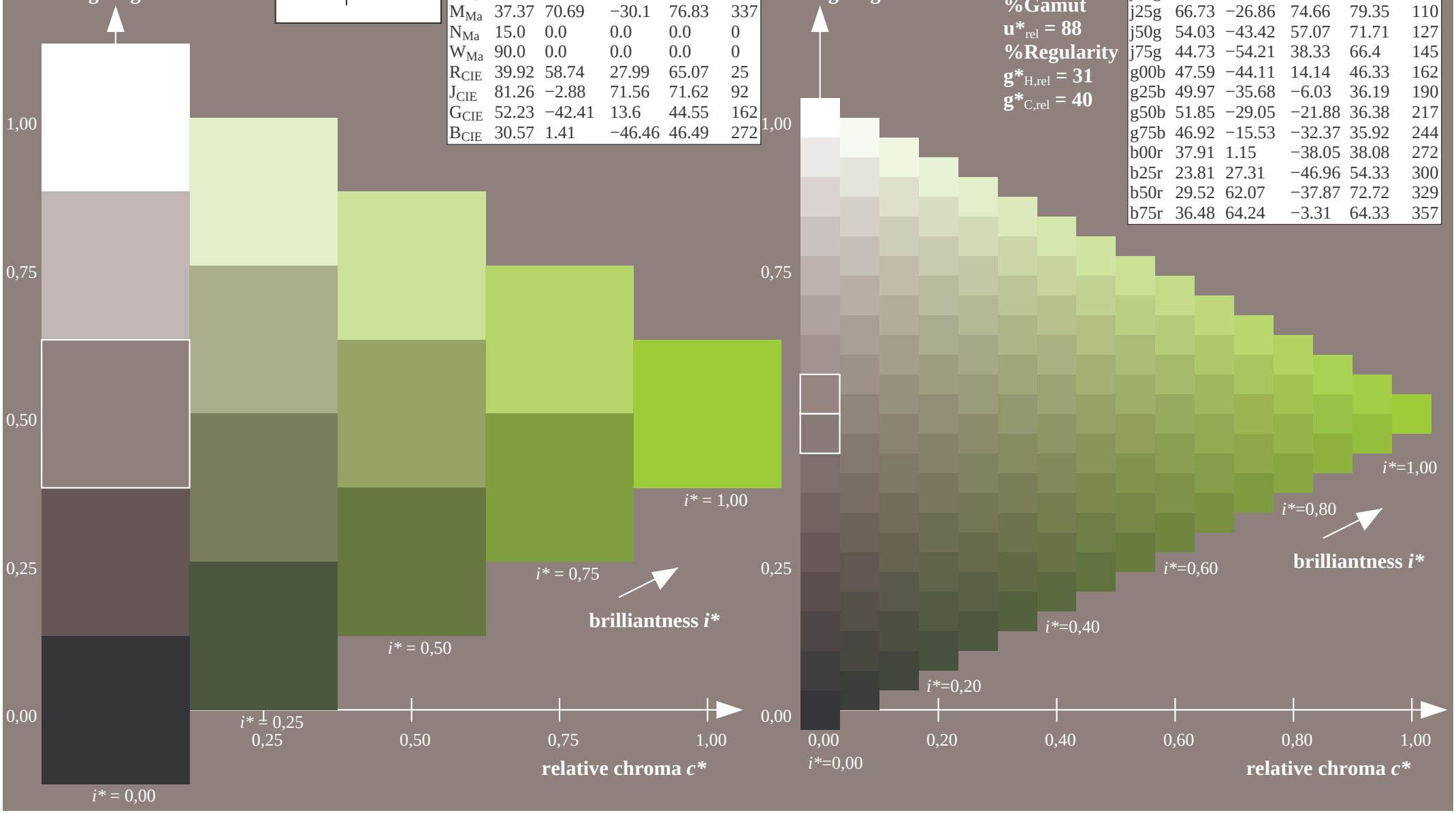
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

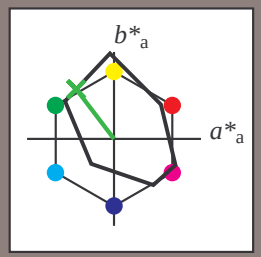
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; adapted (a) CIELAB data

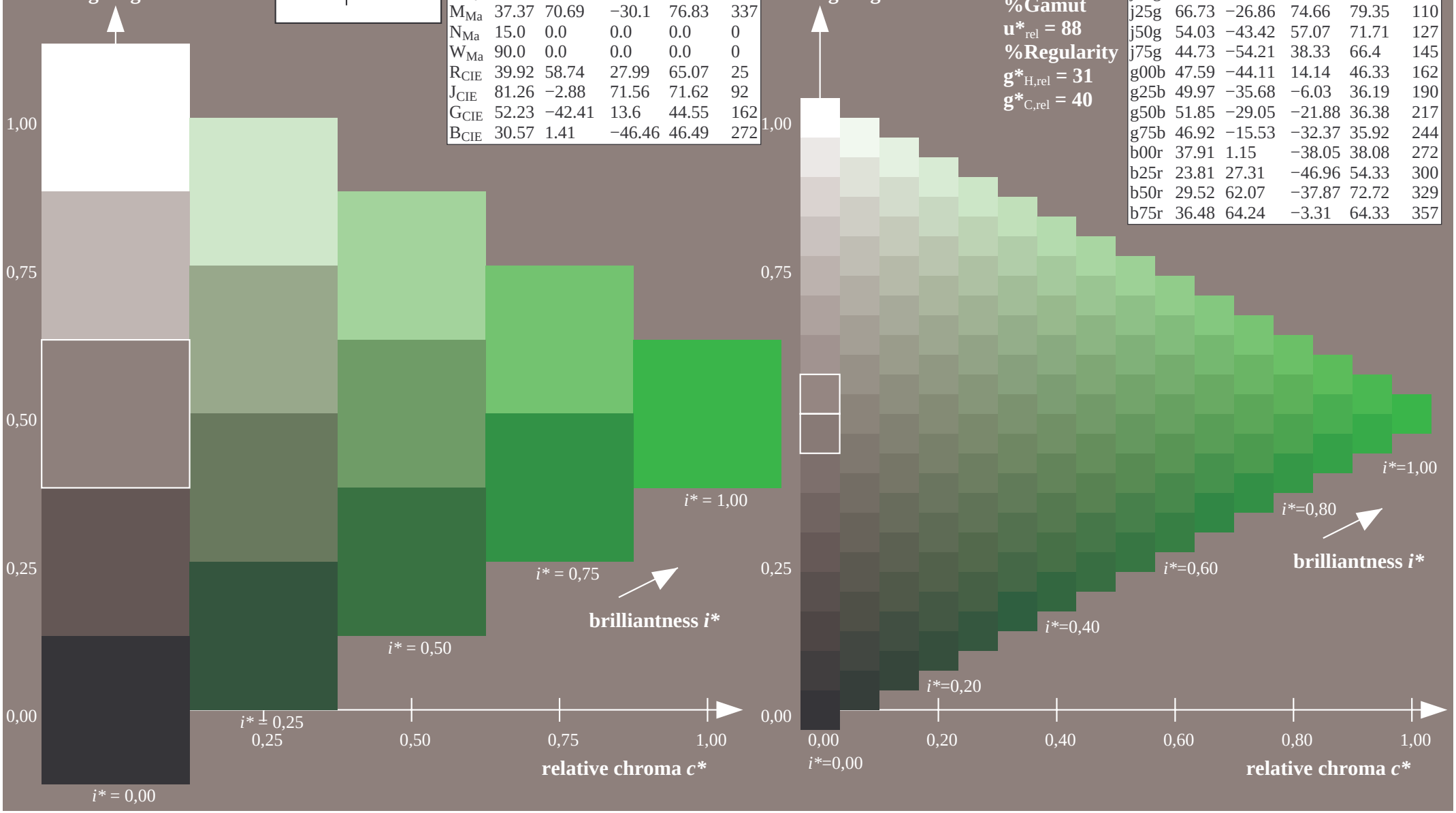
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

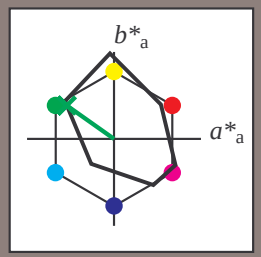
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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**

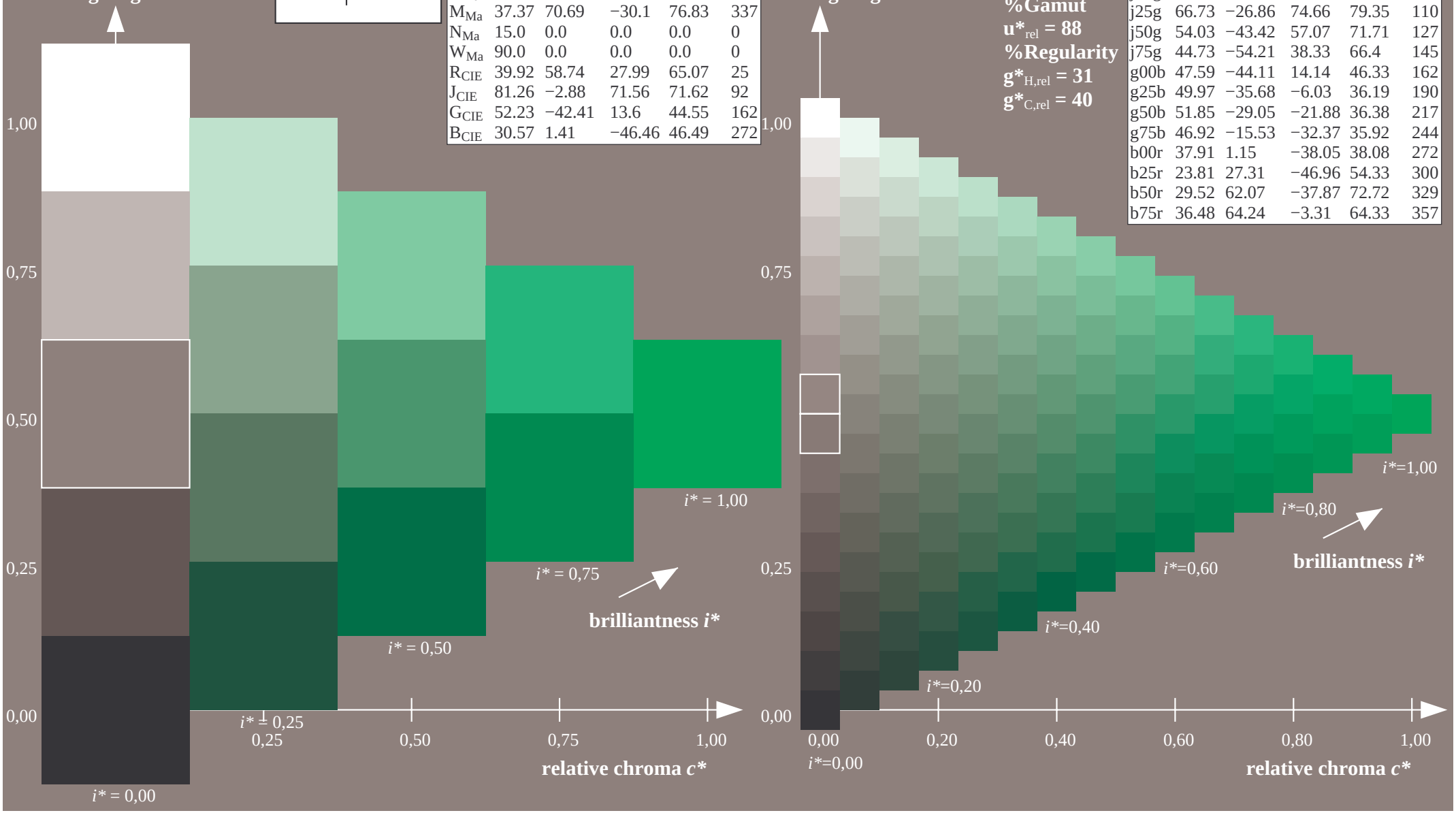


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

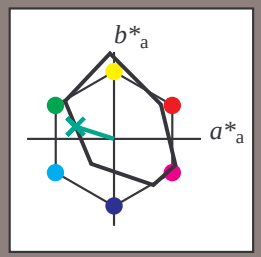
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; 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_90a 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_90a; adapted (a) CIELAB data

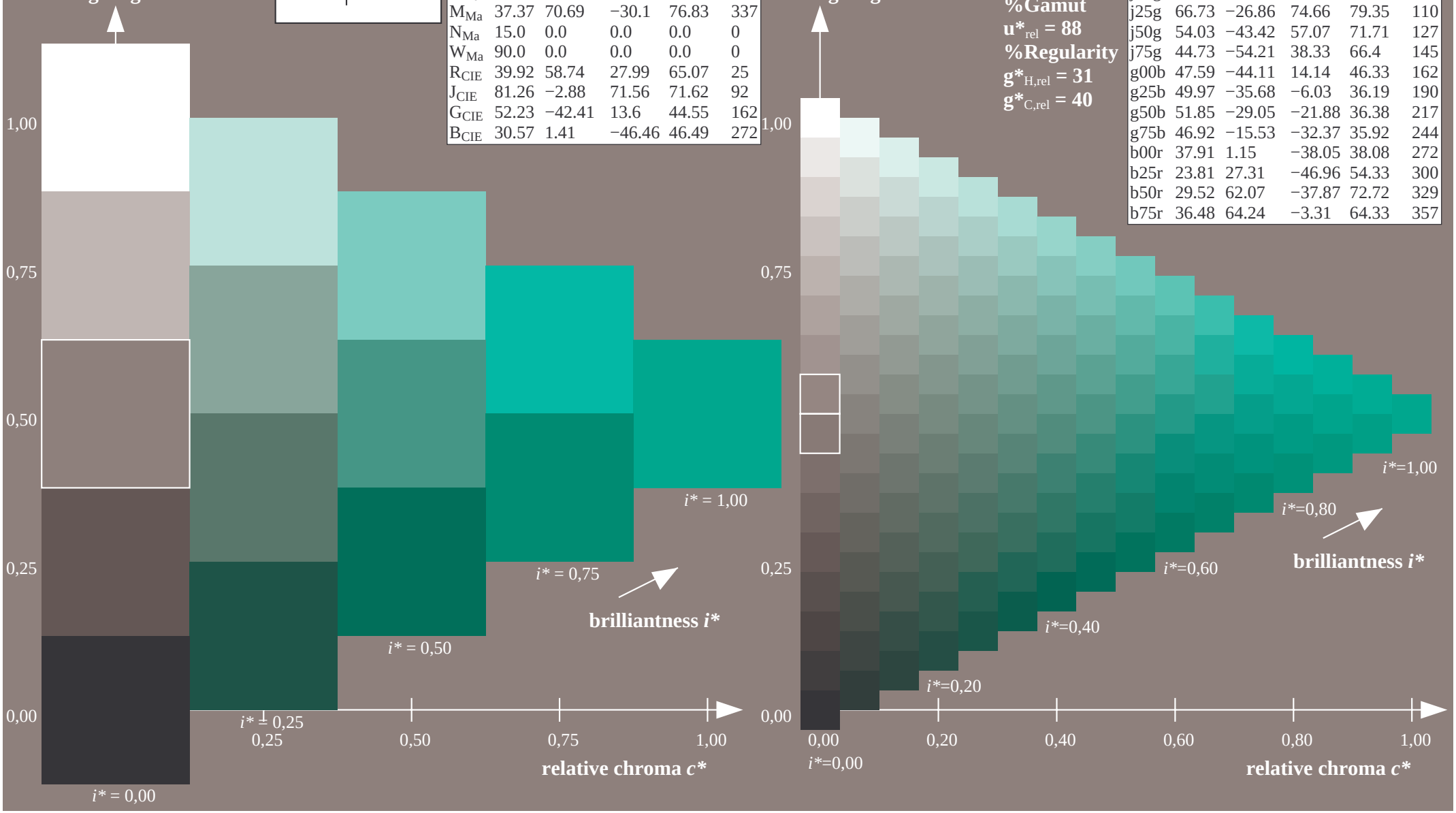
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

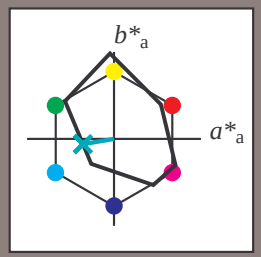
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; adapted (a) CIELAB data

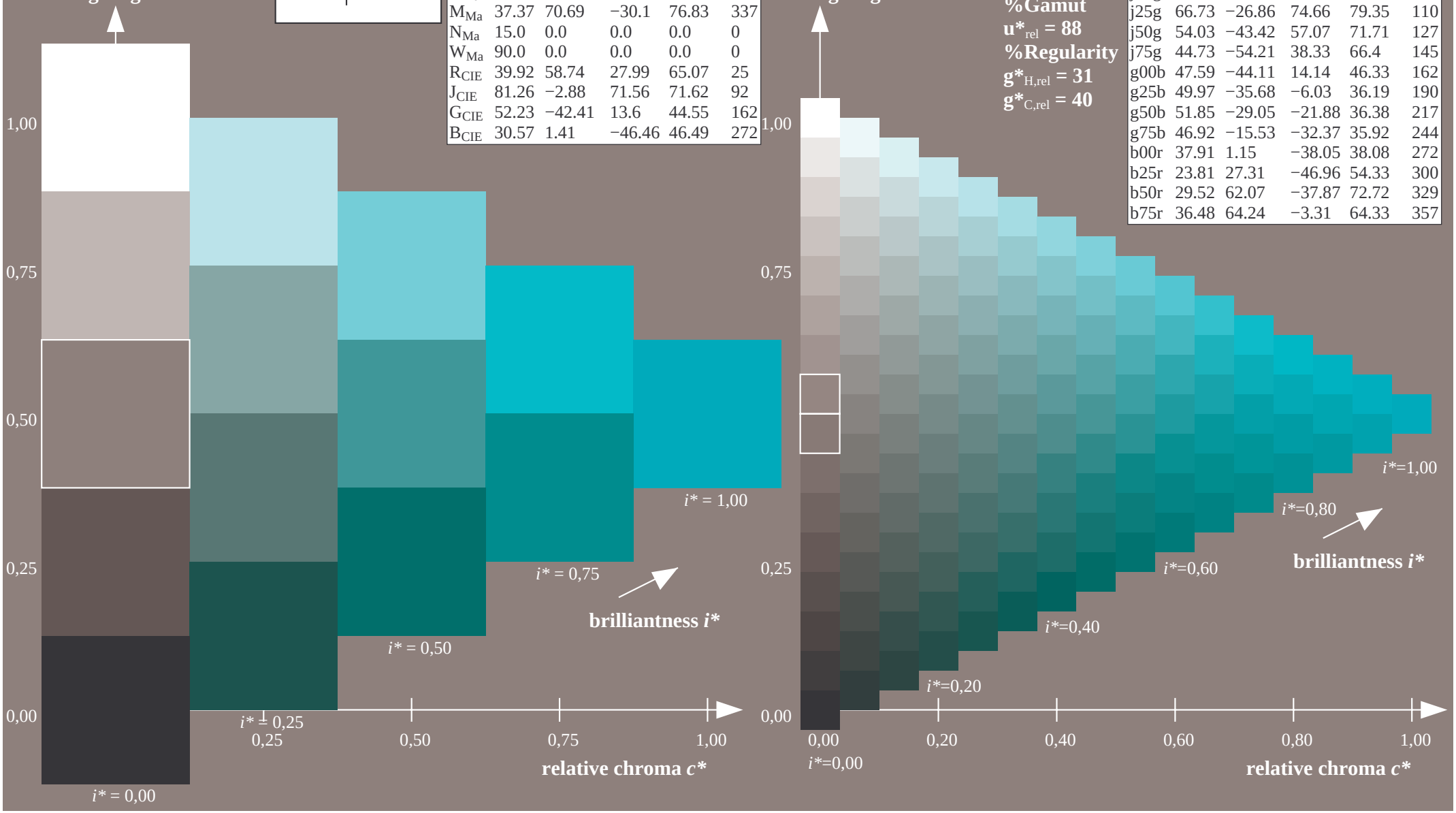
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

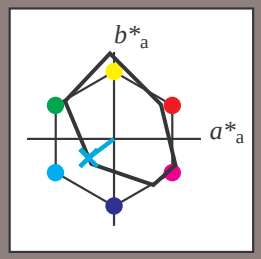
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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



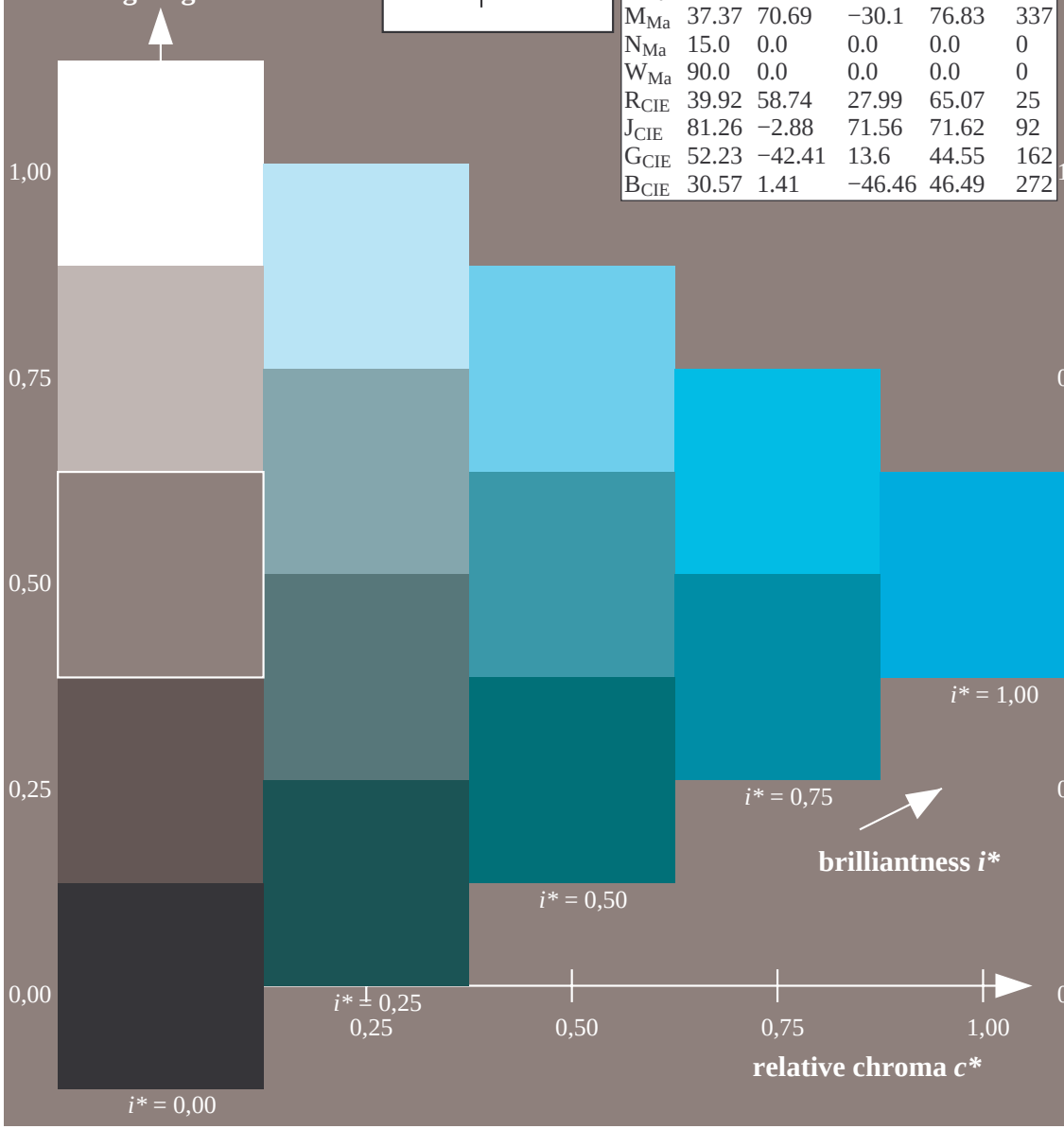
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue *h = *lab*h** = h_{ab}/360 = 217/360 = 0.603** ***u* = g50b***

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_90a; 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

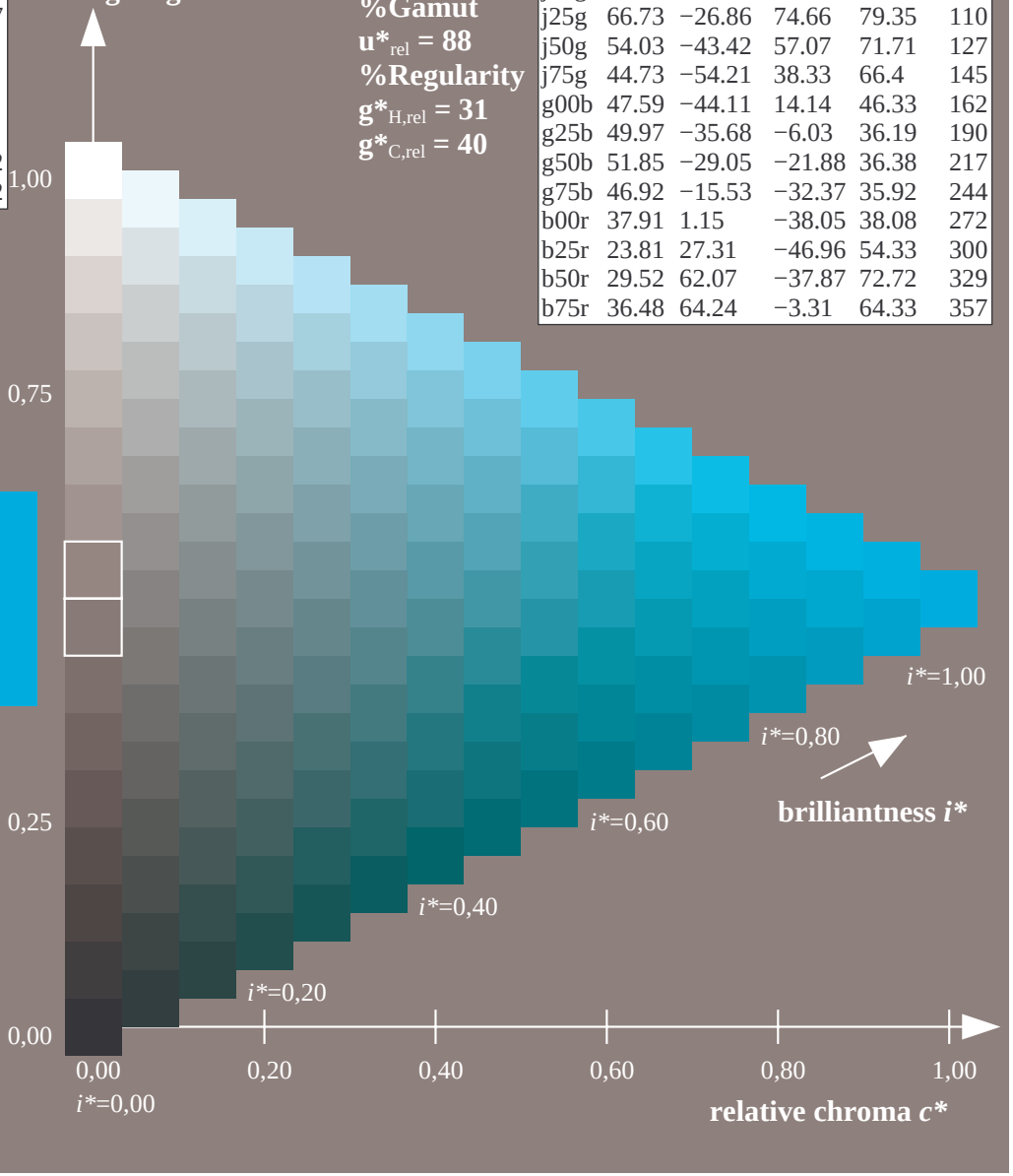


Data for maximum colour (Ma):
***LAB*LAB**Ma*: 52 −28 −21**
***LAB*LCH**Ma*: 52 36 217**
***lab*rgb**Ma*: 0.0 1.0 1.0**
***lab*olv**Ma*: 0.0 1.0 0.9**
triangle lightness *t**

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

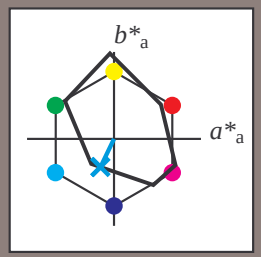
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; adapted (a) CIELAB data

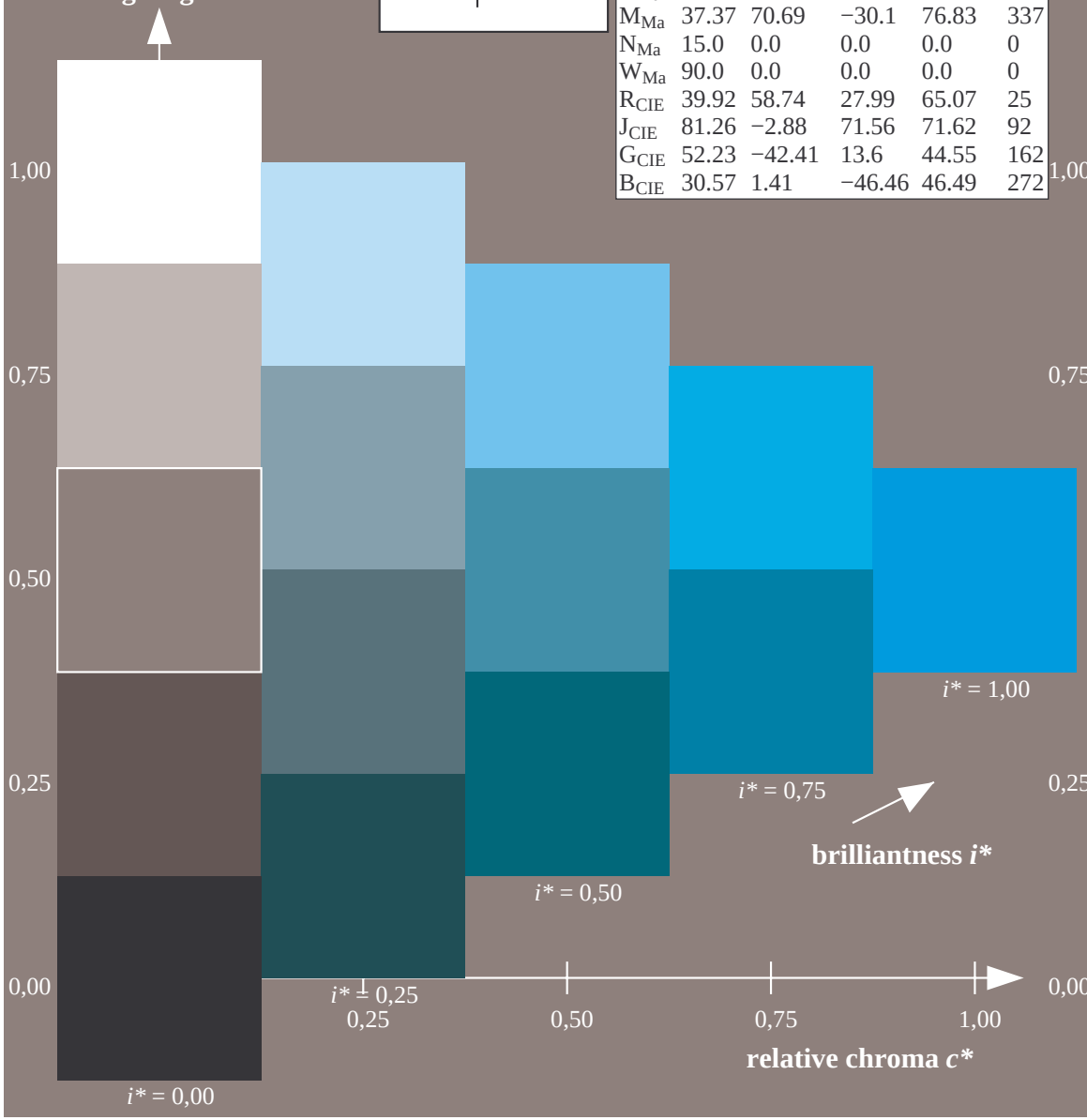
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

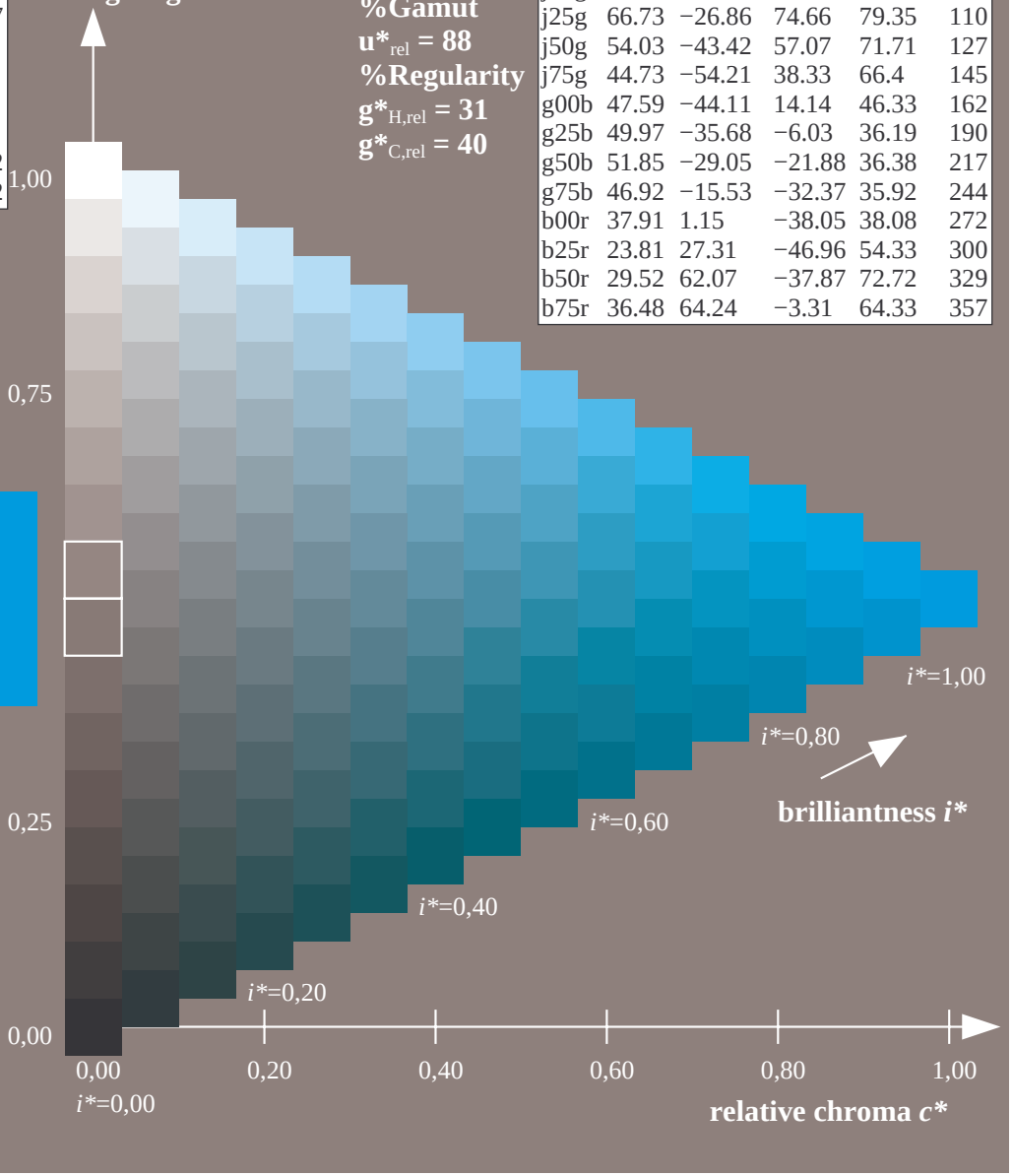
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 47 −15 −31**
***LAB*LCH*Ma*: 47 36 244**
***lab*rgb*Ma*: 0.0 0.5 1.0**
***lab*olv*Ma*: 0.0 0.85 1.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

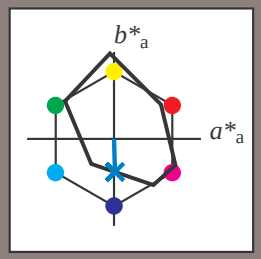
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a 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_90a; adapted (a) CIELAB data

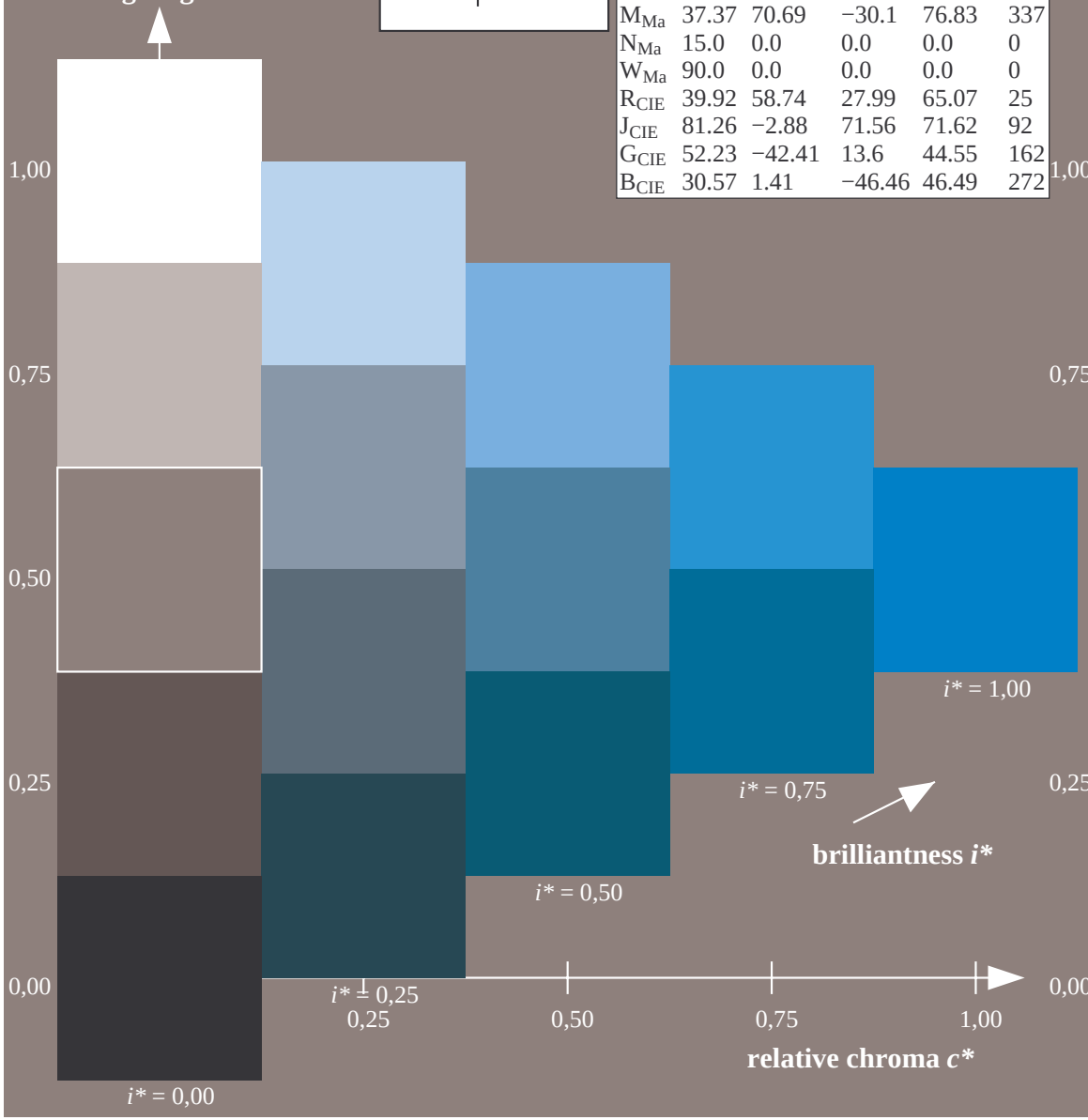
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

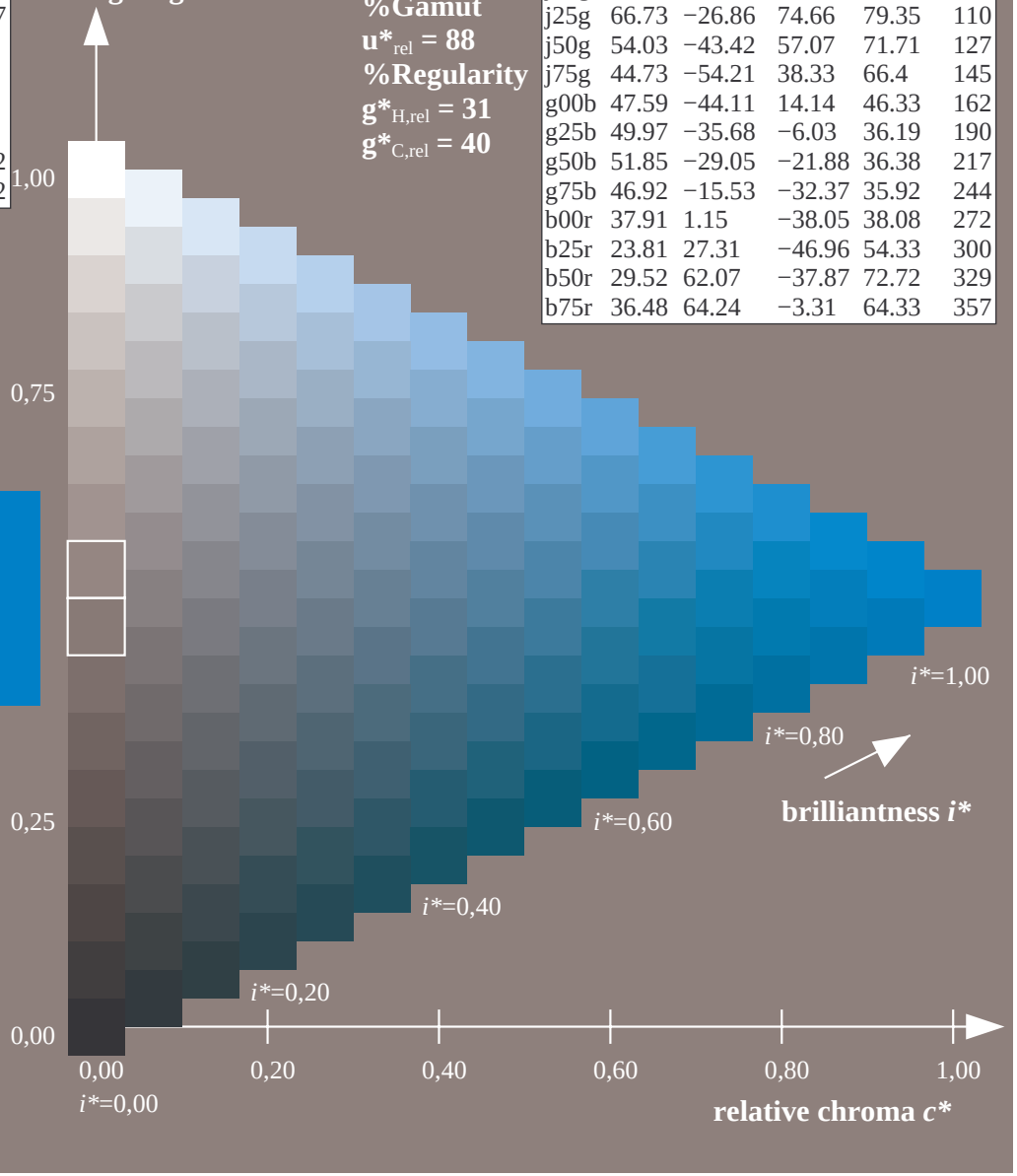
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 38 1 −37**
***LAB*LCH*Ma*: 38 38 272**
***lab*rgb*Ma*: 0.0 0.0 1.0**
***lab*olv*Ma*: 0.0 0.62 1.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

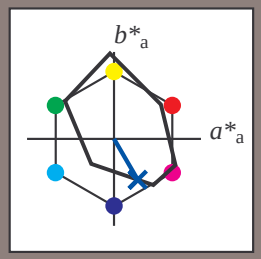
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a 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**

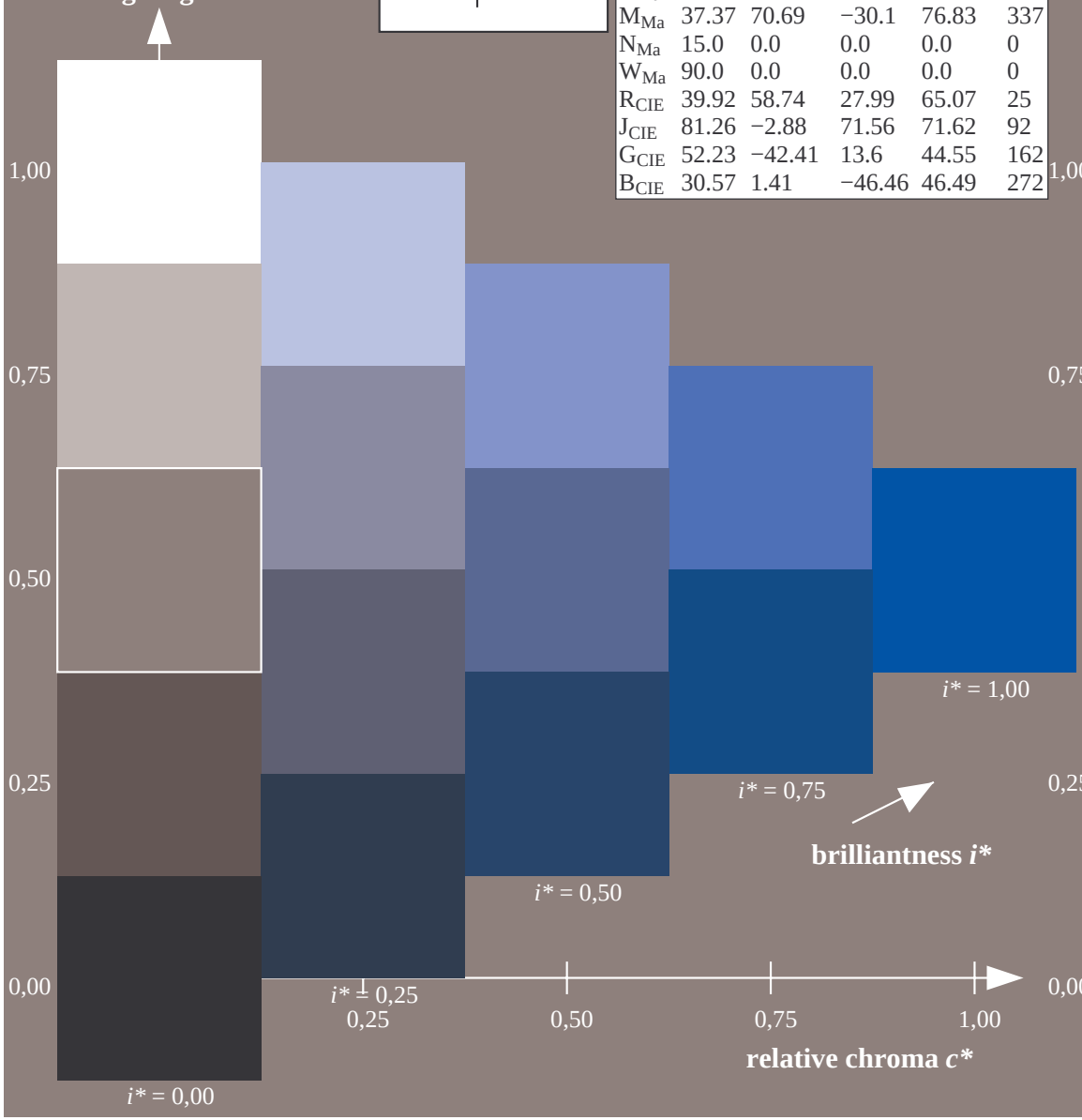


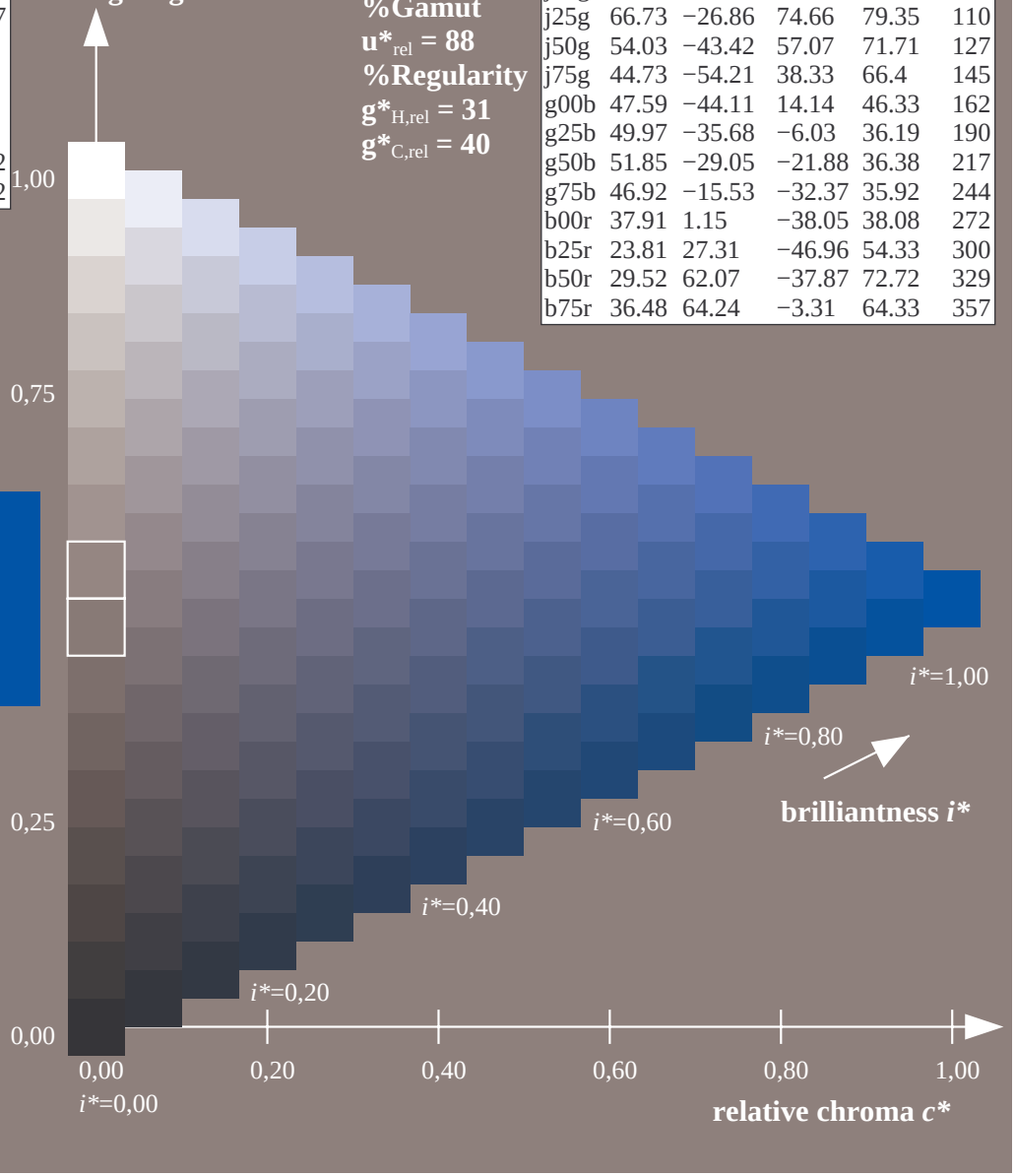
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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

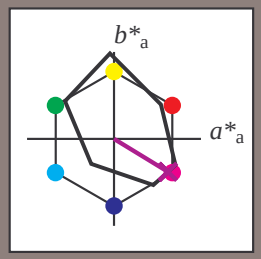
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	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_90a 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**

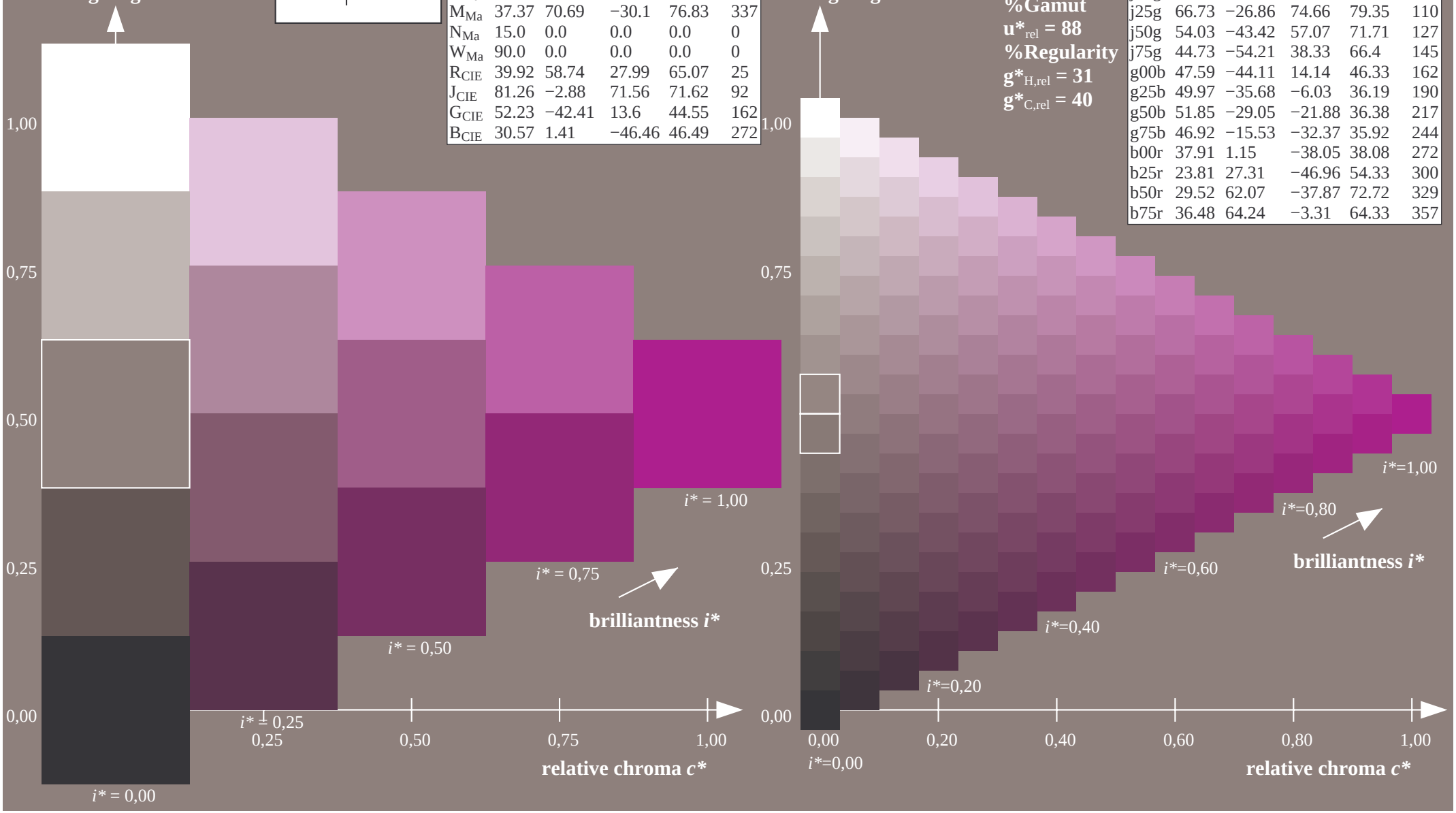


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

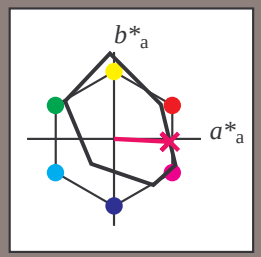
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; 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_90a 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_90a; adapted (a) CIELAB data

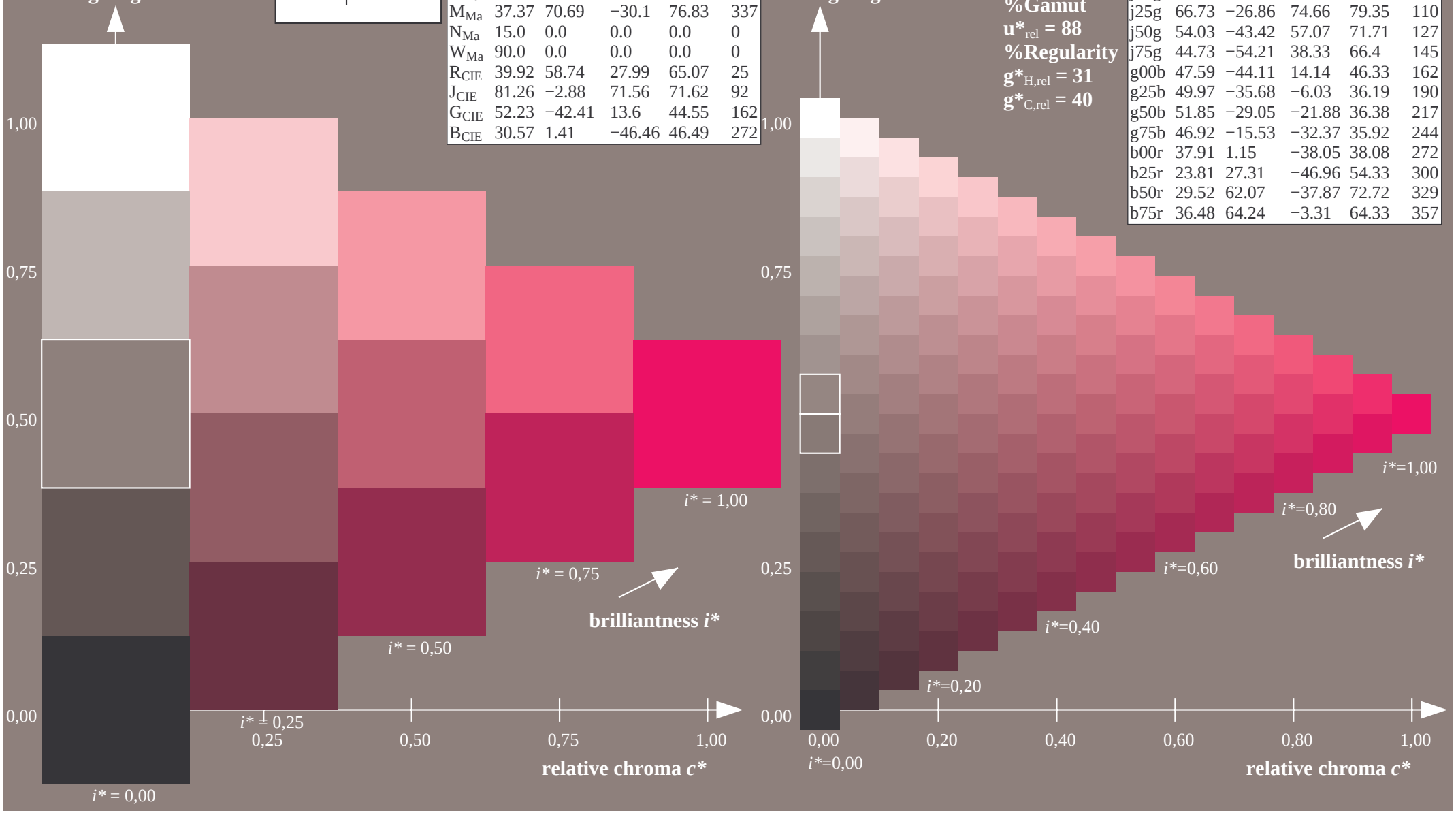
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

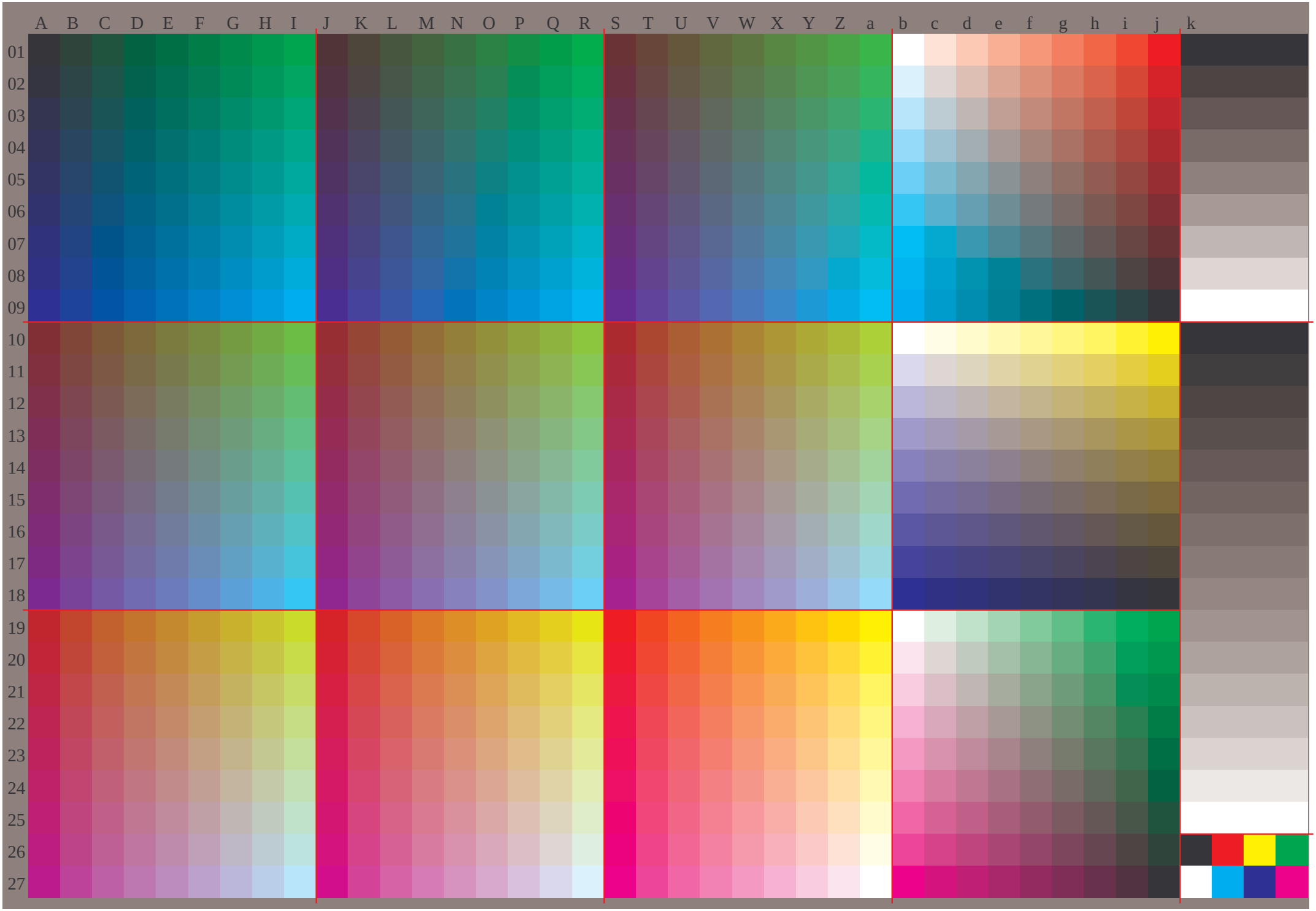
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 36 64 −2**
***LAB*LCH*Ma*: 36 64 357**
***lab*rgb*Ma*: 1.0 0.0 0.5**
***lab*olv*Ma*: 1.0 0.0 0.62**
triangle lightness *t**

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

FRS15_90a; 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

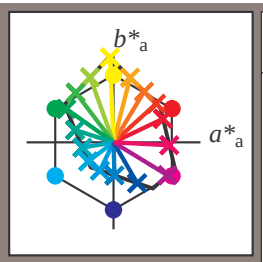



A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

Input and output:
Colorimetric Printer Reflective System FRS15_90a
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_90a; adapted (a) CIELAB data

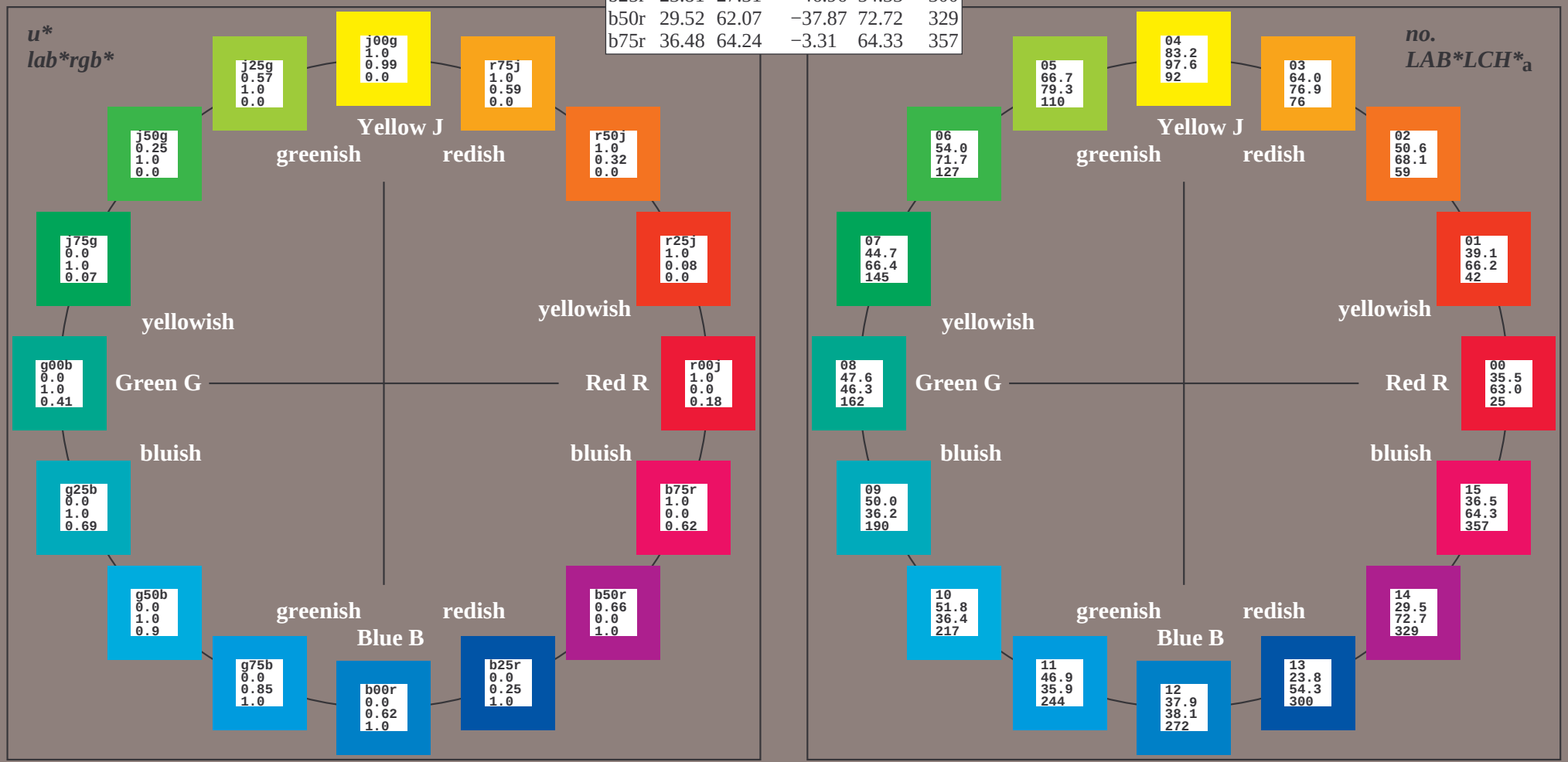
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a; 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_90a for relative CIELAB hue *h = *lab*h** = $h_{ab}/360$ = 25/360 = 0.071**

u** = r00j

lab*rgb*

data for any colour:

lab*tch** and *lab*icu*

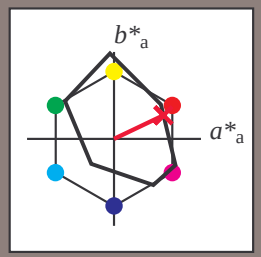
elementary hue text:

u** = r00j

contrast reduction factor:

c_R = 0.9

triangle lightness *t**



FRS15_90a; 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**

triangle lightness *t**

%Gamut

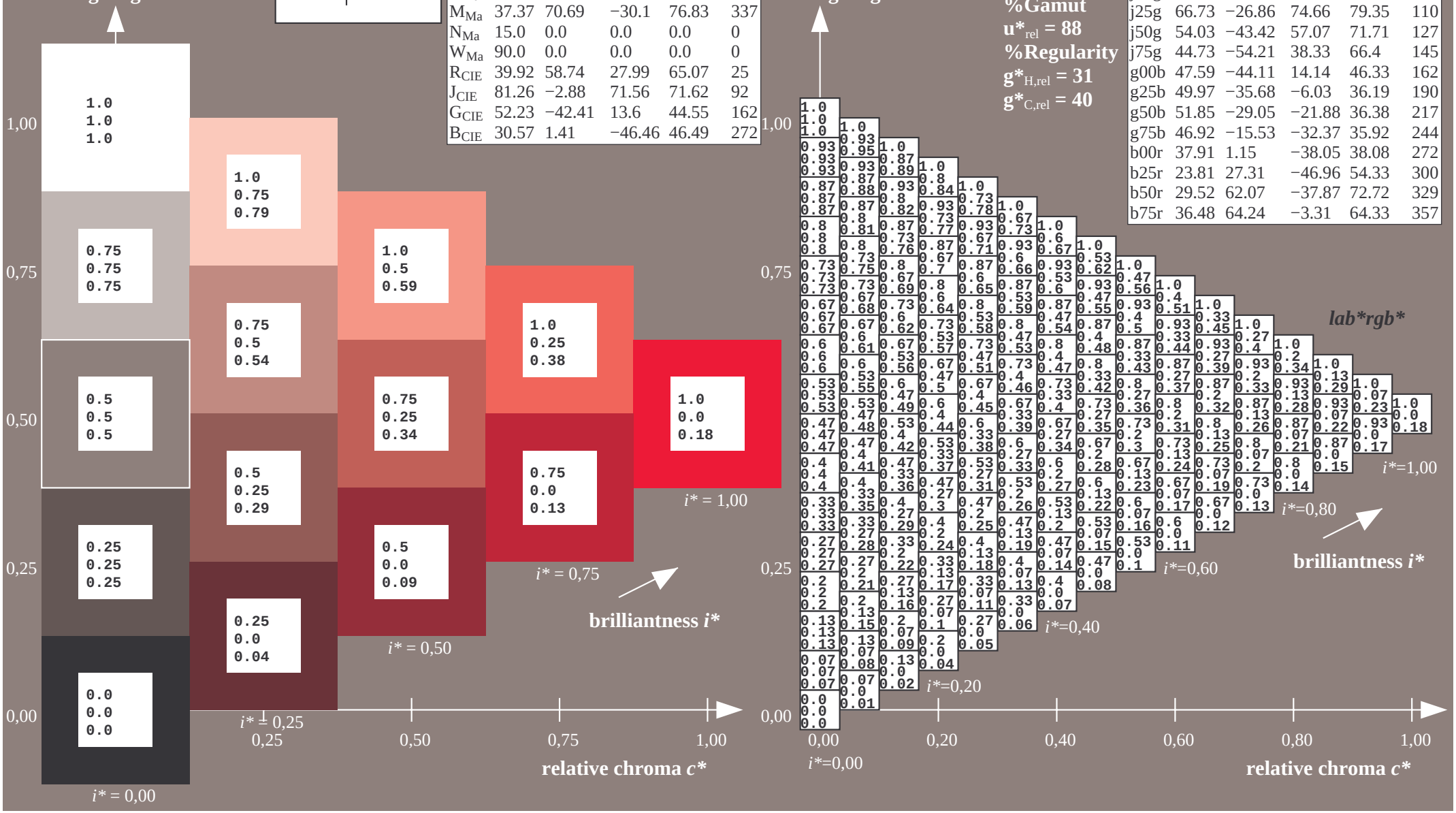
u^*_{rel} = 88

%Regularity

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

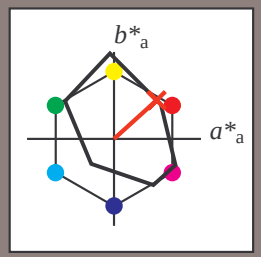
$g^*_{C,rel}$ = 40

FRS15_90a; 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_90a for relative CIELAB hue *h = *lab*h** = $h_{ab}/360$ = 42/360 = 0.117** *u* = r25j* *lab*rgb**

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_90a; adapted (a) CIELAB data

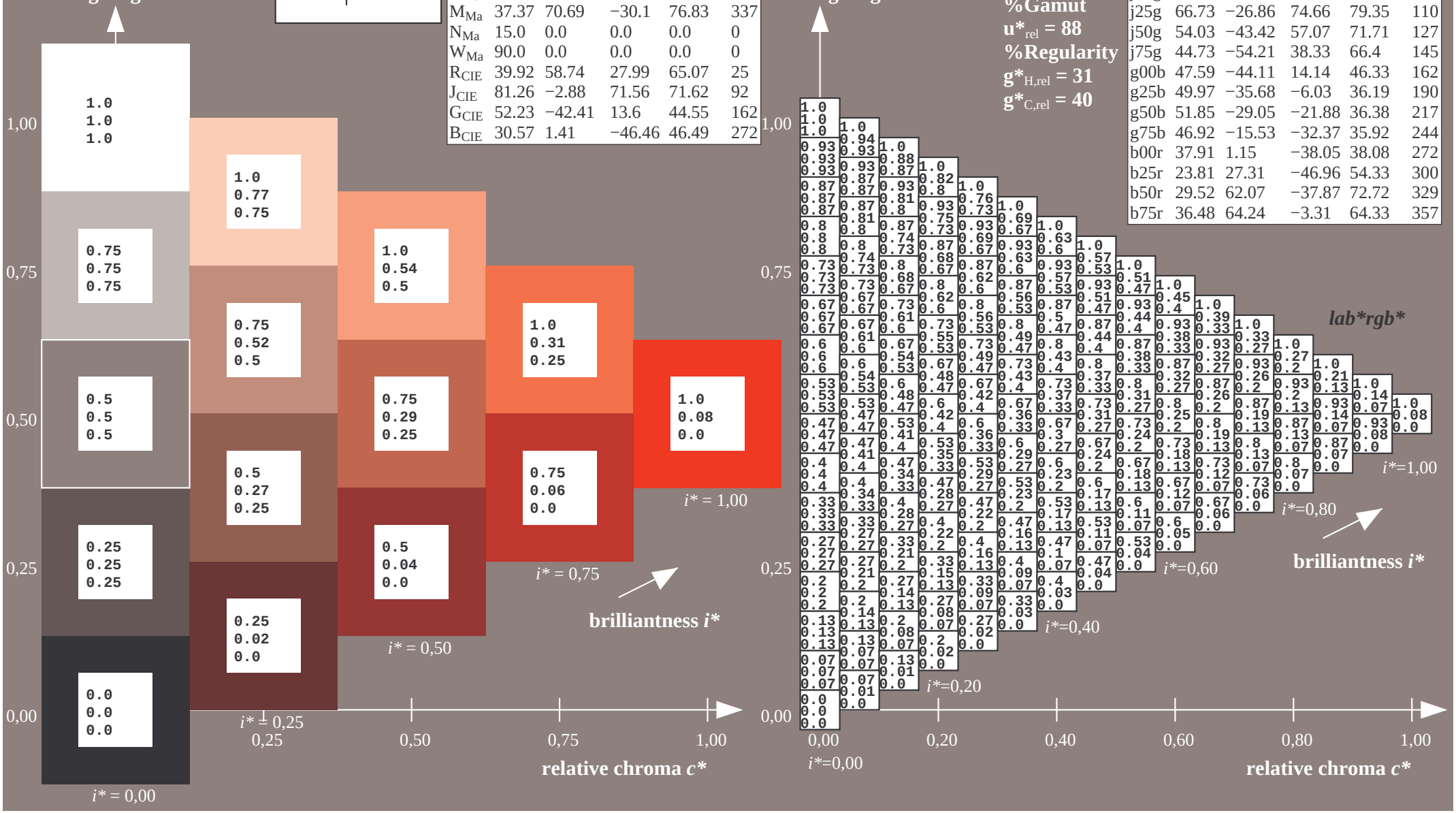
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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**

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

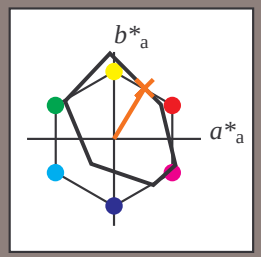
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a for relative CIELAB hue *h = *lab*h** = $h_{ab}/360$ = 59/360 = 0.164** *u* = r50j* *lab*rgb**

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_90a; adapted (a) CIELAB data

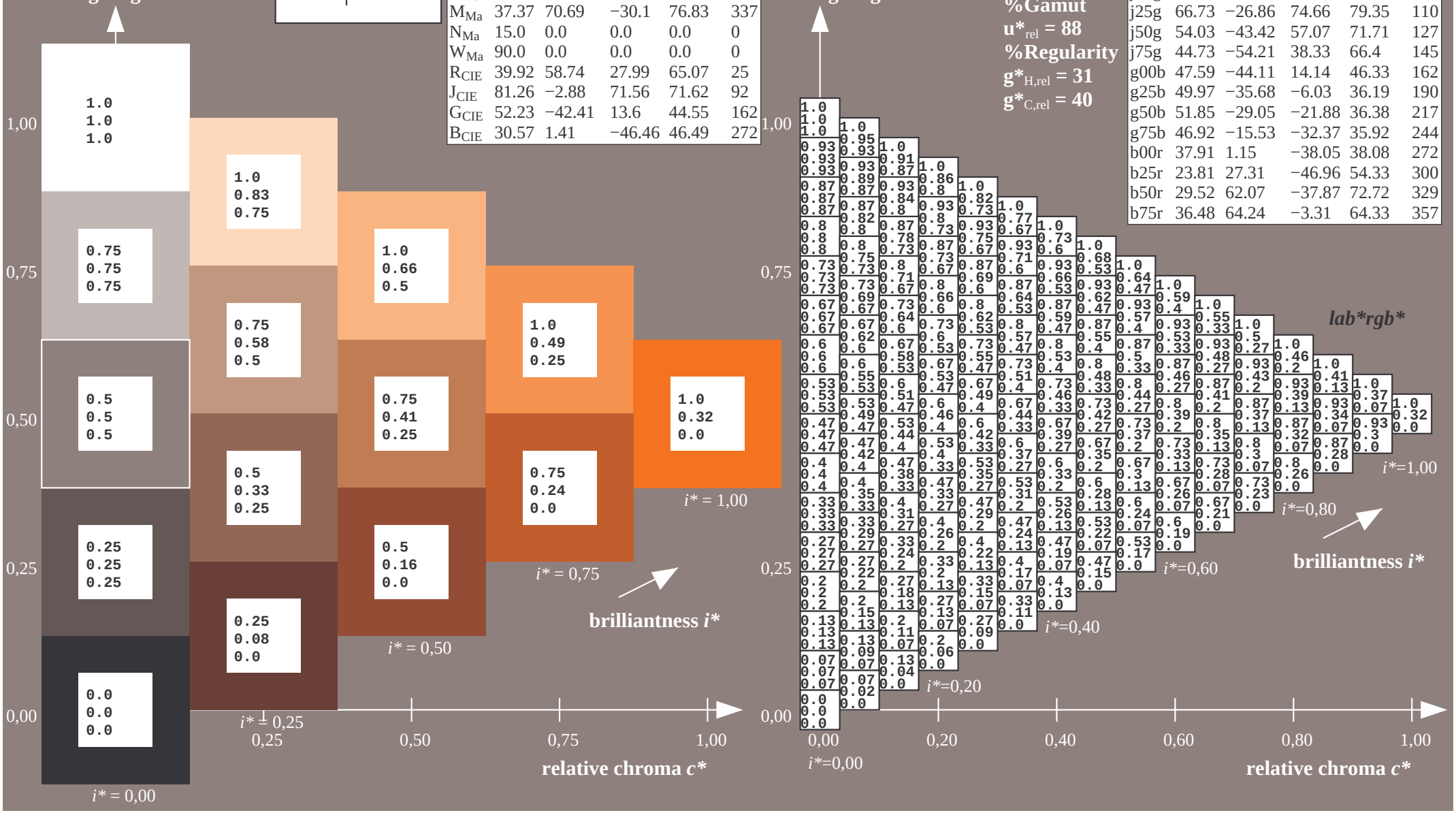
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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_90a; 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_90a for relative CIELAB hue *h = *lab*h** = $h_{ab}/360$ = 76/360 = 0.21**

u** = r75j

lab*rgb*

data for any colour:

lab*tch** and *lab*icu*

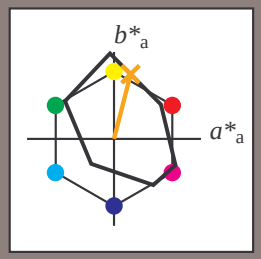
elementary hue text:

u** = r75j

contrast reduction factor:

c_R = 0.9

triangle lightness *t**



FRS15_90a; 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

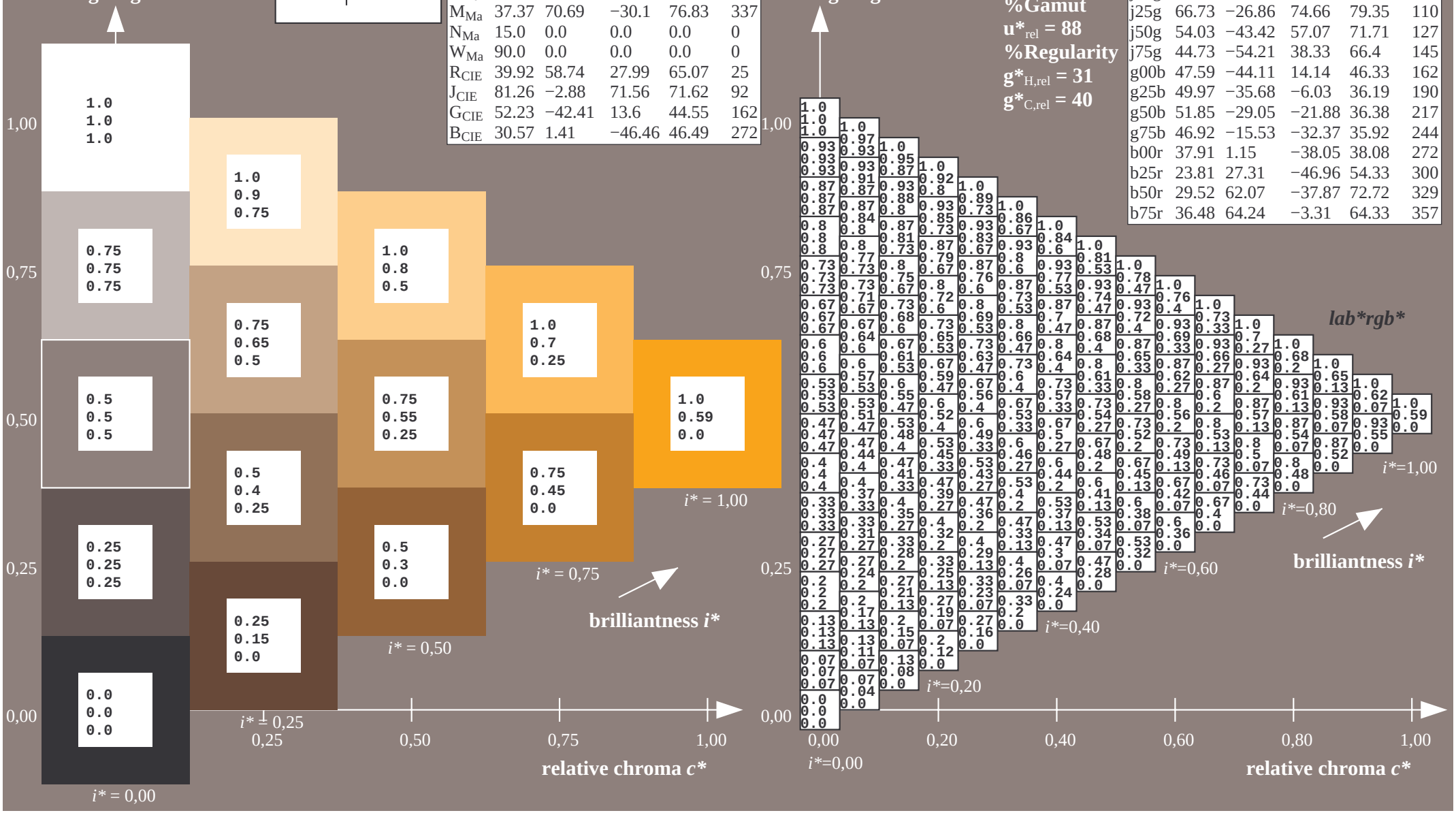
%Regularity

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

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

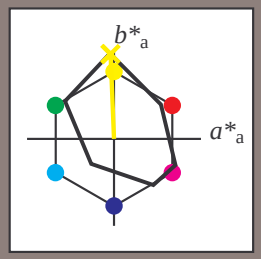
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; 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

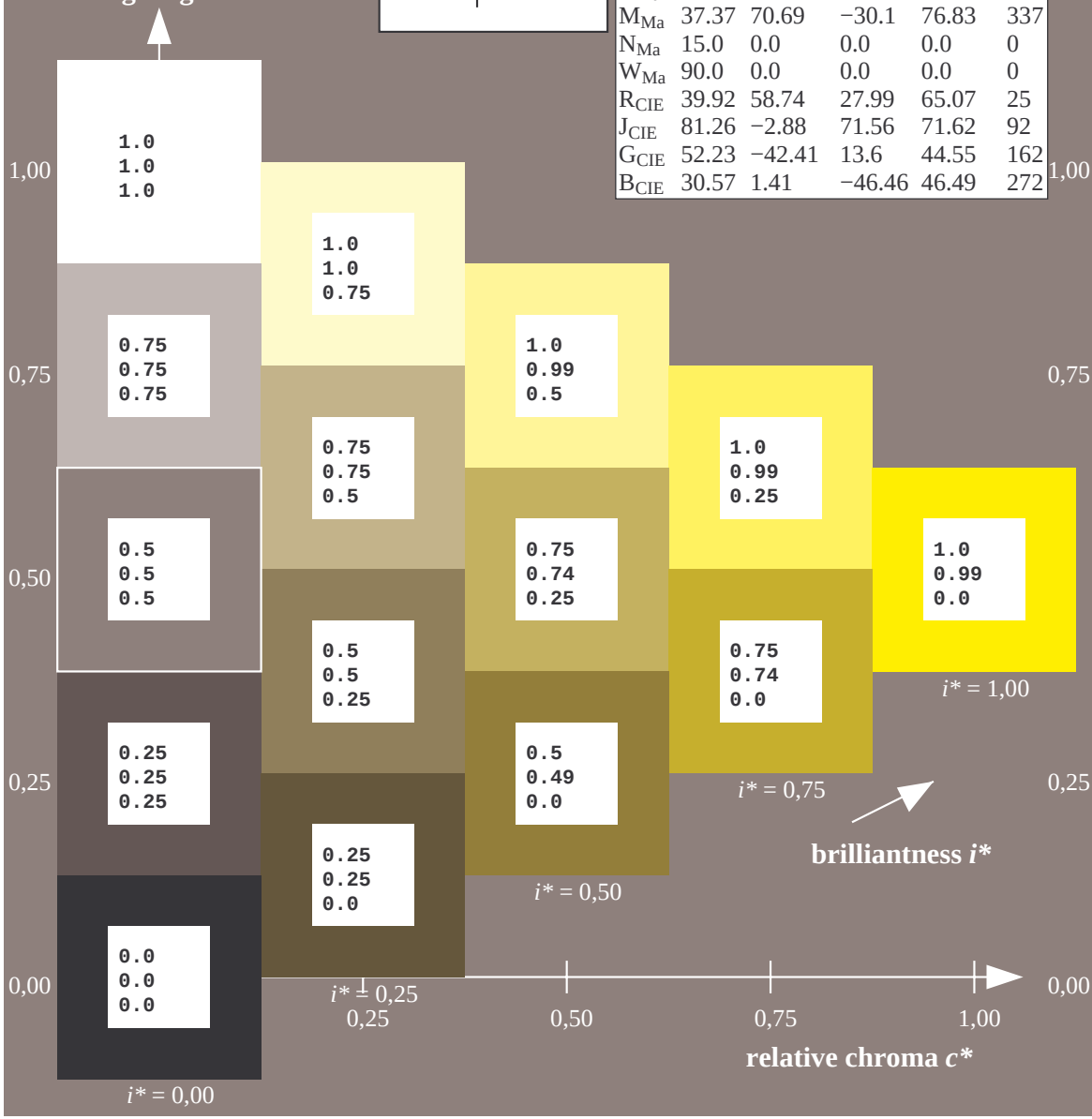
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 83 −3 98**
***LAB*LCH*Ma*: 83 98 92**
***lab*rgb*Ma*: 1.0 1.0 0.0**
***lab*olv*Ma*: 1.0 0.99 0.0**
triangle lightness *t**

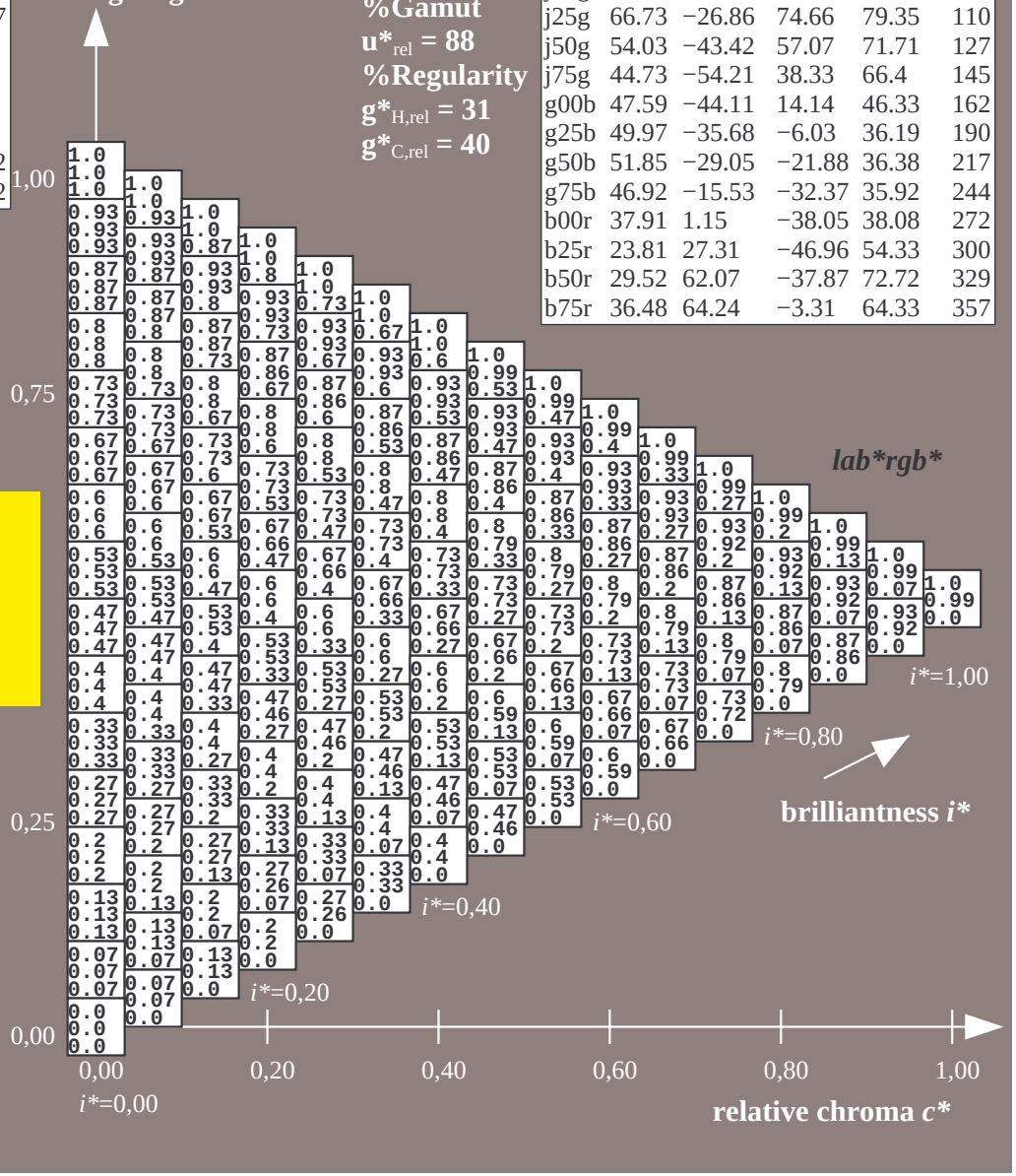
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

u* = j00g
lab*rgb*

FRS15_90a; 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

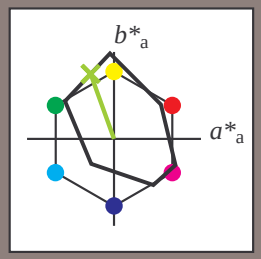




Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 110/360 = 0.305$

u = j25g*
*lab*rgb**

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_90a; adapted (a) CIELAB data

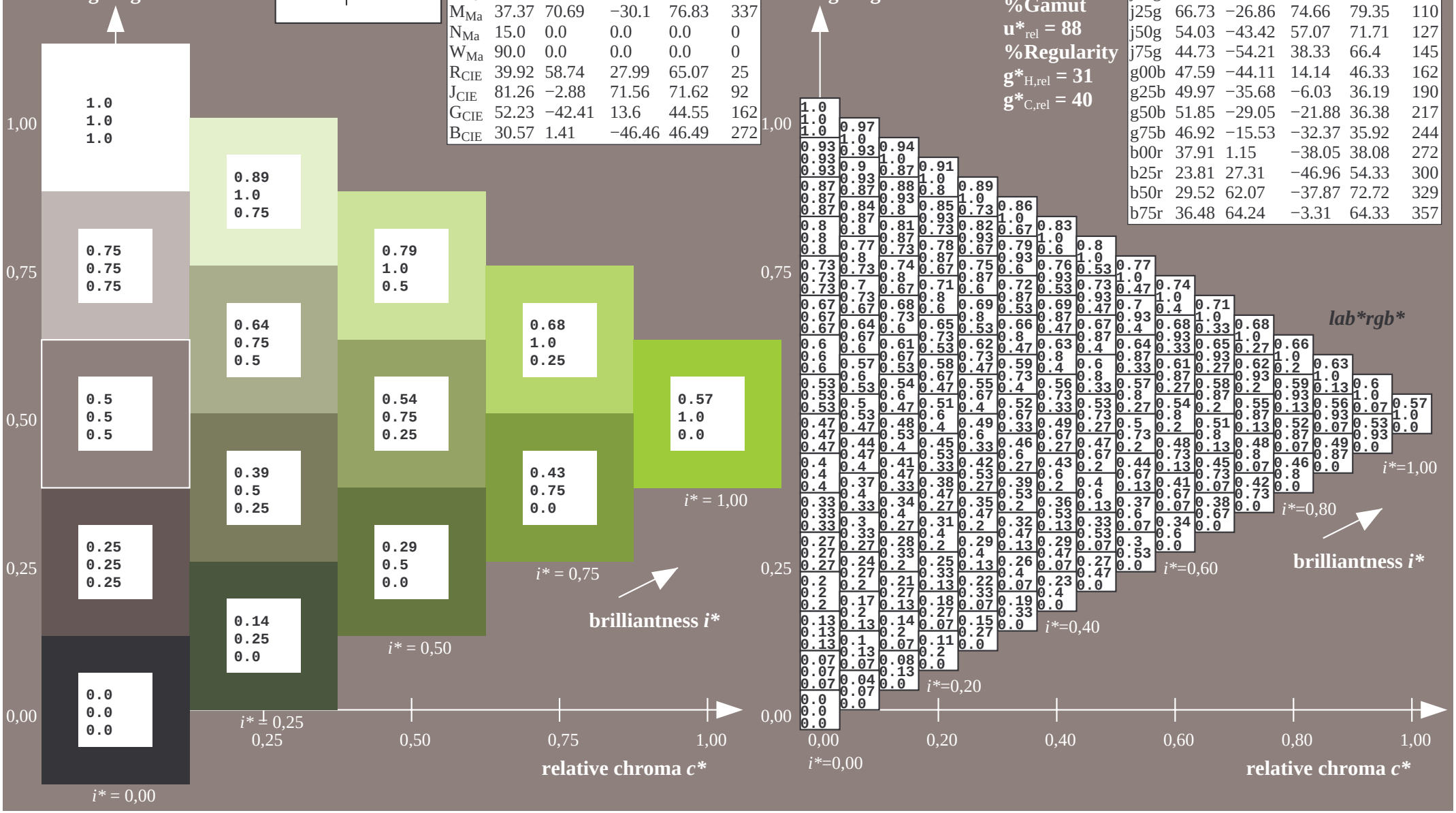
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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_90a; 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_90a for relative CIELAB hue *h = *lab*h** = h_{ab}/360 = 127/360 = 0.354**

u** = j50g

lab*rgb*

data for any colour:

lab*tch** and *lab*icu*

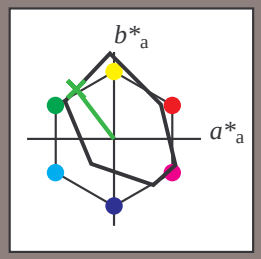
elementary hue text:

***u** = j50g*

contrast reduction factor:

c_R = 0.9

triangle lightness *t**



FRS15_90a; 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**

FRS15_90a; 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

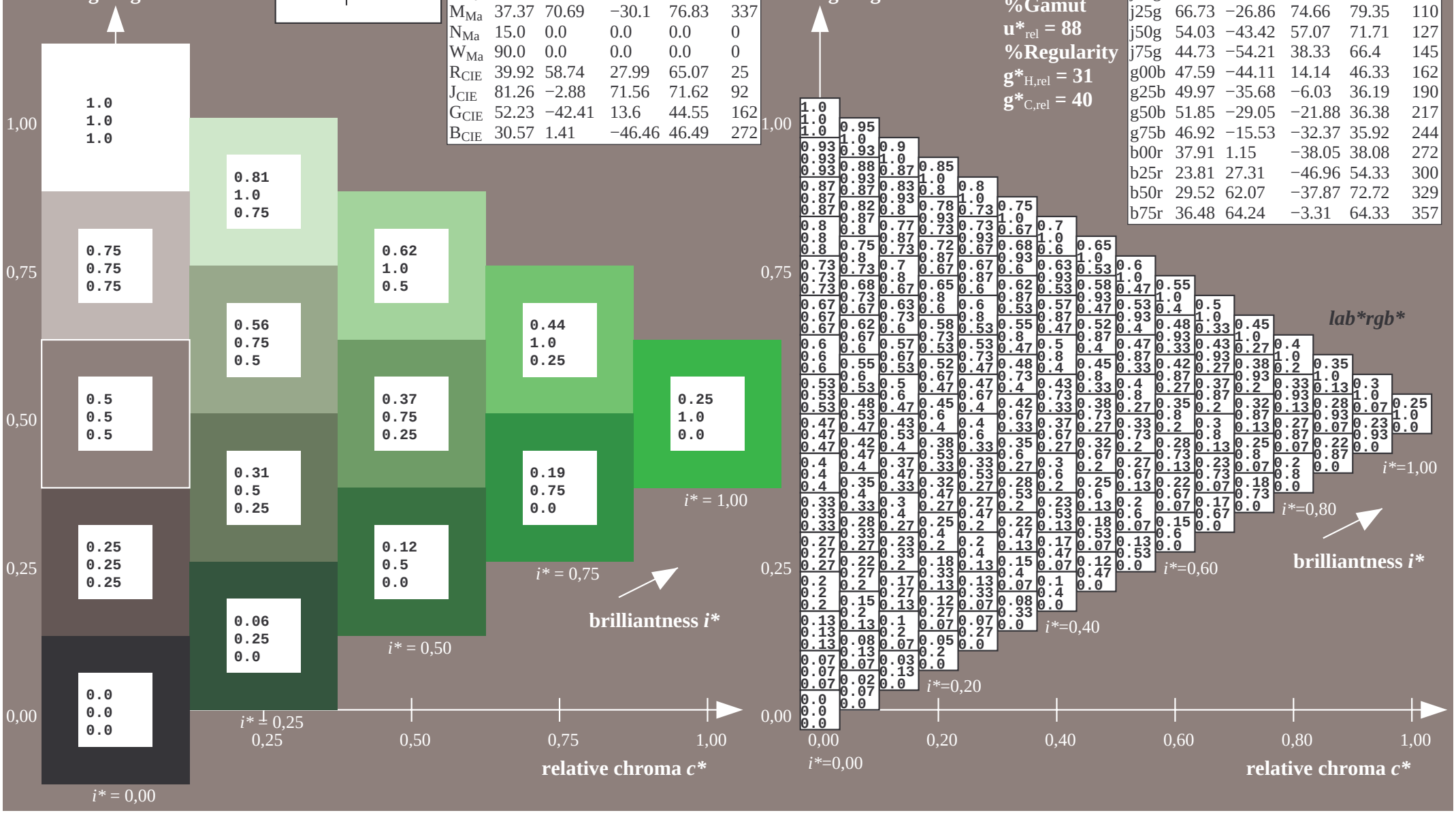
%Gamut

u^*_{rel} = 88

%Regularity

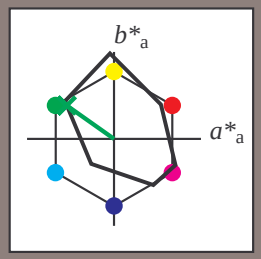
$g^*_{H,rel}$ = 31

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



Input and output: Colorimetric Printer Reflective System FRS15_90a 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_90a; 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

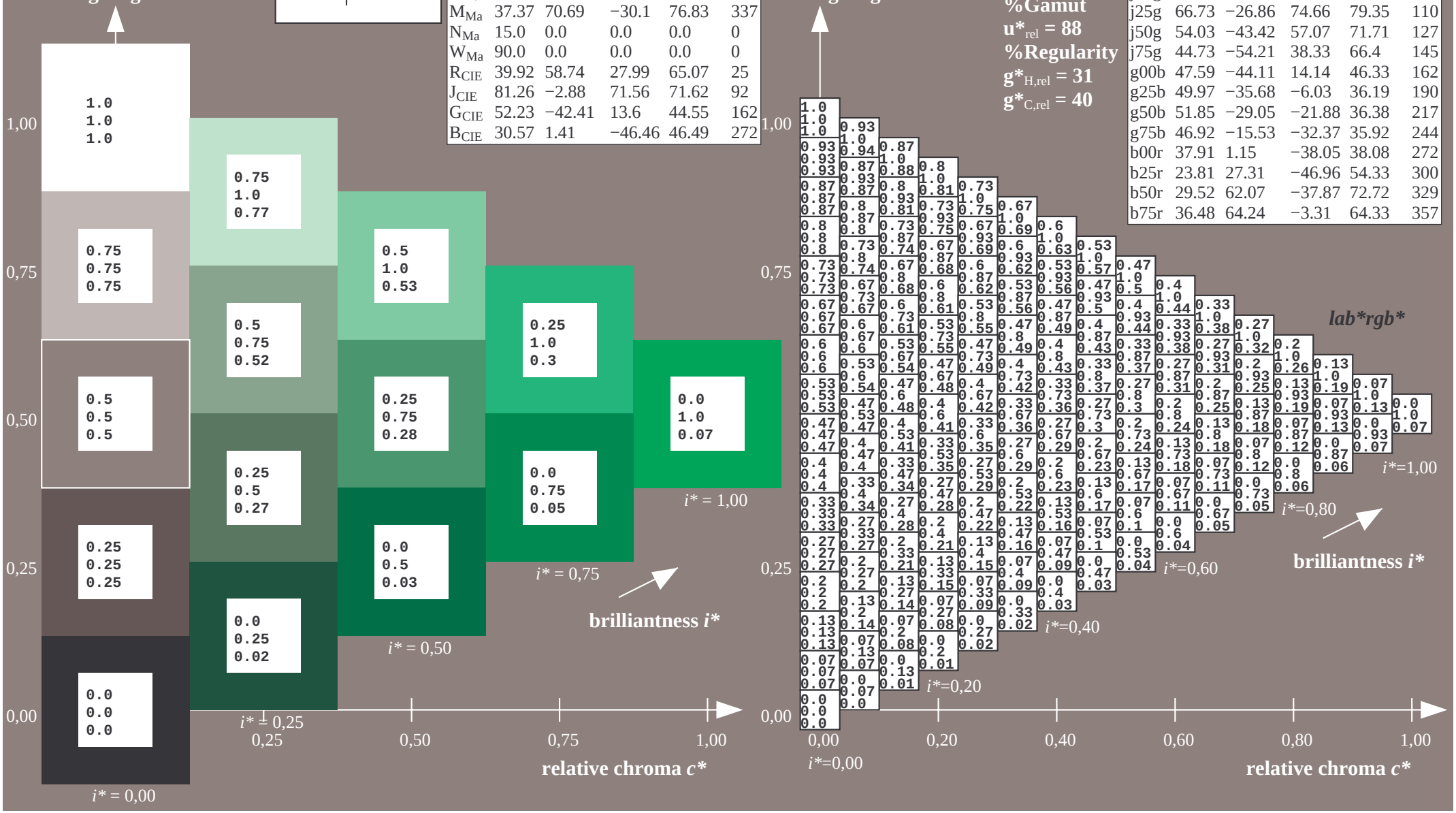
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 45 −53 38**
LAB*LCH*$_{Ma}$**: 45 66 145**
lab*rgb*$_{Ma}$**: 0.25 1.0 0.0**
lab*olv*$_{Ma}$**: 0.0 1.0 0.07**
triangle lightness *t**

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

u* = j75g
lab*rgb*

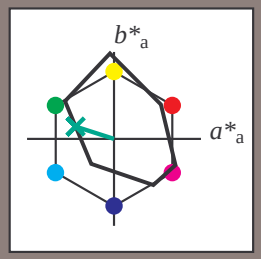
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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**

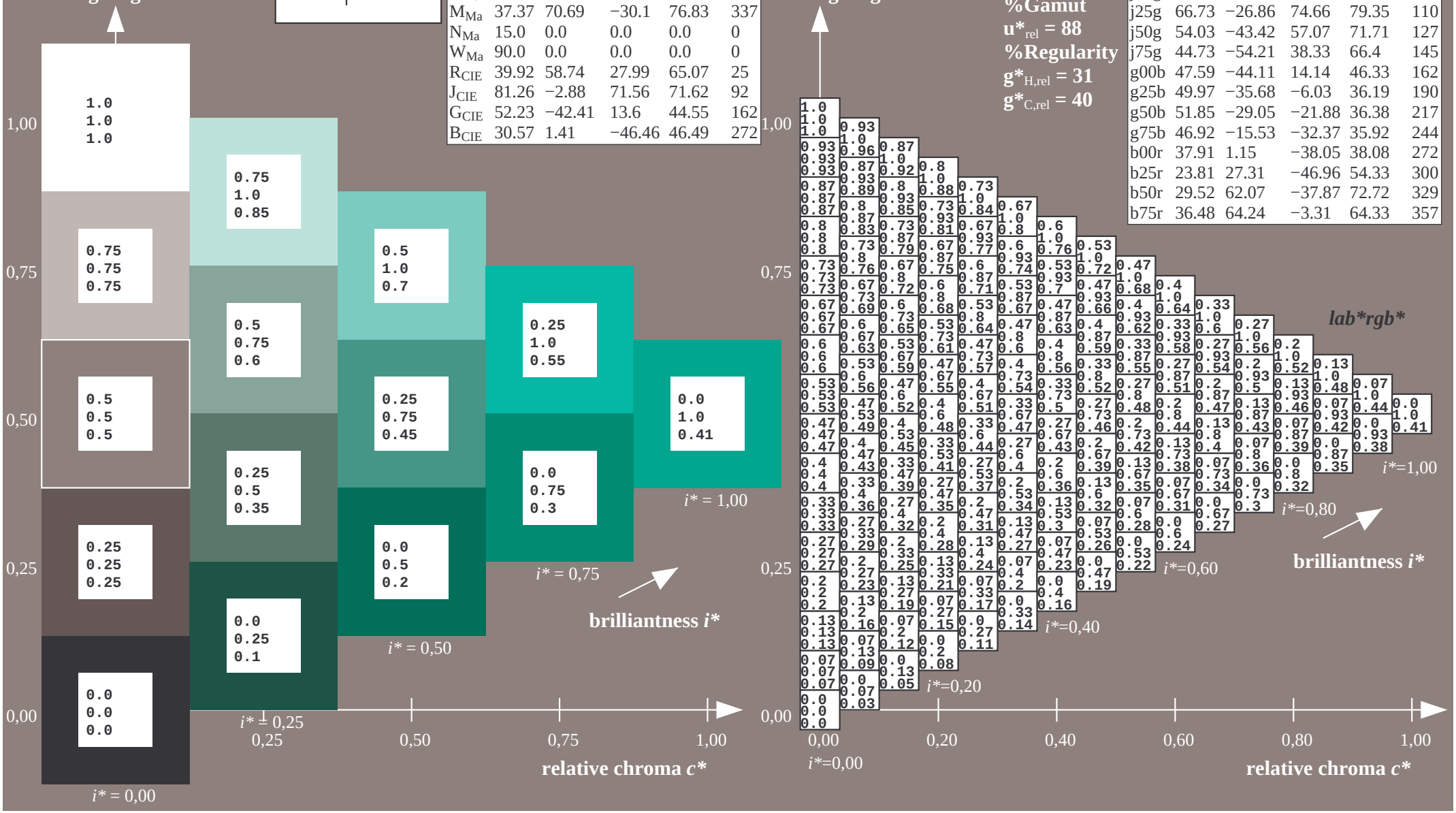


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

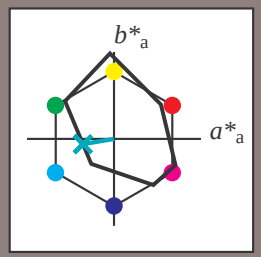
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; 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_90a 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_90a; 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

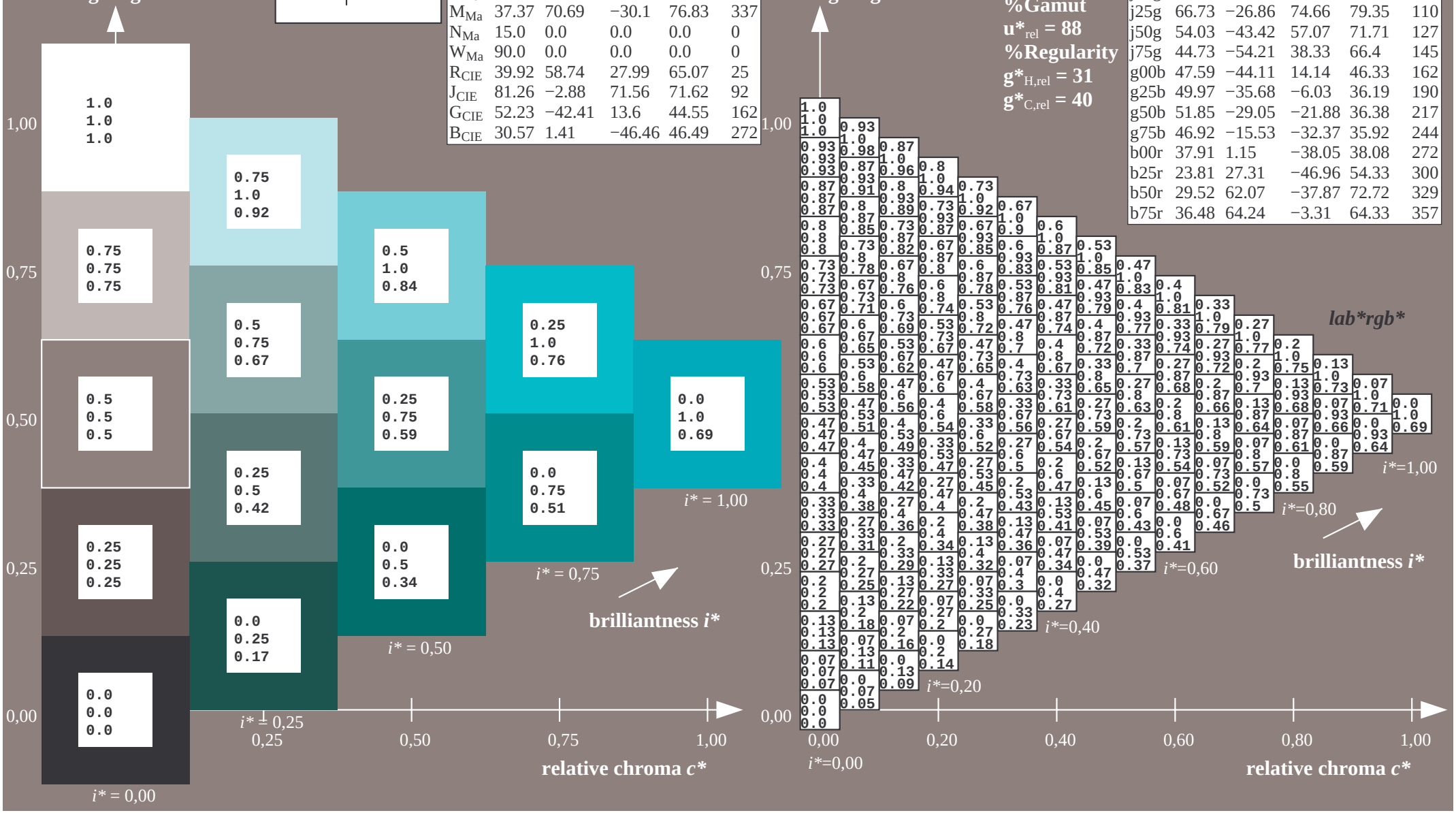
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 50 −35 −5**
LAB*LCH*$_{Ma}$**: 50 36 190**
lab*rgb*$_{Ma}$**: 0.0 1.0 0.5**
lab*olv*$_{Ma}$**: 0.0 1.0 0.69**
triangle lightness *t**

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

u* = g25b
lab*rgb*

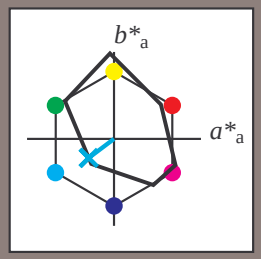
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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**

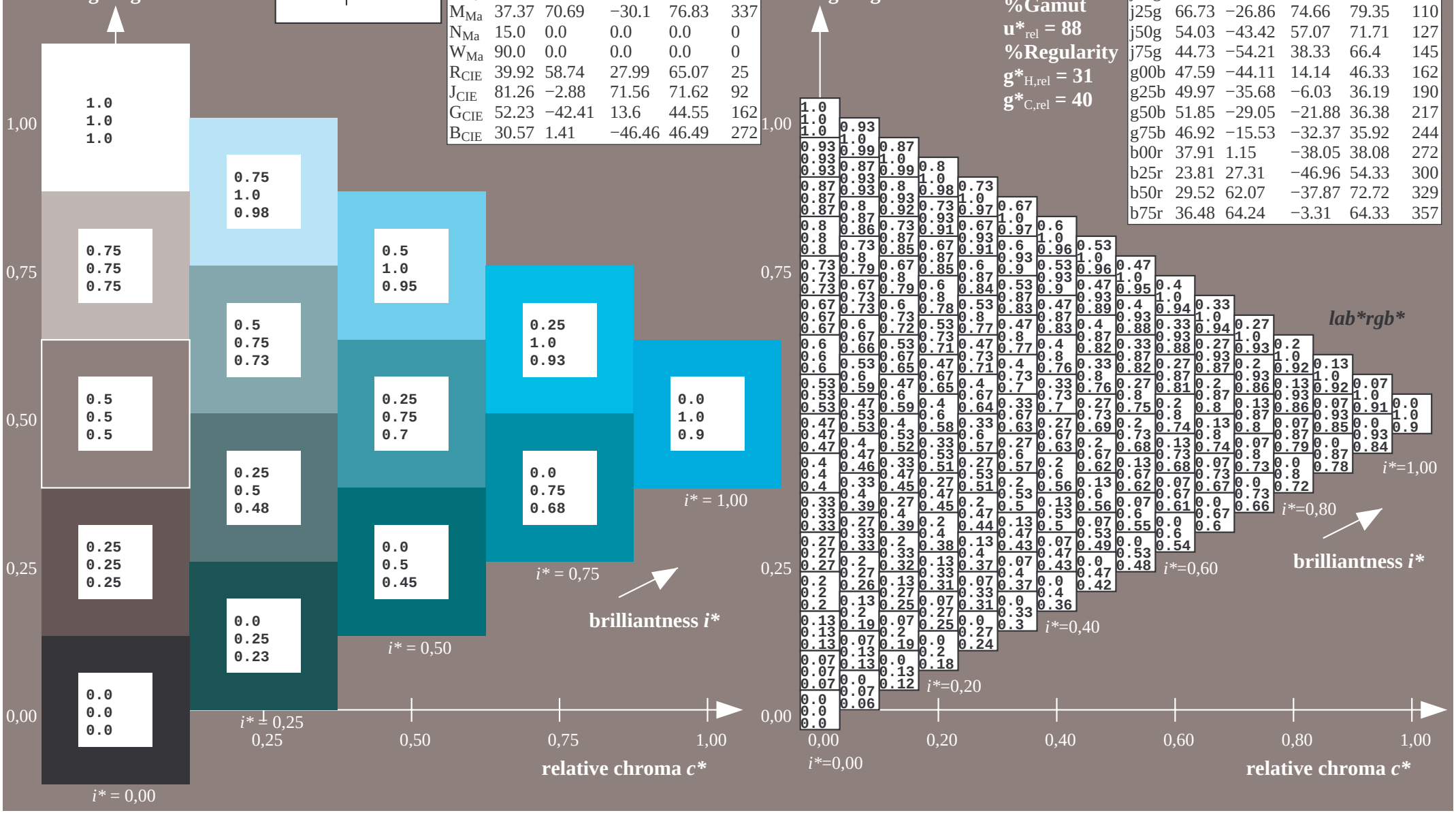


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

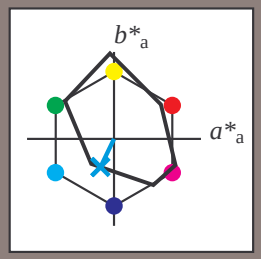
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; 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_90a for relative CIELAB hue *h = *lab*h** = h_{ab}/360 = 244/360 = 0.679** *u* = g75b* *lab*rgb**

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

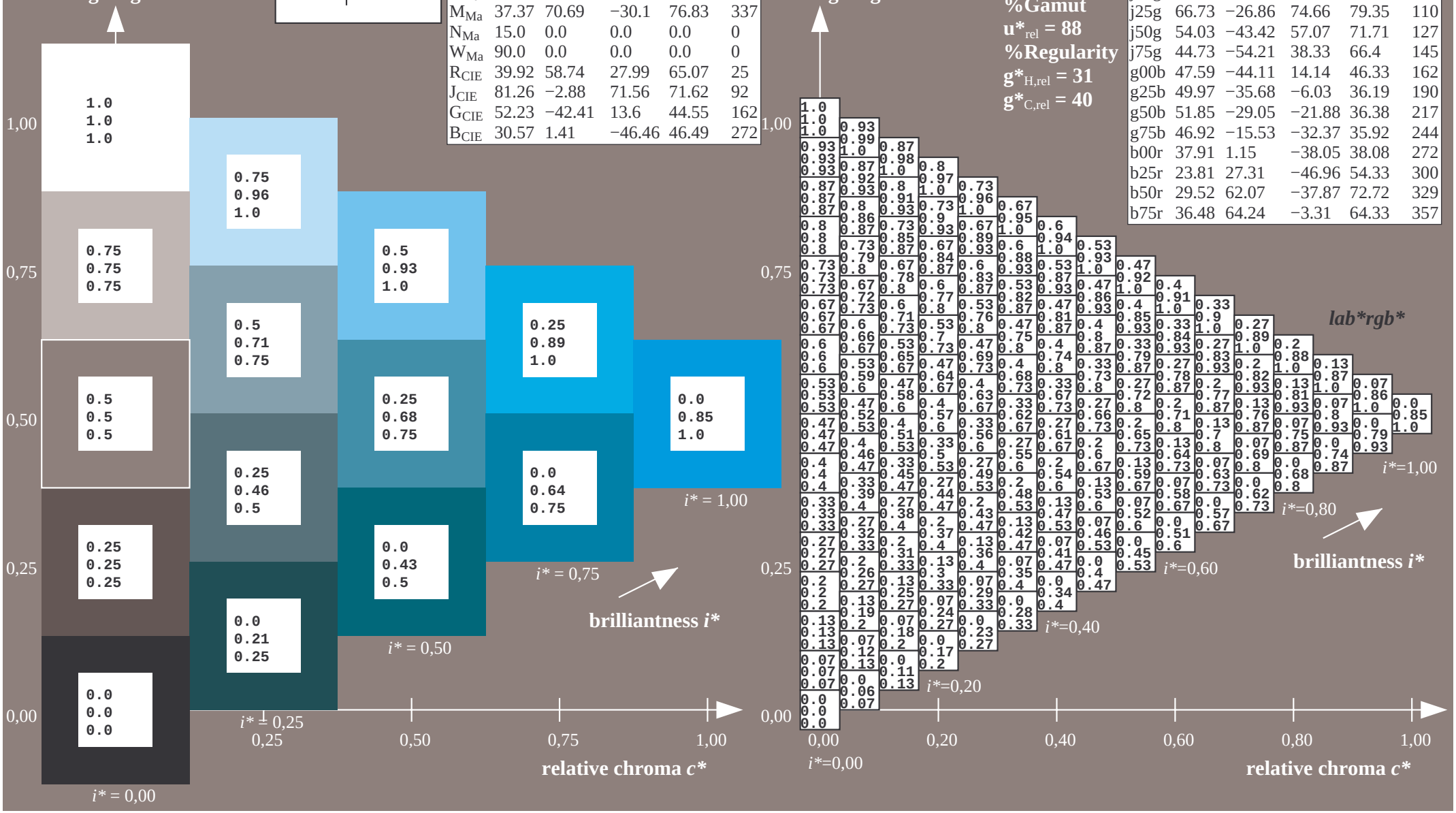


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

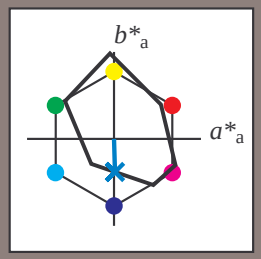
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; 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_90a 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**

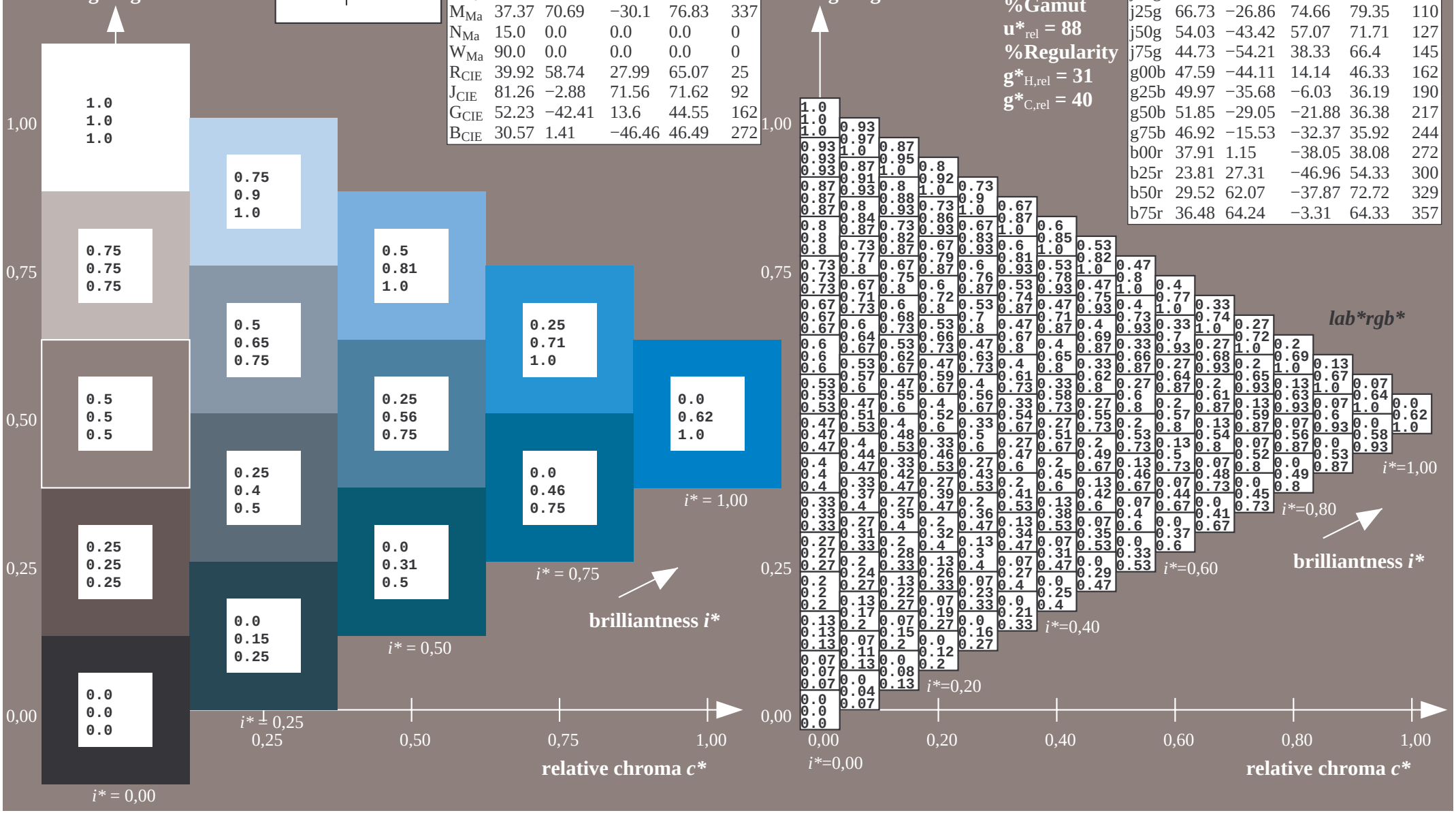


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

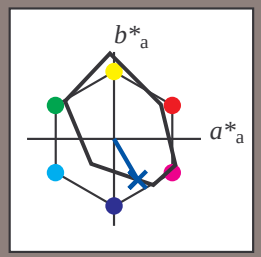
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; 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_90a 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**

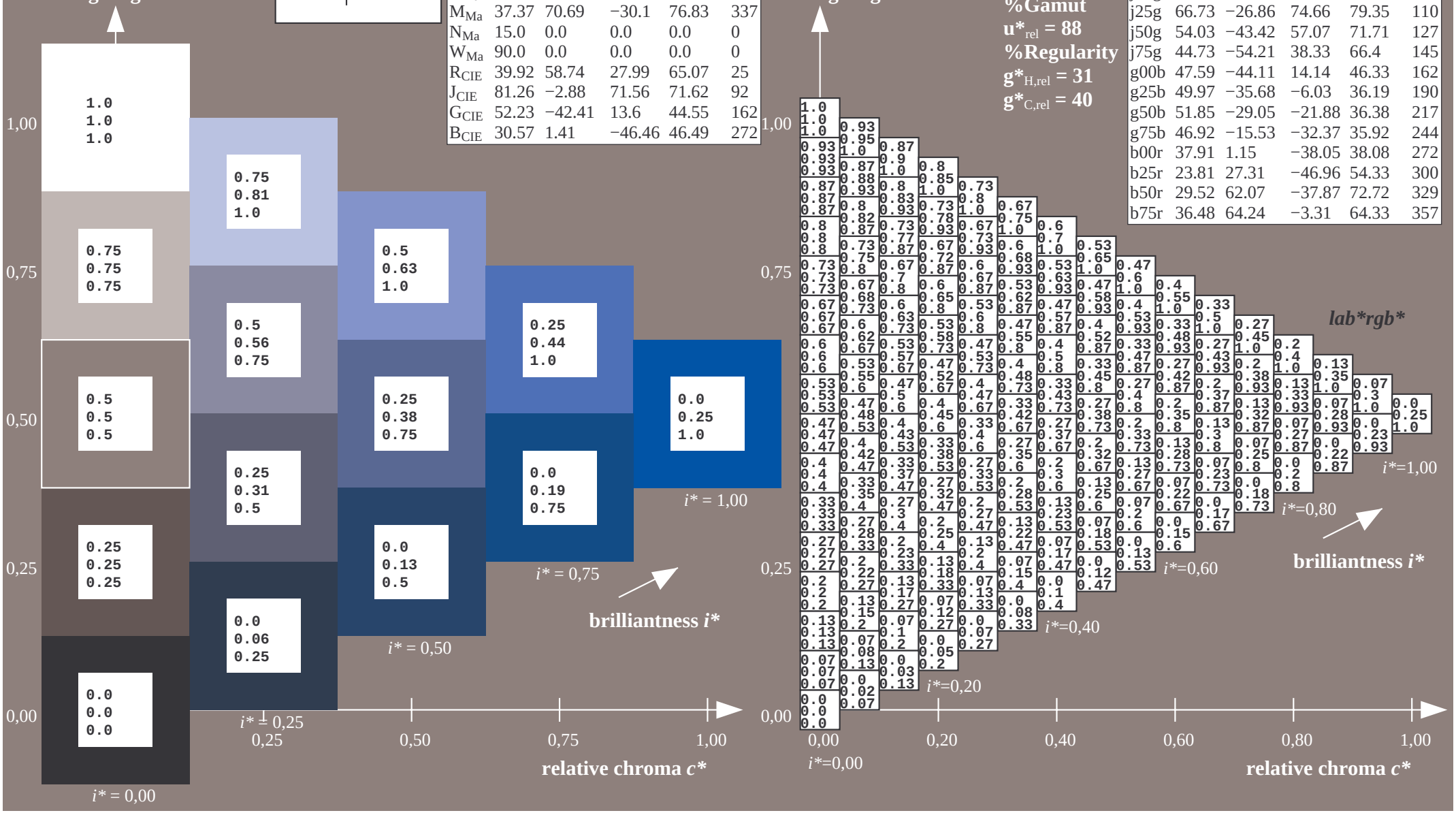


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

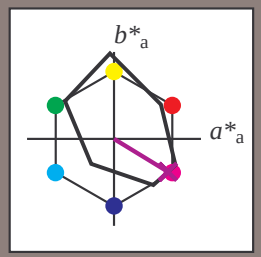
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; 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_90a 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_90a; adapted (a) CIELAB data

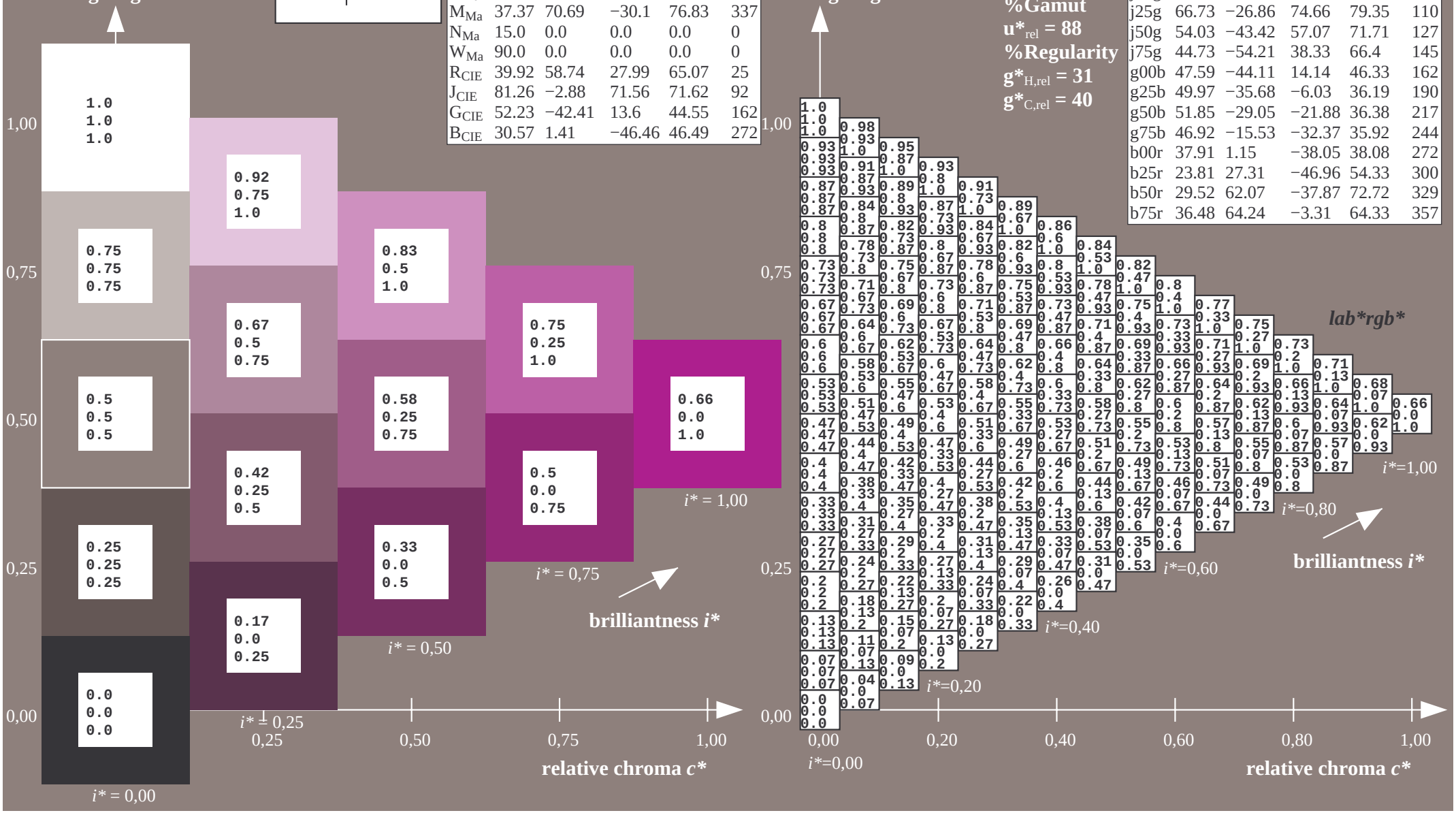
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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_90a; adapted (a) CIELAB data

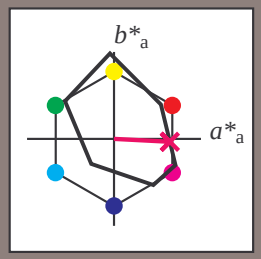
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a for relative CIELAB hue *h = *lab*h** = $h_{ab}/360$ = 357/360 = 0.992** ***u** = b75r***

lab*rgb*

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_90a; adapted (a) CIELAB data

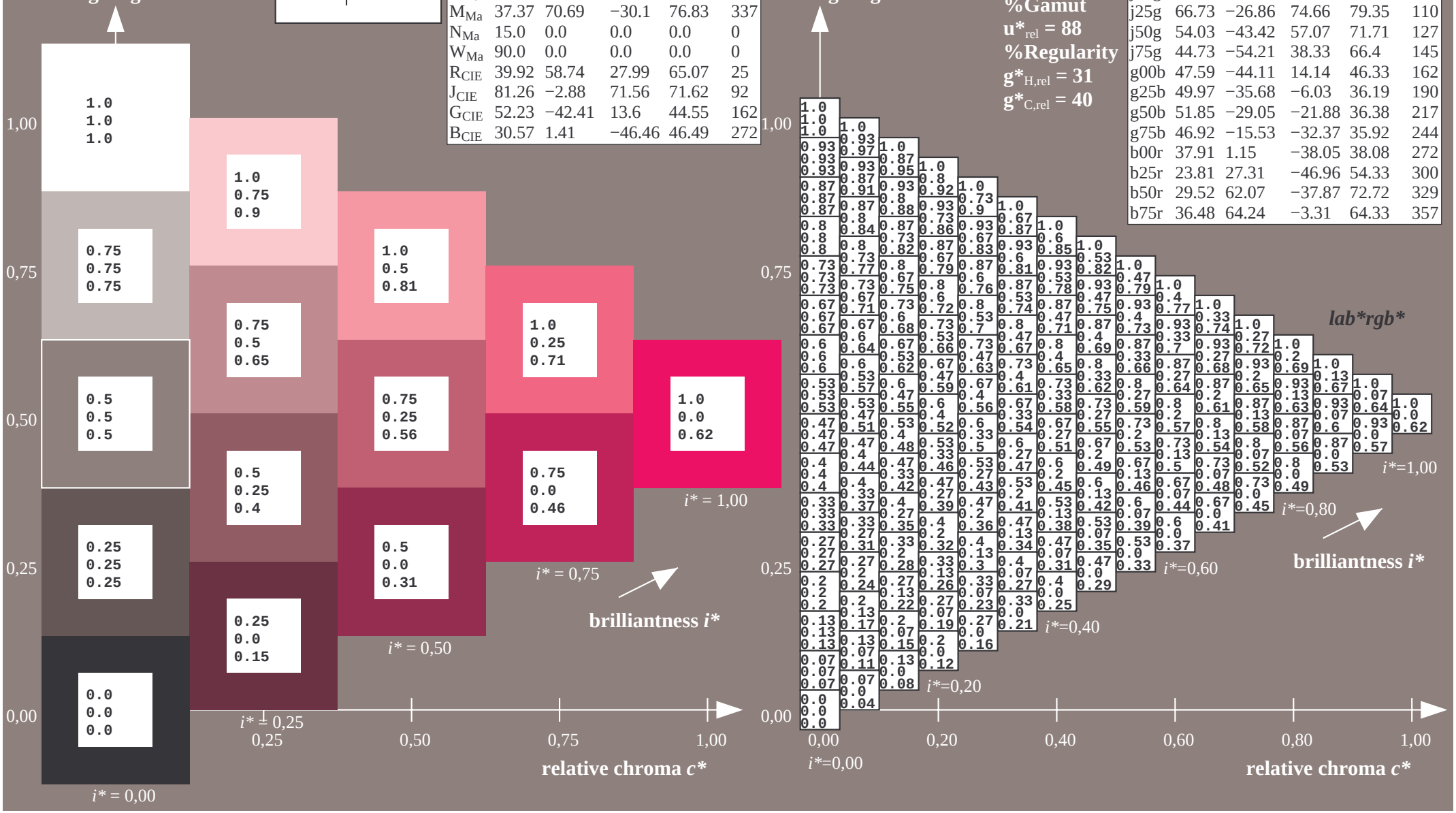
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

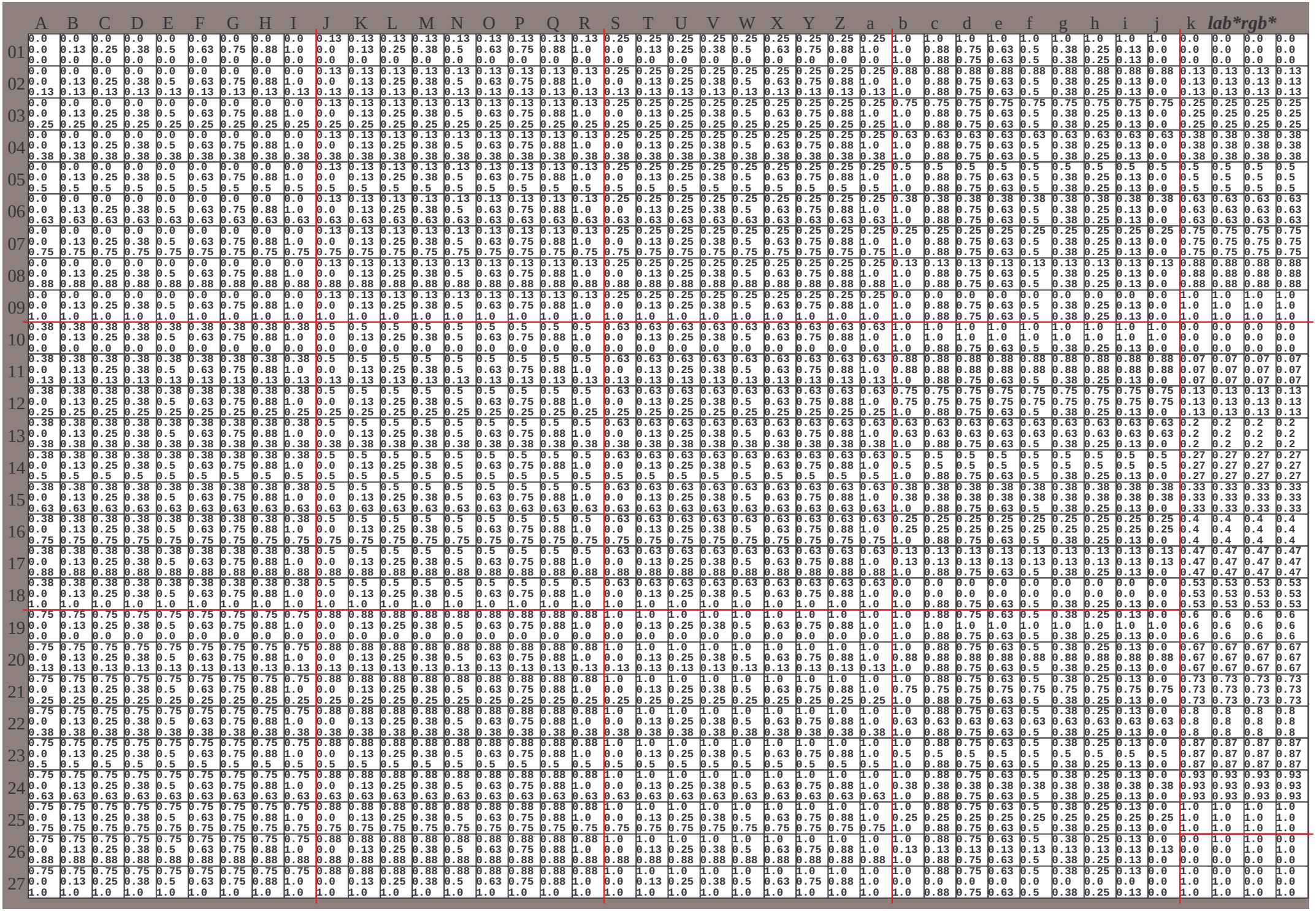
Data for maximum colour (Ma):
LAB*LAB**Ma: 36 64 −2
LAB*LCH**Ma: 36 64 357
lab*rgb**Ma: 1.0 0.0 0.5
lab*olv**Ma: 1.0 0.0 0.62
triangle lightness *t**

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

FRS15_90a; 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*rgb*
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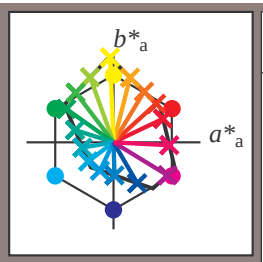
Input and output:
Colorimetric Printer Reflective System FRS15_90a
data for any colour:
lab*tch* **and** ***lab*icu****
elementary hue text:
u* **= 16 hues** ***r00j, r25j, ..., b75r***
contrast reduction factor:
$c_R = 0.9$

FRS15_90a; adapted (a) CIELAB data

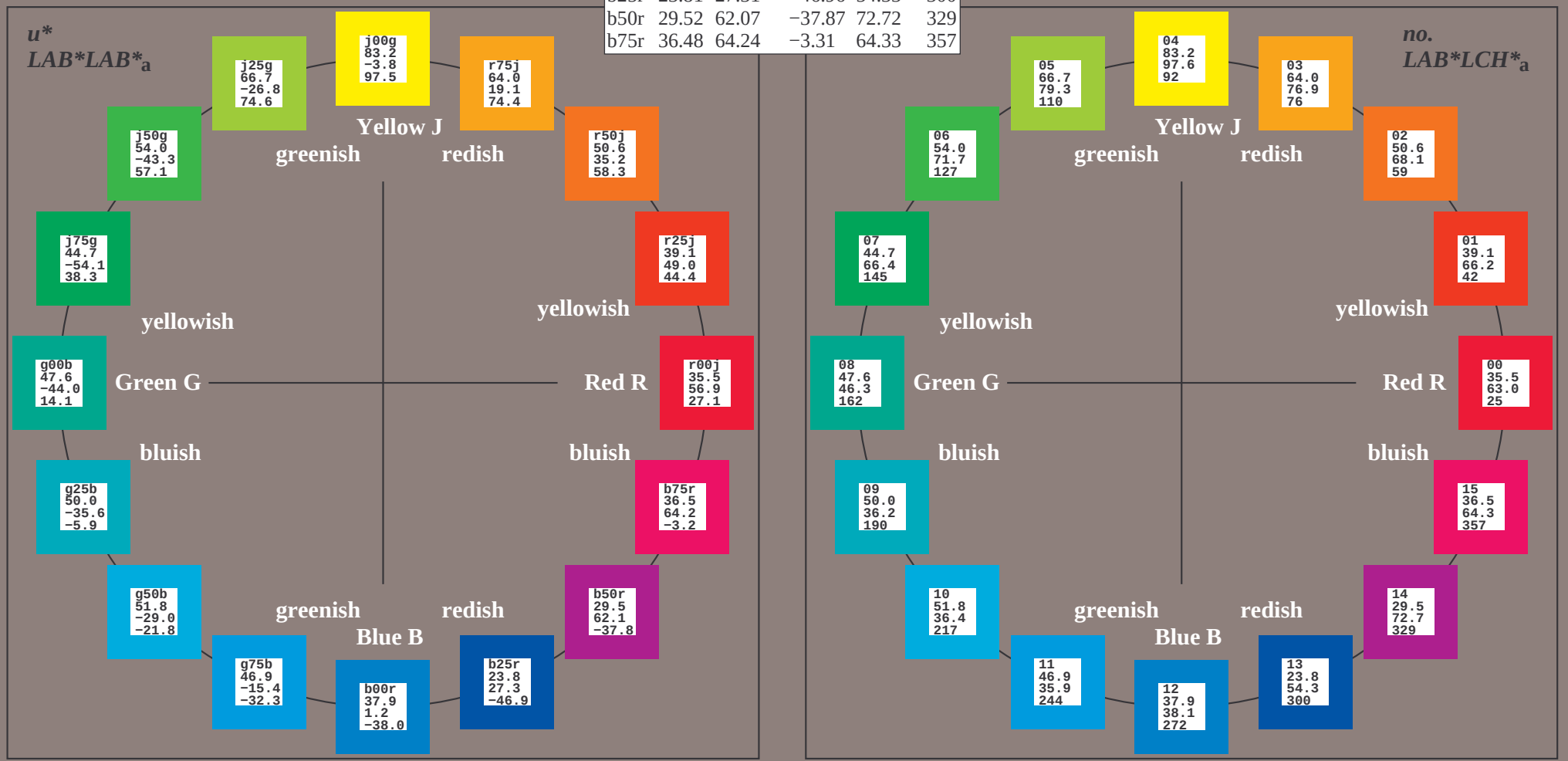
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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

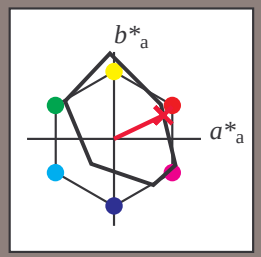
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; adapted (a) CIELAB data

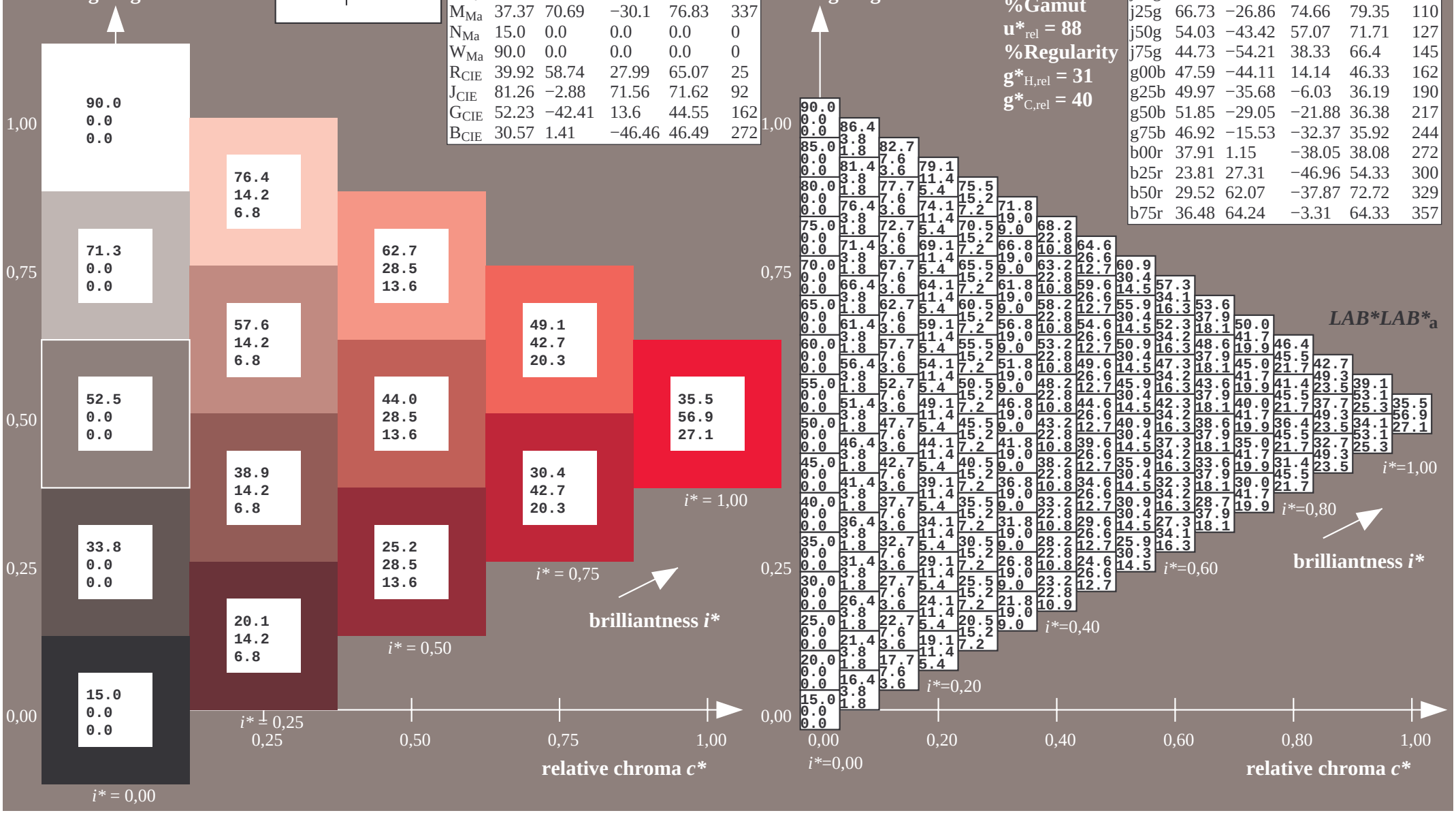
	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
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**
triangle lightness *t**

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

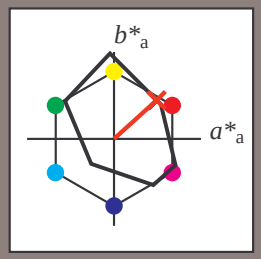
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90a; adapted (a) CIELAB data

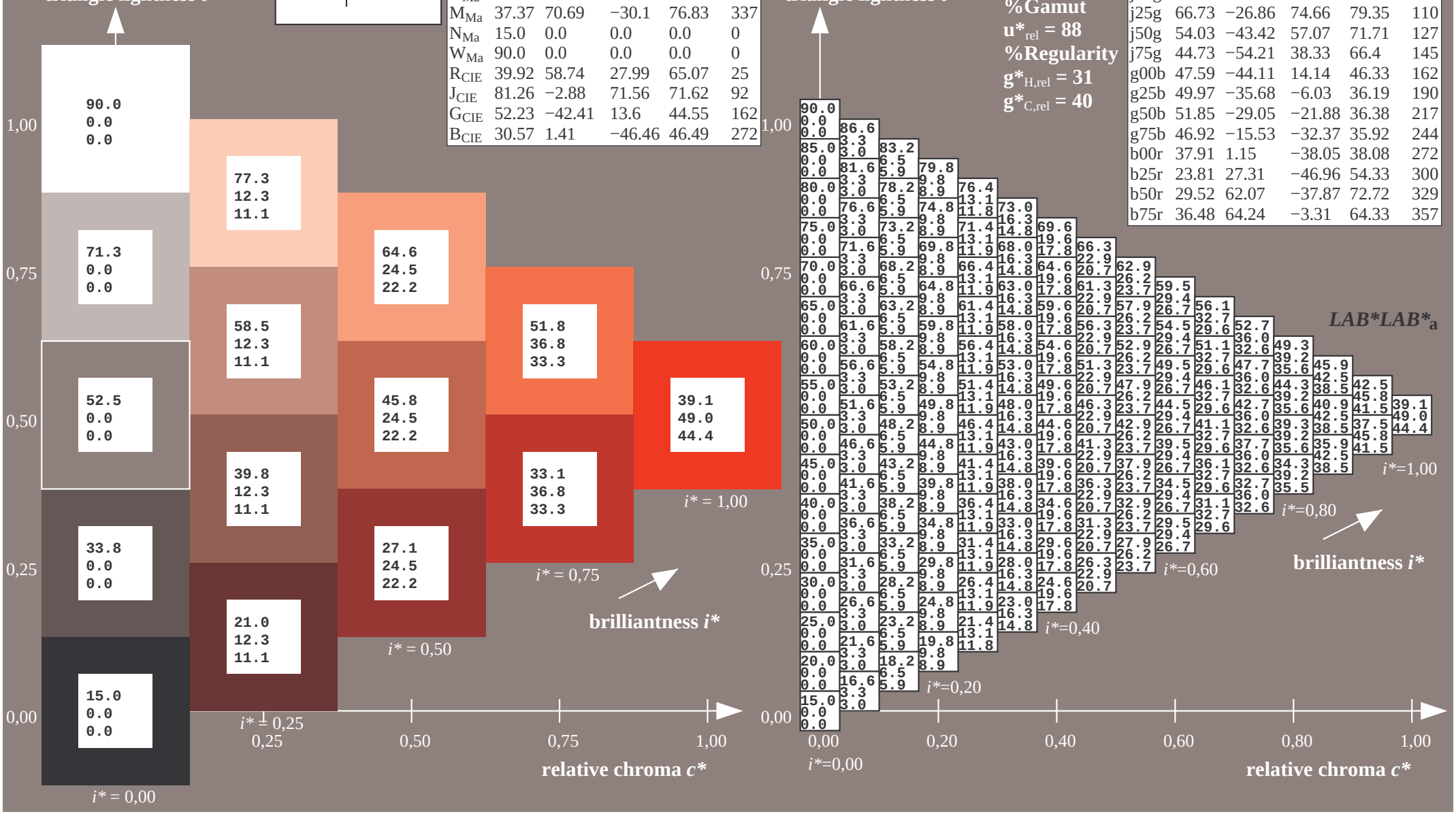
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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**

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

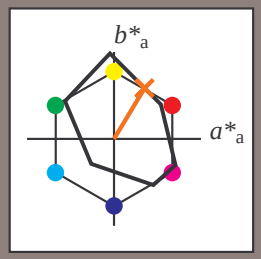
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; 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

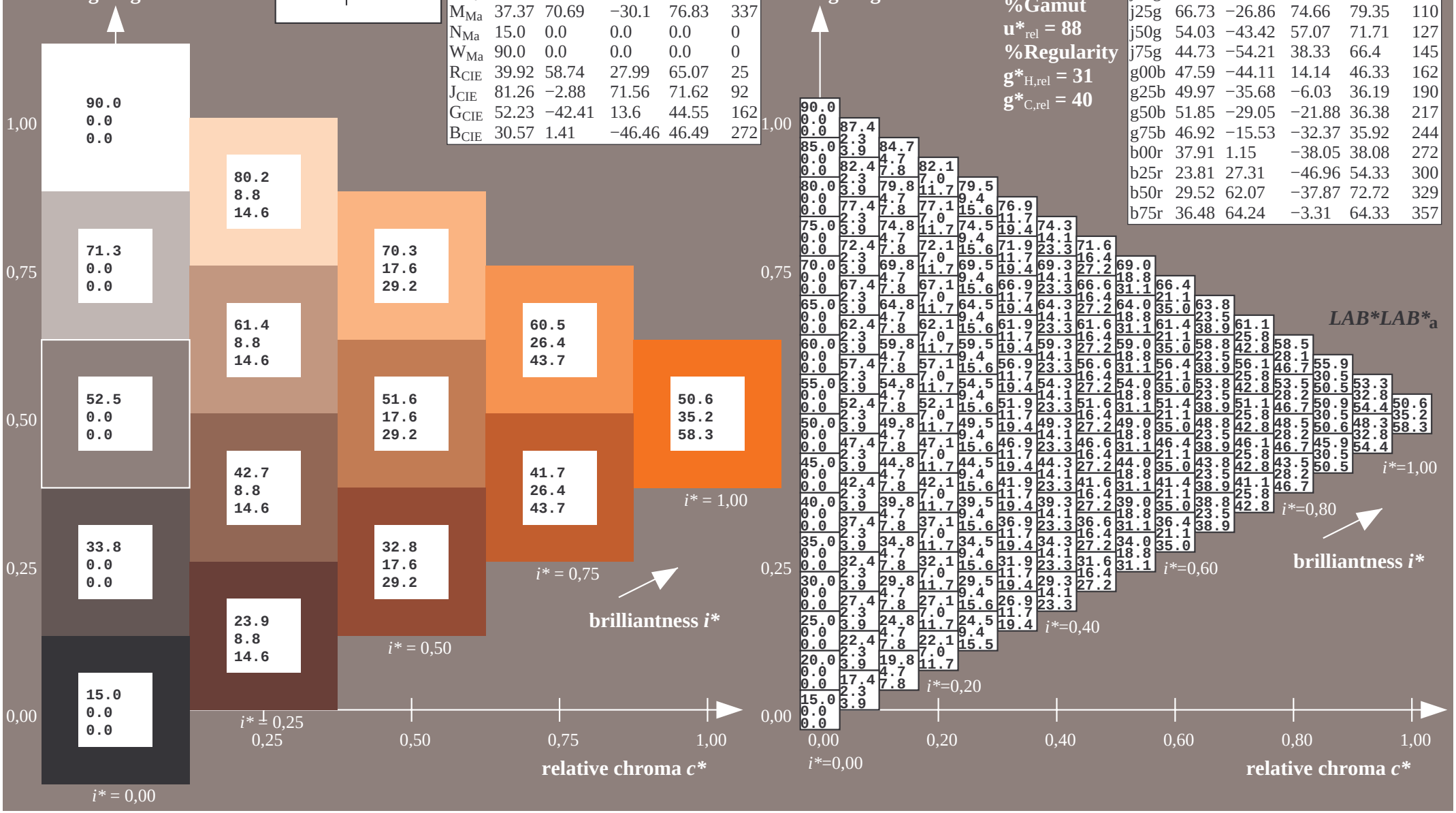
Data for maximum colour (Ma):
***LAB*LAB**Ma: 51 35 58**
***LAB*LCH**Ma: 51 68 59**
***lab*rgb**Ma: 1.0 0.5 0.0**
***lab*olv**Ma: 1.0 0.32 0.0**
triangle lightness *t**

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

u** = r50j
***LAB*LAB**a**

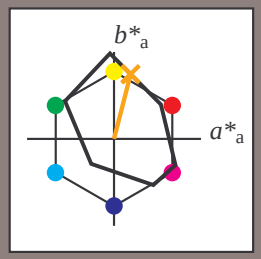
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; 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

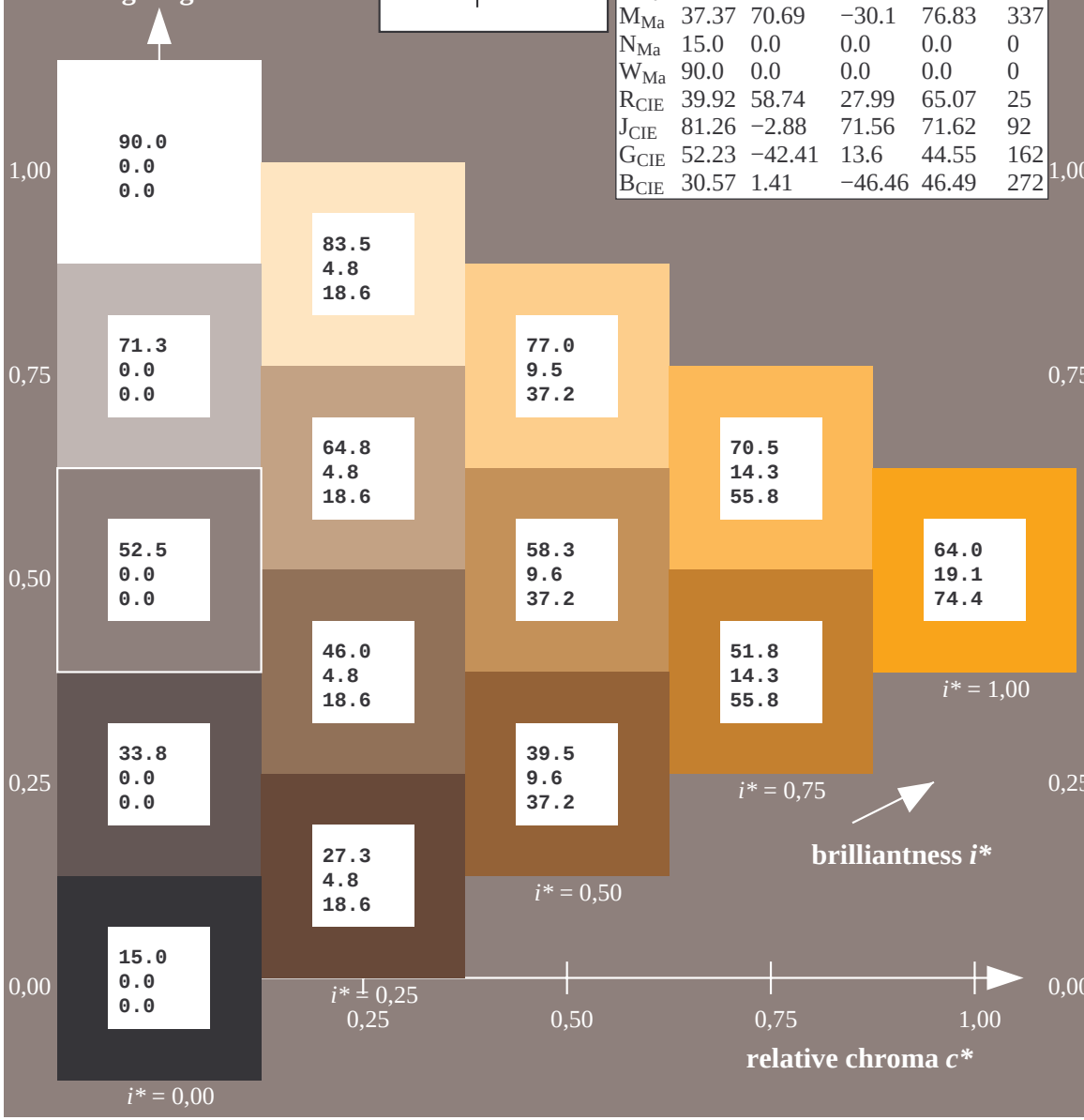
Data for maximum colour (Ma):
***LAB*LAB**Ma: 64 19 74**
***LAB*LCH**Ma: 64 77 76**
***lab*rgb**Ma: 1.0 0.75 0.0**
***lab*olv**Ma: 1.0 0.59 0.0**
triangle lightness *t**

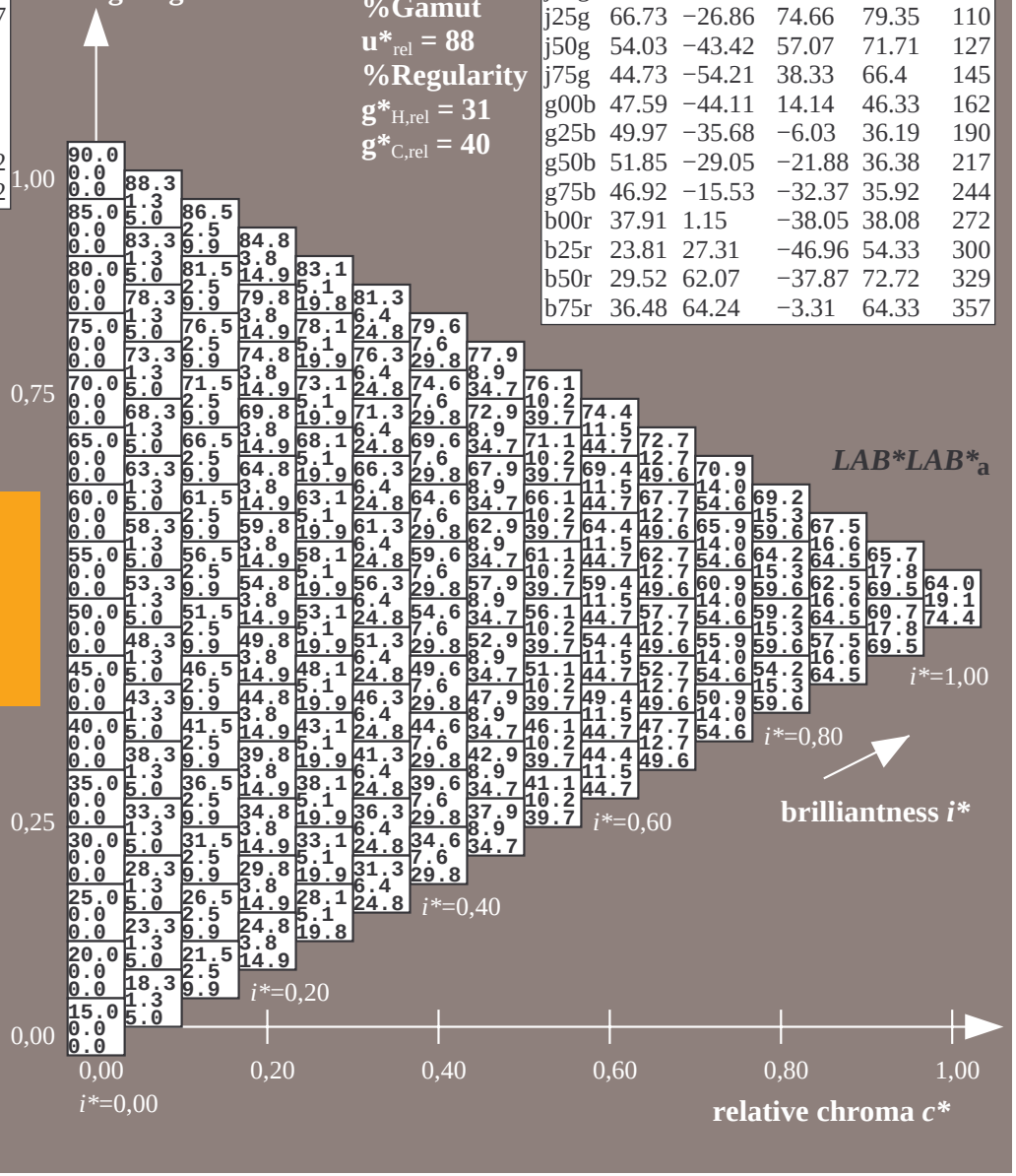
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

u** = r75j
***LAB*LAB**a**

FRS15_90a; adapted (a) CIELAB data

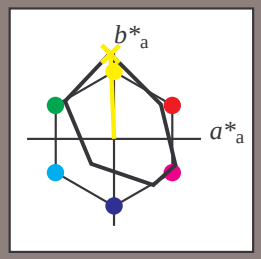
	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	66.4	145
g00b	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_90a 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_90a; 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

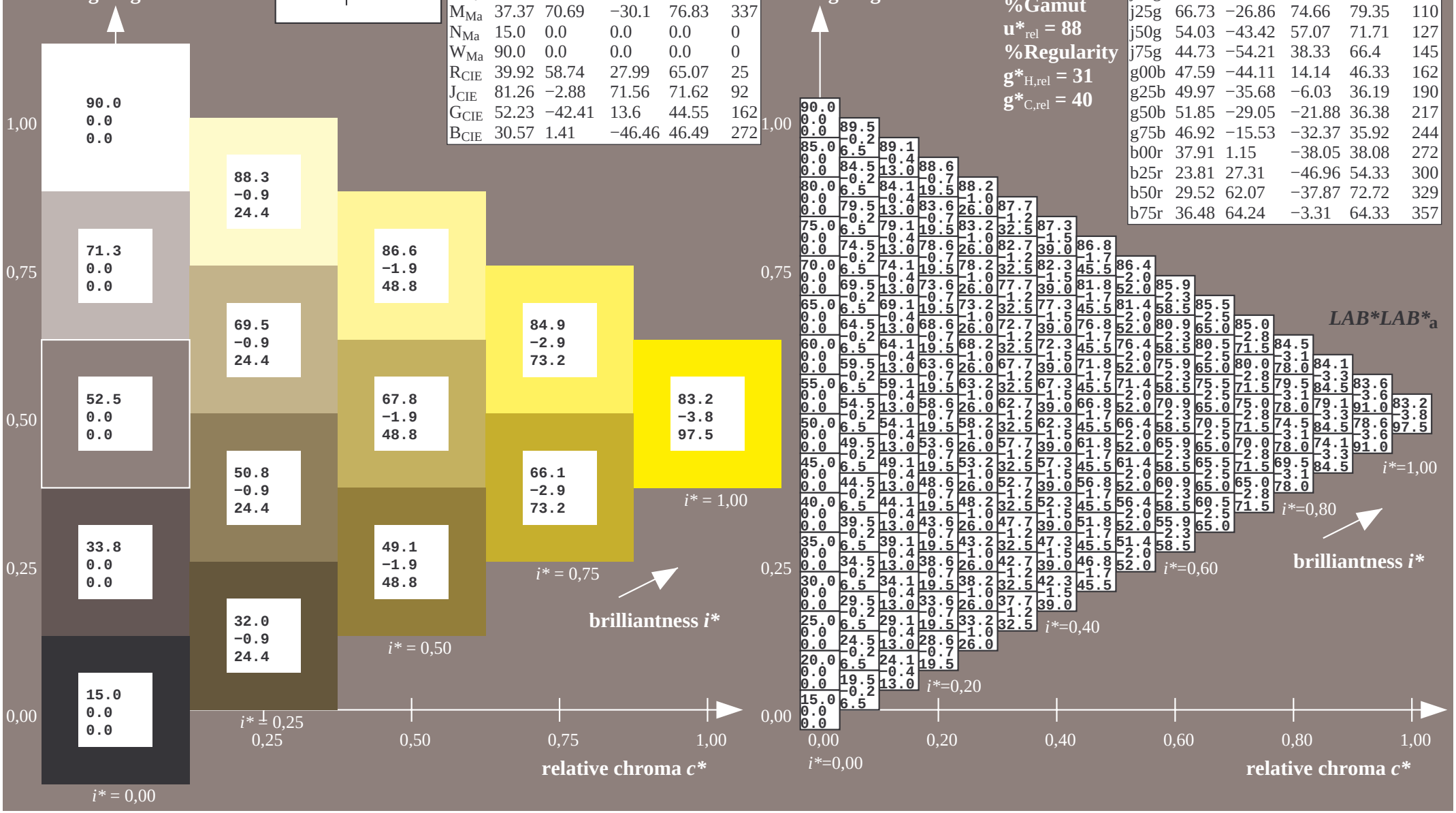
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 83 −3 98**
***LAB*LCH*Ma*: 83 98 92**
***lab*rgb*Ma*: 1.0 1.0 0.0**
***lab*olv*Ma*: 1.0 0.99 0.0**
triangle lightness t^*

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

$u^* = j00g$
LAB*LAB*a

FRS15_90a; 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

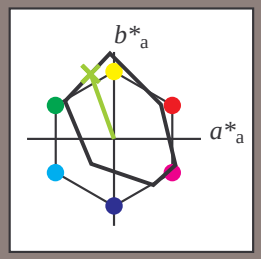


Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue *h = *lab*h** = h_{ab}/360 = 110/360 = 0.305**

u** = j25g

LAB*LAB*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_90a; adapted (a) CIELAB data

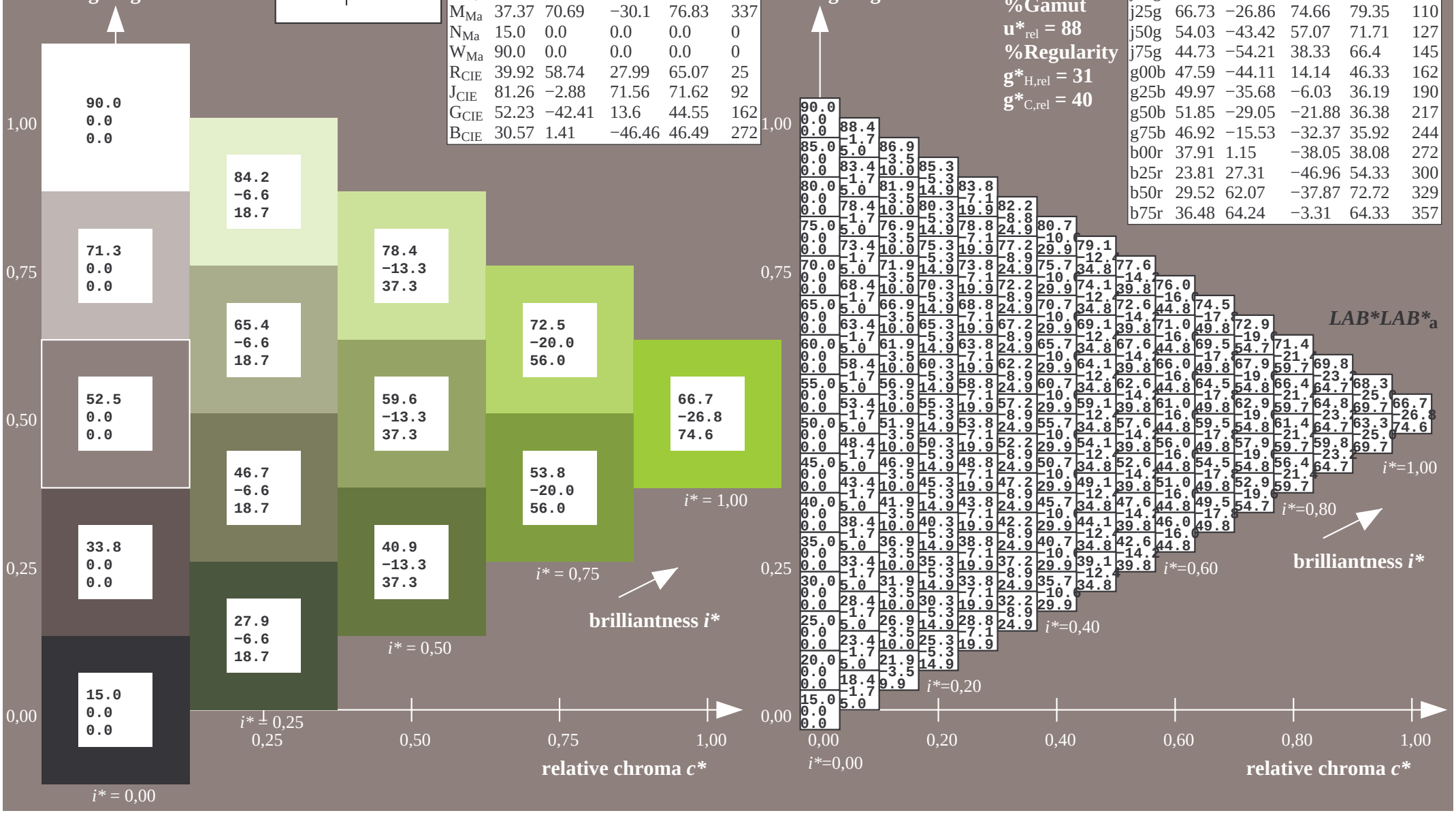
	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{CIE}	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

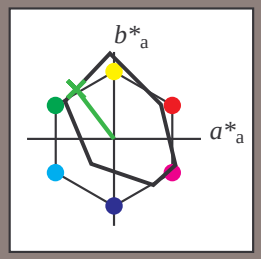
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90a; 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

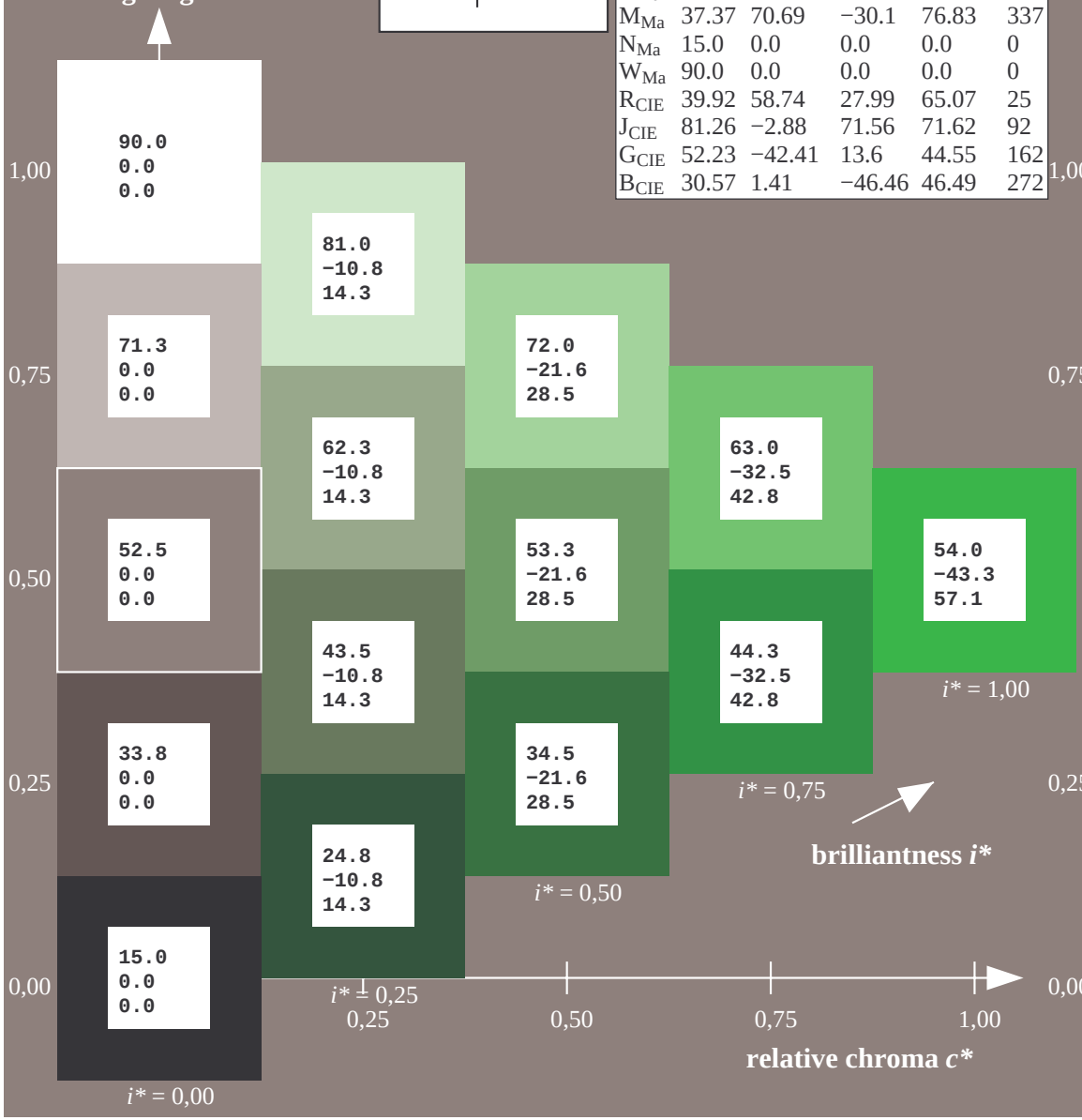
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 54 −42 57
LAB*LCH*$_{Ma}$: 54 72 127
lab*rgb*$_{Ma}$: 0.5 1.0 0.0
lab*olv*$_{Ma}$: 0.25 1.0 0.0
triangle lightness *t**

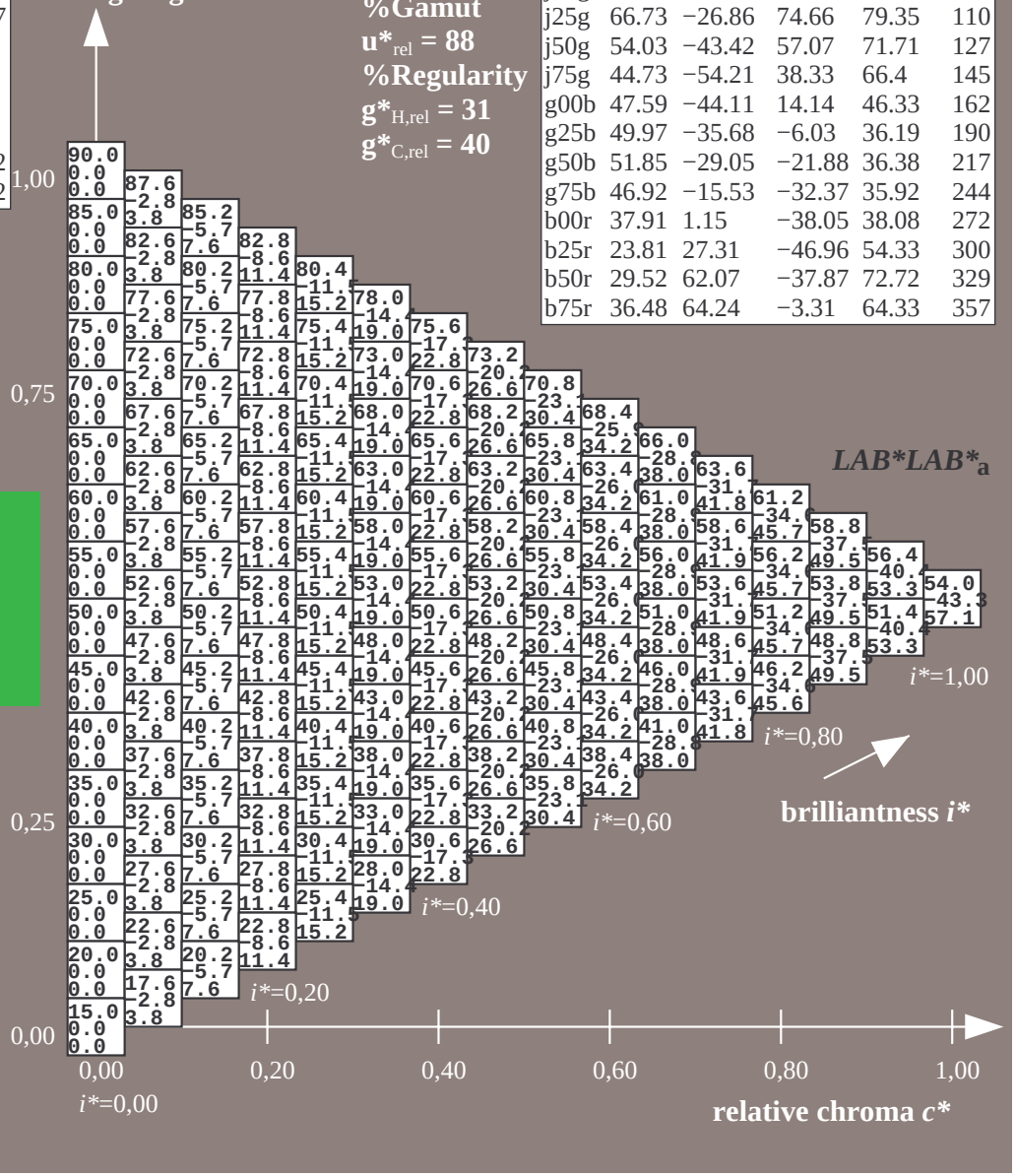
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

u* = j50g
LAB*LAB*a

FRS15_90a; 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



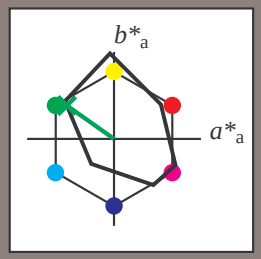


Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue *h = *lab*h** = h_{ab}/360 = 145/360 = 0.402**

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_90a; adapted (a) CIELAB data

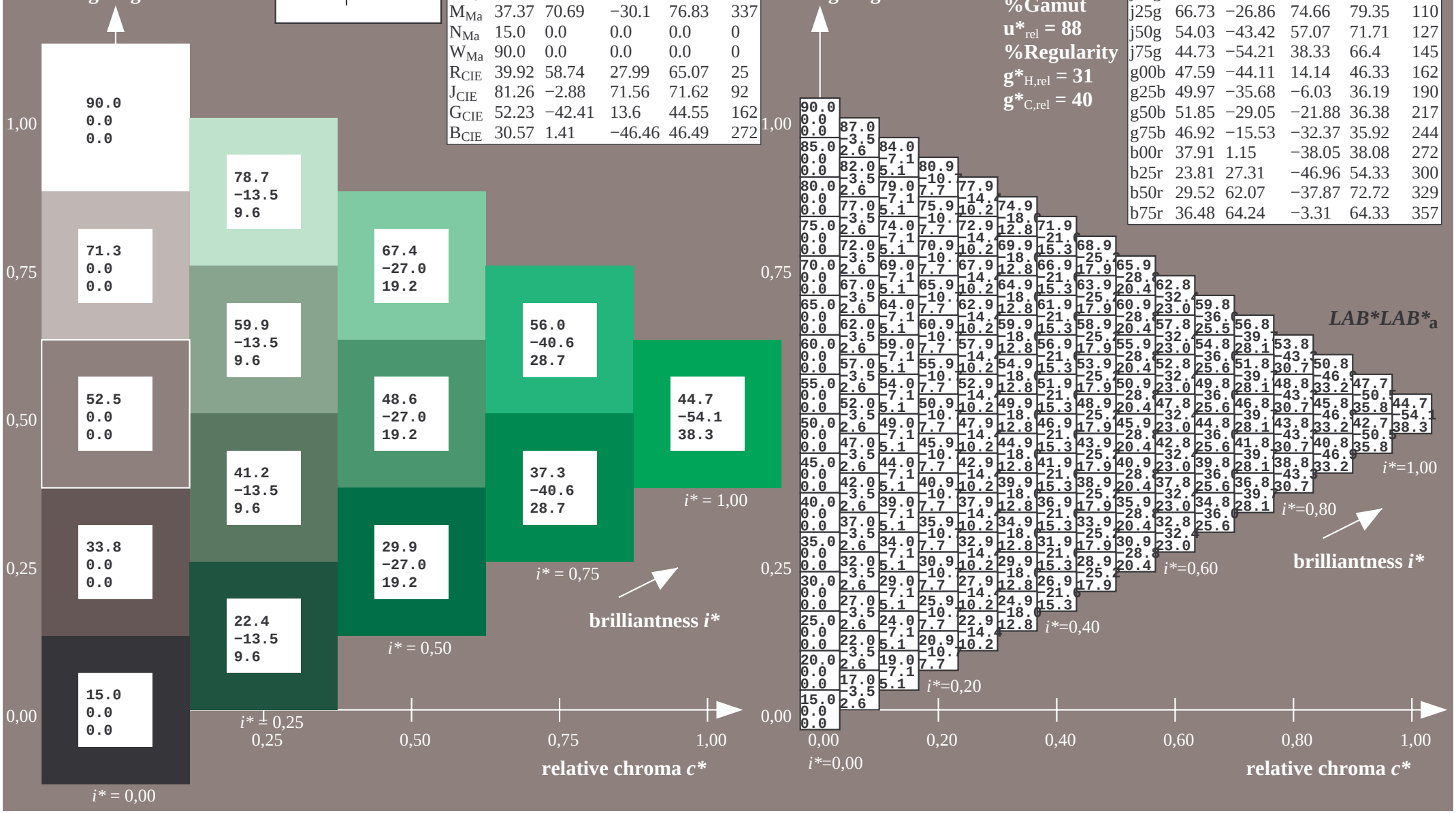
	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{CIE}	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

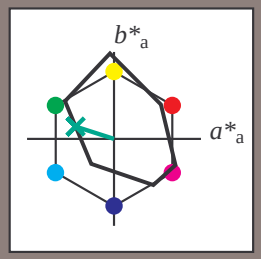
FRS15_90a; adapted (a) CIELAB data

	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_90a 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**

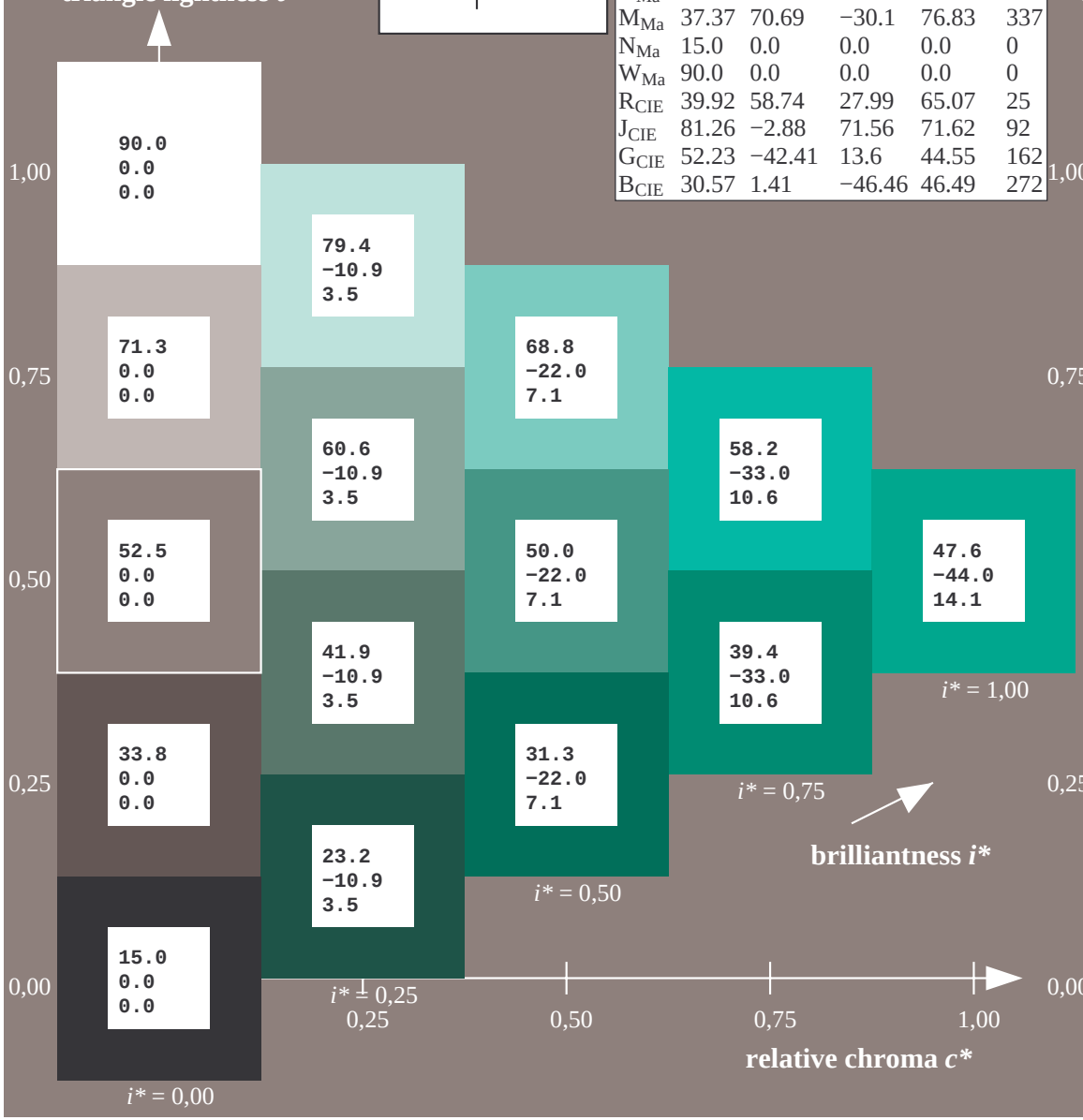


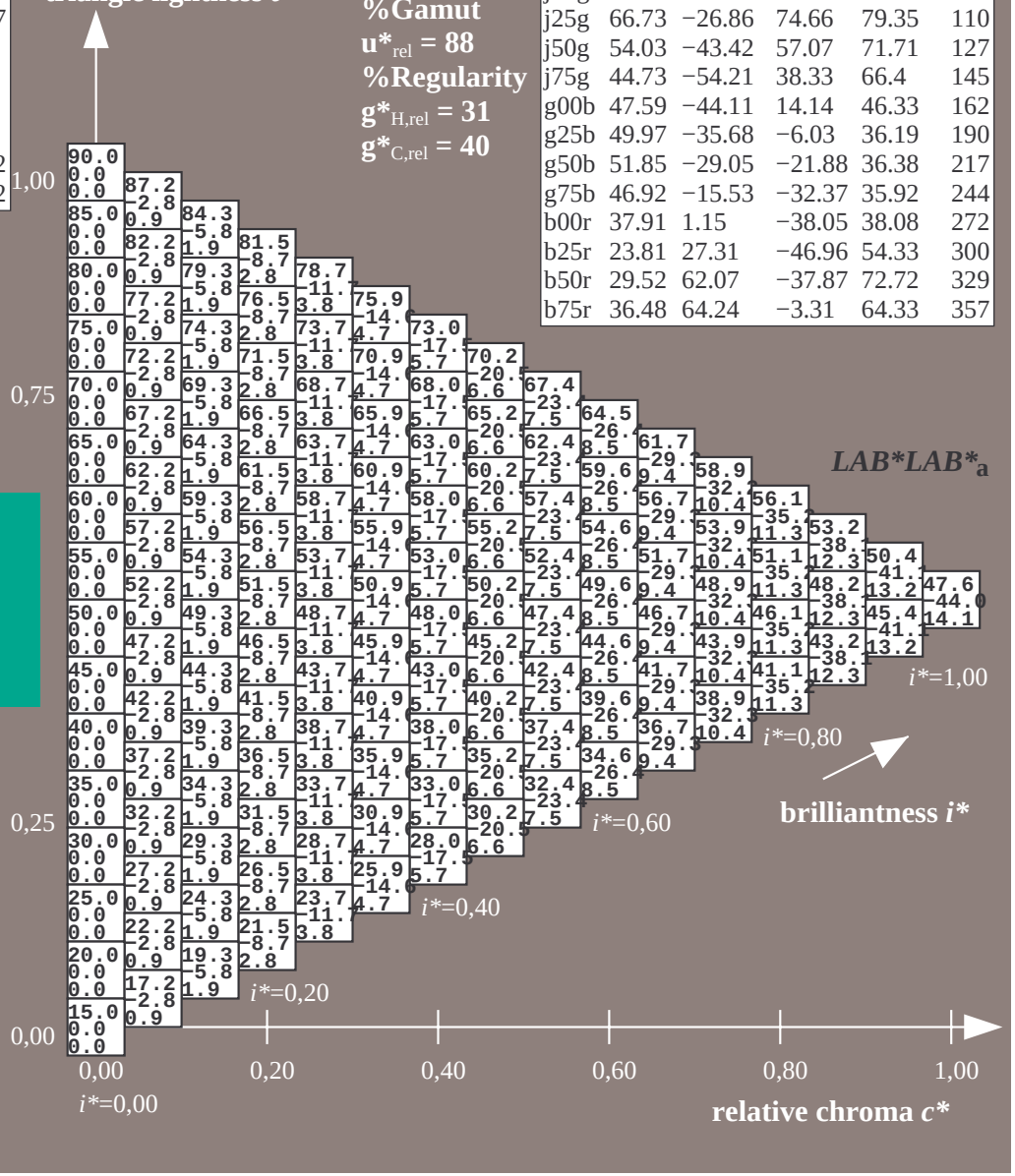
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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

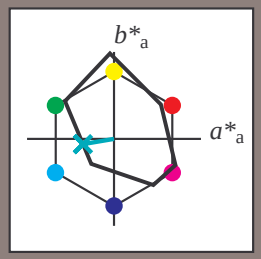
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	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_90a 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_90a; adapted (a) CIELAB data

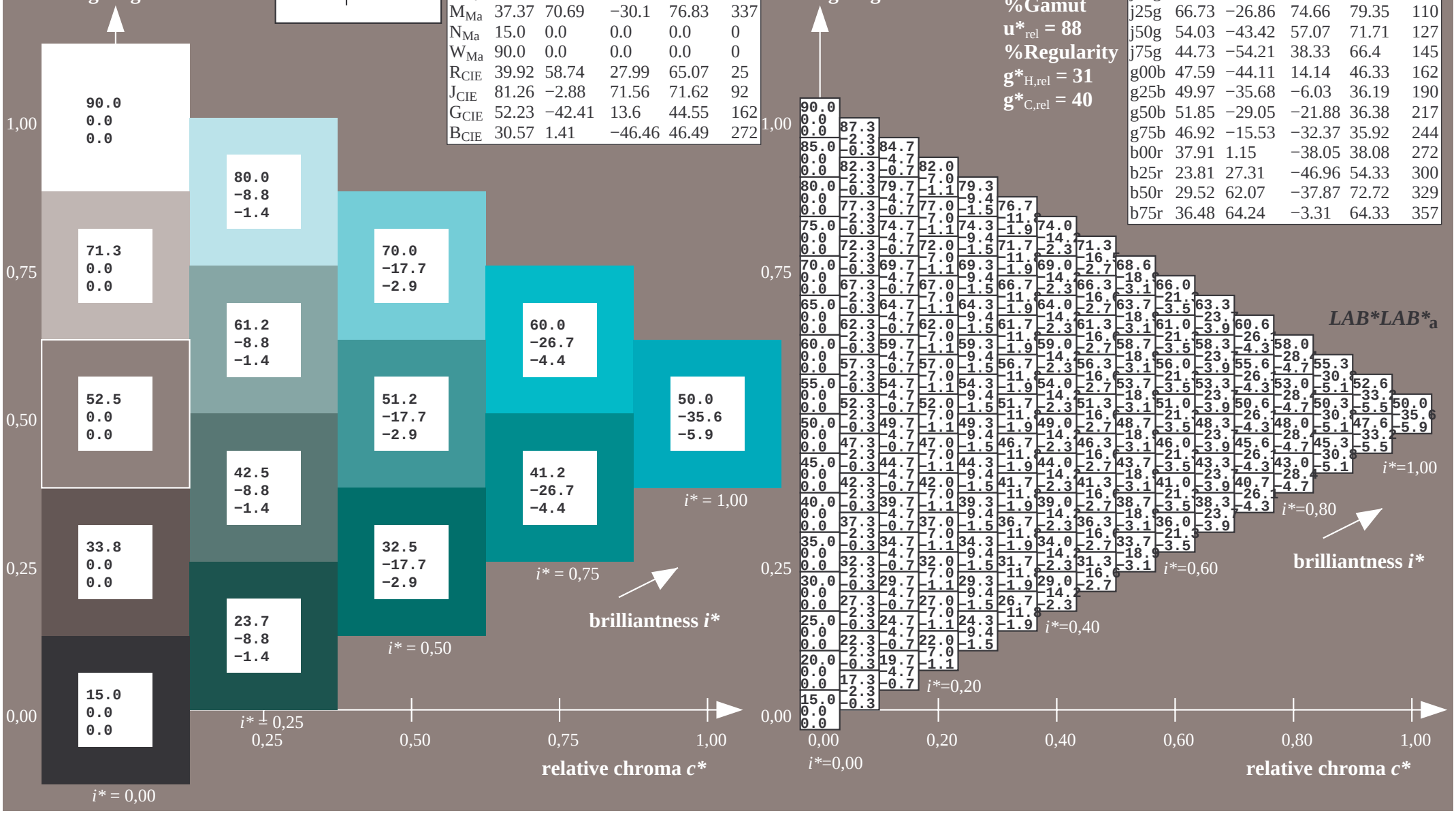
	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{CIE}	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_90a; adapted (a) CIELAB data

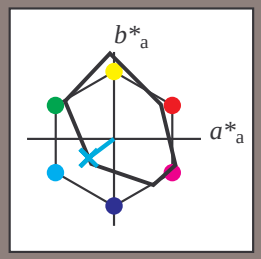
	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	66.4	145
g00b	47.59	−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_90a for relative CIELAB hue *h = *lab*h** = h_{ab}/360 = 217/360 = 0.603** *u* = g50b*

*LAB*LAB*a*

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_90a; adapted (a) CIELAB data

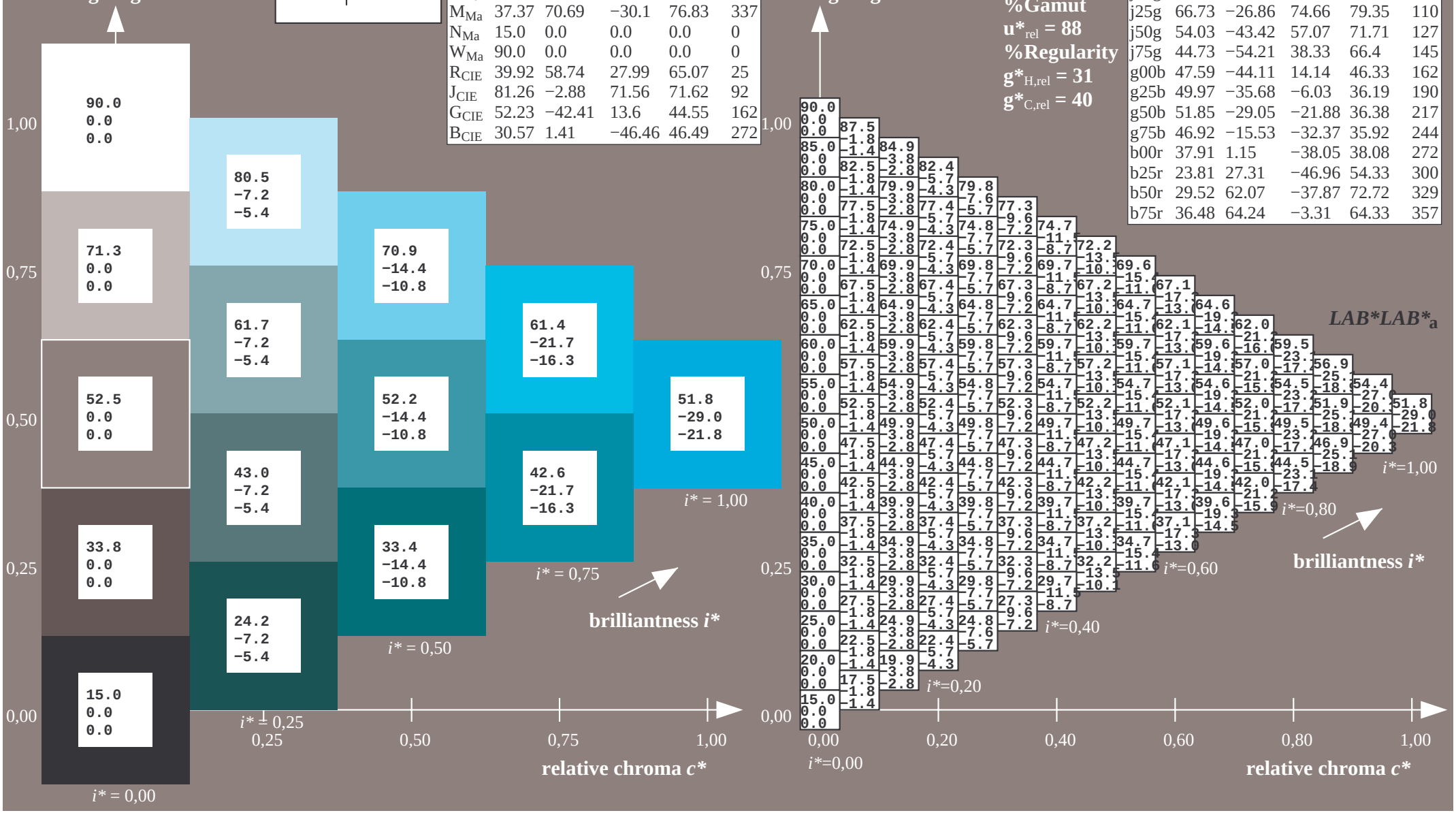
	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{CIE}	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

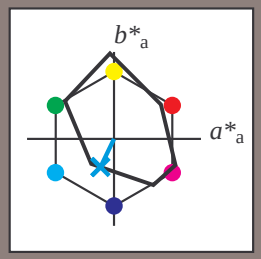
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90a; adapted (a) CIELAB data

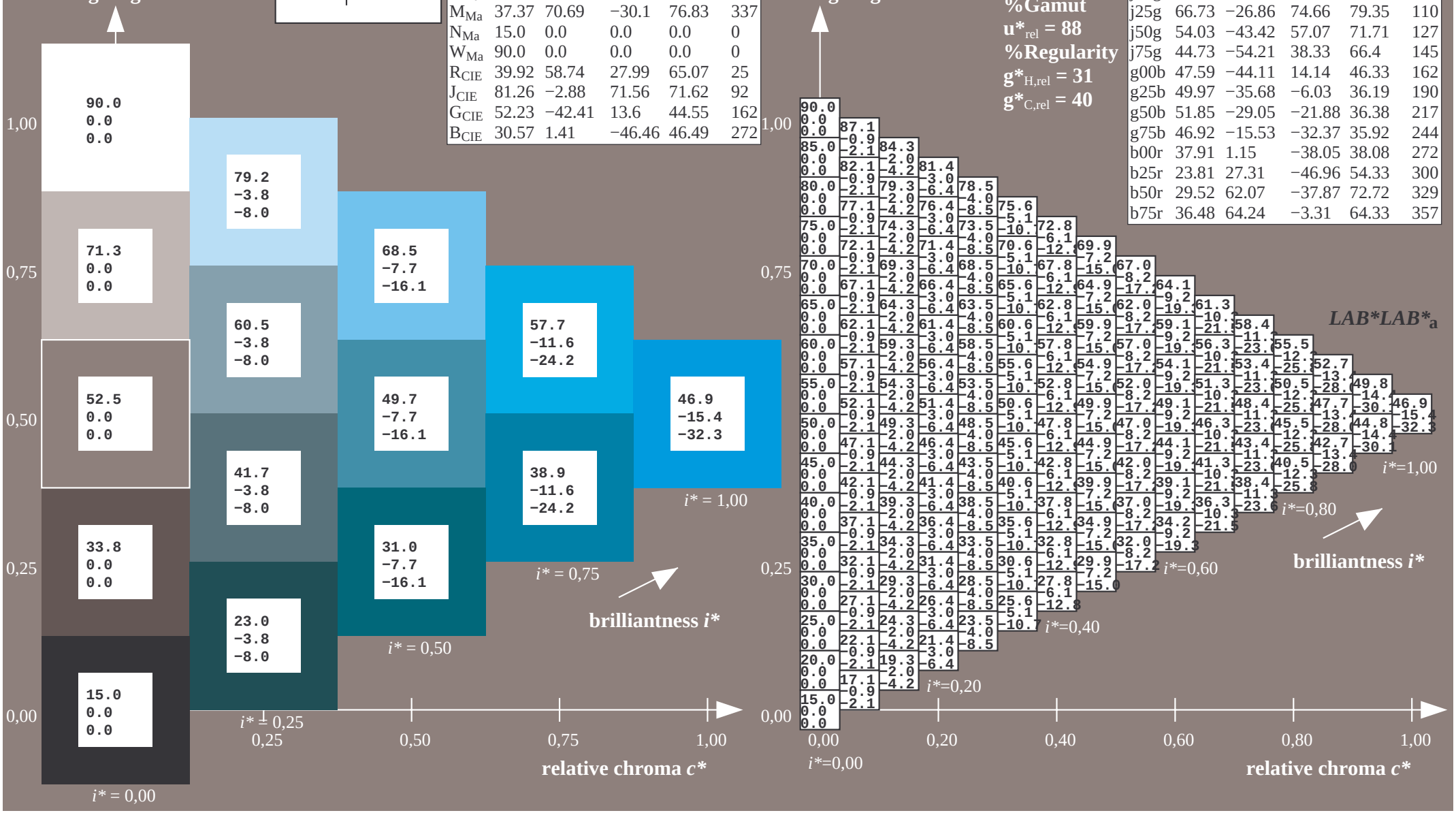
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

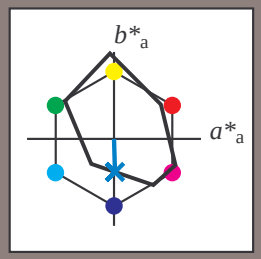
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; adapted (a) CIELAB data

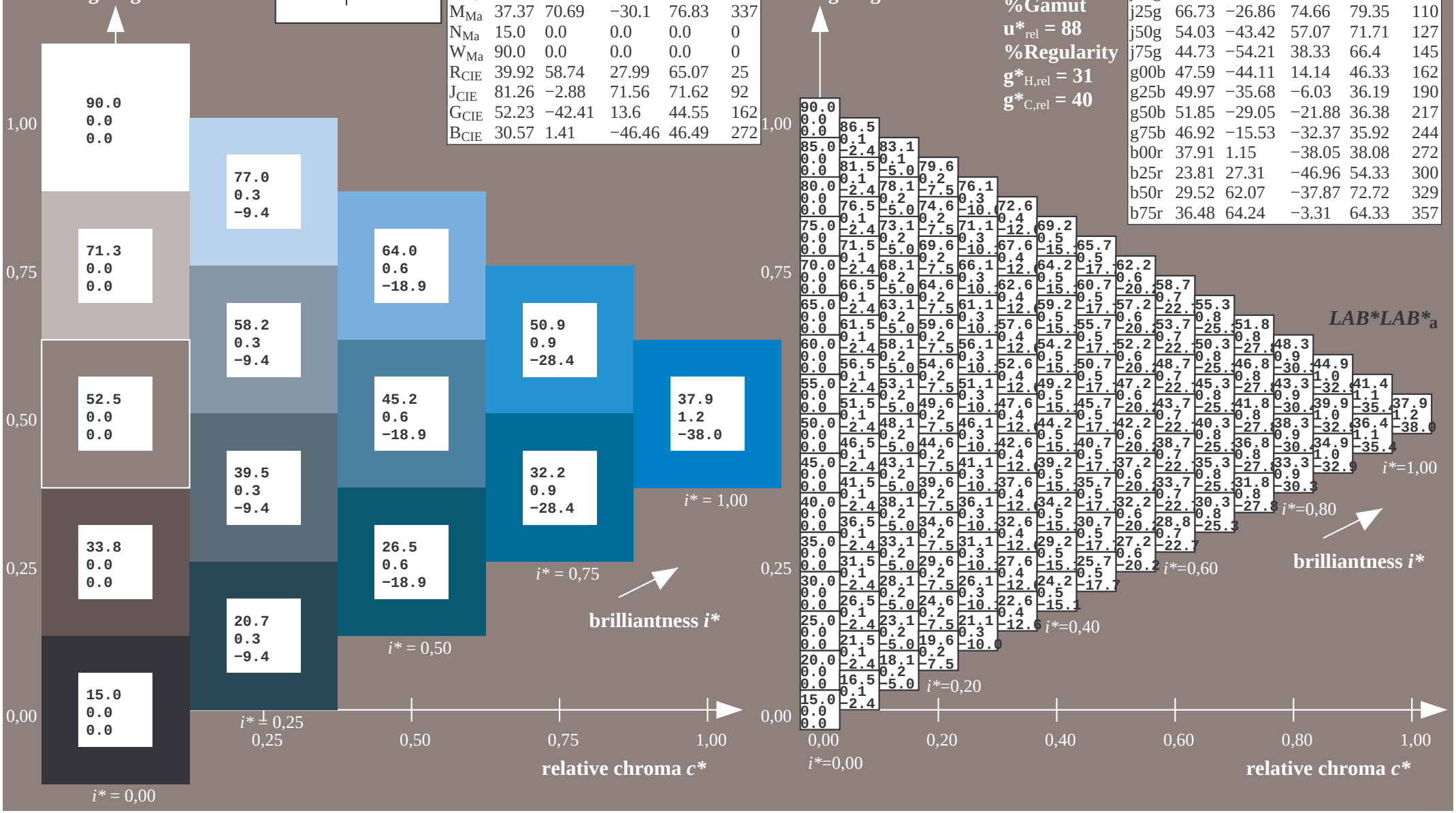
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

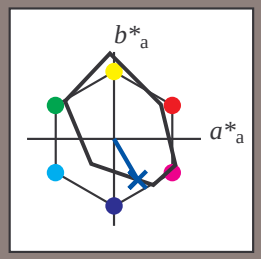
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; 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

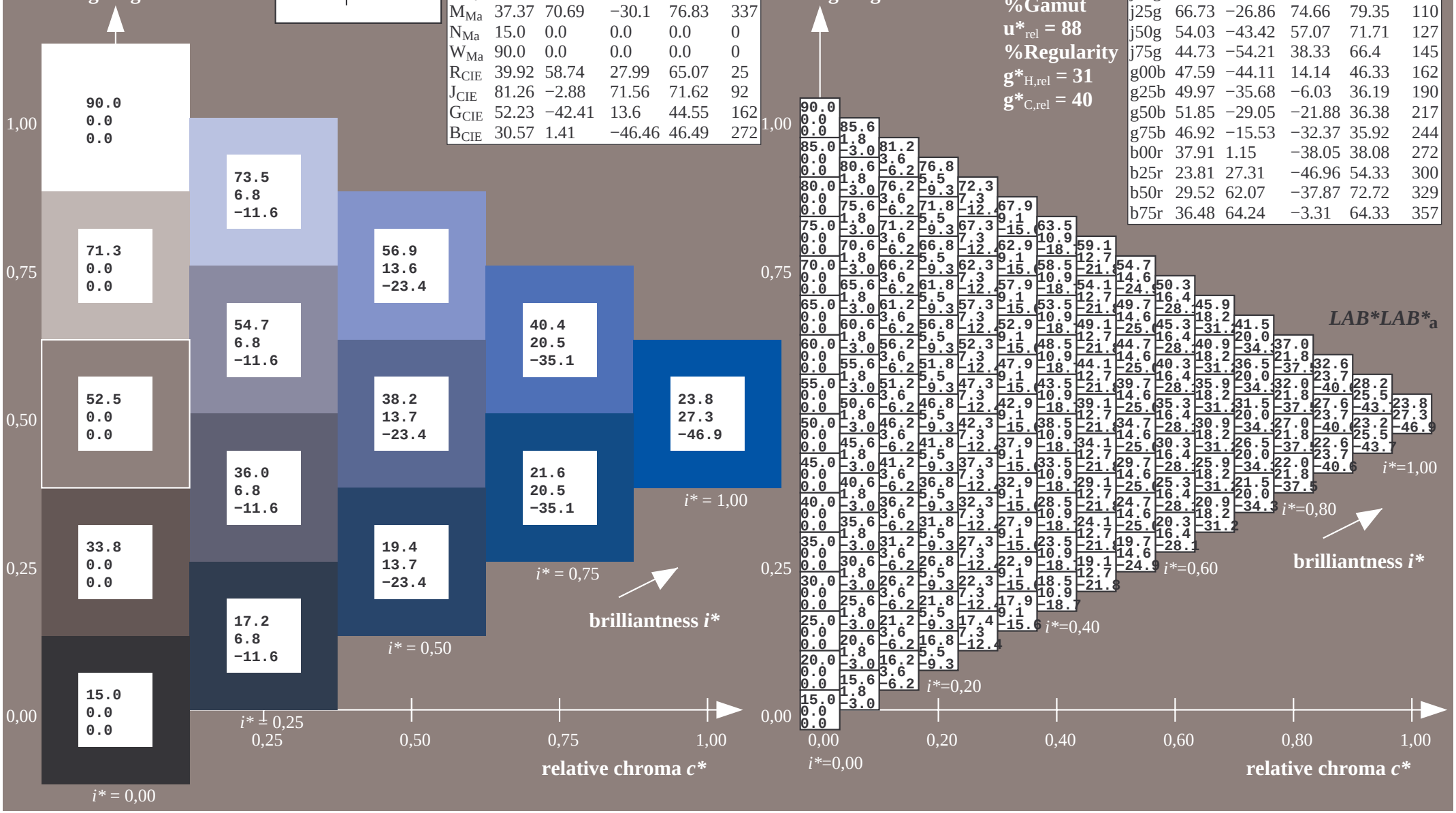
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 24 27 −46**
***LAB*LCH*Ma*: 24 54 300**
***lab*rgb*Ma*: 0.5 0.0 1.0**
***lab*olv*Ma*: 0.0 0.25 1.0**
triangle lightness *t**

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

u* = b25r
LAB*LAB*a

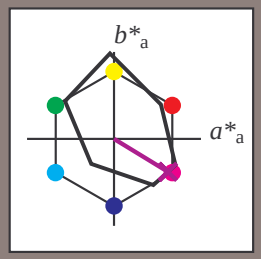
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; adapted (a) CIELAB data

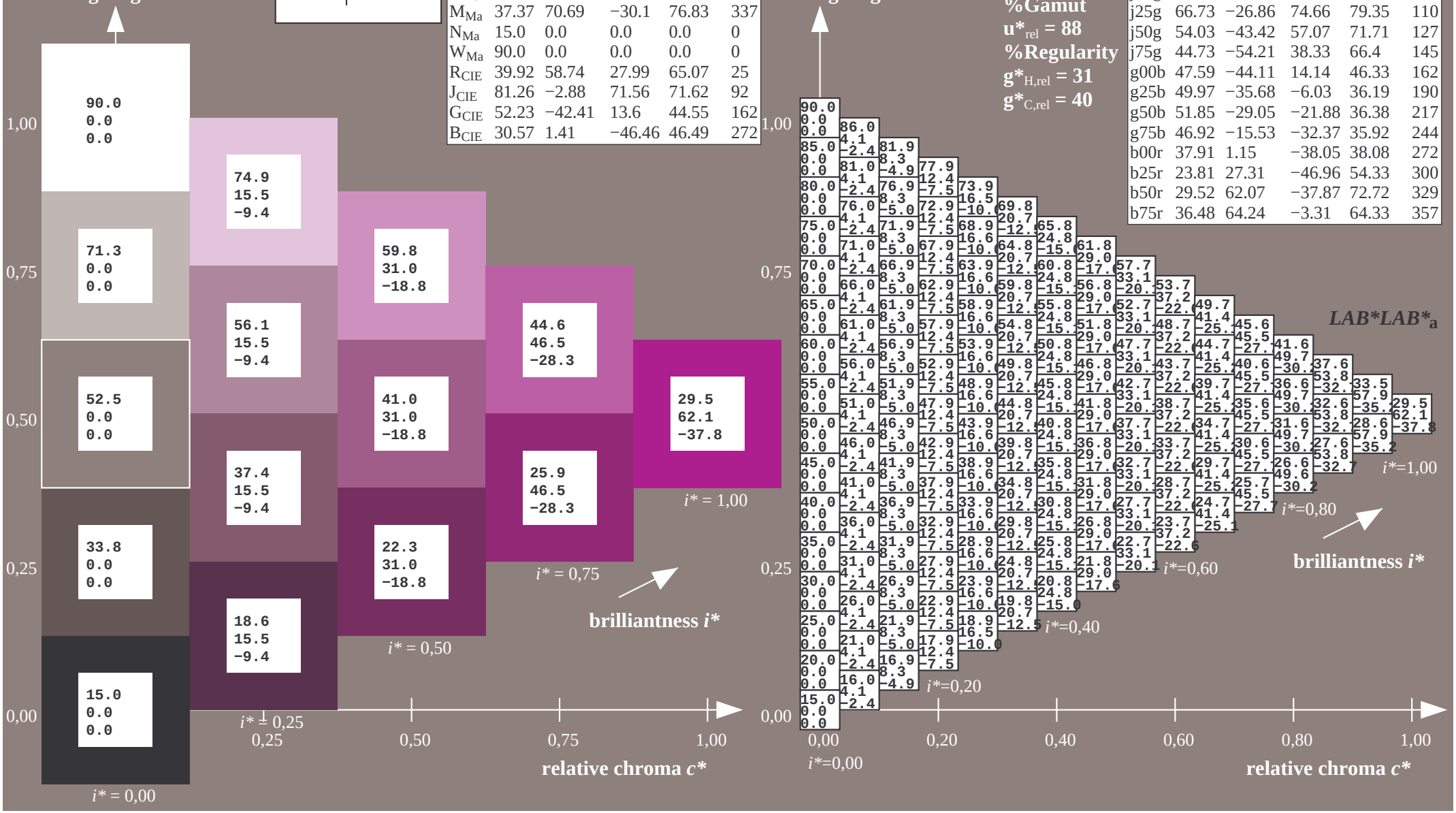
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

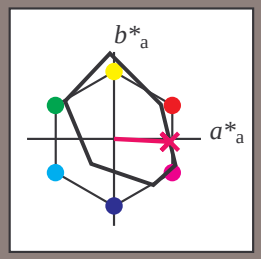
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; adapted (a) CIELAB data

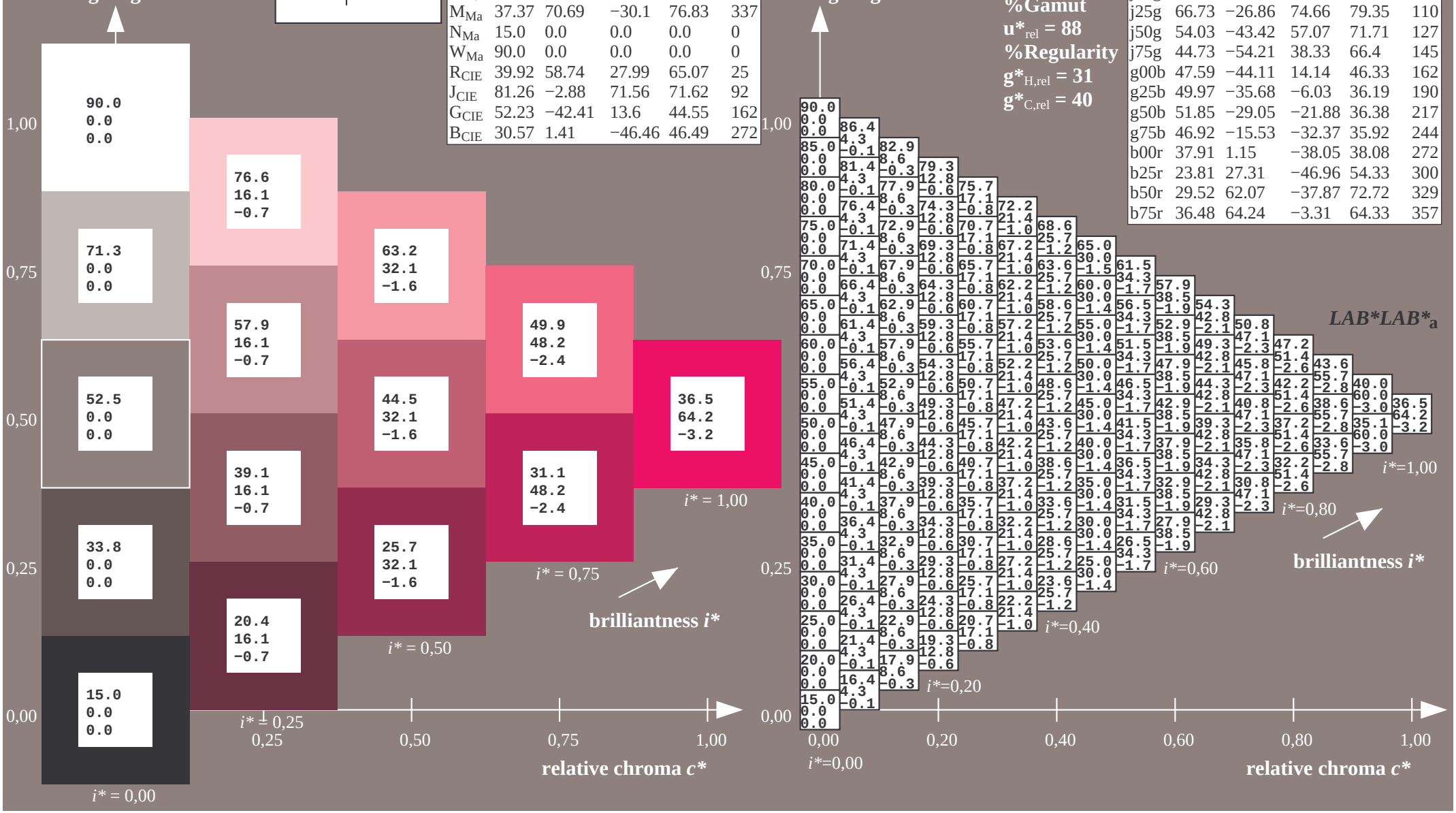
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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_90a; 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



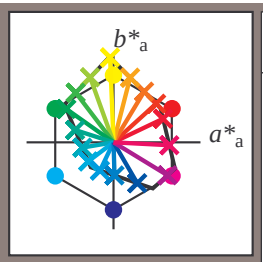
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
01	15.0 0.0 0.0	18.6 -6.9 5.4	22.3 -14.0 10.8	25.9 -21.0 16.3	29.6 -28.1 21.7	33.2 -35.1 27.1	36.9 -42.1 32.5	40.5 -49.2 37.9	44.1 -56.2 43.4	17.5 6.7 4.9	23.6 -0.5 12.3	27.2 -7.5 17.7	30.9 -14.6 23.1	34.5 -21.6 28.5	38.2 -28.6 34.0	41.8 -35.7 39.4	45.4 -42.7 44.8	49.1 -49.8 50.2
02	14.9 5.6 -6.5	19.7 -3.2 -3.5	23.4 -10.2 1.8	27.0 -17.3 7.2	30.6 -24.3 12.7	34.3 -31.3 18.1	37.9 -38.4 23.5	41.6 -45.4 28.9	45.2 -52.5 34.3	17.8 8.8 -3.7	24.4 0.0 0.0	28.0 -6.9 5.4	31.7 -14.0 10.8	35.3 -21.0 16.3	38.9 -28.1 21.7	42.6 -35.1 27.1	46.2 -42.1 32.5	49.9 -49.2 37.9
03	14.8 11.3 -13.2	19.6 2.4 -10.1	24.4 -6.4 -7.1	28.1 -13.5 -1.7	31.7 -20.5 3.7	35.3 -27.6 9.1	39.0 -34.6 14.5	42.6 -41.7 19.9	46.3 -48.7 25.3	17.7 14.5 -10.3	24.3 5.7 -6.5	29.1 -3.2 -3.5	32.7 -10.2 1.8	36.4 -17.3 7.2	40.0 -24.3 12.7	43.6 -31.3 18.1	47.3 -38.4 23.5	50.9 -45.4 28.9
04	14.7 17.0 -19.8	19.5 8.0 -16.8	24.3 -0.8 -13.7	29.1 -9.7 -10.7	32.8 -16.8 -5.3	36.4 -23.8 0.1	40.0 -30.8 5.5	43.7 -37.9 10.9	47.3 -44.9 16.3	17.6 20.1 -16.9	24.2 11.3 -13.2	29.0 2.4 -10.1	33.8 -6.4 -7.1	37.4 -13.5 -1.7	41.1 -20.5 3.7	44.7 -27.6 9.1	48.4 -34.6 14.5	52.0 -41.6 19.9
05	14.6 22.6 -26.4	19.4 13.7 -23.4	24.2 4.8 -20.4	29.0 -4.1 -17.3	33.8 -13.0 -14.3	37.5 -20.0 -8.9	41.1 -27.1 -3.4	44.8 -34.1 1.9	48.4 -41.2 7.3	17.5 25.8 -23.6	24.1 17.0 -19.8	28.9 8.0 -16.8	33.7 -0.8 -13.7	38.5 -9.7 -10.7	42.1 -16.8 -5.3	45.8 -23.8 0.1	49.4 -30.8 5.5	53.1 -37.9 10.9
06	14.5 28.3 -33.1	19.3 19.3 -30.0	24.1 10.4 -27.0	28.9 1.5 -23.9	33.7 -7.3 -20.9	38.5 -16.3 -17.9	42.2 -23.3 -12.4	45.8 -30.4 -7.0	49.5 -37.4 -1.6	17.4 31.4 -30.2	24.0 22.6 -26.4	28.8 13.7 -23.4	33.6 4.8 -20.4	38.4 -4.1 -17.3	43.2 -13.0 -14.3	46.8 -20.0 -8.9	50.5 -27.1 -3.4	54.1 -34.1 1.9
07	14.4 33.9 -39.7	19.2 25.0 -36.7	24.0 16.1 -33.6	28.8 7.1 -30.6	33.6 -1.7 -27.5	38.4 -10.6 -24.5	43.2 -19.5 -21.5	46.9 -26.6 -16.0	50.5 -33.6 -10.6	17.3 37.1 -36.8	23.8 28.3 -33.1	28.7 19.3 -30.0	33.5 10.4 -27.0	38.3 1.5 -23.9	43.1 -7.3 -20.9	47.9 -16.3 -17.9	51.6 -23.3 -12.4	55.2 -30.3 -7.0
08	14.3 39.6 -46.3	19.1 30.6 -43.3	23.9 21.7 -40.3	28.7 12.8 -37.2	33.5 3.9 -34.2	38.3 -5.0 -31.1	43.1 -13.9 -28.1	48.0 -22.8 -25.1	51.6 -29.9 -19.6	17.2 42.7 -43.5	23.7 33.9 -39.7	28.6 25.0 -36.7	33.4 16.1 -33.6	38.2 7.1 -30.6	43.0 -1.7 -27.5	47.8 -10.6 -24.5	52.6 -19.5 -21.5	56.3 -26.6 -16.0
09	14.2 45.2 -53.0	19.0 36.3 -49.9	23.8 27.4 -46.9	28.6 18.4 -43.8	33.4 9.5 -40.8	38.2 0.6 -37.8	43.0 -8.2 -34.7	47.9 -17.2 -31.7	52.7 -26.1 -28.6	17.1 48.4 -50.1	23.6 39.6 -46.3	28.4 30.6 -43.3	33.3 21.7 -40.3	38.1 12.8 -37.2	42.9 3.9 -34.2	47.7 -5.0 -31.1	52.5 -13.9 -28.1	57.3 -22.8 -25.1
10	22.5 20.2 14.8	28.6 12.9 22.2	34.7 5.6 29.5	40.8 -1.6 36.8	44.4 -8.7 42.3	48.1 -15.7 47.7	51.7 -22.8 53.1	55.4 -29.8 58.5	59.0 -36.8 63.9	25.0 27.0 19.8	31.1 19.6 27.1	37.2 12.3 34.4	43.3 5.0 41.8	49.4 -2.2 49.1	53.0 -9.3 54.5	56.7 -16.3 60.0	60.3 -23.3 65.4	63.9 -30.4 70.8
11	22.8 22.3 6.1	29.4 13.5 9.9	35.5 6.2 17.2	41.6 -1.1 24.6	45.2 -8.1 30.0	48.8 -15.1 35.4	52.5 -22.2 40.8	56.1 -29.2 46.2	59.8 -36.3 51.7	25.3 29.1 11.1	31.9 20.2 14.8	38.0 12.9 22.2	44.1 5.6 29.5	50.2 -1.6 36.8	53.8 -8.7 42.3	57.4 -15.7 47.7	61.1 -22.8 53.1	64.7 -29.8 58.5
12	23.1 24.4 -2.5	29.7 15.6 1.2	36.3 6.7 4.9	42.3 -0.5 12.3	46.0 -7.5 17.7	49.6 -14.6 23.1	53.3 -21.6 28.5	56.9 -28.6 34.0	60.5 -35.7 39.4	25.6 31.1 2.4	32.2 22.3 6.1	38.8 13.5 9.9	44.9 6.2 17.2	50.9 -1.1 24.6	54.6 -8.1 30.0	58.2 -15.1 35.4	61.9 -22.2 40.8	65.5 -29.2 46.2
13	23.4 26.5 -11.2	30.0 17.7 -7.4	36.5 8.8 -3.7	43.1 0.0 0.0	46.8 -6.9 5.4	50.4 -14.0 10.8	54.0 -21.0 16.3	57.7 -28.1 21.7	61.3 -35.1 27.1	25.9 33.2 -6.2	32.5 24.4 -2.5	39.1 15.6 1.2	45.6 6.7 4.9	51.7 -0.5 12.3	55.4 -7.5 17.7	59.0 -14.6 23.1	62.6 -21.6 28.5	66.3 -28.6 34.0
14	23.3 32.2 -17.8	29.9 23.3 -14.1	36.4 14.5 -10.3	43.0 5.7 -6.5	47.8 -3.2 -3.5	51.5 -10.2 1.8	55.1 -17.3 7.2	58.8 -24.3 12.7	62.4 -31.3 18.1	26.2 35.3 -15.0	32.8 26.5 -11.2	39.3 17.7 -7.4	45.9 8.8 -3.7	52.5 0.0 0.0	56.1 -6.9 5.4	59.8 -14.0 10.8	63.4 -21.0 16.3	67.1 -28.1 21.7
15	23.2 37.8 -24.5	29.8 29.0 -20.7	36.3 20.1 -16.9	42.9 11.3 -13.2	47.7 2.4 -10.1	52.5 -6.4 -7.1	56.2 -13.5 -1.7	59.8 -20.5 3.7	63.5 -27.6 9.1	26.1 41.0 -21.6	32.7 32.2 -17.8	39.2 23.3 -14.1	45.8 14.5 -10.3	52.4 5.7 -6.5	57.2 -3.2 -3.5	60.8 -10.2 1.8	64.5 -17.3 7.2	68.1 -24.3 12.7
16	23.1 43.5 -31.1	29.6 34.6 -27.3	36.2 25.8 -23.6	42.8 17.0 -19.8	47.6 8.0 -16.8	52.4 -0.8 -13.7	57.2 -9.7 -10.7	60.9 -16.8 -5.3	64.5 -23.8 0.1	26.0 46.6 -28.2	32.6 37.8 -24.5	39.1 29.0 -20.7	45.7 20.1 -16.9	52.3 11.3 -13.2	57.1 2.4 -10.1	61.9 -6.4 -7.1	65.6 -13.5 -1.7	69.2 -20.5 3.6
17	23.0 49.1 -37.7	29.5 40.3 -34.0	36.1 31.4 -30.2	42.7 22.6 -26.4	47.5 13.7 -23.4	52.3 4.8 -20.4	57.1 -4.1 -17.3	62.0 -13.0 -14.3	65.6 -20.0 -8.9	25.9 52.3 -34.9	32.4 43.5 -31.1	39.0 34.6 -27.3	45.6 25.8 -23.6	52.2 17.0 -19.8	57.0 8.0 -16.8	61.8 -0.8 -13.7	66.6 -9.7 -10.7	70.3 -16.8 -5.3
18	22.9 54.8 -44.4	29.4 45.9 -40.6	36.0 37.1 -36.8	42.6 28.3 -33.1	47.4 19.3 -30.0	52.2 10.4 -27.0	57.0 1.5 -23.9	61.8 -7.3 -20.9	66.7 -16.3 -17.9	25.8 57.9 -41.5	32.3 49.1 -37.7	38.9 40.3 -34.0	45.5 31.4 -30.2	52.1 22.6 -26.4	56.9 13.7 -23.4	61.7 4.8 -20.3	66.5 -4.1 -17.3	71.3 -13.0 -14.3
19	30.1 40.4 29.7	36.1 33.1 37.0	42.2 25.8 44.3	48.3 18.5 51.7	54.4 11.2 59.0	60.5 3.8 66.3	66.6 -3.4 73.7	70.2 -10.4 79.1	73.9 -17.5 84.5	32.6 47.2 34.6	38.6 39.9 41.9	44.7 32.5 49.3	50.8 25.2 56.6	56.9 17.9 64.0	63.0 10.6 71.3	69.1 3.3 78.6	75.2 -4.0 86.0	78.8 -11.0 91.4
20	30.3 42.5 21.0	36.9 33.7 24.7	43.0 26.4 32.1	49.1 19.1 39.4	55.2 11.7 46.7	61.3 4.4 54.1	67.4 -2.8 61.4	71.0 -9.8 66.8	74.6 -16.9 72.3	32.8 49.3 25.9	39.4 40.4 29.7	45.5 33.1 37.0	51.6 25.8 44.3	57.7 18.5 51.7	63.8 11.2 59.0	69.9 3.8 66.4	76.0 -3.4 73.7	79.6 -10.4 79.1
21	30.6 44.6 12.3	37.2 35.8 16.0	43.8 27.0 19.8	49.9 19.6 27.1	56.0 12.3 34.5	62.0 5.0 41.8	68.1 -2.2 49.1	71.8 -9.3 54.6	75.4 -16.3 60.0	33.1 51.4 17.2	39.7 42.5 21.0	46.3 33.7 24.7	52.4 26.4 32.1	58.5 19.1 39.4	64.6 11.7 46.7	70.6 4.4 54.1	76.7 -2.8 61.4	80.4 -9.8 66.8
22	30.9 46.7 3.5	37.5 37.9 7.3	44.1 29.1 11.1	50.6 20.2 14.8	56.7 12.9 22.2	62.8 5.6 29.5	68.9 -1.6 36.8	72.6 -8.7 42.3	76.2 -15.7 47.7	33.4 53.5 8.5	40.0 44.6 12.2	46.6 35.8 16.0	53.2 27.0 19.8	59.2 19.6 27.1	65.3 12.3 34.5	71.4 5.0 41.8	77.5 -2.2 49.1	81.1 -9.3 54.5
23	31.2 48.8 -5.1	37.8 40.0 -1.3	44.4 31.2 2.4	50.9 22.3 6.1	57.5 13.5 9.9	63.6 6.2 17.2	69.7 -1.1 24.6	73.3 -8.1 30.0	77.0 -15.1 35.4	33.7 55.6 -0.1	40.3 46.7 3.5	46.9 37.9 7.3	53.4 29.1 11.1	60.0 20.2 14.8	66.1 12.9 22.2	72.2 5.6 29.5	78.3 -1.6 36.8	81.9 -8.7 42.3
24	31.5 50.9 -13.8	38.1 42.1 -10.0	44.6 33.2 -6.2	51.2 24.4 -2.5	57.8 15.6 1.2	64.4 6.7 4.9	70.5 -0.5 12.3	74.1 -7.5 17.7	77.8 -14.6 23.1	34.0 57.7 -8.8	40.6 48.8 -5.1	47.2 40.0 -1.3	53.7 31.2 2.4	60.3 22.3 6.1	66.9 13.5 9.9	73.0 6.2 17.2	79.1 -1.1 24.6	82.7 -8.1 30.0
25	31.8 53.0 -22.5	38.4 44.2 -18.7	44.9 35.3 -15.0	51.5 26.5 -11.2	58.1 17.7 -7.4	64.7 8.8 -3.7	71.3 0.0 0.0	74.9 -6.9 5.4	78.5 -14.0 10.8	34.3 59.7 -17.5	40.9 50.9 -13.8	47.4 42.1 -10.0	54.0 33.2 -6.2	60.6 24.4 -2.5	67.2 15.6 1.2	73.8 6.7 4.9	79.8 -0.5 12.3	83.5 -7.5 17.7
26	31.7 58.7 -29.1	38.3 49.8 -25.4	44.8 41.0 -21.6	51.4 32.2 -17.8	58.0 23.3 -14.1	64.6 14.5 -10.3	71.1 5.7 -6.5	76.0 -3.2 -3.5	79.6 -10.2 1.8	34.6 61.8 -26.2	41.2 53.0 -22.5	47.7 44.2 -18.7	54.3 35.3 -15.0	60.9 26.5 -11.2	67.5 17.7 -7.4	74.0 8.8 -3.7	80.6 0.0 0.0	84.3 -6.9 5.4
27	31.6 64.3 -35.7	38.1 55.5 -32.0	44.7 46.6 -28.2	51.3 37.8 -24.5	57.9 29.0 -20.7	64.5 20.1 -16.9	71.0 11.3 -13.2	75.9 2.4 -10.1	80.7 -6.4 -7.1	34.5 67.5 -32.9	41.0 58.7 -29.1	47.6 49.8 -25.3	54.2 41.0 -21.6	60.8 32.2 -17.8	67.4 23.3 -14.1	73.9 14.5 -10.3	80.5 5.6 -6.5	85.3 -3.2 -3.5

	S	T	U	V	W	X	Y	Z	a	b	c	d	e	f	g	h	i	j	k	LAB*LAB*a		
01	20.0 13.5 9.9	26.1 6.2 17.2	32.2 -1.1 24.6	35.8 -8.1 30.0	39.5 -15.1 35.4	43.1 -22.2 40.8	46.8 -29.2 46.2	50.4 -36.3 51.7	54.0 -43.3 57.1	90.0 0.0 0.0	83.1 6.7 4.9	76.3 13.5 9.9	69.4 20.2 14.8	62.5 27.0 19.8	55.7 33.7 24.7	48.8 40.4 29.7	41.9 47.2 34.6	35.1 53.9 39.5	15.0 0.0 0.0	15.0 0.0 0.0	15.0 0.0 0.0	15.0 0.0 0.0
02	20.3 15.6 1.2	26.9 6.7 4.9	33.0 -0.5 12.3	36.6 -7.5 17.7	40.3 -14.6 23.1	43.9 -21.6 28.5	47.5 -28.6 34.0	51.2 -35.7 39.4	54.8 -42.7 44.8	85.3 -3.2 -3.5	80.6 0.0 0.0	73.8 6.7 4.9	66.9 13.5 9.9	60.0 20.2 14.8	53.2 27.0 19.8	46.3 33.7 24.7	39.4 40.4 29.7	32.6 47.2 34.6	24.4 0.0 0.0	24.4 0.0 0.0	24.4 0.0 0.0	24.4 0.0 0.0
03	20.6 17.7 -7.4	27.2 8.8 -3.7	33.8 0.0 0.0	37.4 -6.9 5.4	41.0 -14.0 10.8	44.7 -21.0 16.3	48.3 -28.1 21.7	52.0 -35.1 27.1	55.6 -42.1 32.5	80.7 -6.4 -7.1	76.0 -3.2 -3.5	71.3 0.0 0.0	64.4 6.7 4.9	57.5 13.5 9.9	50.6 20.2 14.8	43.8 27.0 19.8	36.9 33.7 24.7	30.1 40.4 29.7	33.8 0.0 0.0	33.8 0.0 0.0	33.8 0.0 0.0	33.8 0.0 0.0
04	20.5 23.3 -14.1	27.1 14.5 -10.3	33.6 5.7 -6.5	38.5 -3.2 -3.5	42.1 -10.2 1.8	45.7 -17.3 7.2	49.4 -24.3 12.7	53.0 -31.3 18.1	56.7 -38.4 23.5	76.0 -9.7 -10.7	71.3 -6.4 -7.1	66.6 -3.2 -3.5	61.9 0.0 0.0	55.0 6.7 4.9	48.1 13.5 9.9	41.3 20.2 14.8	34.4 27.0 19.8	27.5 33.7 24.7	43.1 0.0 0.0	43.1 0.0 0.0	43.1 0.0 0.0	43.1 0.0 0.0
05	20.4 29.0 -20.7	27.0 20.1 -16.9	33.5 11.3 -13.2	38.4 2.4 -10.1	43.2 -6.4 -7.1	46.8 -13.5 -1.7	50.4 -20.5 3.7	54.1 -27.6 9.1	57.7 -34.6 14.5	71.3 -13.0 -14.3	66.6 -9.7 -10.7	61.9 -6.4 -7.1	57.2 -3.2 -3.5	52.5 0.0 0.0	45.6 6.7 4.9	38.8 13.5 9.9	31.9 20.2 14.8	25.0 27.0 19.8	52.5 0.0 0.0	52.5 0.0 0.0	52.5 0.0 0.0	52.5 0.0 0.0
06	20.3 34.6 -27.3	26.9 25.8 -23.6	33.4 17.0 -19.8	38.2 8.0 -16.8	43.1 -0.8 -13.7	47.9 -9.7 -10.7	51.5 -16.8 -5.3	55.2 -23.8 0.1	58.8 -30.8 5.5	66.7 -16.3 -17.9	62.0 -13.0 -14.3	57.2 -9.7 -10.7	52.5 -6.4 -7.1	47.8 -3.2 -3.5	43.1 0.0 0.0	36.3 6.7 4.9	29.4 13.5 9.9	22.5 20.2 14.8	61.9 0.0 0.0	61.9 0.0 0.0	61.9 0.0 0.0	61.9 0.0 0.0
07	20.2 40.3 -34.0	26.7 31.4 -30.2	33.3 22.6 -26.4	38.1 13.7 -23.4	43.0 4.8 -20.4	47.8 -4.1 -17.3	52.6 -13.0 -14.3	56.2 -20.0 -8.9	59.9 -27.1 -3.4	62.0 -19.5 -21.5	57.3 -16.3 -17.9	52.6 -13.0 -14.3	47.9 -9.7 -10.7	43.2 -6.4 -7.1	38.5 -3.2 -3.5	33.8 0.0 0.0	26.9 6.7 4.9	20.0 13.5 9.9	71.3 0.0 0.0	71.3 0.0 0.0	71.3 0.0 0.0	71.3 0.0 0.0
08	20.1 45.9 -40.6	26.6 37.1 -36.8	33.2 28.3 -33.1	38.0 19.3 -30.0	42.8 10.4 -27.0	47.7 1.5 -23.9	52.5 -7.3 -20.9	57.3 -16.3 -17.9	60.9 -23.3 -12.5	57.3 -22.8 -25.1	52.6 -19.5 -21.5	47.9 -16.3 -17.9	43.2 -13.0 -14.3	38.5 -9.7 -10.7	33.8 -6.4 -7.1	29.1 -3.2 -3.5	24.4 0.0 0.0	17.5 6.7 4.9	80.6 0.0 0.0	80.6 0.0 0.0	80.6 0.0 0.0	80.6 0.0 0.0
09	20.0 51.6 -47.2	26.5 42.7 -43.5	33.1 33.9 -39.7	37.9 25.0 -36.7	42.7 16.1 -33.6	47.6 7.1 -30.6	52.4 -1.7 -27.5	57.2 -10.6 -24.5	62.0 -19.5 -21.5	52.7 -26.1 -28.6	48.0 -22.8 -25.1	43.2 -19.5 -21.5	38.5 -16.3 -17.9	33.8 -13.0 -14.3	29.1 -9.7 -10.7	24.4 -6.4 -7.1	19.7 -3.2 -3.5	15.0 0.0 0.0	90.0 0.0 0.0	90.0 0.0 0.0	90.0 0.0 0.0	90.0 0.0 0.0
10	27.5 33.7 24.7	33.6 26.4 32.0	39.7 19.1 39.4	45.8 11.7 46.7	51.9 4.4 54.1	58.0 -2.8 61.4	61.6 -9.8 66.8	65.3 -16.9 72.2	68.9 -23.9 77.7	90.0 0.0 0.0	89.2 -0.5 12.3	88.4 -1.1 24.6	87.7 -1.6 36.8	86.9 -2.2 49.1	86.1 -2.8 61.4	85.3 -3.4 73.7	84.5 -4.0 86.0	83.8 -4.5 98.2	15.0 0.0 0.0	15.0 0.0 0.0	15.0 0.0 0.0	15.0 0.0 0.0
11	27.8 35.8 16.0	34.4 27.0 19.8	40.5 19.6 27.1	46.6 12.3 34.5	52.7 5.0 41.8	58.8 -2.2 49.1	62.4 -9.3 54.6	66.0 -16.3 60.0	69.7 -23.3 65.4	80.5 5.6 -6.5	80.6 0.0 0.0	79.8 -0.5 12.3	79.1 -1.1 24.6	78.3 -1.6 36.8	77.5 -2.2 49.1	76.7 -2.8 61.4	76.0 -3.4 73.7	75.2 -4.0 86.0	20.0 0.0 0.0	20.0 0.0 0.0	20.0 0.0 0.0	20.0 0.0 0.0
12	28.1 37.9 7.3	34.7 29.1 11.1	41.3 20.2 14.8	47.4 12.9 22.2	53.4 5.6 29.5	59.5 -1.6 36.8	63.2 -8.7 42.3	66.8 -15.7 47.7	70.5 -22.8 53.1	71.0 11.3 -13.2	71.1 5.7 -6.5	71.3 0.0 0.0	70.5 -0.5 12.3	69.7 -1.1 24.6	68.9 -1.6 36.8	68.1 -2.2 49.1	67.4 -2.8 61.4	66.6 -3.4 73.7	25.0 0.0 0.0	25.0 0.0 0.0	25.0 0.0 0.0	25.0 0.0 0.0
13	28.4 40.0 -1.3	35.0 31.2 2.4	41.6 22.3 6.1	48.1 13.5 9.9	54.2 6.2 17.2	60.3 -1.1 24.6	64.0 -8.1 30.0	67.6 -15.1 35.4	71.2 -22.2 40.8	61.6 17.0 -19.8	61.7 11.3 -13.2	61.8 5.7 -6.5	61.9 0.0 0.0	61.1 -0.5 12.3	60.3 -1.1 24.6	59.5 -1.6 36.8	58.8 -2.2 49.1	58.0 -2.8 61.4	30.0 0.0 0.0	30.0 0.0 0.0	30.0 0.0 0.0	30.0 0.0 0.0
14	28.7 42.1 -10.0	35.3 33.2 -6.2	41.8 24.4 -2.5	48.4 15.6 1.2	55.0 6.7 4.9	61.1 -0.5 12.3	64.7 -7.5 17.7	68.4 -14.6 23.1	72.0 -21.6 28.5	52.1 22.6 -26.4	52.2 17.0 -19.8	52.3 11.3 -13.2	52.4 5.7 -6.5	52.5 0.0 0.0	51.7 -0.5 12.3	50.9 -1.1 24.6	50.2 -1.6 36.8	49.4 -2.2 49.1	35.0 0.0 0.0	35.0 0.0 0.0	35.0 0.0 0.0	35.0 0.0 0.0
15	29.0 44.2 -18.7	35.6 35.3 -15.0	42.1 26.5 -11.2	48.7 17.7 -7.4	55.3 8.8 -3.7	61.9 0.0 0.0	65.5 -6.9 5.4	69.2 -14.0 10.8	72.8 -21.0 16.3	42.6 28.3 -33.1	42.7 22.6 -26.4	42.8 17.0 -19.8	42.9 11.3 -13.2	43.0 5.7 -6.5	43.1 0.0 0.0	42.3 -0.5 12.3	41.6 -1.1 24.6	40.8 -1.6 36.8	40.0 0.0 0.0	40.0 0.0 0.0	40.0 0.0 0.0	40.0 0.0 0.0
16	28.9 49.8 -25.4	35.5 41.0 -21.6	42.0 32.2 -17.8	48.6 23.3 -14.1	55.2 14.5 -10.3	61.8 5.7 -6.5	66.6 -3.2 -3.5	70.2 -10.2 1.8	73.9 -17.3 7.2	33.1 33.9 -39.7	33.2 28.3 -33.1	33.3 22.6 -26.4	33.4 17.0 -19.8	33.5 11.3 -13.2	33.6 5.7 -6.5	33.8 0.0 0.0	33.0 -0.5 12.3	32.2 -1.1 24.6	45.0 0.0 0.0	45.0 0.0 0.0	45.0 0.0 0.0	45.0 0.0 0.0
17	28.8 55.5 -32.0	35.3 46.6 -28.2	41.9 37.8 -24.5	48.5 29.0 -20.7	55.1 20.1 -16.9	61.7 11.3 -13.2	66.5 2.4 -10.1	71.3 -6.4 -7.1	74.9 -13.5 -1.7	23.6 39.6 -46.3	23.7 33.9 -39.7	23.8 28.3 -33.1	24.0 22.6 -26.4	24.1 17.0 -19.8	24.2 11.3 -13.2	24.3 5.7 -6.5	24.4 0.0 0.0	23.6 -0.5 12.3	50.0 0.0 0.0	50.0 0.0 0.0	50.0 0.0 0.0	50.0 0.0 0.0
18	28.7 61.1 -38.6	35.2 52.3 -34.9	41.8 43.5 -31.1	48.4 34.6 -27.3	55.0 25.8 -23.6	61.6 17.0 -19.8	66.4 8.0 -16.8	71.2 -0.8 -13.7	76.0 -9.7 -10.7	14.2 45.2 -53.0	14.3 39.6 -46.3	14.4 33.9 -39.7	14.5 28.3 -33.1	14.6 22.6 -26.4	14.7 17.0 -19.8	14.8 11.3 -13.2	14.9 5.6 -6.5	15.0 0.0 0.0	55.0 0.0 0.0	55.0 0.0 0.0	55.0 0.0 0.0	55.0 0.0 0.0
19	35.1 53.9 39.5	41.1 46.6 46.9	47.2 39.3 54.2	53.3 32.0 61.6	59.4 24.6 68.9	65.5 17.3 76.2	71.6 10.0 83.6	77.7 2.7 90.9	83.8 -4.5 98.2	90.0 0.0 0.0	84.3 -6.9 5.4	78.5 -14.0 10.8	72.8 -21.0 16.3	67.1 -28.1 21.7	61.3 -35.1 27.1	55.6 -42.1 32.5	49.9 -49.2 37.9	44.1 -56.2 43.4	60.0 0.0 0.0	60.0 0.0 0.0	60.0 0.0 0.0	60.0 0.0 0.0
20	35.4 56.0 30.8	41.9 47.2 34.6	48.0 39.9 41.9	54.1 32.5 49.3	60.2 25.2 56.6	66.3 17.9 64.0	72.4 10.6 71.3	78.5 3.3 78.6	84.5 -4.0 86.0	83.4 8.8 -3.7	80.6 0.0 0.0	74.9 -6.9 5.4	69.2 -14.0 10.8	63.4 -21.0 16.3	57.7 -28.1 21.7	52.0 -35.1 27.1	46.2 -42.1 32.5	40.5 -49.2 37.9	65.0 0.0 0.0	65.0 0.0 0.0	65.0 0.0 0.0	65.0 0.0 0.0
21	35.6 58.1 22.1	42.2 49.3 25.9	48.8 40.4 29.7	54.9 33.1 37.0	61.0 25.8 44.3	67.1 18.5 51.7	73.1 11.2 59.0	79.2 3.8 66.4	85.3 -3.4 73.7	76.8 17.7 -7.4	74.0 8.8 -3.7	71.3 0.0 0.0	65.5 -6.9 5.4	59.8 -14.0 10.8	54.0 -21.0 16.3	48.3 -28.1 21.7	42.6 -35.1 27.1	36.9 -42.1 32.5	70.0 0.0 0.0	70.0 0.0 0.0	70.0 0.0 0.0	70.0 0.0 0.0
22	35.9 60.2 13.4	42.5 51.4 17.2	49.1 42.5 21.0	55.7 33.7 24.7	61.7 26.4 32.1	67.8 19.1 39.4	73.9 11.7 46.7	80.0 4.4 54.1	86.1 -2.8 61.4	70.3 26.5 -11.2	67.5 17.7 -7.4	64.7 8.8 -3.7	61.9 0.0 0.0	56.1 -6.9 5.4	50.4 -14.0 10.8	44.7 -21.0 16.3	38.9 -28.1 21.7	33.2 -35.1 27.1	75.0 0.0 0.0	75.0 0.0 0.0	75.0 0.0 0.0	75.0 0.0 0.0
23	36.2 62.3 4.7	42.8 53.5 8.5	49.4 44.6 12.2	55.9 35.8 16.0	62.5 27.0 19.8	68.6 19.6 27.1	74.7 12.3 34.4	80.8 5.0 41.8	86.9 -2.2 49.1	63.7 35.3 -15.0	60.9 26.5 -11.2	58.1 17.7 -7.4	55.3 8.8 -3.7	52.5 0.0 0.0	46.8 -6.9 5.4	41.0 -14.0 10.8	35.3 -21.0 16.3	29.6 -28.1 21.7	80.0 0.0 0.0	80.0 0.0 0.0	80.0 0.0 0.0	80.0 0.0 0.0
24	36.5 64.4 -3.9	43.1 55.6 -0.1	49.7 46.7 3.5	56.2 37.9 7.3	62.8 29.1 11.1	69.4 20.2 14.8	75.5 12.9 22.2	81.6 5.6 29.5	87.7 -1.6 36.8	57.1 44.2 -18.7	54.3 35.3 -15.0	51.5 26.5 -11.2	48.7 17.7 -7.4	45.9 8.8 -3.7	43.1 0.0 0.0	37.4 -6.9 5.4	31.7 -14.0 10.8	25.9 -21.0 16.3	85.0 0.0 0.0	85.0 0.0 0.0	85.0 0.0 0.0	85.0 0.0 0.0
25	36.8 66.5 -12.6	43.4 57.7 -8.8	49.9 48.8 -5.1	56.5 40.0 -1.3	63.1 31.1 2.4	69.7 22.3 6.1	76.3 13.5 9.9	82.4 6.2 17.2	88.4 -1.1 24.6	50.5 53.0 -22.5	47.7 44.2 -18.7	44.9 35.3 -15.0	42.1 26.5 -11.2	39.3 17.7 -7.4	36.5 8.8 -3.7	33.8 0.0 0.0	28.0 -6.9 5.4	22.3 -14.0 10.8	90.0 0.0 0.0	90.0 0.0 0.0	90.0 0.0 0.0	90.0 0.0 0.0
26	37.1 68.6 -21.3	43.7 59.8 -17.5	50.2 50.9 -13.8	56.8 42.1 -10.0	63.4 33.2 -6.3	70.0 24.4 -2.5	76.6 15.6 1.2	83.1 6.7 4.9	89.2 -0.5 12.3	43.9 61.8 -26.2	41.2 53.0 -22.5	38.4 44.2 -18.7	35.6 35.3 -15.0	32.8 26.5 -11.2	30.0 17.7 -7.4	27.2 8.8 -3.7	24.4 0.0 0.0	18.6 -6.9 5.4	15.0 0.0 0.0	35.1 53.9 39.5	83.8 -4.5 98.2	44.1 -56.2 43.4
27	37.4 70.7 -30.0	43.9 61.8 -26.2	50.5 53.0 -22.5	57.1 44.2 -18.7	63.7 35.3 -15.0	70.3 26.5 -11.2	76.8 17.7 -7.4	83.4 8.8 -3.7	90.0 0.0 0.0	37.4 70.7 -30.0	34.6 61.8 -26.2	31.8 53.0 -22.5	29.0 44.2 -18.7	26.2 35.3 -15.0	23.4 26.5 -11.2	20.6 17.7 -7.4	17.8 8.8 -3.7	15.0 0.0 0.0	90.0 0.0 0.0	52.7 -26.1 -28.6	14.2 45.2 -53.0	37.4 70.7 -30.0

Input and output:
Colorimetric Printer Reflective System FRS15_90a
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_90a; adapted (a) CIELAB data

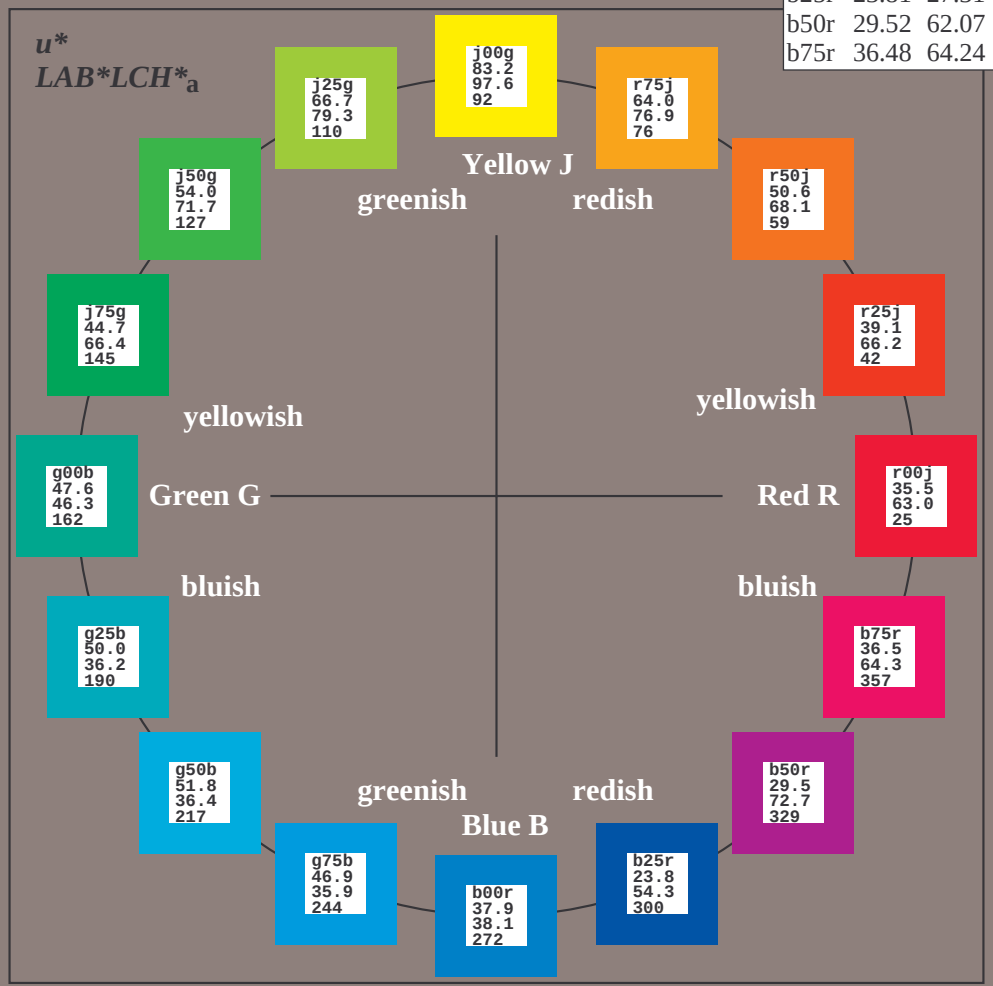
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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

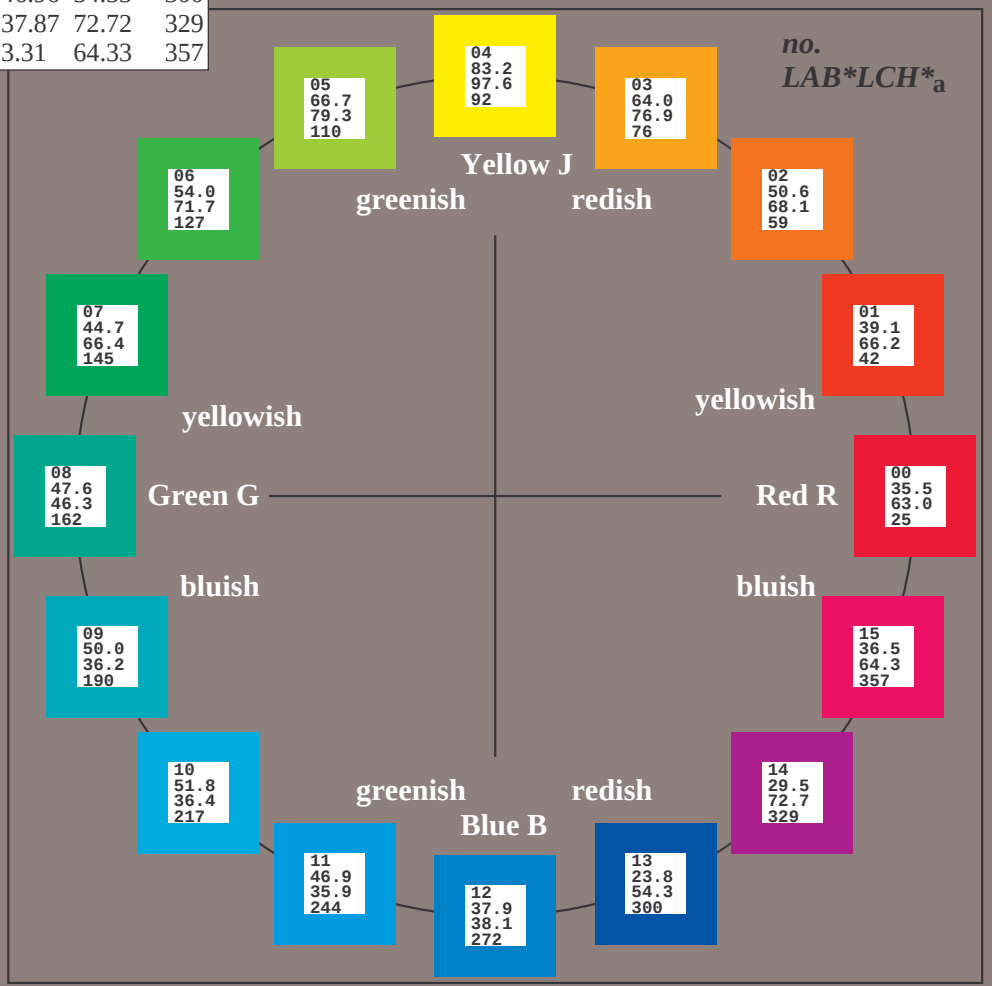


%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; 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

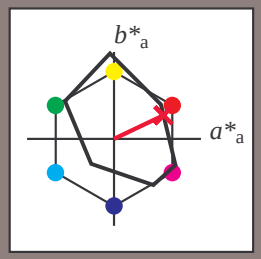




Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 25/360 = 0.071$

u = r00j*
*LAB*LCH*a*

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_90a; adapted (a) CIELAB data

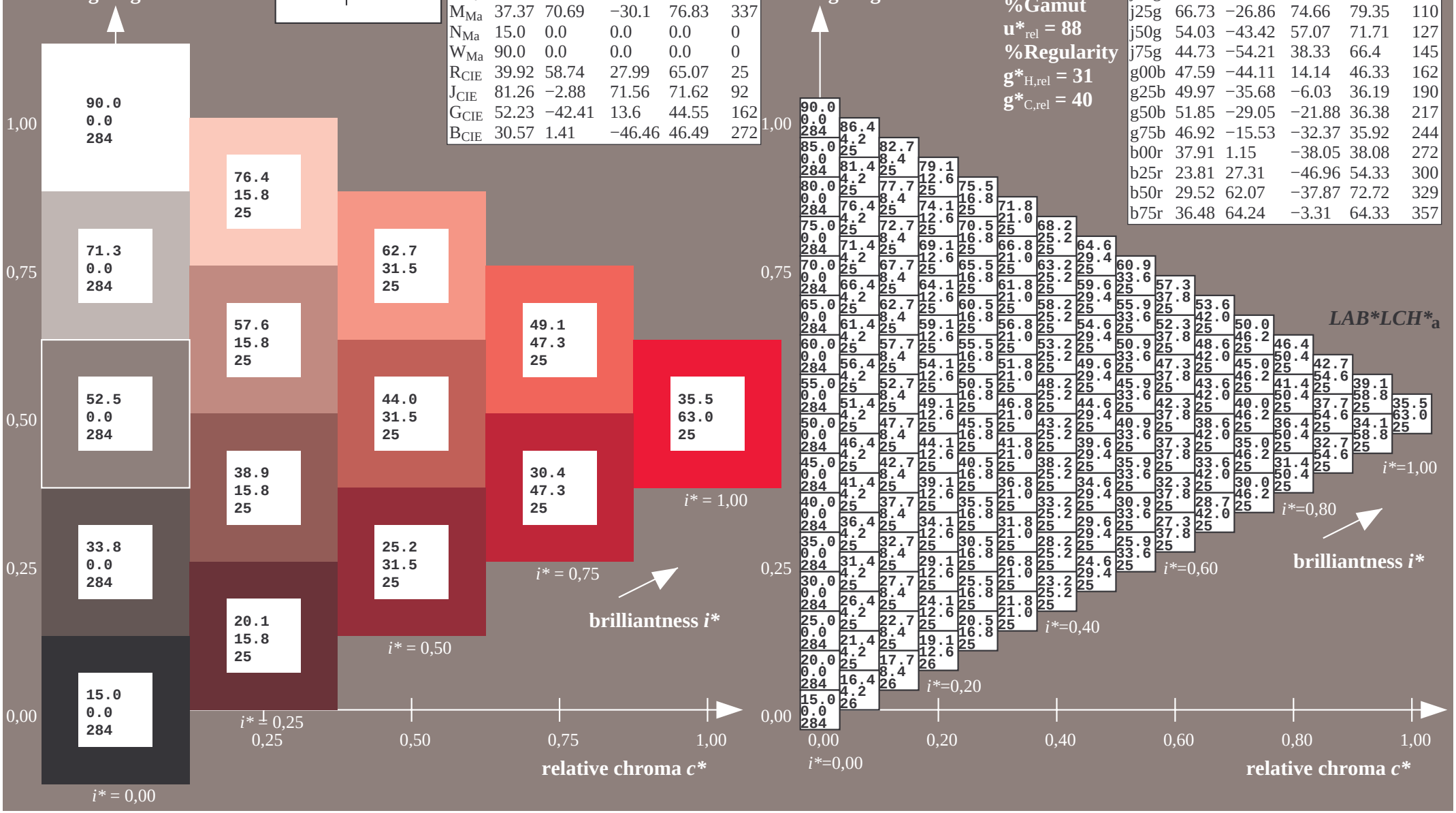
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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**
triangle lightness *t**

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

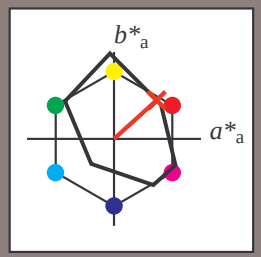
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; 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

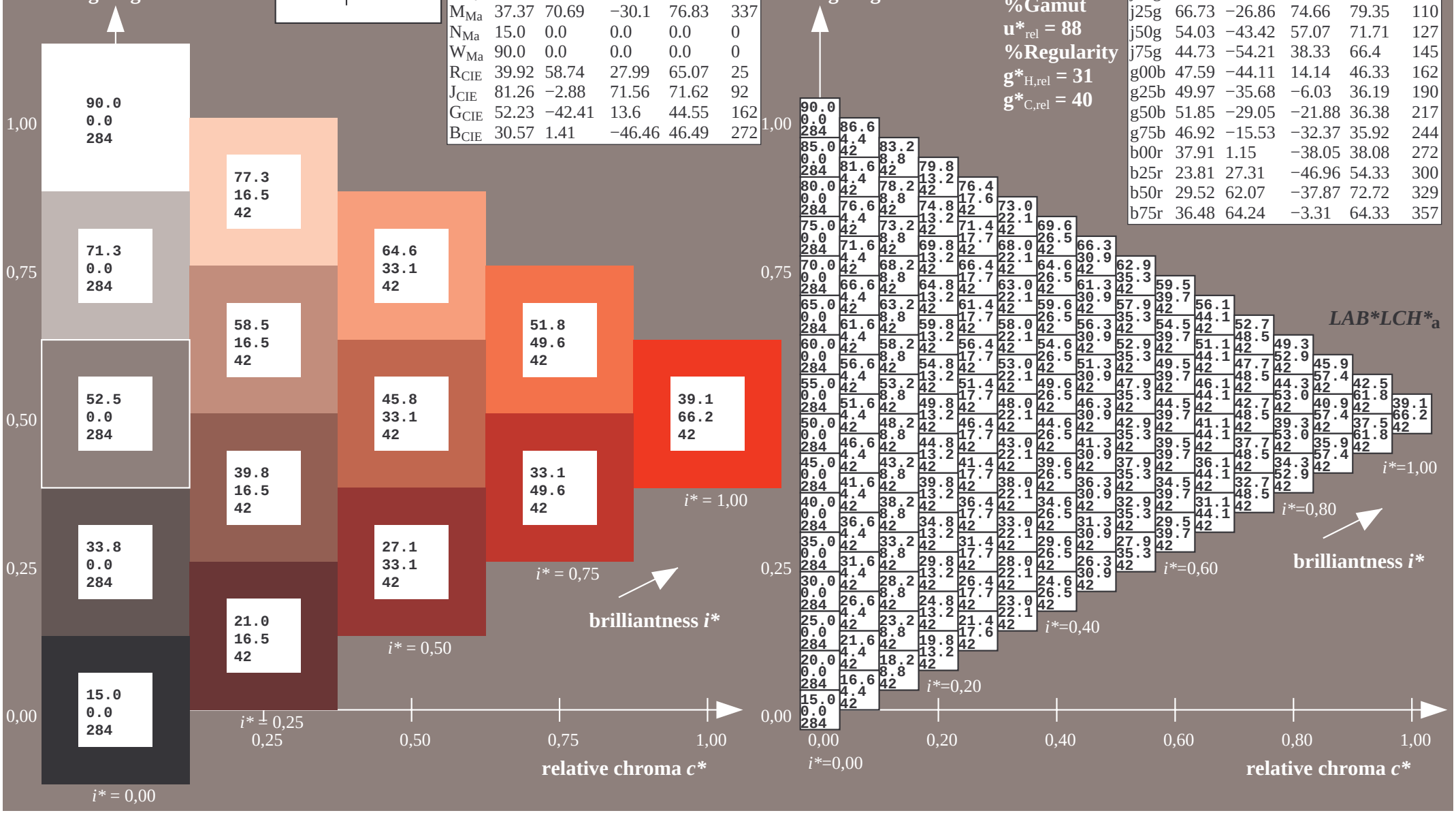
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 39 49 44**
LAB*LCH*$_{Ma}$**: 39 66 42**
lab*rgb*$_{Ma}$**: 1.0 0.25 0.0**
lab*olv*$_{Ma}$**: 1.0 0.08 0.0**
triangle lightness *t**

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

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

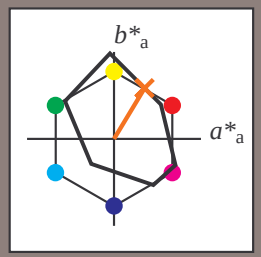
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90a; 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

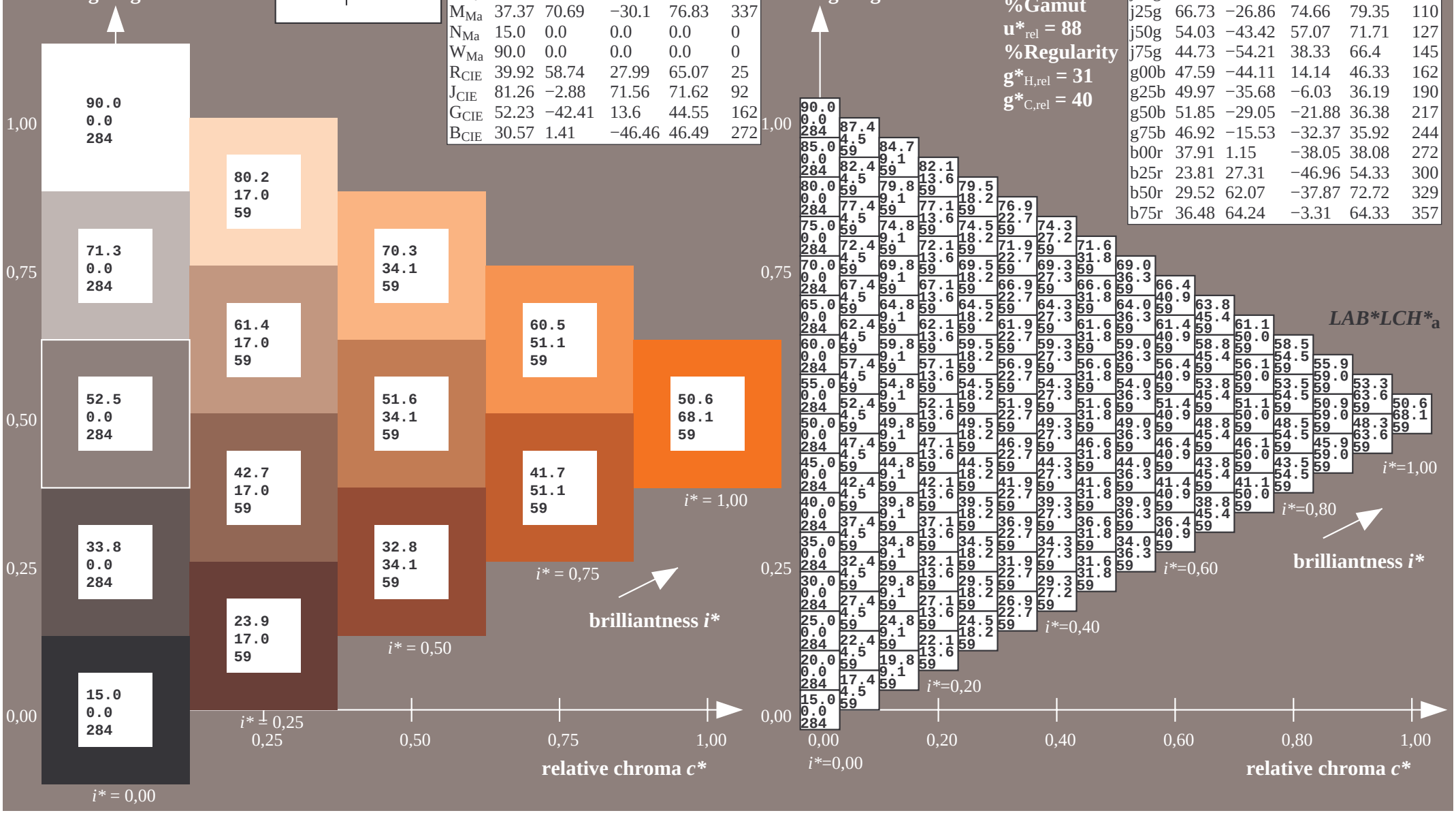
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 51 35 58**
***LAB*LCH*Ma*: 51 68 59**
***lab*rgb*Ma*: 1.0 0.5 0.0**
***lab*olv*Ma*: 1.0 0.32 0.0**
triangle lightness *t**

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

u* = r50j
LAB*LCH*a

FRS15_90a; 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_90a 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*

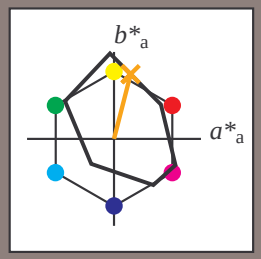
elementary hue text:

u** = r75j

contrast reduction factor:

c_R = 0.9

triangle lightness *t**



FRS15_90a; 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

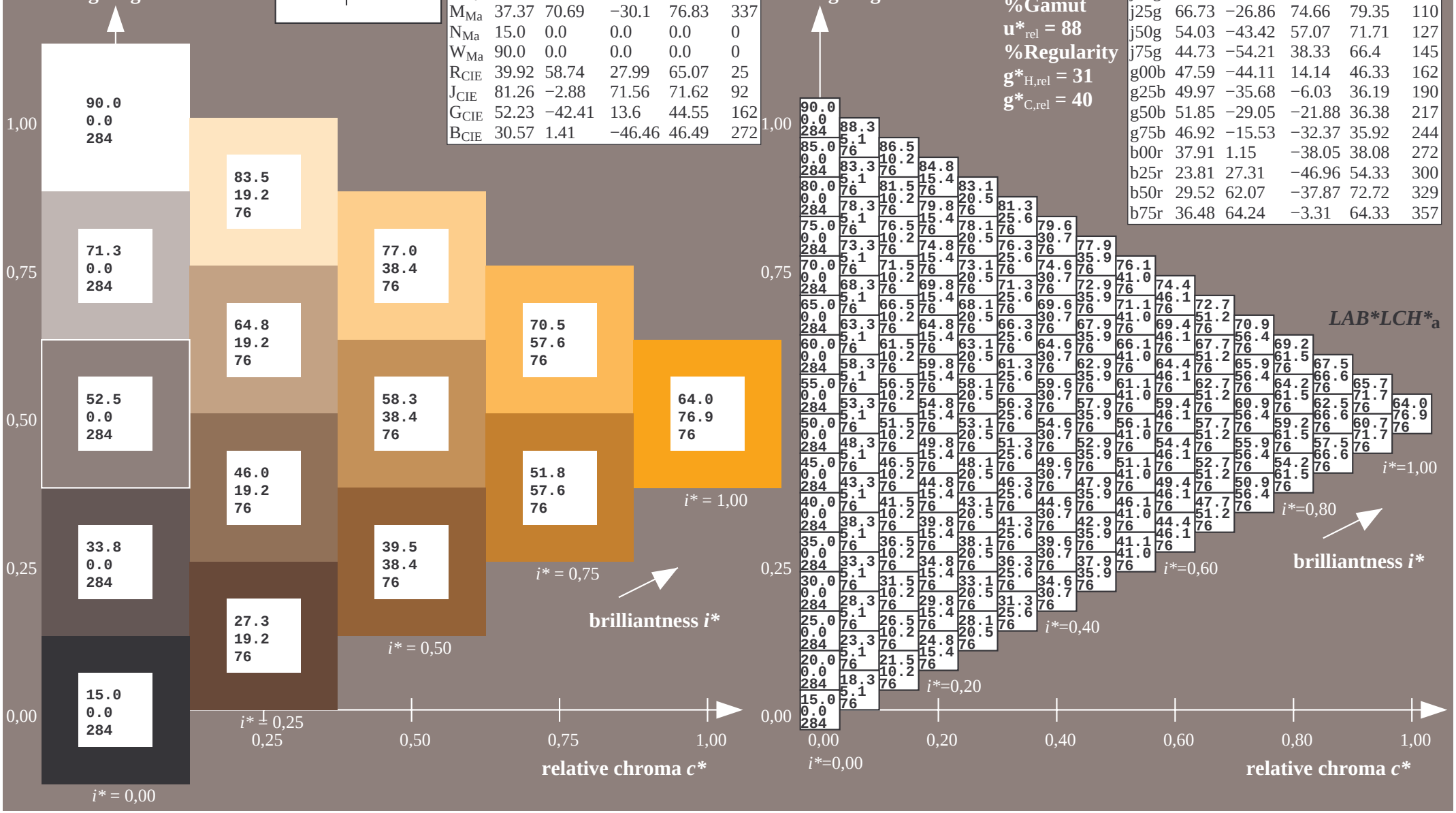
%Regularity

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

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

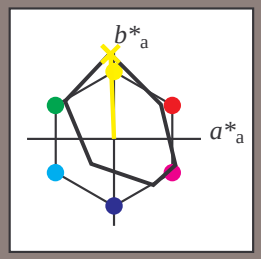
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90a; 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

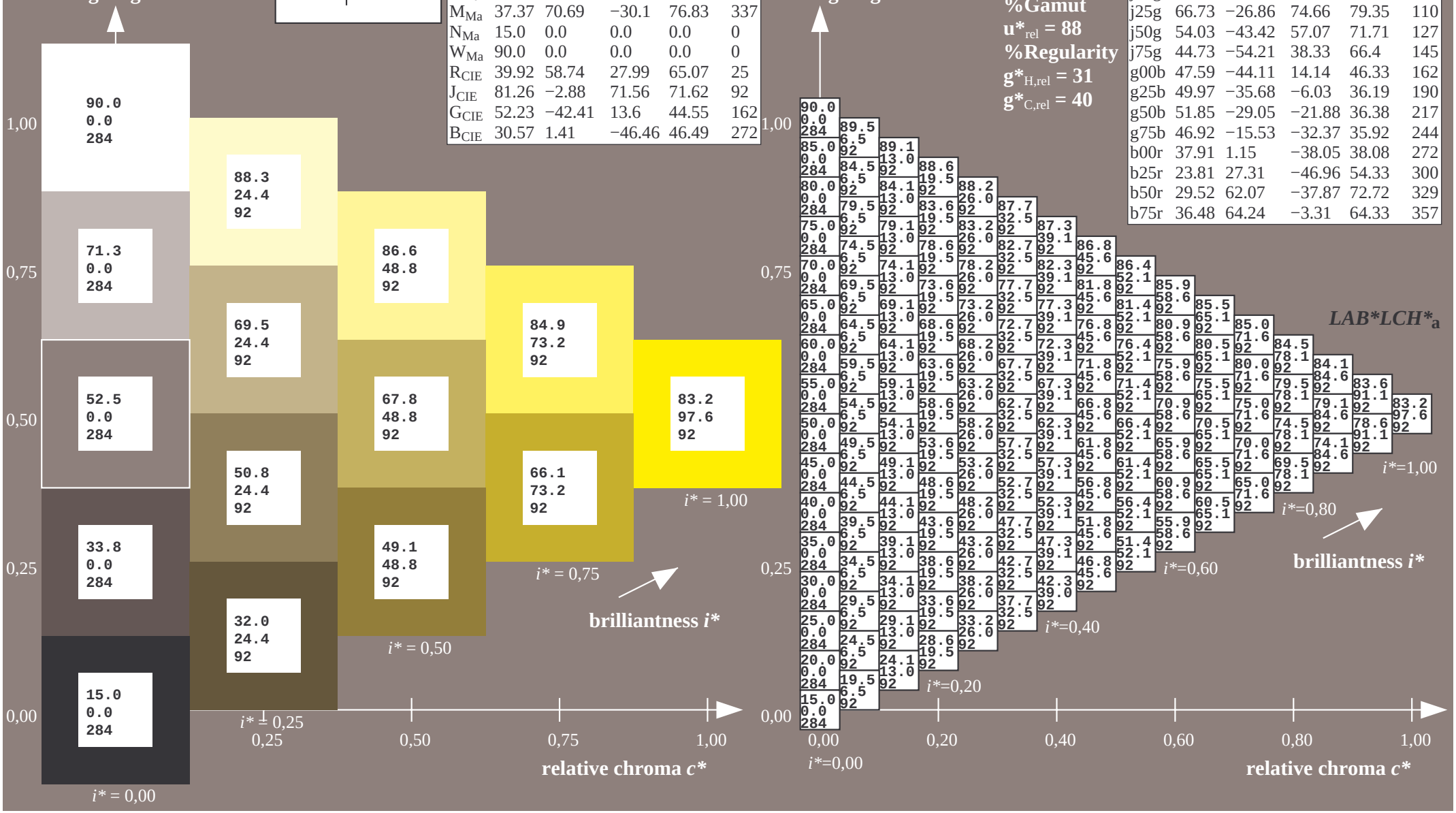
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 83 −3 98**
***LAB*LCH*Ma*: 83 98 92**
***lab*rgb*Ma*: 1.0 1.0 0.0**
***lab*olv*Ma*: 1.0 0.99 0.0**
triangle lightness *t**

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

u* = j00g
LAB*LCH*a

FRS15_90a; adapted (a) CIELAB data

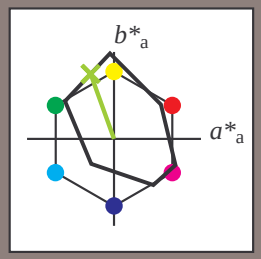
	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	66.4	145
g00b	47.59	−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_90a 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_90a; adapted (a) CIELAB data

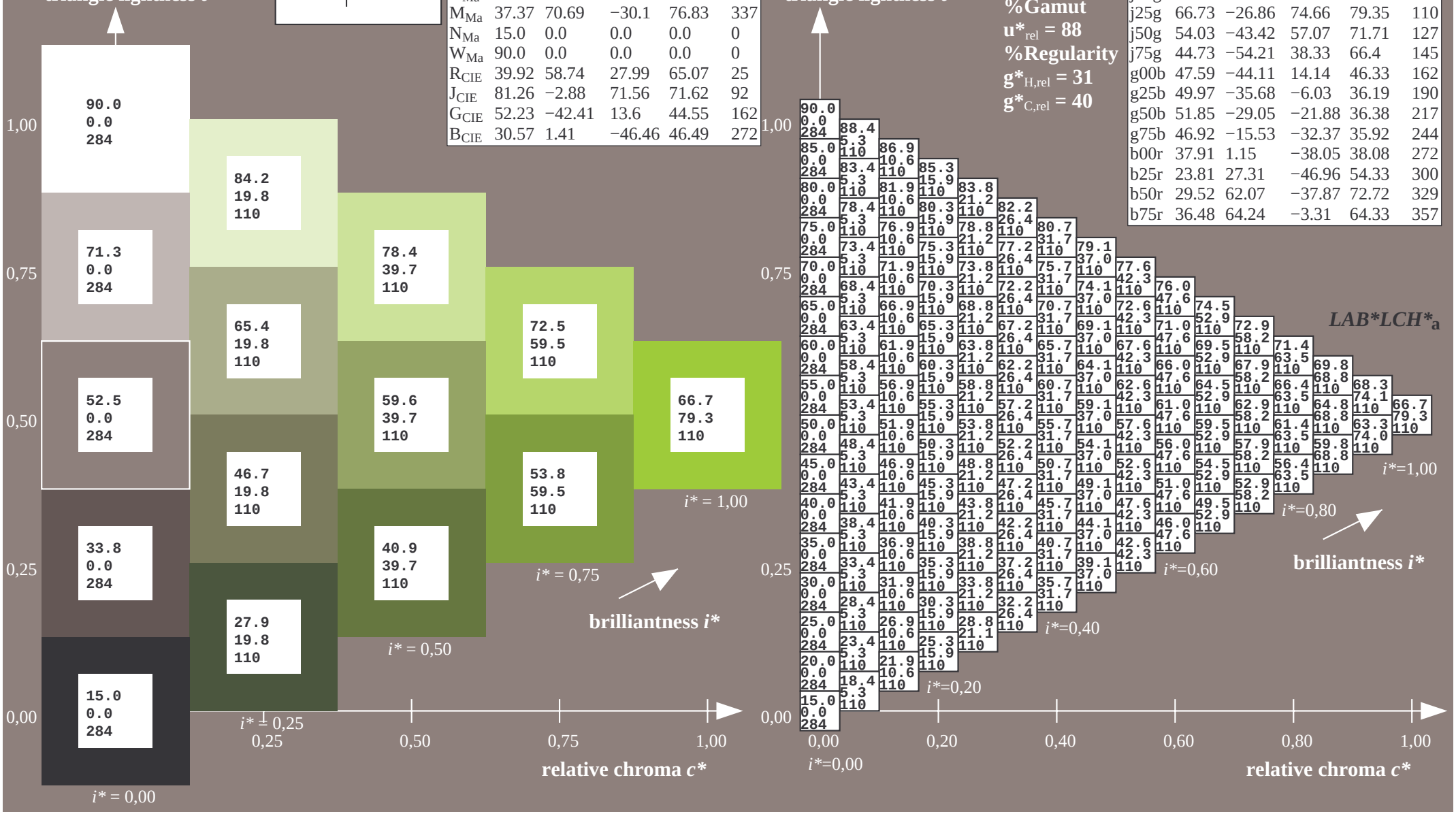
	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{CIE}	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_90a; 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_90a for relative CIELAB hue *h = *lab*h** = h_{ab}/360 = 127/360 = 0.354**

u** = j50g

LAB*LCH*a

data for any colour:

lab*tch** and *lab*icu*

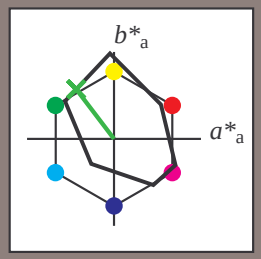
elementary hue text:

u** = j50g

contrast reduction factor:

c_R = 0.9

triangle lightness *t**



FRS15_90a; 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

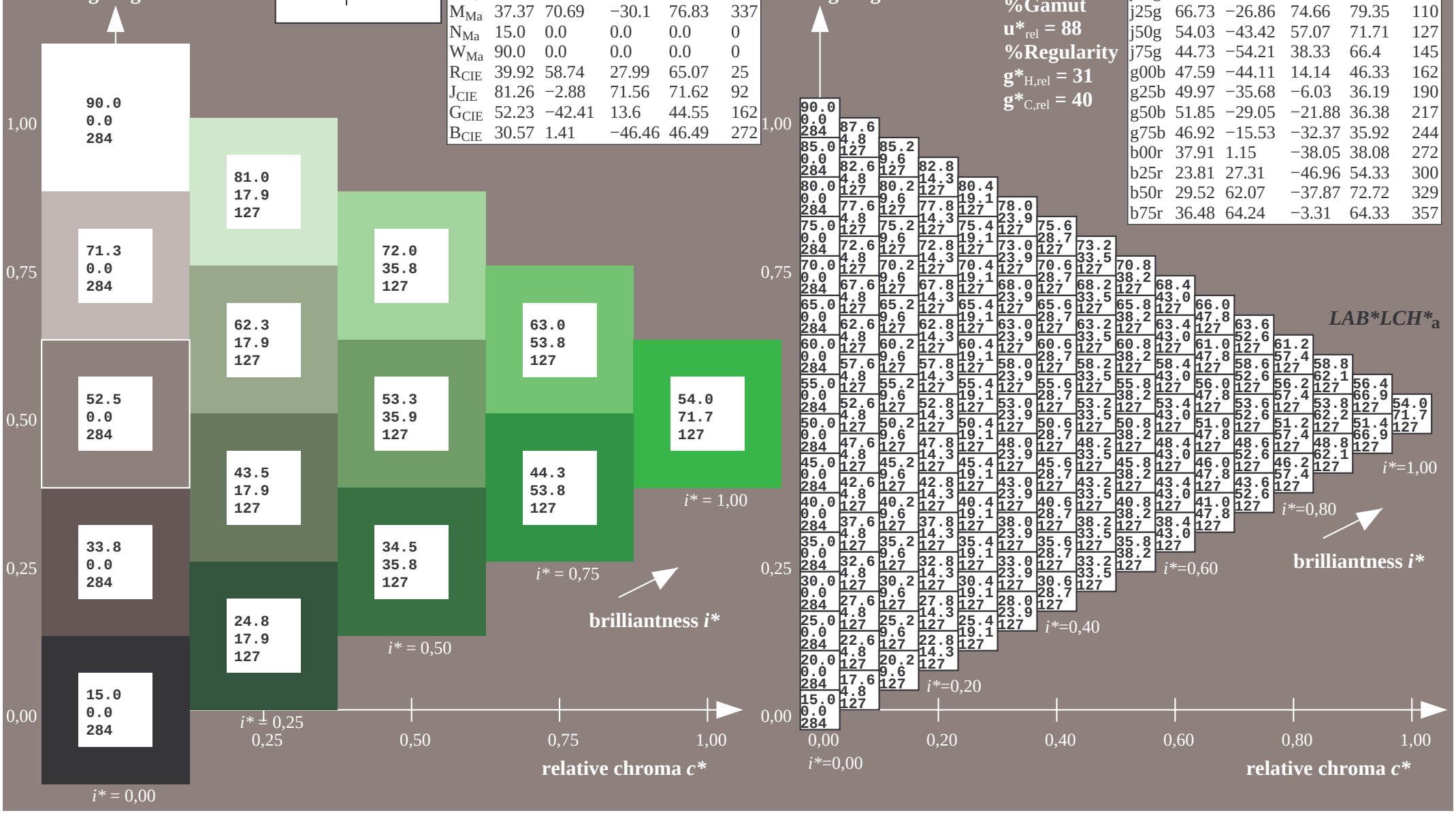
u^*_{rel} = 88

%Regularity

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

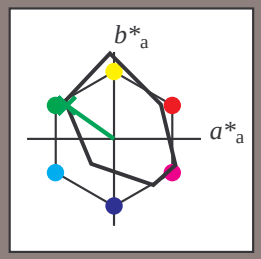
$g^*_{C,rel}$ = 40

FRS15_90a; 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_90a 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_90a; 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

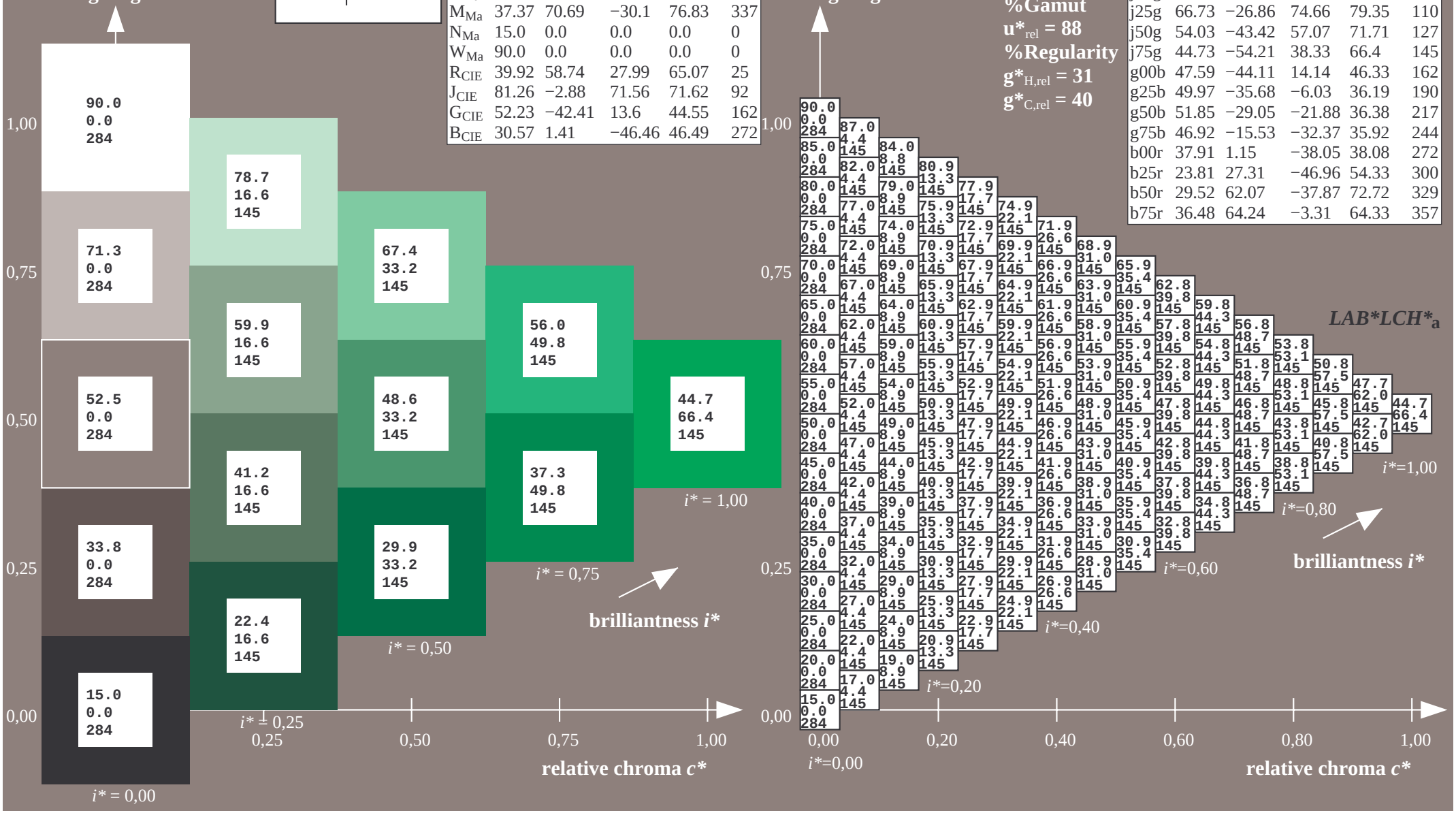
Data for maximum colour (Ma):
***LAB*LAB**Ma: 45 −53 38**
***LAB*LCH**Ma: 45 66 145**
***lab*rgb**Ma: 0.25 1.0 0.0**
***lab*olv**Ma: 0.0 1.0 0.07**
triangle lightness *t**

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

u** = j75g
LAB*LCH**a

FRS15_90a; adapted (a) CIELAB data

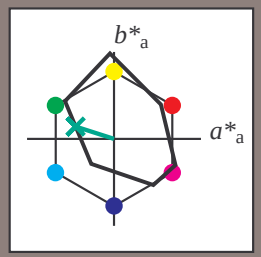
	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	66.4	145
g00b	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_90a 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**

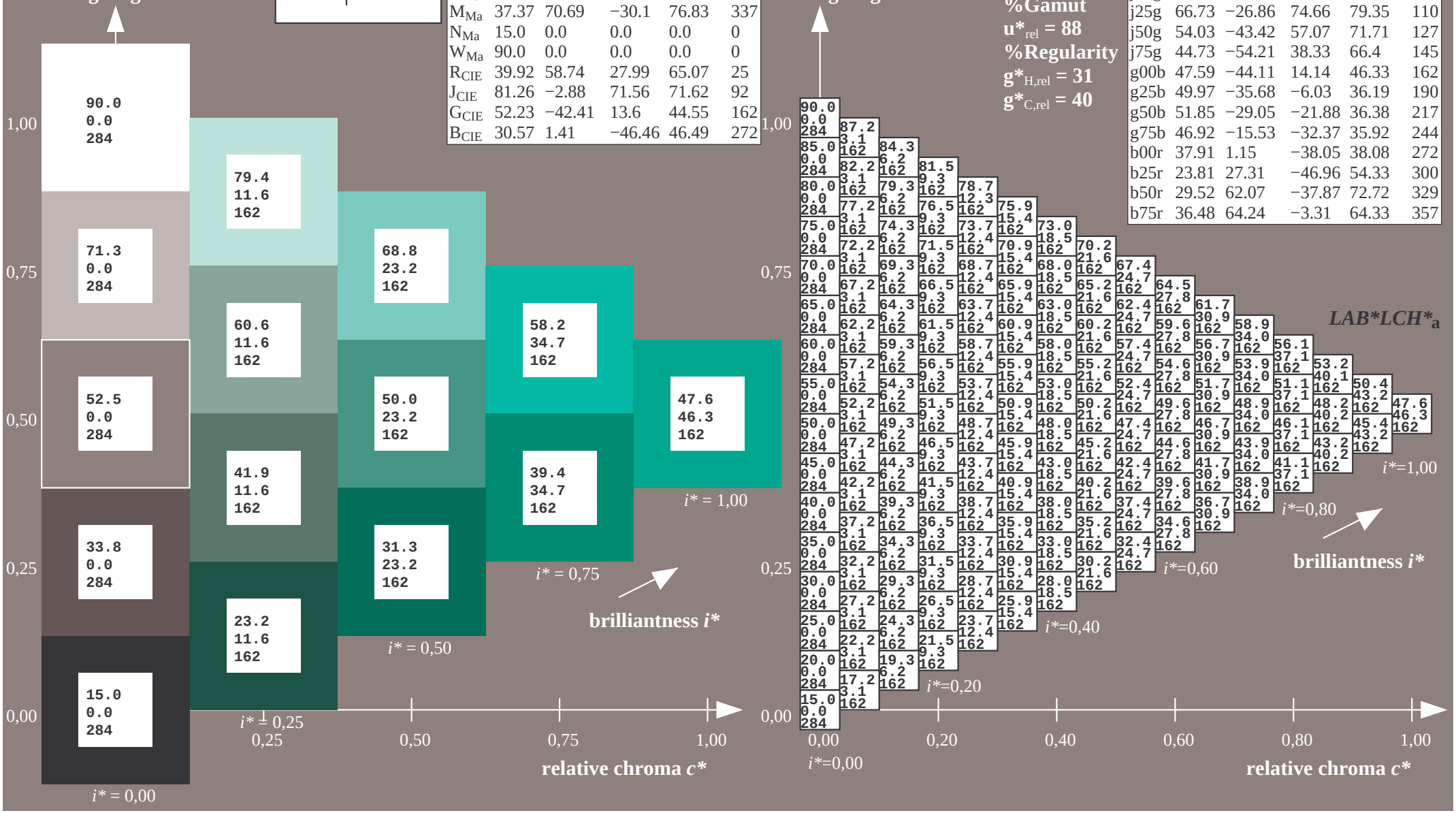


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

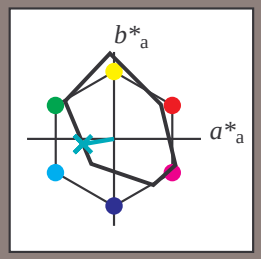
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; 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_90a 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**

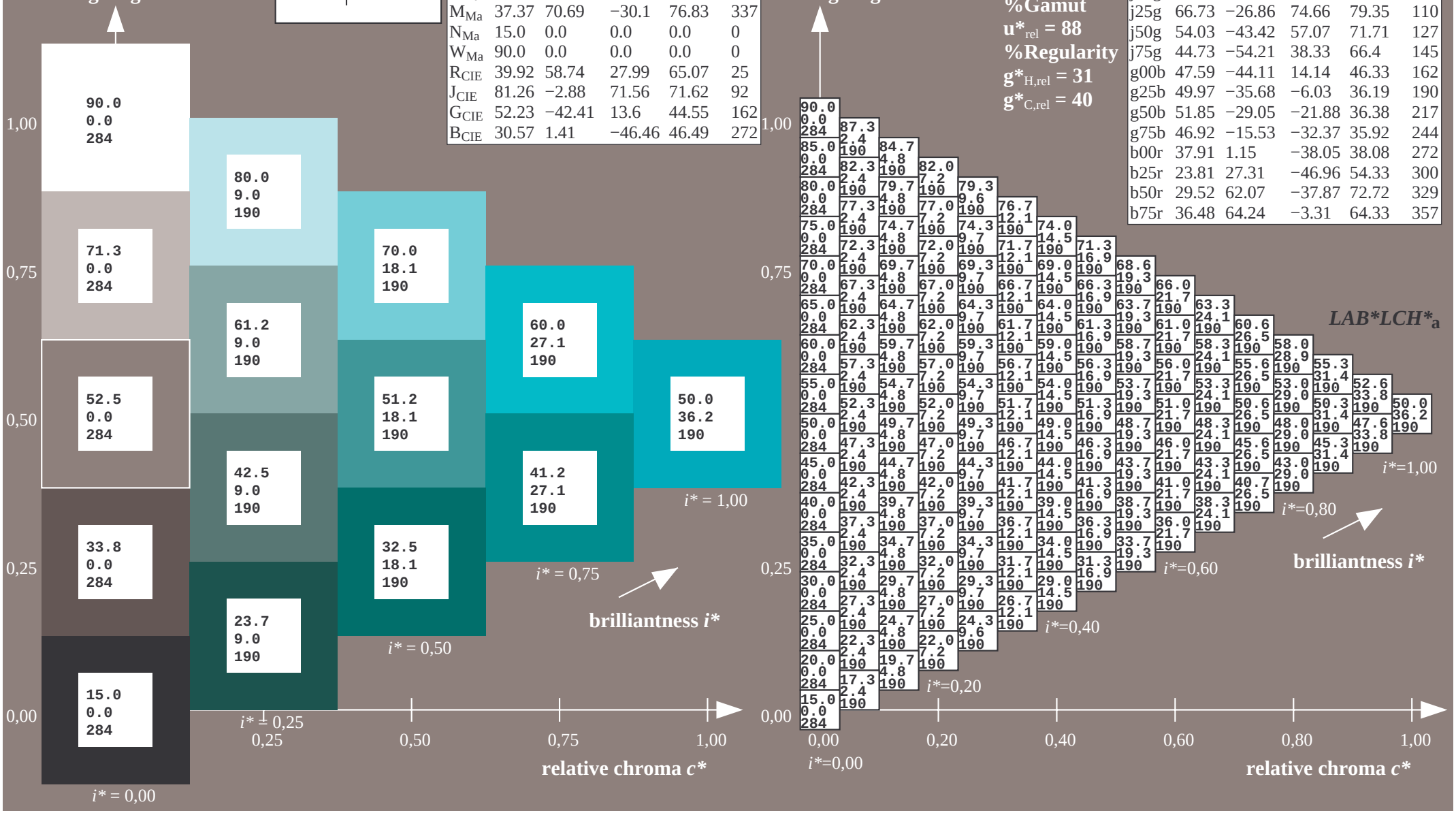


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

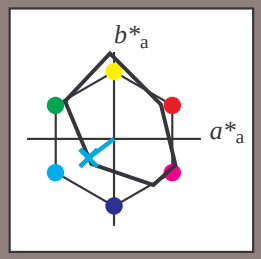
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; 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_90a 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**

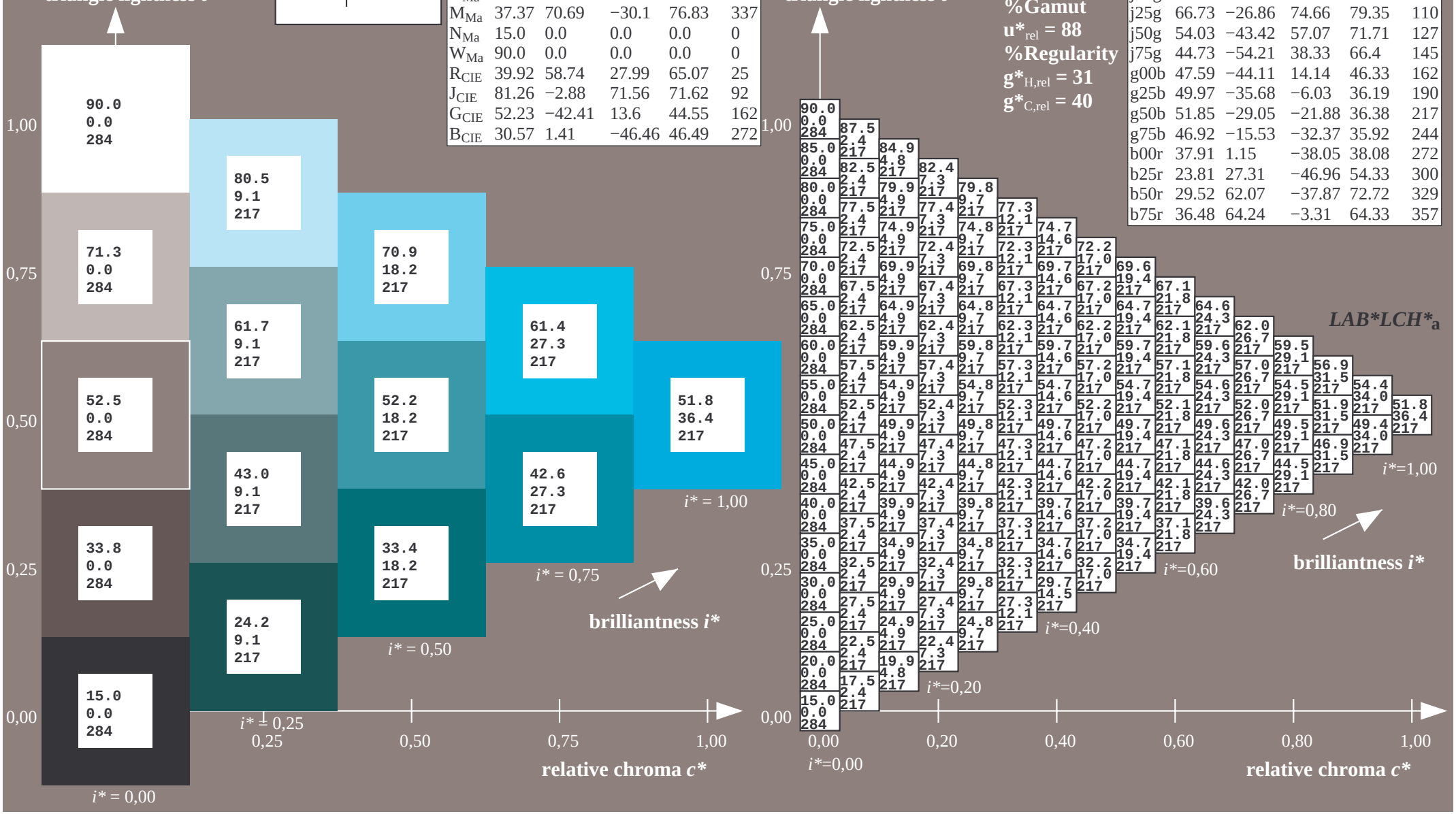


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

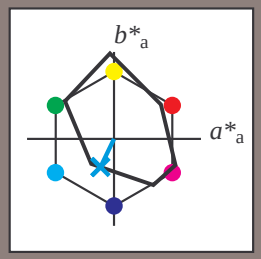
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	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_90a 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**

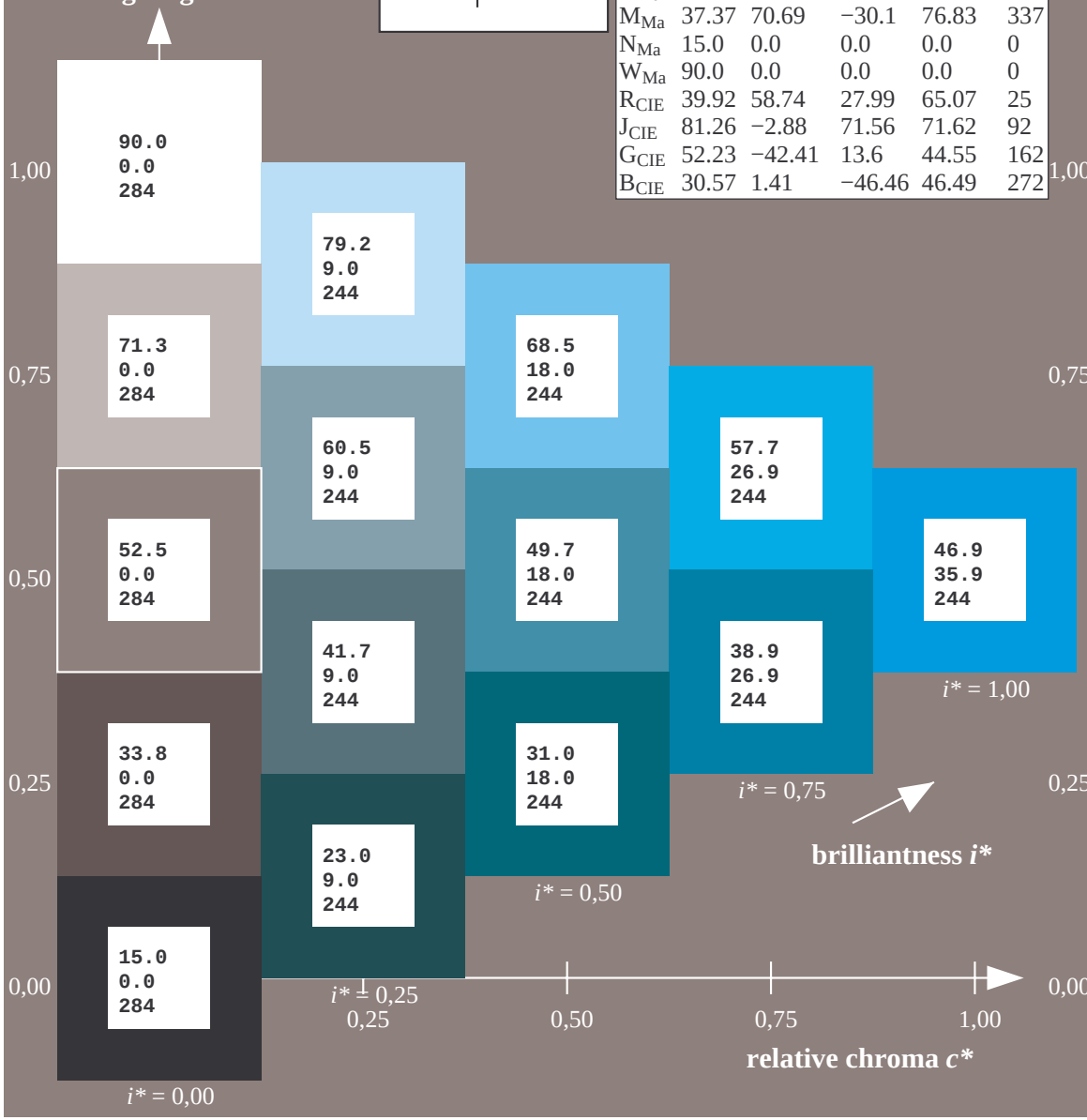


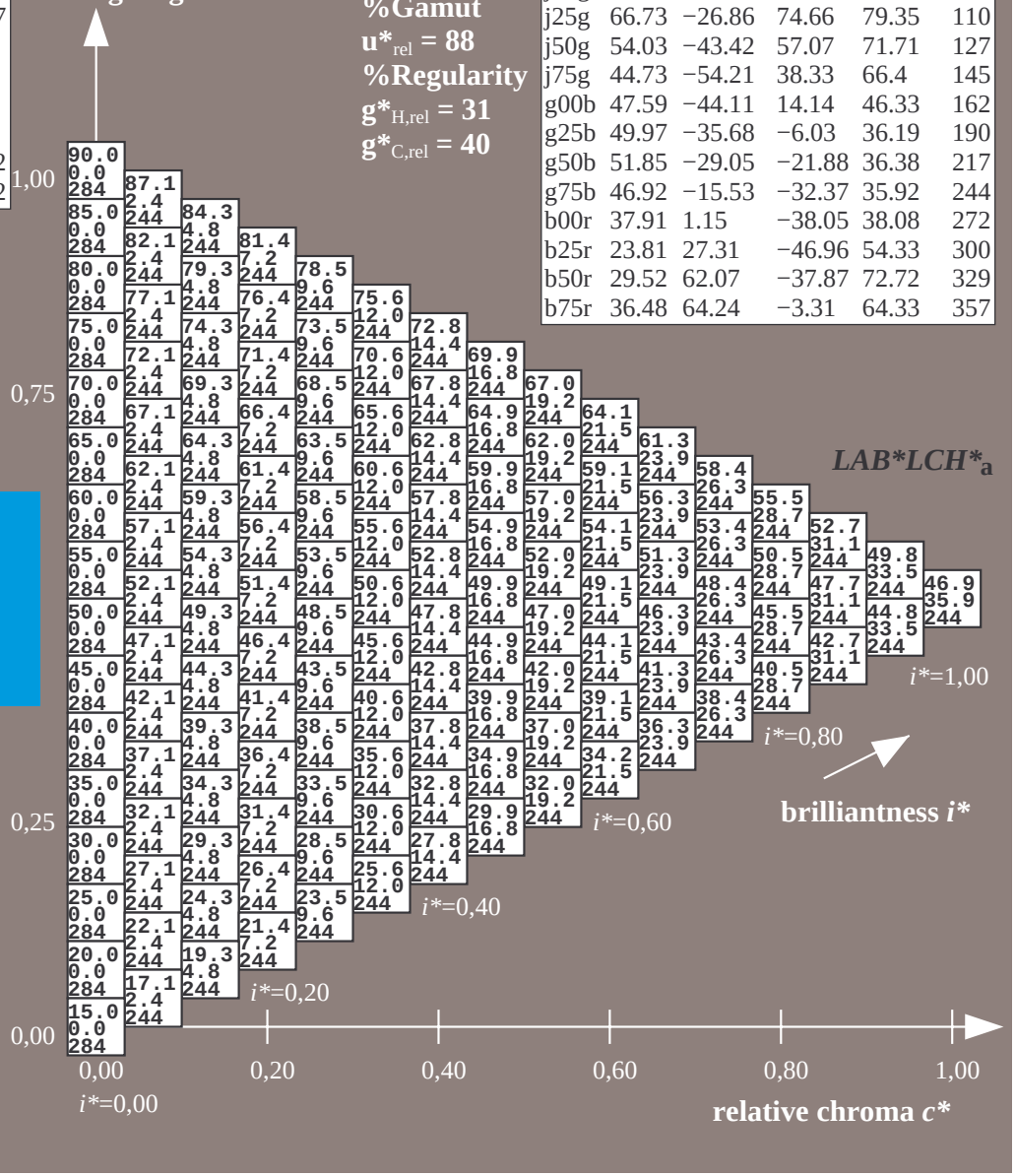
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

FRS15_90a; 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

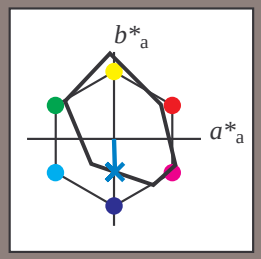




Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue *h = *lab*h** = h_{ab}/360 = 272/360 = 0.755** *u* = b00r*

*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**

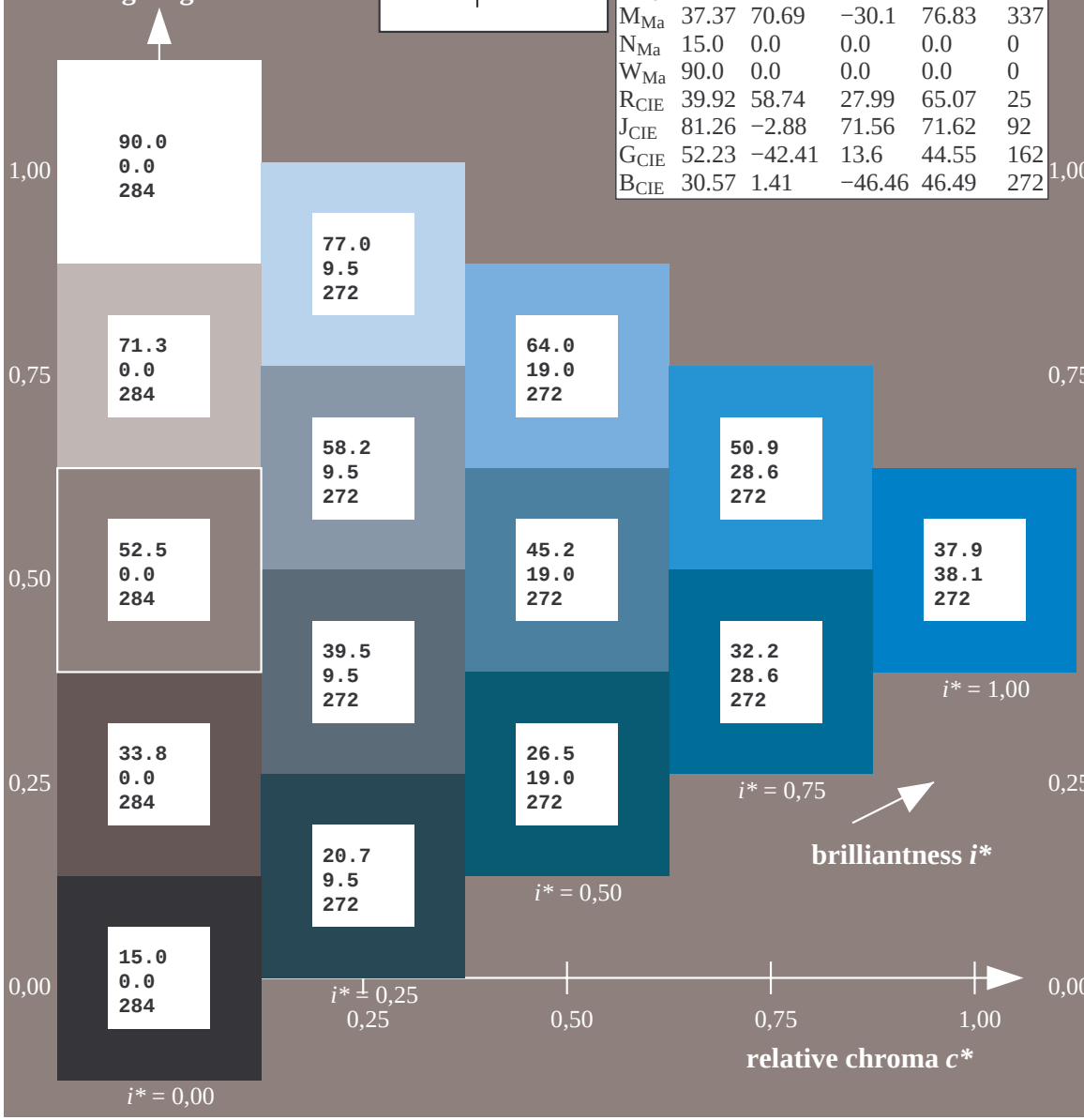


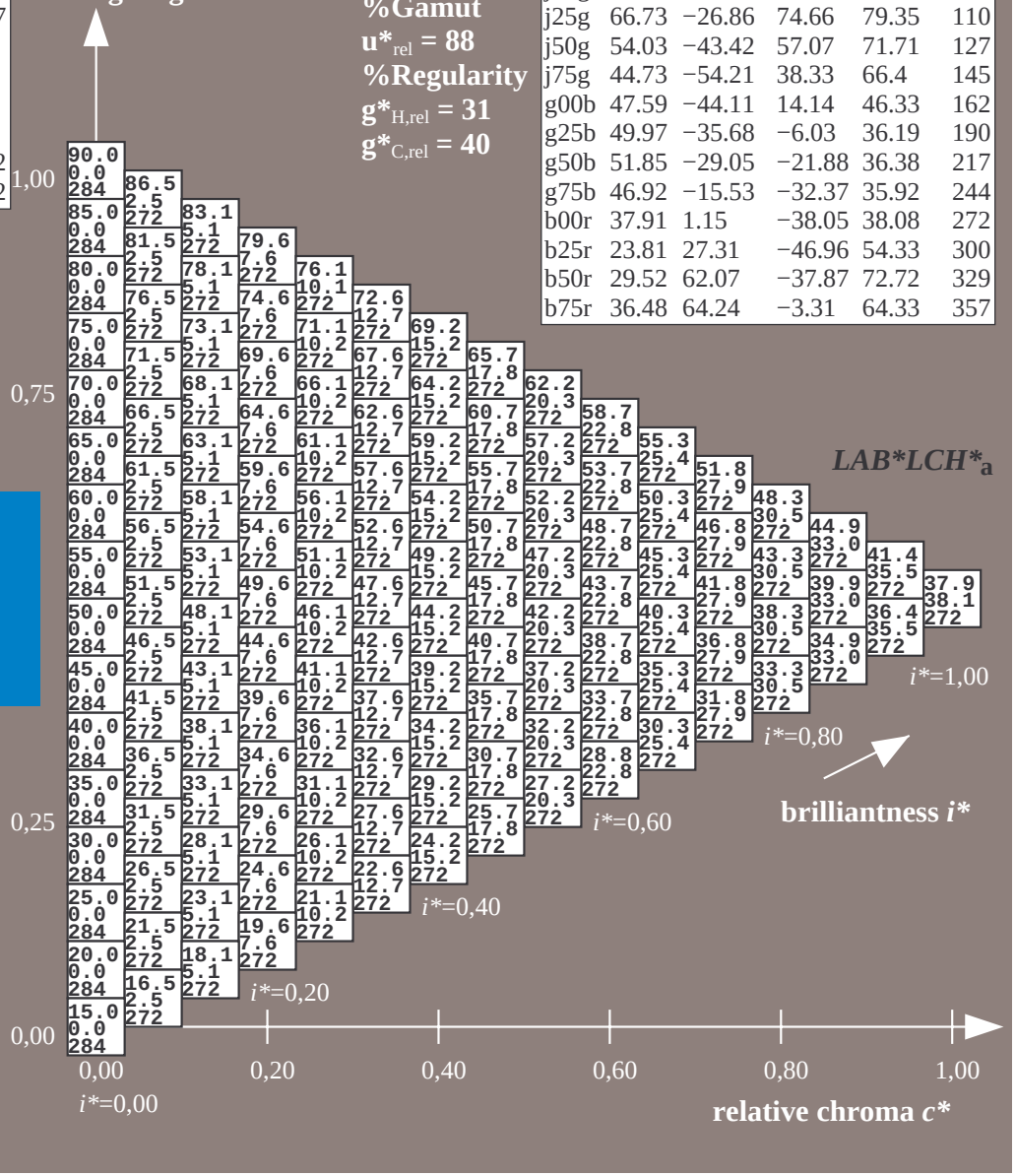
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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

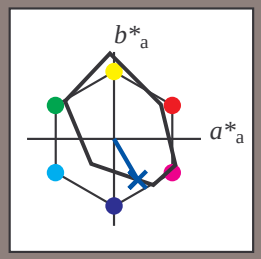
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	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_90a 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_90a; 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

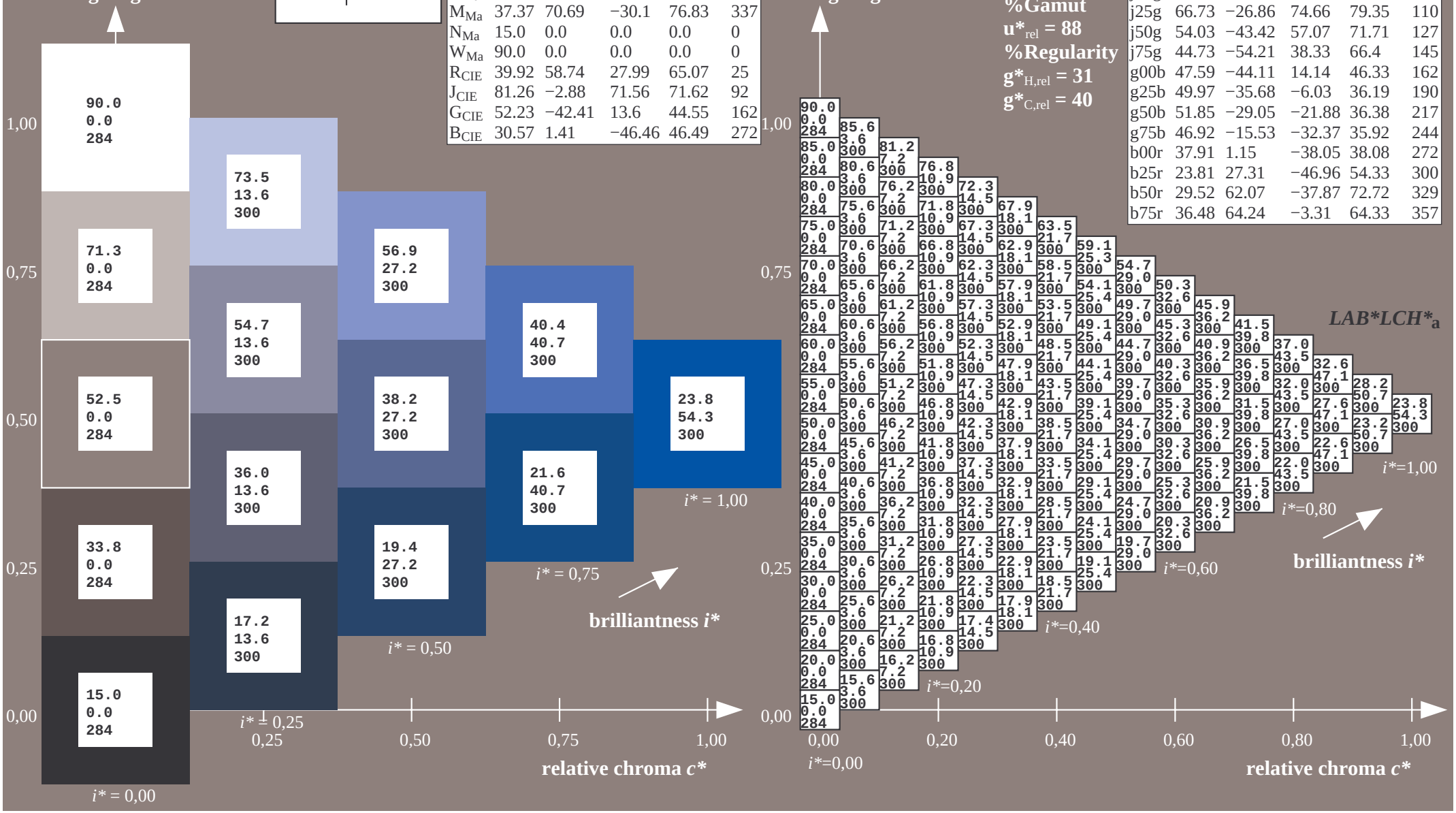
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 24 27 −46**
LAB*LCH*$_{Ma}$**: 24 54 300**
lab*rgb*$_{Ma}$**: 0.5 0.0 1.0**
lab*olv*$_{Ma}$**: 0.0 0.25 1.0**
triangle lightness *t**

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

u* = b25r
LAB*LCH*$_a$**

FRS15_90a; adapted (a) CIELAB data

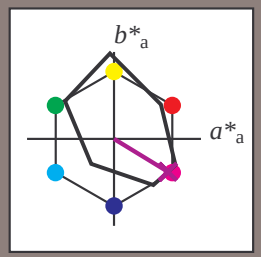
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a for relative CIELAB hue *h = *lab*h** = h_{ab}/360 = 329/360 = 0.913** *u* = b50r*

*LAB*LCH*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_90a; adapted (a) CIELAB data

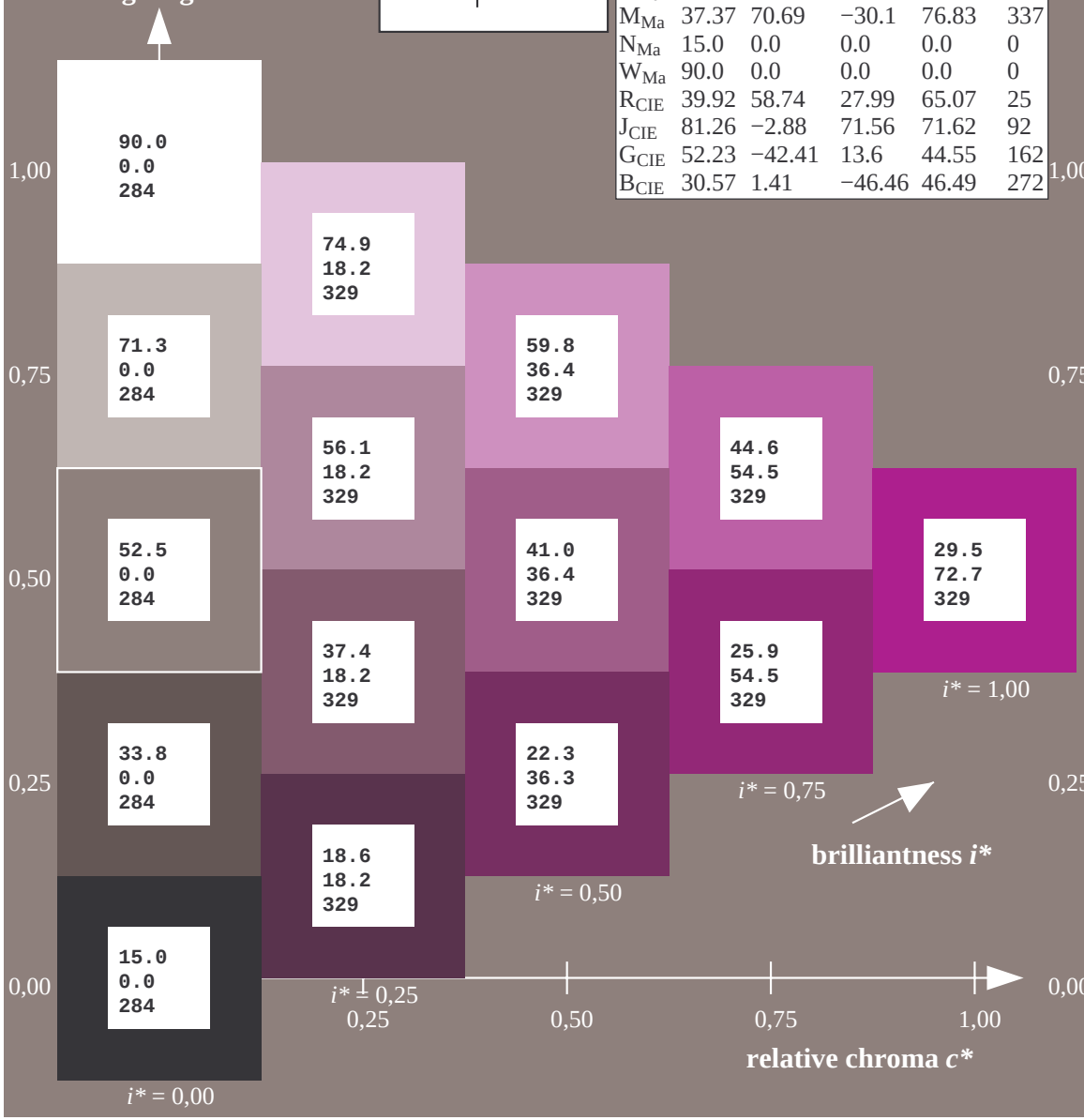
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

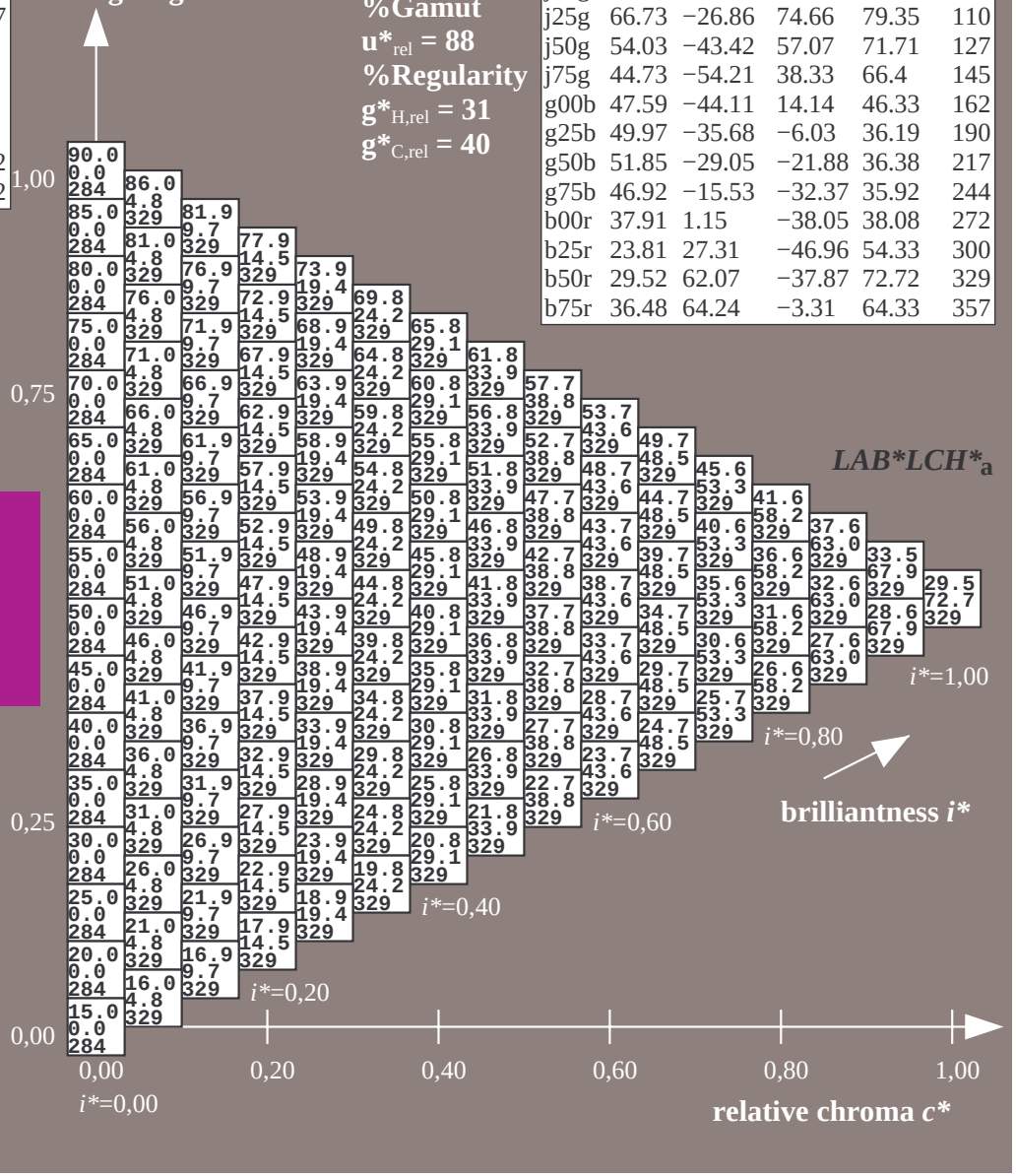
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 30 62 −37**
***LAB*LCH*Ma*: 30 73 329**
***lab*rgb*Ma*: 1.0 0.0 1.0**
***lab*olv*Ma*: 0.66 0.0 1.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

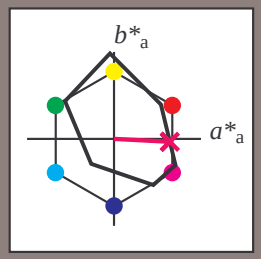
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a 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_90a; adapted (a) CIELAB data

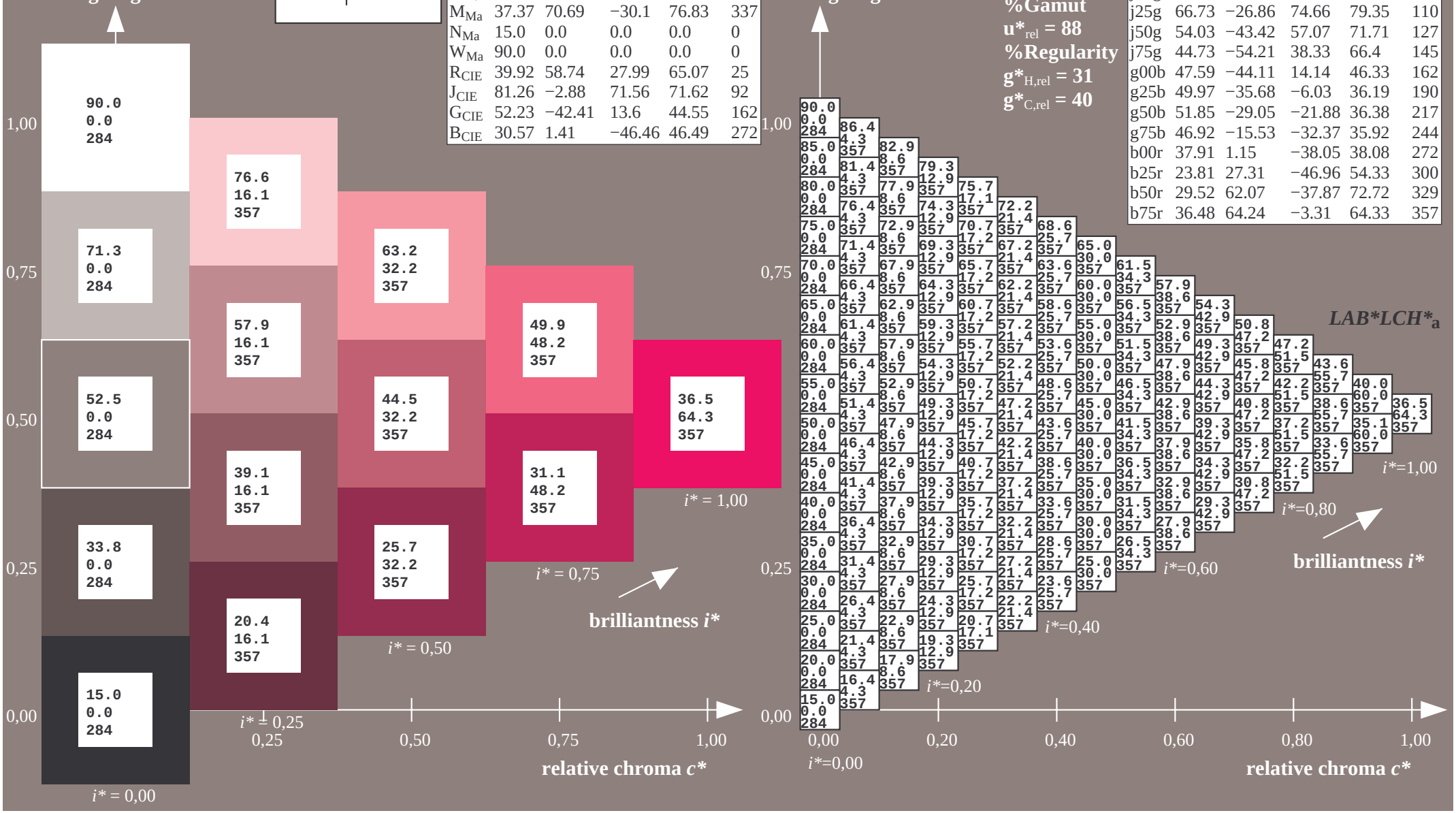
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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_90a; 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



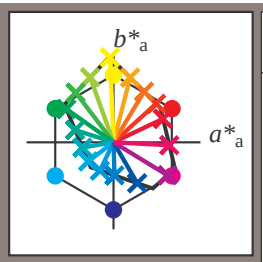
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
01	15.0 0.0 284	18.6 8.9 142	22.3 17.8 142	25.9 26.7 142	29.6 35.5 142	33.2 44.4 142	36.9 53.3 142	40.5 62.2 142	44.1 71.1 142	17.5 8.4 36	23.6 12.3 93	27.2 19.3 113	30.9 27.4 122	34.5 35.9 127	38.2 44.5 130	41.8 53.2 132	45.4 62.0 134	49.1 70.8 135
02	14.9 8.7 310	19.7 4.9 228	23.4 10.5 170	27.0 18.8 157	30.6 27.5 153	34.3 36.3 150	37.9 45.1 149	41.6 53.9 148	45.2 62.8 147	17.8 9.6 337	24.4 0.0 284	28.0 8.9 142	31.7 17.8 142	35.3 26.7 142	38.9 35.5 142	42.6 44.4 142	46.2 53.3 142	49.9 62.2 142
03	14.8 17.4 310	19.6 10.5 283	24.4 9.7 228	28.1 13.7 187	31.7 20.9 170	35.3 29.1 162	39.0 37.6 157	42.6 46.3 154	46.3 55.0 153	17.7 17.8 324	24.3 8.7 310	29.1 4.9 228	32.7 10.5 170	36.4 18.8 157	40.0 27.5 153	43.6 36.3 150	47.3 45.1 149	50.9 53.9 148
04	14.7 26.1 310	19.5 18.7 295	24.3 13.8 266	29.1 14.6 228	32.8 17.7 198	36.4 23.9 180	40.0 31.4 170	43.7 39.5 164	47.3 47.9 160	17.6 26.4 320	24.2 17.4 310	29.0 10.5 283	33.8 9.7 228	37.4 13.7 187	41.1 21.0 170	44.7 29.1 162	48.4 37.6 157	52.0 46.3 155
05	14.6 34.9 310	19.4 27.2 300	24.2 21.0 283	29.0 17.9 257	33.8 19.4 228	37.5 22.0 204	41.1 27.4 187	44.8 34.3 177	48.4 41.9 170	17.5 35.0 317	24.1 26.1 310	28.9 18.7 295	33.7 13.9 266	38.5 14.6 228	42.1 17.7 198	45.8 23.9 180	49.4 31.4 170	53.1 39.5 164
06	14.5 43.6 310	19.3 35.8 303	24.1 29.0 291	28.9 24.1 274	33.7 22.3 250	38.5 24.3 228	42.2 26.6 208	45.8 31.3 193	49.5 37.5 183	17.4 43.7 316	24.0 34.9 310	28.8 27.2 300	33.6 21.0 283	38.4 17.9 257	43.2 19.4 228	46.8 22.0 204	50.5 27.4 187	54.1 34.3 177
07	14.4 52.3 310	19.2 44.4 304	24.0 37.3 295	28.8 31.5 283	33.6 27.7 266	38.4 26.8 246	43.2 29.2 228	46.9 31.2 211	50.5 35.4 198	17.3 52.3 315	23.8 43.6 310	28.7 35.8 303	33.5 29.0 291	38.3 24.1 274	43.1 22.3 250	47.9 24.3 228	51.6 26.6 208	55.2 31.3 193
08	14.3 61.0 310	19.1 53.1 305	23.9 45.8 298	28.7 39.4 289	33.5 34.5 276	38.3 31.6 261	43.1 31.5 244	48.0 34.0 228	51.6 35.9 213	17.2 61.0 314	23.7 52.3 310	28.6 44.4 304	33.4 37.4 295	38.2 31.5 283	43.0 27.7 266	47.8 26.8 246	52.6 29.2 228	56.3 31.2 211
09	14.2 69.7 310	19.0 61.8 306	23.8 54.4 300	28.6 47.7 293	33.4 42.0 283	38.2 37.9 271	43.0 35.8 257	47.9 36.2 241	52.7 38.9 228	17.1 69.7 314	23.6 61.0 310	28.4 53.1 305	33.3 45.8 298	38.1 39.4 289	42.9 34.5 276	47.7 31.6 261	52.5 31.5 244	57.3 34.0 228
10	22.5 25.1 36	28.6 25.6 60	34.7 30.0 79	40.8 36.9 93	44.4 43.2 102	48.1 50.2 108	51.7 57.8 113	55.4 65.7 117	59.0 73.8 120	25.0 33.4 36	31.1 33.5 54	37.2 36.6 70	43.3 42.1 83	49.4 49.2 93	53.0 55.3 100	56.7 62.2 105	60.3 69.5 110	63.9 77.1 113
11	22.8 23.1 15	29.4 16.7 36	35.5 18.3 70	41.6 24.6 93	45.2 31.1 105	48.8 38.5 113	52.5 46.5 119	56.1 54.8 122	59.8 63.2 125	25.3 31.1 21	31.9 25.1 36	38.0 25.7 60	44.1 30.0 79	50.2 36.9 93	53.8 43.2 102	57.4 50.2 108	61.1 57.8 113	64.7 65.7 117
12	23.1 24.5 354	29.7 15.6 4	36.3 8.4 36	42.3 12.3 93	46.0 19.3 113	49.6 27.4 122	53.3 35.9 127	56.9 44.5 130	60.5 53.2 132	25.6 31.2 4	32.2 23.1 15	38.8 16.7 36	44.9 18.3 70	50.9 24.6 93	54.6 31.1 105	58.2 38.5 113	61.9 46.5 119	65.5 54.8 122
13	23.4 28.8 337	30.0 19.2 337	36.5 9.6 337	43.1 0.0 284	46.8 8.9 142	50.4 17.8 142	54.0 26.7 142	57.7 35.5 142	61.3 44.4 142	25.9 33.8 349	32.5 24.5 354	39.1 15.6 4	45.6 8.4 36	51.7 12.3 93	55.4 19.3 113	59.0 27.4 122	62.6 35.9 127	66.3 44.5 130
14	23.3 36.8 331	29.9 27.3 329	36.4 17.8 324	43.0 8.7 310	47.8 4.9 228	51.5 10.5 170	55.1 18.8 157	58.8 27.5 153	62.4 36.3 150	26.2 38.4 337	32.8 28.8 337	39.3 19.2 337	45.9 9.6 337	52.5 0.0 284	56.1 8.9 142	59.8 17.8 142	63.4 26.7 142	67.1 35.5 142
15	23.2 45.1 327	29.8 35.7 324	36.3 26.4 320	42.9 17.4 310	47.7 10.5 283	52.5 9.7 228	56.2 13.7 187	59.8 21.0 170	63.5 29.1 162	26.1 46.4 332	32.7 36.8 331	39.2 27.3 329	45.8 17.8 324	52.4 8.7 310	57.2 4.9 228	60.8 10.5 170	64.5 18.8 157	68.1 27.5 153
16	23.1 53.5 324	29.6 44.2 322	36.2 35.0 317	42.8 26.1 310	47.6 18.7 295	52.4 13.9 266	57.2 14.6 228	60.9 17.7 198	64.5 23.9 180	26.0 54.6 329	32.6 45.1 327	39.1 35.7 324	45.7 26.4 320	52.3 17.4 310	57.1 10.5 283	61.9 9.7 228	65.6 13.7 187	69.2 20.9 170
17	23.0 62.0 322	29.5 52.8 320	36.1 43.7 316	42.7 34.9 310	47.5 27.2 300	52.3 21.0 283	57.1 17.9 257	62.0 19.4 228	65.6 22.0 204	25.9 62.9 326	32.4 53.5 324	39.0 44.2 322	45.6 35.0 317	52.2 26.1 310	57.0 18.7 295	61.8 13.9 266	66.6 14.6 228	70.3 17.7 198
18	22.9 70.5 321	29.4 61.4 318	36.0 52.3 315	42.6 43.6 310	47.4 35.8 303	52.2 29.0 291	57.0 24.1 274	61.8 22.3 250	66.7 24.3 228	25.8 71.3 324	32.3 62.0 322	38.9 52.7 320	45.5 43.7 316	52.1 34.9 310	56.9 27.2 300	61.7 21.0 283	66.5 17.9 257	71.3 19.4 228
19	30.1 50.2 36	36.1 49.7 48	42.2 51.3 60	48.3 54.9 70	54.4 60.1 79	60.5 66.5 87	66.6 73.8 93	70.2 79.8 98	73.9 86.3 102	32.6 58.5 36	38.6 57.9 46	44.7 59.1 57	50.8 62.0 66	56.9 66.4 74	63.0 72.1 82	69.1 78.7 88	75.2 86.1 93	78.8 92.1 97
20	30.3 47.4 26	36.9 41.8 36	43.0 41.5 51	49.1 43.8 64	55.2 48.2 76	61.3 54.3 85	67.4 61.5 93	71.0 67.6 98	74.6 74.2 103	32.8 55.7 28	39.4 50.2 36	45.5 49.7 48	51.6 51.3 60	57.7 54.9 70	63.8 60.1 79	69.9 66.5 87	76.0 73.8 93	79.6 79.8 98
21	30.6 46.3 15	37.2 39.2 24	43.8 33.4 36	49.9 33.5 54	56.0 36.6 70	62.0 42.1 83	68.1 49.2 93	71.8 55.3 100	75.4 62.2 105	33.1 54.2 19	39.7 47.4 26	46.3 41.8 36	52.4 41.5 51	58.5 43.8 64	64.6 48.2 76	70.6 54.3 85	76.7 61.5 93	80.4 67.6 98
22	30.9 46.9 4	37.5 38.6 11	44.1 31.1 21	50.6 25.1 36	56.7 25.7 60	62.8 30.0 79	68.9 36.9 93	72.6 43.2 102	76.2 50.2 108	33.4 54.1 9	40.0 46.3 15	46.6 39.2 24	53.2 33.4 36	59.2 33.5 54	65.3 36.6 70	71.4 42.1 83	77.5 49.2 93	81.1 55.3 100
23	31.2 49.1 354	37.8 40.0 358	44.4 31.2 4	50.9 23.1 15	57.5 16.7 36	63.6 18.3 70	69.7 24.6 93	73.3 31.1 105	77.0 38.5 113	33.7 55.6 360	40.3 46.9 4	46.9 38.6 11	53.4 31.1 21	60.0 25.1 36	66.1 25.7 60	72.2 30.0 79	78.3 36.9 93	81.9 43.2 102
24	31.5 52.8 345	38.1 43.3 346	44.6 33.8 349	51.2 24.5 354	57.8 15.6 4	64.4 8.4 36	70.5 12.3 93	74.1 19.3 113	77.8 27.4 122	34.0 58.3 351	40.6 49.1 354	47.2 40.0 358	53.7 31.2 4	60.3 23.1 15	66.9 16.7 36	73.0 18.3 70	79.1 24.6 93	82.7 31.1 105
25	31.8 57.6 337	38.4 48.0 337	44.9 38.4 337	51.5 28.8 337	58.1 19.2 337	64.7 9.6 337	71.3 0.0 284	74.9 8.9 142	78.5 17.8 142	34.3 62.3 344	40.9 52.8 345	47.4 43.3 346	54.0 33.8 349	60.6 24.5 354	67.2 15.6 4	73.8 8.4 36	79.8 12.3 93	83.5 19.3 113
26	31.7 65.5 334	38.3 56.0 333	44.8 46.4 332	51.4 36.8 331	58.0 27.3 329	64.6 17.8 324	71.1 8.7 310	76.0 4.9 228	79.6 10.5 170	34.6 67.2 337	41.2 57.6 337	47.7 48.0 337	54.3 38.4 337	60.9 28.8 337	67.5 19.2 337	74.0 9.6 337	80.6 0.0 284	84.3 8.9 142
27	31.6 73.6 331	38.1 64.1 330	44.7 54.6 329	51.3 45.1 327	57.9 35.7 324	64.5 26.4 320	71.0 17.4 310	75.9 10.5 283	80.7 9.7 228	34.5 75.1 334	41.0 65.5 334	47.6 55.9 333	54.2 46.4 332	60.8 36.8 331	67.4 27.3 329	73.9 17.8 324	80.5 8.7 310	85.3 4.9 228

	S	T	U	V	W	X	Y	Z	a	b	c	d	e	f	g	h	i	j	k	LAB*LCH*a		
01	20.0 16.7 36	26.1 18.3 70	32.2 24.6 93	35.8 31.1 105	39.5 38.5 113	43.1 46.5 119	46.8 54.8 122	50.4 63.2 125	54.0 71.7 127	90.0 0.0 284	83.1 8.4 36	76.3 16.7 36	69.4 25.1 36	62.5 33.4 36	55.7 41.8 36	48.8 50.2 36	41.9 58.5 36	35.1 66.9 36	15.0 0.0 284	15.0 0.0 284	15.0 0.0 284	15.0 0.0 284
02	20.3 15.6 4	26.9 8.4 36	33.0 12.3 93	36.6 19.3 113	40.3 27.4 122	43.9 35.9 127	47.5 44.5 130	51.2 53.2 132	54.8 62.0 134	85.3 4.9 228	80.6 0.0 284	73.8 8.4 36	66.9 16.7 36	60.0 25.1 36	53.2 33.4 36	46.3 41.8 36	39.4 50.2 36	32.6 58.5 36	24.4 0.0 284	24.4 0.0 284	24.4 0.0 284	24.4 0.0 284
03	20.6 19.2 337	27.2 9.6 337	33.8 0.0 284	37.4 8.9 142	41.0 17.8 142	44.7 26.7 142	48.3 35.5 142	52.0 44.4 142	55.6 53.3 142	80.7 9.7 228	76.0 4.9 228	71.3 0.0 284	64.4 8.4 36	57.5 16.7 36	50.6 25.1 36	43.8 33.4 36	36.9 41.8 36	30.1 50.2 36	33.8 0.0 284	33.8 0.0 284	33.8 0.0 284	33.8 0.0 284
04	20.5 27.3 329	27.1 17.8 324	33.6 8.7 310	38.5 4.9 228	42.1 10.5 170	45.7 18.8 157	49.4 27.5 153	53.0 36.3 150	56.7 45.1 149	76.0 14.6 228	71.3 9.7 228	66.6 4.9 228	61.9 0.0 284	55.0 8.4 36	48.1 16.7 36	41.3 25.1 36	34.4 33.4 36	27.5 41.8 36	43.1 0.0 284	43.1 0.0 284	43.1 0.0 284	43.1 0.0 284
05	20.4 35.7 324	27.0 26.4 320	33.5 17.4 310	38.4 10.5 283	43.2 9.7 228	46.8 13.7 187	50.4 21.0 170	54.1 29.1 162	57.7 37.6 157	71.3 19.4 228	66.6 14.6 228	61.9 9.7 228	57.2 4.9 228	52.5 0.0 284	45.6 8.4 36	38.8 16.7 36	31.9 25.1 36	25.0 33.4 36	52.5 0.0 284	52.5 0.0 284	52.5 0.0 284	52.5 0.0 284
06	20.3 44.2 322	26.9 35.0 317	33.4 26.1 310	38.2 18.7 295	43.1 13.9 266	47.9 14.6 228	51.5 17.7 198	55.2 23.9 180	58.8 31.4 170	66.7 24.3 228	62.0 19.4 228	57.2 14.6 228	52.5 9.7 228	47.8 4.9 228	43.1 0.0 284	36.3 8.4 36	29.4 16.7 36	22.5 25.1 36	61.9 0.0 284	61.9 0.0 284	61.9 0.0 284	61.9 0.0 284
07	20.2 52.7 320	26.7 43.7 316	33.3 34.9 310	38.1 27.2 300	43.0 21.0 283	47.8 17.9 257	52.6 19.4 228	56.2 22.0 204	59.9 27.4 187	62.0 29.2 228	57.3 24.3 228	52.6 19.4 228	47.9 14.6 228	43.2 9.7 228	38.5 4.9 228	33.8 0.0 284	26.9 8.4 36	20.0 16.7 36	71.3 0.0 284	71.3 0.0 284	71.3 0.0 284	71.3 0.0 284
08	20.1 61.4 318	26.6 52.3 315	33.2 43.6 310	38.0 35.8 303	42.8 29.0 291	47.7 24.1 274	52.5 22.3 250	57.3 24.3 228	60.9 26.6 208	57.3 34.0 228	52.6 29.2 228	47.9 24.3 228	43.2 19.4 228	38.5 14.6 228	33.8 9.7 228	29.1 4.9 228	24.4 0.0 284	17.5 8.4 36	80.6 0.0 284	80.6 0.0 284	80.6 0.0 284	80.6 0.0 284
09	20.0 70.0 317	26.5 61.0 314	33.1 52.3 310	37.9 44.4 304	42.7 37.3 295	47.6 31.5 283	52.4 27.7 266	57.2 26.8 246	62.0 29.2 228	52.7 38.9 228	48.0 34.0 228	43.2 29.2 228	38.5 24.3 228	33.8 19.4 228	29.1 14.6 228	24.4 9.7 228	19.7 4.9 228	15.0 0.0 284	90.0 0.0 284	90.0 0.0 284	90.0 0.0 284	90.0 0.0 284
10	27.5 41.8 36	33.6 41.5 51	39.7 43.8 64	45.8 48.2 76	51.9 54.2 85	58.0 61.5 93	61.6 67.6 98	65.3 74.2 103	68.9 81.3 107	90.0 0.0 284	89.2 12.3 93	88.4 24.6 93	87.7 36.9 93	86.9 49.2 93	86.1 61.5 93	85.3 73.8 93	84.5 86.1 93	83.8 98.4 93	15.0 0.0 284	15.0 0.0 284	15.0 0.0 284	15.0 0.0 284
11	27.8 39.2 24	34.4 33.4 36	40.5 33.5 54	46.6 36.6 70	52.7 42.1 83	58.8 49.2 93	62.4 55.3 100	66.0 62.2 105	69.7 69.5 110	80.5 8.7 310	80.6 0.0 284	79.8 12.3 93	79.1 24.6 93	78.3 36.9 93	77.5 49.2 93	76.7 61.5 93	76.0 73.8 93	75.2 86.1 93	20.0 0.0 284	20.0 0.0 284	20.0 0.0 284	20.0 0.0 284
12	28.1 38.6 11	34.7 31.1 21	41.3 25.1 36	47.4 25.7 60	53.4 30.0 79	59.5 36.9 93	63.2 43.2 102	66.8 50.2 108	70.5 57.8 113	71.0 17.4 310	71.1 8.7 310	71.3 0.0 284	70.5 12.3 93	69.7 24.6 93	68.9 36.9 93	68.1 49.2 93	67.4 61.5 93	66.6 73.8 93	25.0 0.0 284	25.0 0.0 284	25.0 0.0 284	25.0 0.0 284
13	28.4 40.0 358	35.0 31.2 4	41.6 23.1 15	48.1 16.7 36	54.2 18.3 70	60.3 24.6 93	64.0 31.1 105	67.6 38.5 113	71.2 46.5 119	61.6 26.1 310	61.7 17.4 310	61.8 8.7 310	61.9 0.0 284	61.1 12.3 93	60.3 24.6 93	59.5 36.9 93	58.8 49.2 93	58.0 61.5 93	30.0 0.0 284	30.0 0.0 284	30.0 0.0 284	30.0 0.0 284
14	28.7 43.3 346	35.3 33.8 349	41.8 24.5 354	48.4 15.6 4	55.0 8.4 36	61.1 12.3 93	64.7 19.3 113	68.4 27.4 122	72.0 35.9 127	52.1 34.9 310	52.2 26.1 310	52.3 17.4 310	52.4 8.7 310	52.5 0.0 284	51.7 12.3 93	50.9 24.6 93	50.2 36.9 93	49.4 49.2 93	35.0 0.0 284	35.0 0.0 284	35.0 0.0 284	35.0 0.0 284
15	29.0 48.0 337	35.6 38.4 337	42.1 28.8 337	48.7 19.2 337	55.3 9.6 337	61.9 0.0 284	65.5 8.9 142	69.2 17.8 142	72.8 26.7 142	42.6 43.6 310	42.7 34.9 310	42.8 26.1 310	42.9 17.4 310	43.0 8.7 310	43.1 0.0 284	42.3 12.3 93	41.6 24.6 93	40.8 36.9 93	40.0 0.0 284	40.0 0.0 284	40.0 0.0 284	40.0 0.0 284
16	28.9 55.9 333	35.5 46.4 332	42.0 36.8 331	48.6 27.3 329	55.2 17.8 324	61.8 8.7 310	66.6 4.9 228	70.2 10.5 170	73.9 18.8 157	33.1 52.3 310	33.2 43.6 310	33.3 34.9 310	33.4 26.1 310	33.5 17.4 310	33.6 8.7 310	33.8 0.0 284	33.0 12.3 93	32.2 24.6 93	45.0 0.0 284	45.0 0.0 284	45.0 0.0 284	45.0 0.0 284
17	28.8 64.1 330	35.3 54.6 329	41.9 45.1 327	48.5 35.7 324	55.1 26.4 320	61.7 17.4 310	66.5 10.5 283	71.3 9.7 228	74.9 13.7 187	23.6 61.0 310	23.7 52.3 310	23.8 43.6 310	24.0 34.9 310	24.1 26.1 310	24.2 17.4 310	24.3 8.7 310	24.4 0.0 284	23.6 12.3 93	50.0 0.0 284	50.0 0.0 284	50.0 0.0 284	50.0 0.0 284
18	28.7 72.4 328	35.2 62.9 326	41.8 53.5 324	48.4 44.2 322	55.0 35.0 317	61.6 26.1 310	66.4 18.7 295	71.2 13.8 266	76.0 14.6 228	14.2 69.7 310	14.3 61.0 310	14.4 52.3 310	14.5 43.6 310	14.6 34.9 310	14.7 26.1 310	14.8 17.4 310	14.9 8.7 310	15.0 0.0 284	55.0 0.0 284	55.0 0.0 284	55.0 0.0 284	55.0 0.0 284
19	35.1 66.9 36	41.1 66.1 45	47.2 67.0 54	53.3 69.4 63	59.4 73.2 70	65.5 78.2 77	71.6 84.2 83	77.7 90.9 88	83.8 98.4 93	90.0 0.0 284	84.3 8.9 142	78.5 17.8 142	72.8 26.7 142	67.1 35.5 142	61.3 44.4 142	55.6 53.3 142	49.9 62.2 142	44.1 71.1 142	60.0 0.0 284	60.0 0.0 284	60.0 0.0 284	60.0 0.0 284
20	35.4 63.9 29	41.9 58.5 36	48.0 57.9 46	54.1 59.1 57	60.2 62.0 66	66.3 66.4 74	72.4 72.1 82	78.5 78.7 88	84.5 86.1 93	83.4 9.6 337	80.6 0.0 284	74.9 8.9 142	69.2 17.8 142	63.4 26.7 142	57.7 35.5 142	52.0 44.4 142	46.2 53.3 142	40.5 62.2 142	65.0 0.0 284	65.0 0.0 284	65.0 0.0 284	65.0 0.0 284
21	35.6 62.2 21	42.2 55.7 28	48.8 50.2 36	54.9 49.7 48	61.0 51.3 60	67.1 54.9 70	73.1 60.1 79	79.2 66.5 87	85.3 73.8 93	76.8 19.2 337	74.0 9.6 337	71.3 0.0 284	65.5 8.9 142	59.8 17.8 142	54.0 26.7 142	48.3 35.5 142	42.6 44.4 142	36.9 53.3 142	70.0 0.0 284	70.0 0.0 284	70.0 0.0 284	70.0 0.0 284
22	35.9 61.7 13	42.5 54.2 18	49.1 47.4 26	55.7 41.8 36	61.7 41.5 51	67.8 43.8 64	73.9 48.2 76	80.0 54.3 85	86.1 61.5 93	70.3 28.8 337	67.5 19.2 337	64.7 9.6 337	61.9 0.0 284	56.1 8.9 142	50.4 17.8 142	44.7 26.7 142	38.9 35.5 142	33.2 44.4 142	75.0 0.0 284	75.0 0.0 284	75.0 0.0 284	75.0 0.0 284
23	36.2 62.5 4	42.8 54.1 9	49.4 46.3 15	55.9 39.2 24	62.5 33.4 36	68.6 33.5 54	74.7 36.6 70	80.8 42.1 83	86.9 49.2 93	63.7 38.4 337	60.9 28.8 337	58.1 19.2 337	55.3 9.6 337	52.5 0.0 284	46.8 8.9 142	41.0 17.8 142	35.3 26.7 142	29.6 35.5 142	80.0 0.0 284	80.0 0.0 284	80.0 0.0 284	80.0 0.0 284
24	36.5 64.5 356	43.1 55.6 360	49.7 46.9 4	56.2 38.6 11	62.8 31.1 21	69.4 25.1 36	75.5 25.6 60	81.6 30.0 79	87.7 36.9 93	57.1 48.0 337	54.3 38.4 337	51.5 28.8 337	48.7 19.2 337	45.9 9.6 337	43.1 0.0 284	37.4 8.9 142	31.7 17.8 142	25.9 26.7 142	85.0 0.0 284	85.0 0.0 284	85.0 0.0 284	85.0 0.0 284
25	36.8 67.7 349	43.4 58.3 351	49.9 49.1 354	56.5 40.0 358	63.1 31.2 4	69.7 23.1 15	76.3 16.7 36	82.4 18.3 70	88.4 24.6 93	50.5 57.6 337	47.7 48.0 337	44.9 38.4 337	42.1 28.8 337	39.3 19.2 337	36.5 9.6 337	33.8 0.0 284	28.0 8.9 142	22.3 17.8 142	90.0 0.0 284	90.0 0.0 284	90.0 0.0 284	90.0 0.0 284
26	37.1 71.8 343	43.7 62.3 344	50.2 52.8 345	56.8 43.3 346	63.4 33.8 349	70.0 24.5 354	76.6 15.6 4	83.1 8.4 36	89.2 12.3 93	43.9 67.2 337	41.2 57.6 337	38.4 48.0 337	35.6 38.4 337	32.8 28.8 337	30.0 19.2 337	27.2 9.6 337	24.4 0.0 284	18.6 8.9 142	15.0 0.0 284	35.1 66.9 36	83.8 98.4 93	44.1 71.1 142
27	37.4 76.8 337	43.9 67.2 337	50.5 57.6 337	57.1 48.0 337	63.7 38.4 337	70.3 28.8 337	76.8 19.2 337	83.4 9.6 337	90.0 0.0 284	37.4 76.8 337	34.6 67.2 337	31.8 57.6 337	29.0 48.0 337	26.2 38.4 337	23.4 28.8 337	20.6 19.2 337	17.8 9.6 337	15.0 0.0 284	90.0 0.0 284	52.7 38.9 228	14.2 69.7 310	37.4 76.8 337

Input and output:
Colorimetric Printer Reflective System FRS15_90a
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_90a; adapted (a) CIELAB data

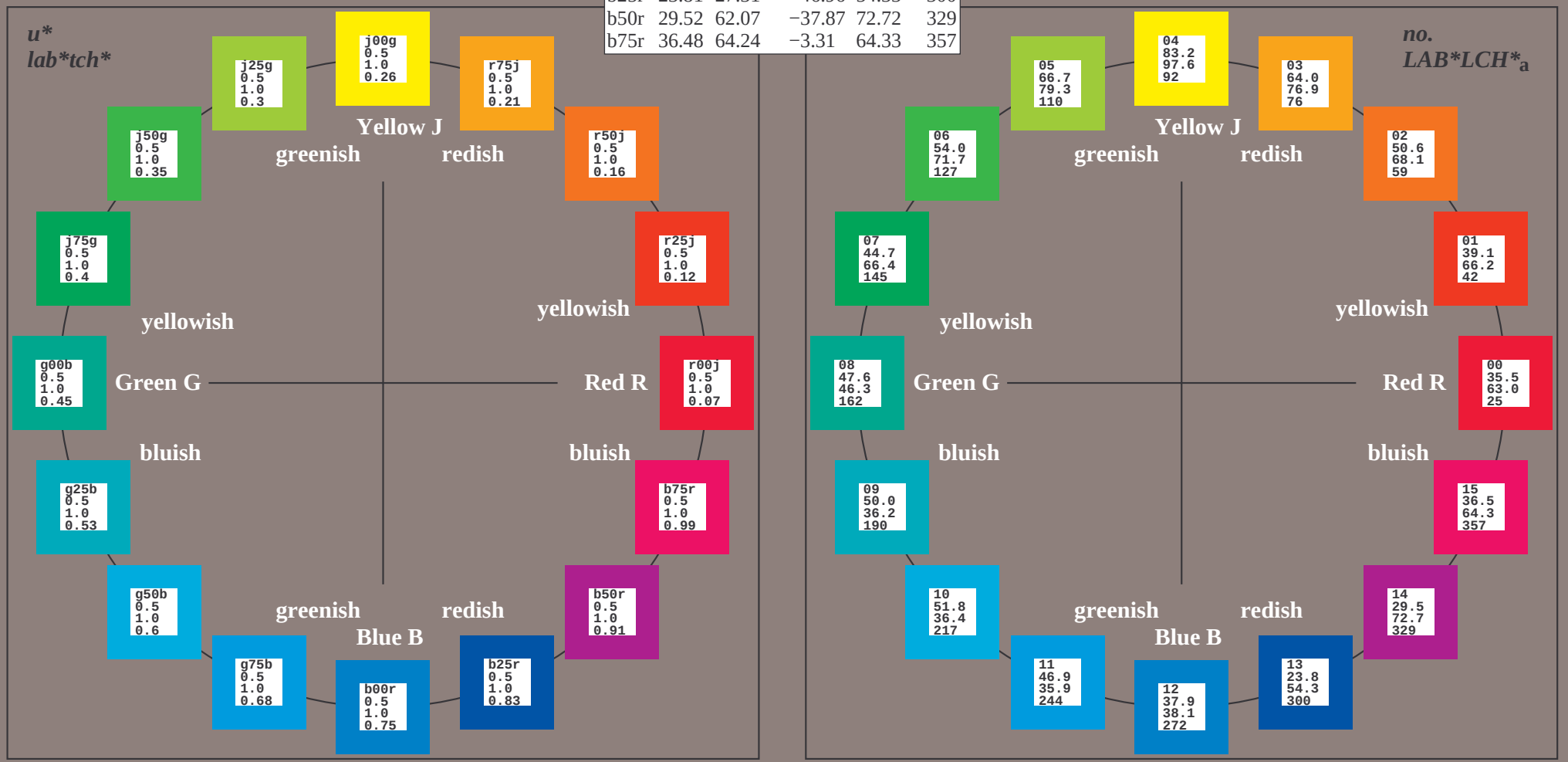
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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

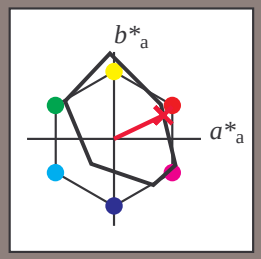
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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**



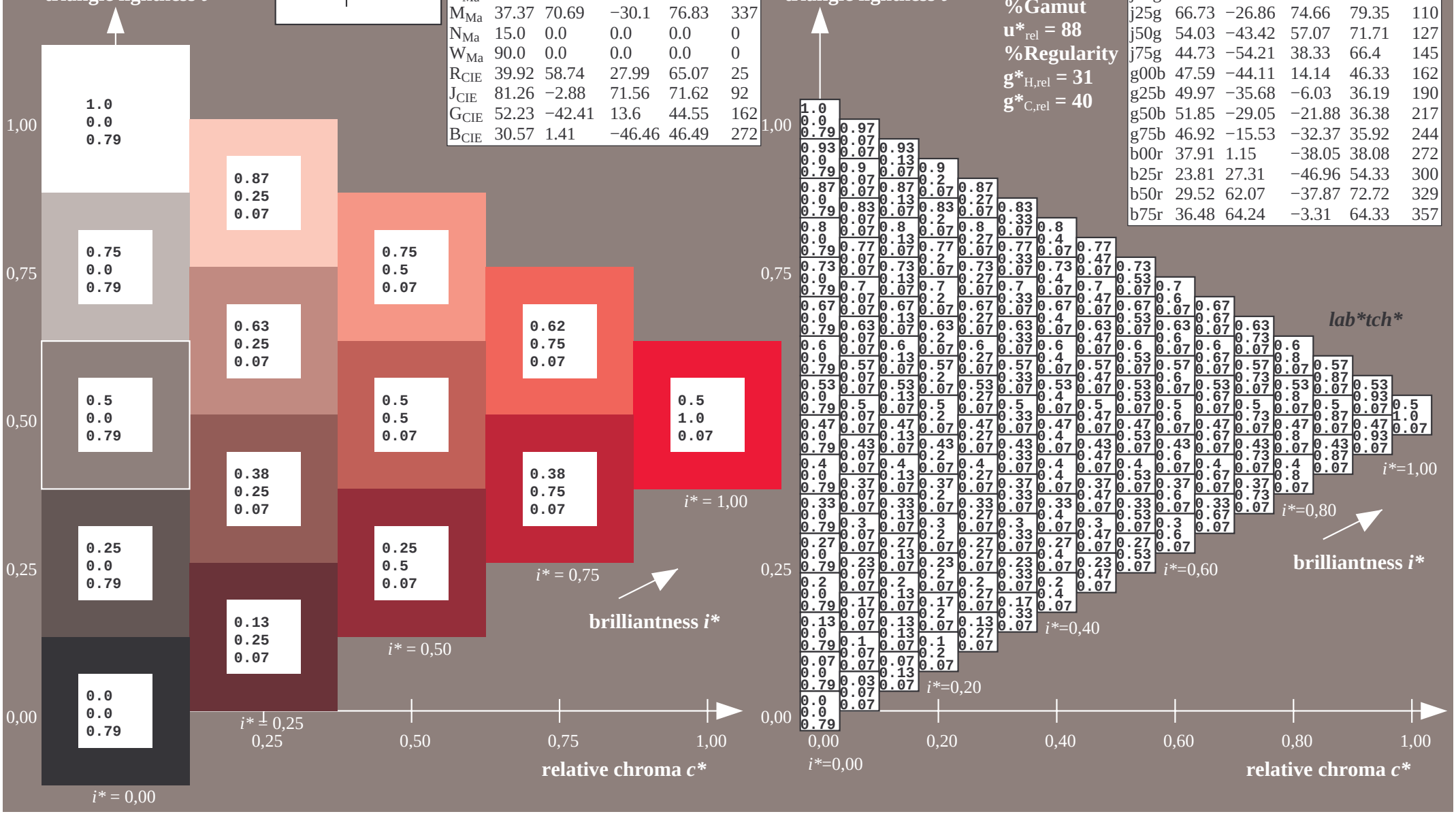
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**
triangle lightness *t**

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

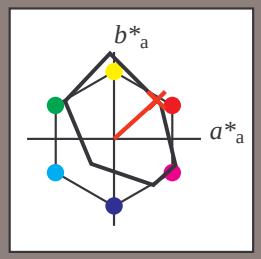
u* = r00j
lab*tch*

FRS15_90a; 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_90a for relative CIELAB hue *h = *lab*h** = $h_{ab}/360$ = 42/360 = 0.117** *u* = r25j* *lab*tch**

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

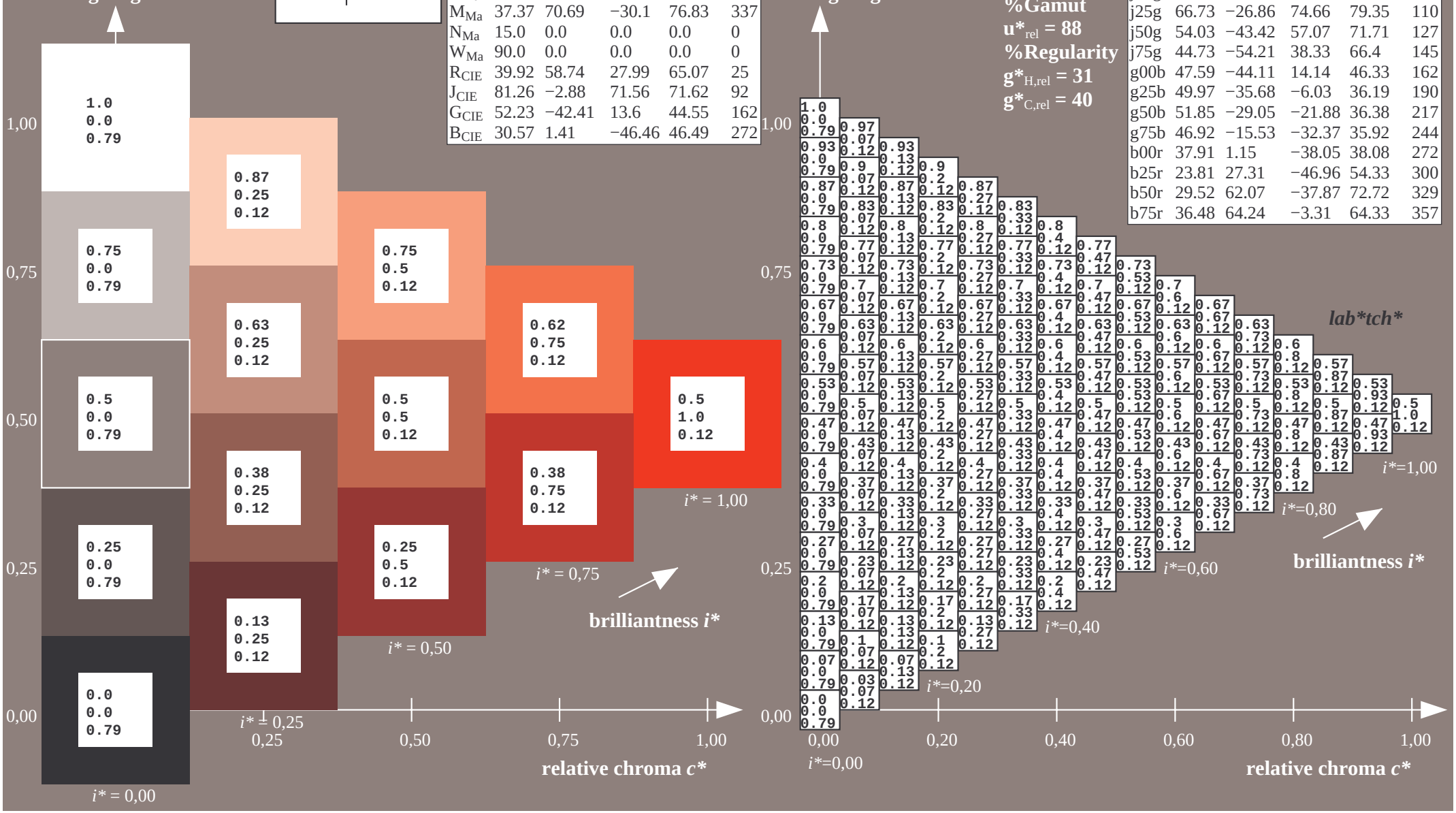


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

FRS15_90a; 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

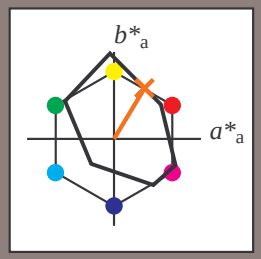
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 59/360 = 0.164$

u = r50j*
*lab*tch**

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

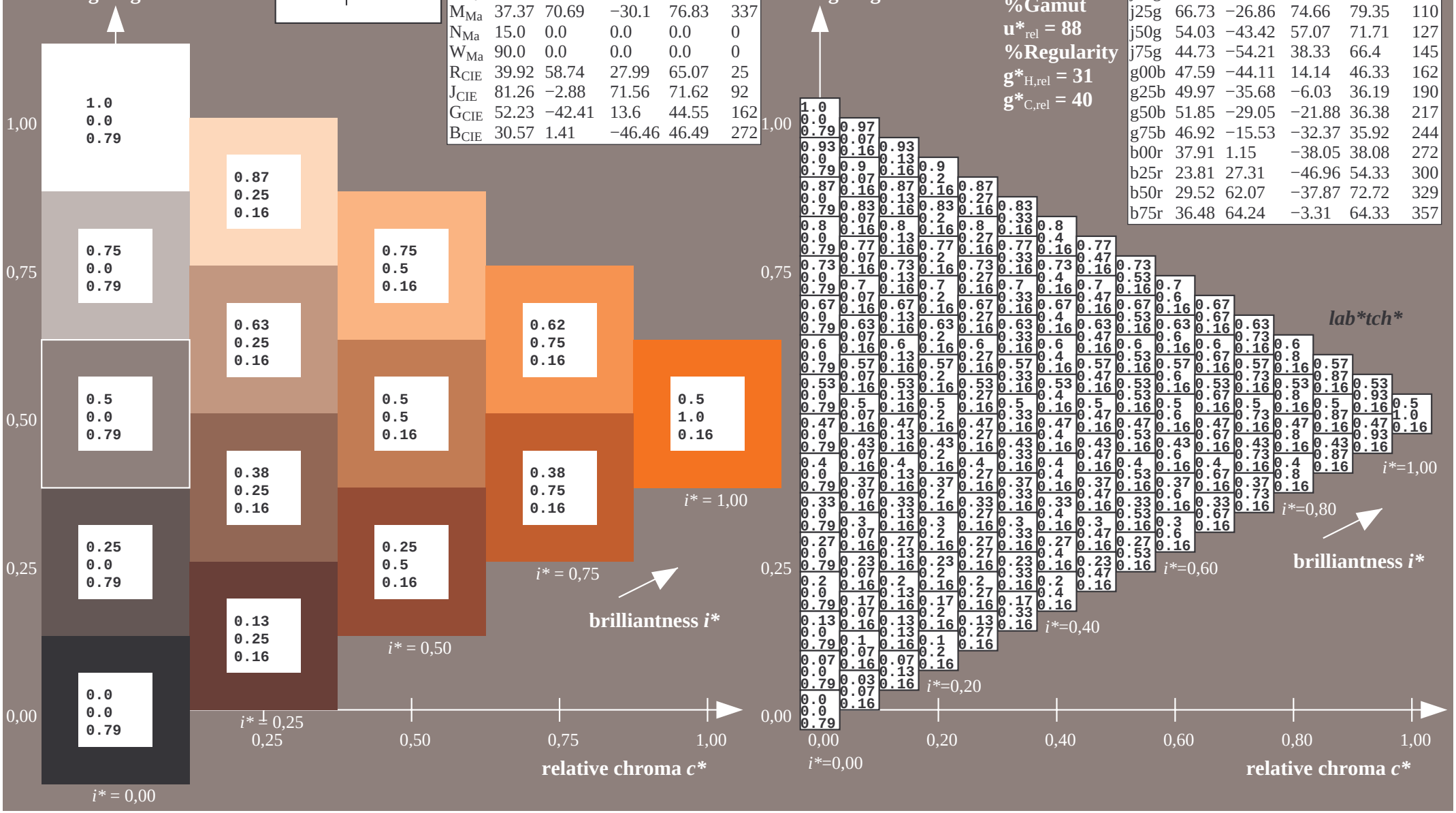


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

FRS15_90a; 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

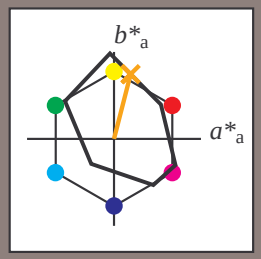
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue *h = *lab*h** = $h_{ab}/360$ = 76/360 = 0.21** *u* = r75j*

*lab*tch**

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_90a; adapted (a) CIELAB data

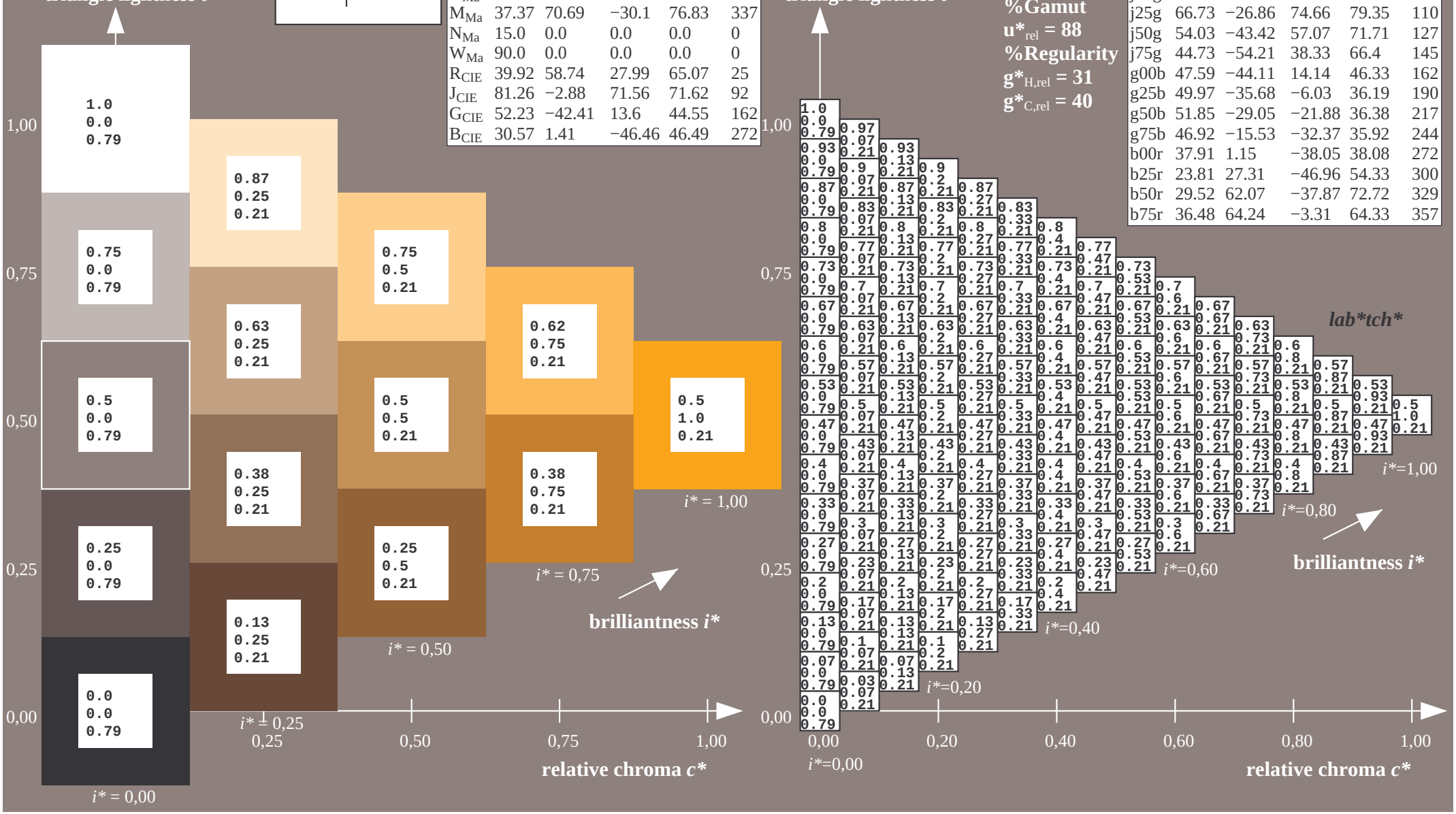
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

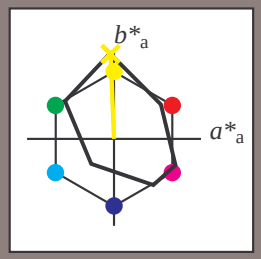
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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**

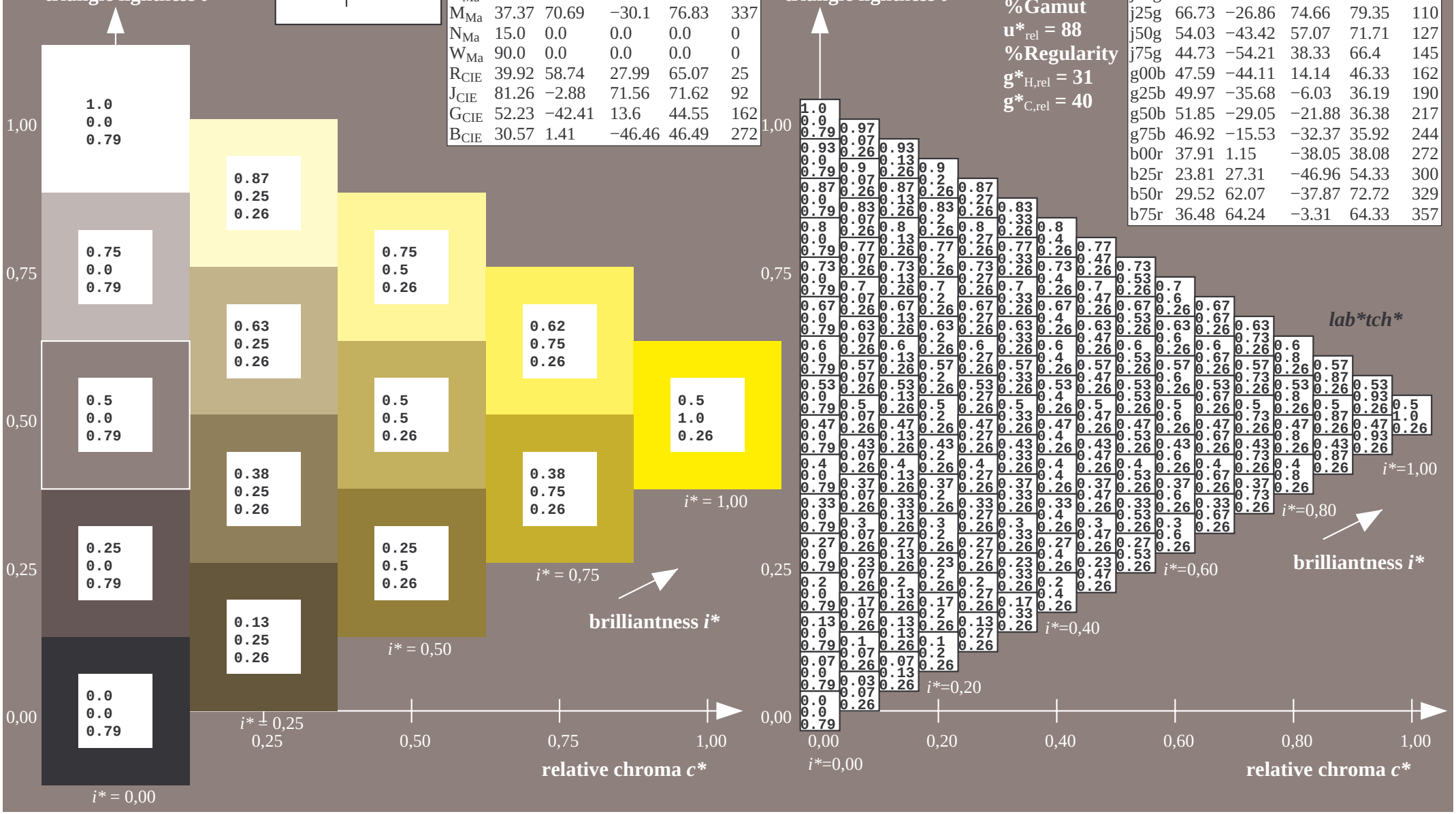


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

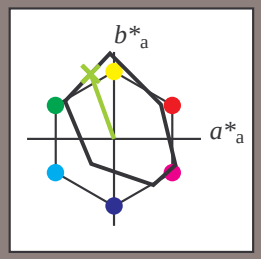
%Gamut
$u^*_{rel} = 88$
%Regularity
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

FRS15_90a; 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_90a 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_90a; 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

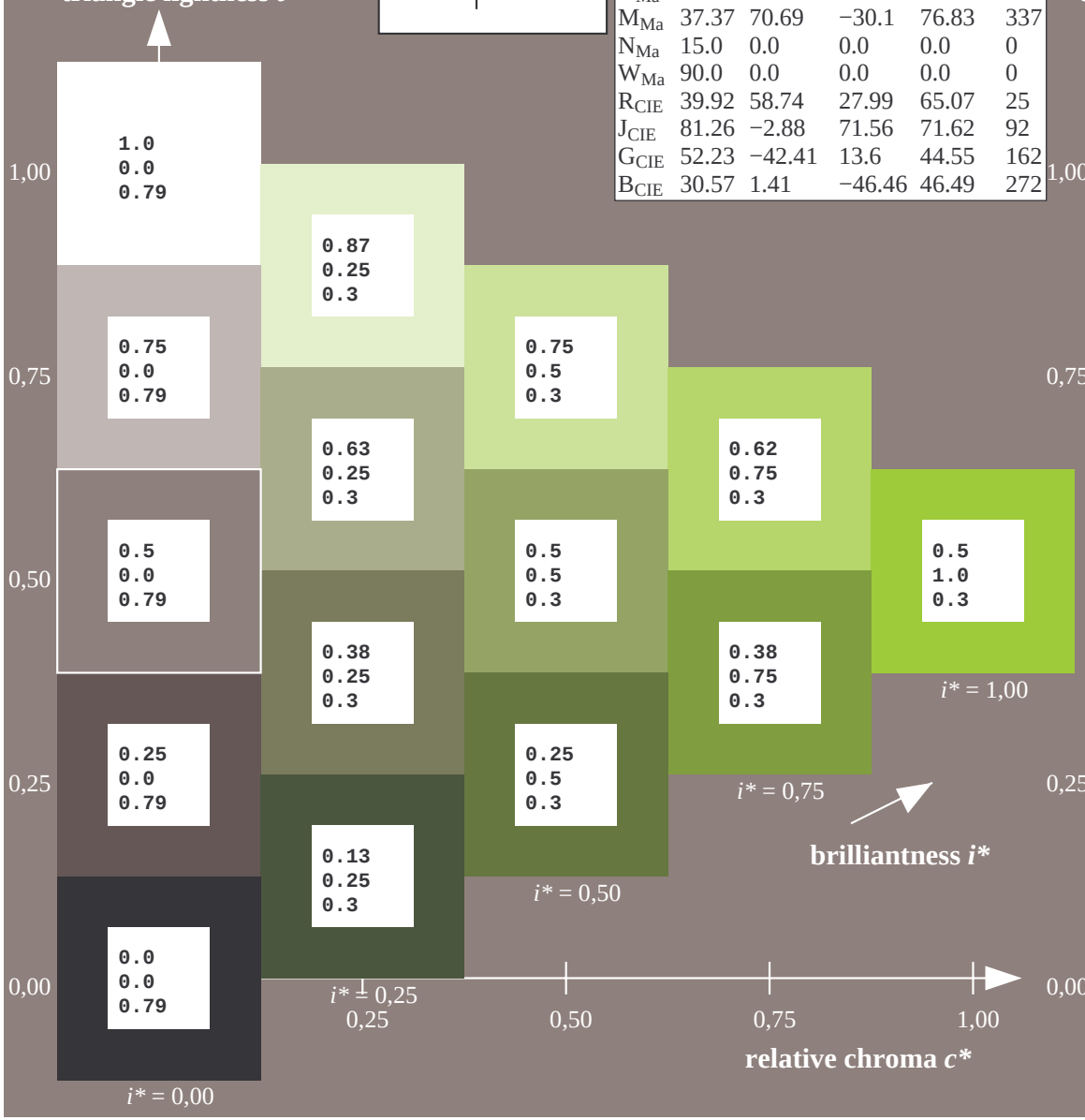
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 67 −26 75**
***LAB*LCH*Ma*: 67 79 110**
***lab*rgb*Ma*: 0.75 1.0 0.0**
***lab*olv*Ma*: 0.57 1.0 0.0**
triangle lightness *t**

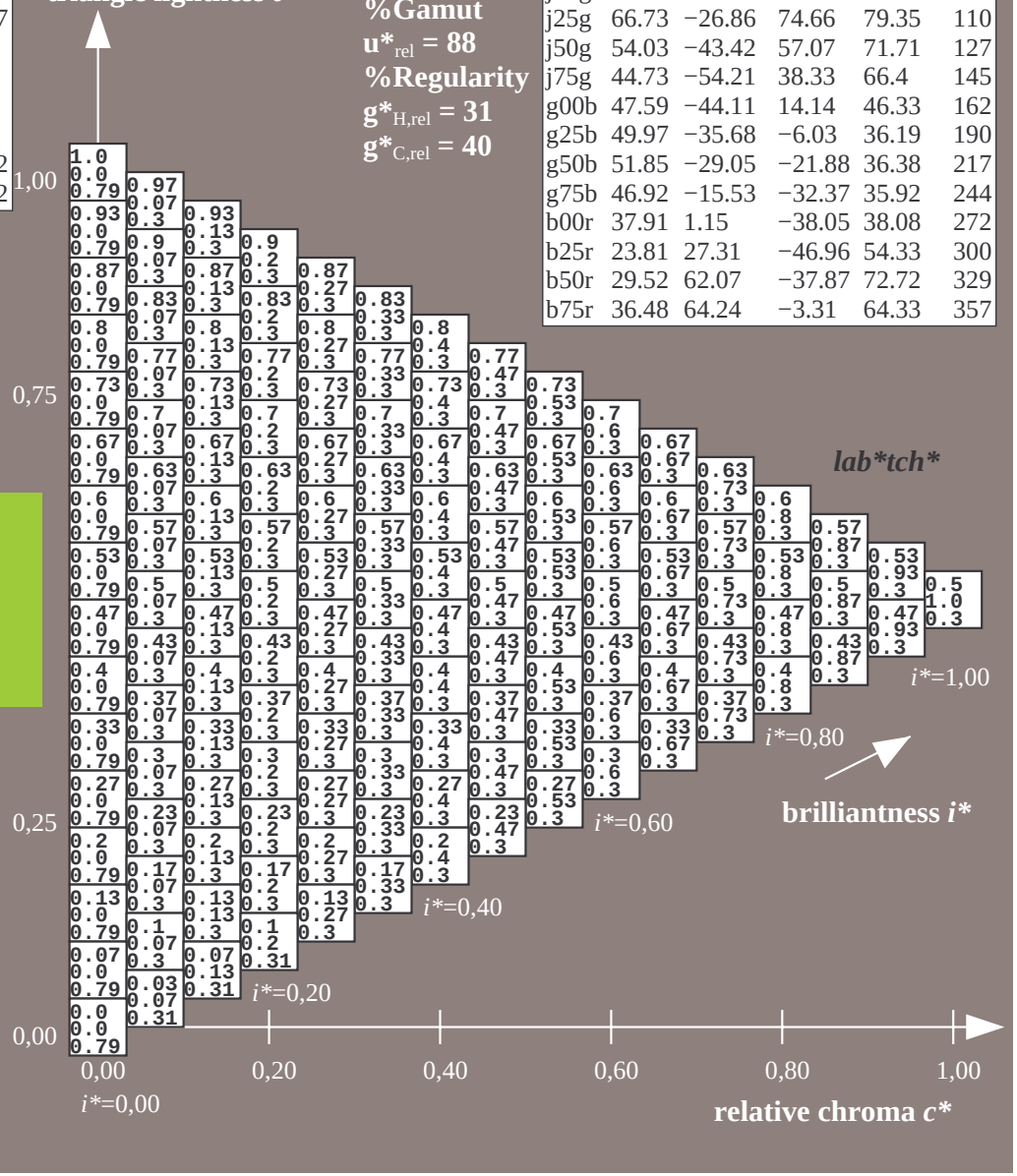
%Gamut
$u^*_{rel} = 88$
%Regularity
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

u* = j25g
lab*tch*

FRS15_90a; adapted (a) CIELAB data

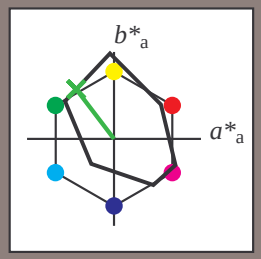
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a 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_90a; 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

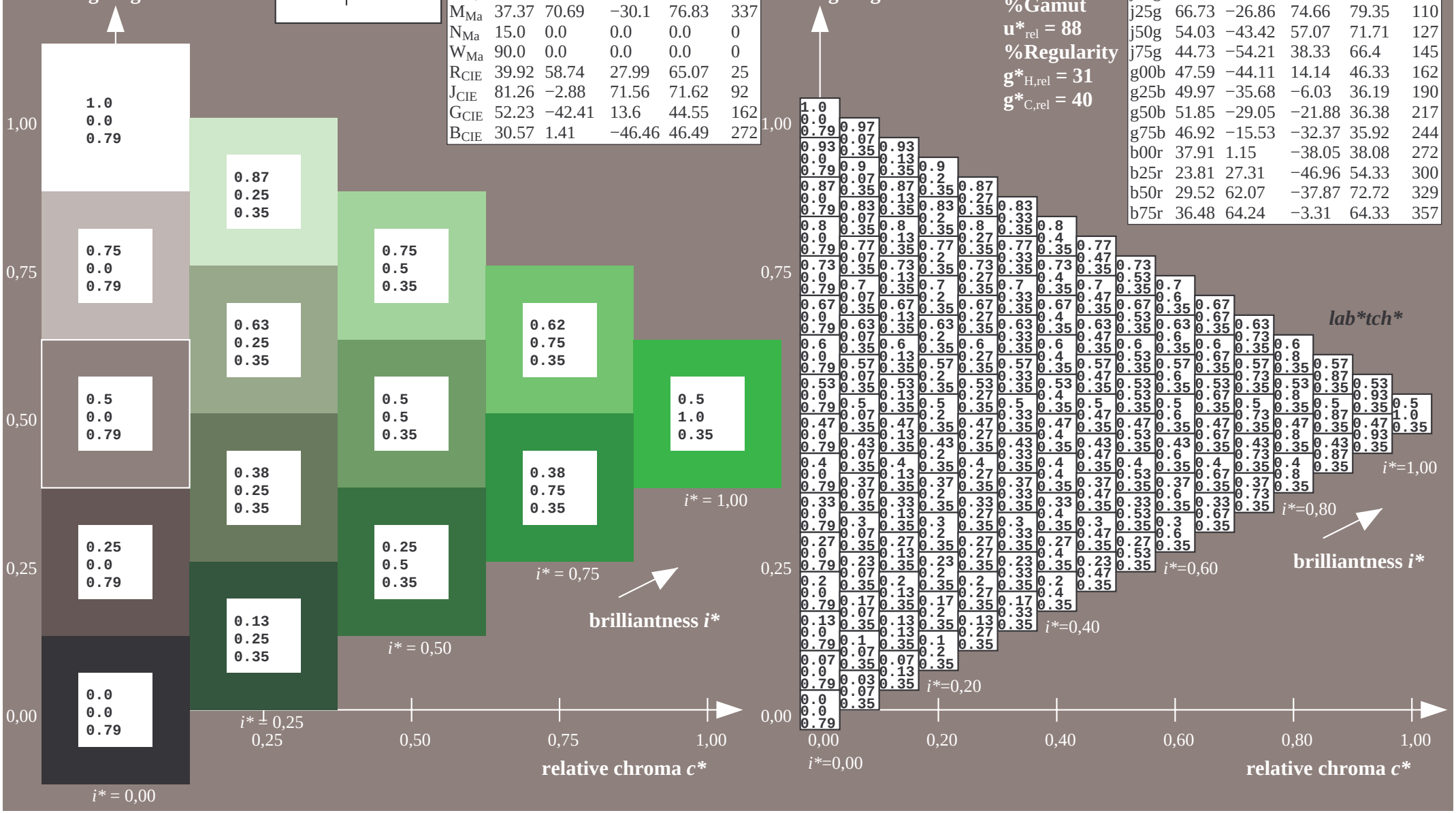
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 54 −42 57**
LAB*LCH*$_{Ma}$**: 54 72 127**
lab*rgb*$_{Ma}$**: 0.5 1.0 0.0**
lab*olv*$_{Ma}$**: 0.25 1.0 0.0**
triangle lightness *t**

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

u* = j50g
lab*tch*

FRS15_90a; adapted (a) CIELAB data

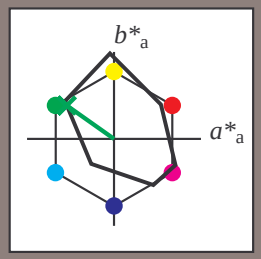
	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	66.4	145
g00b	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_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 145/360 = 0.402$

u = j75g*
*lab*tch**

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_90a; adapted (a) CIELAB data

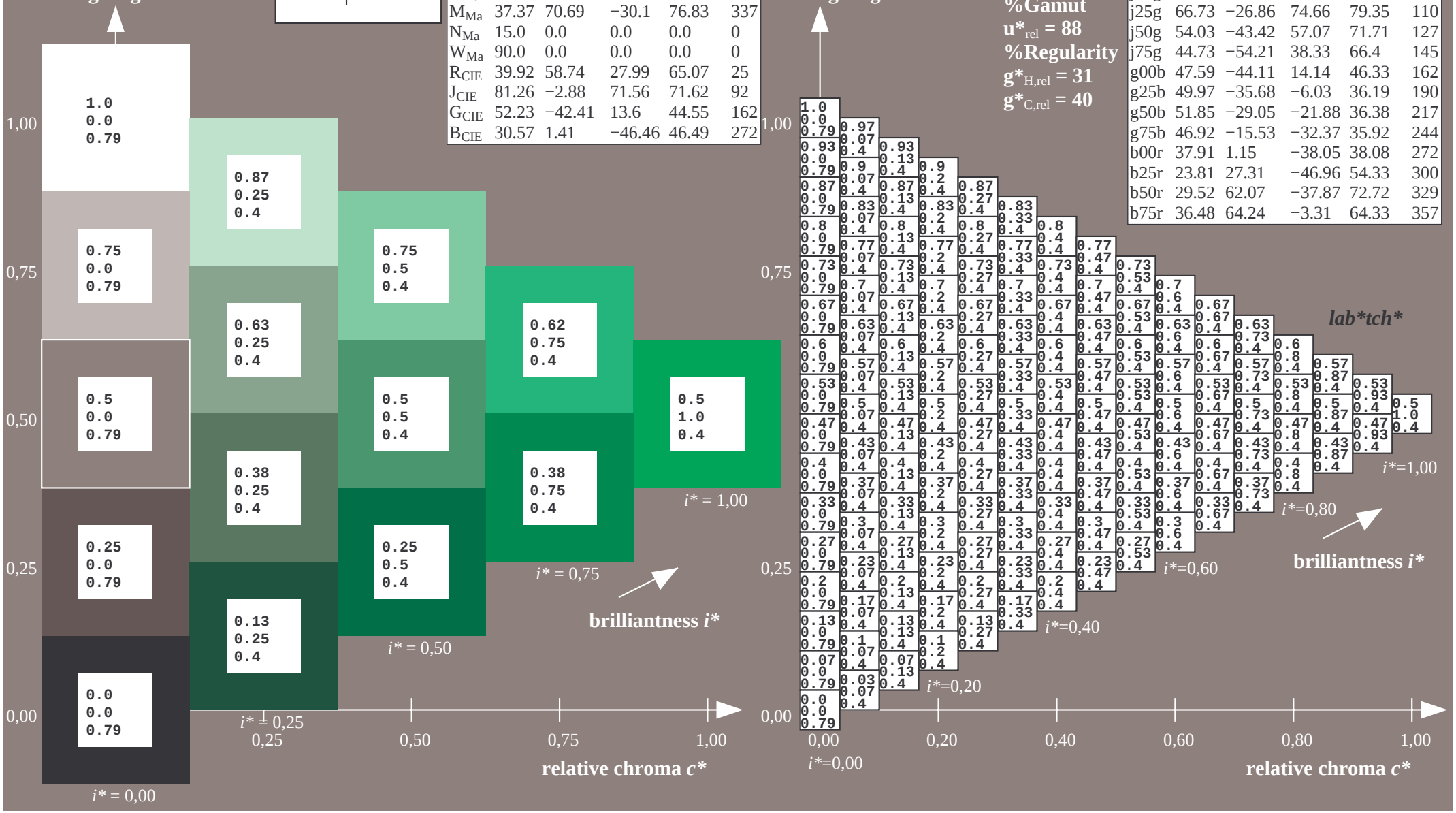
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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_90a; 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



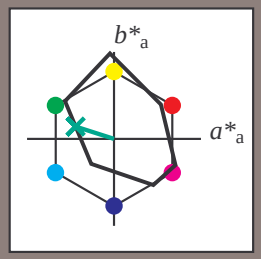
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 162/360 = 0.451$ *u* = g00b*

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_90a; 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

$u^*_{rel} = 88$

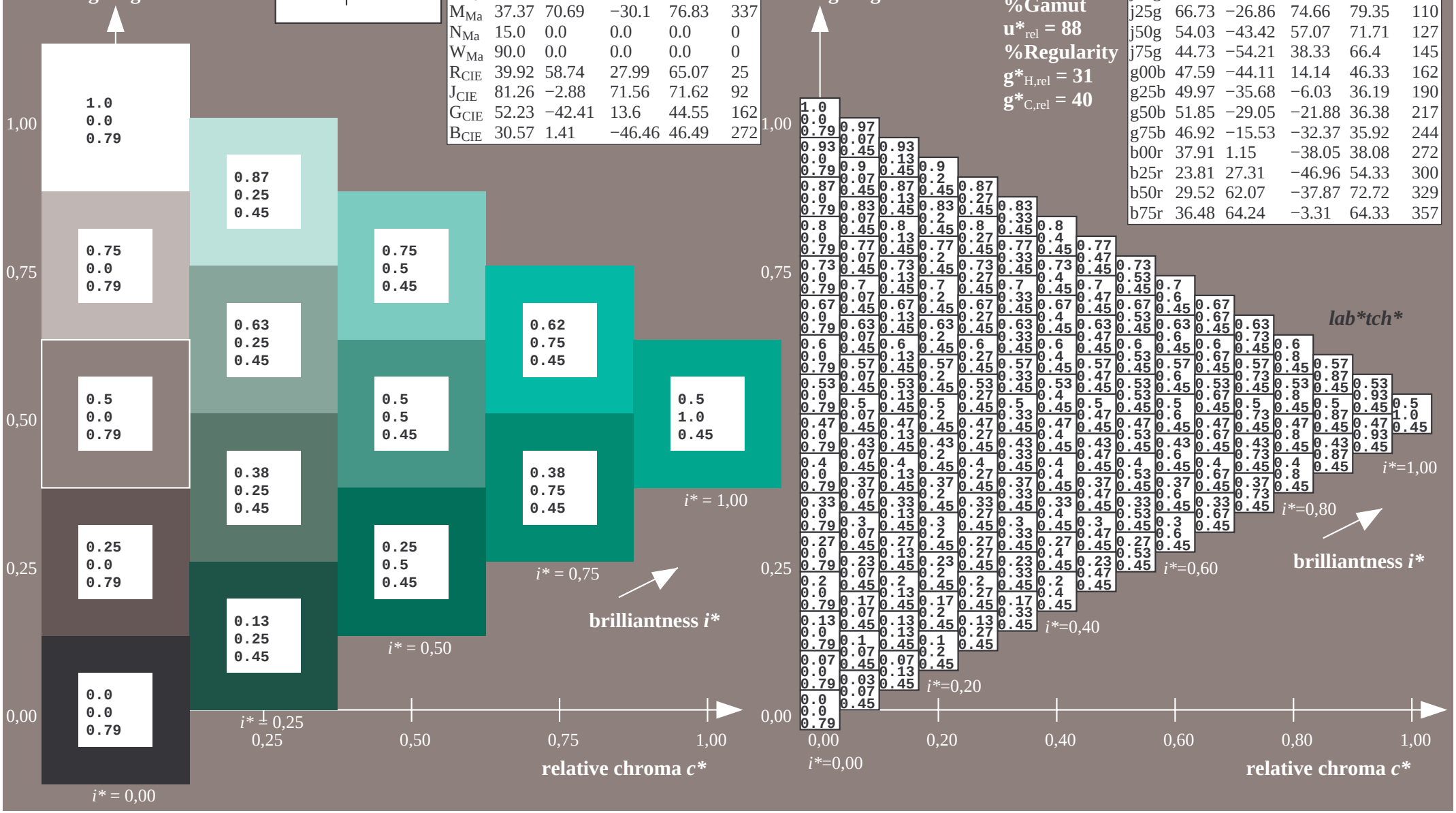
%Regularity

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

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

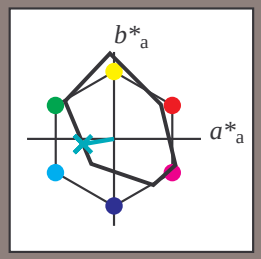
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; adapted (a) CIELAB data

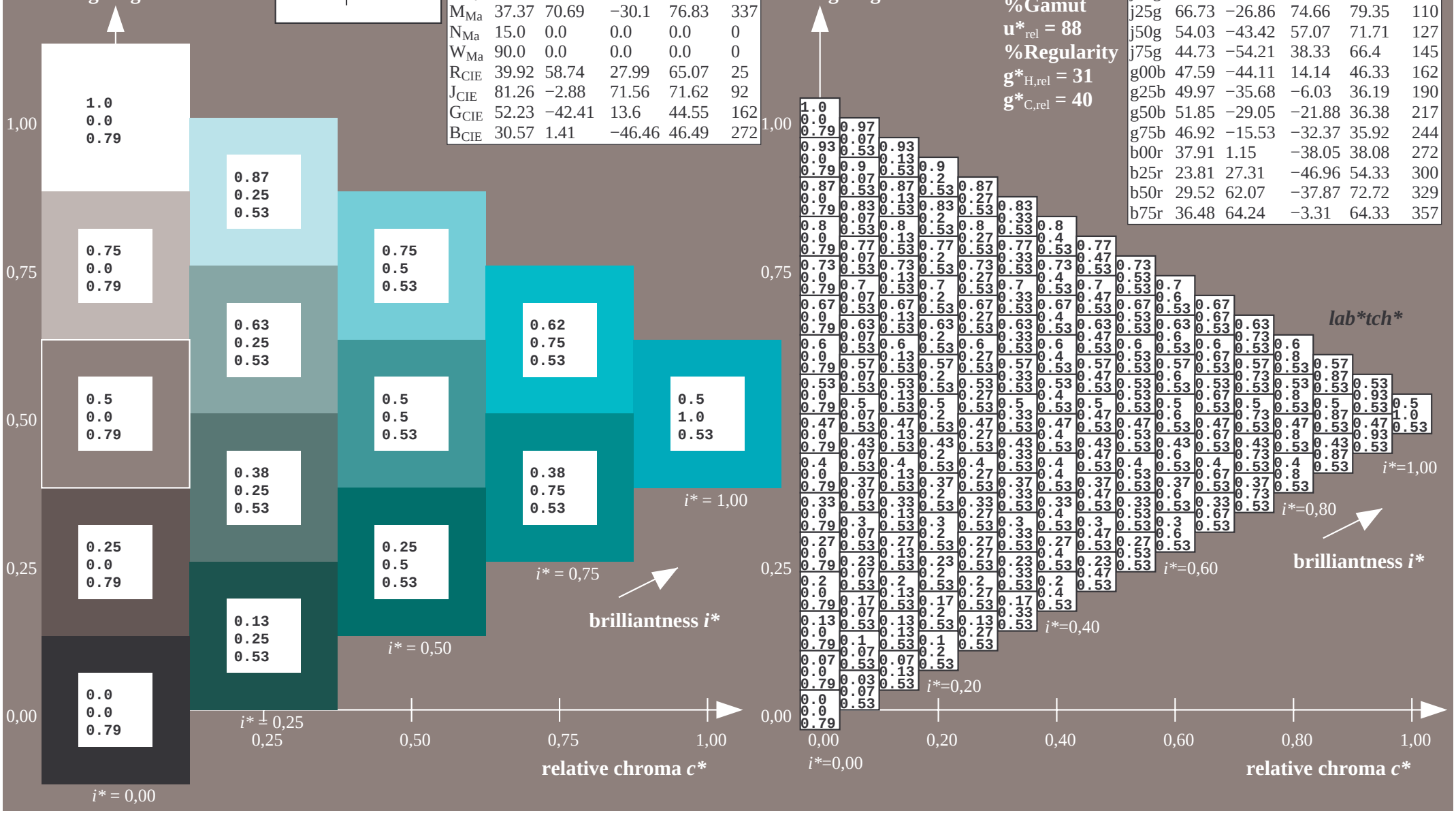
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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**

FRS15_90a; 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_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 217/360 = 0.603$ *u* = g50b*

*lab*tch**

data for any colour:

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

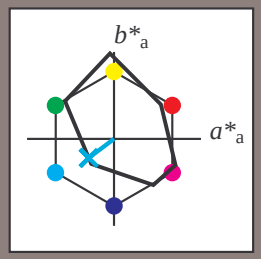
elementary hue text:

u = g50b*

contrast reduction factor:

$c_R = 0.9$

triangle lightness *t**



FRS15_90a; 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

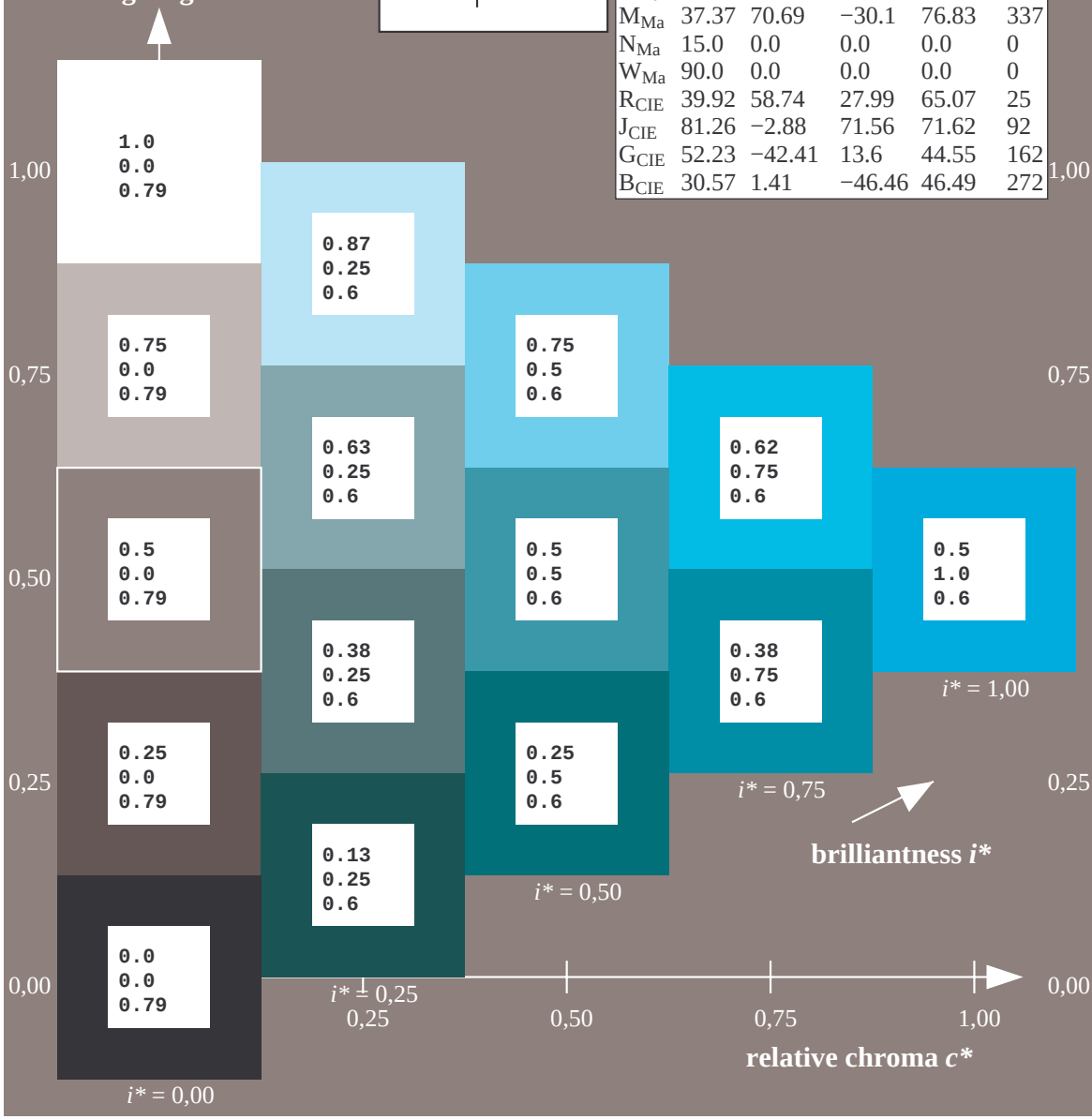
%Regularity

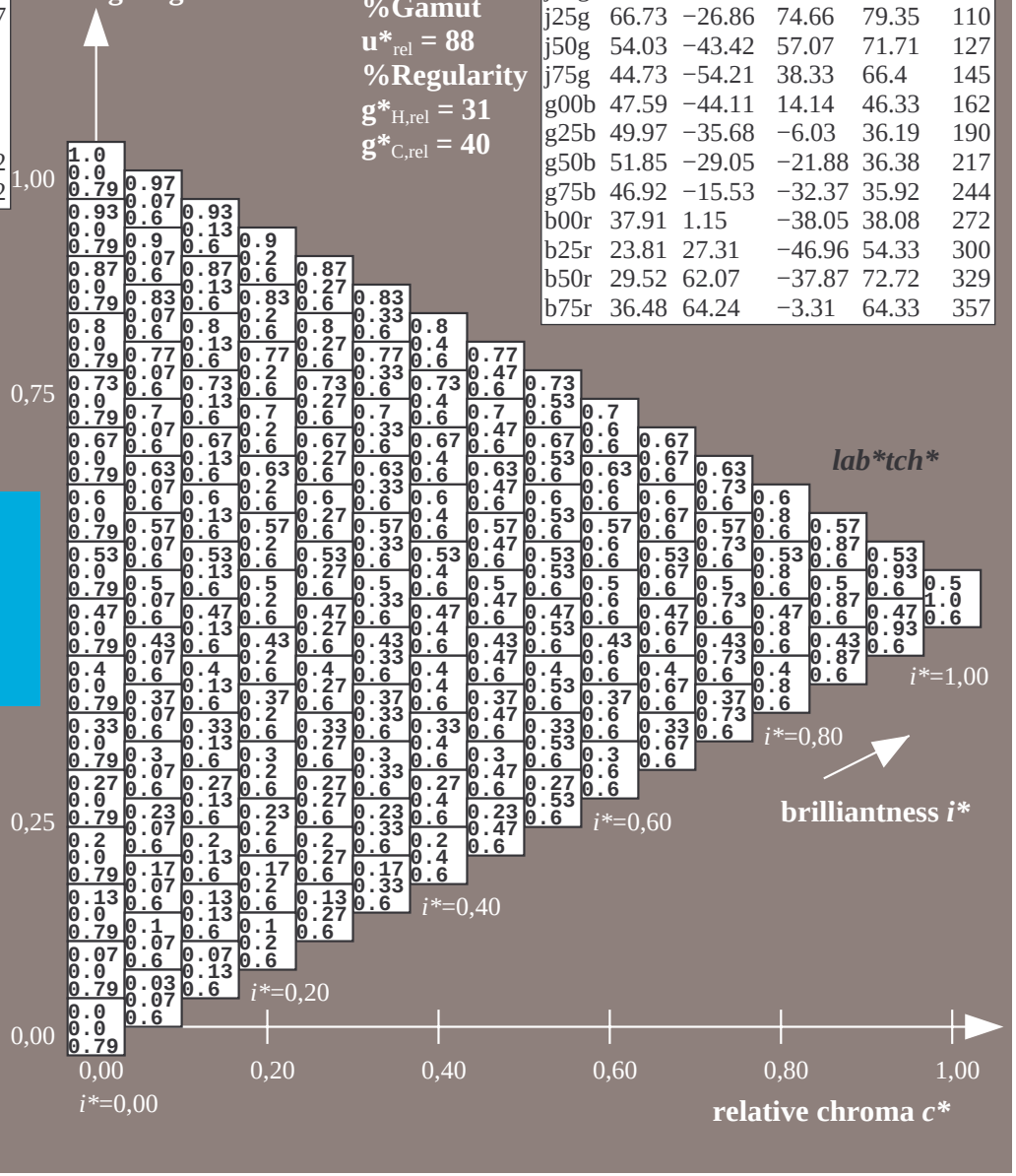
$g^*_{H,rel}$ = 31

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

FRS15_90a; adapted (a) CIELAB data

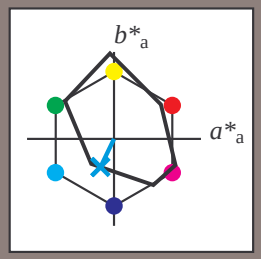
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a 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**

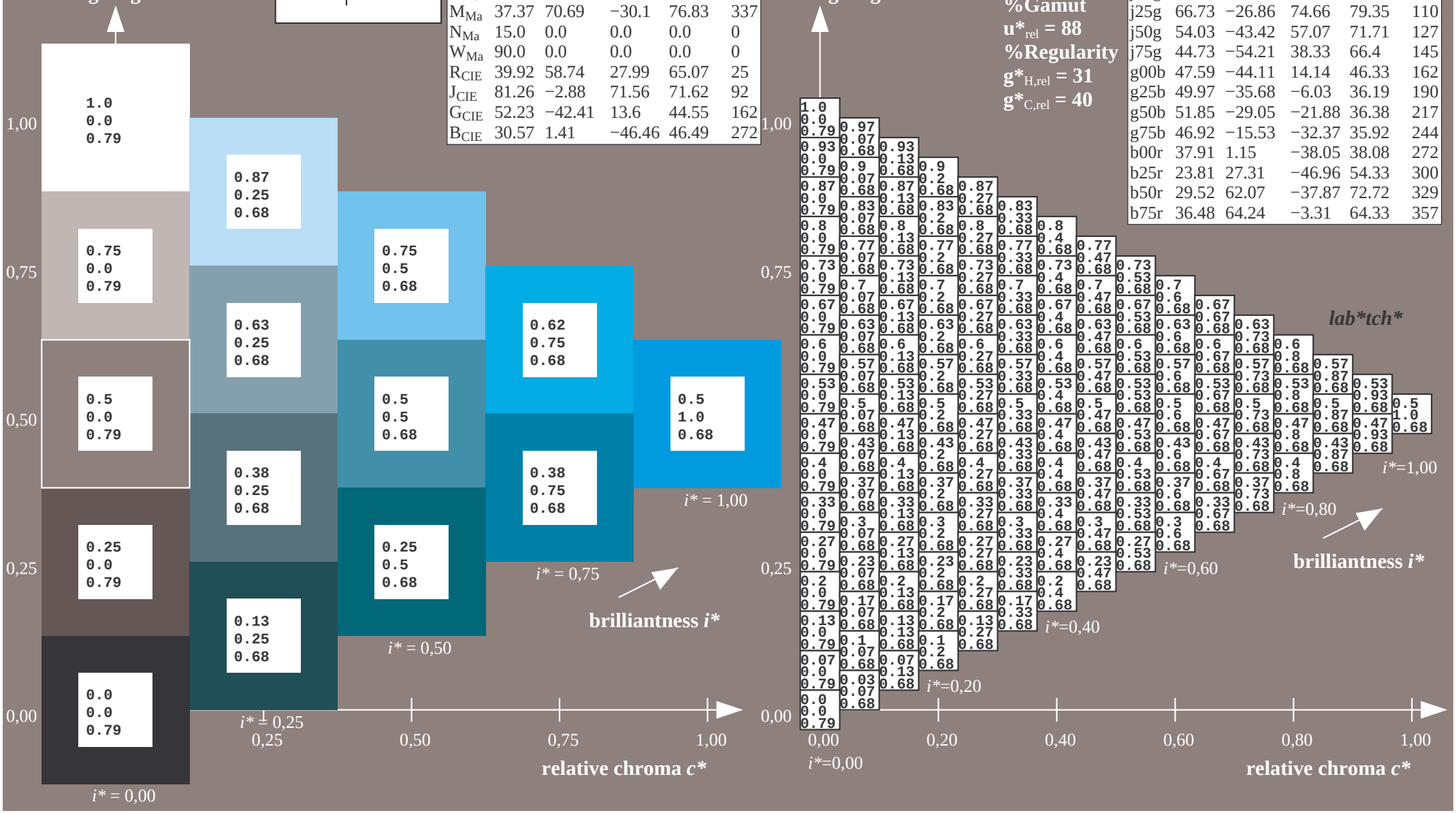


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

FRS15_90a; 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

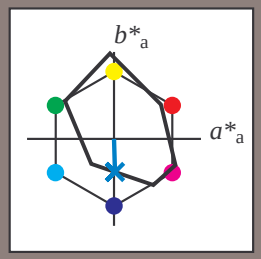
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue *h = *lab*h** = h_{ab}/360 = 272/360 = 0.755** *u* = b00r*

*lab*tch**

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

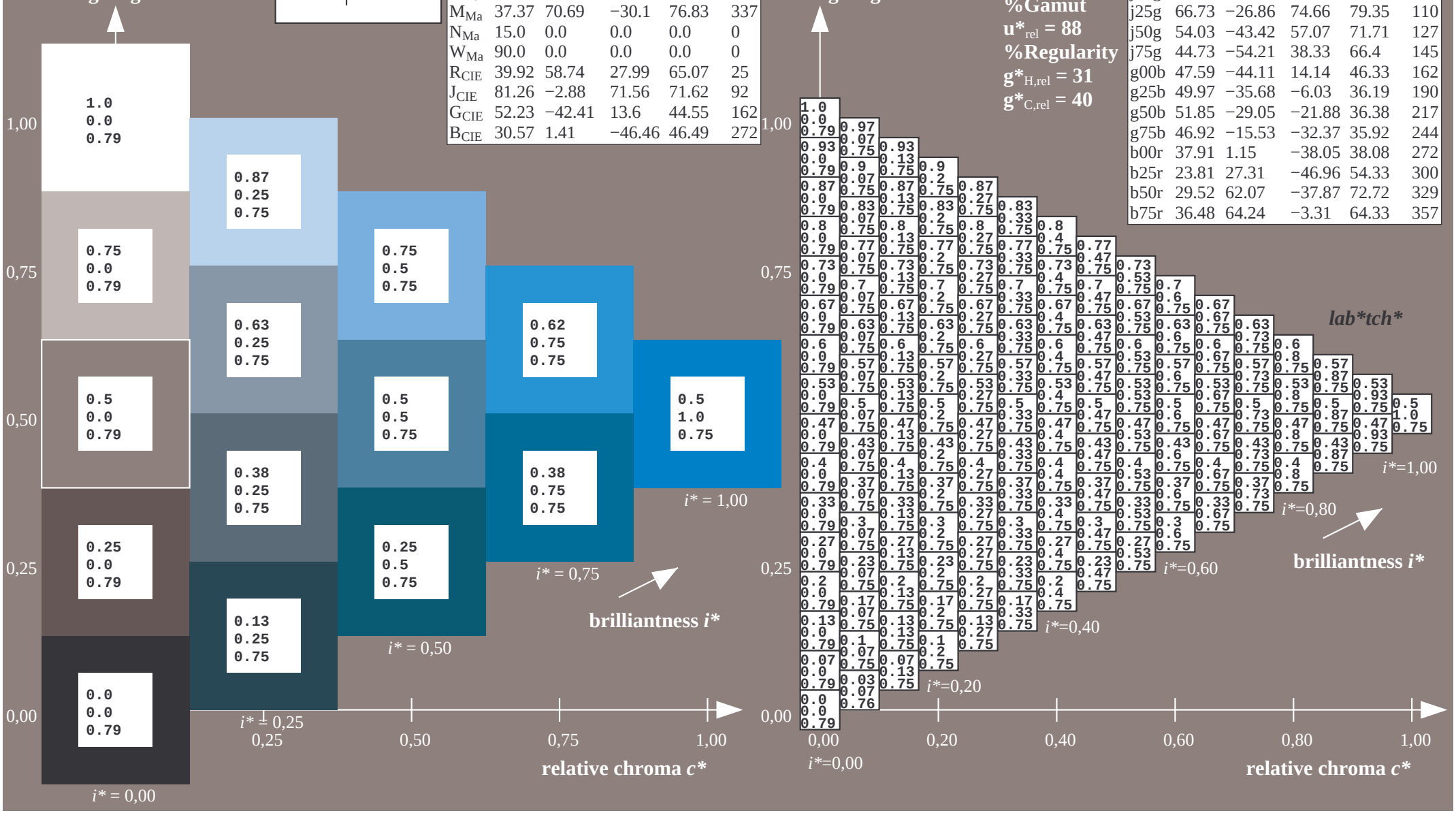


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

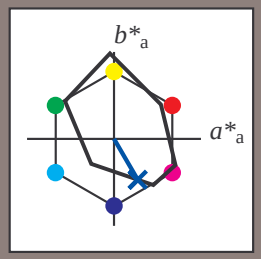
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	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_90a 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**

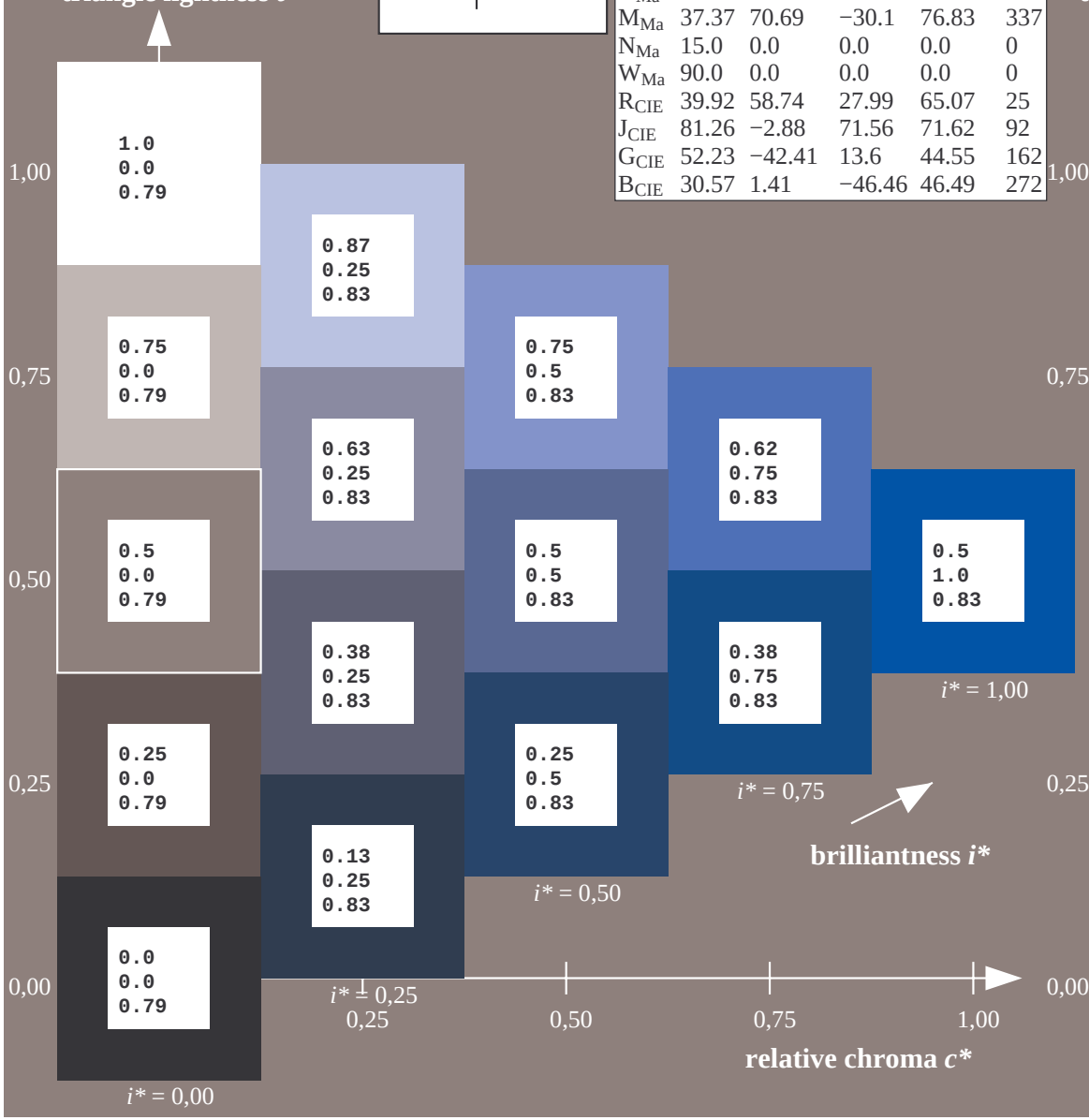


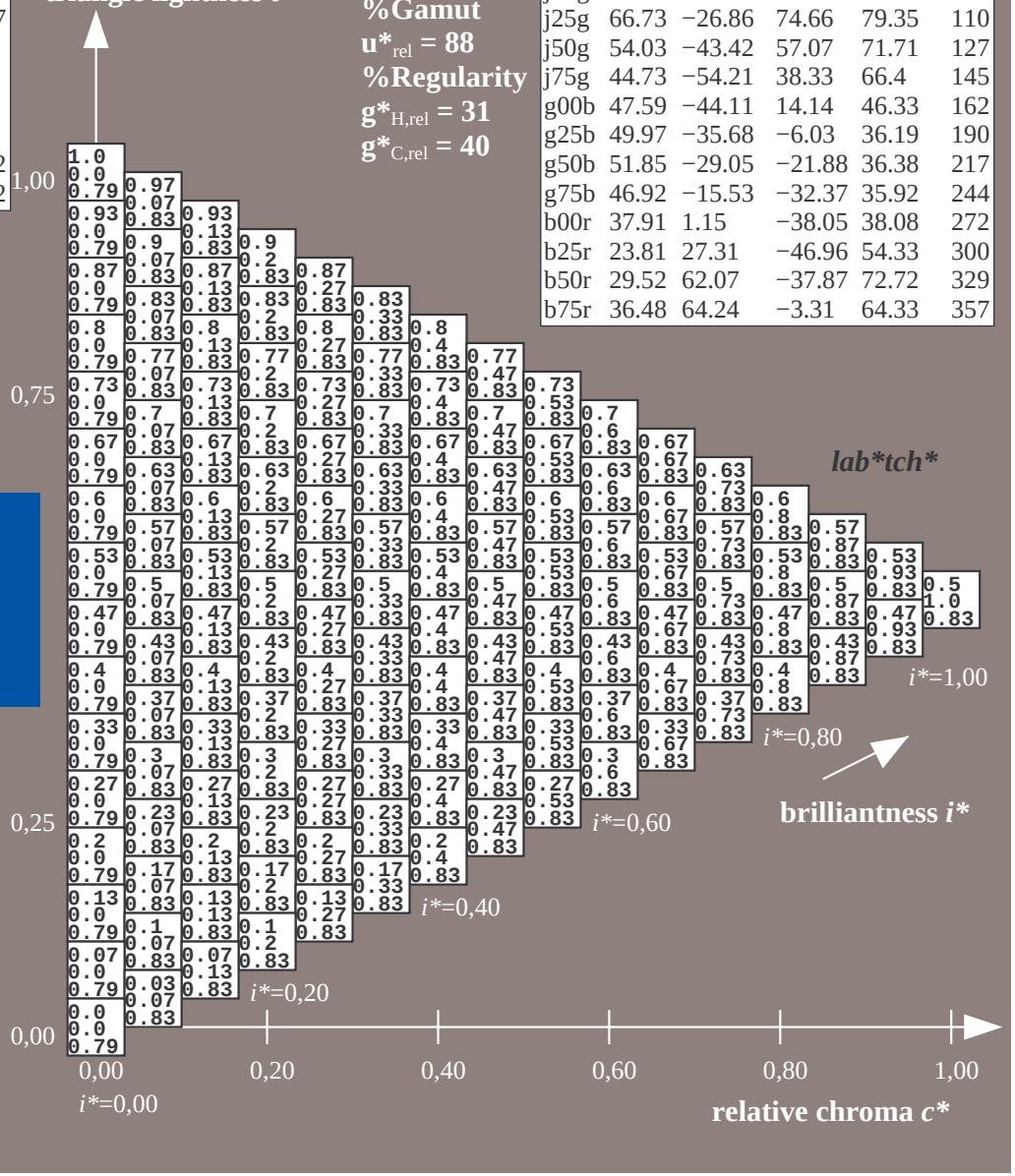
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

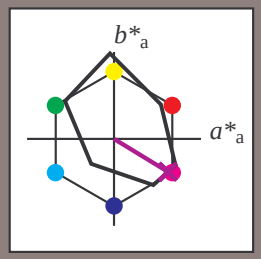
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	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_90a 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_90a; adapted (a) CIELAB data

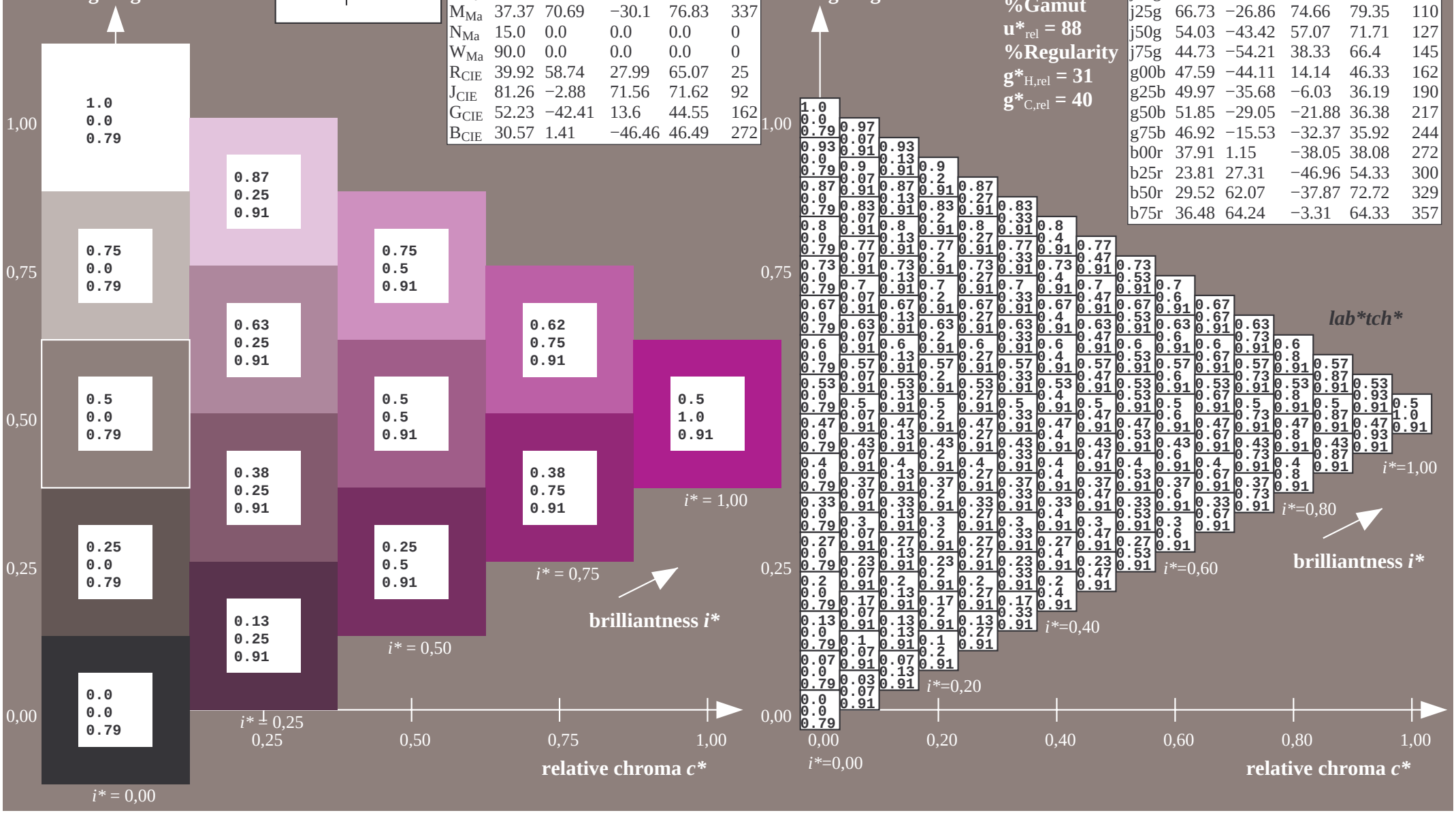
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

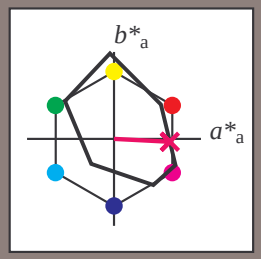
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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**

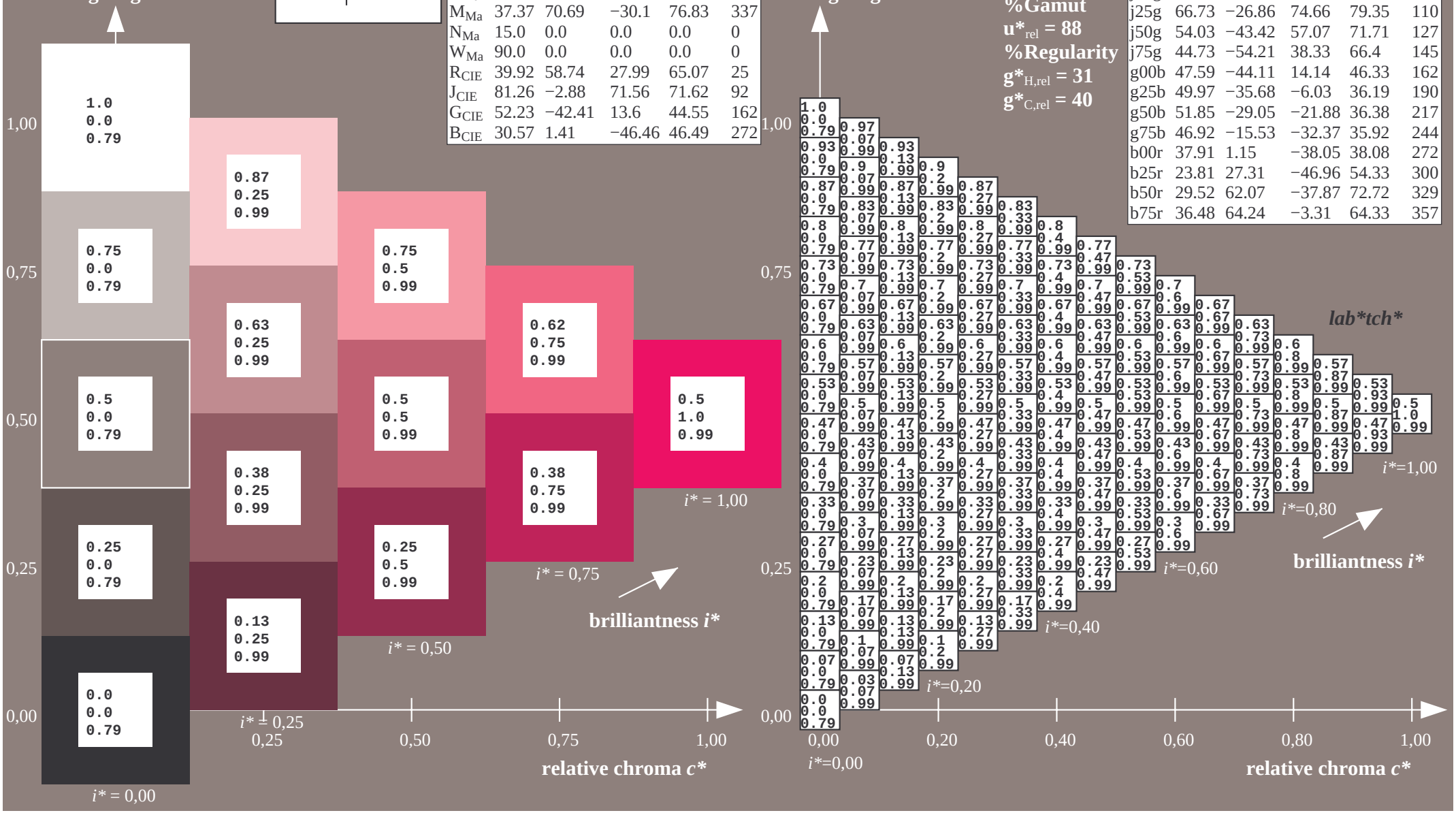


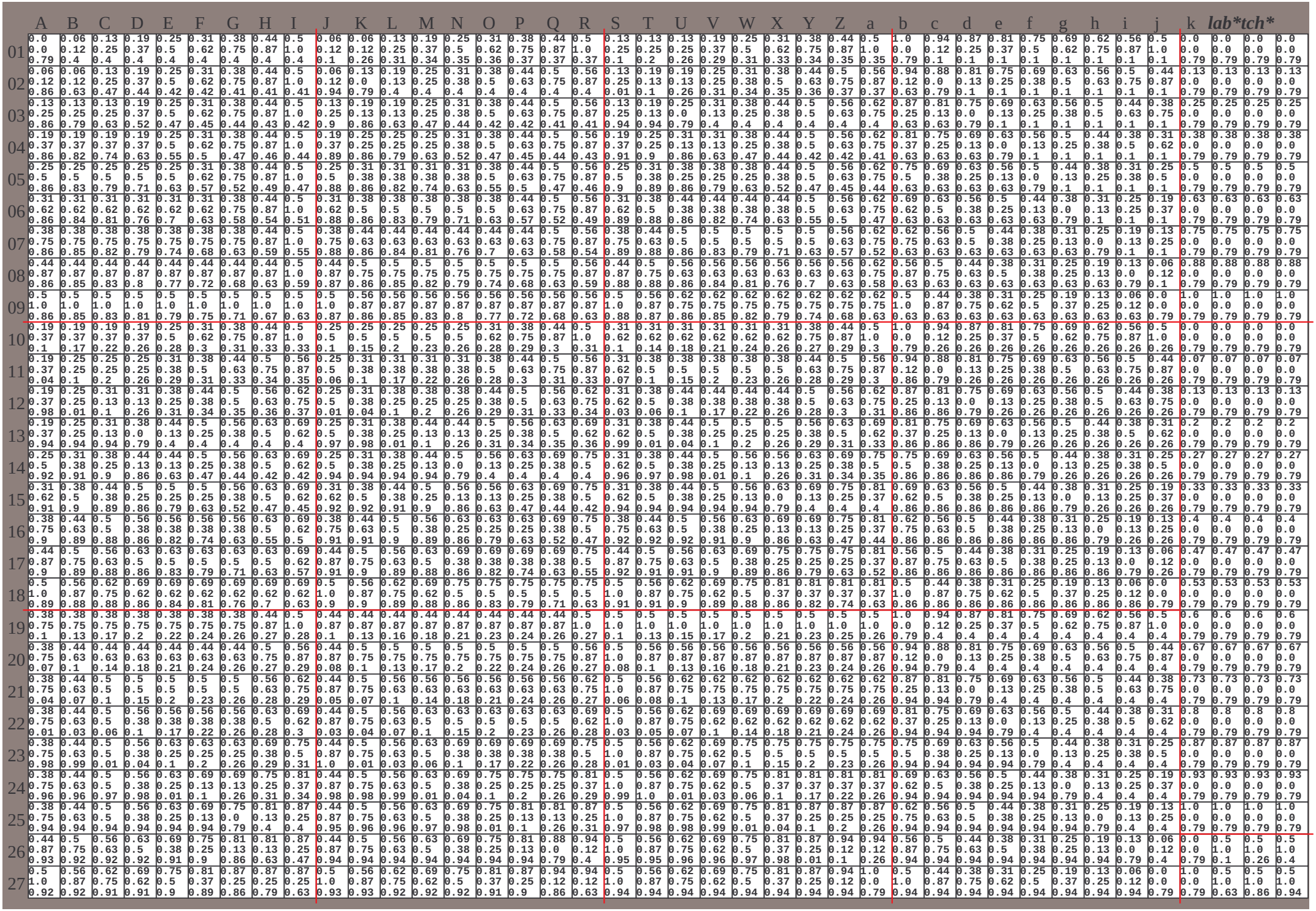
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

FRS15_90a; 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

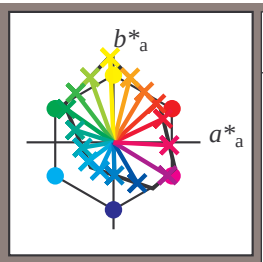



A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k
lab*tch*

Input and output:
Colorimetric Printer Reflective System FRS15_90a
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_90a; adapted (a) CIELAB data

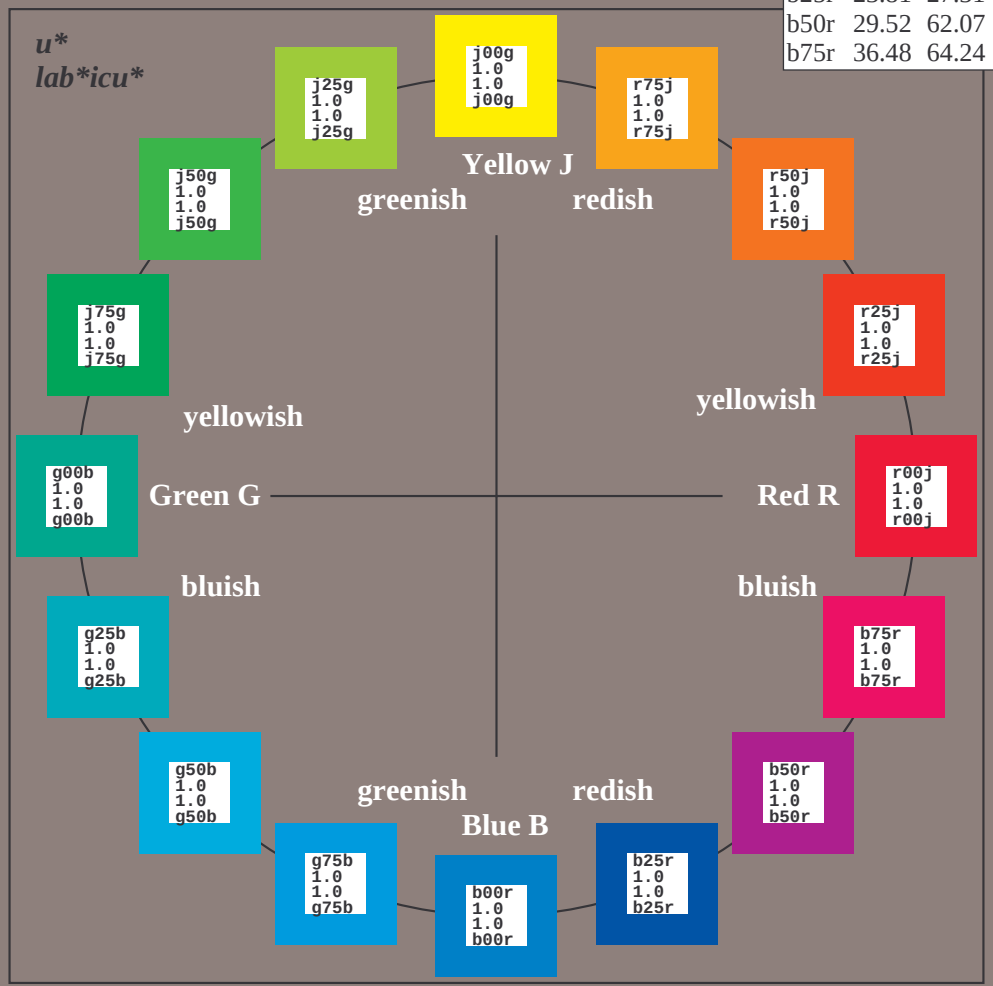
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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

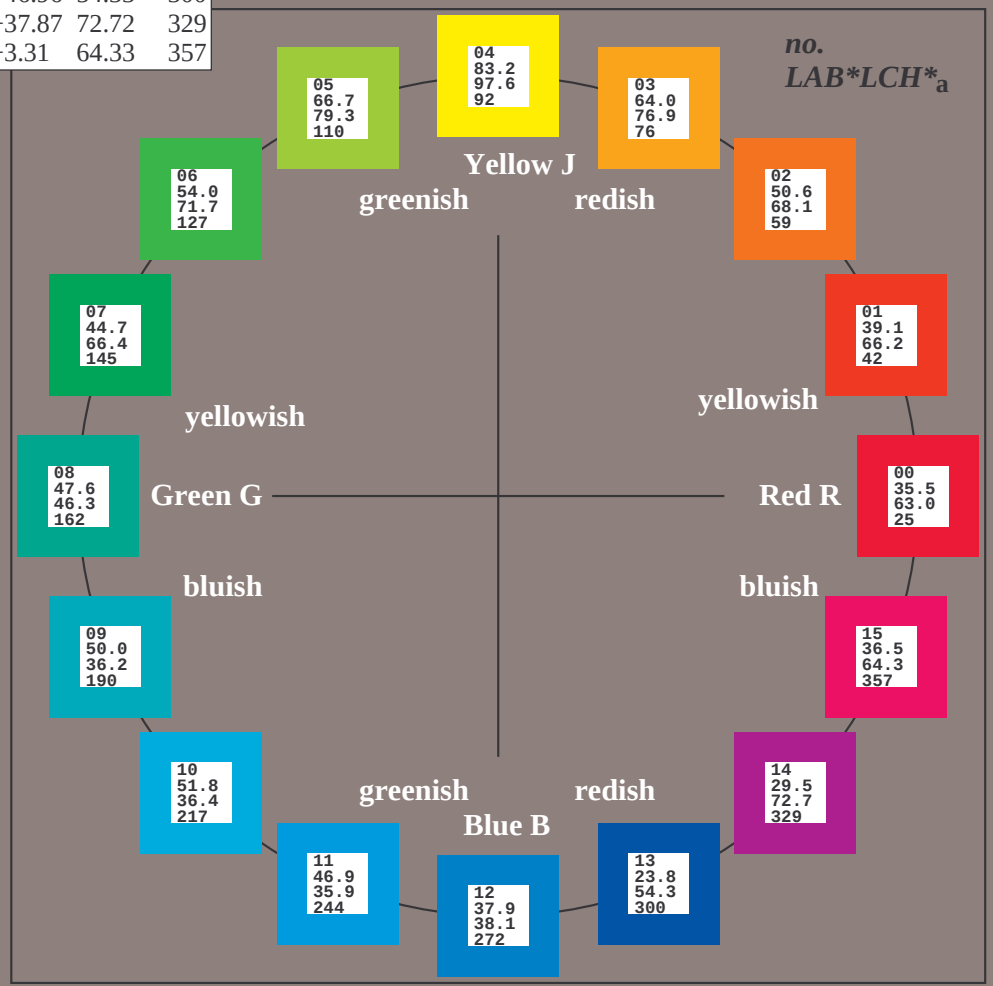


%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; adapted (a) CIELAB data

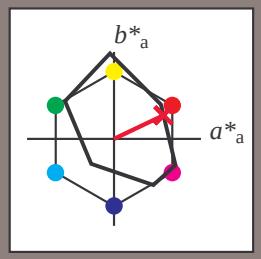
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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_90a 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**

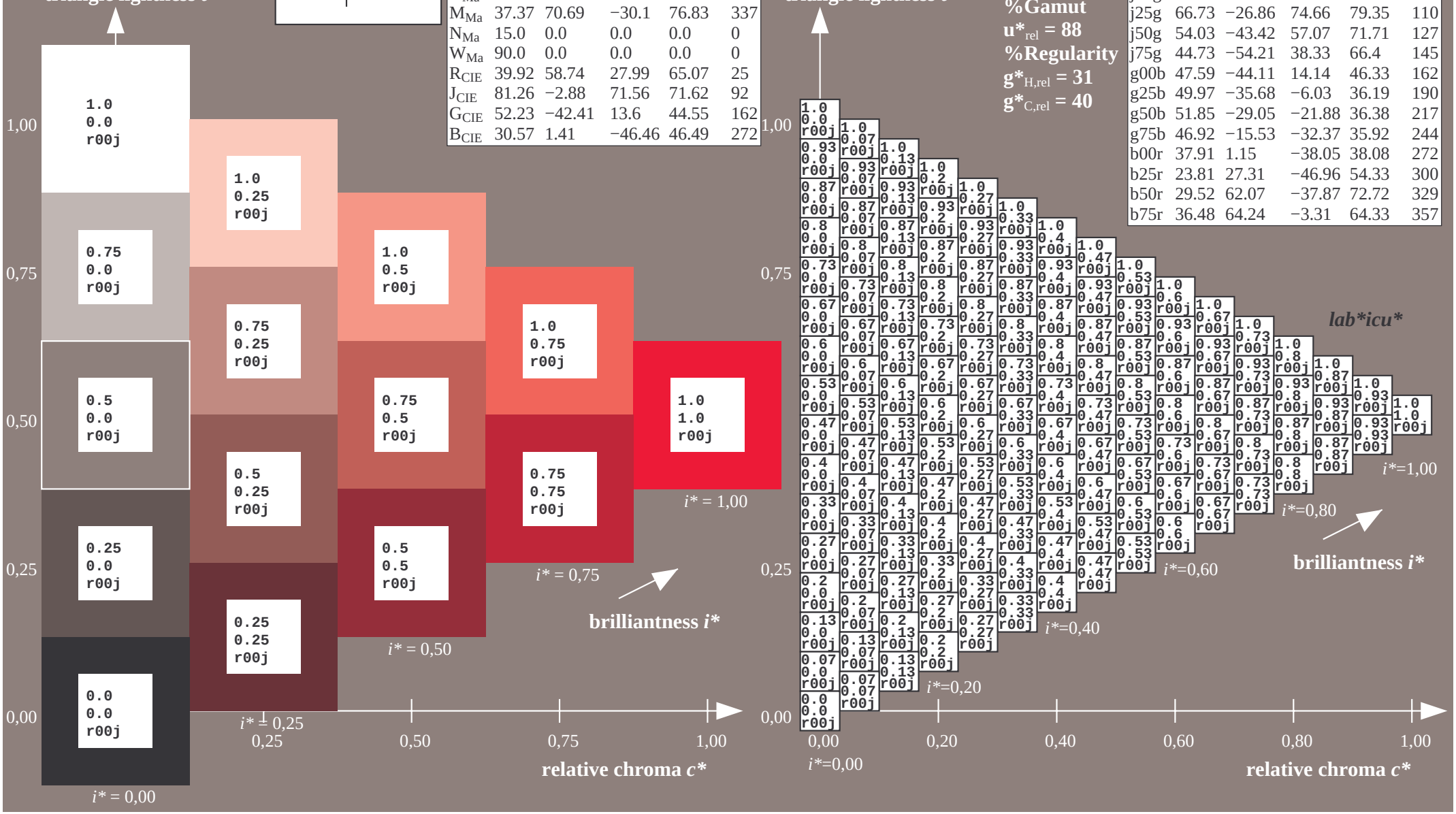


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**
triangle lightness *t**

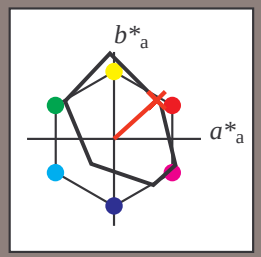
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	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_90a 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_90a; 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

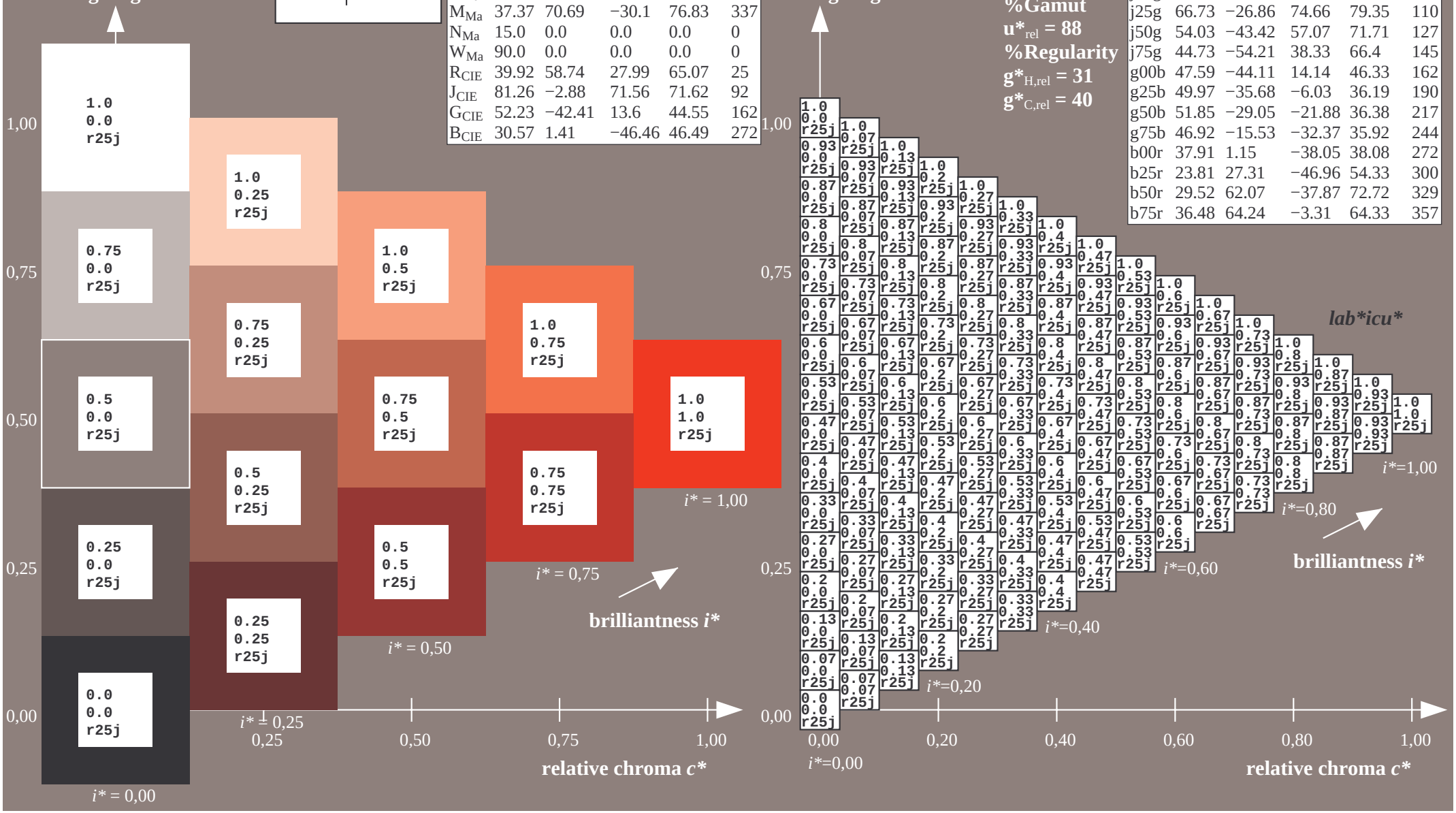
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 39 49 44**
LAB*LCH*$_{Ma}$**: 39 66 42**
lab*rgb*$_{Ma}$**: 1.0 0.25 0.0**
lab*olv*$_{Ma}$**: 1.0 0.08 0.0**
triangle lightness *t**

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

u* = r25j
lab*icu*

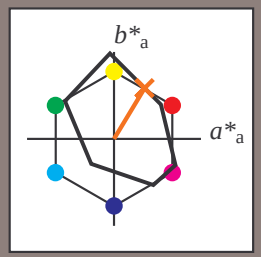
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; adapted (a) CIELAB data

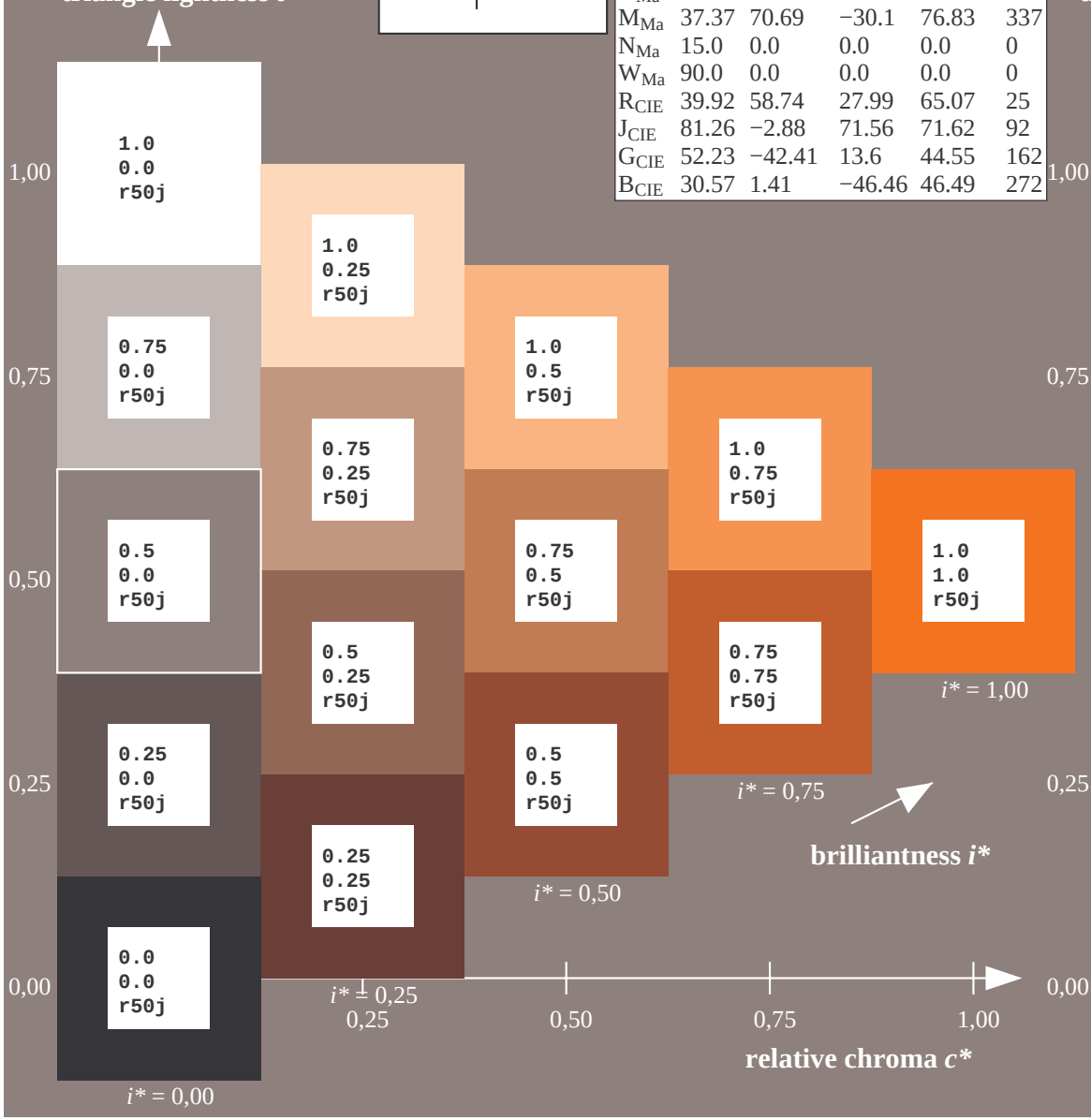
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

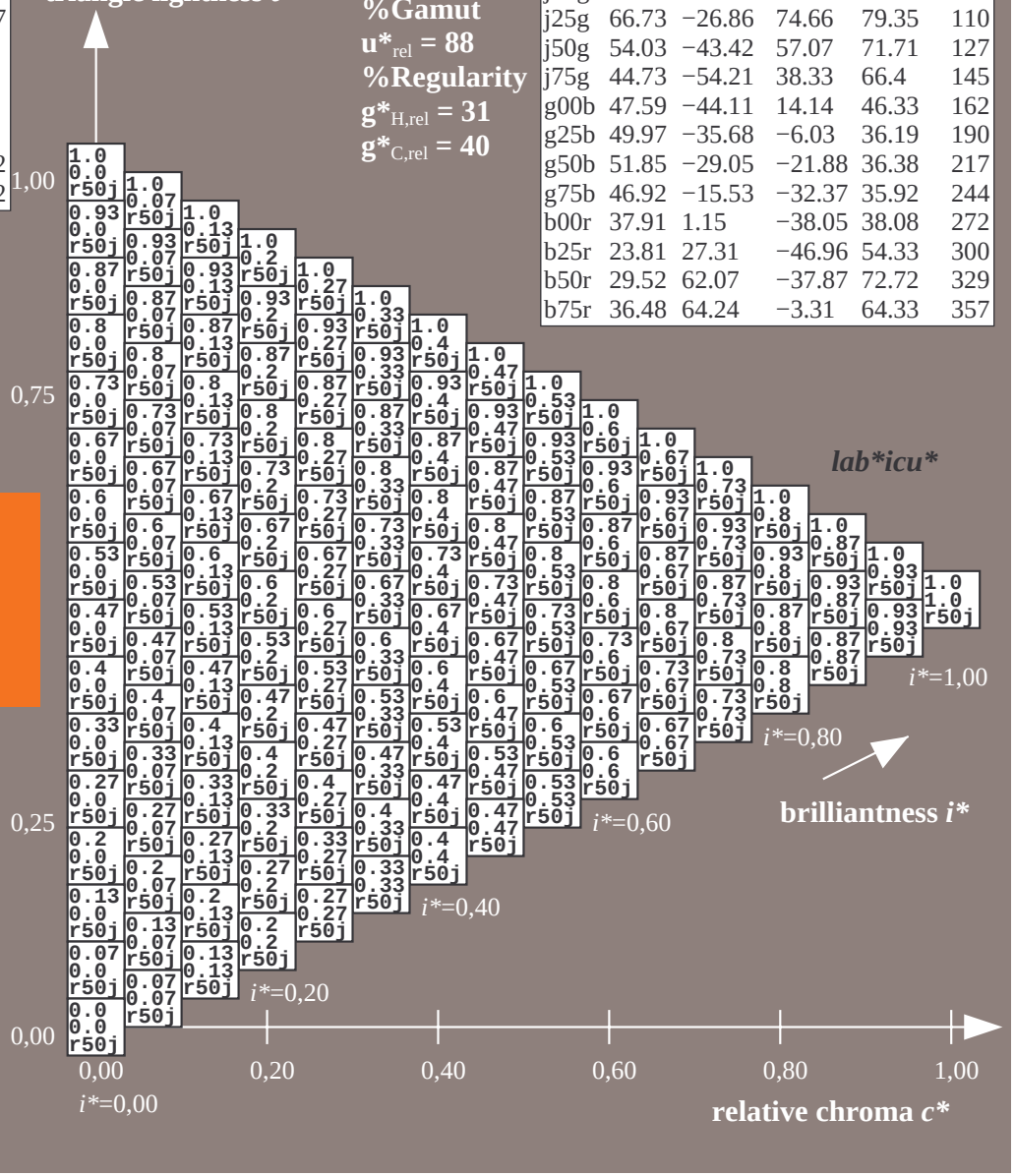
Data for maximum colour (Ma):
***LAB*LAB**Ma*: 51 35 58**
***LAB*LCH**Ma*: 51 68 59**
***lab*rgb**Ma*: 1.0 0.5 0.0**
***lab*olv**Ma*: 1.0 0.32 0.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

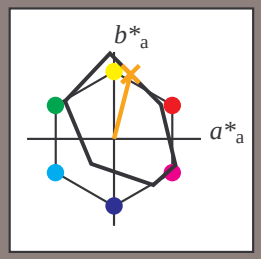
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a 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_90a; adapted (a) CIELAB data

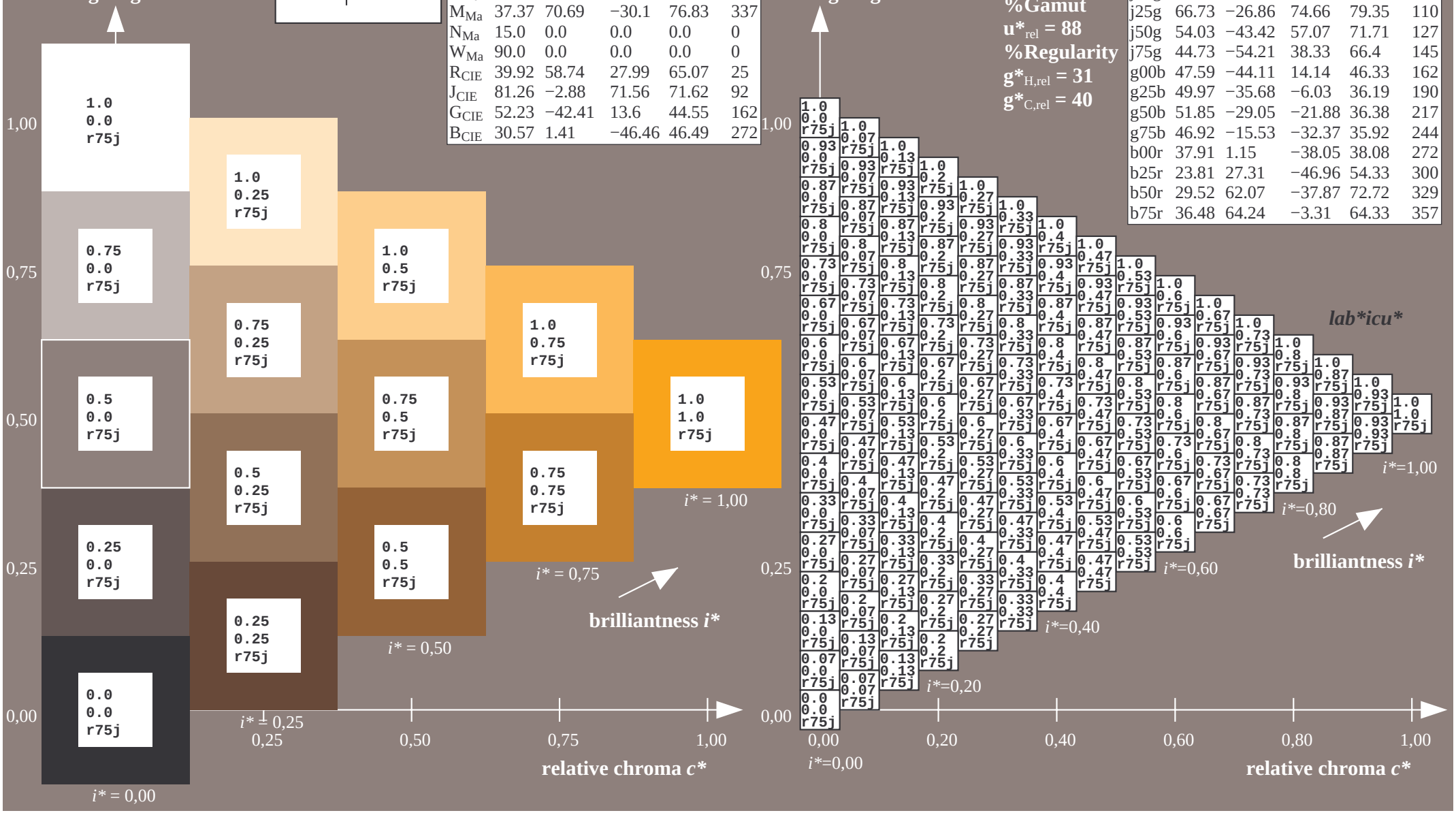
	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
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

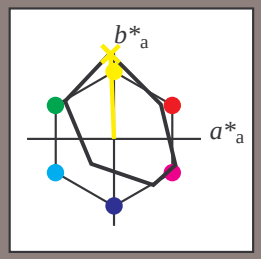
FRS15_90a; adapted (a) CIELAB data

	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_90a 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**

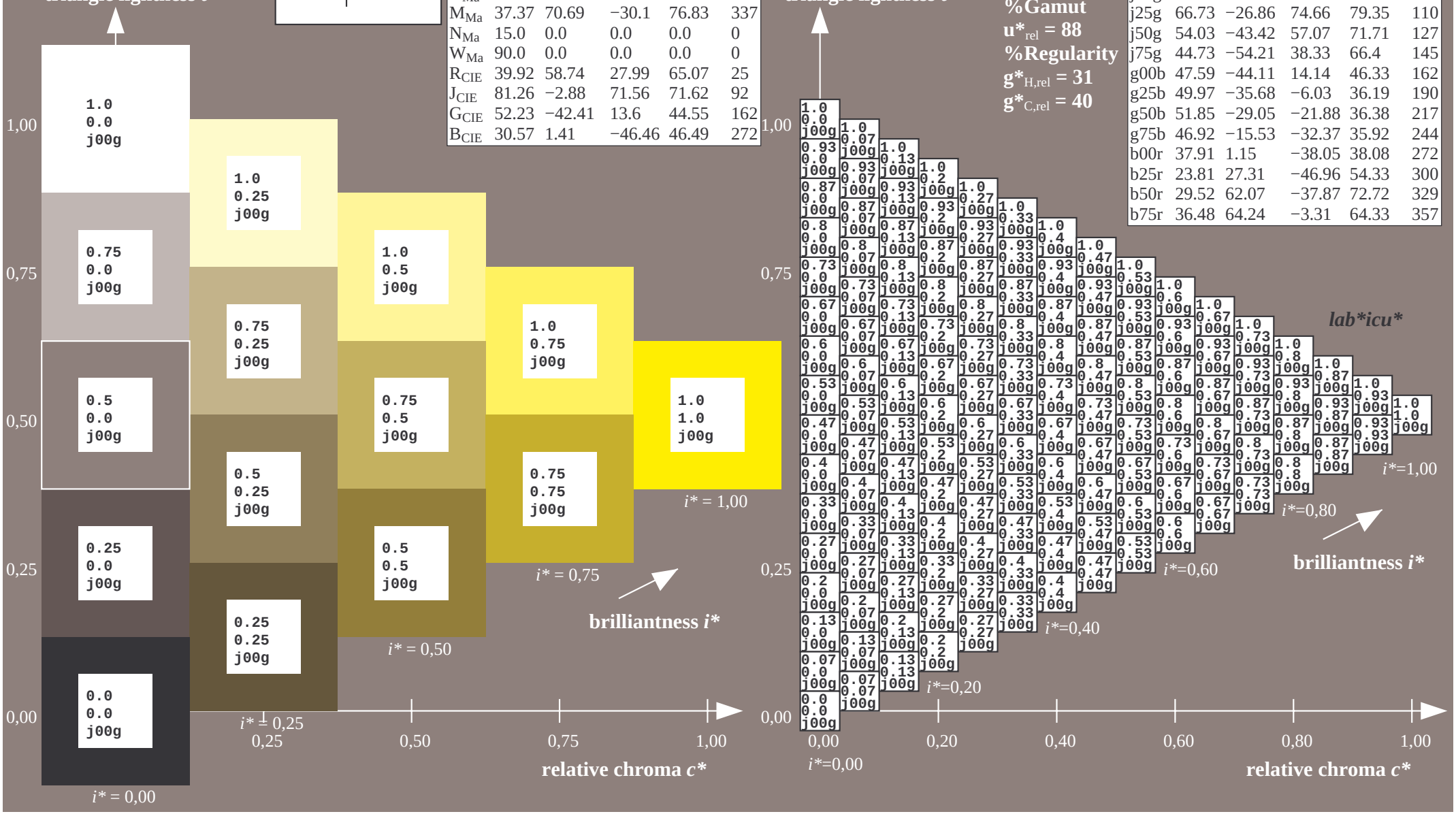


FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

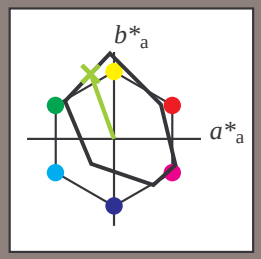
%Gamut
$u^*_{rel} = 88$
%Regularity
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

FRS15_90a; 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_90a 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_90a; 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

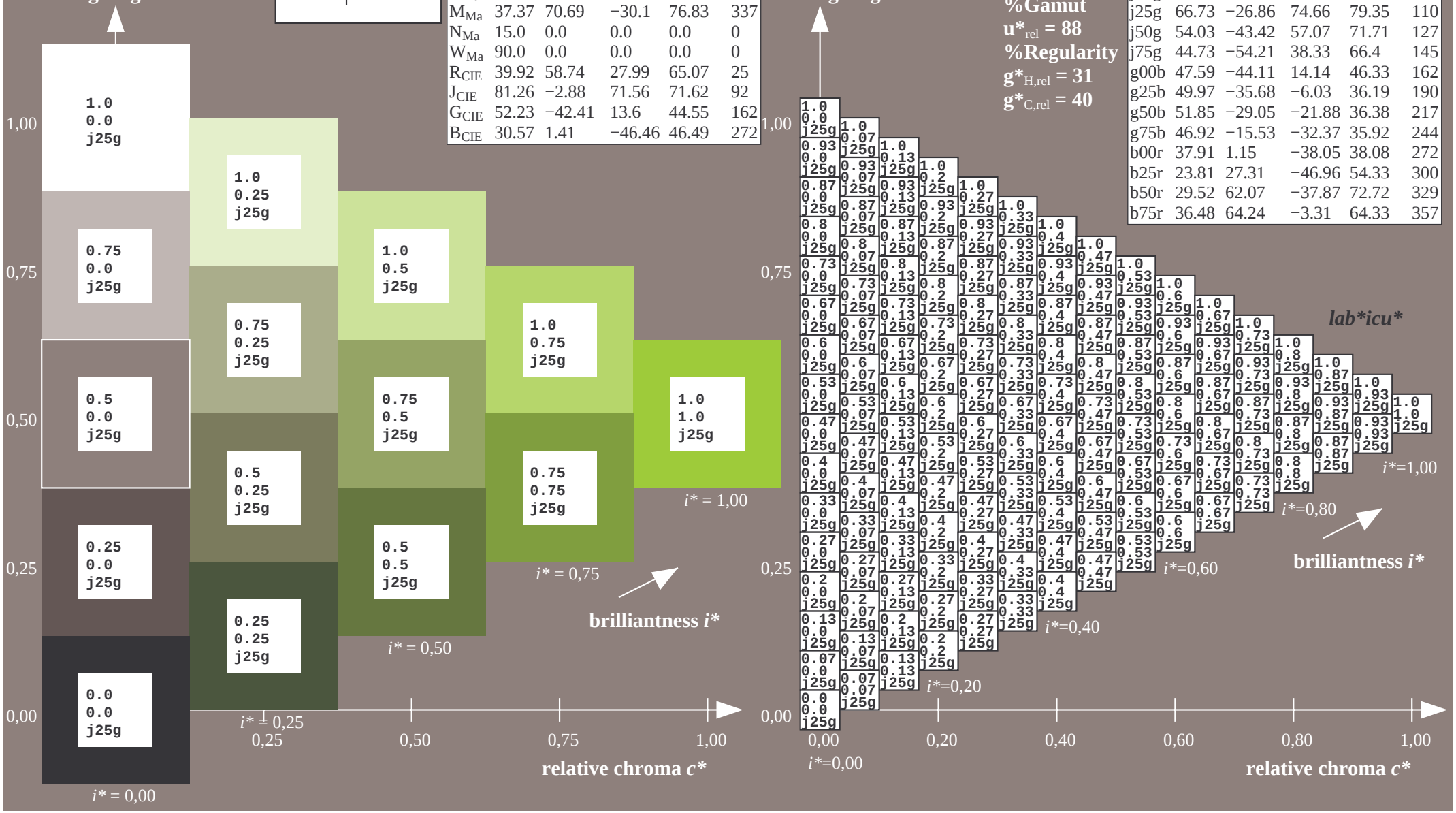
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 67 −26 75**
***LAB*LCH*Ma*: 67 79 110**
***lab*rgb*Ma*: 0.75 1.0 0.0**
***lab*olv*Ma*: 0.57 1.0 0.0**
triangle lightness *t**

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

u* = j25g
lab*icu*

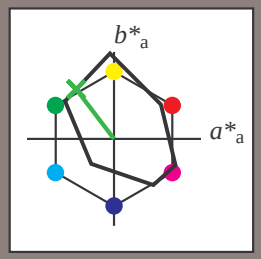
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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**

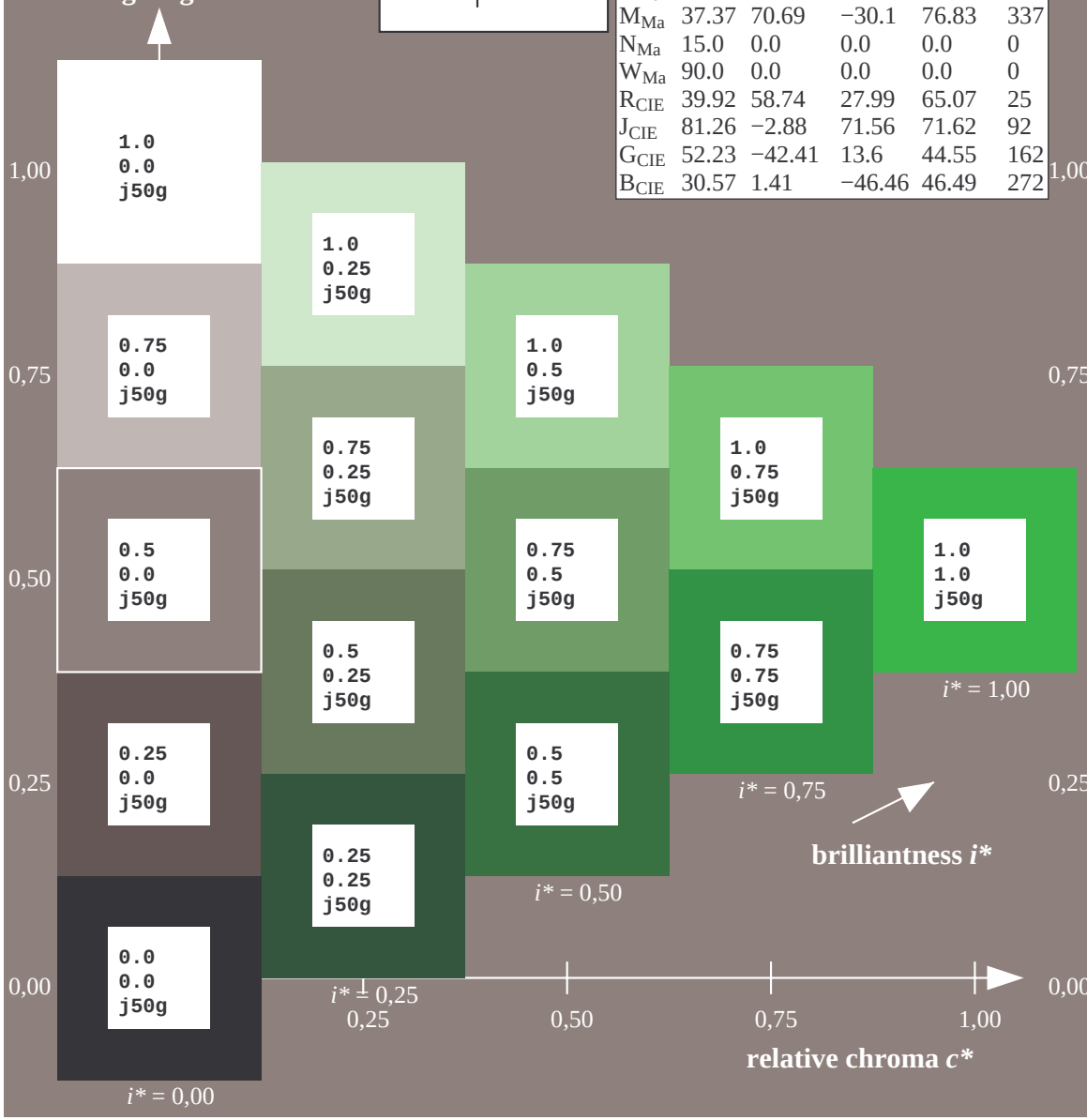


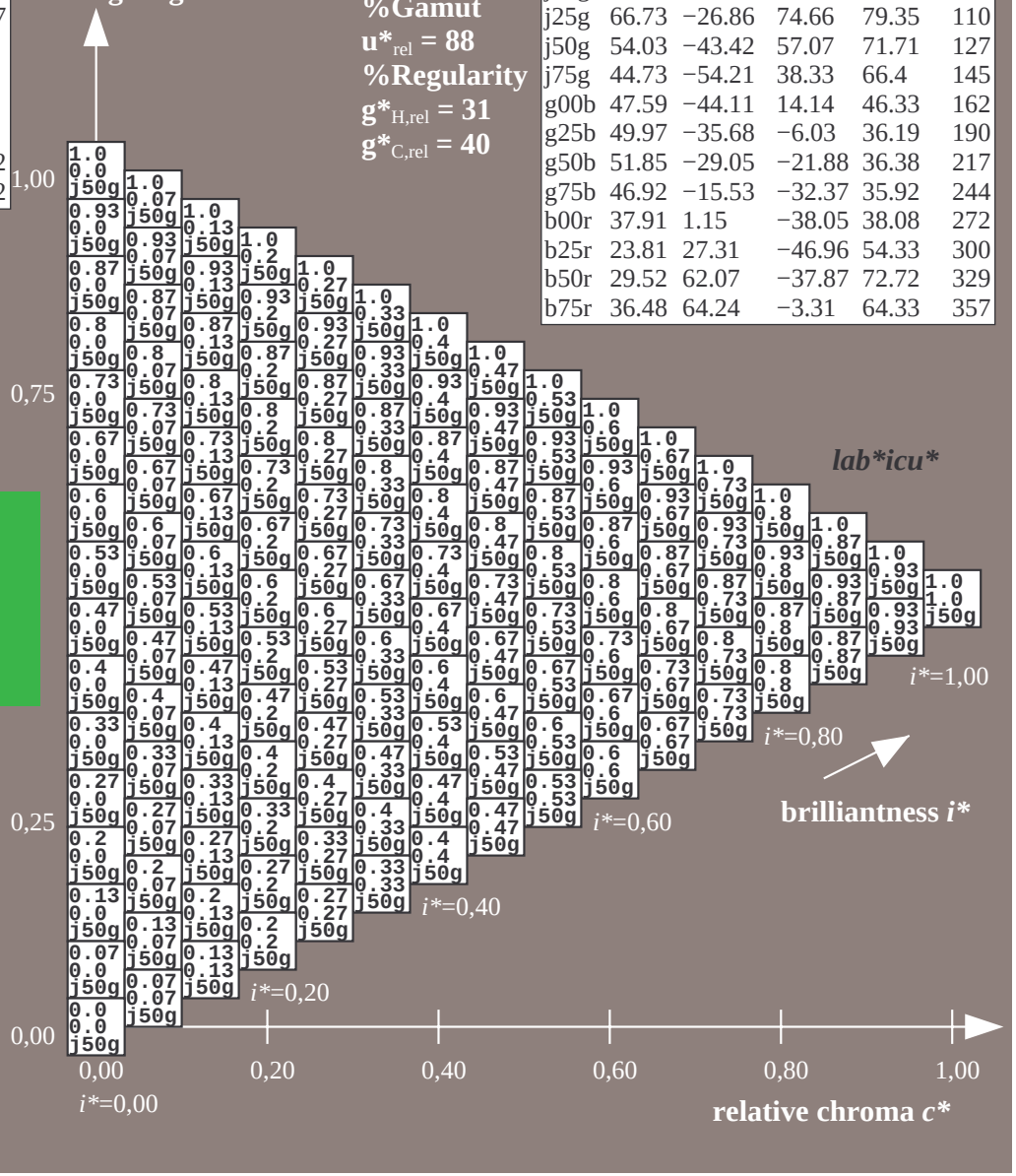
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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

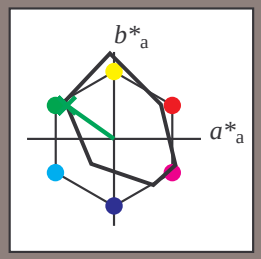
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	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_90a 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_90a; 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

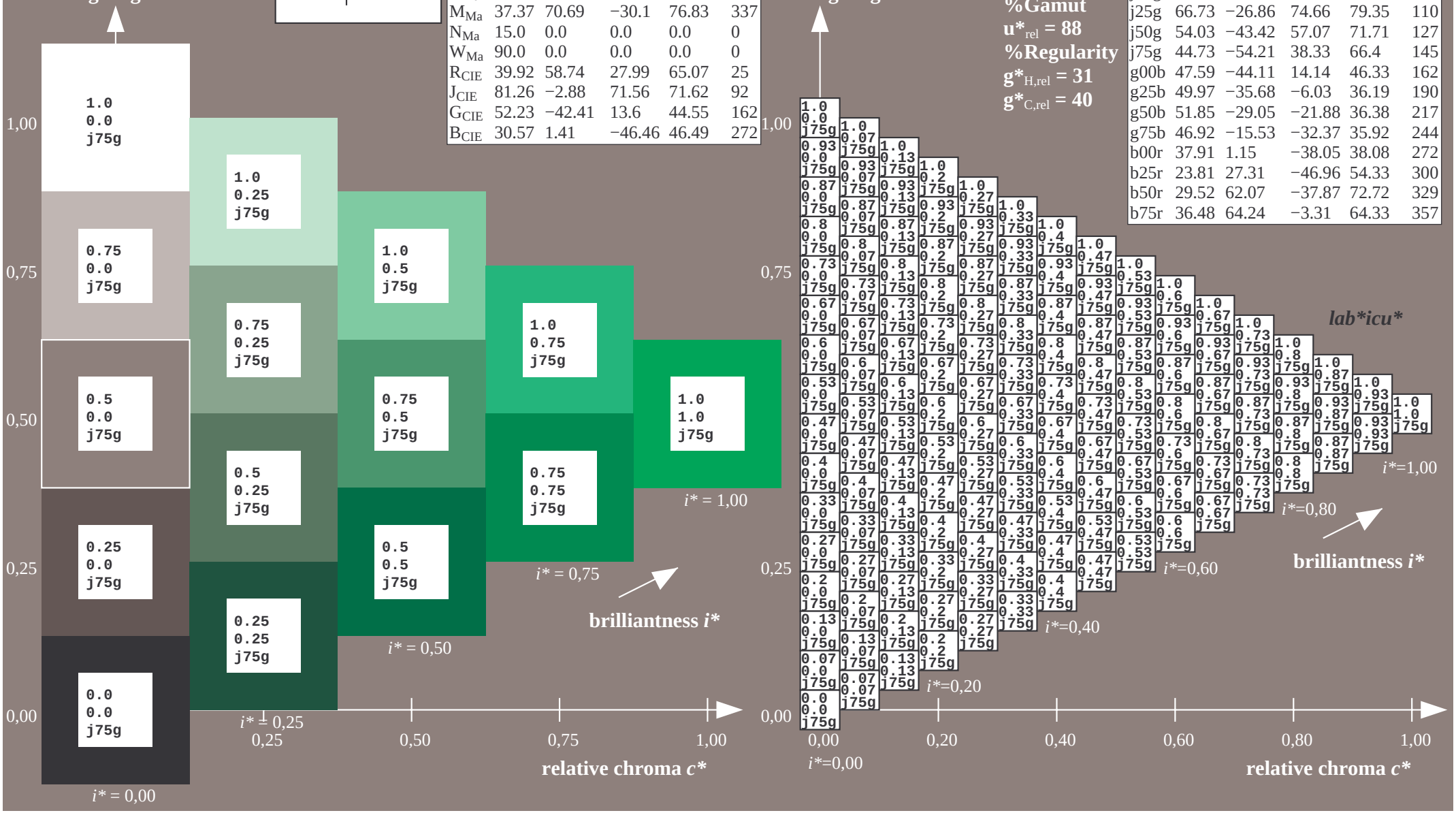
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 45 −53 38**
***LAB*LCH*Ma*: 45 66 145**
***lab*rgb*Ma*: 0.25 1.0 0.0**
***lab*olv*Ma*: 0.0 1.0 0.07**
triangle lightness *t**

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

u* = j75g
lab*icu*

FRS15_90a; adapted (a) CIELAB data

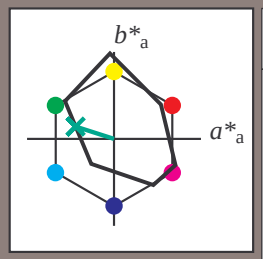
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a for relative CIELAB hue *h = *lab*h** = h_{ab}/360 = 162/360 = 0.451** *u* = g00b*

*lab*icu**

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_90a; adapted (a) CIELAB data

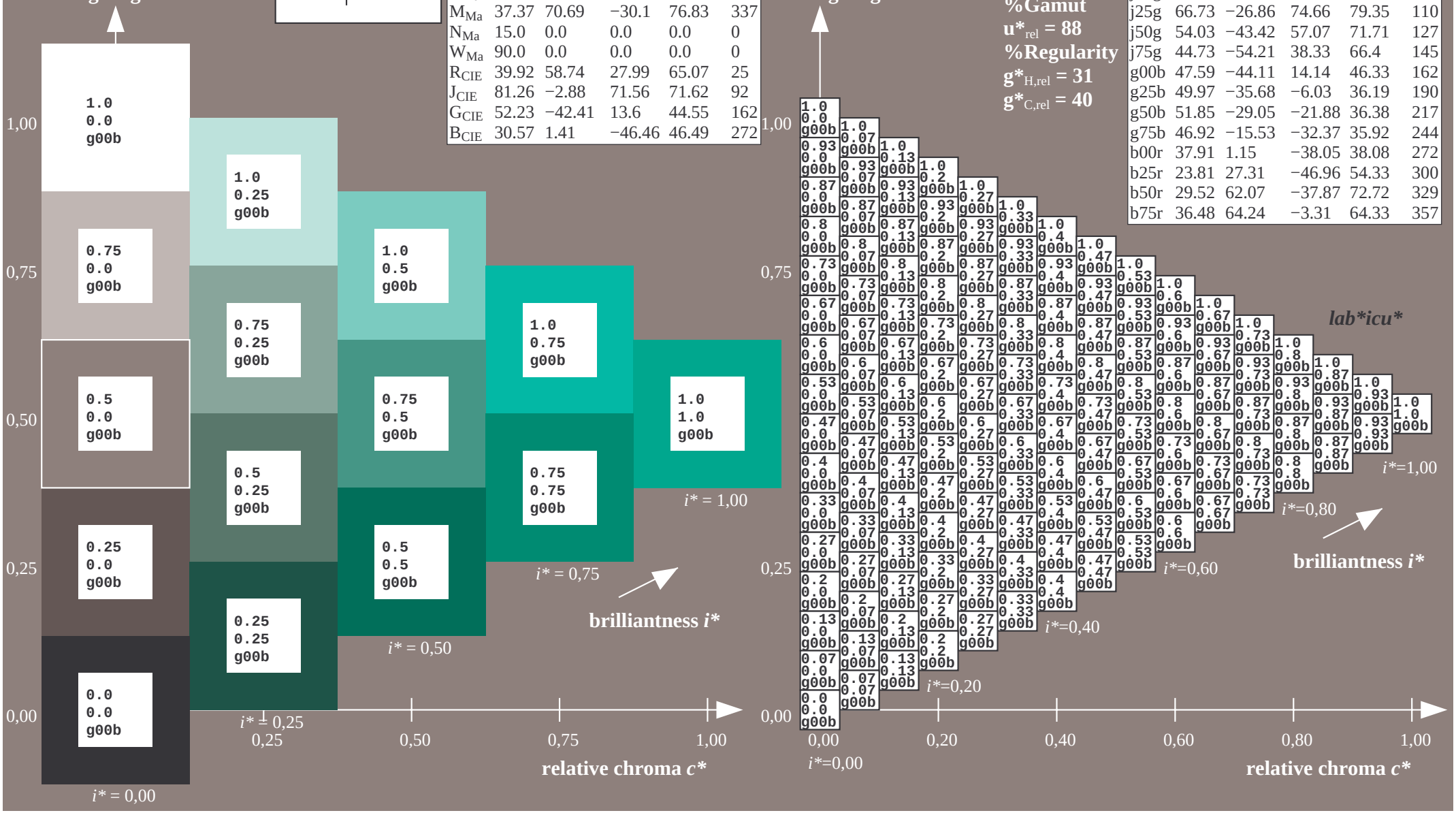
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

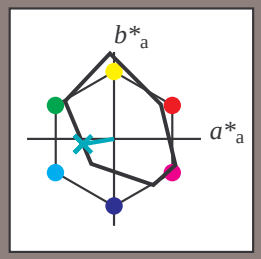
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; 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

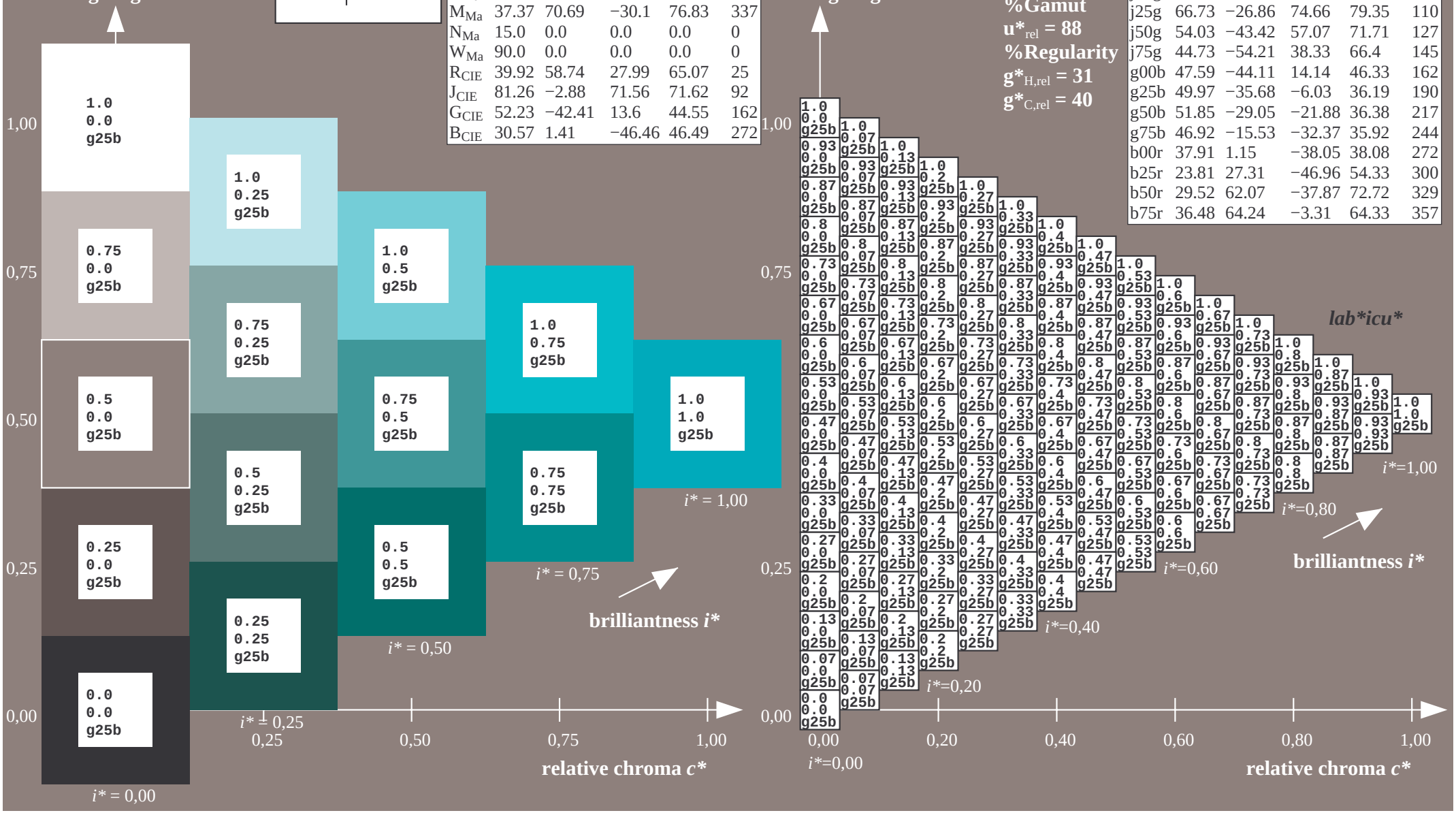
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 50 −35 −5**
***LAB*LCH*Ma*: 50 36 190**
***lab*rgb*Ma*: 0.0 1.0 0.5**
***lab*olv*Ma*: 0.0 1.0 0.69**
triangle lightness *t**

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

u* = g25b
lab*icu*

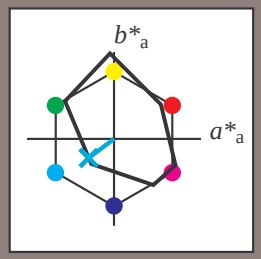
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; adapted (a) CIELAB data

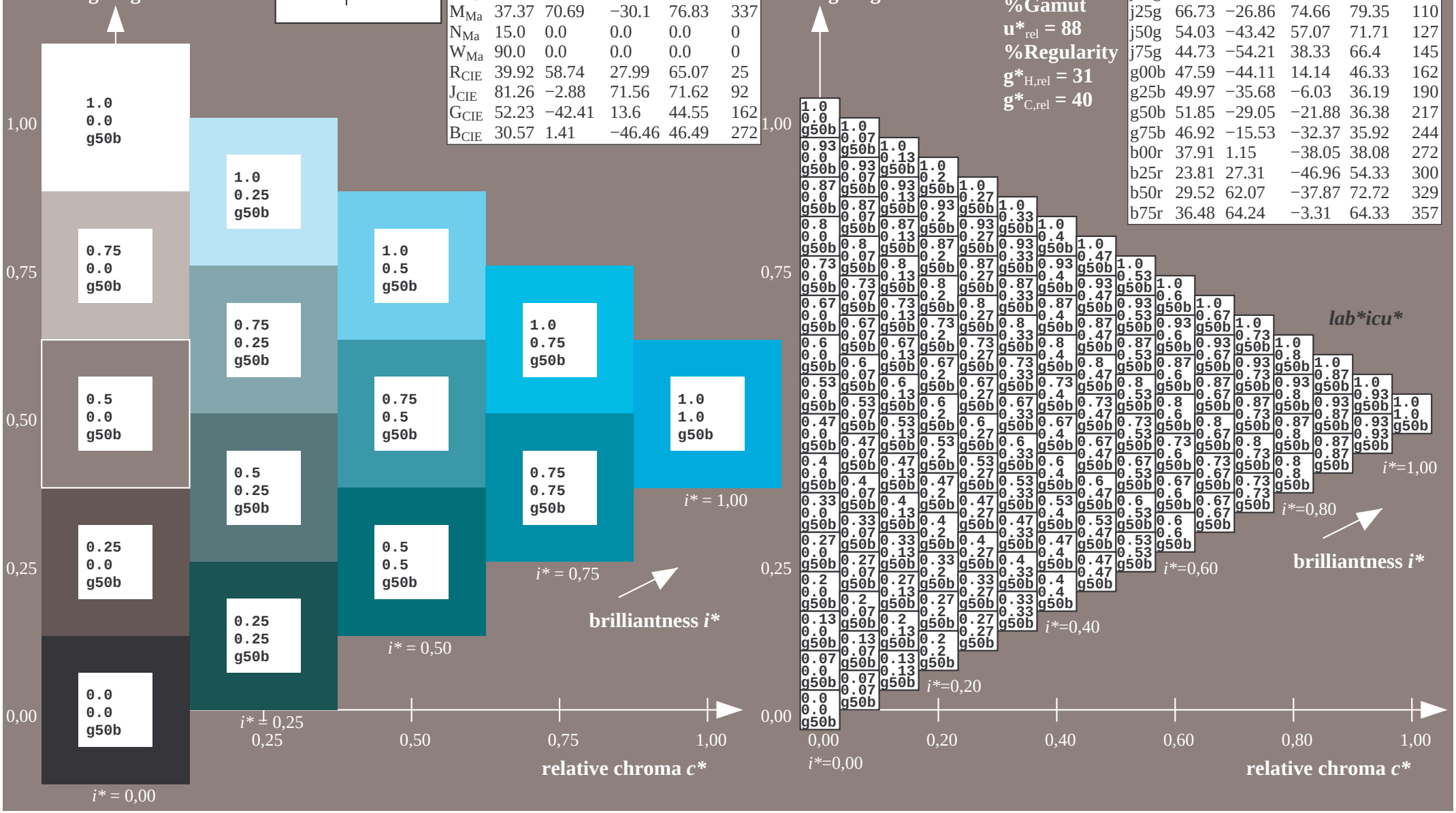
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

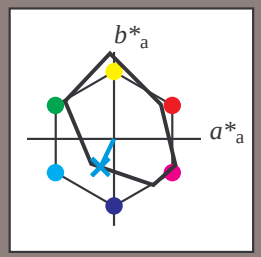
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; 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

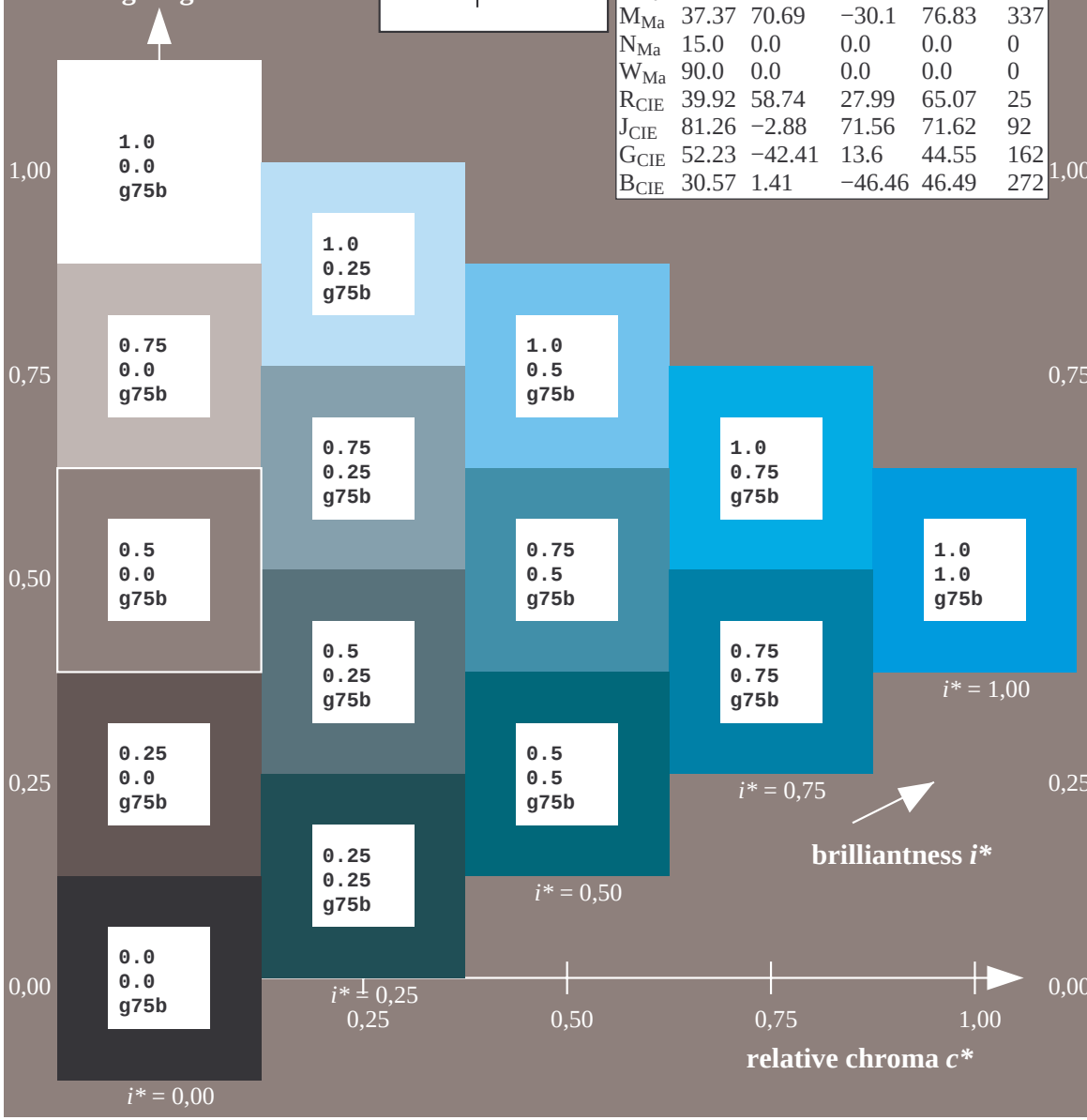
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 47 −15 −31**
LAB*LCH*$_{Ma}$**: 47 36 244**
lab*rgb*$_{Ma}$**: 0.0 0.5 1.0**
lab*olv*$_{Ma}$**: 0.0 0.85 1.0**
triangle lightness *t**

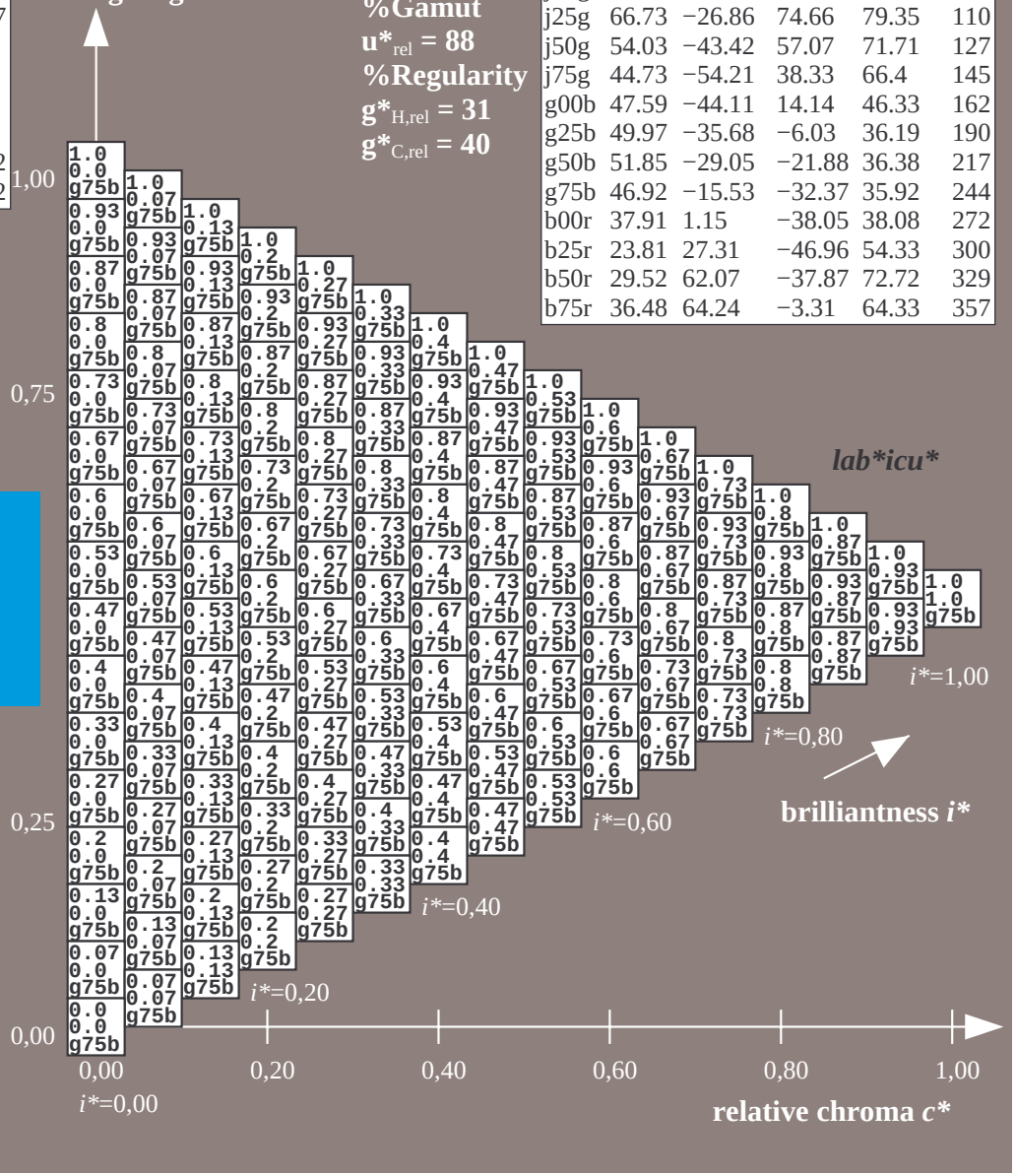
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

u** = g75b
lab*icu*

FRS15_90a; 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

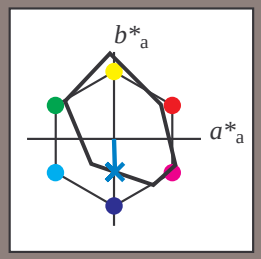




Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue *h = *lab*h** = h_{ab}/360 = 272/360 = 0.755** *u* = b00r*

*lab*icu**

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_90a; adapted (a) CIELAB data

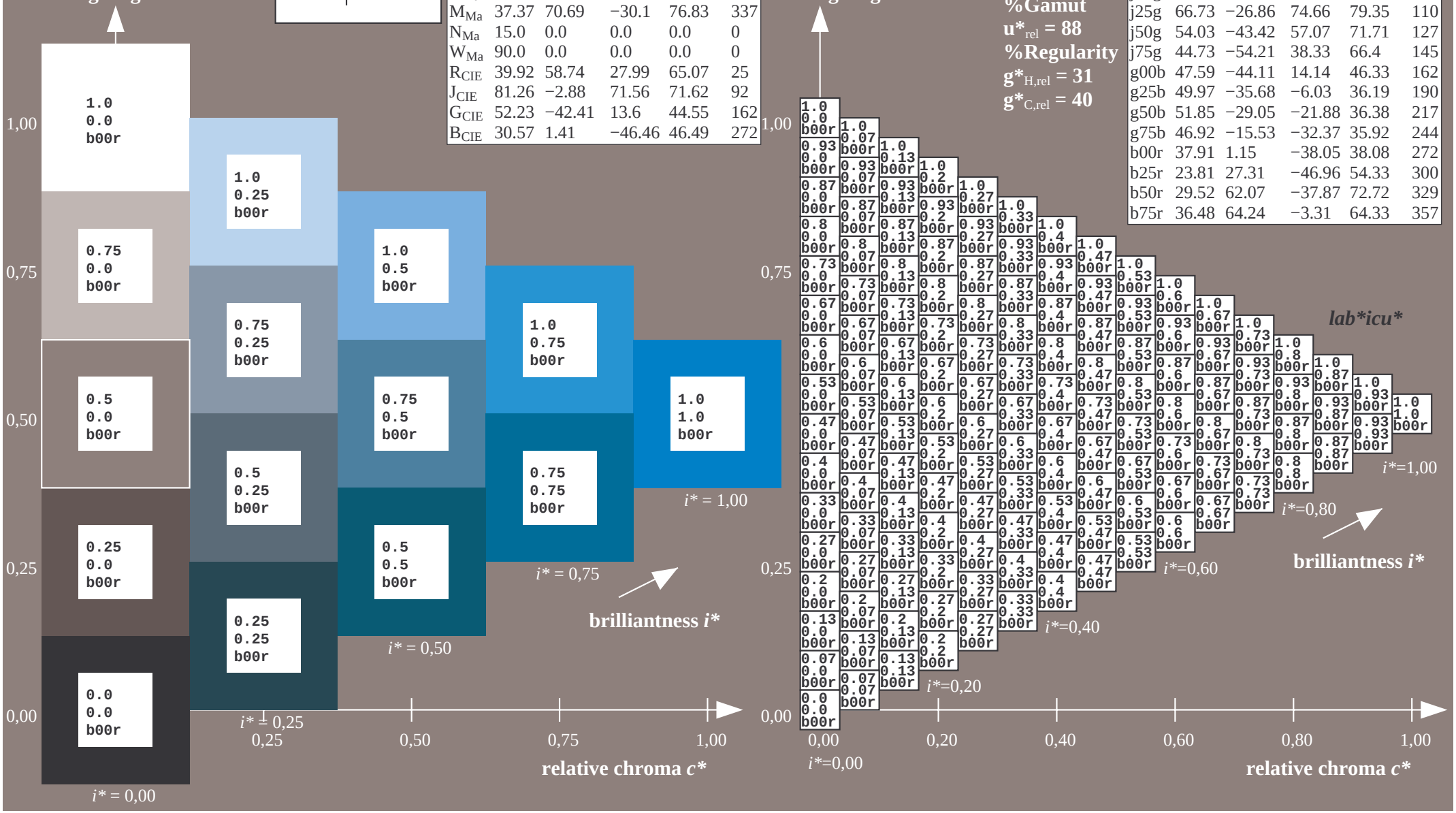
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

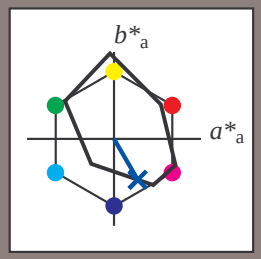
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; 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

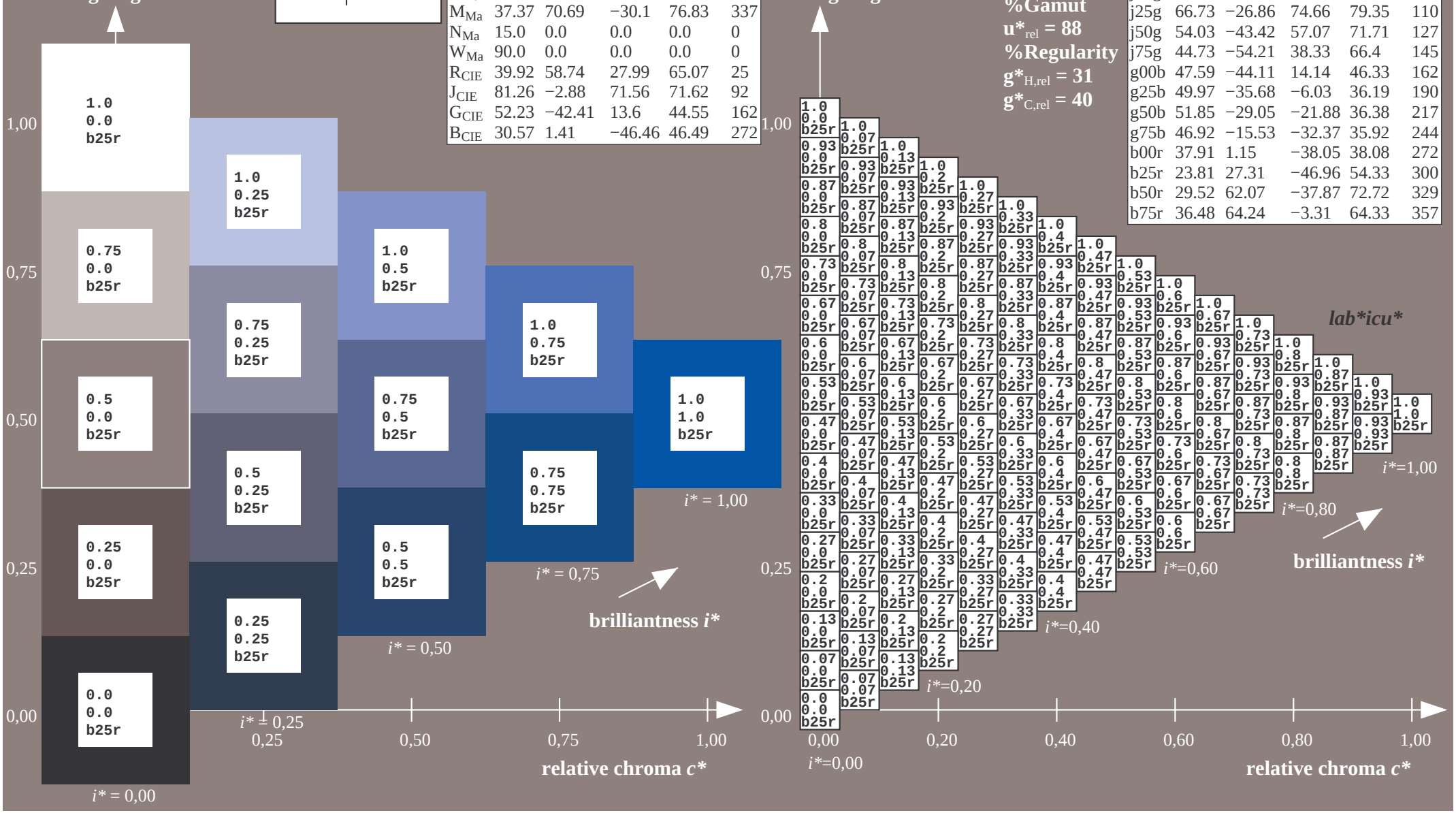
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 24 27 −46**
LAB*LCH*$_{Ma}$**: 24 54 300**
lab*rgb*$_{Ma}$**: 0.5 0.0 1.0**
lab*olv*$_{Ma}$**: 0.0 0.25 1.0**
triangle lightness *t**

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

u* = b25r
lab*icu*

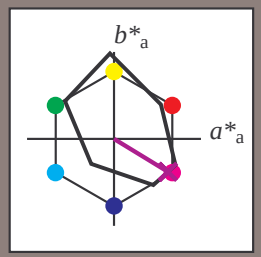
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; adapted (a) CIELAB data

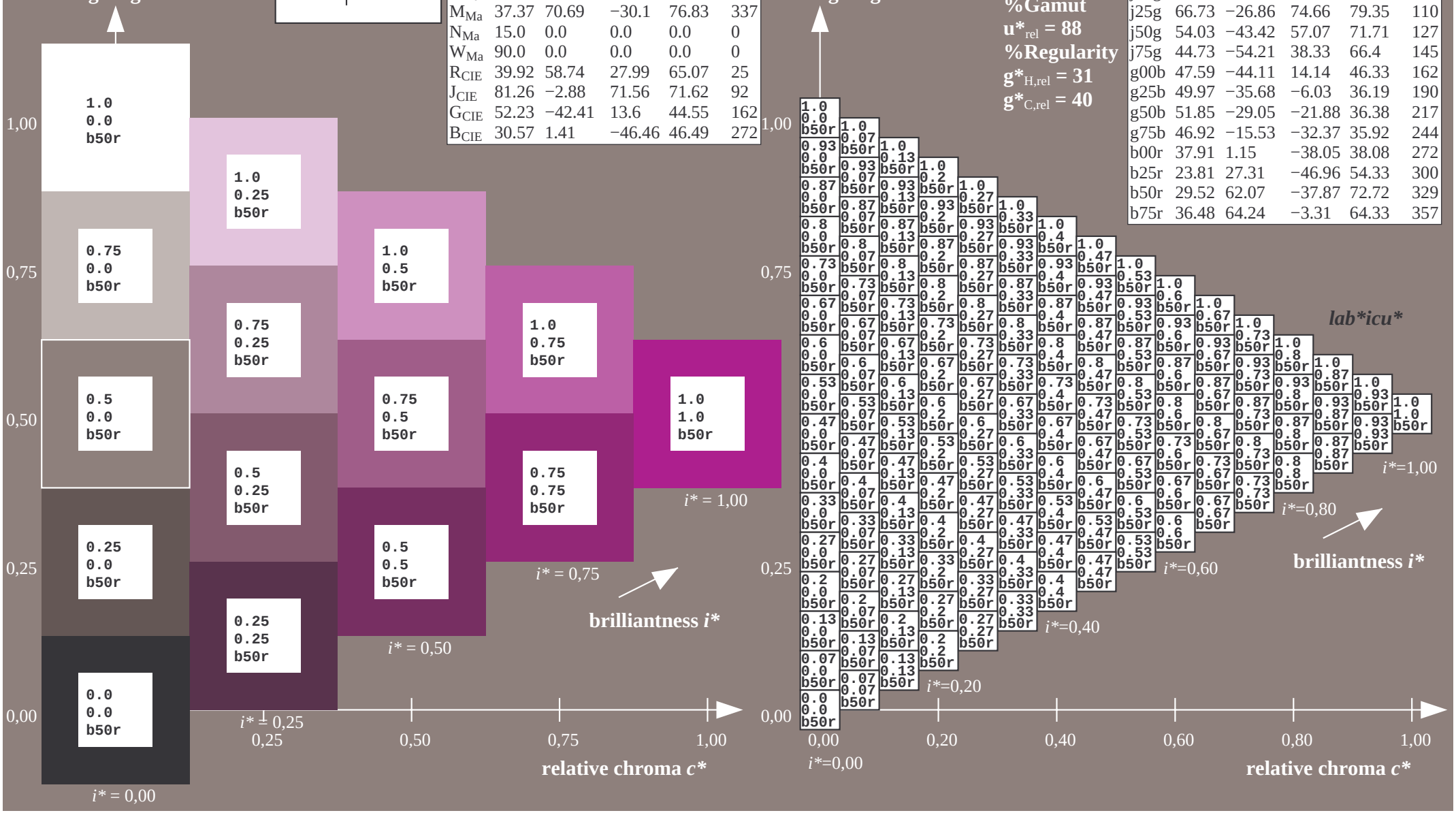
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	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

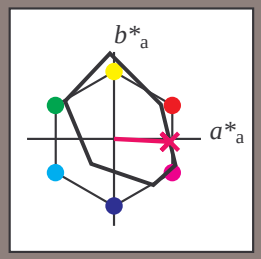
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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**

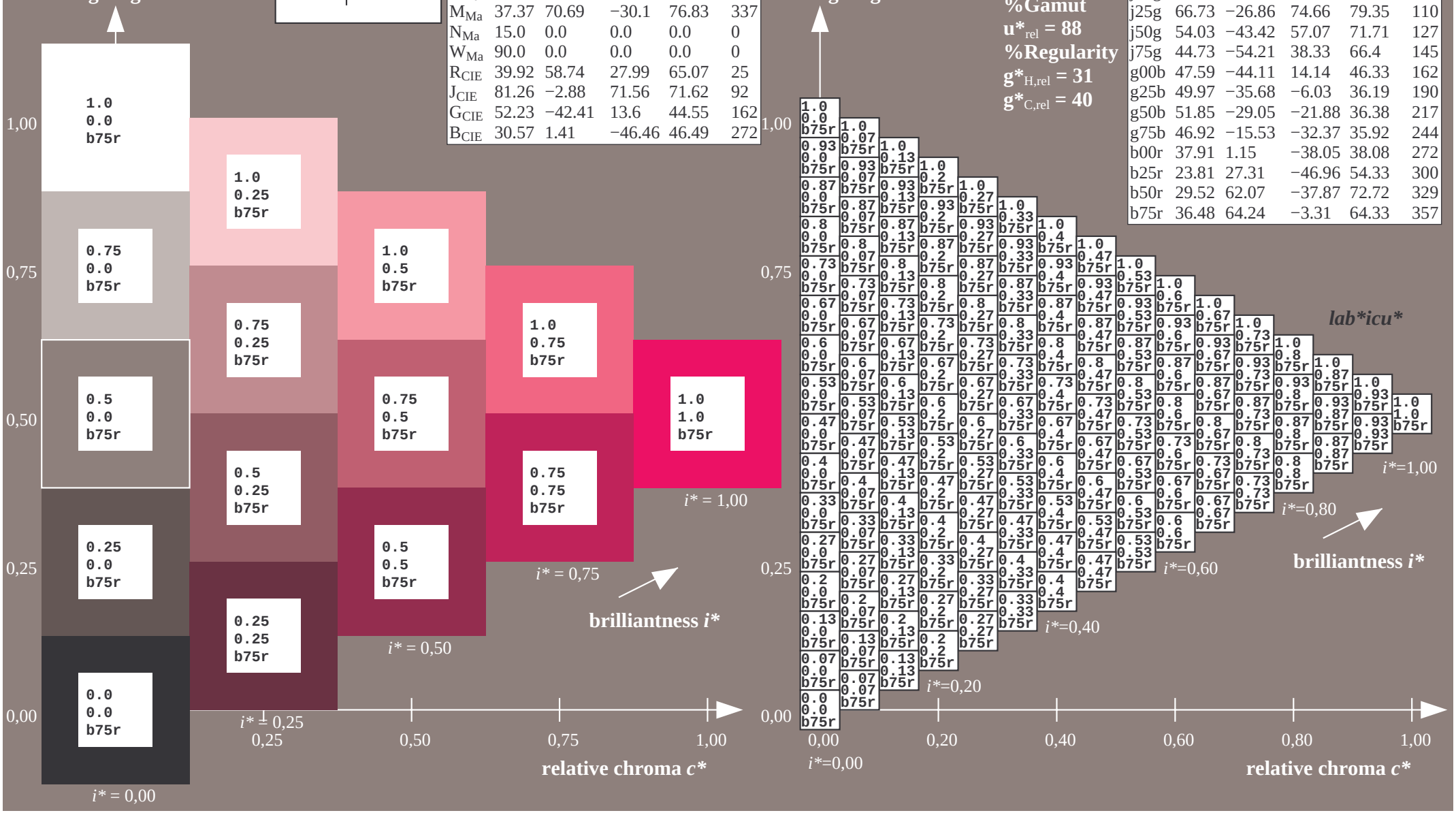


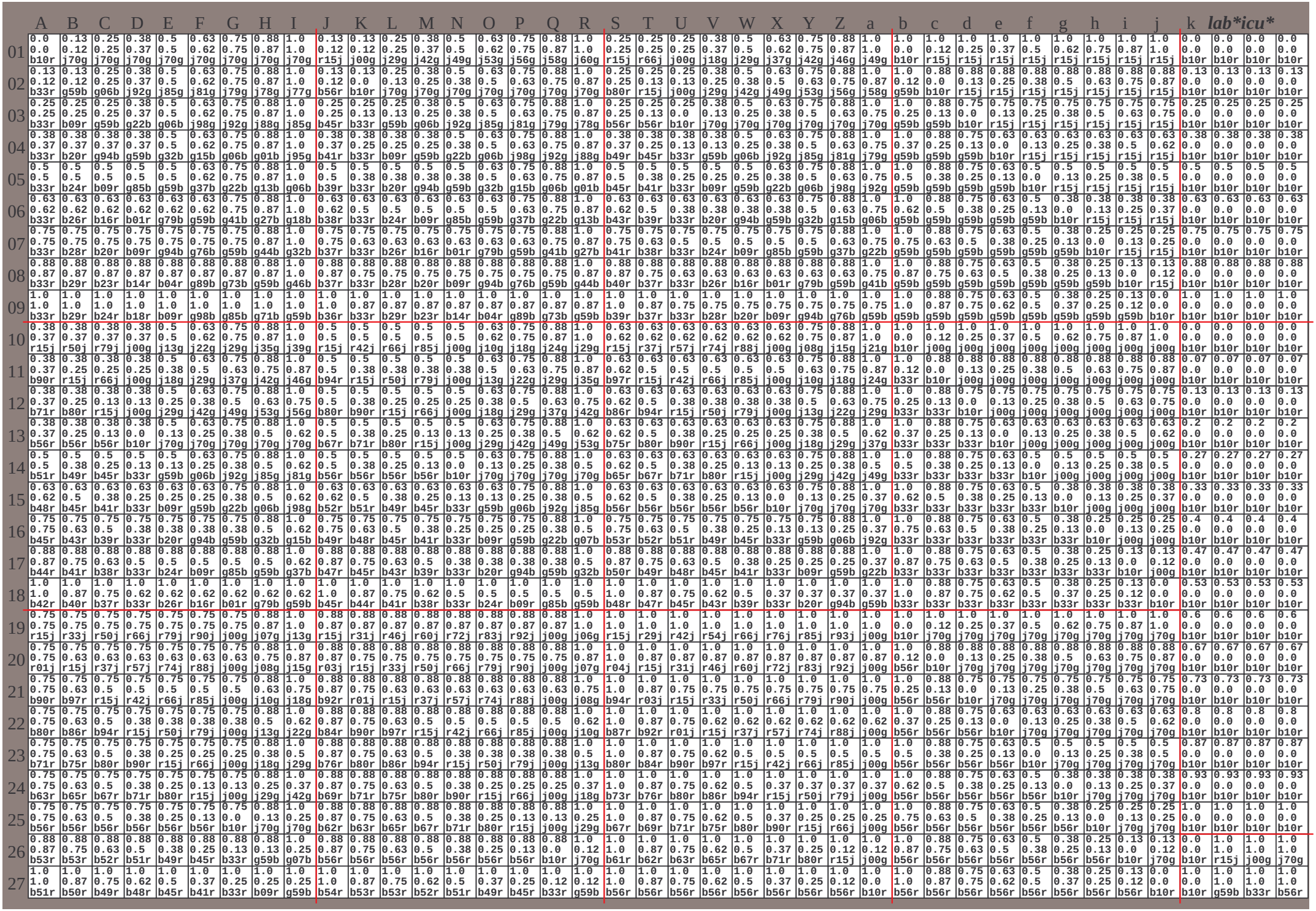
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	35.06	53.93	39.55	66.88	36
Y_{Ma}	83.77	−4.63	98.26	98.37	93
L_{Ma}	44.13	−56.32	43.36	71.09	142
C_{Ma}	52.66	−26.18	−28.74	38.89	228
V_{Ma}	14.15	45.22	−53.06	69.72	310
M_{Ma}	37.37	70.69	−30.1	76.83	337
N_{Ma}	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**

FRS15_90a; 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*icu*
01
02
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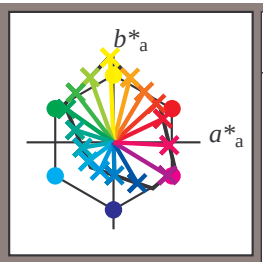
Input and output:
Colorimetric Printer Reflective System FRS15_90a
data for any colour:
lab*tch* **and** ***lab*icu****
elementary hue text:
u* **= 16 hues** ***r00j, r25j, ..., b75r***
contrast reduction factor:
$c_R = 0.9$

FRS15_90a; adapted (a) CIELAB data

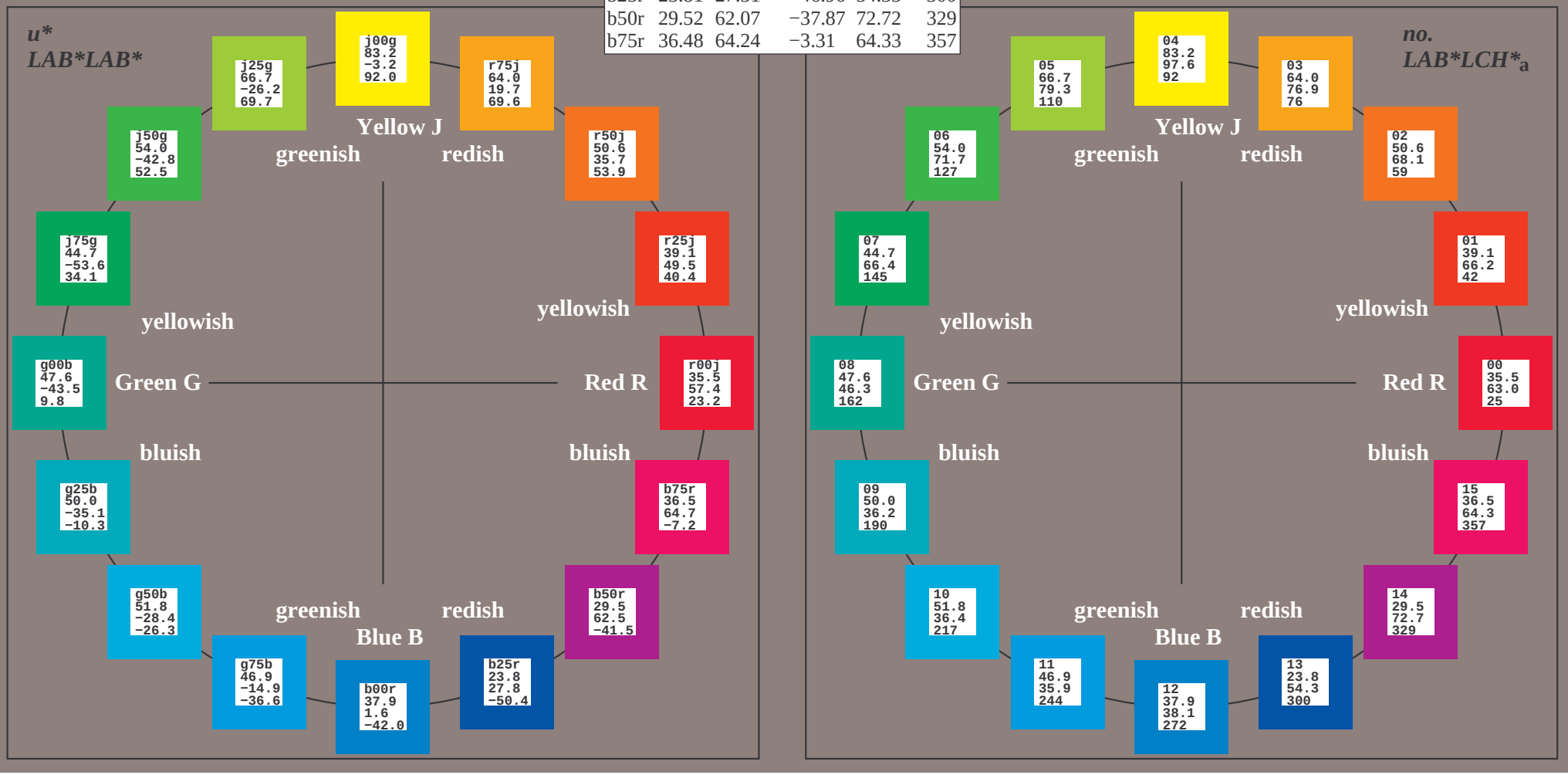
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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

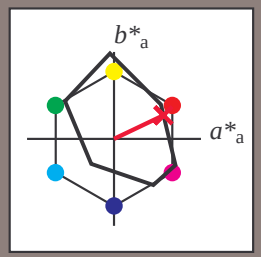
FRS15_90; CIELAB data

	$L^*=L^*$	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_90a 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_90; 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

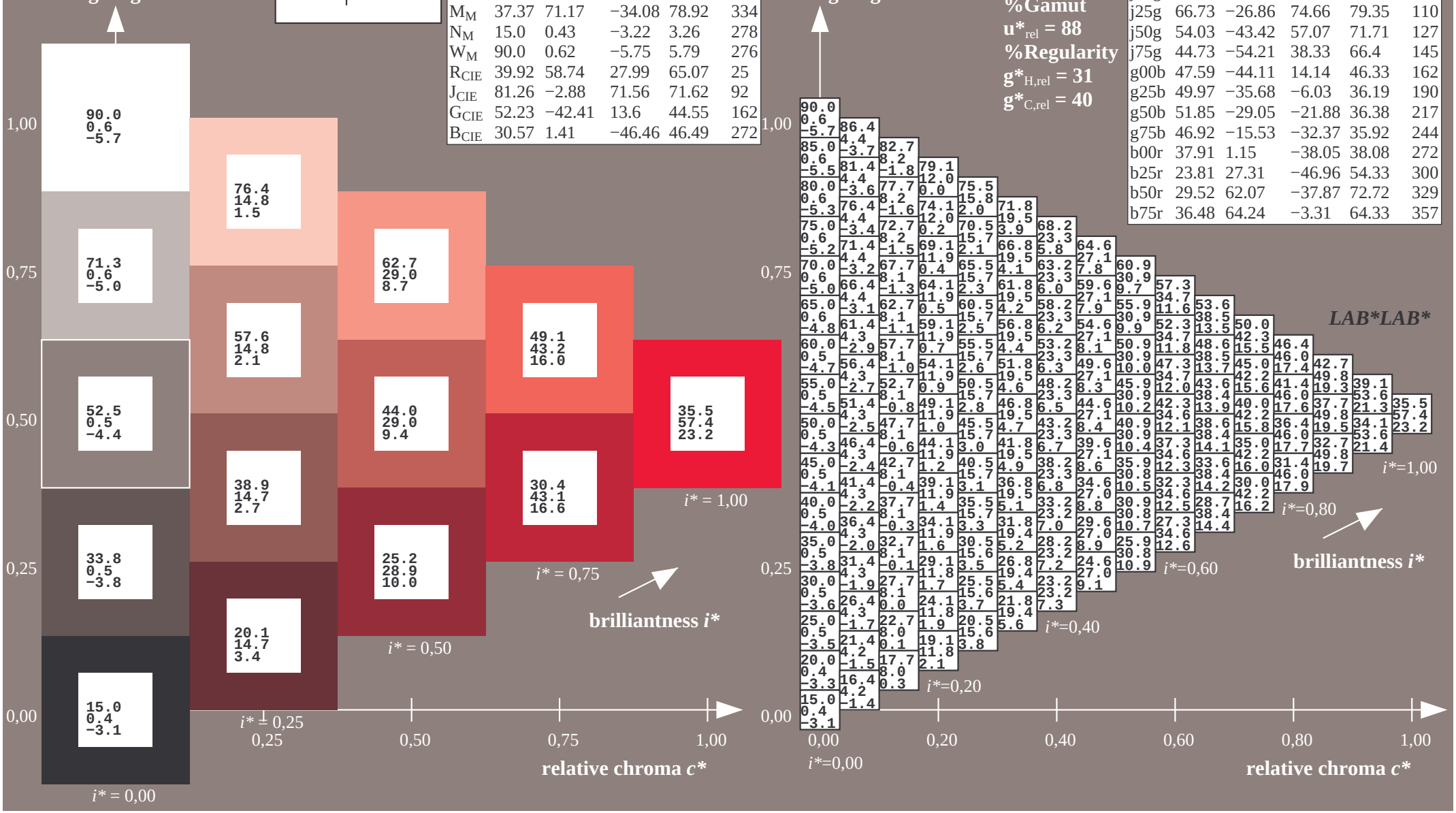
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 35 57 27**
***LAB*LCH*Ma*: 35 63 25**
***lab*rgb*Ma*: 1.0 0.0 0.0**
***lab*olv*Ma*: 1.0 0.0 0.18**
triangle lightness *t**

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

u* = r00j
LAB*LAB*

FRS15_90a; adapted (a) CIELAB data

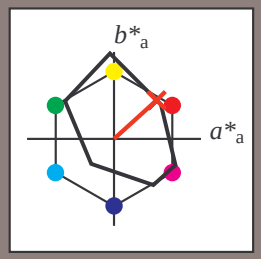
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a 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**

u = r25j*
*LAB*LAB**



FRS15_90; CIELAB data

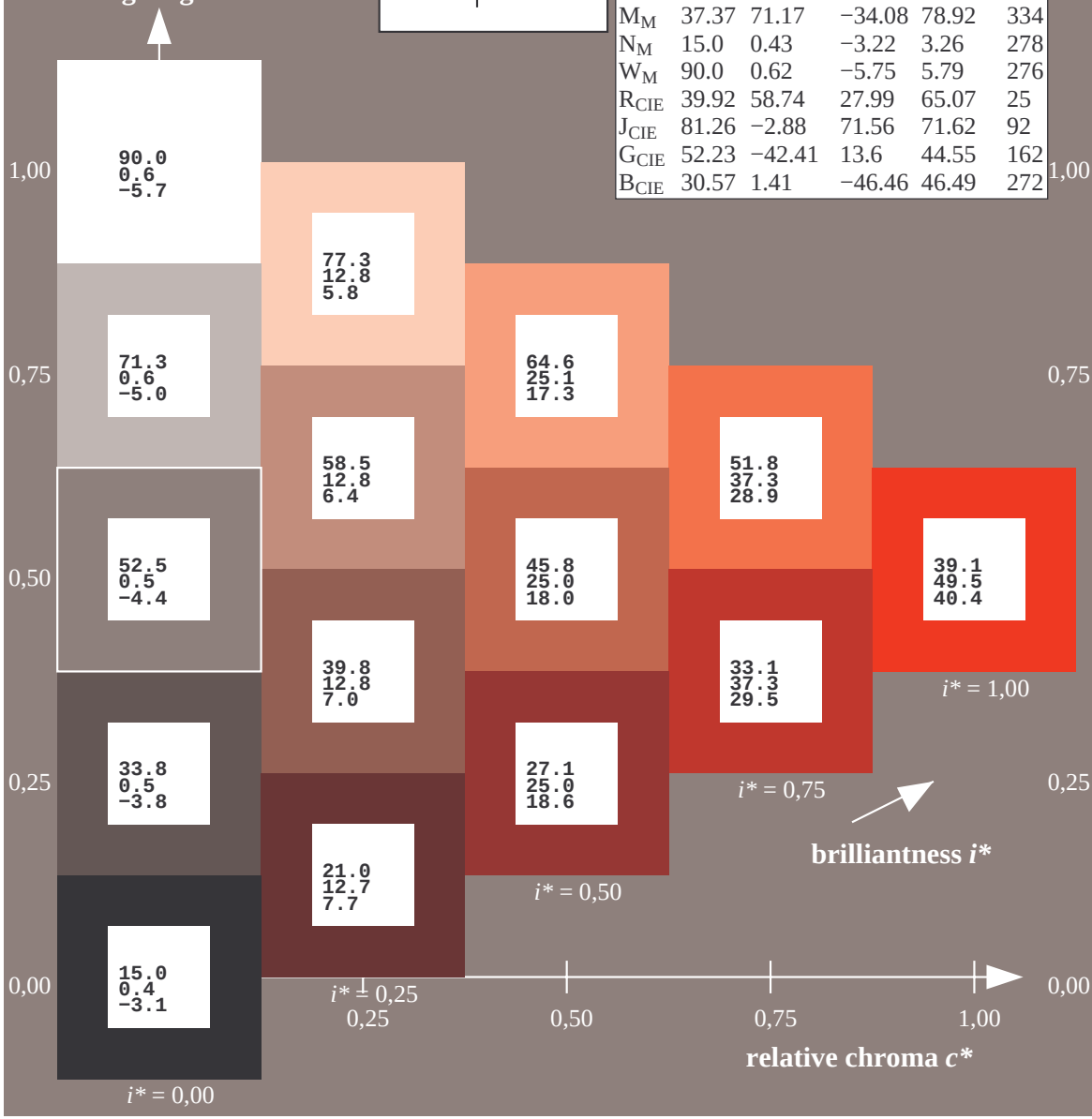
	L*=L*	a*	b*	C*ab	h*ab
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	58.74	27.99	65.07	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

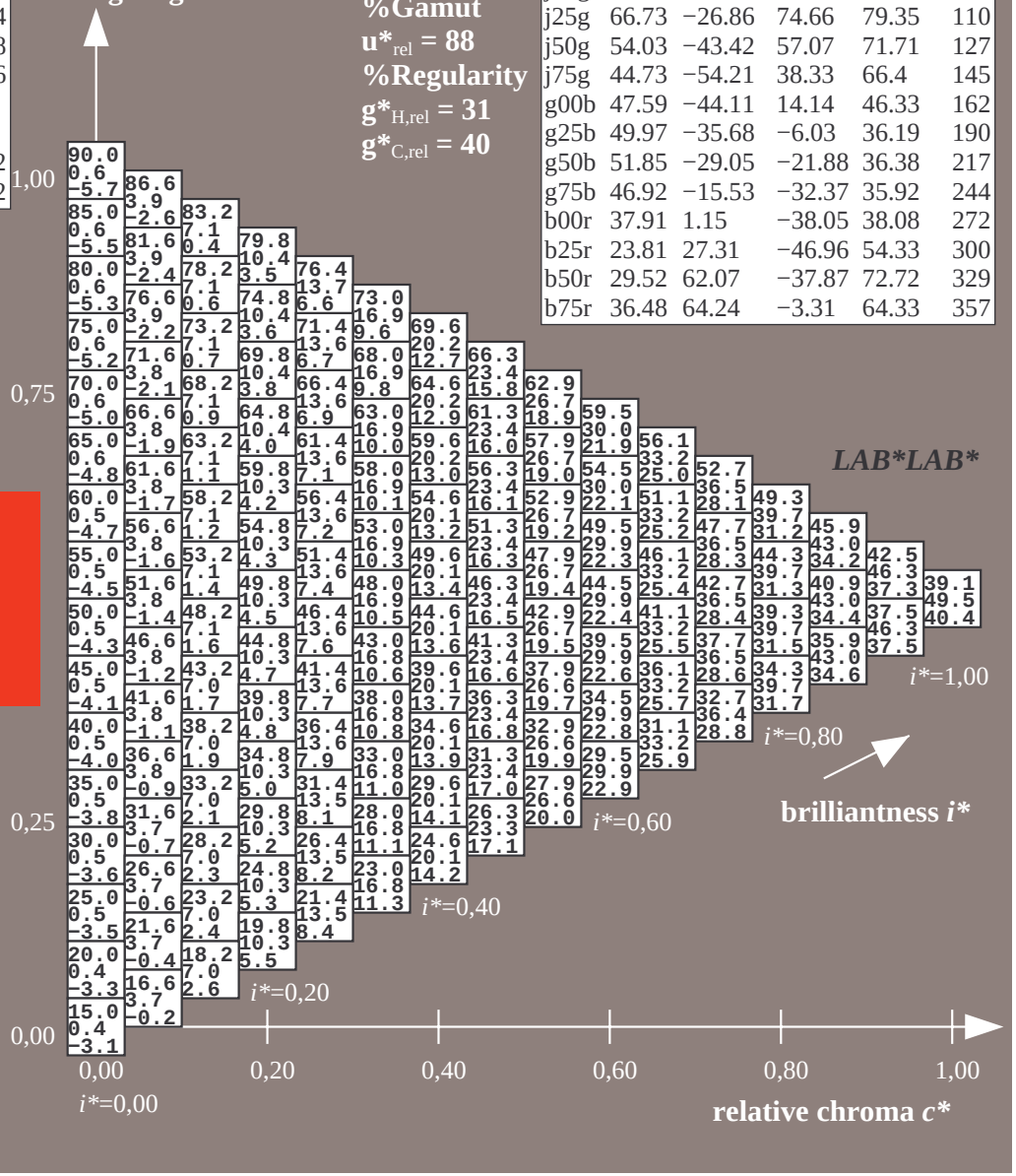
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 39 49 44**
***LAB*LCH*Ma*: 39 66 42**
***lab*rgb*Ma*: 1.0 0.25 0.0**
***lab*olv*Ma*: 1.0 0.08 0.0**
triangle lightness *t**

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

FRS15_90a; 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

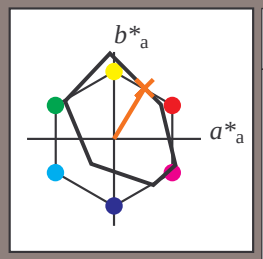




Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue *h = *lab*h** = $h_{ab}/360$ = 59/360 = 0.164** *u* = r50j*

*LAB*LAB**

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_90; CIELAB data

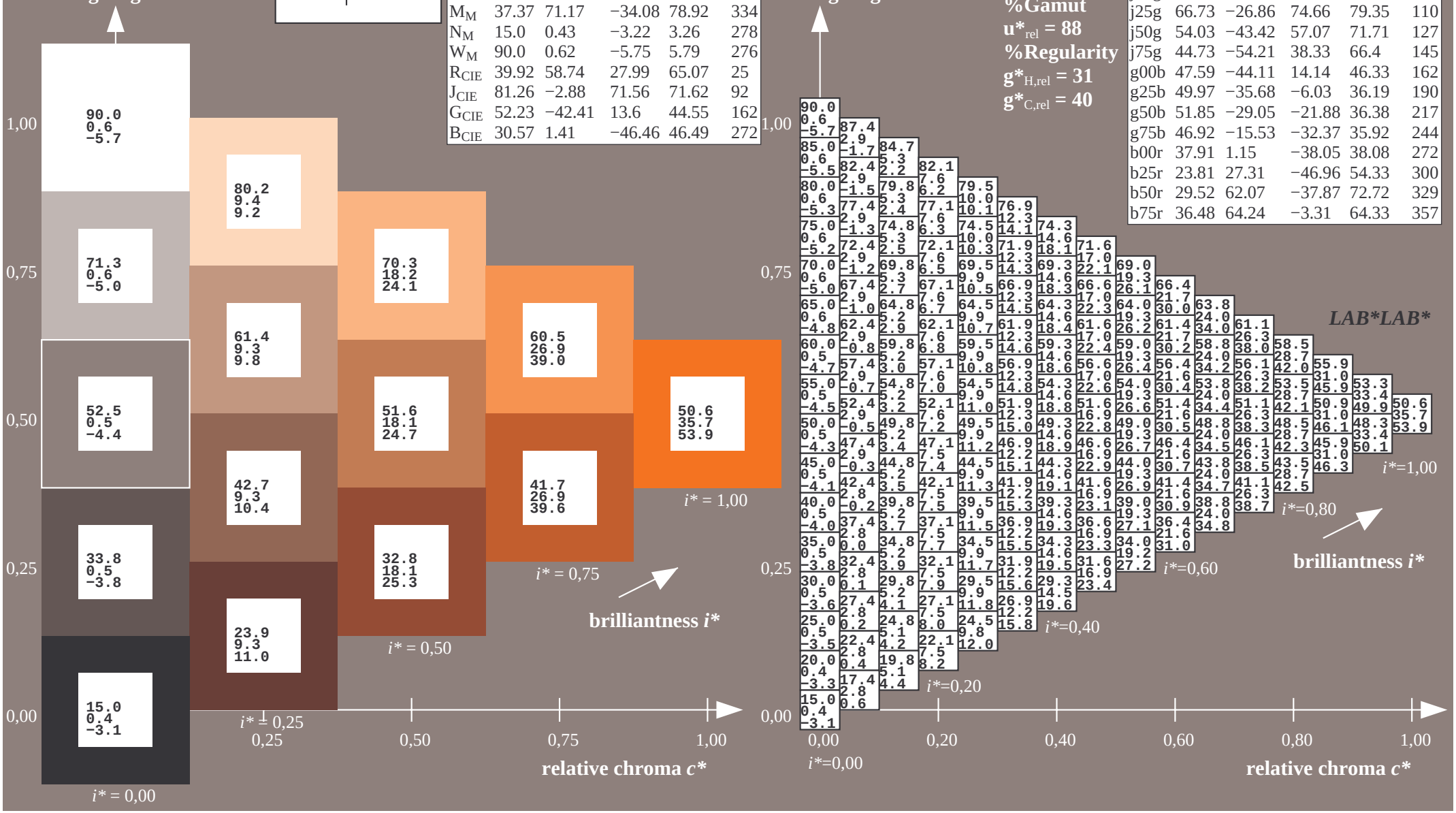
	L=L**	*a**	*b**	C^*_{ab}	h^*_{ab}
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	58.74	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

FRS15_90a; adapted (a) CIELAB data

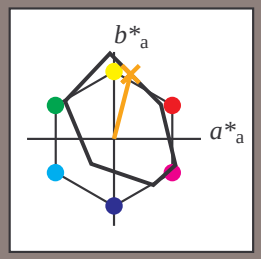
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a 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_90; CIELAB data

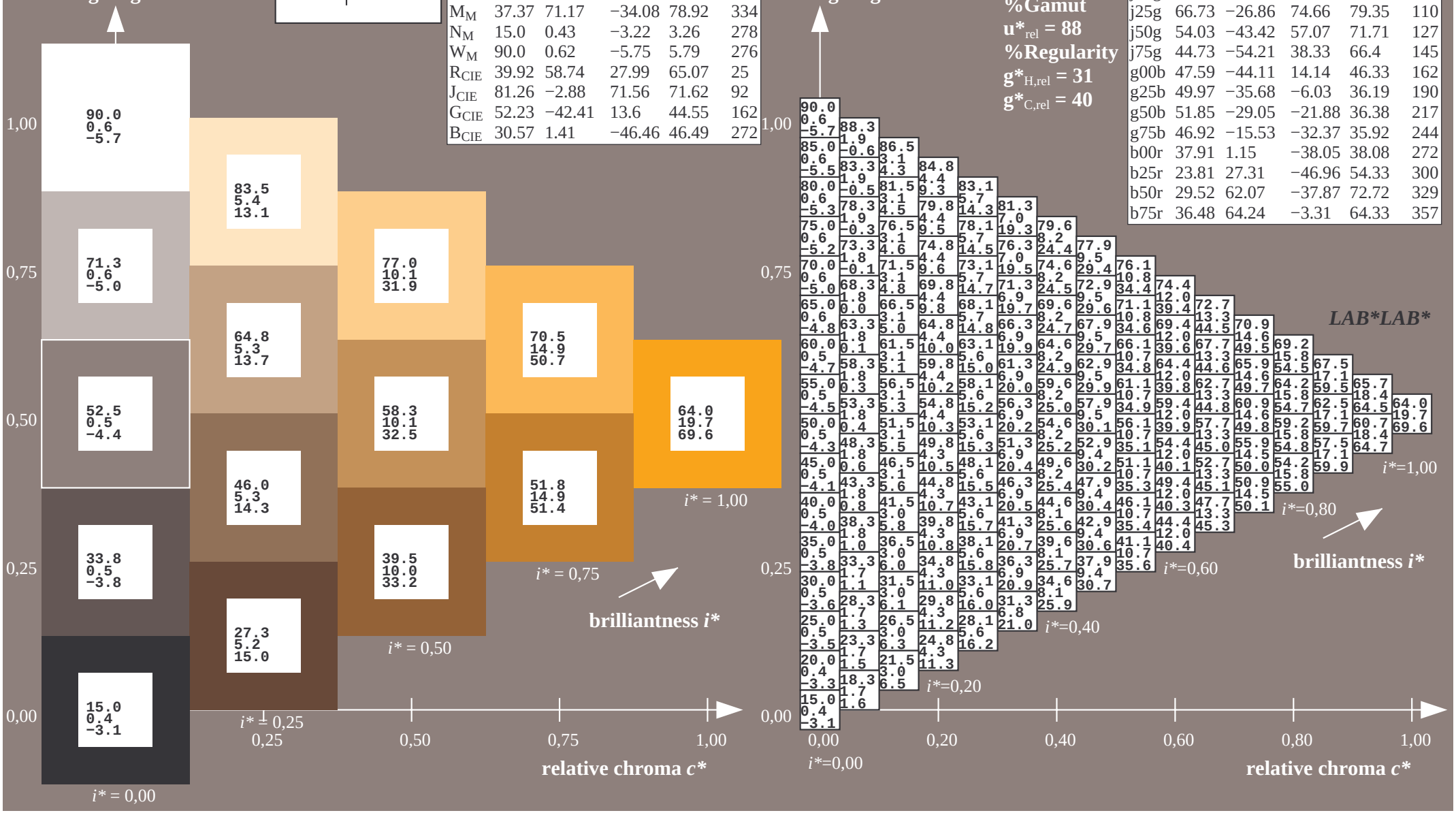
	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	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
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

FRS15_90a; adapted (a) CIELAB data

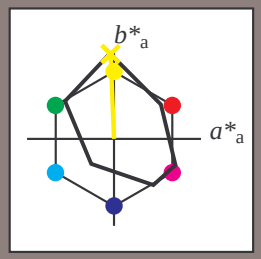
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a for relative CIELAB hue *h = *lab*h** = h_{ab}/360 = 92/360 = 0.256** *u* = j00g*

*LAB*LAB**

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_90; CIELAB data

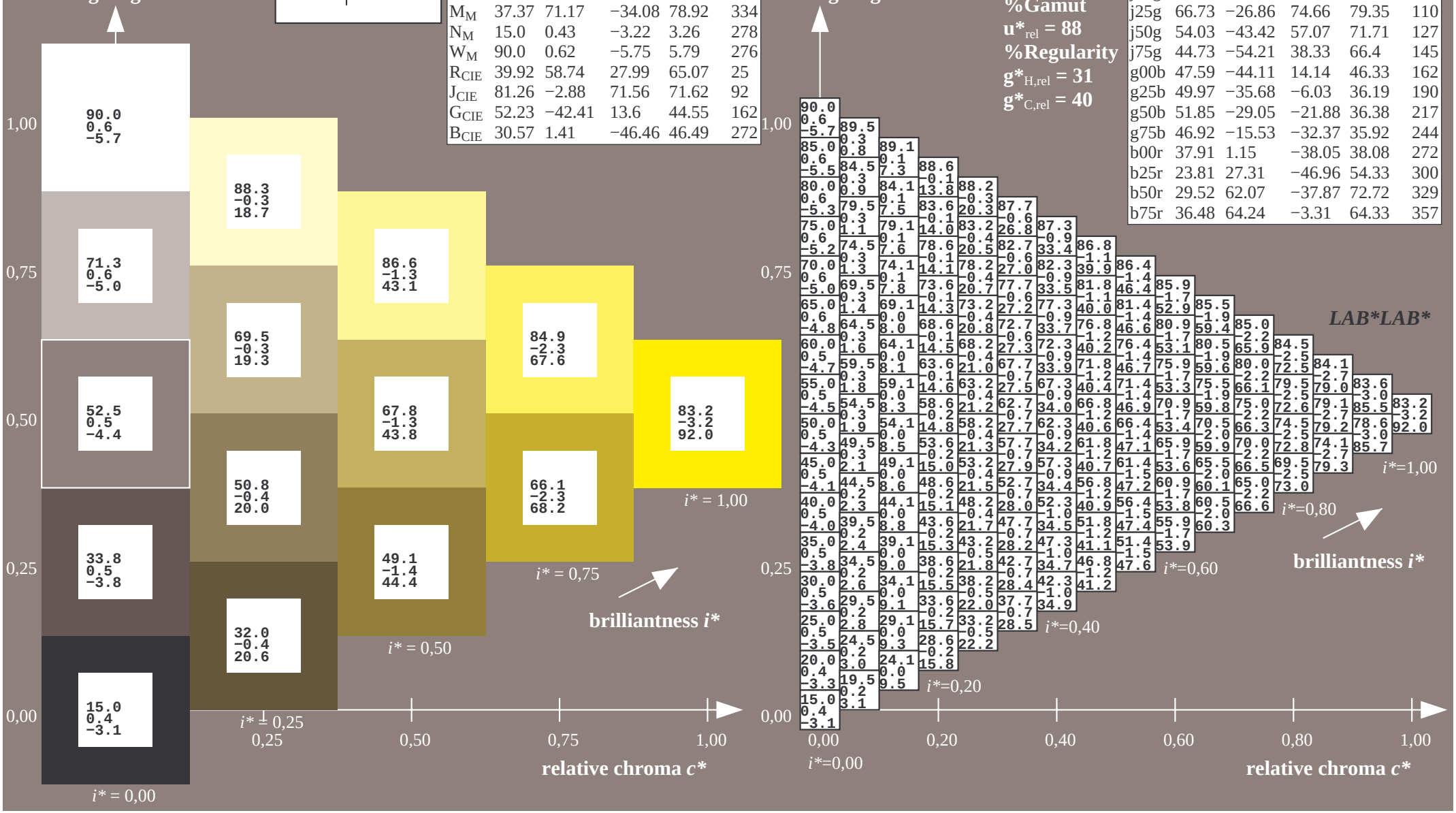
	L=L**	*a**	*b**	*C*ab*	*h*ab*
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	58.74	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

FRS15_90a; adapted (a) CIELAB data

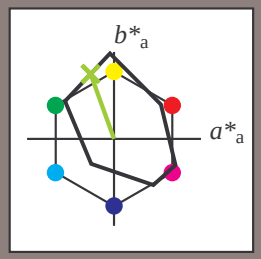
	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	66.4	145
g00b	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_90a 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_90; CIELAB data

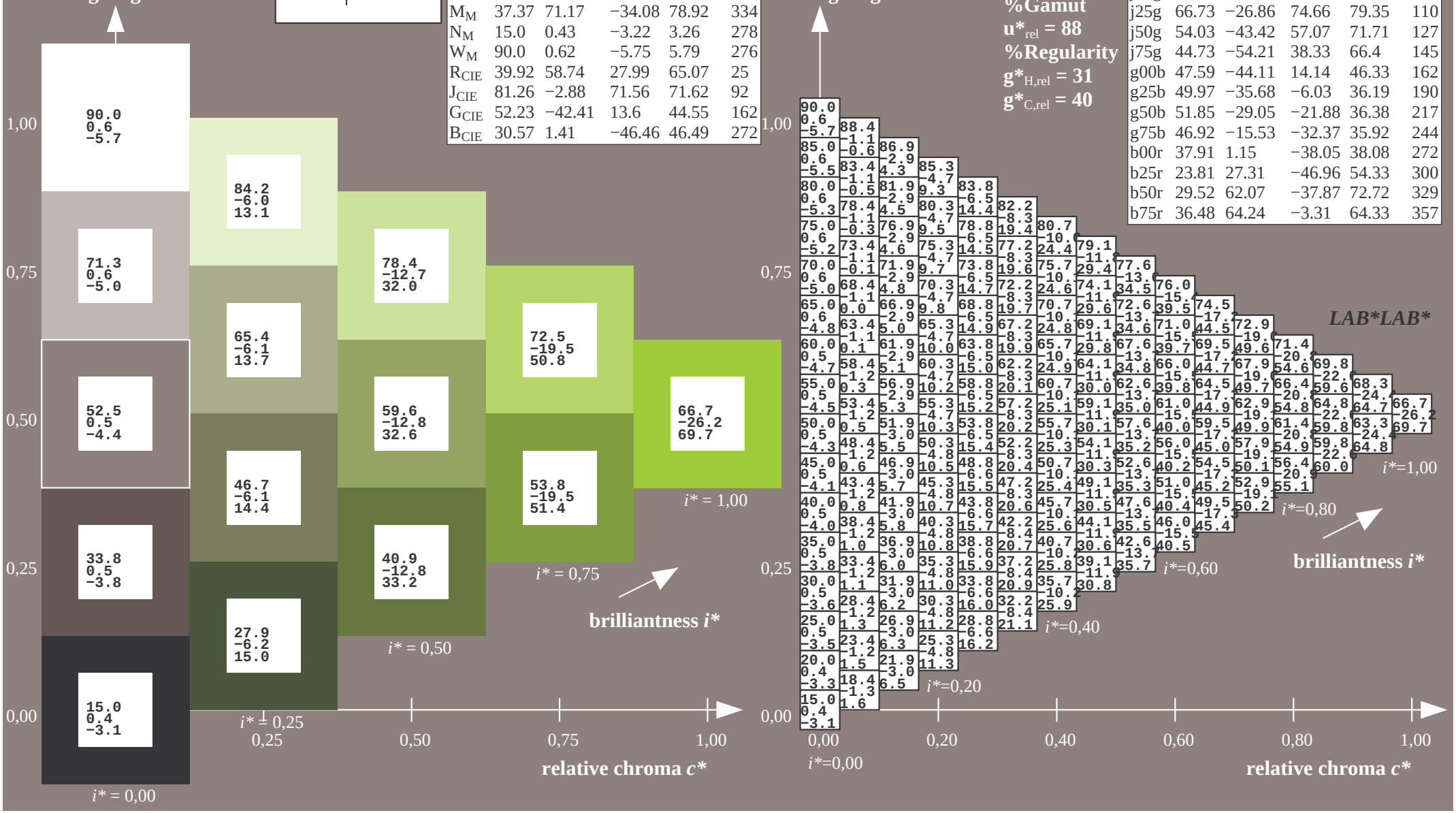
	L*=L*	a*	b*	C*ab	h*ab
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	58.74	27.99	65.07	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**
triangle lightness *t**

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

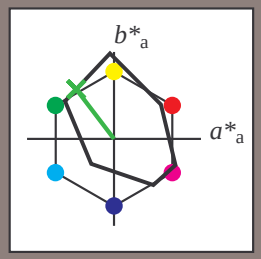
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90; CIELAB data

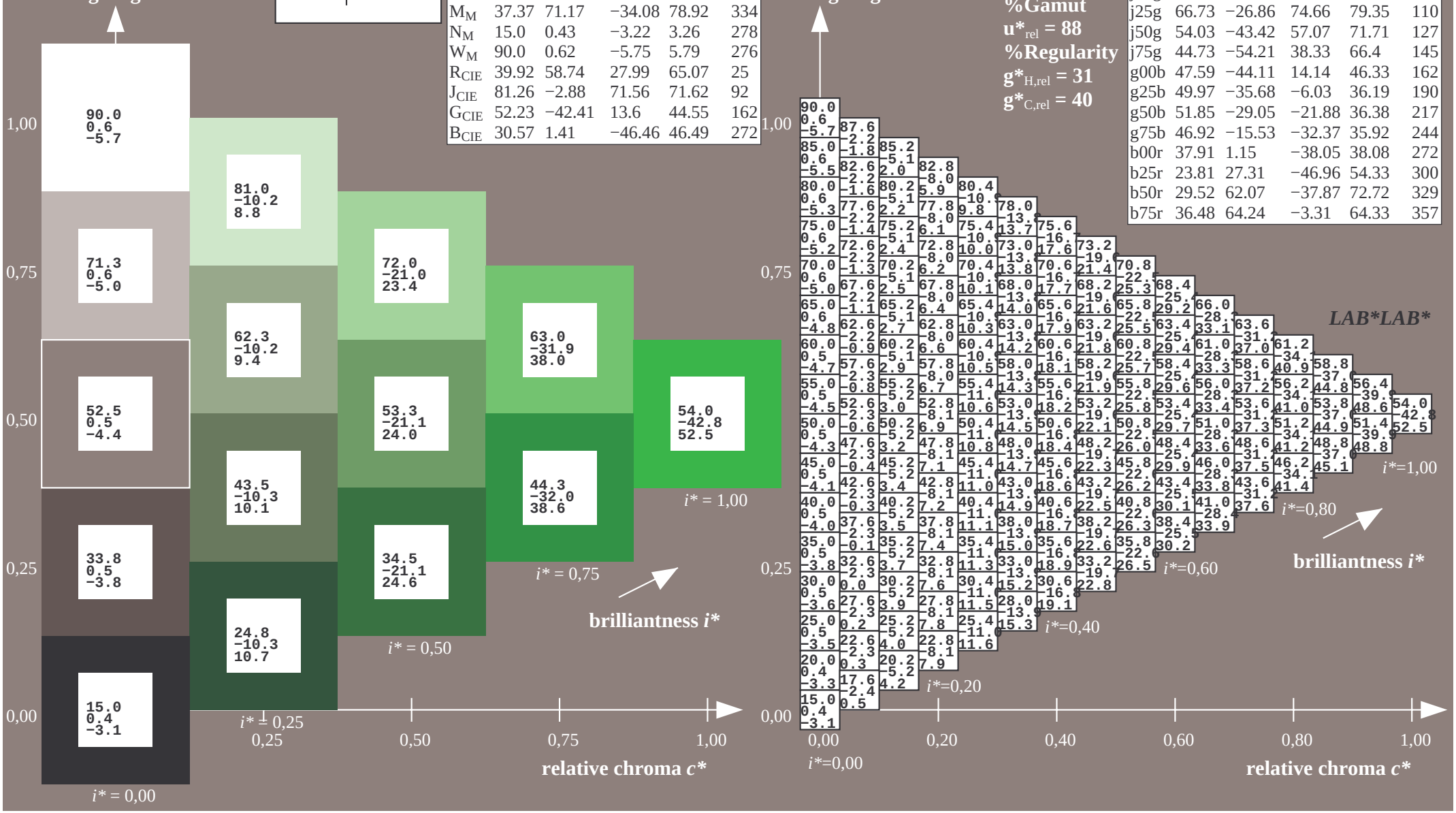
	L*=L*	a*	b*	C*ab	h*ab
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	58.74	27.99	65.07	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
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

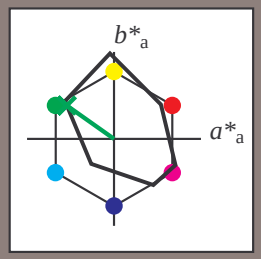
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90; CIELAB data

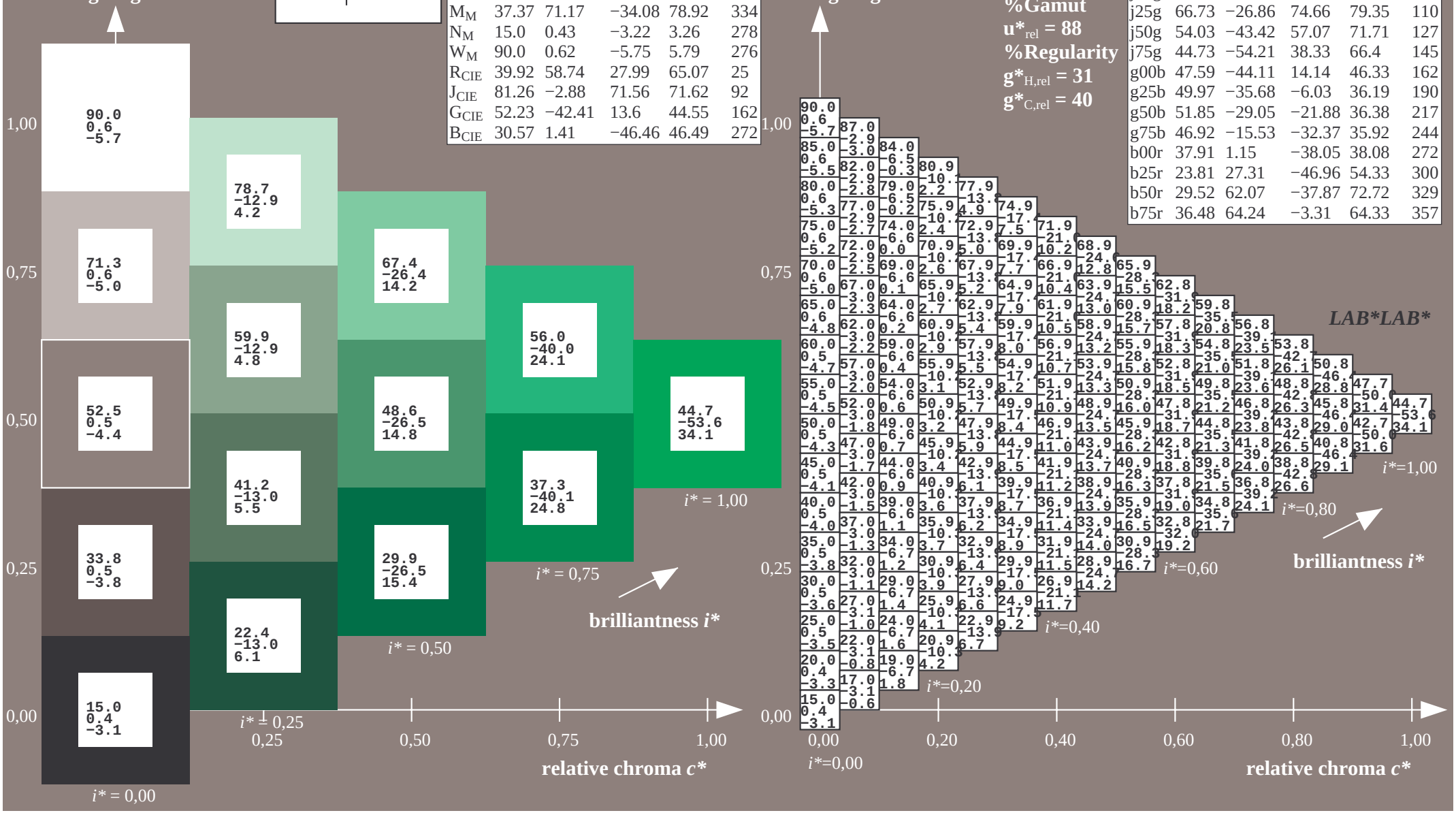
	L=L**	*a**	*b**	C^*_{ab}	h^*_{ab}
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	58.74	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_90a; adapted (a) CIELAB data

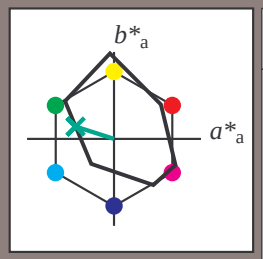
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a for relative CIELAB hue *h = *lab*h** = h_{ab}/360 = 162/360 = 0.451** *u* = g00b*

*LAB*LAB**

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_90; CIELAB data

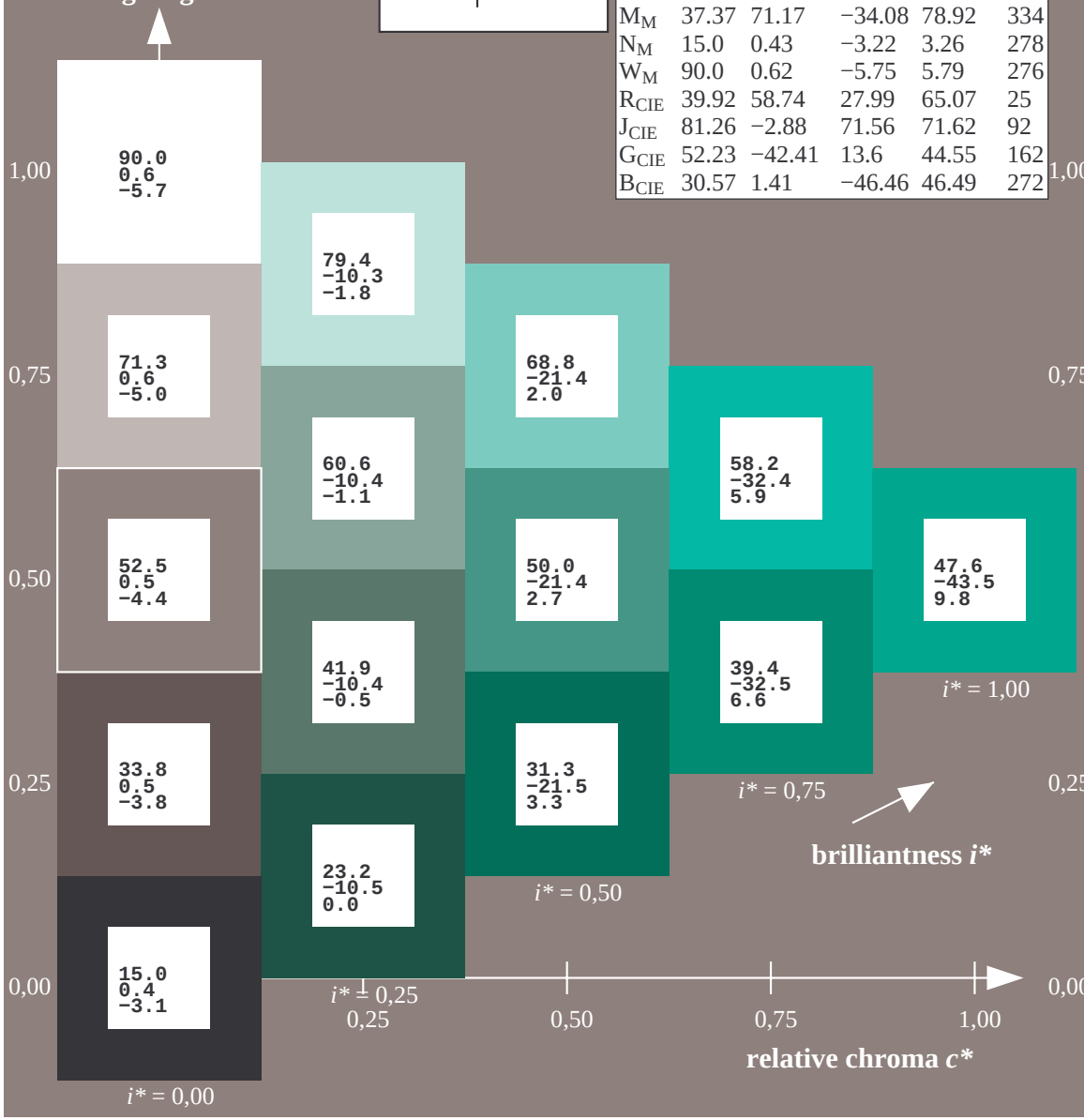
	L*=L*	a*	b*	C*ab	h*ab
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	58.74	27.99	65.07	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

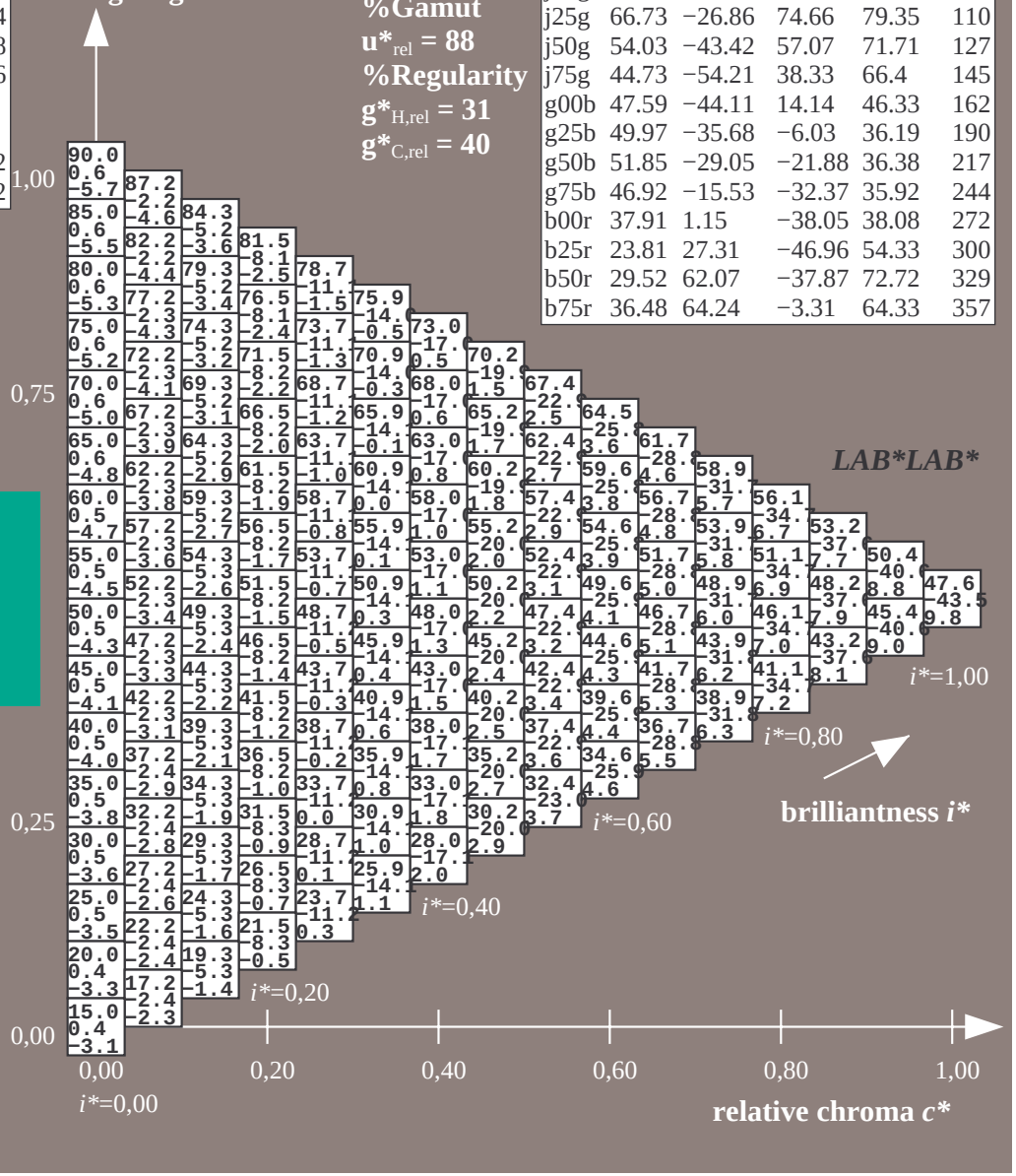
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 48 −43 14**
***LAB*LCH*Ma*: 48 46 162**
***lab*rgb*Ma*: 0.0 1.0 0.0**
***lab*olv*Ma*: 0.0 1.0 0.41**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

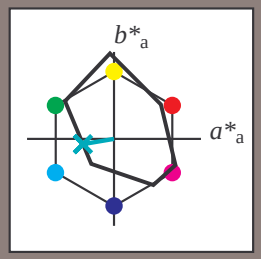
	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	66.4	145
g00b	47.59	−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_90a 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_90; CIELAB data

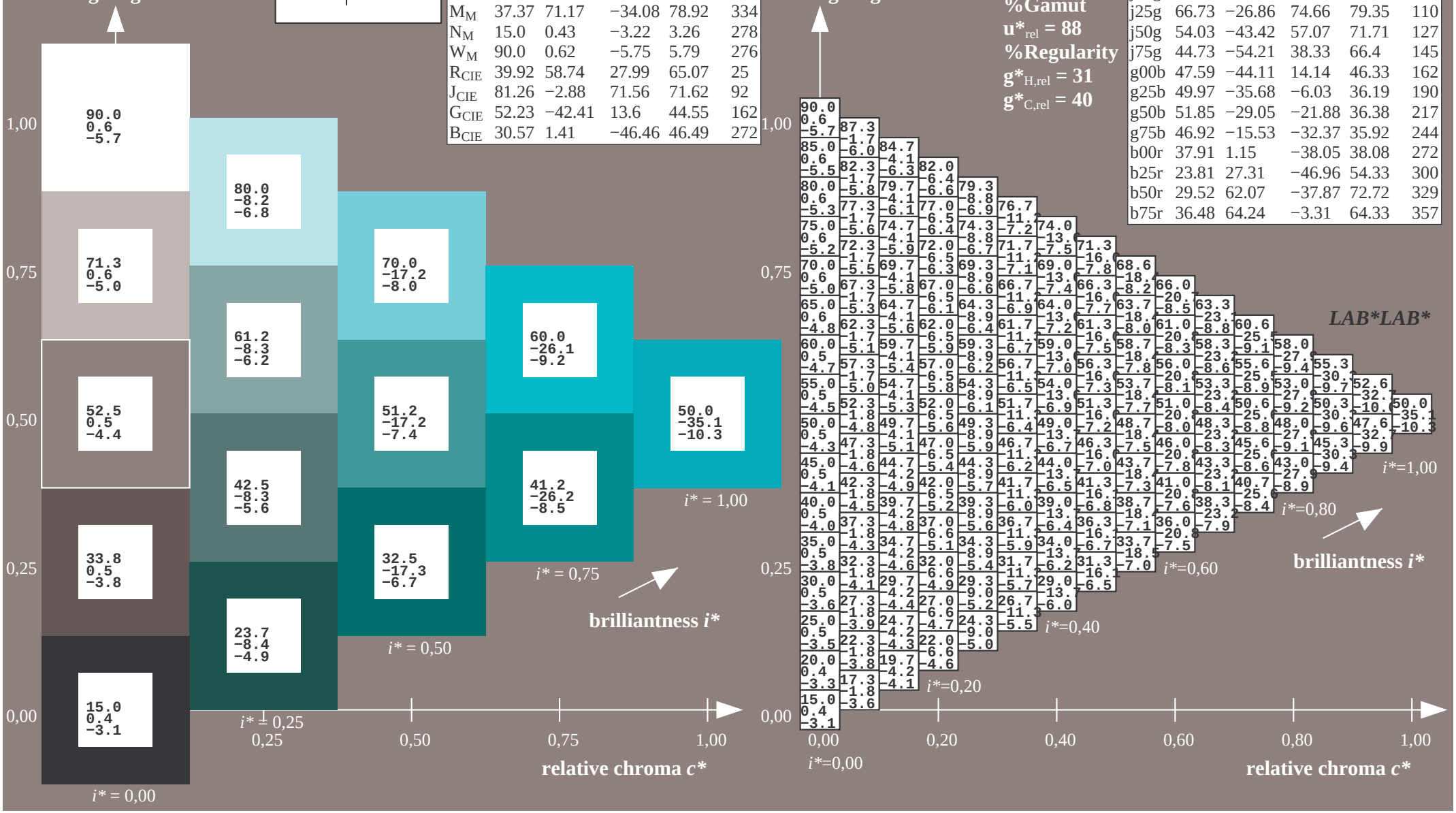
	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	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_90a; adapted (a) CIELAB data

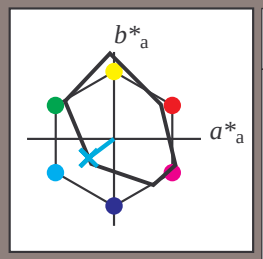
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a for relative CIELAB hue *h = *lab*h** = h_{ab}/360 = 217/360 = 0.603** *u* = g50b*

*LAB*LAB**

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_90; CIELAB data

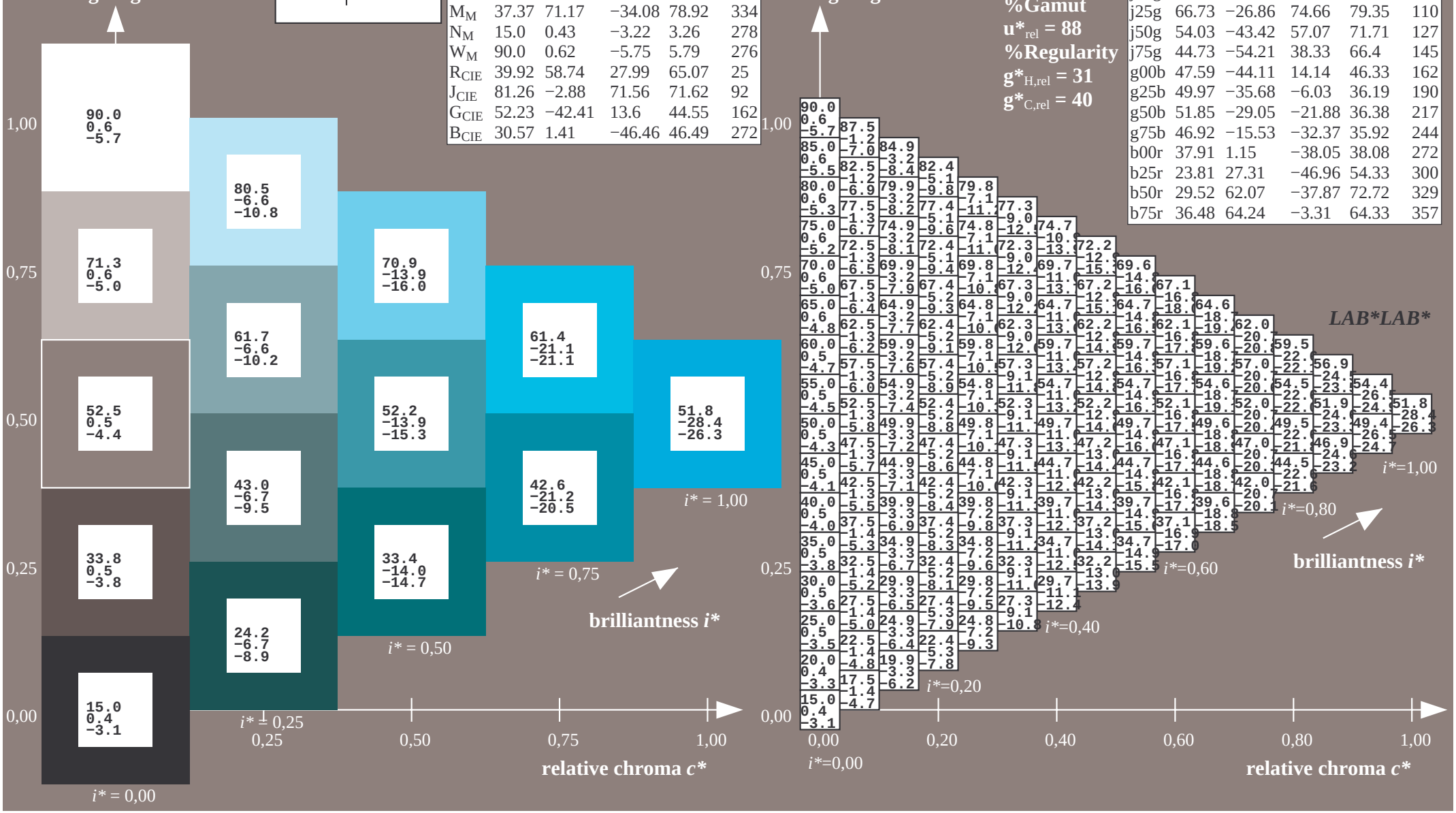
	L=L**	*a**	*b**	*C*ab*	*h*ab*
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	58.74	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*

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

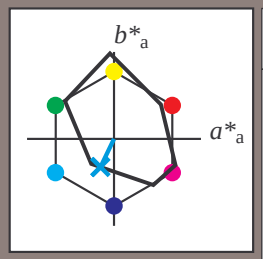
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90; CIELAB data

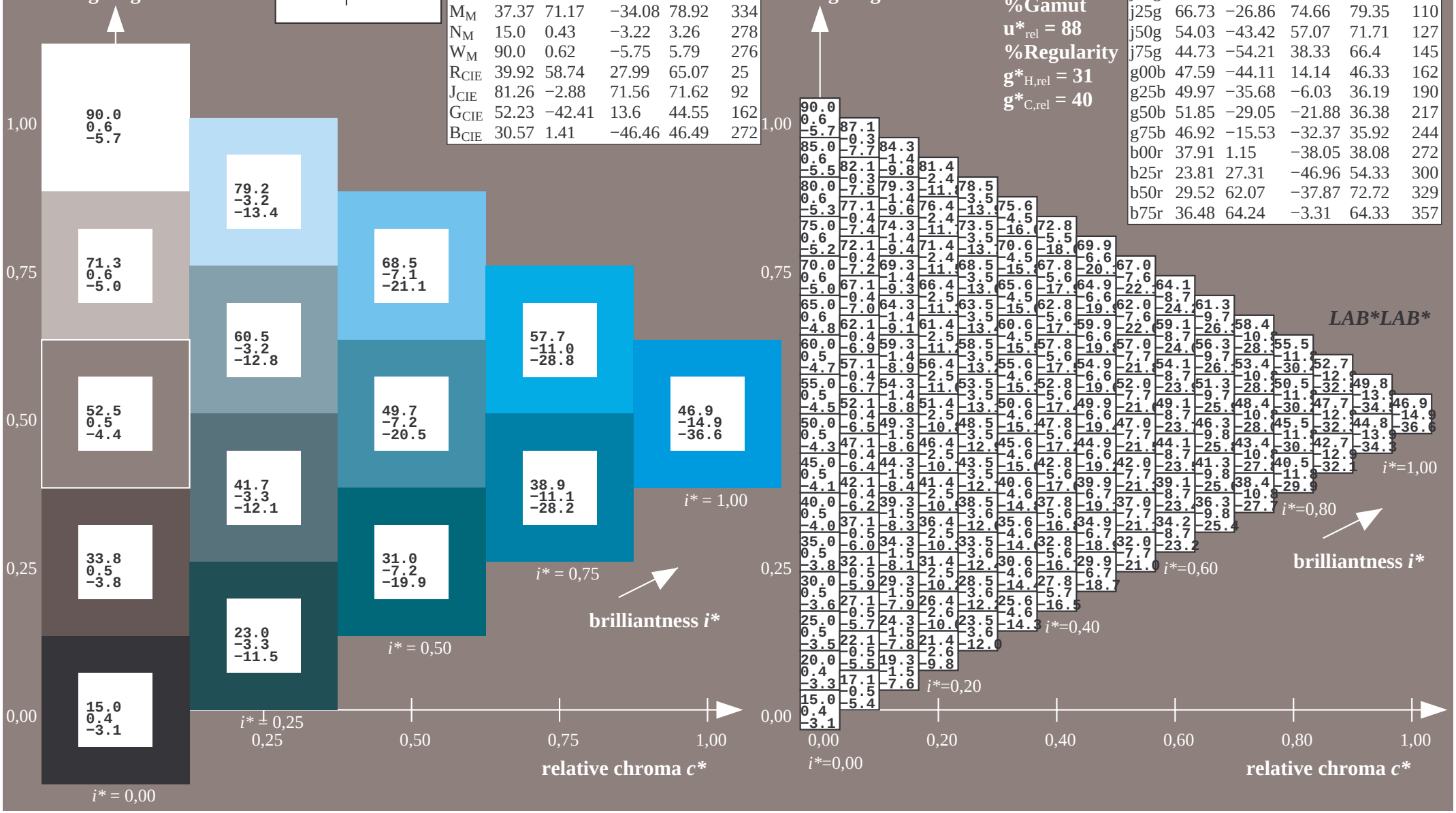
	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	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_90a; adapted (a) CIELAB data

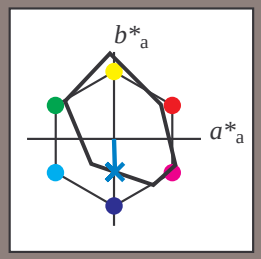
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a 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_90; CIELAB data

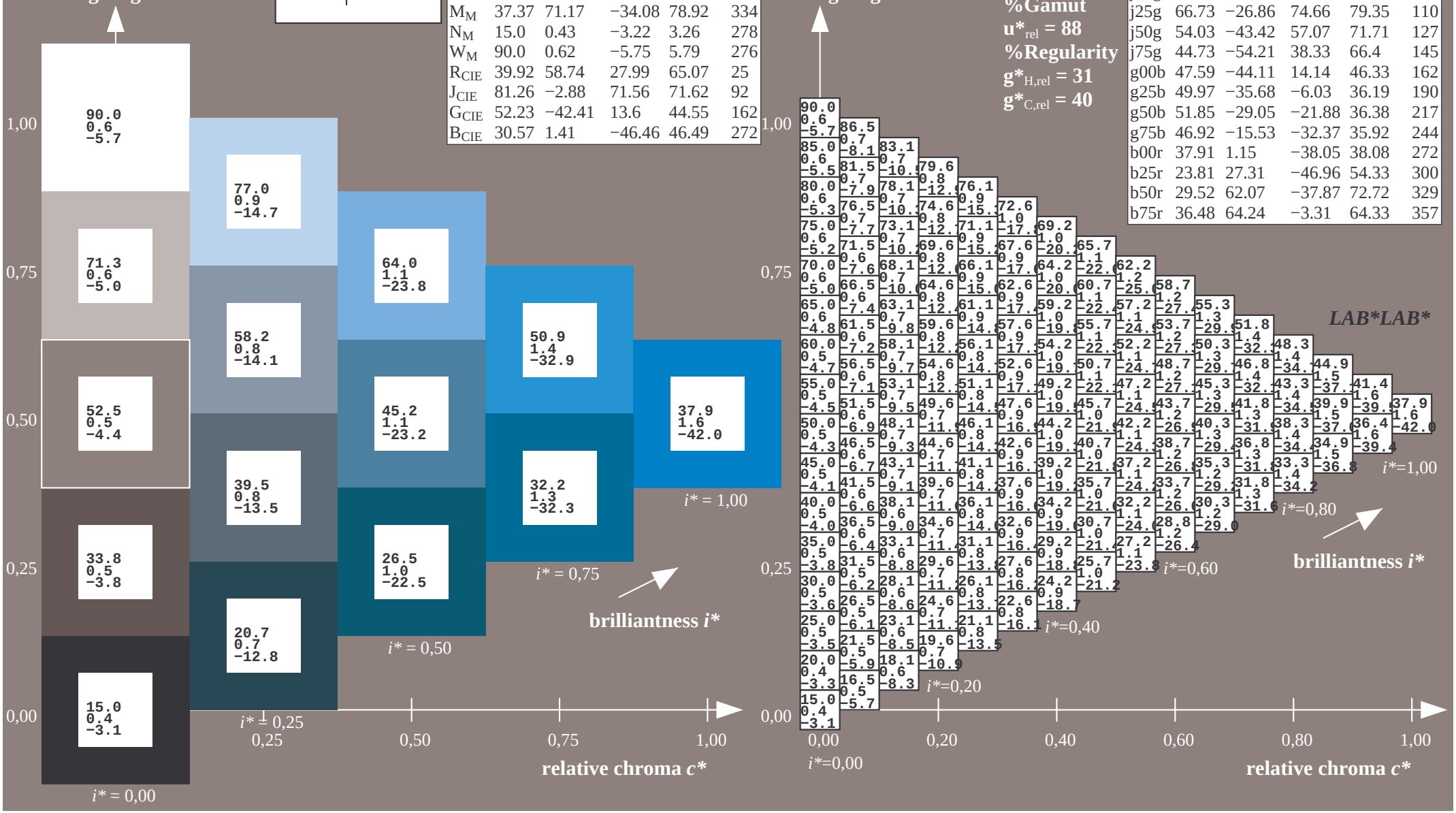
	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	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_90a; 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_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 300/360 = 0.834$ *u* = b25r*

data for any colour: *LAB*LAB**

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

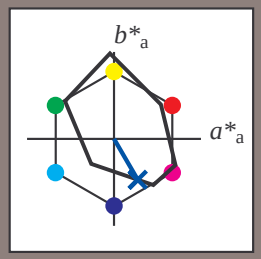
elementary hue text:

u = b25r*

contrast reduction factor:

$c_R = 0.9$

triangle lightness *t**



FRS15_90; 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

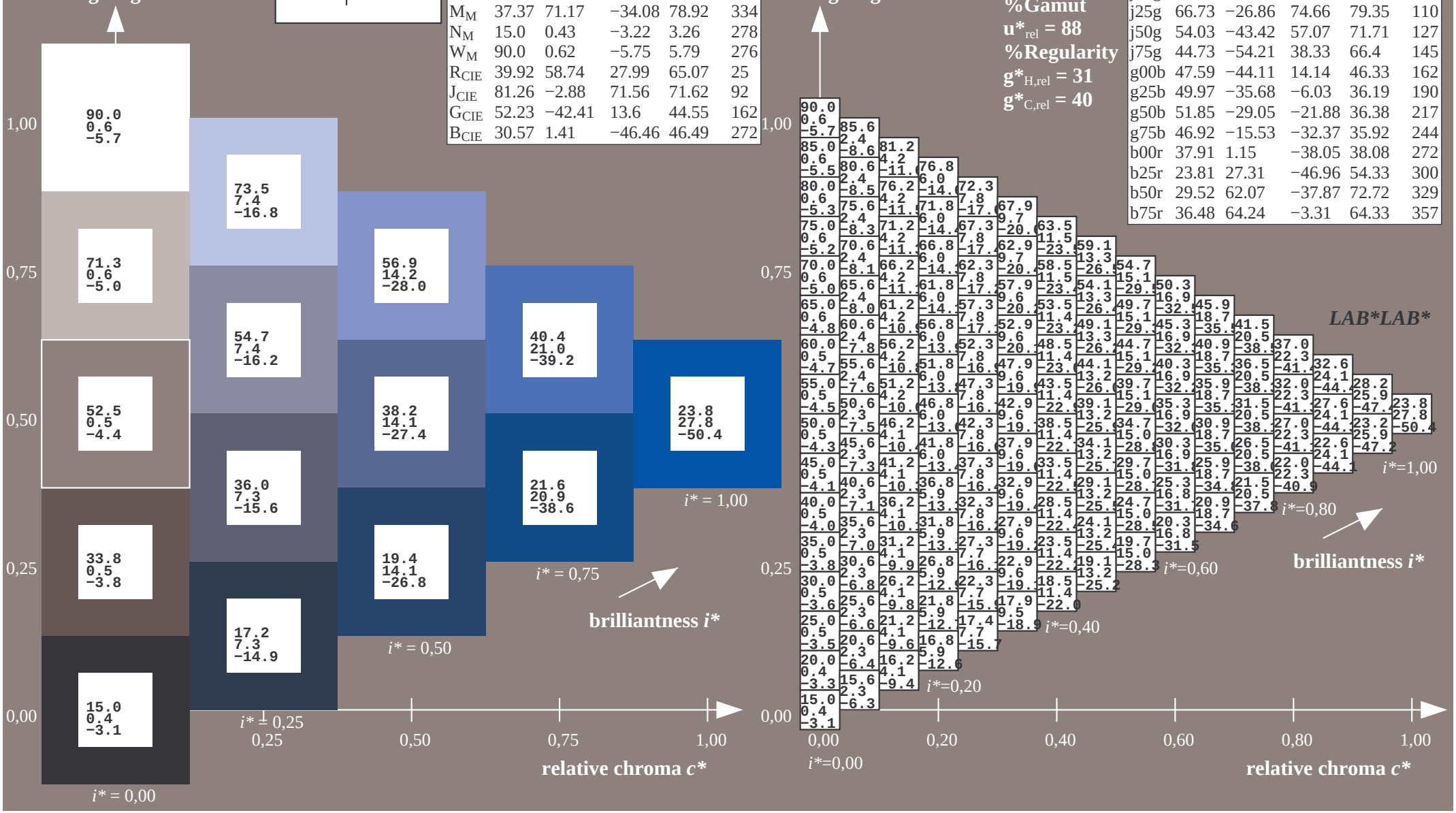
$u^*_{rel} = 88$

%Regularity

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

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

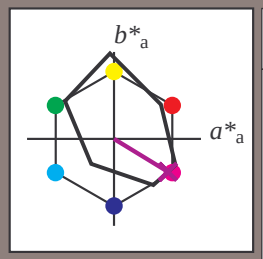
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	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_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 329/360 = 0.913$ *u* = b50r*

*LAB*LAB**

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_90; CIELAB data

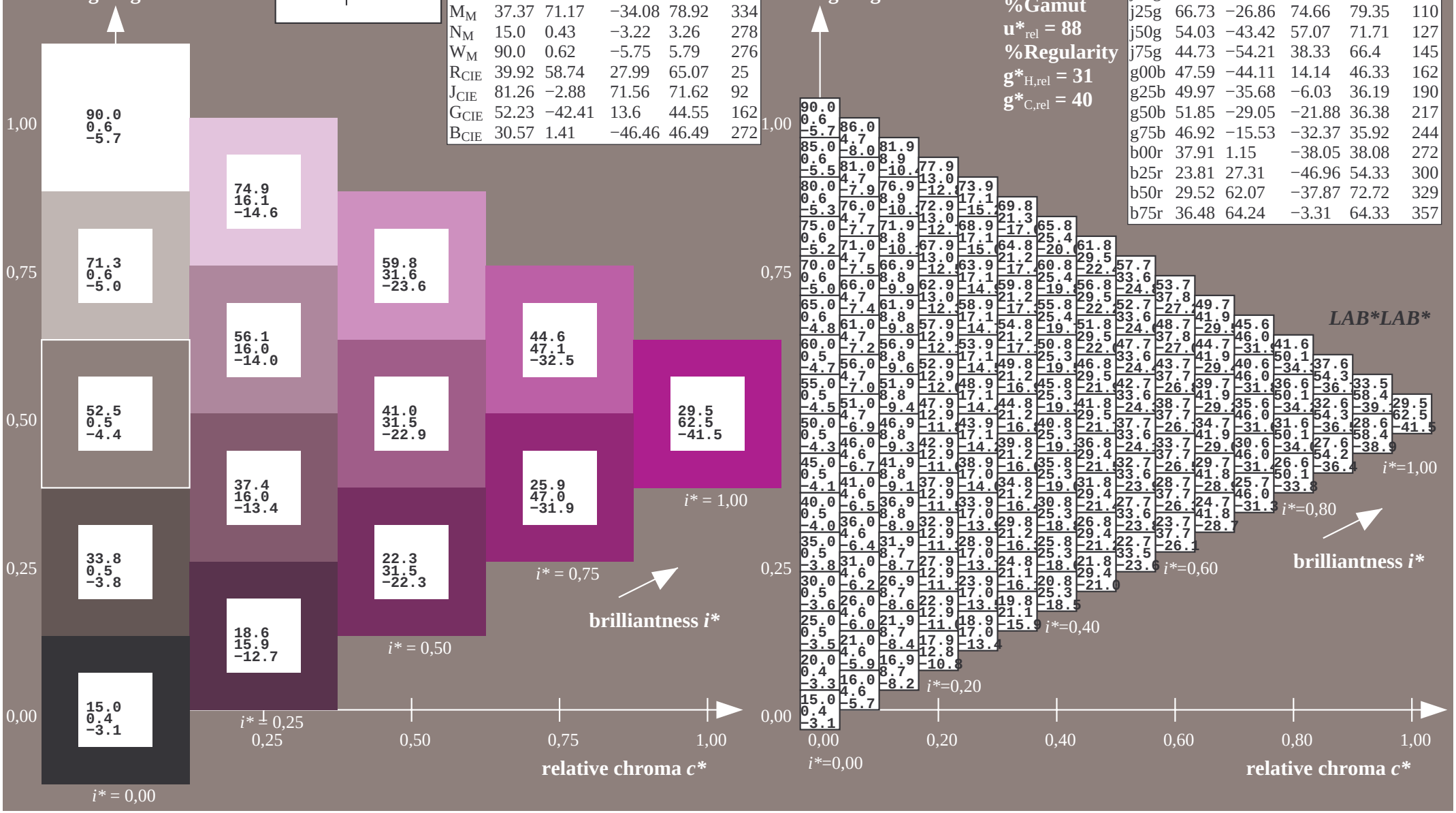
	L*=L*	a*	b*	C*ab	h*ab
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	58.74	27.99	65.07	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
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

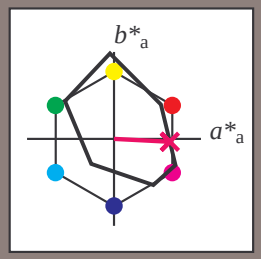
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90; CIELAB data

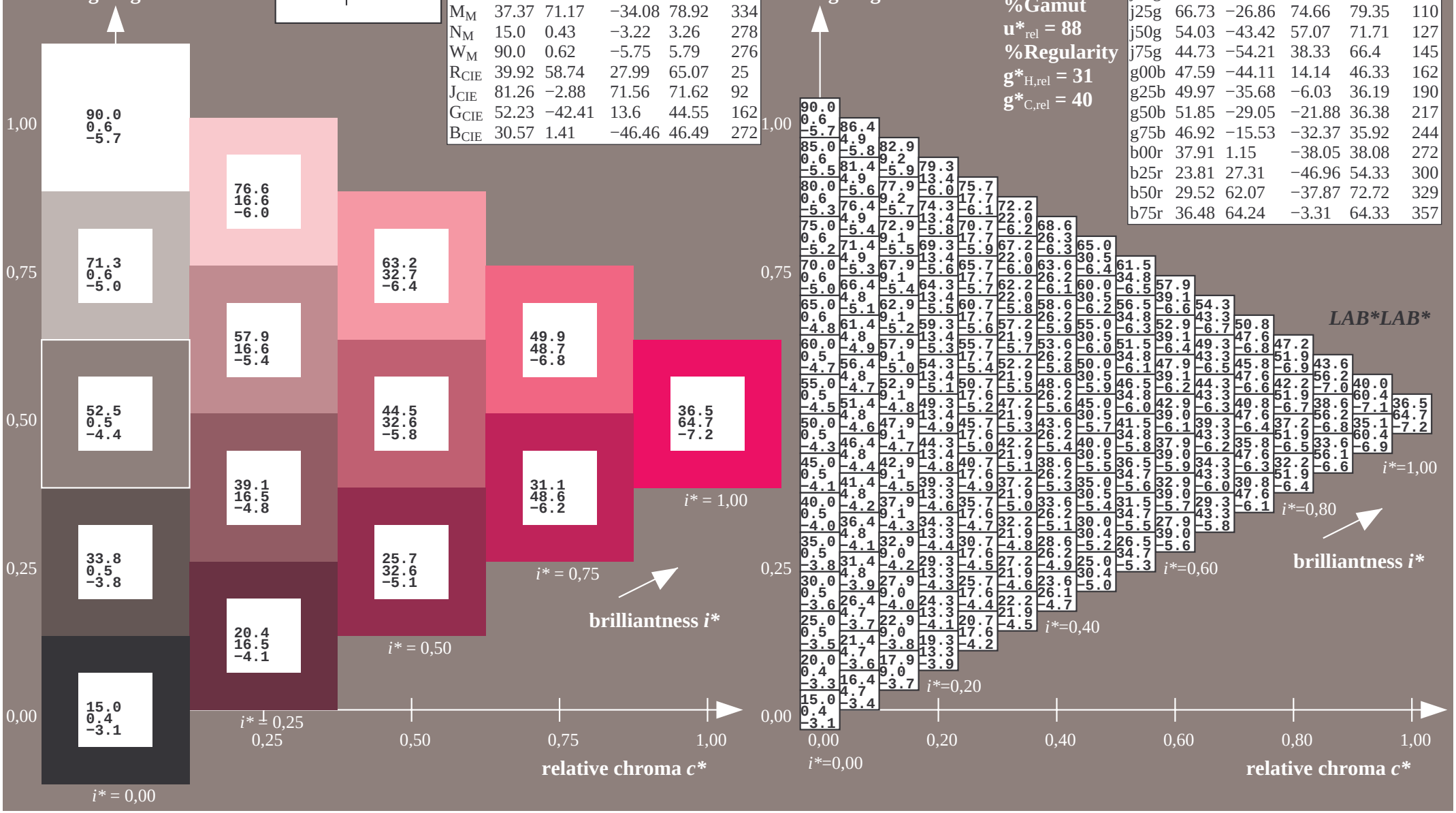
	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	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_90a; 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

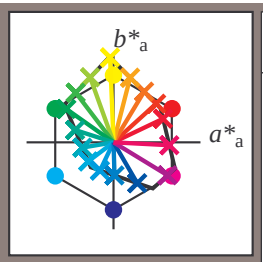


	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	a	b	c	d	e	f	g	h	i	j	k	LAB*LAB*		
01	15.0	18.6	22.3	25.9	29.6	33.2	36.9	40.5	44.1	17.5	23.6	27.2	30.9	34.5	38.2	41.8	45.4	49.1	20.0	26.1	32.2	35.8	39.5	43.1	46.8	50.4	54.0	90.0	83.1	76.3	69.4	62.5	55.7	48.8	41.9	35.1	15.0	15.0	15.0	15.0
	0.4	-6.5	-13.5	-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	0.5	-6.4	-13.5	-20.5	-27.6	-34.6	0.6	0.6	0.6	0.6
	-0.1	3.3	6.9	10.4	17.5	24.7	31.8	37.1	42.4	4.6	8.2	11.7	15.3	22.4	29.5	36.7	43.8	49.1	9.5	13.0	16.6	20.1	27.3	34.4	41.5	48.7	55.8	-16.3	-12.4	-8.6	-4.7	0.8	6.4	12.0	17.6	23.3	-5.2	-5.2	-5.2	-5.2
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
	49.3	40.5	31.7	22.8	14.0	6.7	-0.5	-7.5	-14.6	56.0	47.2	38.4	29.6	20.8	13.5	6.2	-1.1	-8.1	62.8	54.0	45.1	36.3	27.5	20.2	12.9	5.6	-1.6	35.9	27.1	18.2	9.4	0.5	-6.4	-13.5	-20.5	-27.6	0.6	0.6	0.6	0.6
	-8.8	-5.3	-1.8	1.7	5.2	12.4	19.5	24.8	30.1	-4.0	-0.4	3.0	6.5	10.1	17.2	24.4	31.5	36.8	0.8	4.3	7.9	11.4	14.9	22.1	29.2	36.3	43.5	-19.8	-16.0	-12.1	-8.3	-4.4	1.1	6.7	12.3	18.0	-5.3	-5.3	-5.3	-5.3
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
	51.4	42.6	33.8	24.9	16.1	7.3	0.0	-6.9	-14.0	58.1	49.3	40.5	31.7	22.9	14.0	6.7	-0.5	-7.5	64.9	56.1	47.2	38.4	29.6	20.8	13.5	6.2	-1.0	44.7	35.9	27.0	18.2	9.3	0.5	-6.5	-13.5	-20.6	0.6	0.6	0.6	0.6
	-17.6	-14.0	-10.5	-6.9	-3.4	0.1	7.2	12.5	17.8	-12.7	-9.2	-5.6	-2.1	1.4	4.9	12.0	19.2	24.5	-7.8	-4.3	-0.8	2.7	6.2	9.8	16.9	24.0	31.2	-23.4	-19.5	-15.7	-11.8	-7.9	-4.1	1.4	7.1	12.7	-5.5	-5.5	-5.5	-5.5
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	88.4	50.5	47.7	44.9	42.1	39.3	36.5	33.8	28.0	22.3	90.0	90.0	90.0	90.0
	53.5	44.7	35.8	27.0	18.2	9.4	0.6	-6.4	-13.4	60.2	51.4	42.6	33.8	25.0	16.1	7.3	0.0	-6.9	67.0	58.2	49.3	40.5	31.7	22.9	14.1	6.8	-0.4	53.5	44.7	35.8	27.0	18.2	9.3	0.5	-6.5	-13.5	0.6	0.6	0.6	0.6
	-26.3	-22.7	-19.2	-15.7	-12.1	-8.6	-5.0	0.2	5.5	-21.4	-17.9	-14.3	-10.8	-7.2	-3.7	-0.2	6.9	12.2	-16.6	-13.0	-9.5	-5.9	-2.4	1.0	4.6	11.7	18.9	-26.9	-23.1	-19.2	-15.3	-11.5	-7.6	-3.8	1.8	7.4	-5.7	-5.7	-5.7	-5.7
26	31.7	38.3	44.8	51.4	58.0	64.6	71.1	76.0	79.6	34.6	41.2	47.7	54.3	60.9	67.5	74.0	80.6	84.3	37.1	43.7	50.2	56.8	63.4	70.0	76.6	83.1	89.2	43.9	41.2	38.4	35.6	32.8	30.0	27.2	24.4	18.6	15.0	35.1	83.8	44.1
	59.1	50.3	41.5	32.7	23.9	15.0	6.2	-2.6	-9.6	62.3	53.5	44.7	35.9	27.1	18.2	9.4	0.6	-6.3	69.1	60.3	51.4	42.6	33.8	25.0	16.2	7.3	0.0	62.3	53.5	44.7	35.8	27.0	18.1	9.3	0.5	-6.5	0.4	54.4	-3.9	-55.7
	-32.9	-29.4	-25.8	-22.3	-18.7	-15.2	-11.7	-8.8	-3.5	-30.1	-26.6	-23.1	-19.5	-16.0	-12.4	-8.9	-5.3	0.0	-25.3	-21.7	-18.2	-14.7	-11.1	-7.6	-4.0	-0.5	6.5	-30.4	-26.6	-22.7	-18.9	-15.0	-11.2	-7.3	-3.5	2.1	-3.1	35.6	92.7	39.1
27	31.6	38.1	44.7	51.3	57.9	64.5	71.0	75.9	80.7	34.5	41.0	47.6	54.2	60.8	67.4	73.9	80.5	85.3	37.4	43.9	50.5	57.1	63.7	70.3	76.8	83.4	90.0	37.4	34.6	31.8	29.0	26.2	23.4	20.6	17.8	15.0	90.0	52.7	14.2	37.4
	64.8	56.0	47.1	38.3	29.5	20.7	11.9	3.0	-5.9	68.0	59.2	50.3	41.5	32.7	23.9	15.1	6.2	-2.6	71.2	62.3	53.5	44.7	35.9	27.1	18.2	9.4	0.6	71.2	62.3	53.5	44.6	35.8	27.0	18.1	9.3	0.4	0.6	-25.6	45.6	71.2
	-39.5	-36.0	-32.4	-28.9	-25.4	-21.8	-18.3	-15.4	-12.5	-36.8	-33.2	-29.7	-26.1	-22.6	-19.0	-15.5	-12.0	-9.1	-34.0	-30.4	-26.9	-23.4	-19.8	-16.3	-12.7	-9.2	-5.7	-34.0	-30.1	-26.3	-22.4	-18.6	-14.7	-10.8	-7.0	-3.1	-5.7	-33.1	-56.2	-34.0

Input and output:
Colorimetric Printer Reflective System FRS15_90a
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_90a; adapted (a) CIELAB data

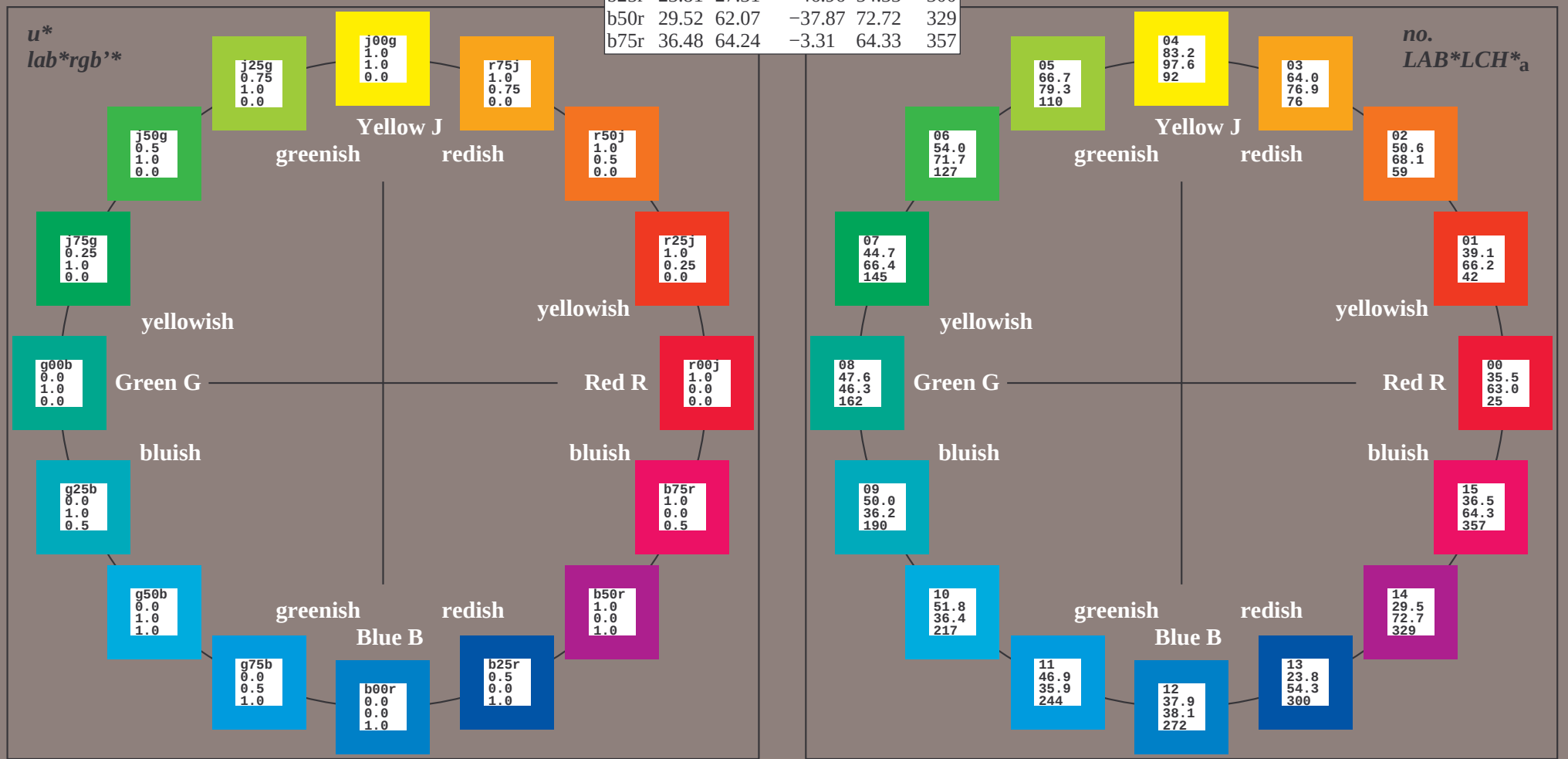
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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

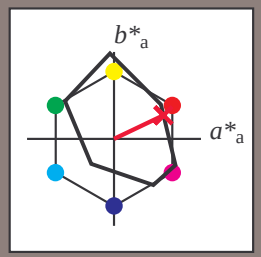
FRS15_90a; CIELAB data

	$L^*=L^*$	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_90a 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_90a; 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

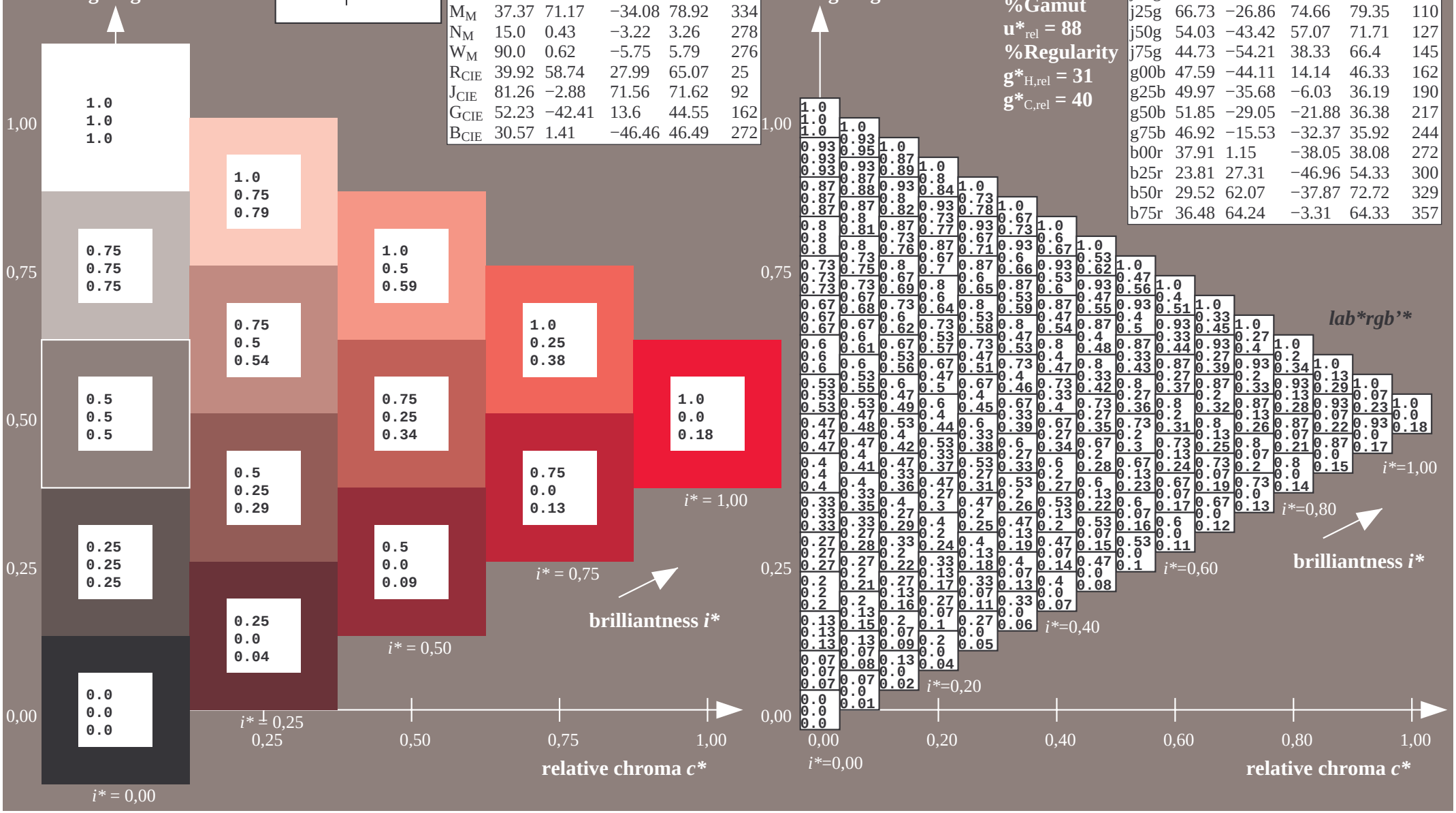
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 35 57 27**
LAB*LCH*$_{Ma}$**: 35 63 25**
lab*rgb*$_{Ma}$**: 1.0 0.0 0.0**
lab*olv*$_{Ma}$**: 1.0 0.0 0.18**
triangle lightness *t**

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

u* = r00j
lab*rgb'*

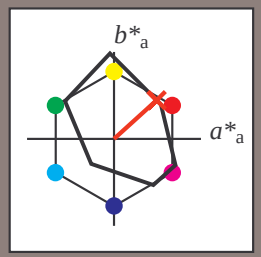
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90a; 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

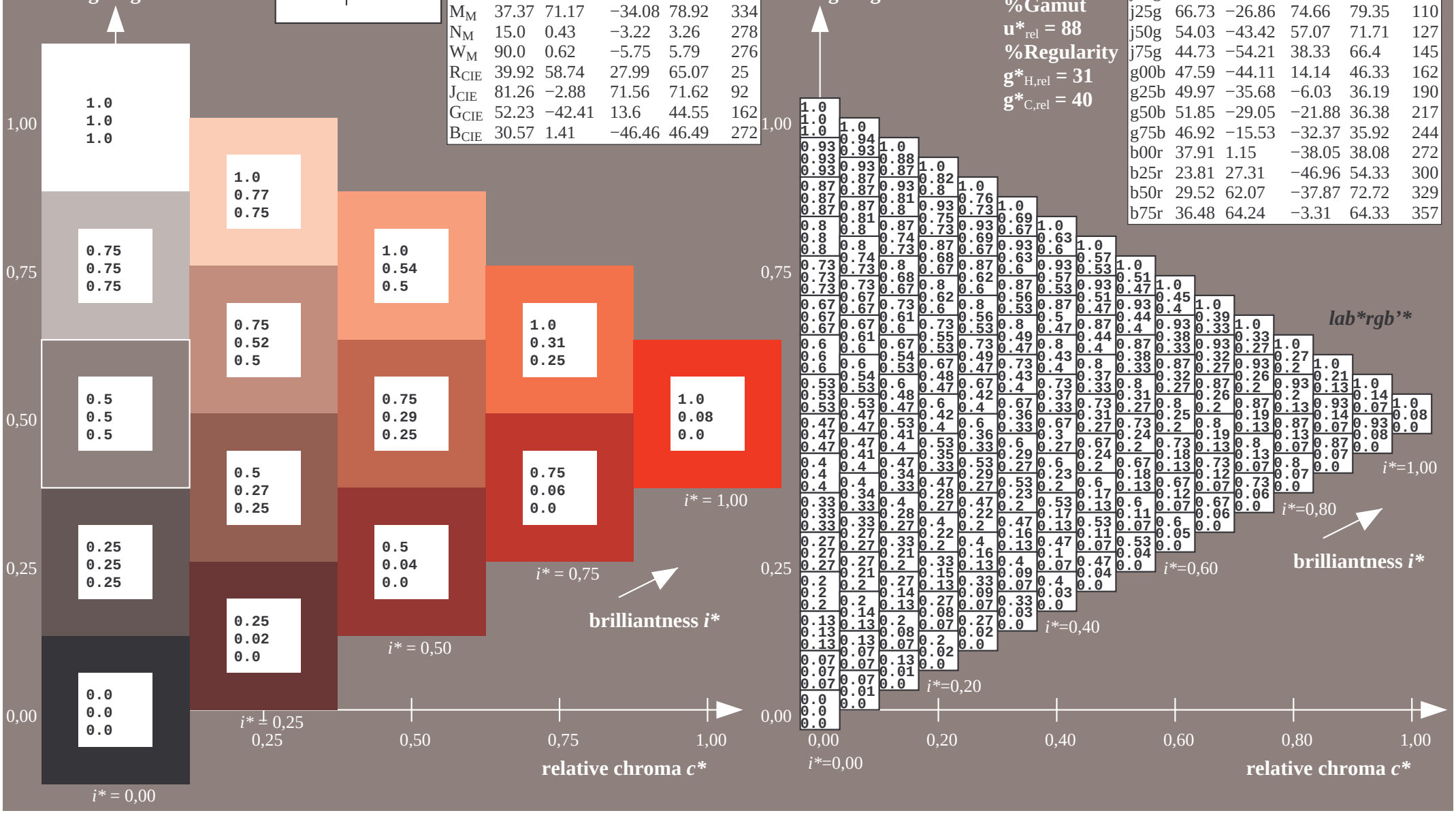
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 39 49 44**
***LAB*LCH*Ma*: 39 66 42**
***lab*rgb*Ma*: 1.0 0.25 0.0**
***lab*olv*Ma*: 1.0 0.08 0.0**
triangle lightness *t**

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

u* = r25j
lab*rgb'*

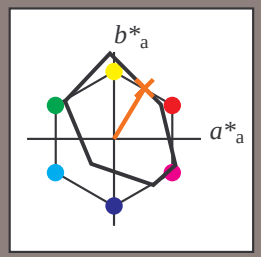
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90a; 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

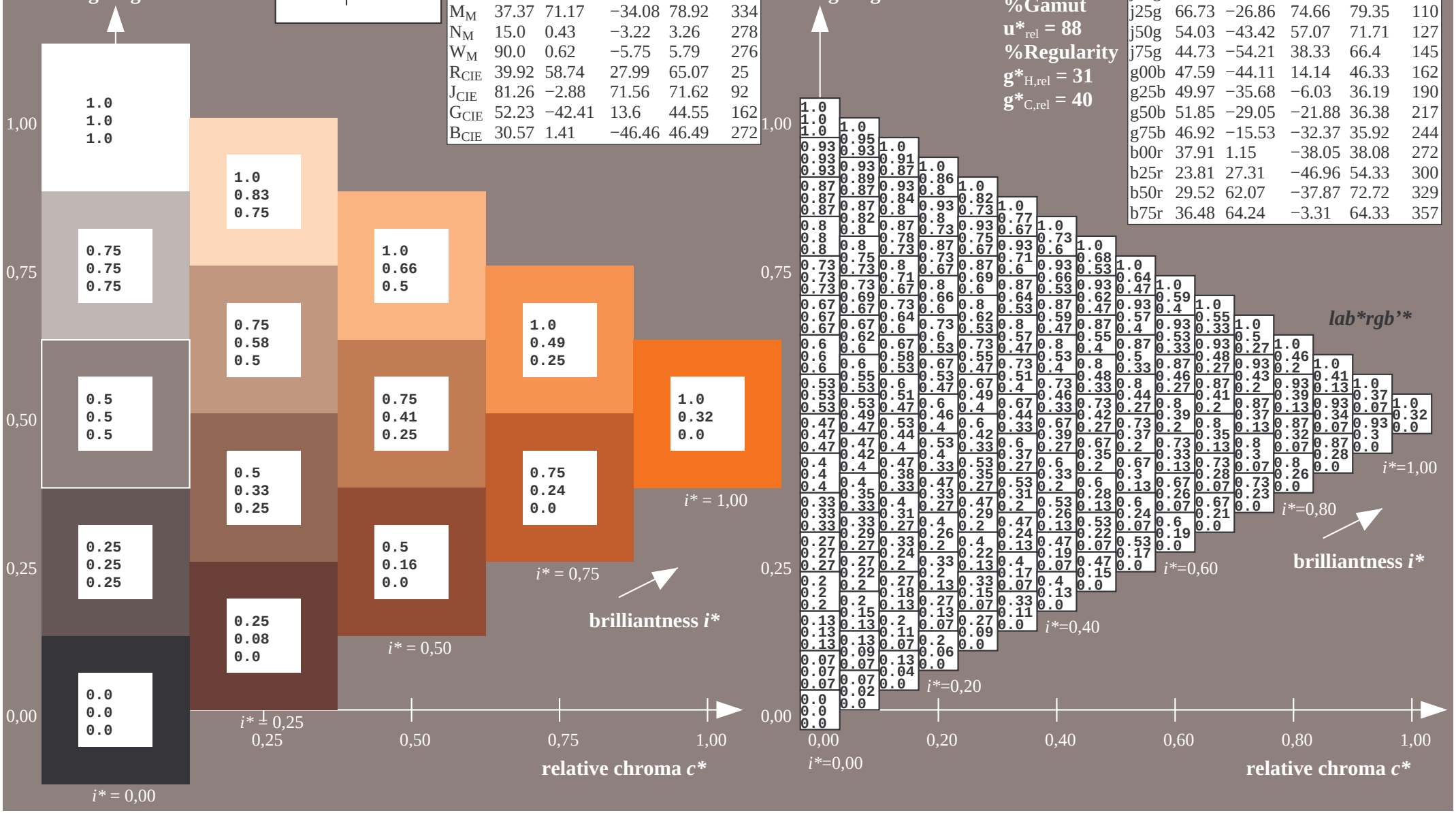
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 51 35 58**
***LAB*LCH*Ma*: 51 68 59**
***lab*rgb*Ma*: 1.0 0.5 0.0**
***lab*olv*Ma*: 1.0 0.32 0.0**
triangle lightness *t**

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

u* = r50j
lab*rgb'*

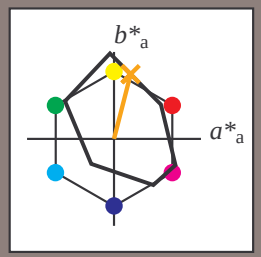
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; 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

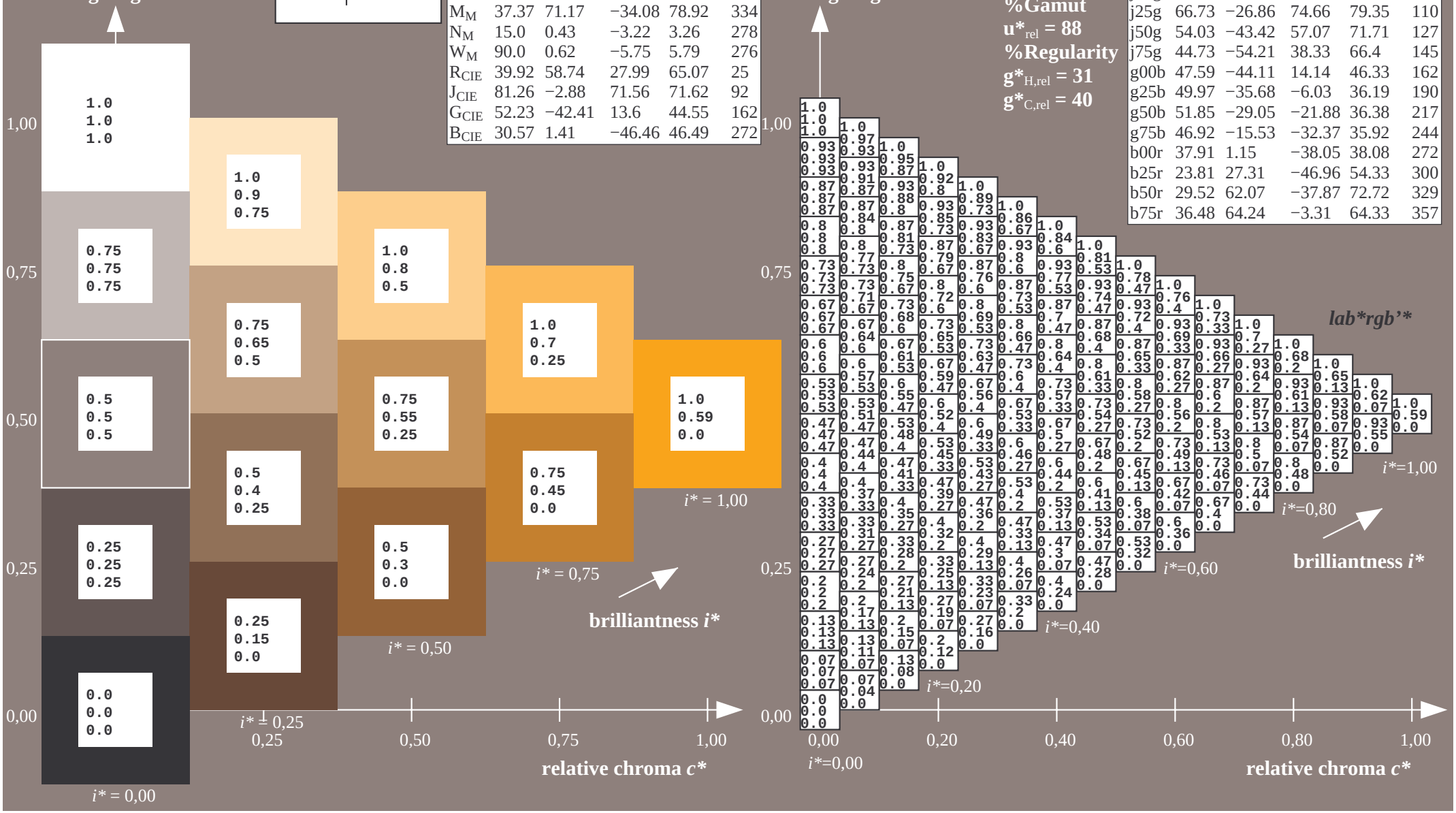
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 64 19 74**
***LAB*LCH*Ma*: 64 77 76**
***lab*rgb*Ma*: 1.0 0.75 0.0**
***lab*olv*Ma*: 1.0 0.59 0.0**
triangle lightness *t**

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

u* = r75j
lab*rgb'*

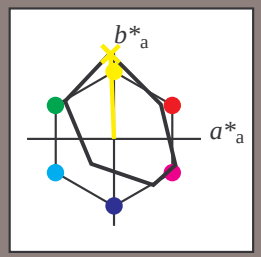
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90a; 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

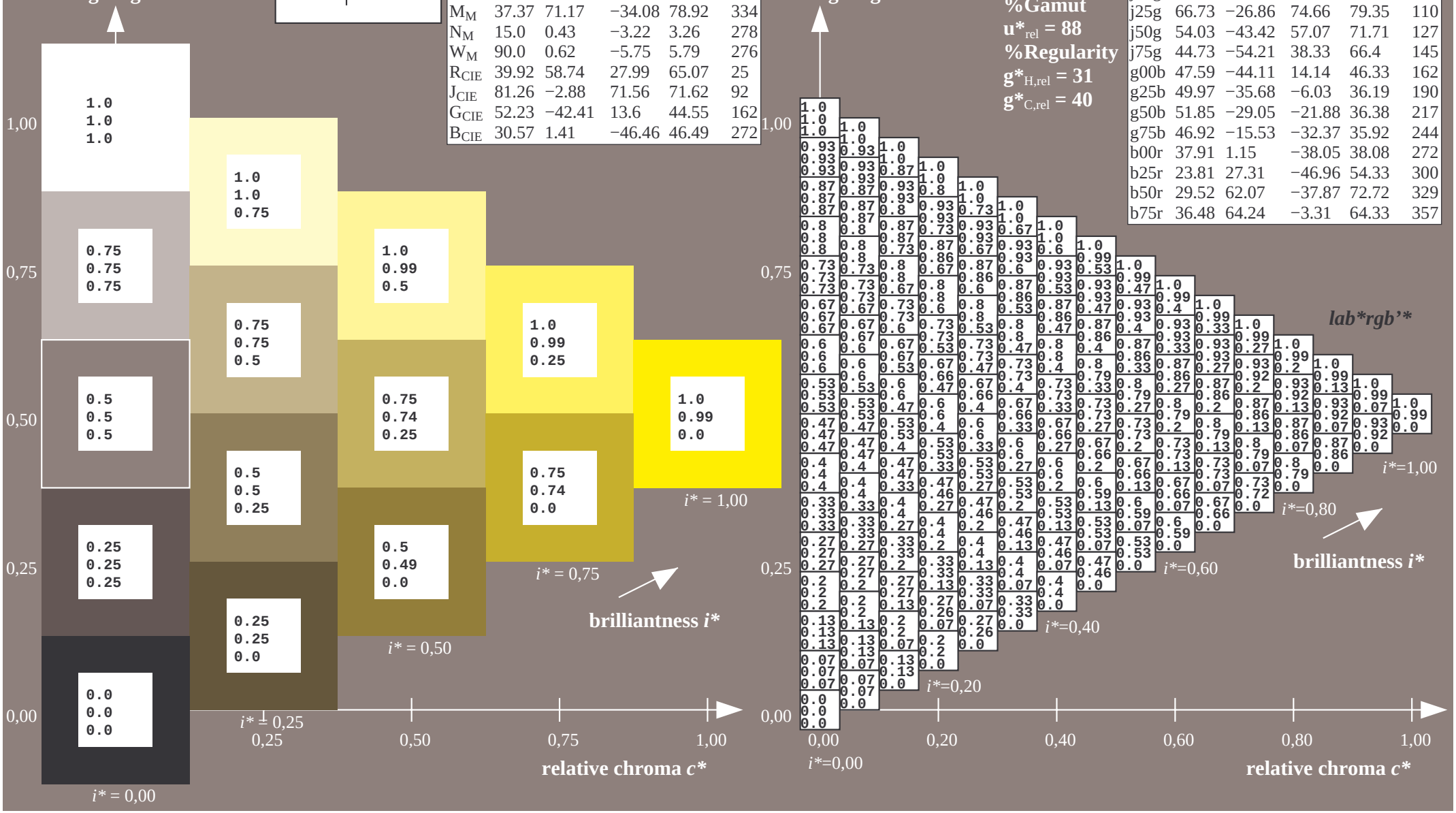
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 83 −3 98**
***LAB*LCH*Ma*: 83 98 92**
***lab*rgb*Ma*: 1.0 1.0 0.0**
***lab*olv*Ma*: 1.0 0.99 0.0**
triangle lightness *t**

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

u* = j00g
lab*rgb'*

FRS15_90a; adapted (a) CIELAB data

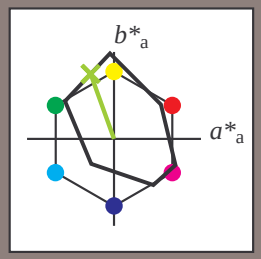
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 110/360 = 0.305$

u = j25g*
*lab*rgb'**

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_90a; CIELAB data

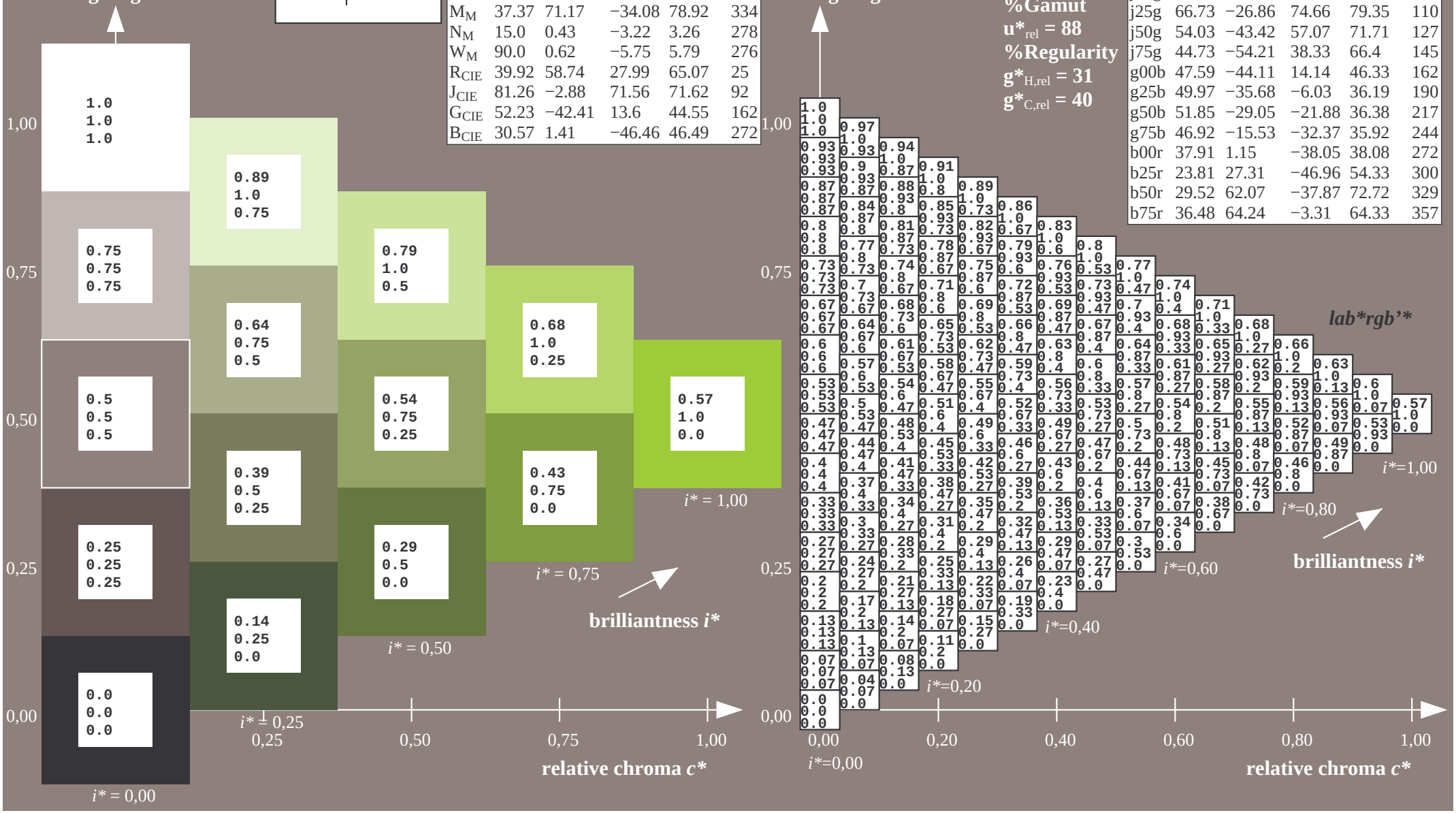
	L*=L*	a*	b*	C*ab	h*ab
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	58.74	27.99	65.07	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**
triangle lightness *t**

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

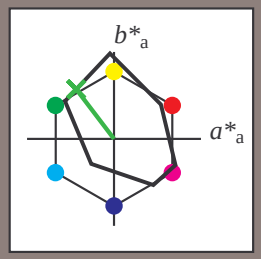
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90a; 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

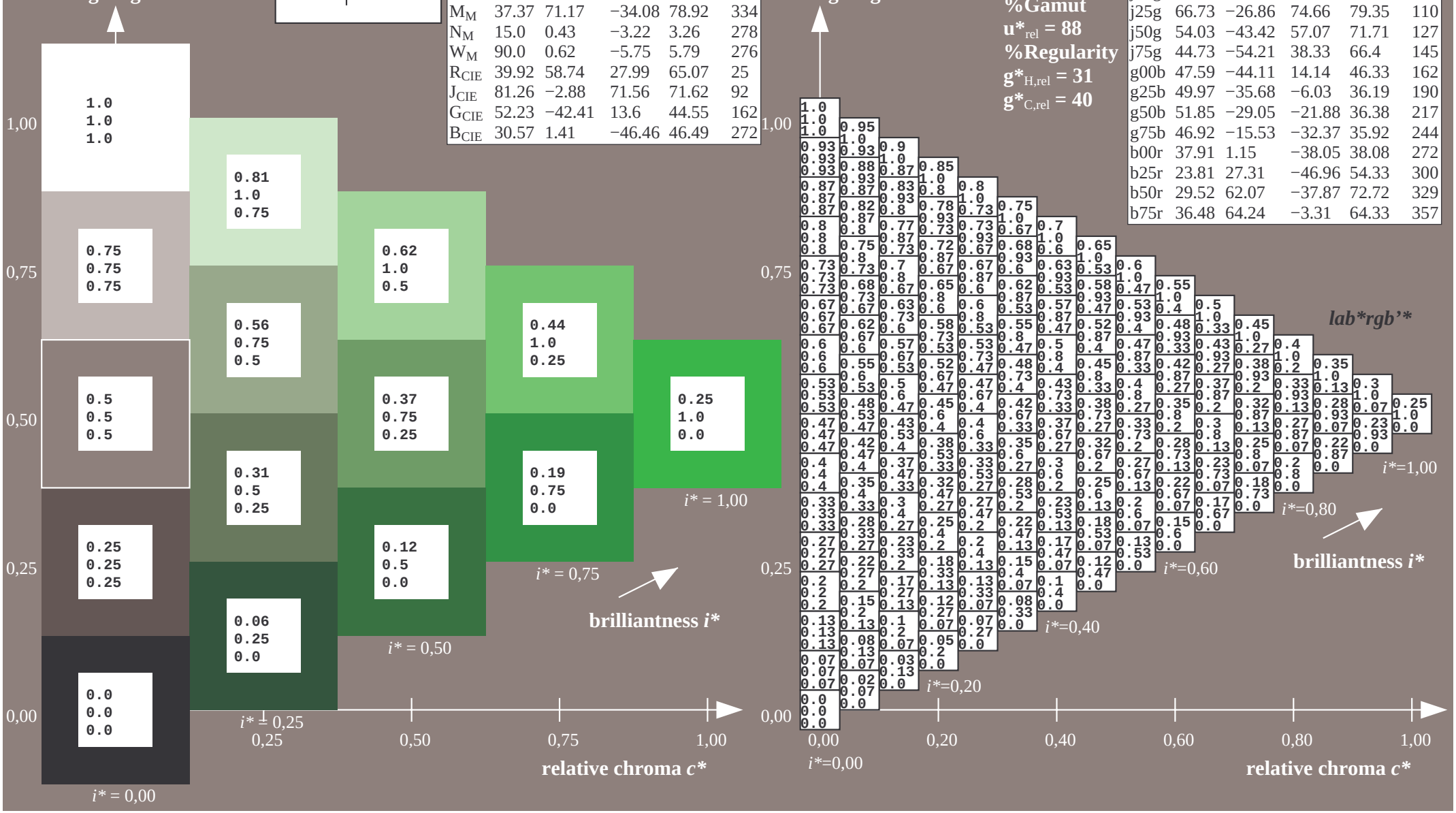
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 54 −42 57**
LAB*LCH*$_{Ma}$**: 54 72 127**
lab*rgb*$_{Ma}$**: 0.5 1.0 0.0**
lab*olv*$_{Ma}$**: 0.25 1.0 0.0**
triangle lightness *t**

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

u* = j50g
lab*rgb'*

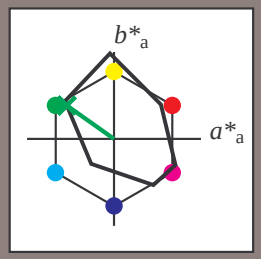
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90a; 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

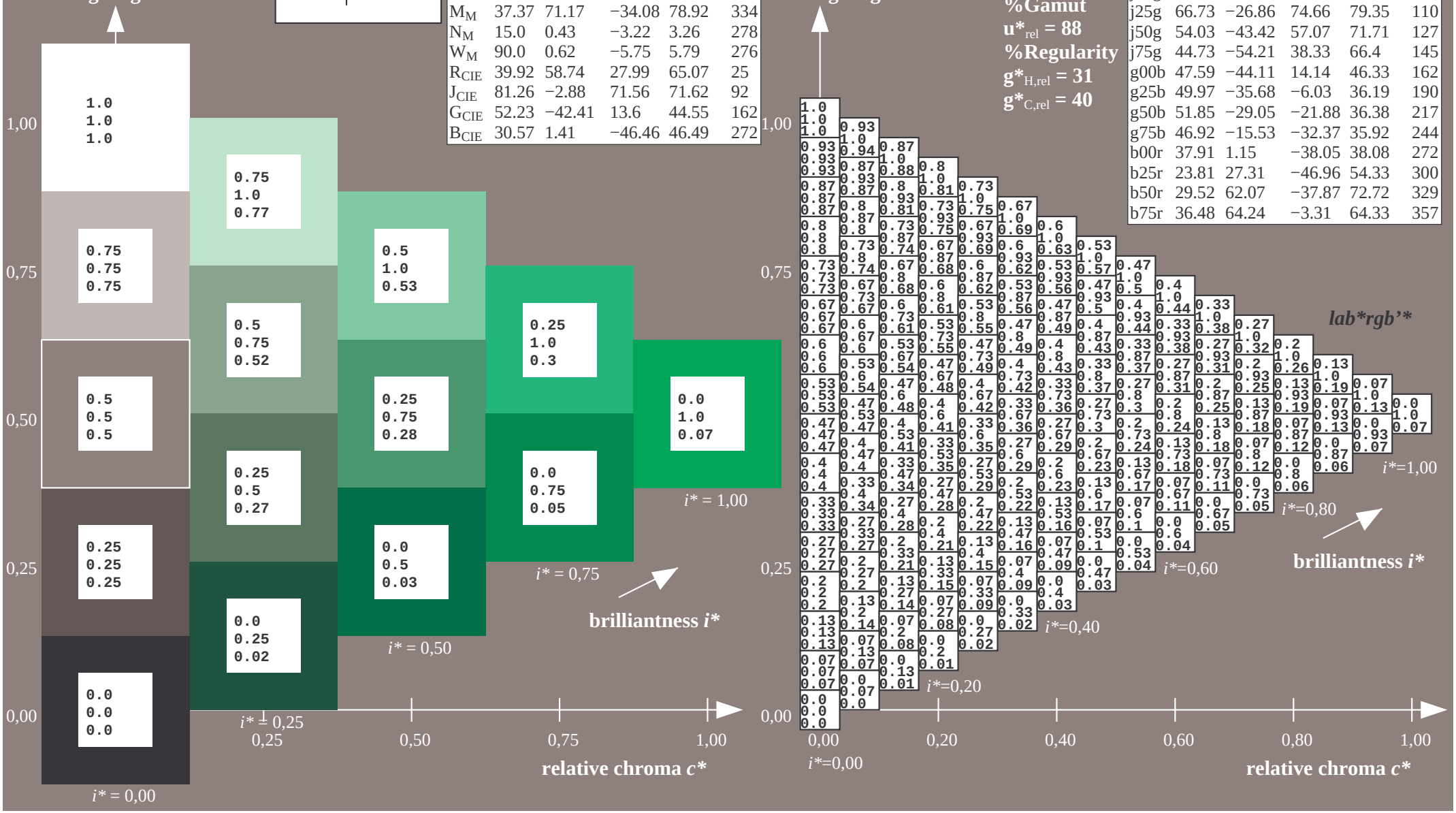
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 45 −53 38**
LAB*LCH*$_{Ma}$**: 45 66 145**
lab*rgb*$_{Ma}$**: 0.25 1.0 0.0**
lab*olv*$_{Ma}$**: 0.0 1.0 0.07**
triangle lightness *t**

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

u* = j75g
lab*rgb'*

FRS15_90a; 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



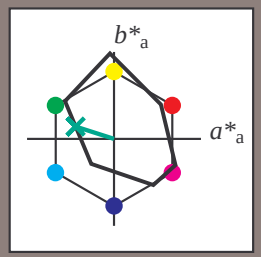
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 162/360 = 0.451$ *u* = g00b*

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_90a; 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

$u^*_{rel} = 88$

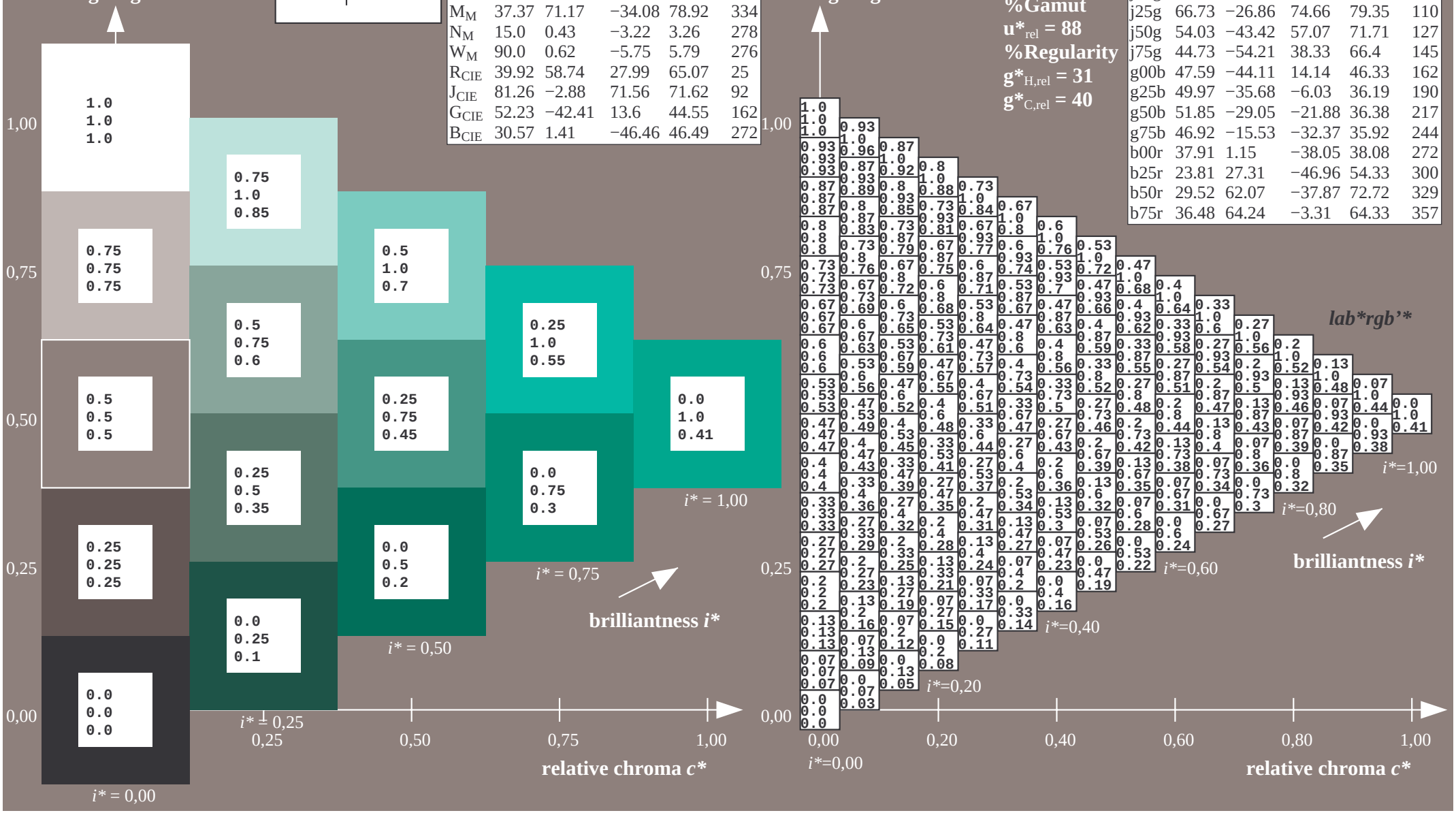
%Regularity

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

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

FRS15_90a; 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



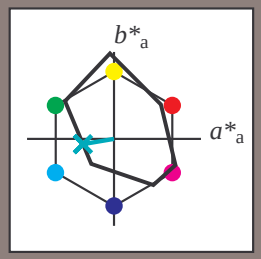
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 190/360 = 0.527$ *u* = g25b*

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_90a; 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

$u^*_{rel} = 88$

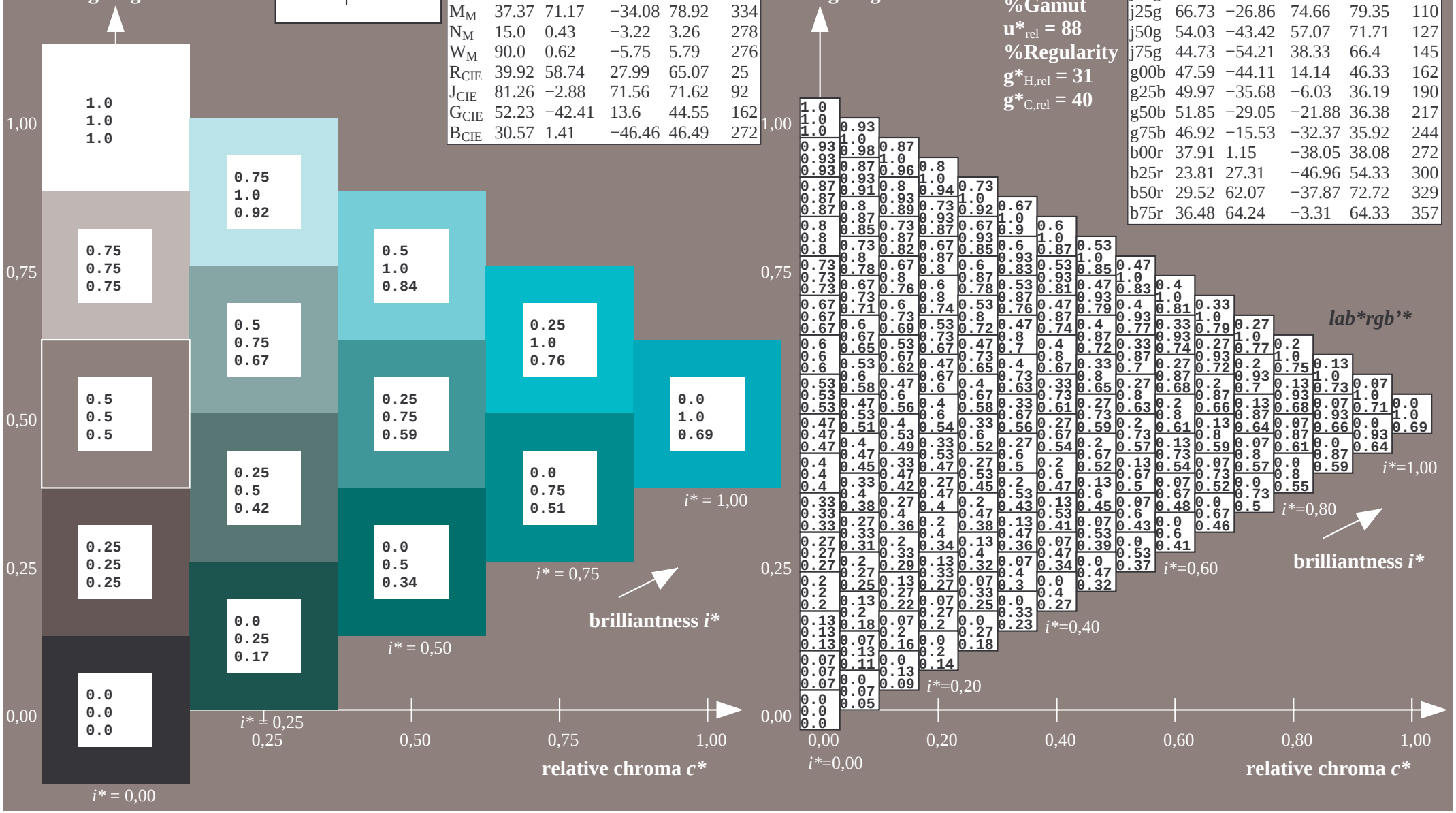
%Regularity

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

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

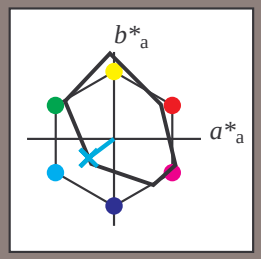
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; 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

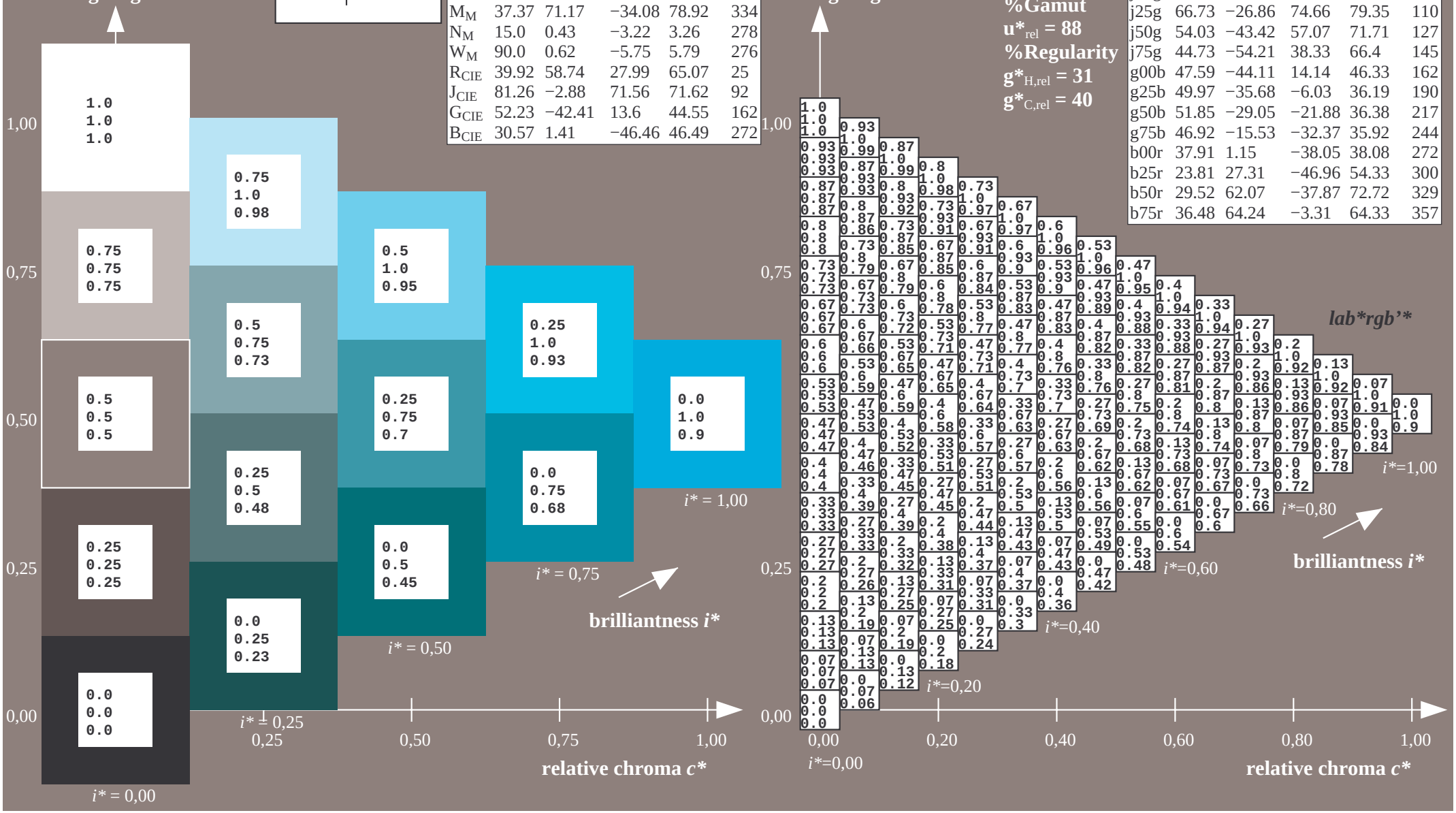
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 52 −28 −21**
***LAB*LCH*Ma*: 52 36 217**
***lab*rgb*Ma*: 0.0 1.0 1.0**
***lab*olv*Ma*: 0.0 1.0 0.9**
triangle lightness *t**

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

u* = g50b
lab*rgb'*

FRS15_90a; adapted (a) CIELAB data

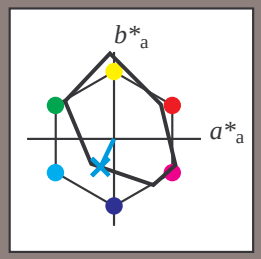
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a 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**

u = g75b*
*lab*rgb'**



FRS15_90a; CIELAB data

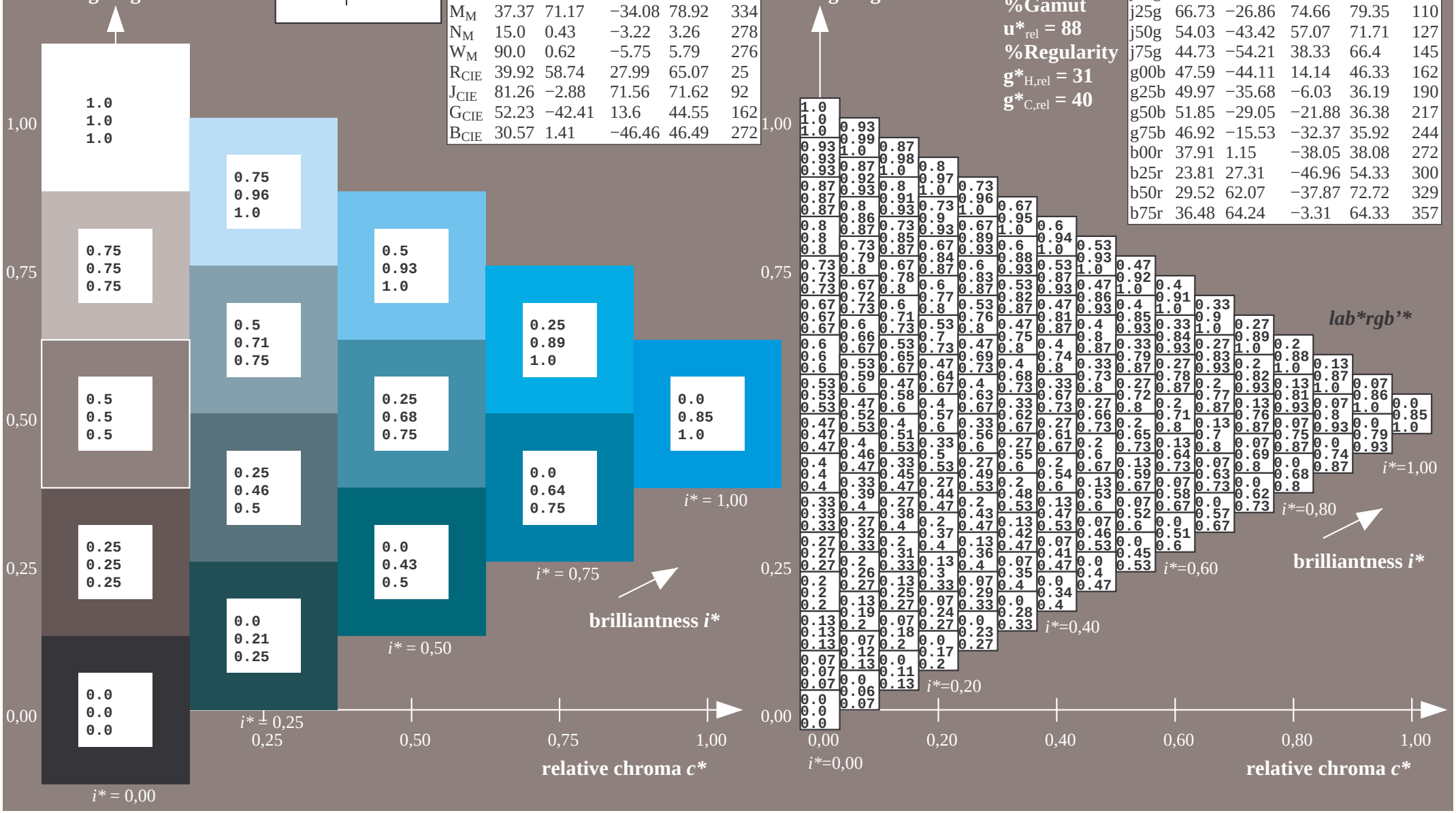
	L*=L*	a*	b*	C*ab	h*ab
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	58.74	27.99	65.07	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
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

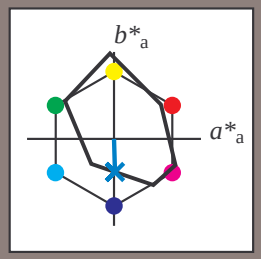
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90a; 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

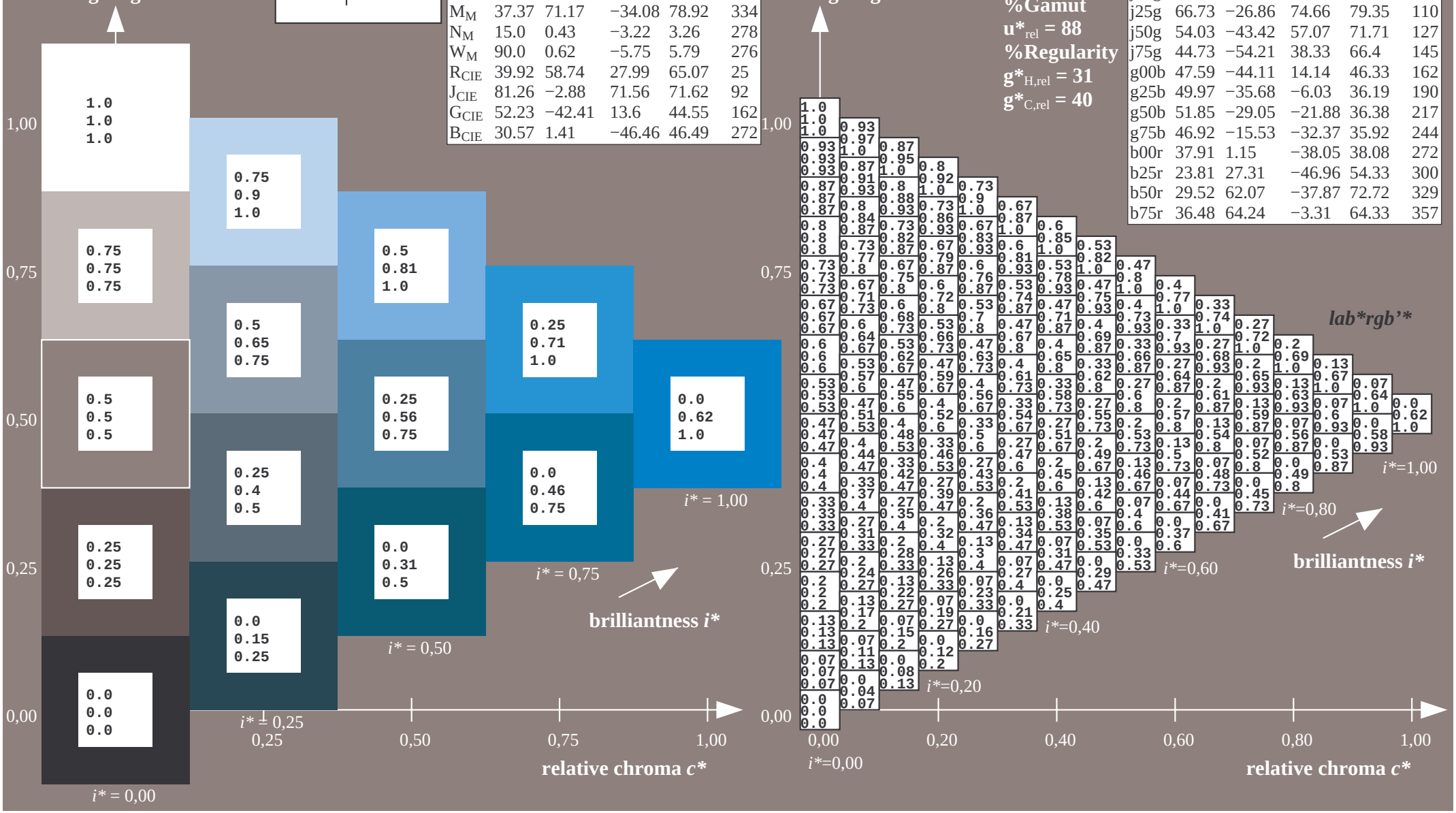
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 38 1 −37**
***LAB*LCH*Ma*: 38 38 272**
***lab*rgb*Ma*: 0.0 0.0 1.0**
***lab*olv*Ma*: 0.0 0.62 1.0**
triangle lightness *t**

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

lab*rgb'*

FRS15_90a; 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



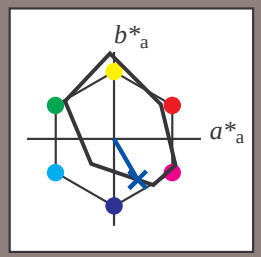
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 300/360 = 0.834$ *u* = b25r*

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_90a; 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

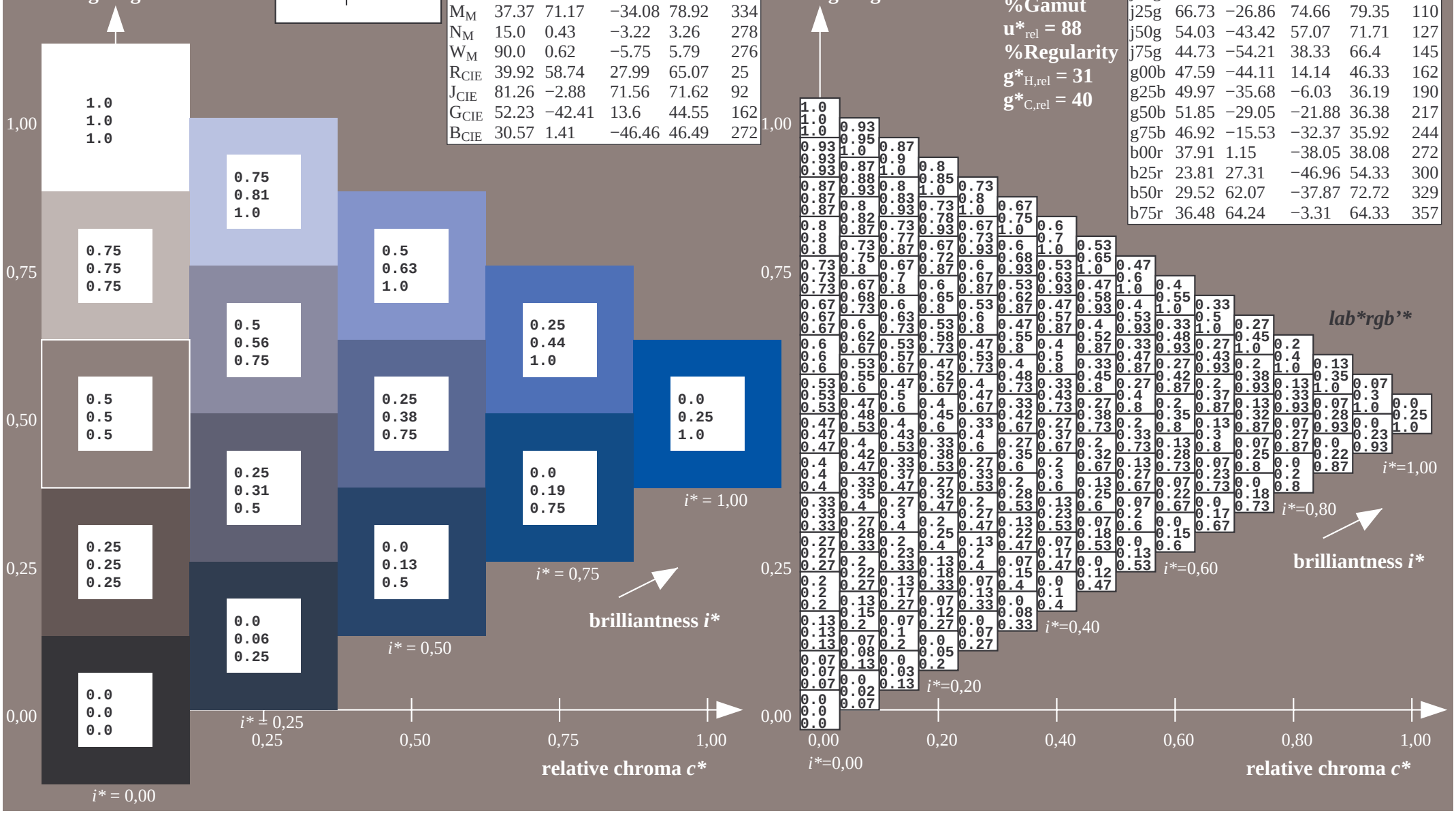
$u^*_{rel} = 88$

%Regularity

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

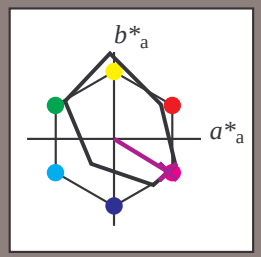
$g^*_{C,rel} = 40$

FRS15_90a; 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_90a 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_90a; CIELAB data

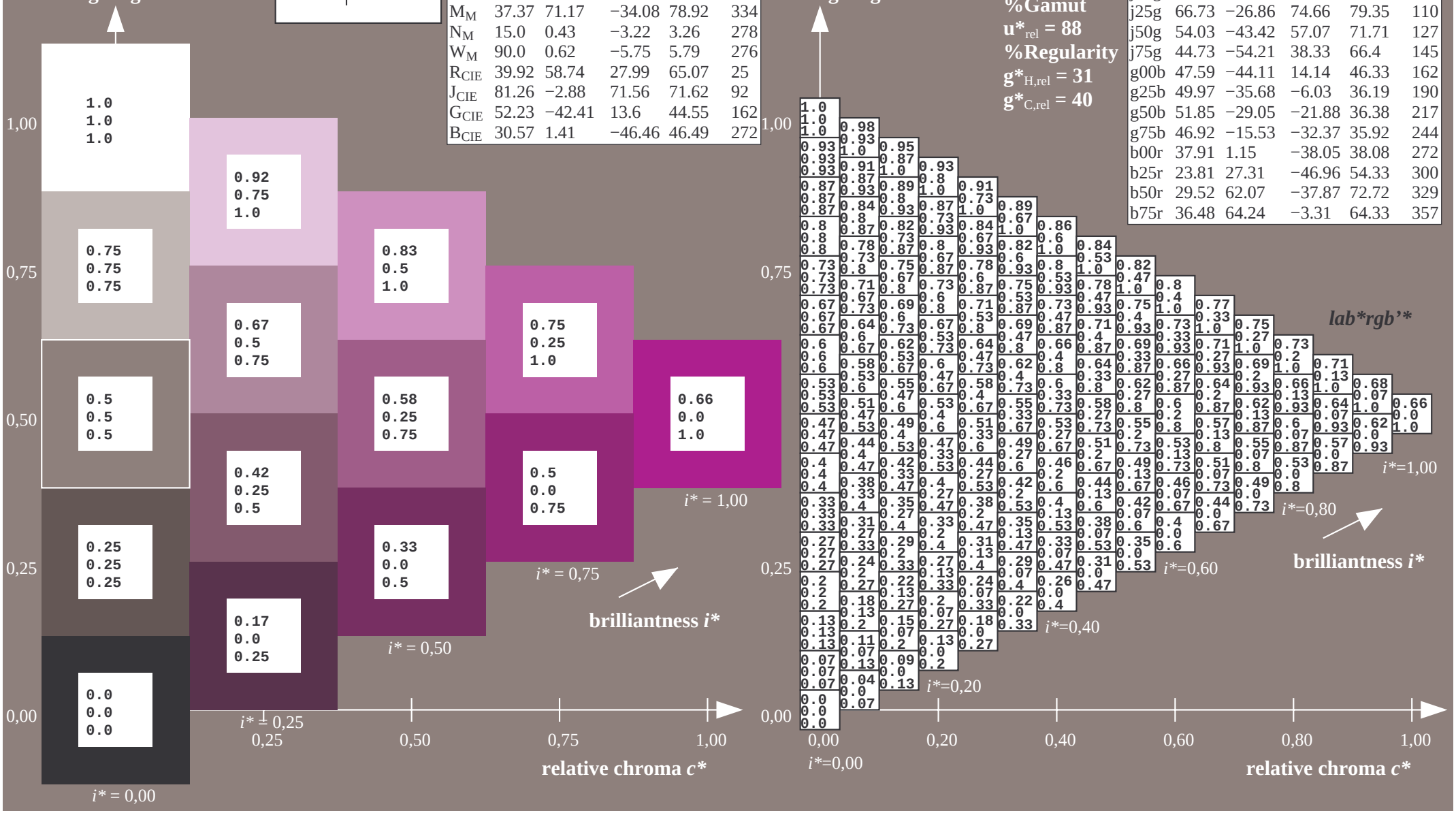
	L*=L*	a*	b*	C*ab	h*ab
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	58.74	27.99	65.07	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

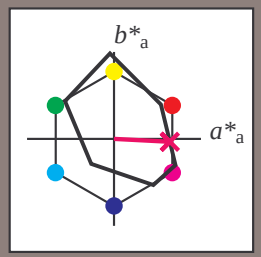
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90a; 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

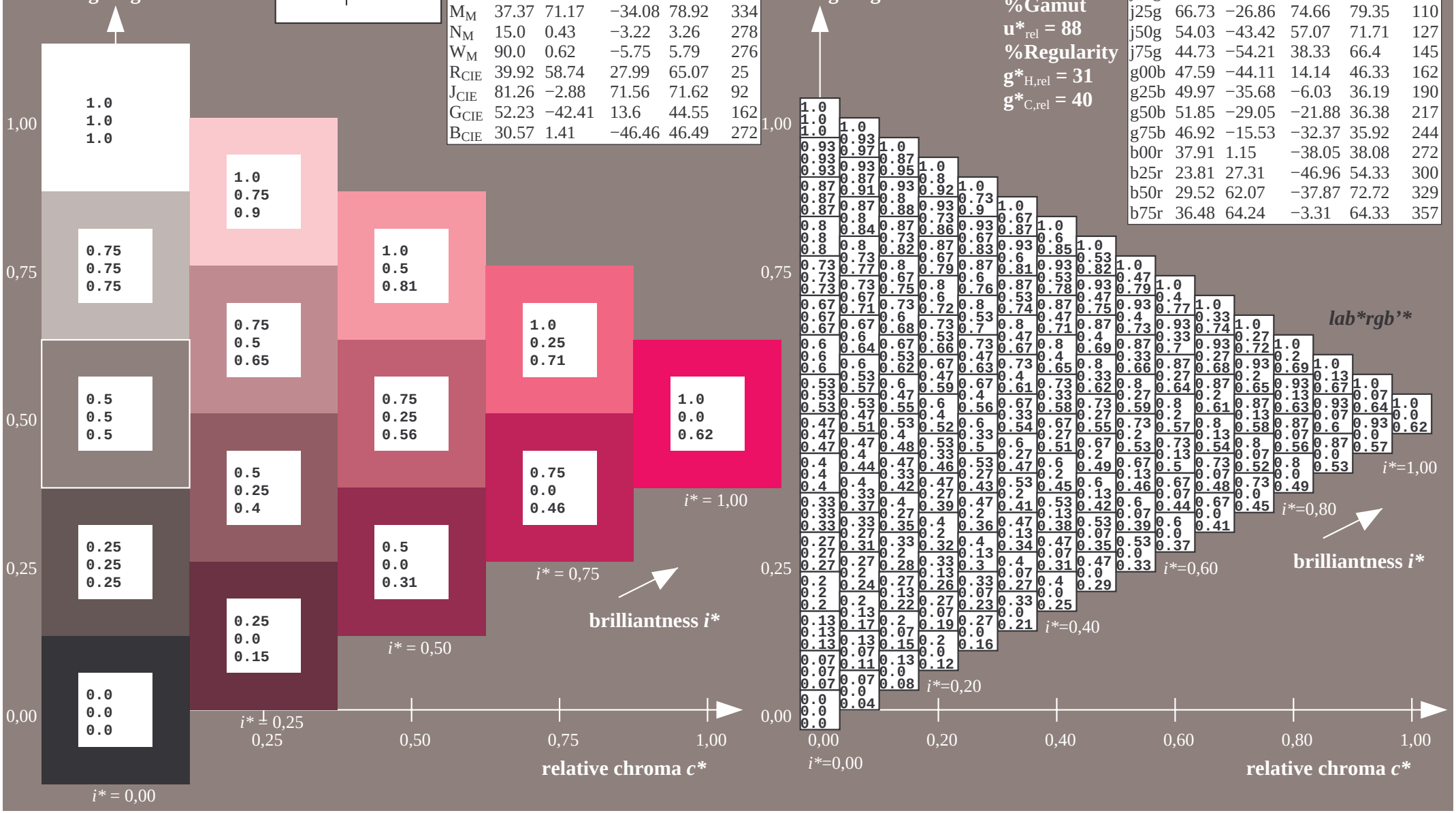
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 36 64 −2**
***LAB*LCH*Ma*: 36 64 357**
***lab*rgb*Ma*: 1.0 0.0 0.5**
***lab*olv*Ma*: 1.0 0.0 0.62**
triangle lightness *t**

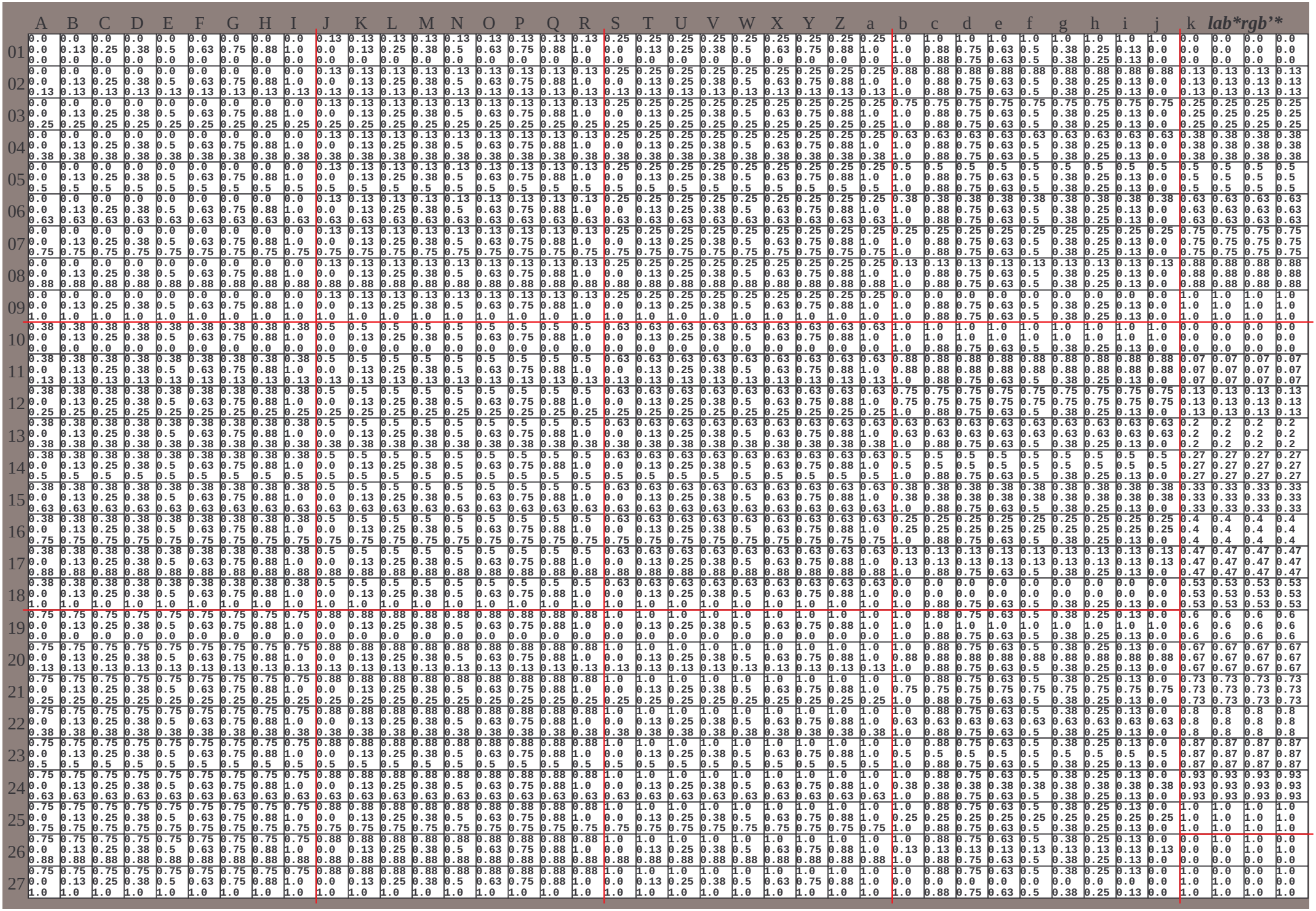
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

lab*rgb'*

FRS15_90a; 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*rgb'*
01
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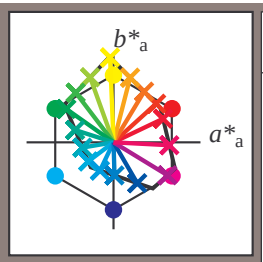
Input and output:
Colorimetric Printer Reflective System FRS15_90a
data for any colour:
lab*tch* **and** ***lab*icu****
elementary hue text:
u* **= 16 hues** ***r00j, r25j, ..., b75r***
contrast reduction factor:
$c_R = 0.9$

FRS15_90a; adapted (a) CIELAB data

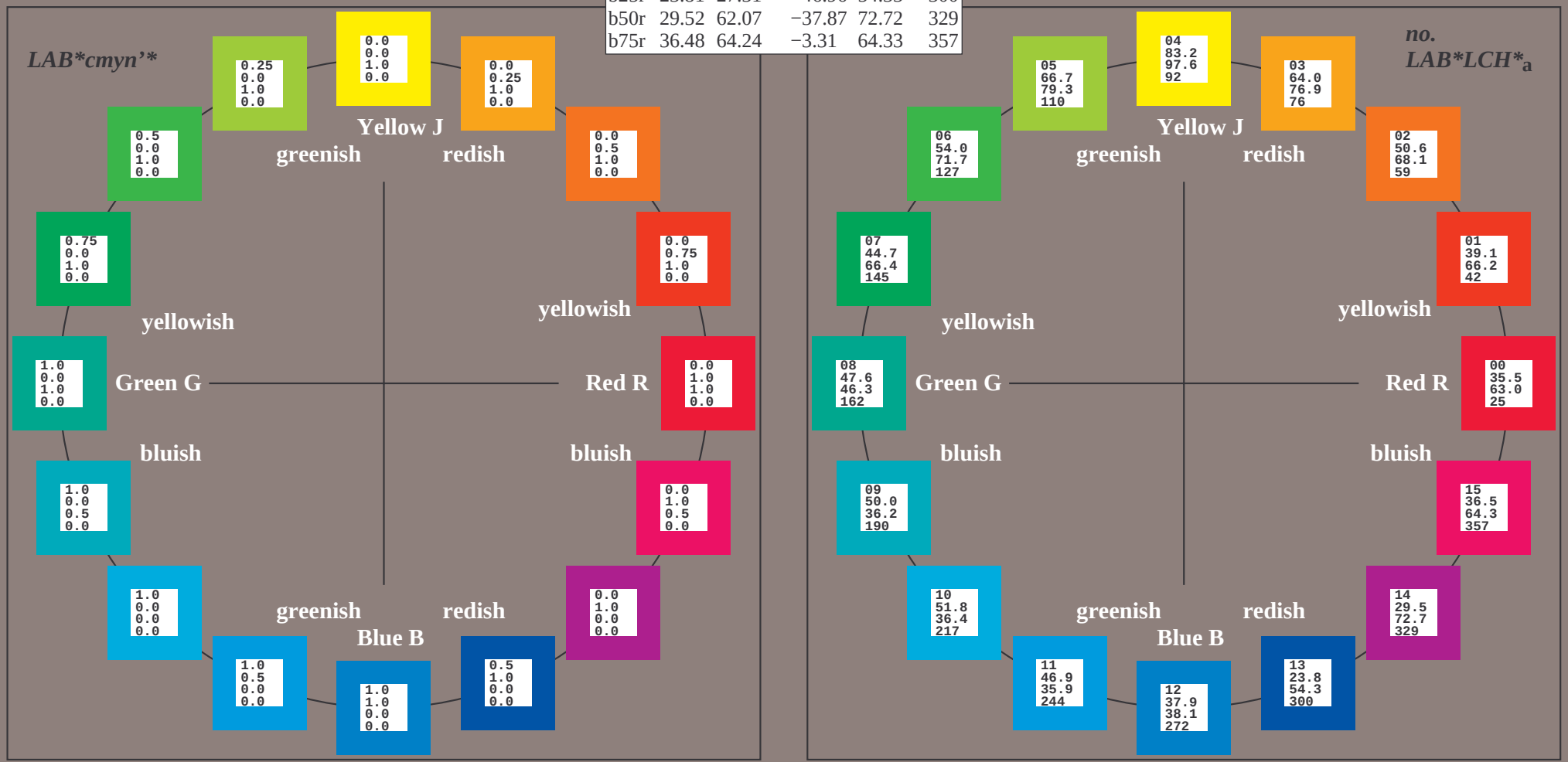
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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

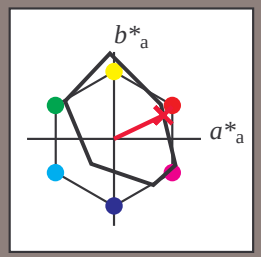
FRS15_90a; CIELAB data

	$L^*=L^*$	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_90a 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_90a; 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

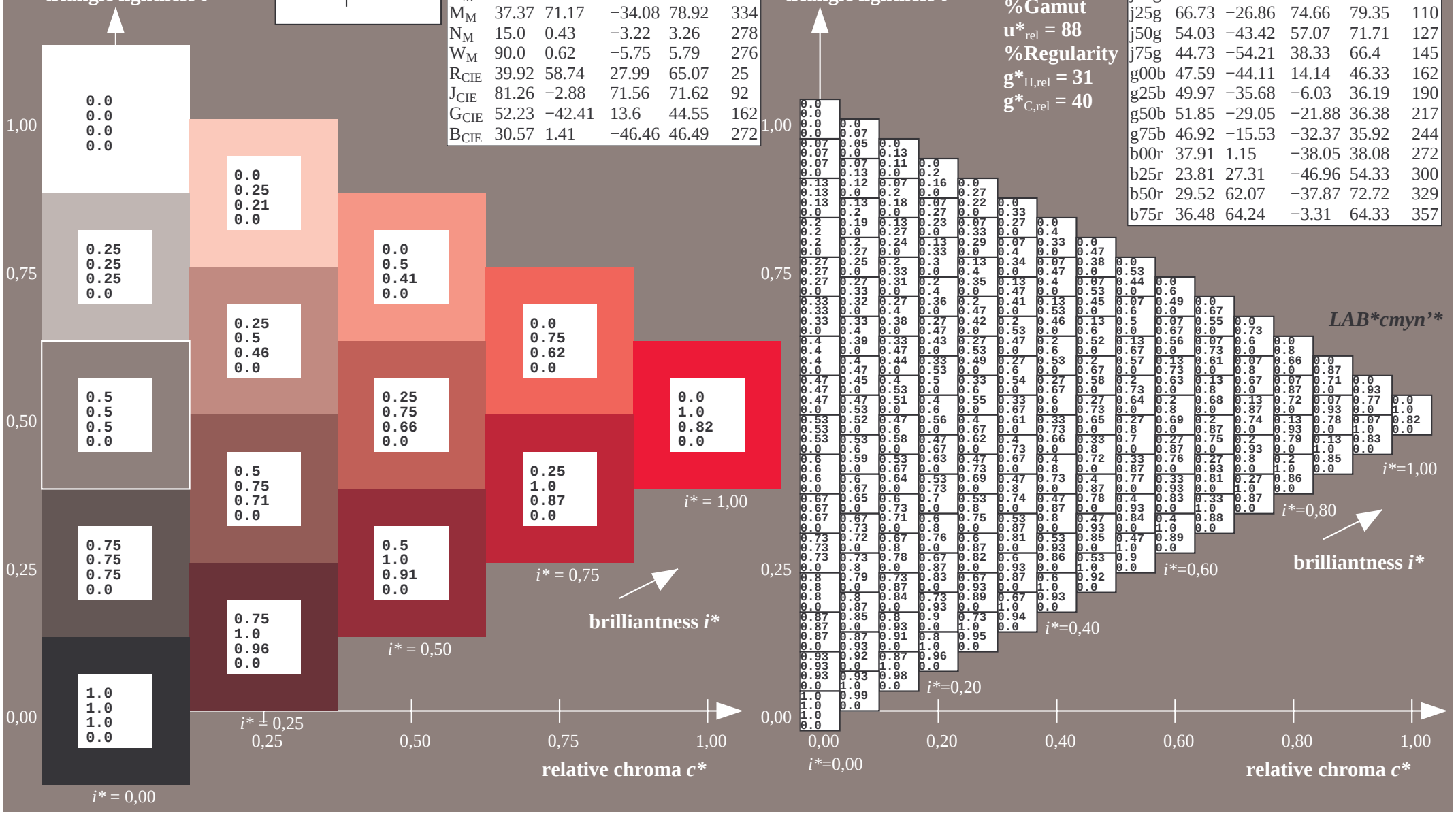
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 35 57 27**
***LAB*LCH*Ma*: 35 63 25**
***lab*rgb*Ma*: 1.0 0.0 0.0**
***lab*olv*Ma*: 1.0 0.0 0.18**
triangle lightness *t**

u* = r00j
LAB*cmyn'*

FRS15_90a; adapted (a) CIELAB data

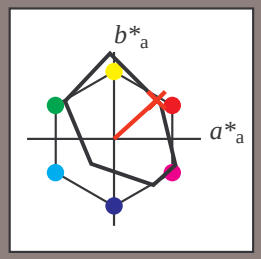
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a for relative CIELAB hue *h = *lab*h** = h_{ab}/360 = 42/360 = 0.117** *u* = r25j* *LAB*cmyn'**

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_90a; CIELAB data

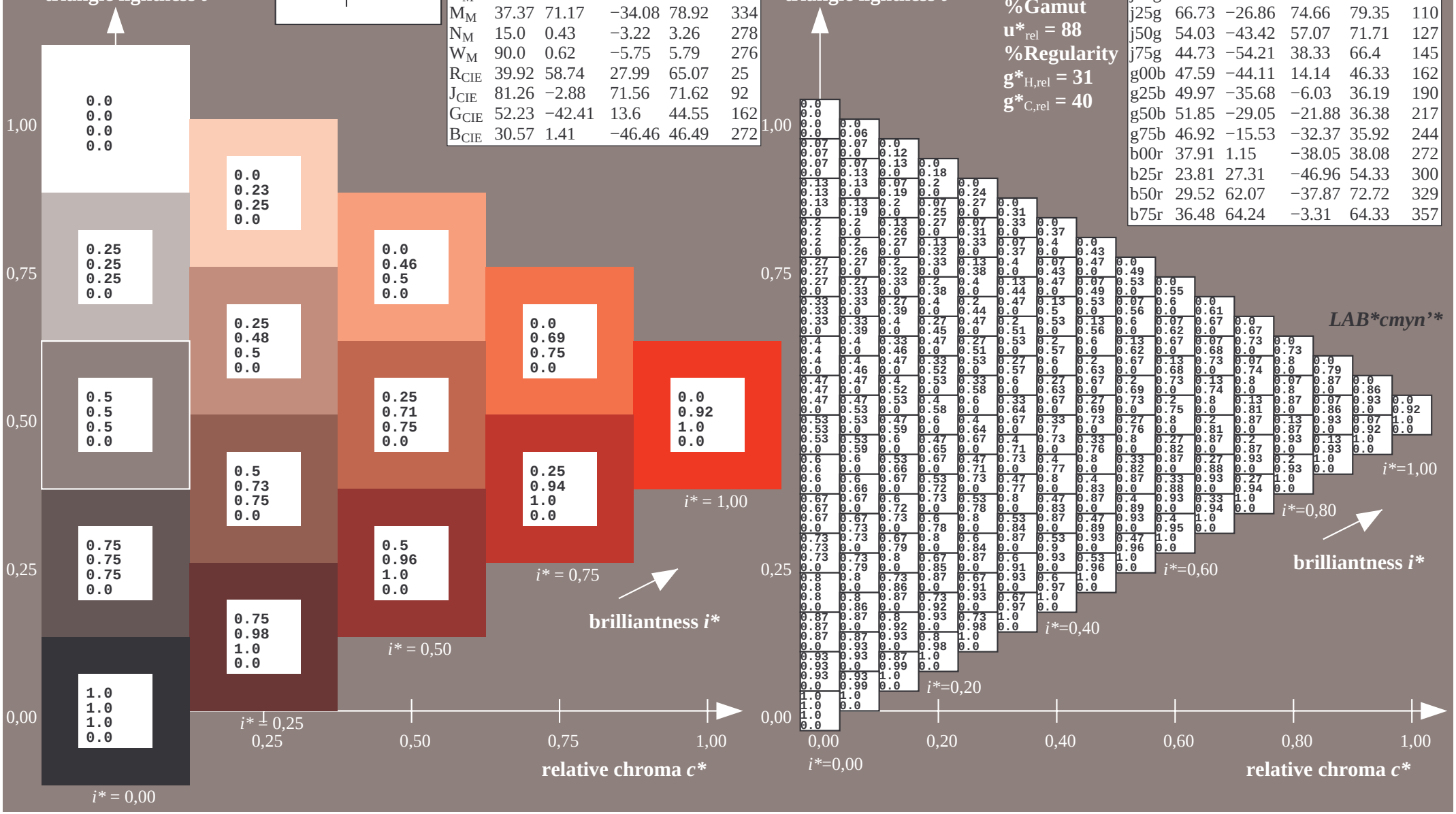
	L*=L*	a*	b*	C*ab	h*ab
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	58.74	27.99	65.07	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

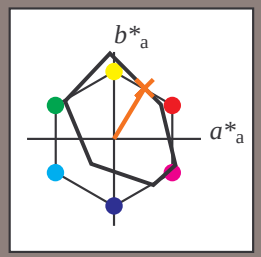
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90a; CIELAB data

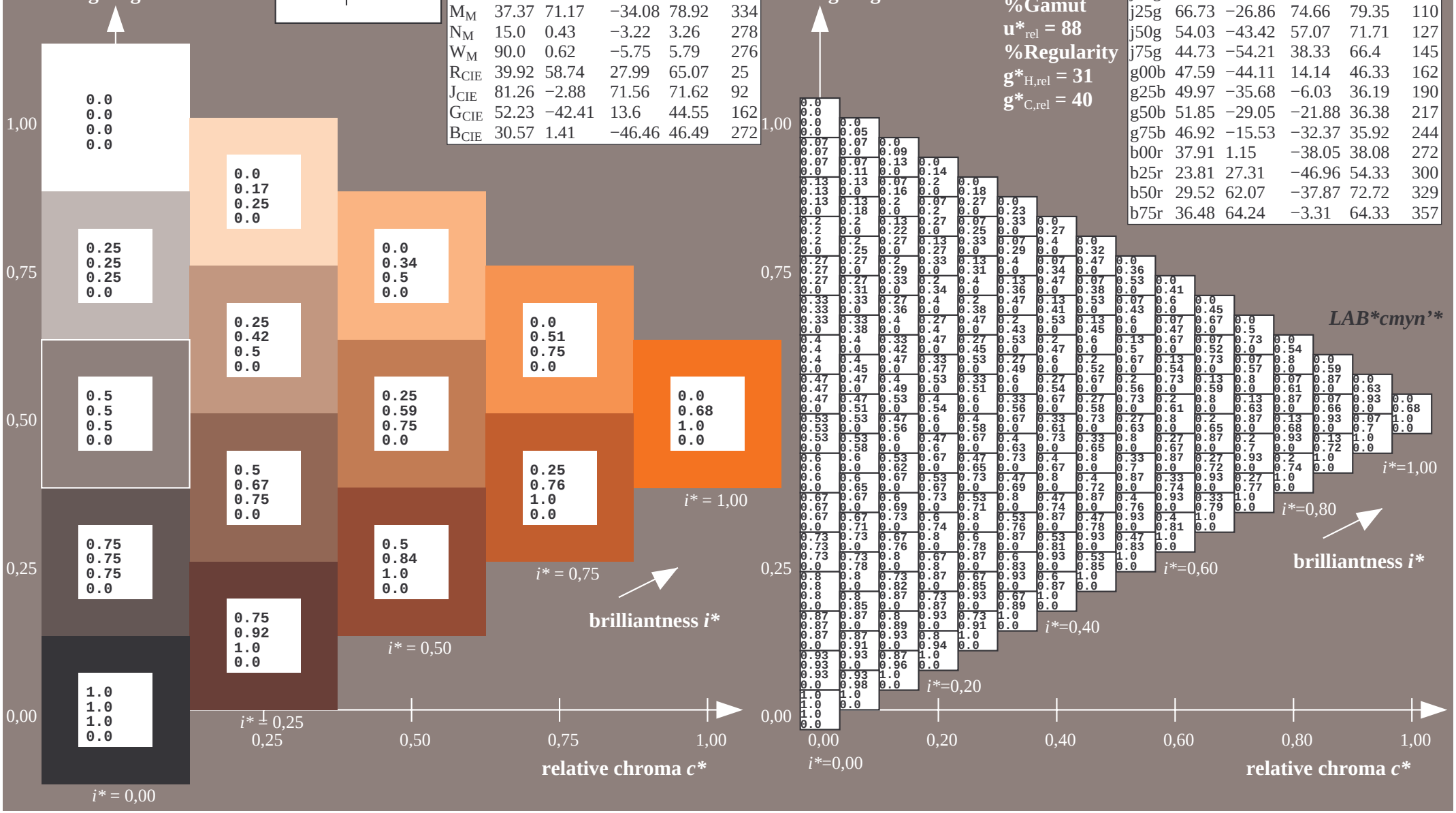
	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	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
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

FRS15_90a; adapted (a) CIELAB data

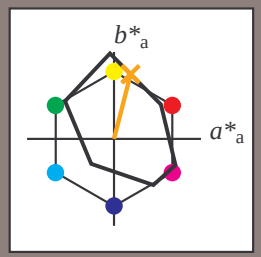
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a for relative CIELAB hue *h = *lab*h** = h_{ab}/360 = 76/360 = 0.21** *u* = r75j*

*LAB*cmyn'**

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_90a; CIELAB data

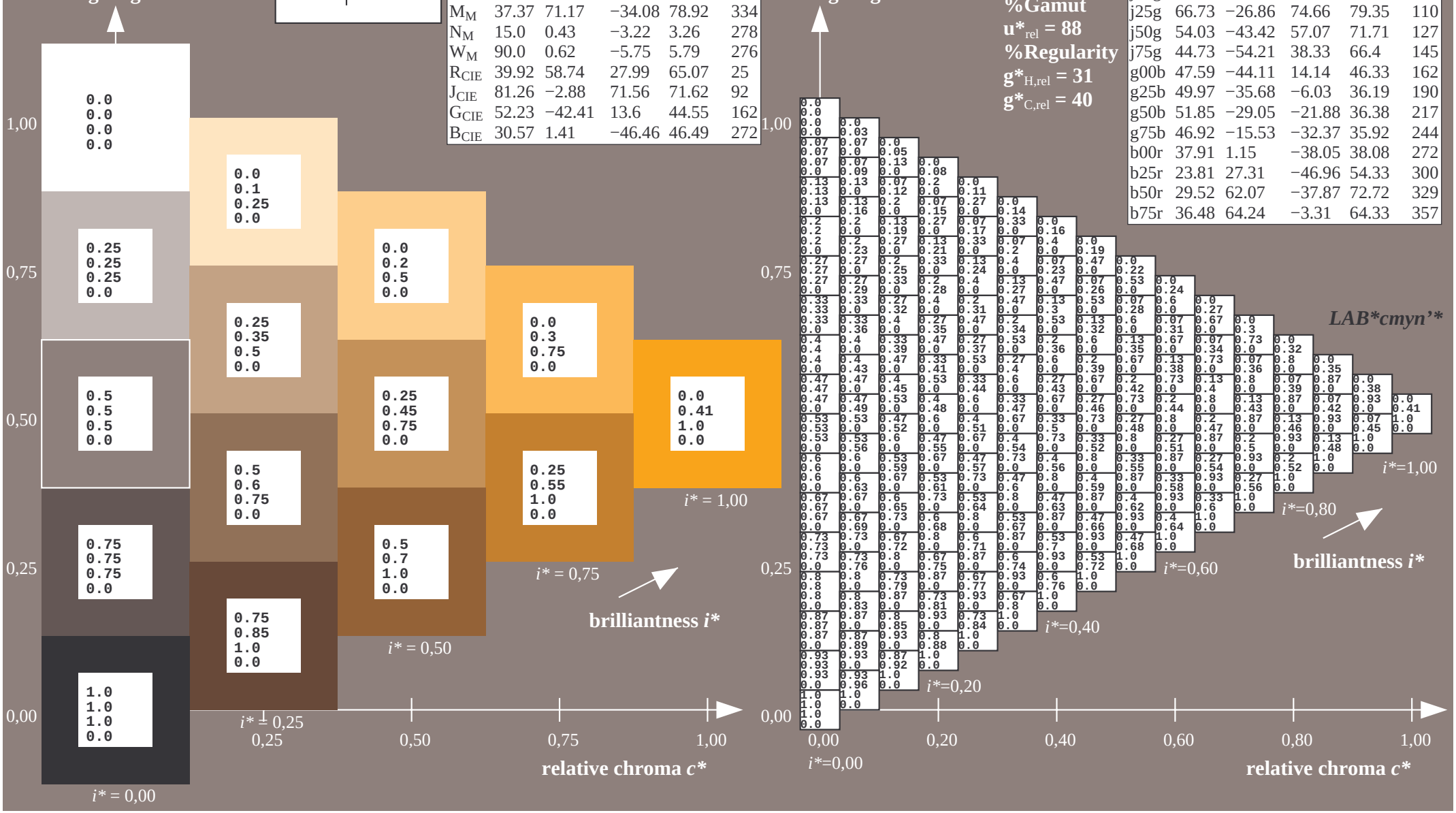
	L*=L*	a*	b*	C*ab	h*ab
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	58.74	27.99	65.07	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

FRS15_90a; 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_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 92/360 = 0.256$ *u* = j00g*

data for any colour: *LAB*cmyn'**

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

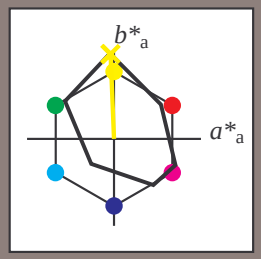
elementary hue text:

u = j00g*

contrast reduction factor:

$c_R = 0.9$

triangle lightness *t**



FRS15_90a; 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

$u^*_{rel} = 88$

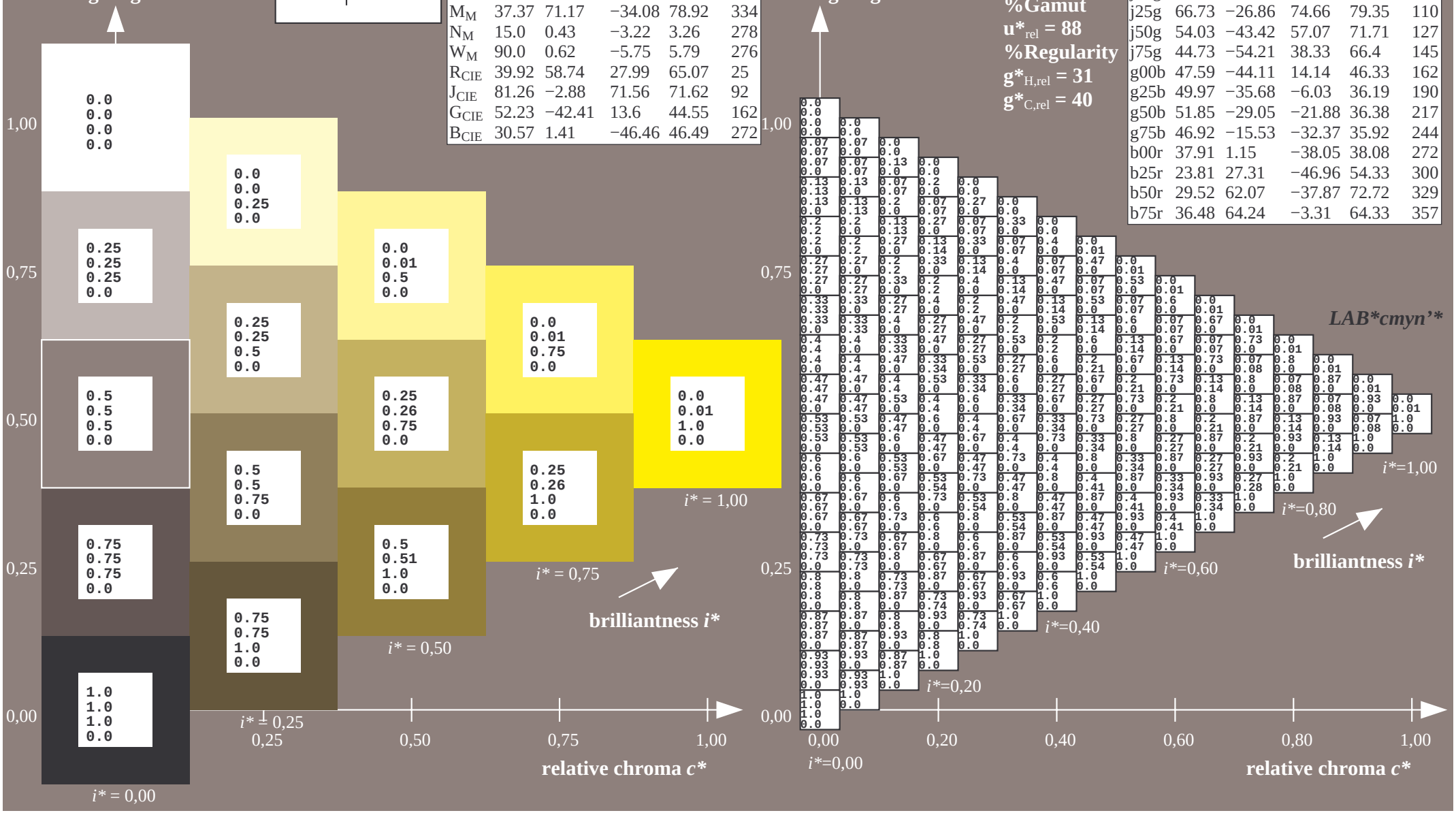
%Regularity

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

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

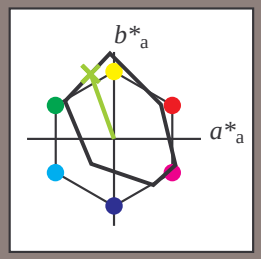
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90a; 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

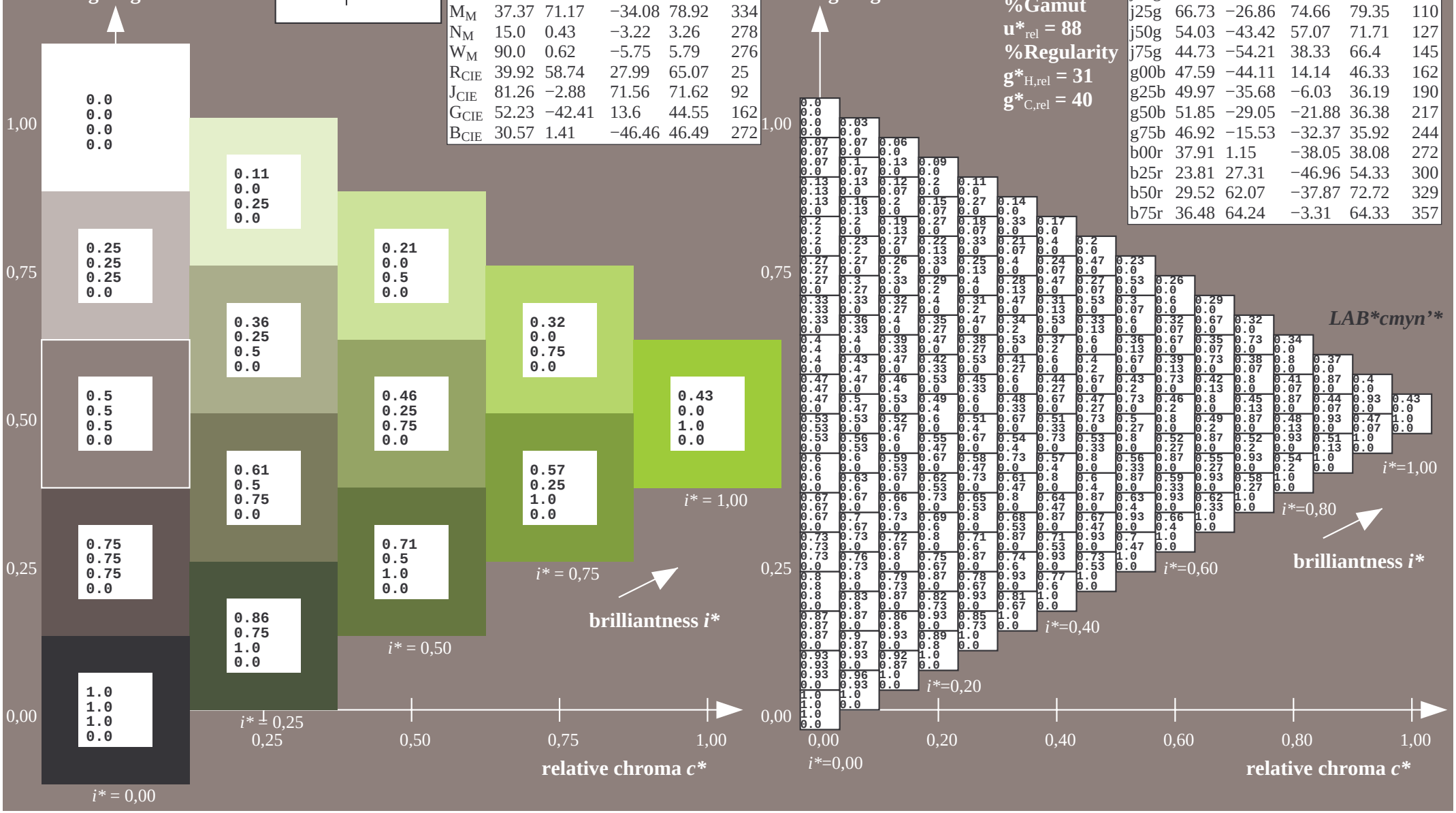
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 67 −26 75**
***LAB*LCH*Ma*: 67 79 110**
***lab*rgb*Ma*: 0.75 1.0 0.0**
***lab*olv*Ma*: 0.57 1.0 0.0**
triangle lightness *t**

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

u* = j25g
LAB*cmyn'*

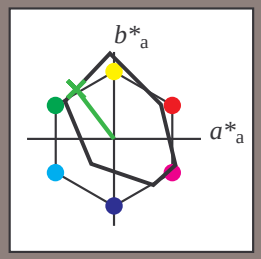
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; 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

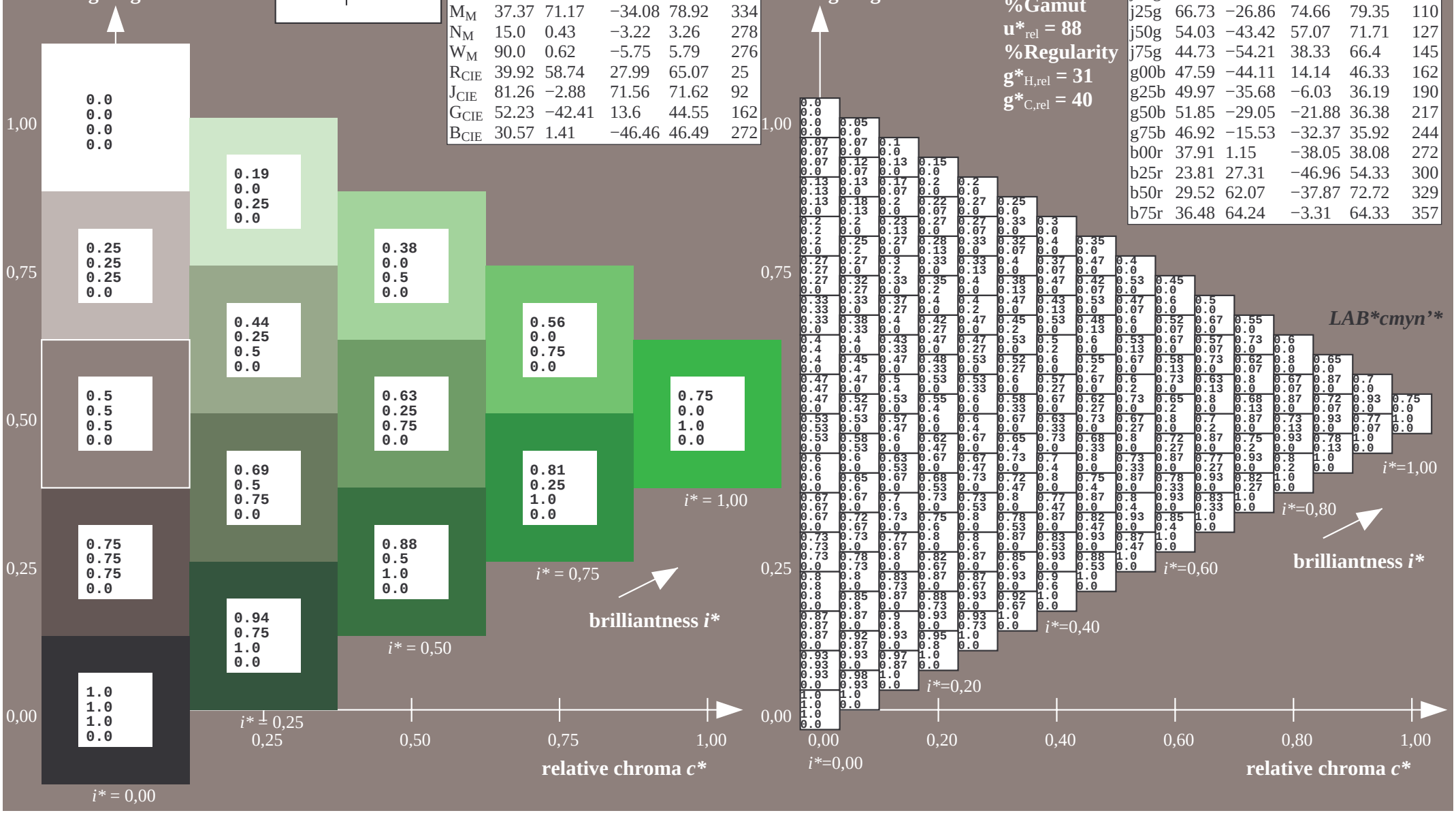
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 54 −42 57**
***LAB*LCH*Ma*: 54 72 127**
***lab*rgb*Ma*: 0.5 1.0 0.0**
***lab*olv*Ma*: 0.25 1.0 0.0**
triangle lightness *t**

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

u* = j50g
LAB*cmyn'*

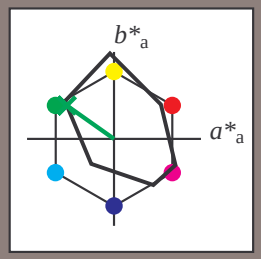
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; 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

LAB*cmyn'*

FRS15_90a; 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
*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
brilliantness *i**
relative chroma *c*

Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 162/360 = 0.451$ *u* = g00b*

data for any colour: *LAB*cmyn'**

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

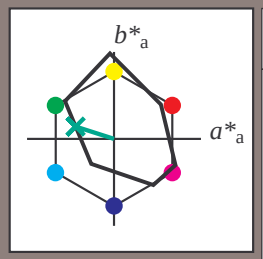
elementary hue text:

u = g00b*

contrast reduction factor:

$c_R = 0.9$

triangle lightness *t**



FRS15_90a; 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

$u^*_{rel} = 88$

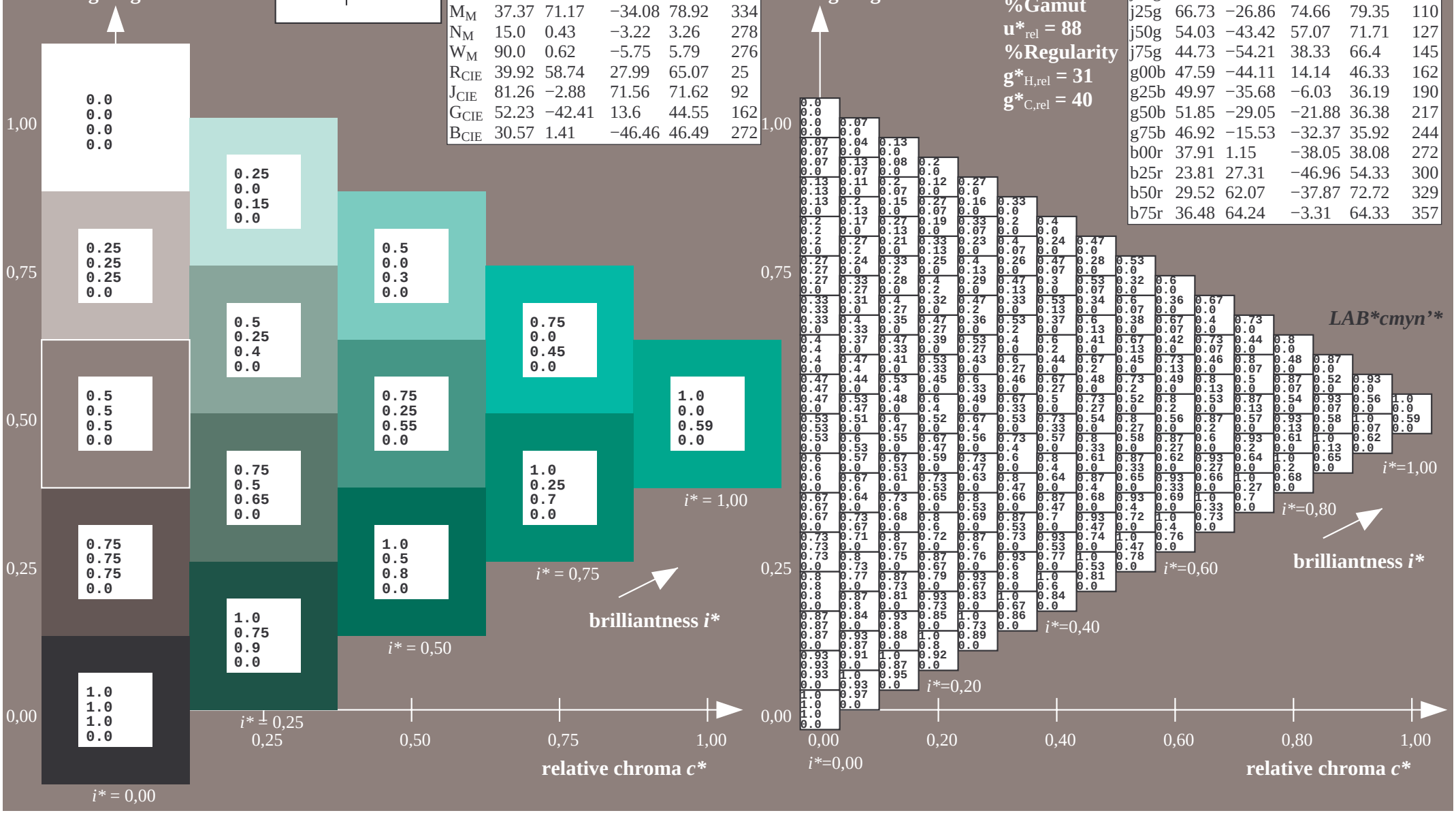
%Regularity

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

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

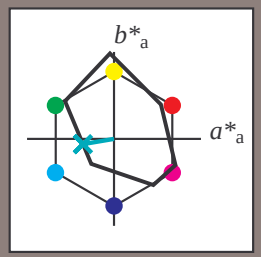
FRS15_90a; adapted (a) CIELAB data

	$L^*=L^*_a$	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_90a 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_90a; CIELAB data

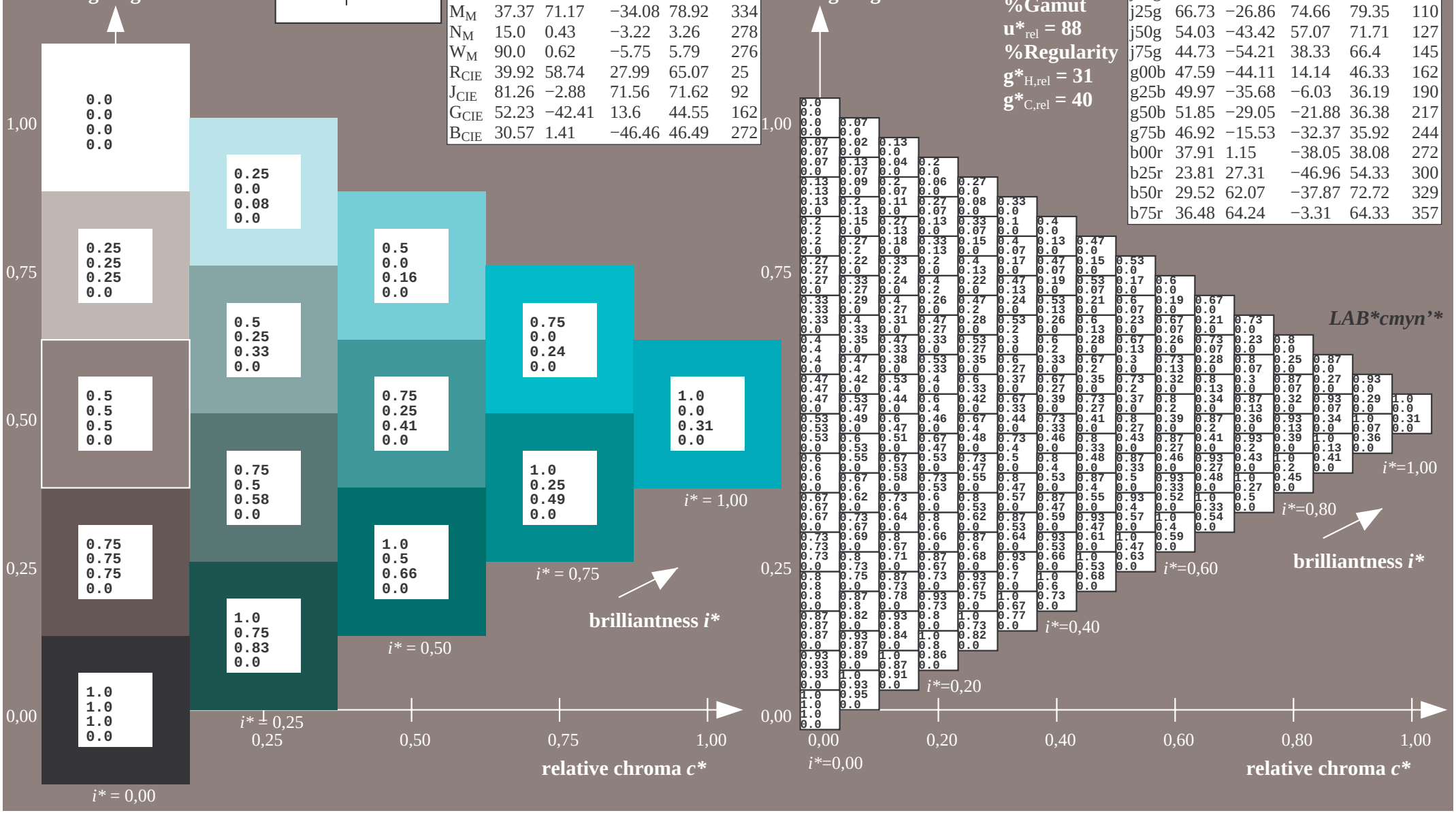
	L*=L*	a*	b*	C*ab	h*ab
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	58.74	27.99	65.07	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

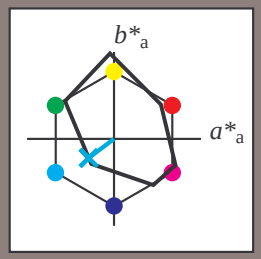
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90a; 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

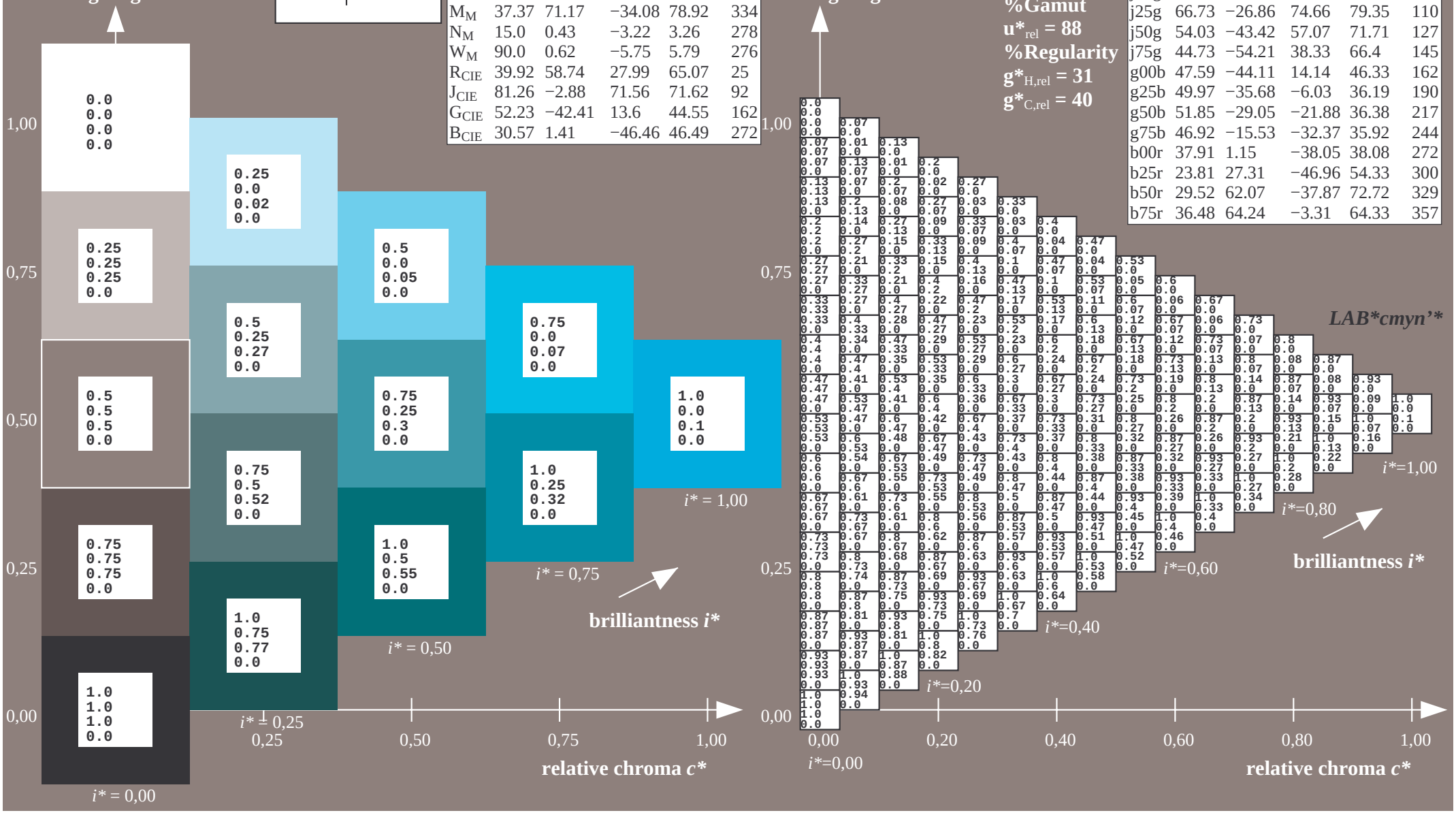
Data for maximum colour (Ma):
LAB*LAB$_{Ma}$**: 52 −28 −21**
LAB*LCH$_{Ma}$**: 52 36 217**
lab*rgb$_{Ma}$**: 0.0 1.0 1.0**
lab*olv$_{Ma}$**: 0.0 1.0 0.9**
triangle lightness *t**

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

LAB*cmyn'*

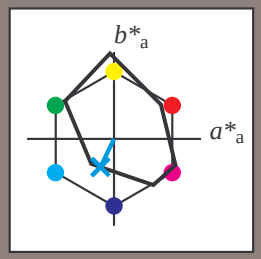
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90a; 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

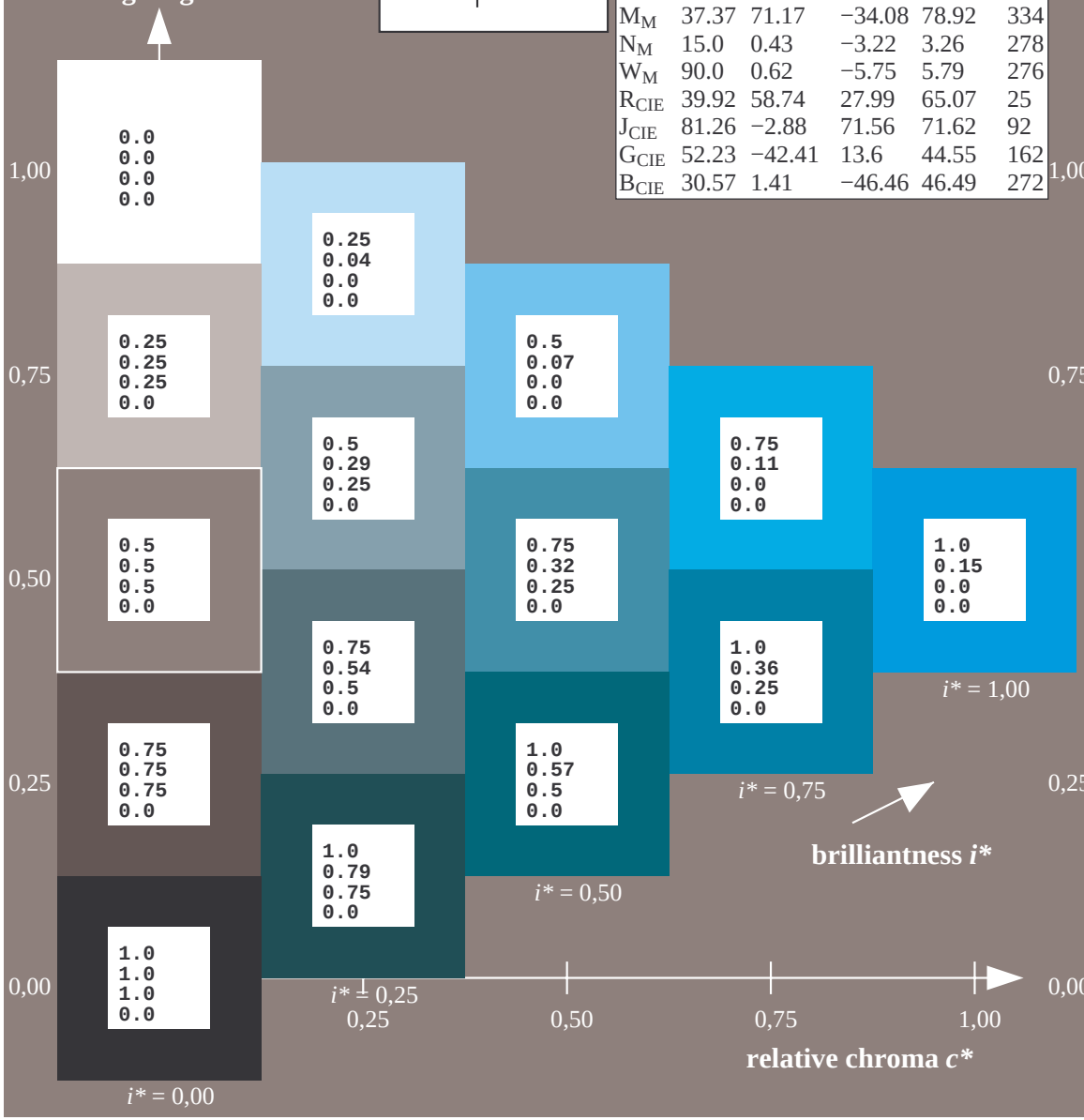
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 47 −15 −31**
***LAB*LCH*Ma*: 47 36 244**
***lab*rgb*Ma*: 0.0 0.5 1.0**
***lab*olv*Ma*: 0.0 0.85 1.0**
triangle lightness *t**

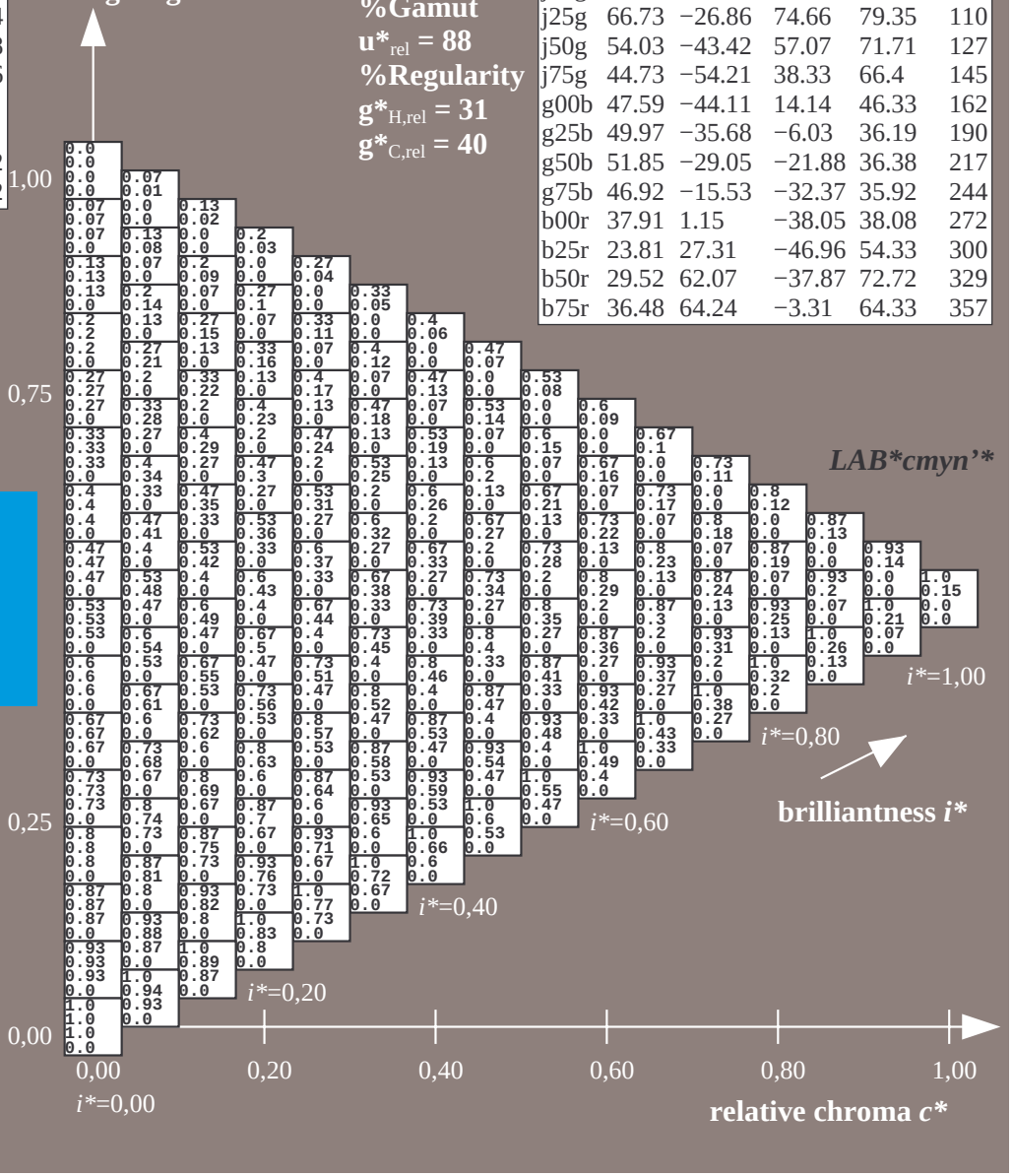
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

LAB*cmyn'*

FRS15_90a; 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_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 272/360 = 0.755$ *u* = b00r*

data for any colour: *LAB*cmyn'**

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

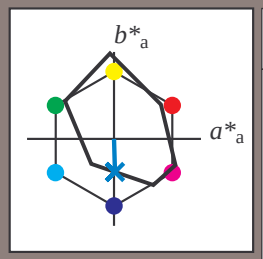
elementary hue text:

u = b00r*

contrast reduction factor:

$c_R = 0.9$

triangle lightness *t**



FRS15_90a; 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

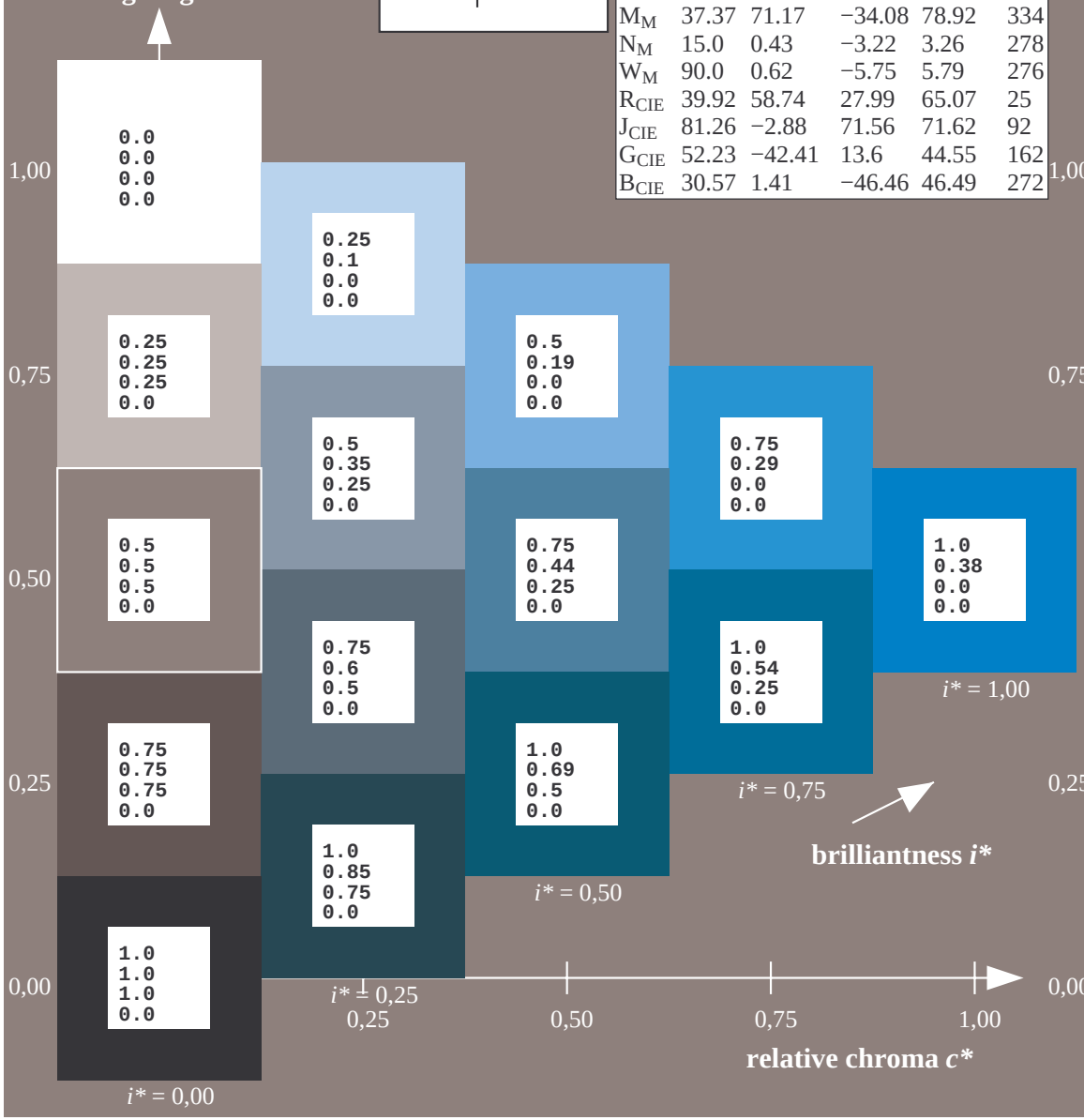
$u^*_{rel} = 88$

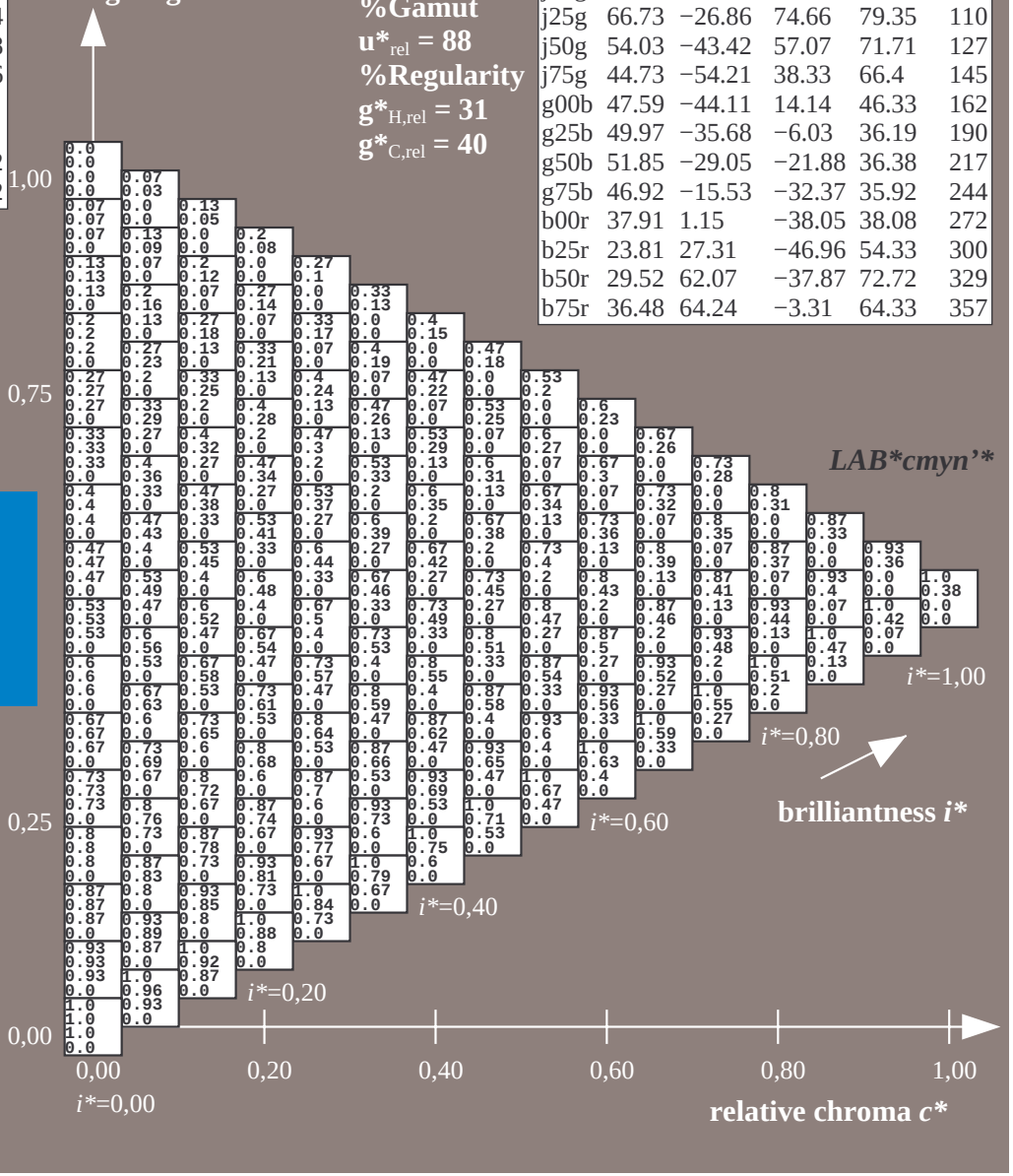
%Regularity

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

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

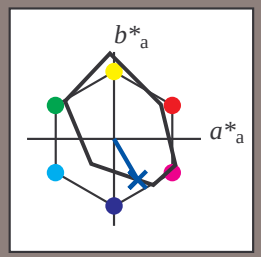
FRS15_90a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	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_90a 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_90a; CIELAB data

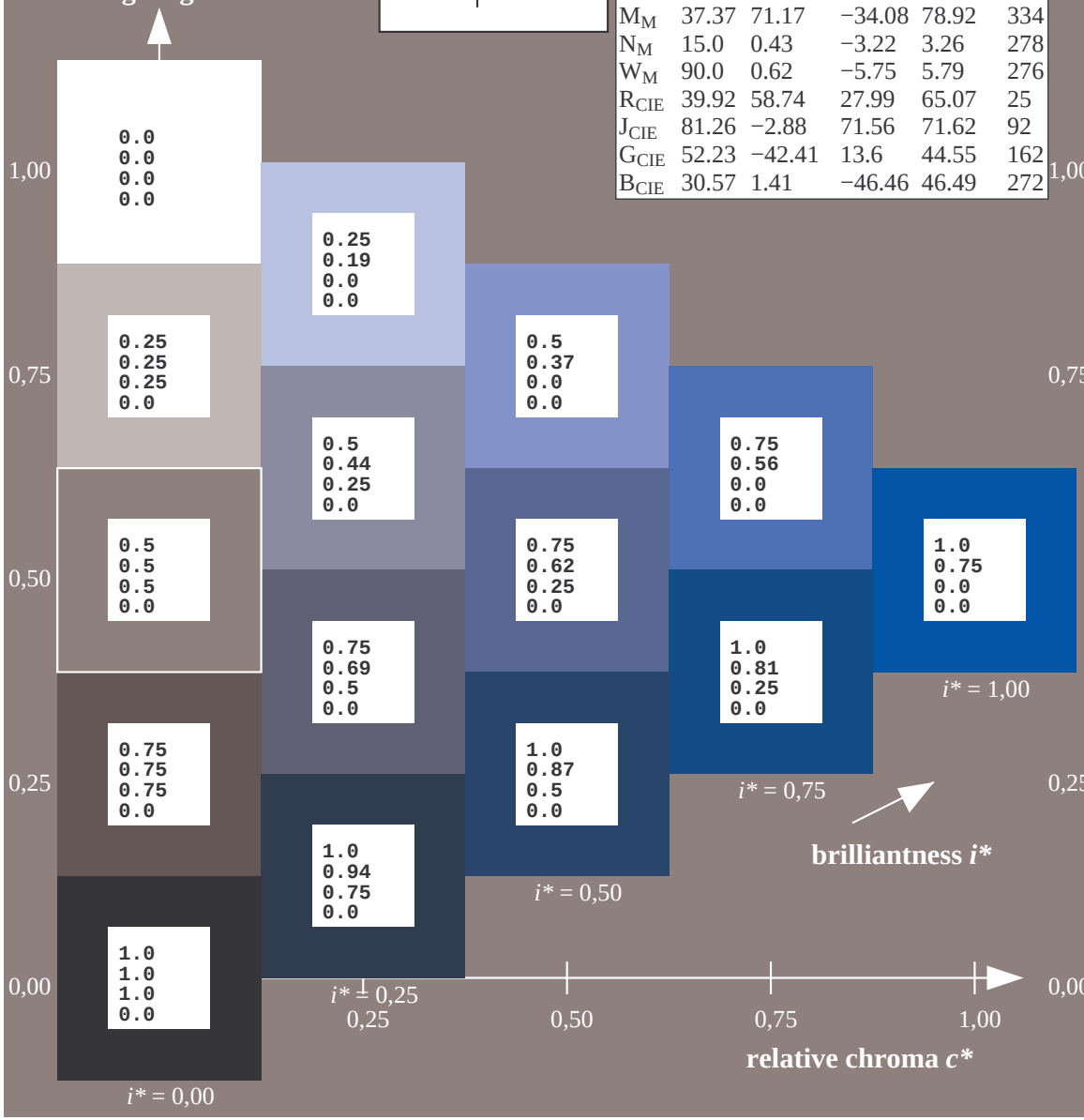
	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	35.06	54.41	35.65	65.05	33
Y_M	83.77	−4.03	92.72	92.8	92
L_M	44.13	−55.82	39.15	68.19	145
C_M	52.66	−25.66	−33.24	42.01	232
V_M	14.15	45.64	−56.26	72.45	309
M_M	37.37	71.17	−34.08	78.92	334
N_M	15.0	0.43	−3.22	3.26	278
W_M	90.0	0.62	−5.75	5.79	276
R_{CIE}	39.92	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

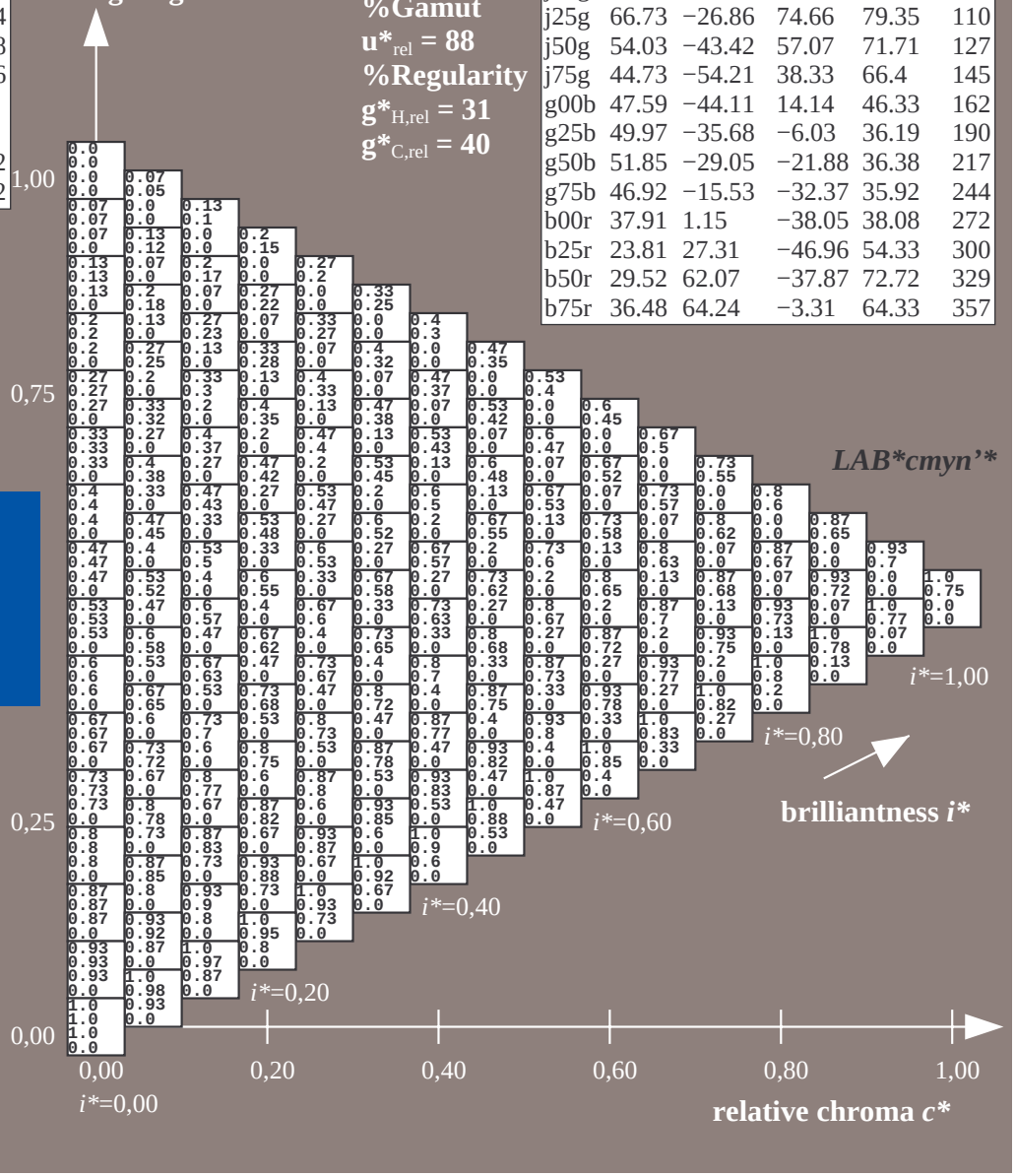
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 24 27 −46**
***LAB*LCH*Ma*: 24 54 300**
***lab*rgb*Ma*: 0.5 0.0 1.0**
***lab*olv*Ma*: 0.0 0.25 1.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

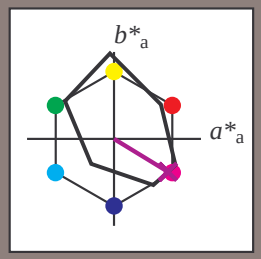
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
r00j	35.47	56.92	27.12	63.05	25
r25j	39.12	49.04	44.45	66.19	42
r50j	50.64	35.19	58.33	68.13	59
r75j	64.01	19.11	74.45	76.87	76
j00g	83.18	−3.93	97.56	97.64	92
j25g	66.73	−26.86	74.66	79.35	110
j50g	54.03	−43.42	57.07	71.71	127
j75g	44.73	−54.21	38.33	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_90a 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_90a; 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

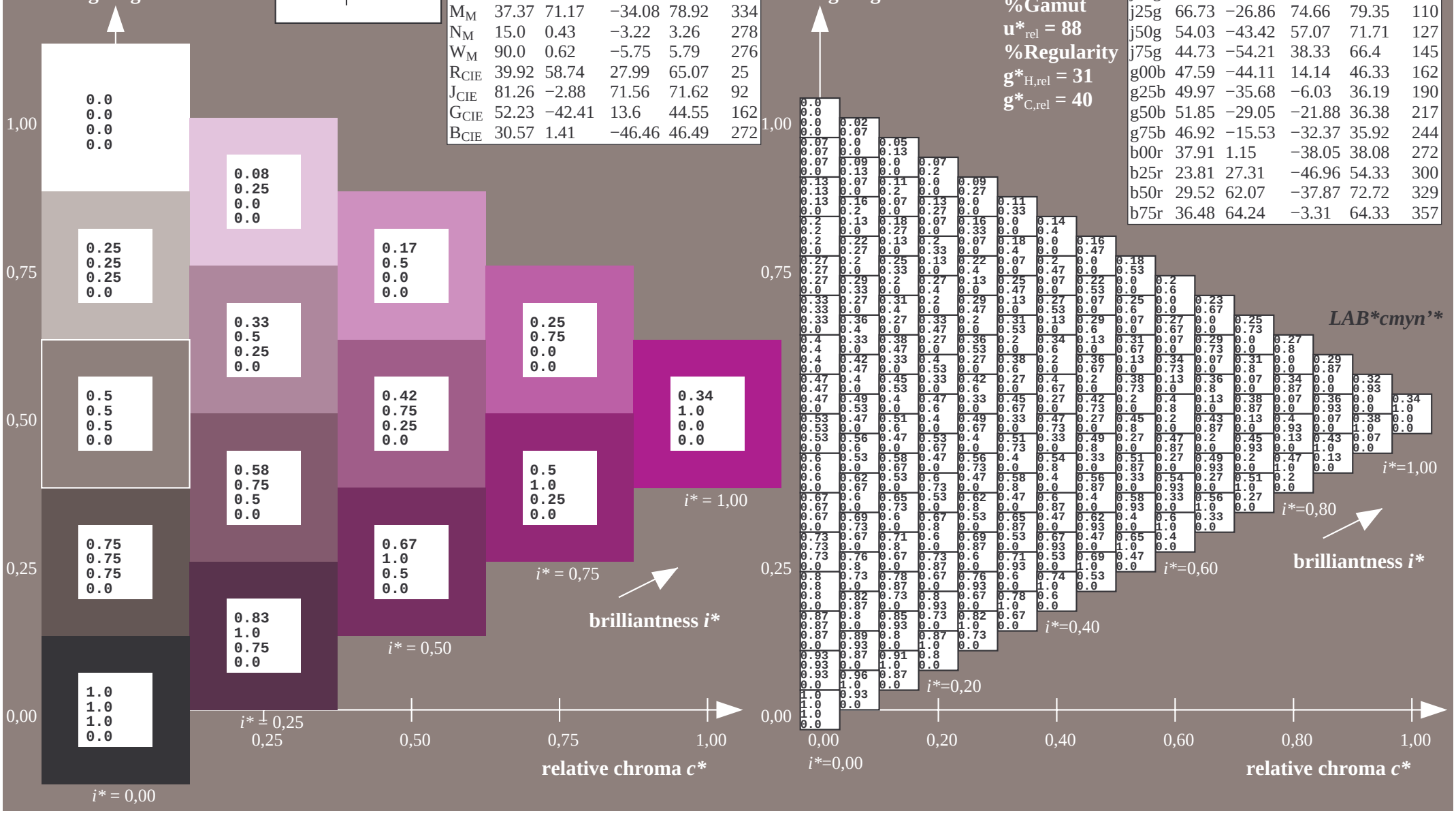
Data for maximum colour (Ma):
LAB*LAB*Ma**: 30 62 −37**
LAB*LCH*Ma**: 30 73 329**
lab*rgb*Ma**: 1.0 0.0 1.0**
lab*olv*Ma**: 0.66 0.0 1.0**
triangle lightness *t**

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

LAB*cmyn'*

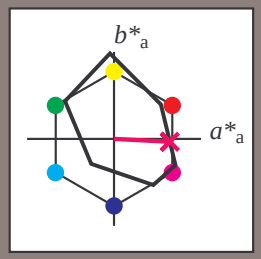
FRS15_90a; adapted (a) CIELAB data

	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_90a 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_90a; 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

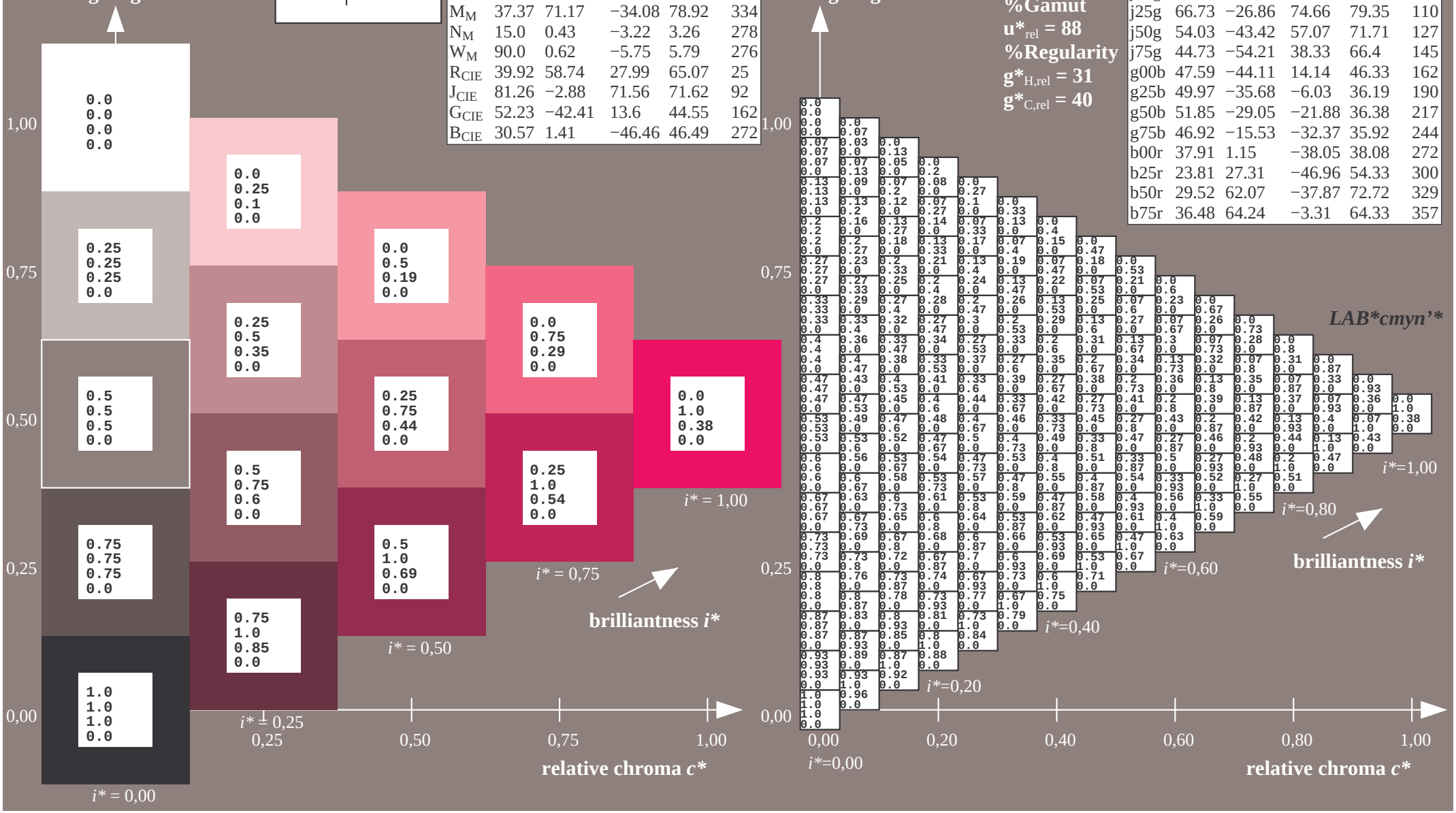
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 36 64 −2**
***LAB*LCH*Ma*: 36 64 357**
***lab*rgb*Ma*: 1.0 0.0 0.5**
***lab*olv*Ma*: 1.0 0.0 0.62**
triangle lightness *t**

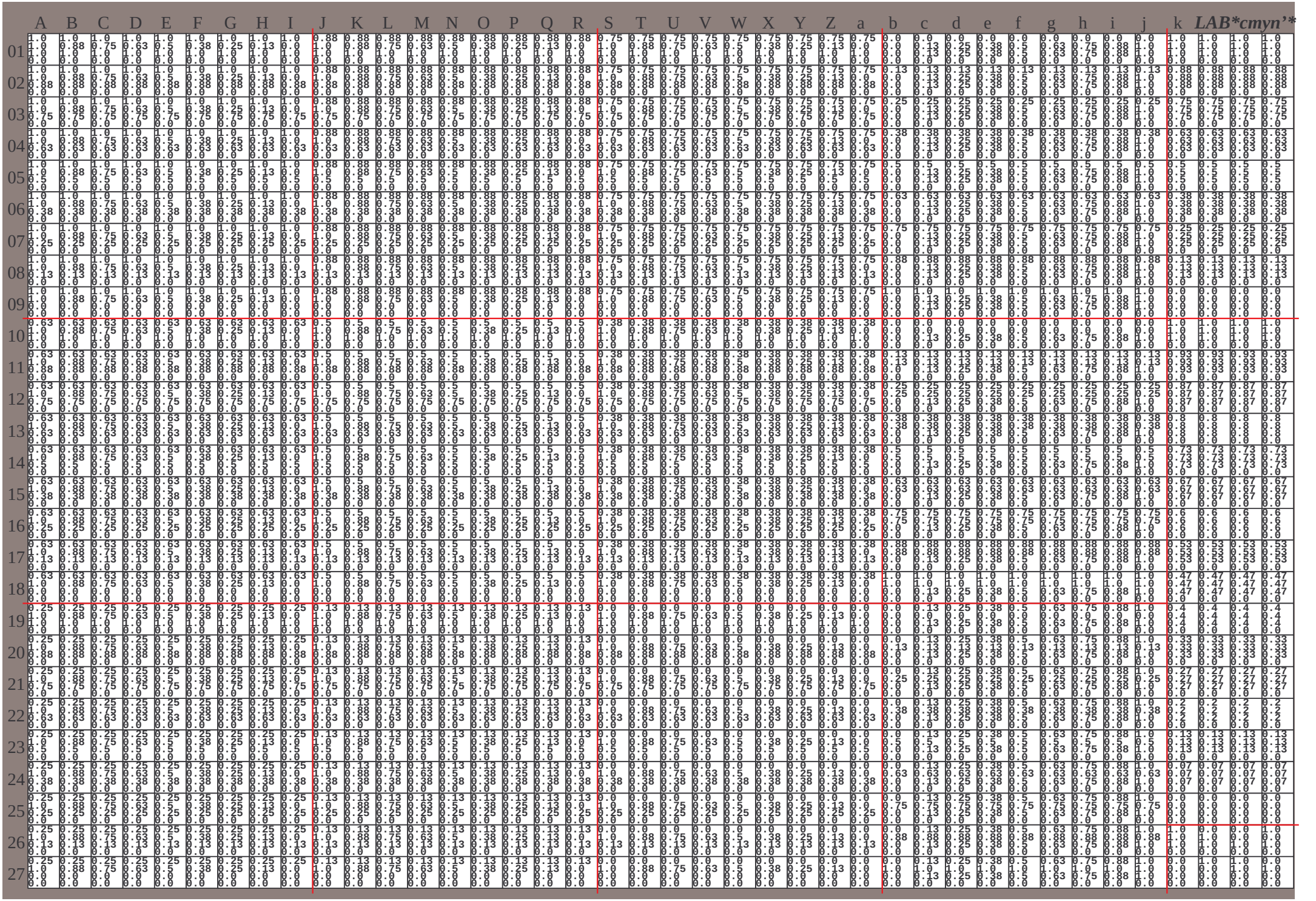
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

LAB*cmyn'*

FRS15_90a; 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'*