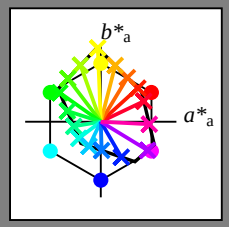
Input and output:
Colorimetric Printer Reflective System FRS15_90a
data for any colour:
u^*_e and number *no.* = 00 .. 15
elementary hue text:
u^*_e = 16 hues *r00j, r25j, ..., b75r*
contrast reduction factor:
c_R = 0.9

FRS15_90a; adapted (a) CIELAB data

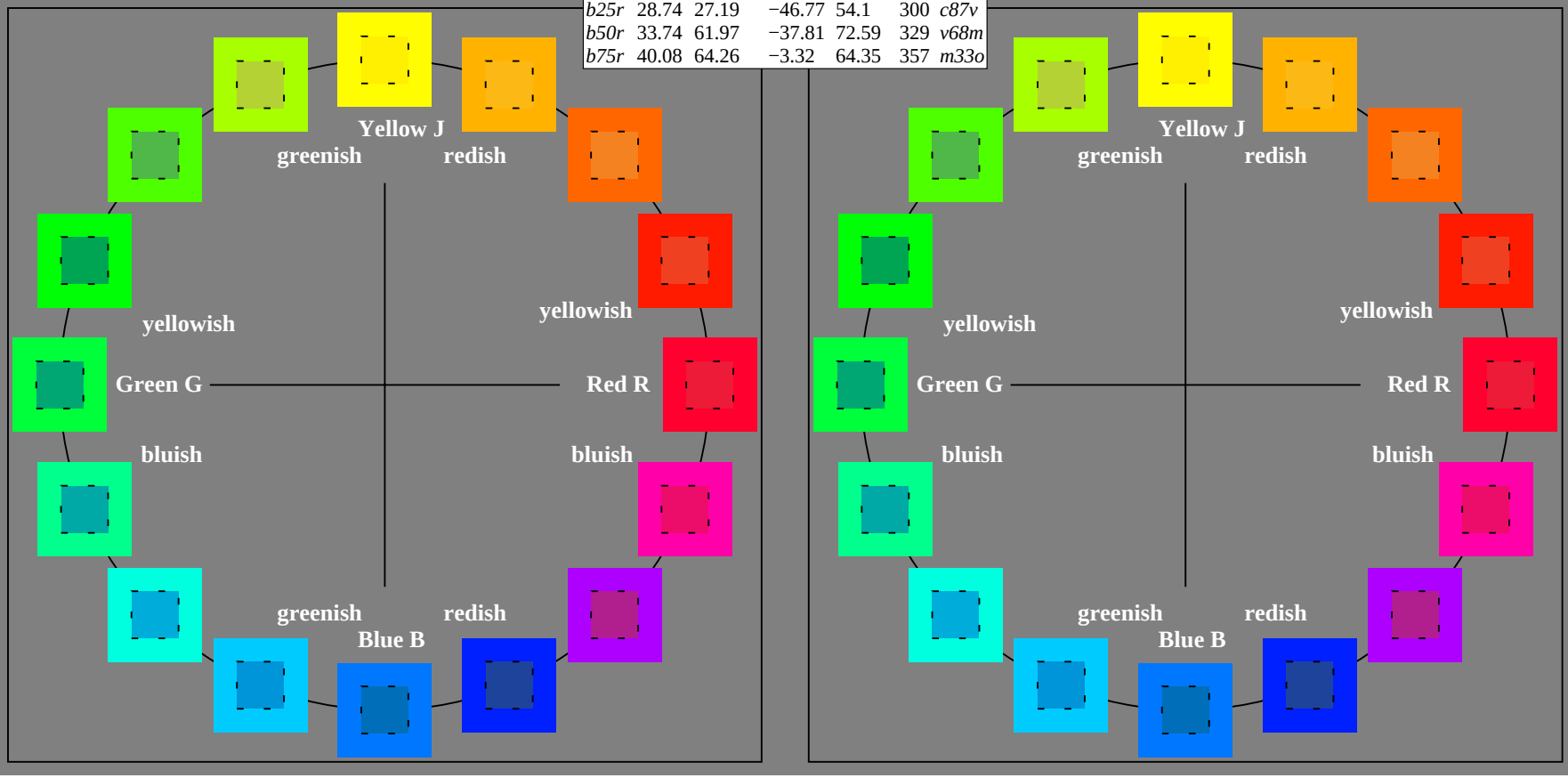
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

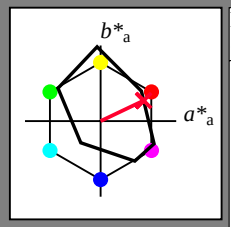
FRS15_90a; adapted (a) CIELAB data

Name	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	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	−2.89	71.56	71.62	92
G_{CIE}	52.23	−42.42	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.47	46.49	272



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.071$ $u^*_e = r00j$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *r00j* u^*_d = *m81o*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

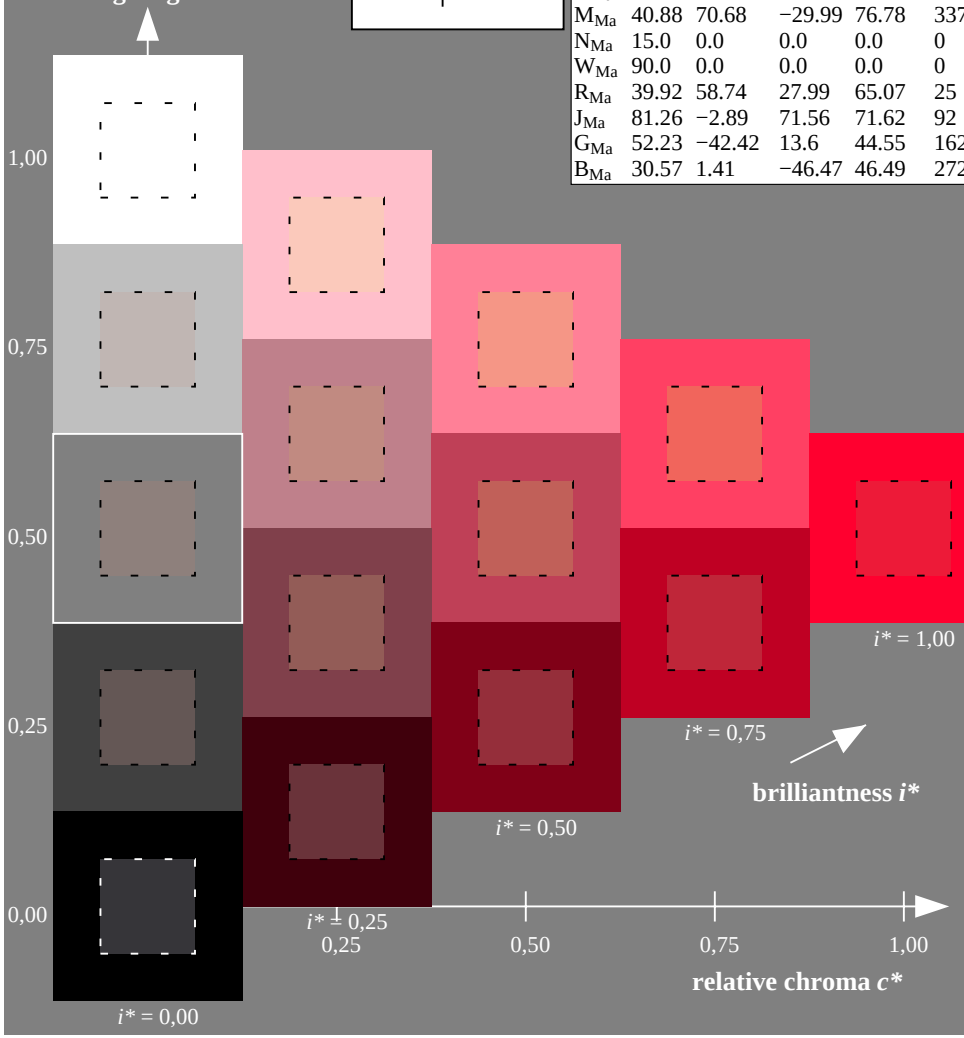
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

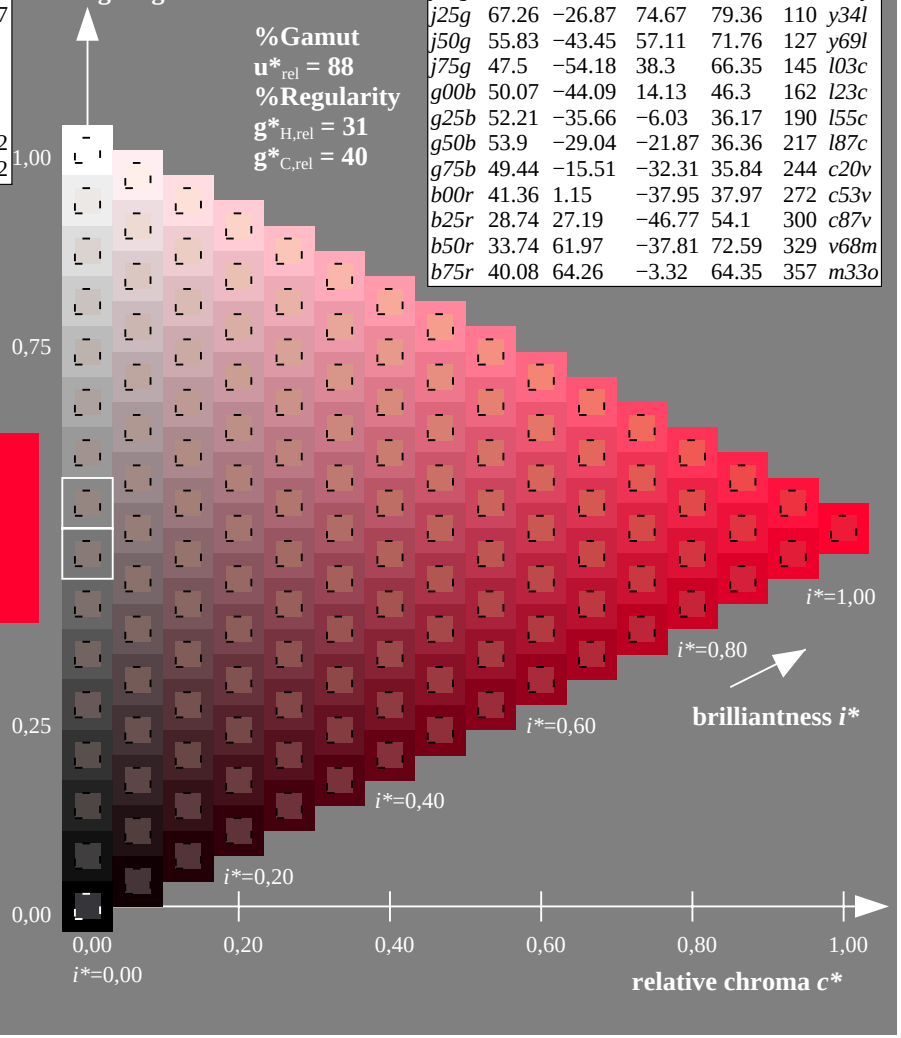
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 39 57 27**
LAB*LCH*$_{Ma}$**: 39 63 25**
lab*rgb*$_{Ma}$**: 1.0 0.0 0.0**
lab*olv*$_{Ma}$**: 1.0 0.0 0.18**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

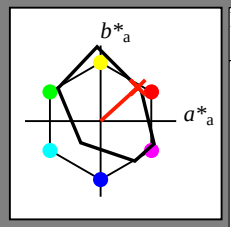
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*





Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.117$ **$u^*_e = r25j$**

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e **= *r25j*** u^*_d **= *o10y***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

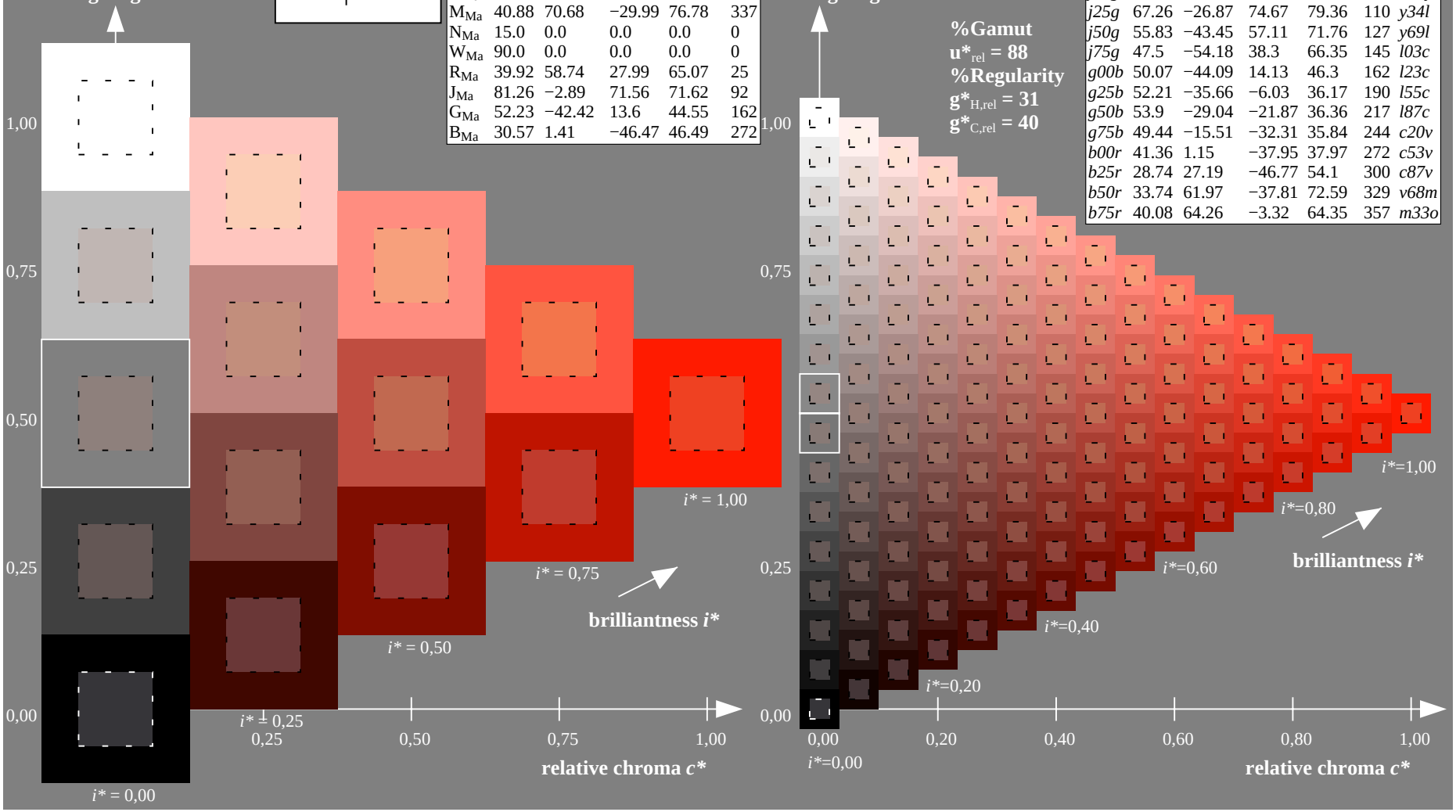
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 42 49 44**
LAB*LCH*$_{Ma}$**: 42 66 42**
lab*rgb*$_{Ma}$**: 1.0 0.25 0.0**
lab*olv*$_{Ma}$**: 1.0 0.1 0.0**
triangle lightness *t**

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

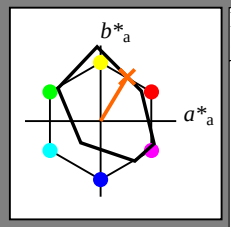
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *r50j* u^*_d = *o40y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

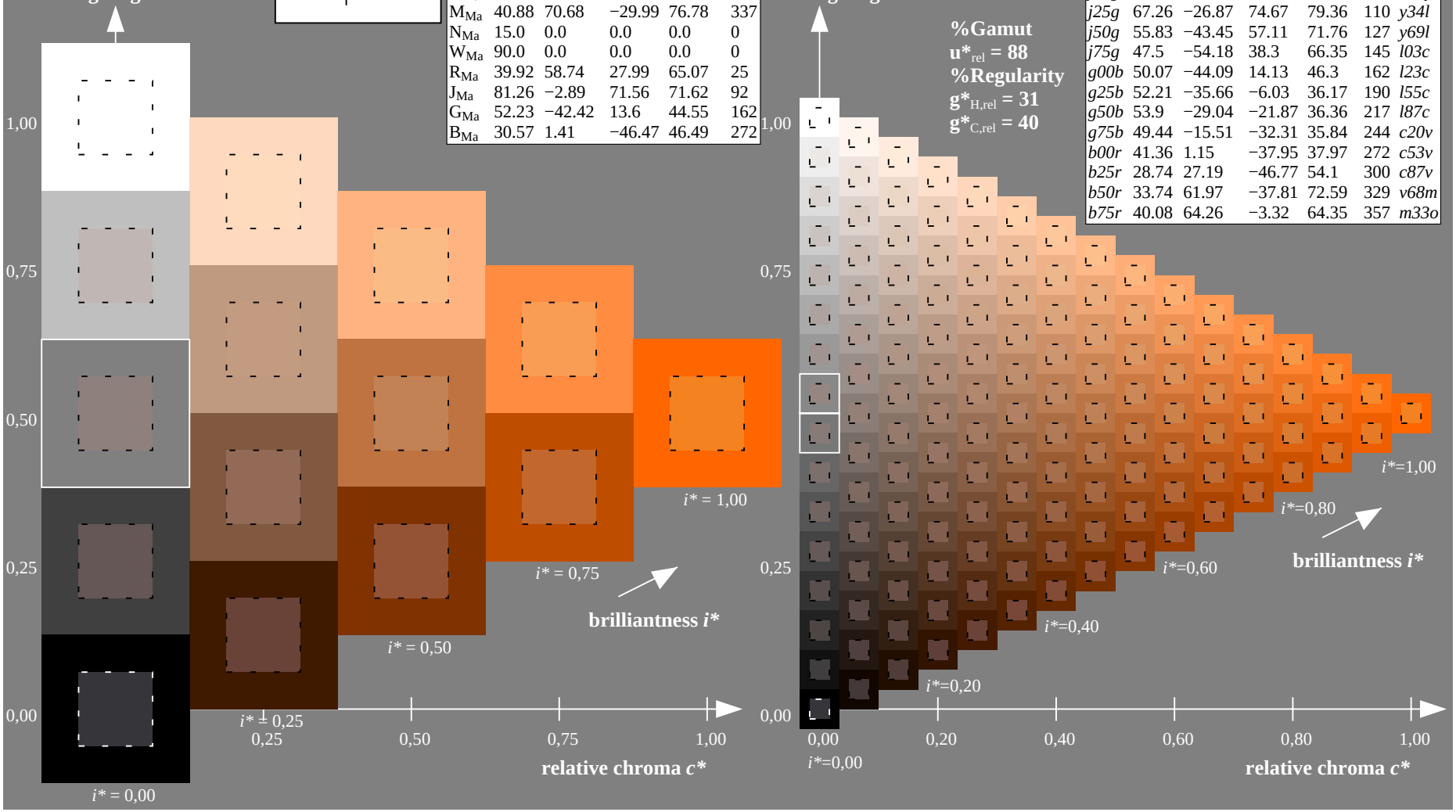
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 53 35 58**
LAB*LCH*$_{Ma}$**: 53 68 58**
lab*rgb*$_{Ma}$**: 1.0 0.5 0.0**
lab*olv*$_{Ma}$**: 1.0 0.4 0.0**
triangle lightness *t**

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

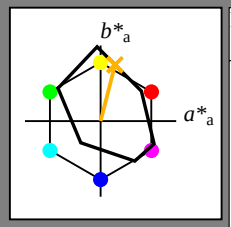
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e **= *r75j*** u^*_d **= *o69y***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

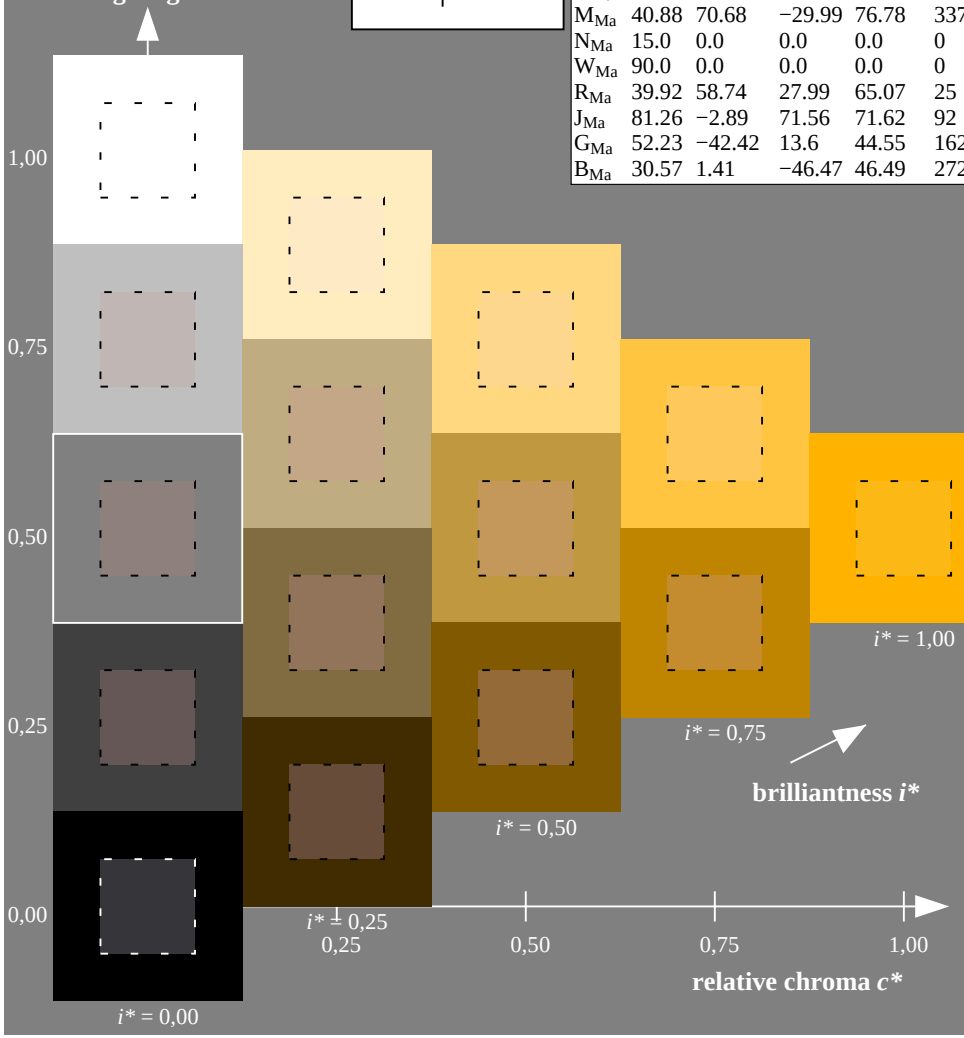
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

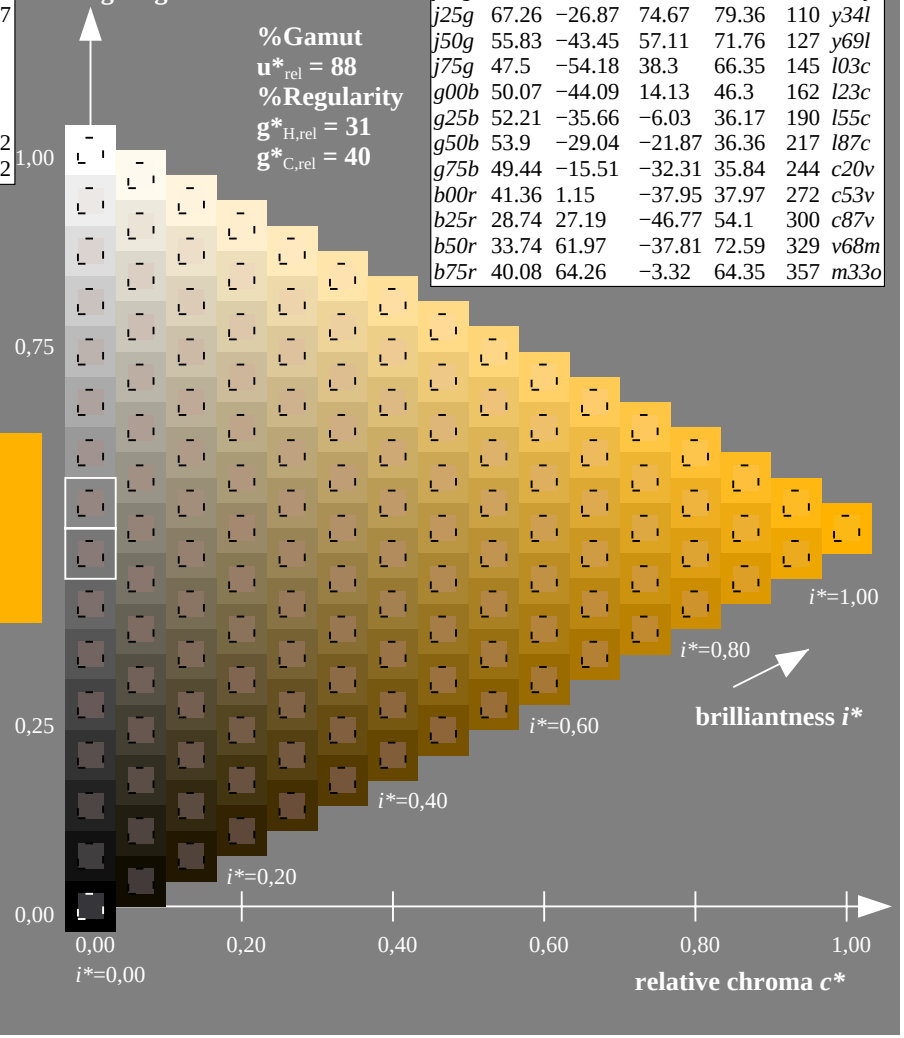
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 65 19 74**
LAB*LCH*$_{Ma}$**: 65 77 75**
lab*rgb*$_{Ma}$**: 1.0 0.75 0.0**
lab*olv*$_{Ma}$**: 1.0 0.7 0.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

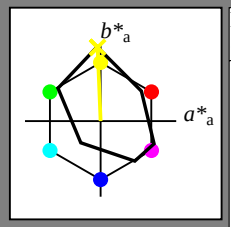
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*





Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.256$ **$u^*_e = j00g$**

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j00g* u^*_d = *o98y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

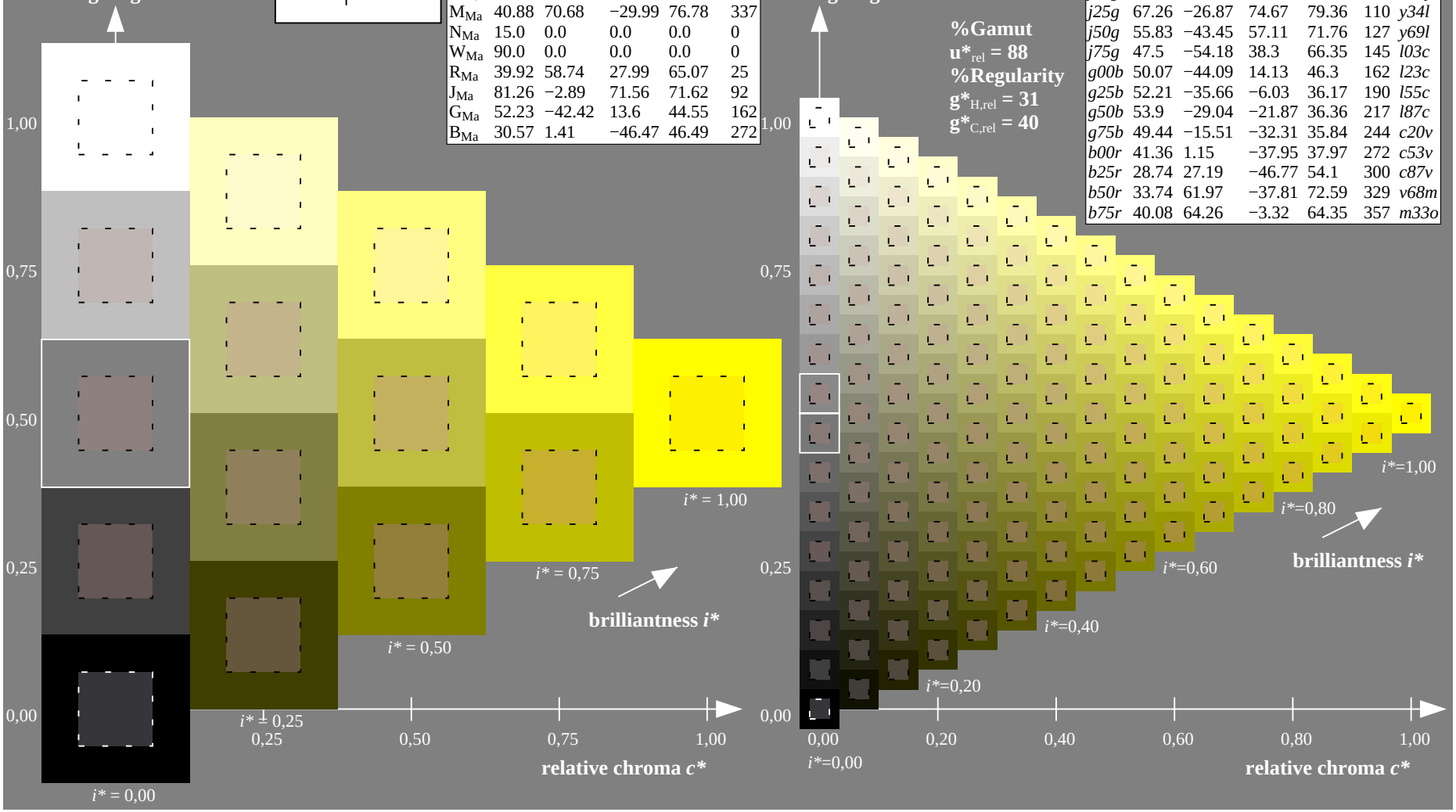
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 82 −4 98**
LAB*LCH*$_{Ma}$**: 82 98 92**
lab*rgb*$_{Ma}$**: 1.0 1.0 0.0**
lab*olv*$_{Ma}$**: 1.0 0.99 0.0**
triangle lightness *t**

FRS15_90a; adapted (a) CIELAB data

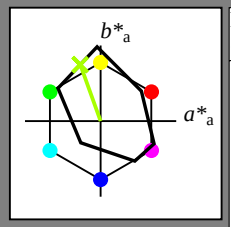
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*

%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 $h^* = lab^*h^* = h_{ab}/360 = 0.305$ **$u^*_e = j25g$**

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j25g* u^*_d = *y34l*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

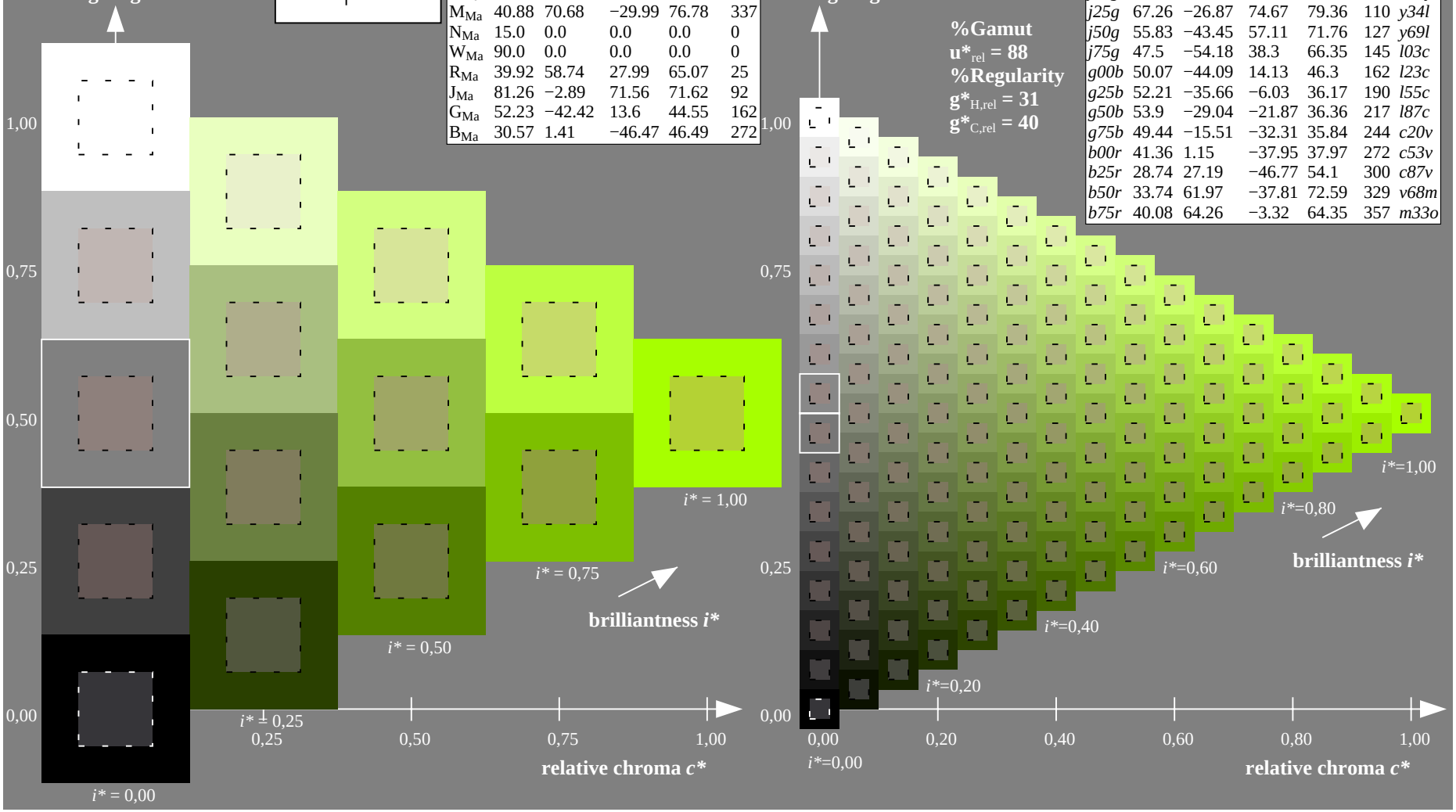
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 67 −27 75**
LAB*LCH*$_{Ma}$**: 67 79 109**
lab*rgb*$_{Ma}$**: 0.75 1.0 0.0**
lab*olv*$_{Ma}$**: 0.66 1.0 0.0**
triangle lightness *t**

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

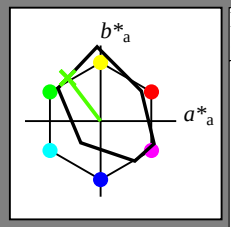
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.354$ **$u^*_e = j50g$**

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j50g* u^*_d = *y69l*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

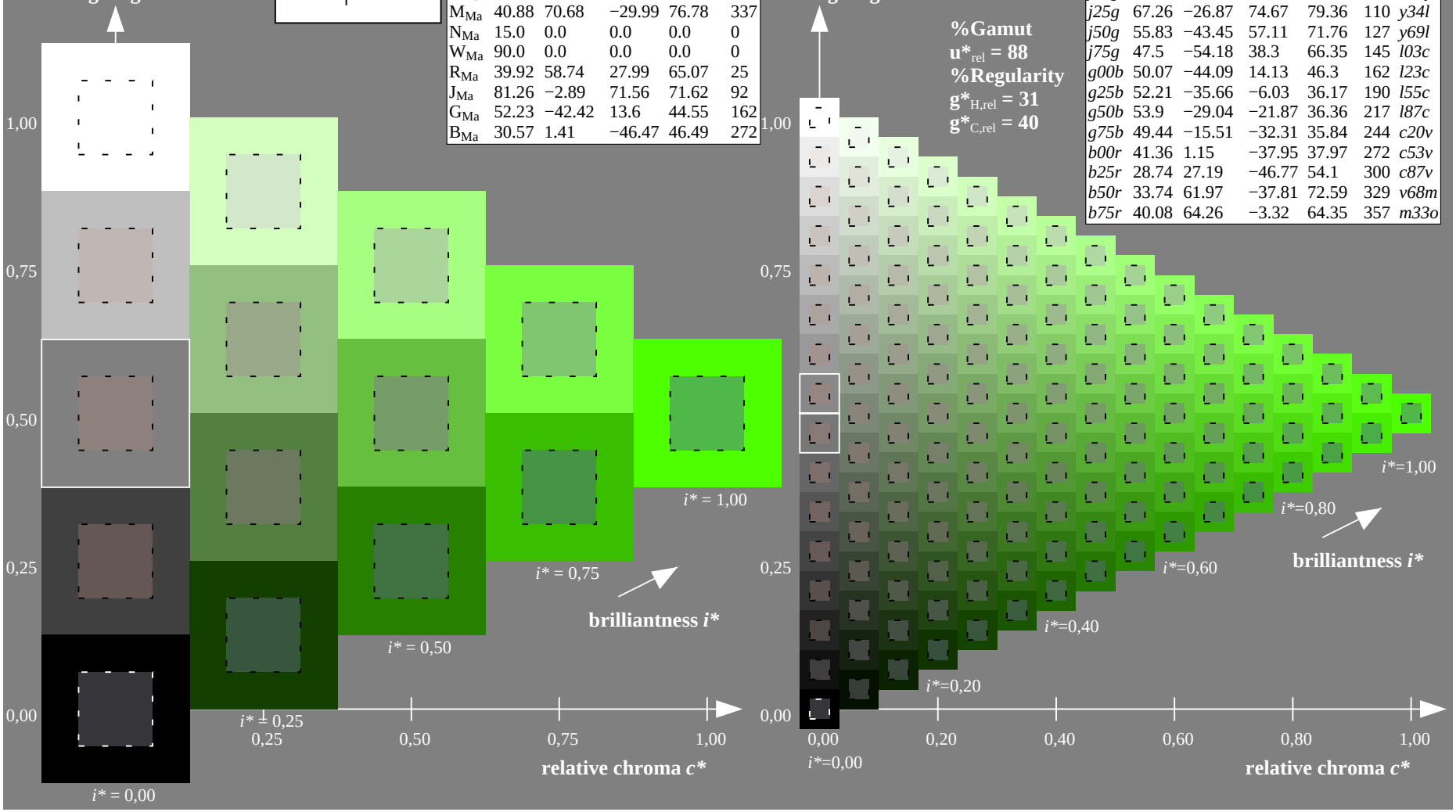
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 56 −43 57**
LAB*LCH*$_{Ma}$**: 56 72 127**
lab*rgb*$_{Ma}$**: 0.5 1.0 0.0**
lab*olv*$_{Ma}$**: 0.3 1.0 0.0**
triangle lightness *t**

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

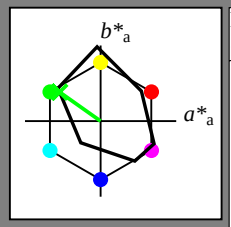
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.402$ **$u^*_e = j75g$**

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j75g* u^*_d = *l03c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

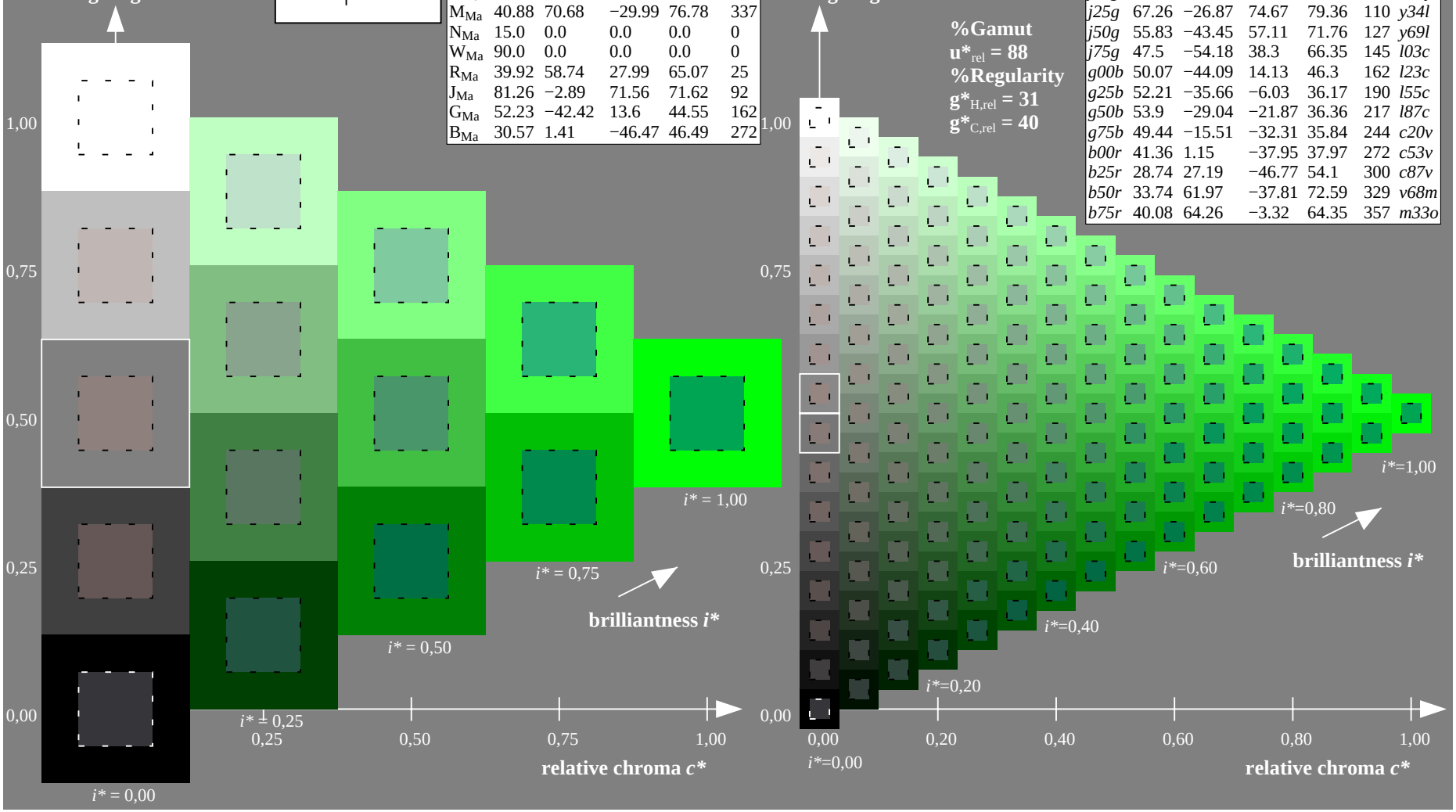
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 48 −54 38**
LAB*LCH*$_{Ma}$**: 48 66 144**
lab*rgb*$_{Ma}$**: 0.25 1.0 0.0**
lab*olv*$_{Ma}$**: 0.0 1.0 0.03**
triangle lightness *t**

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

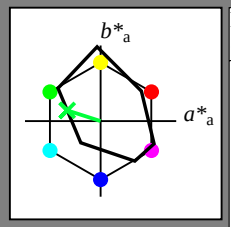
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
$u^*_e = g00b$ $u^*_d = l23c$
contrast reduction factor:
$c_R = 0.9$
triangle lightness ***t****



FRS15_90a; adapted (a) CIELAB data

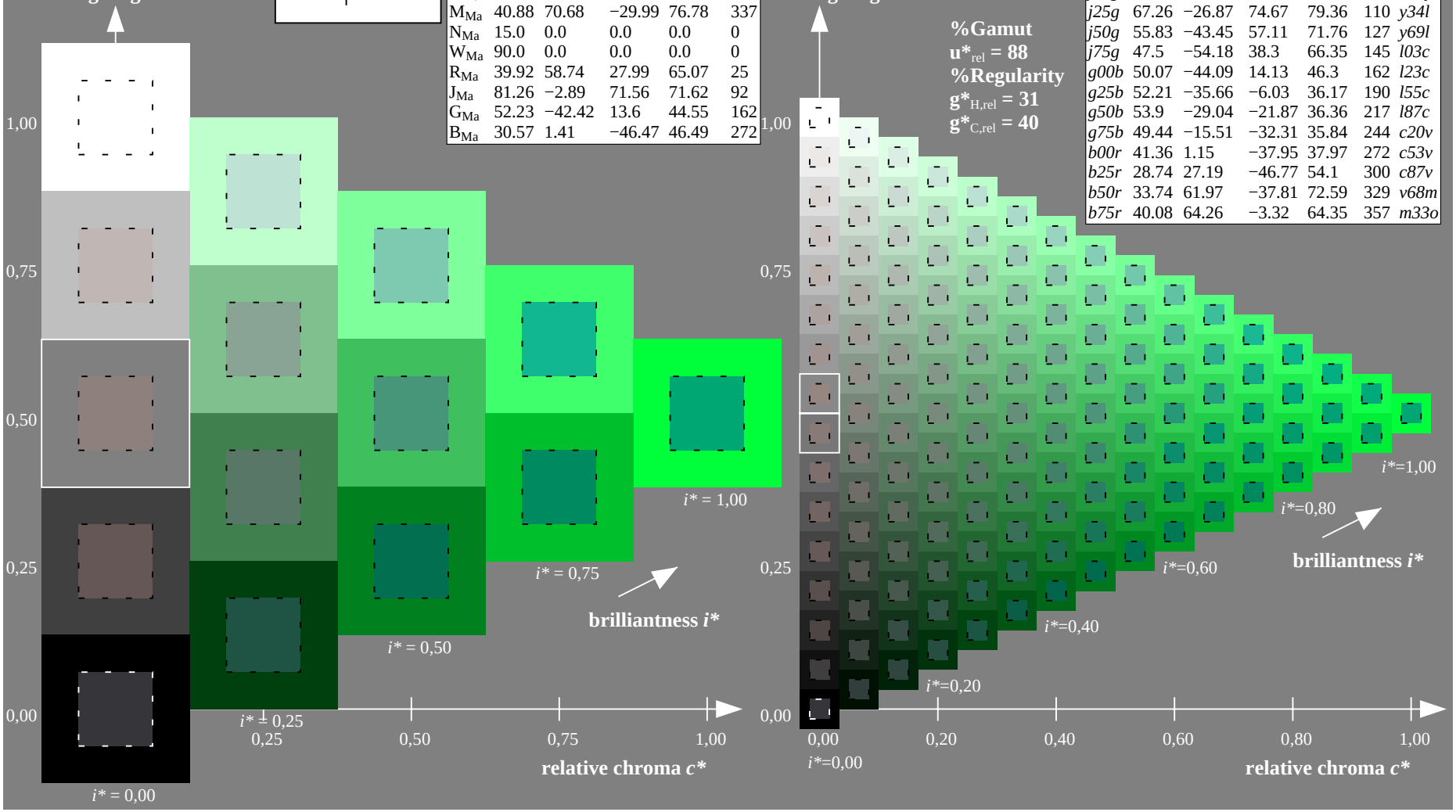
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 50 −44 14**
LAB*LCH*$_{Ma}$**: 50 46 162**
lab*rgb*$_{Ma}$**: 0.0 1.0 0.0**
lab*olv*$_{Ma}$**: 0.0 1.0 0.23**
triangle lightness ***t****

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

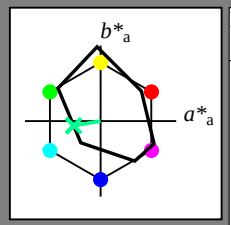
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *g25b* u^*_d = *l55c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

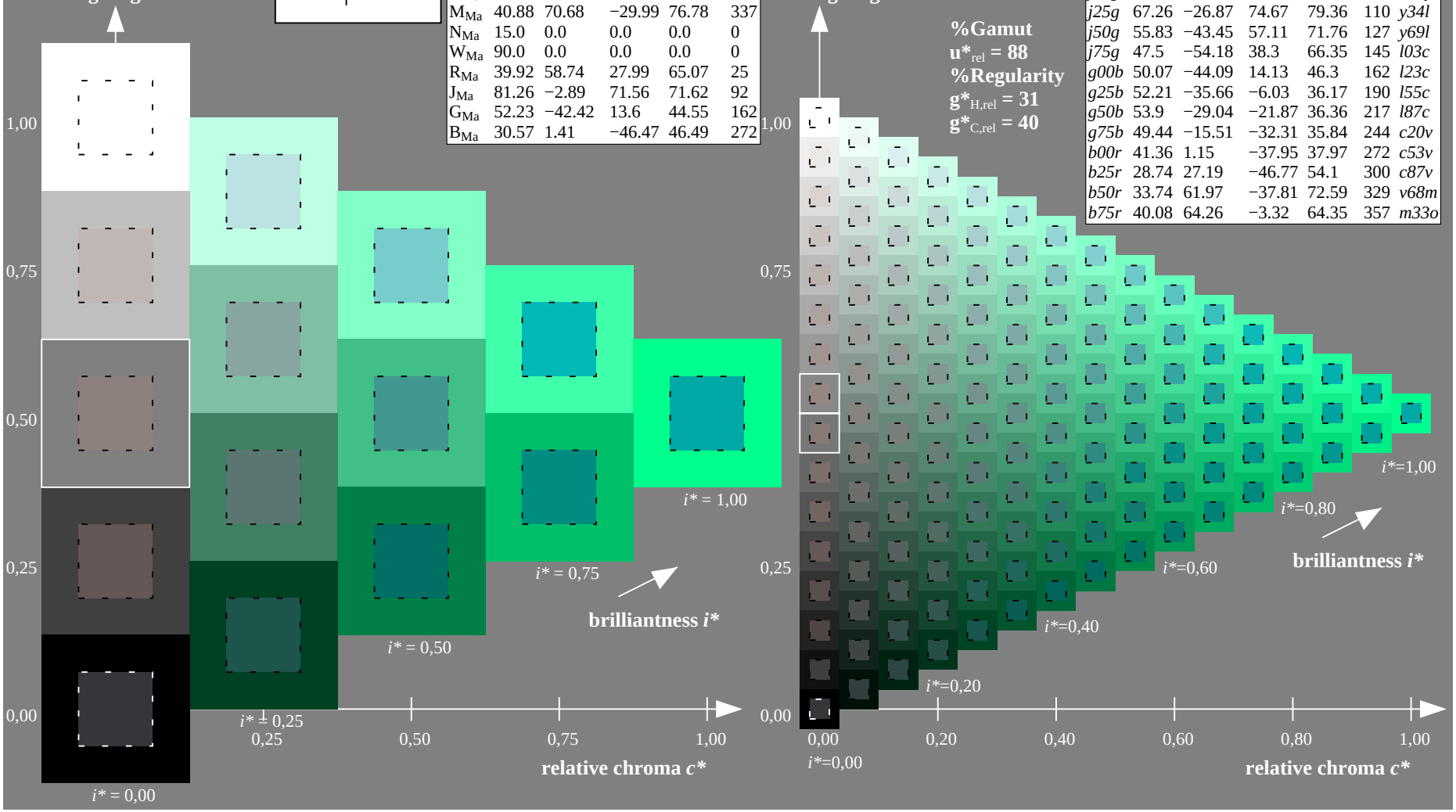
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 52 −36 −6**
LAB*LCH*$_{Ma}$**: 52 36 189**
lab*rgb*$_{Ma}$**: 0.0 1.0 0.5**
lab*olv*$_{Ma}$**: 0.0 1.0 0.55**
triangle lightness *t**

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

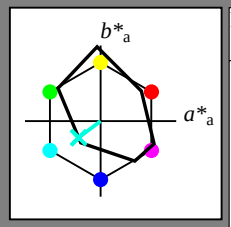
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *g50b* u^*_d = *l87c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

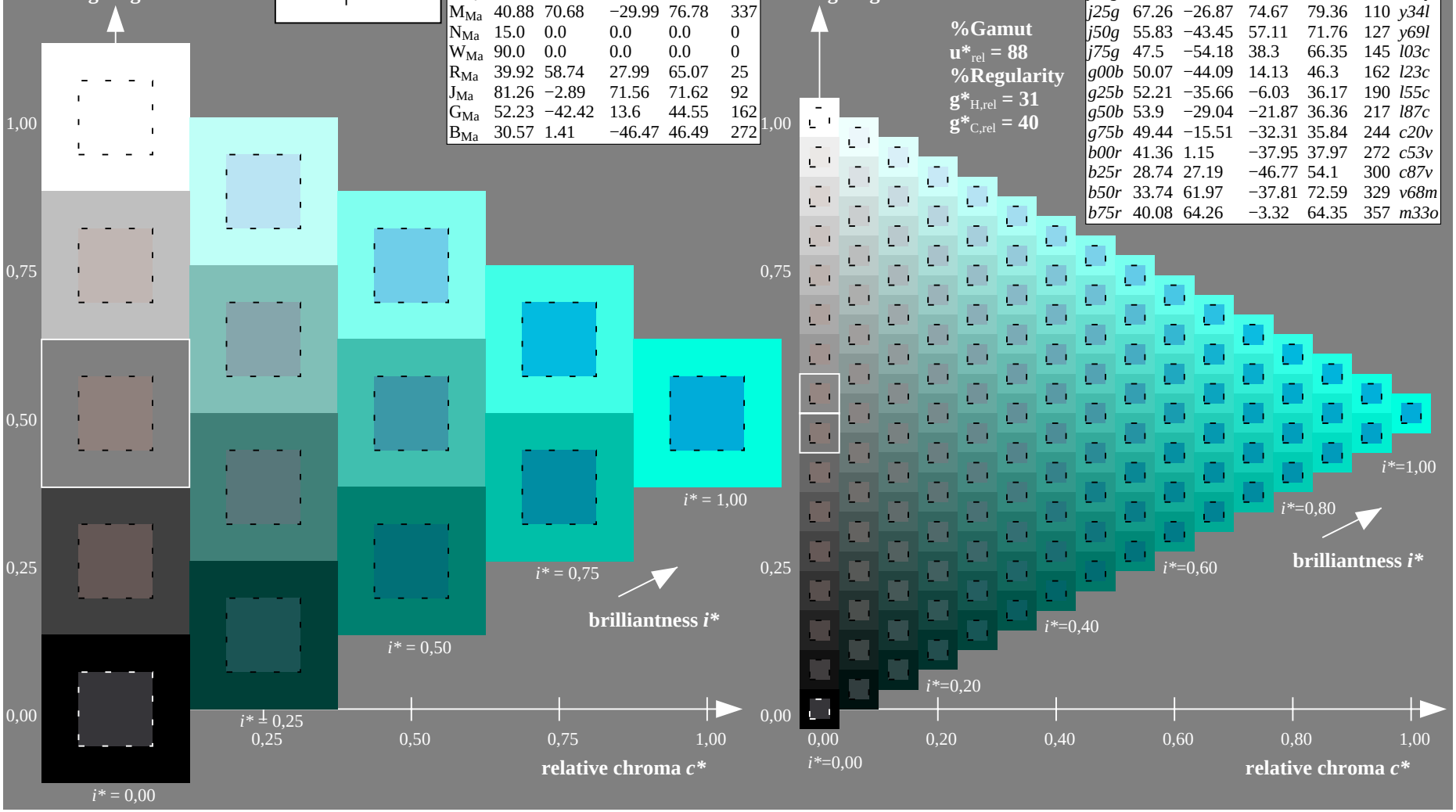
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 54 −29 −22**
LAB*LCH*$_{Ma}$**: 54 36 216**
lab*rgb*$_{Ma}$**: 0.0 1.0 1.0**
lab*olv*$_{Ma}$**: 0.0 1.0 0.88**
triangle lightness *t**

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

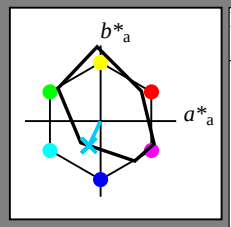
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.679$ **$u^*_e = g75b$**

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *g75b* u^*_d = *c20v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

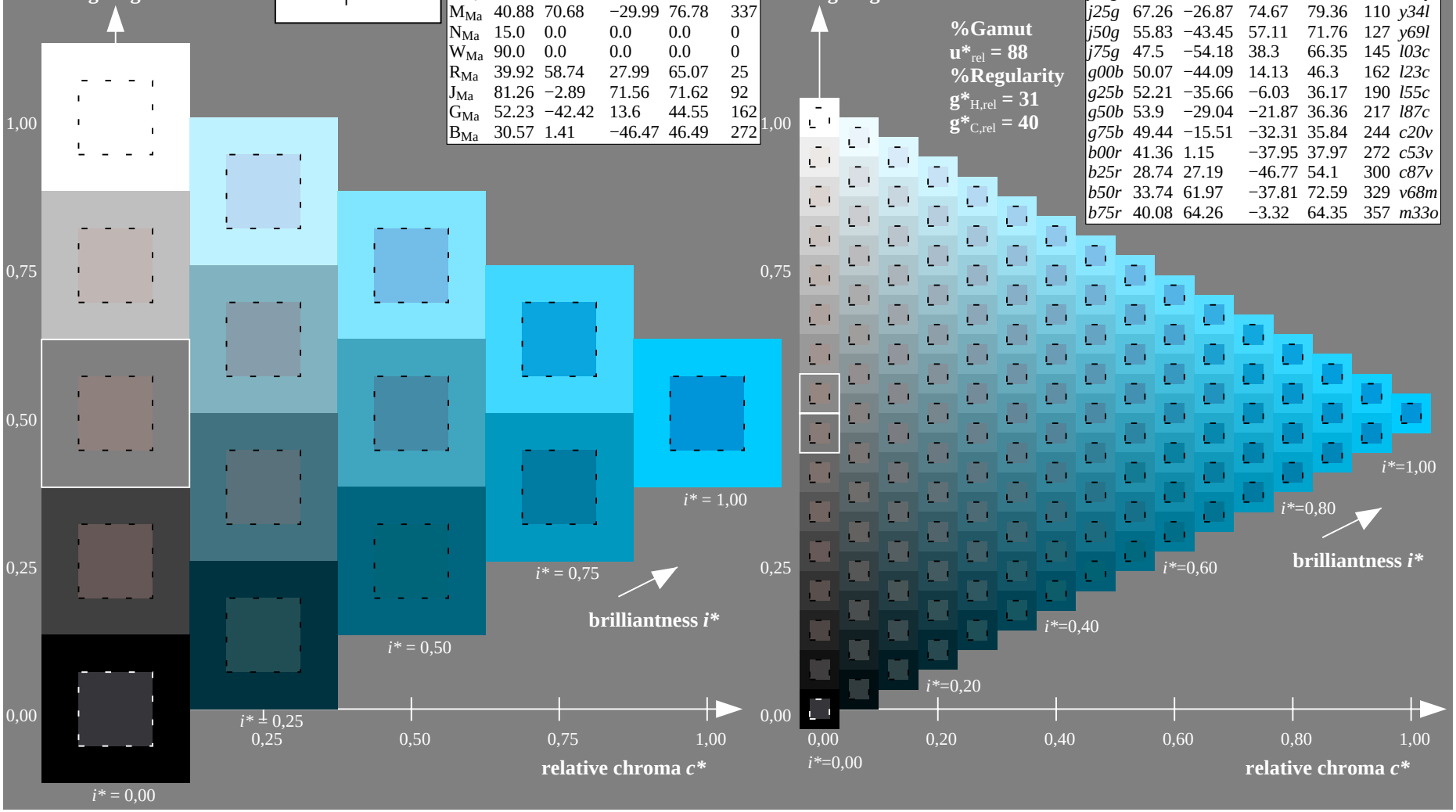
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB**Ma: 49 −16 −32**
***LAB*LCH**Ma: 49 36 244**
***lab*rgb**Ma: 0.0 0.5 1.0**
***lab*olv**Ma: 0.0 0.8 1.0**
triangle lightness *t**

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

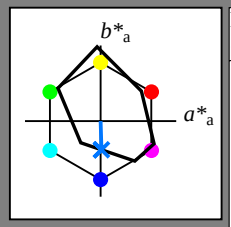
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



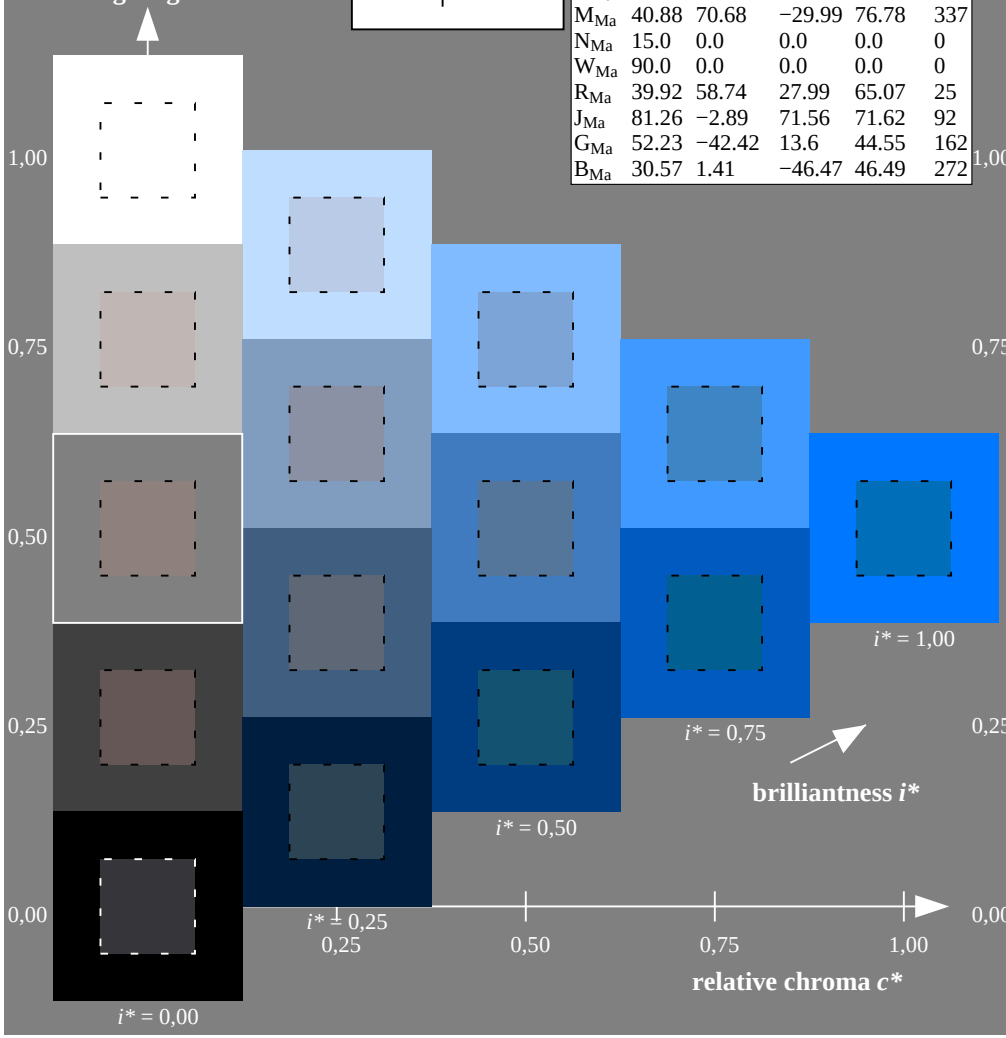
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.755$ **$u^*_e = b00r$**

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *b00r* u^*_d = *c53v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

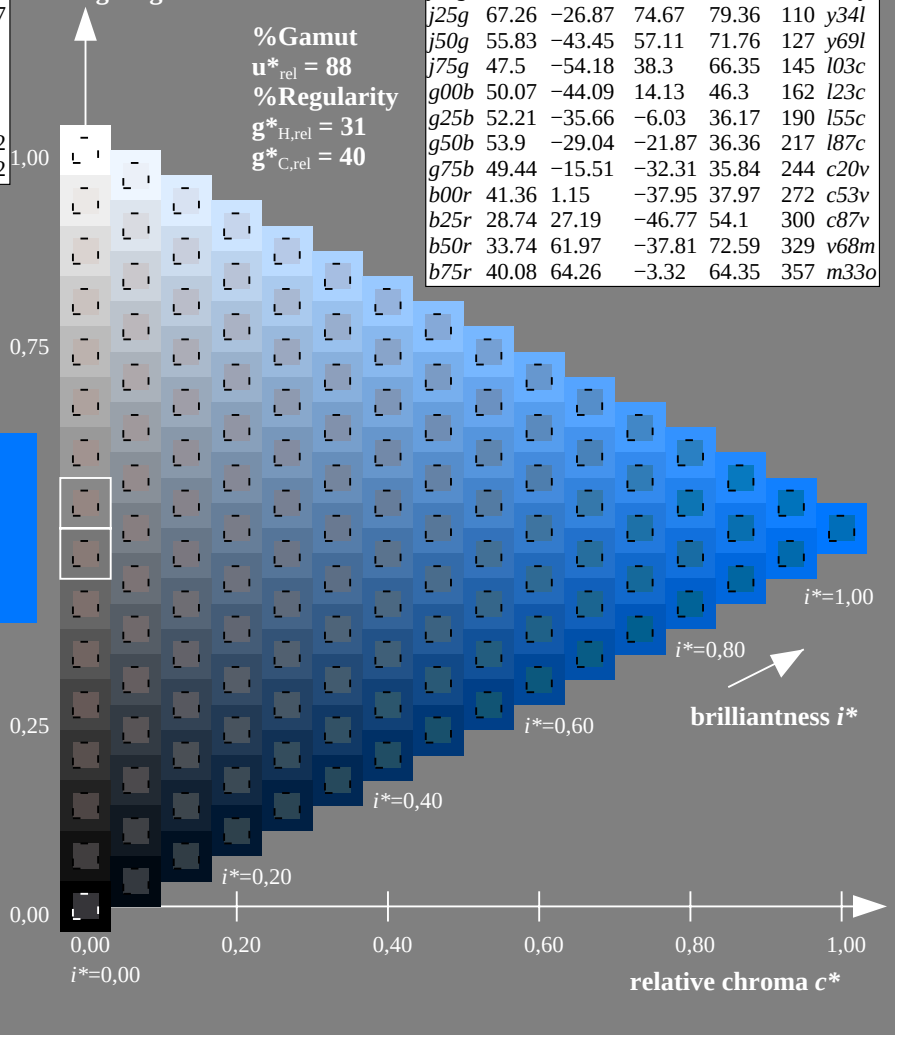


Data for maximum colour (Ma):
*LAB*LAB**$_{Ma}$: 41 1 −38
*LAB*LCH**$_{Ma}$: 41 38 271
*lab*rgb**$_{Ma}$: 0.0 0.0 1.0
*lab*olv**$_{Ma}$: 0.0 0.47 1.0
triangle lightness *t**

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

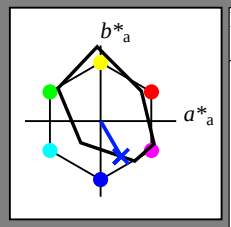
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *b25r* u^*_d = *c87v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

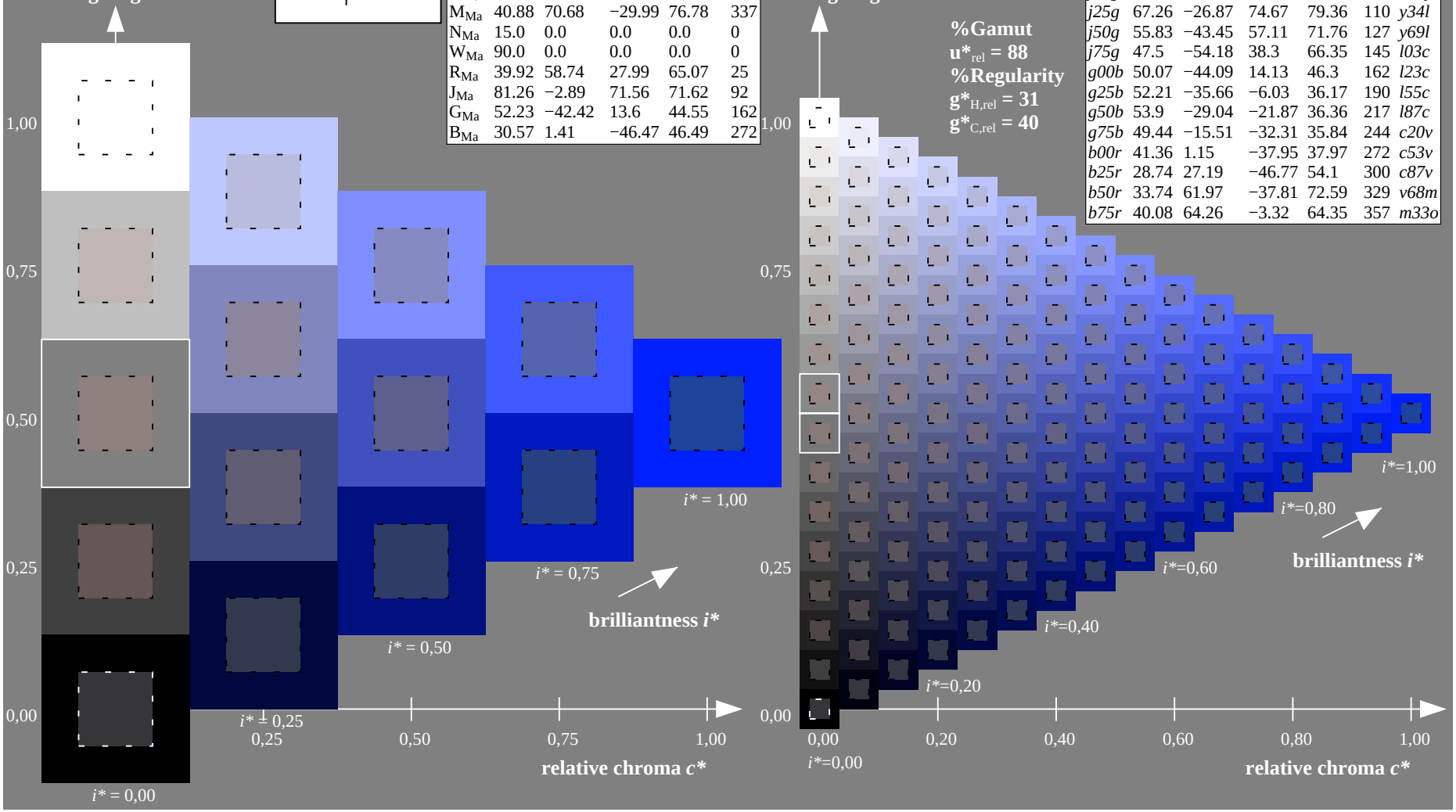
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB**$_{Ma}$: 29 27 −47**
***LAB*LCH**$_{Ma}$: 29 54 300**
***lab*rgb**$_{Ma}$: 0.5 0.0 1.0**
***lab*olv**$_{Ma}$: 0.0 0.12 1.0**
triangle lightness *t**

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

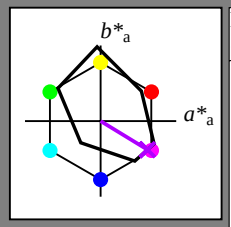
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.913$ **$u^*_e = b50r$**

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e **= *b50r*** u^*_d **= *v68m***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

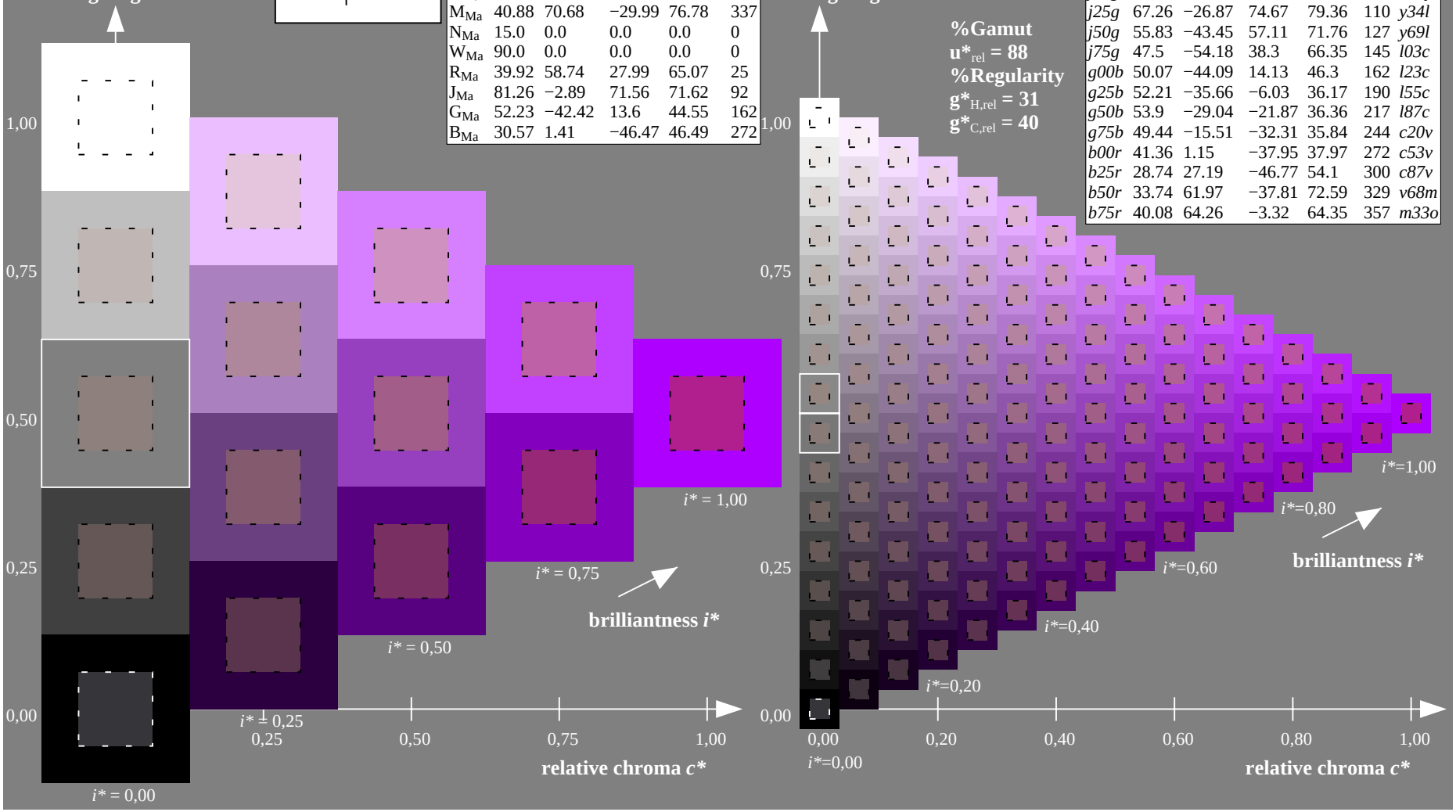
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 34 62 −38**
LAB*LCH*$_{Ma}$**: 34 73 328**
lab*rgb*$_{Ma}$**: 1.0 0.0 1.0**
lab*olv*$_{Ma}$**: 0.68 0.0 1.0**
triangle lightness *t**

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

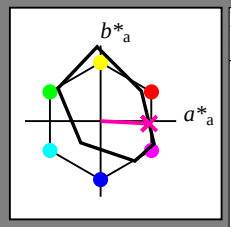
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.992$ **$u^*_e = b75r$**

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e **= *b75r*** u^*_d **= *m33o***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

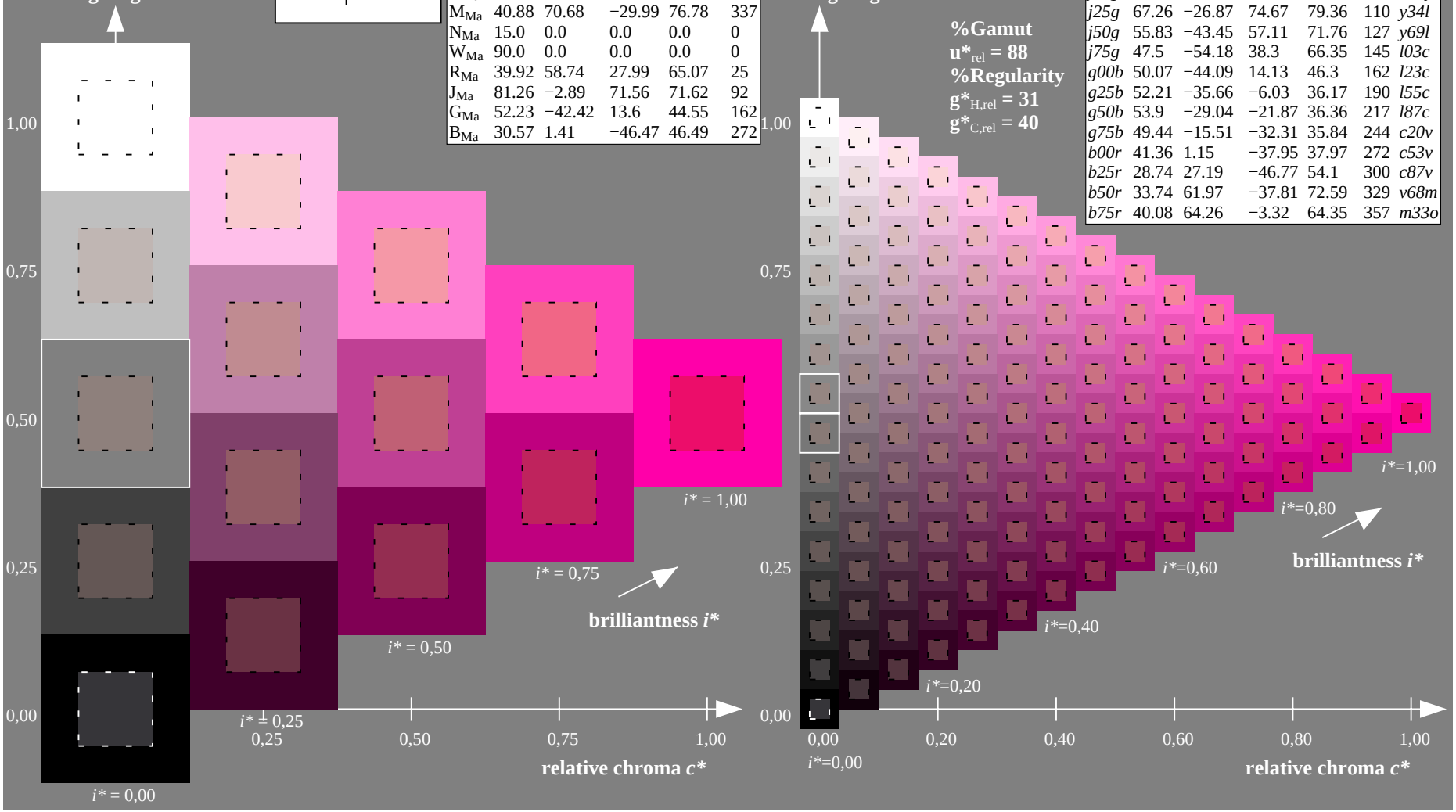
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

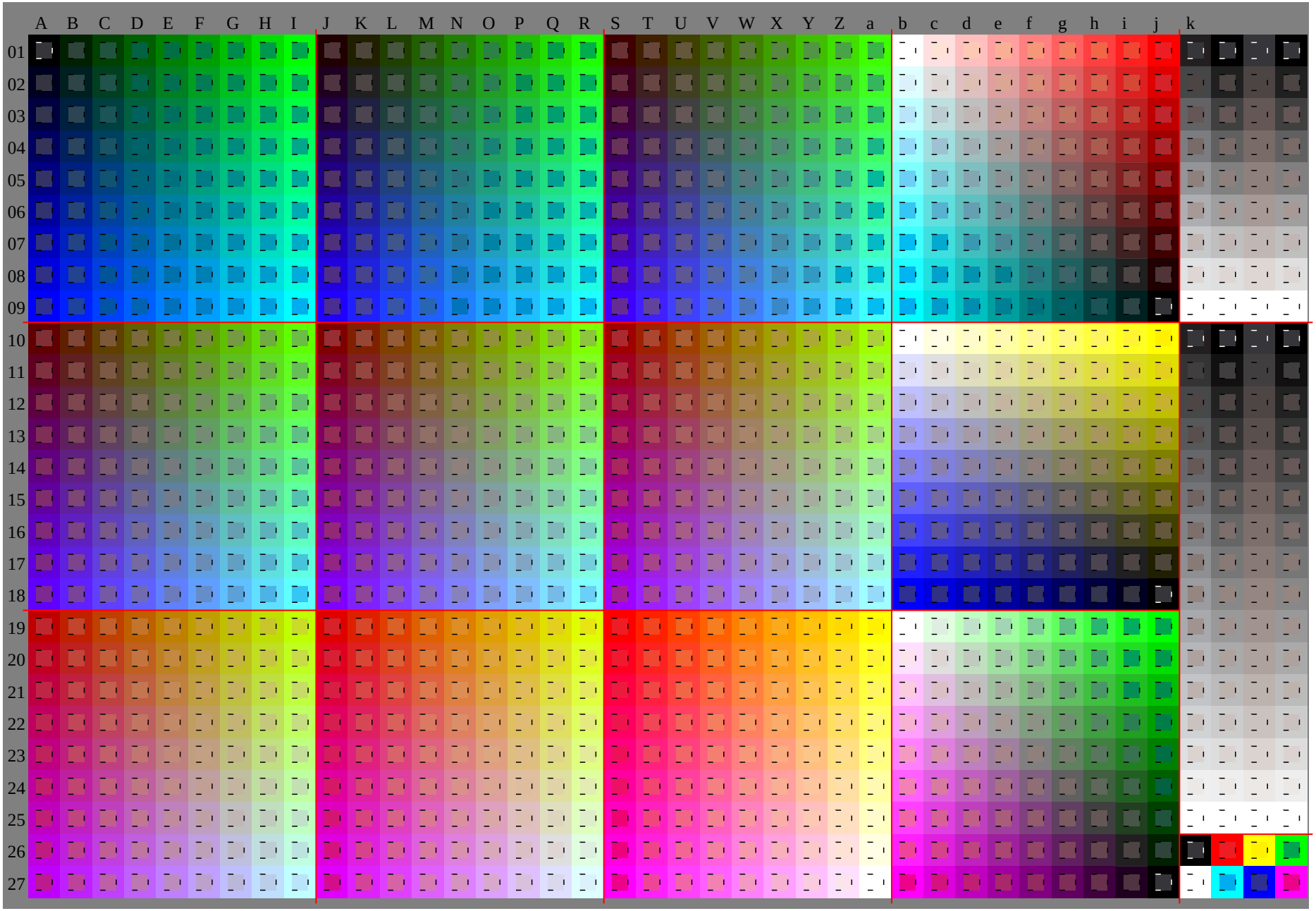
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 40 64 −3**
LAB*LCH*$_{Ma}$**: 40 64 357**
lab*rgb*$_{Ma}$**: 1.0 0.0 0.5**
lab*olv*$_{Ma}$**: 1.0 0.0 0.66**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*

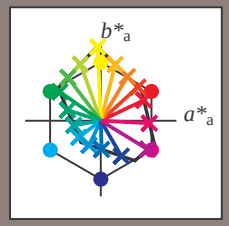



A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

Input and output:
Colorimetric Printer Reflective System FRS15_90a
data for any colour:
u^*_e and number *no.* = 00 .. 15
elementary hue text:
u^*_e = 16 hues *r00j, r25j, ..., b75r*
contrast reduction factor:
c_R = 0.9

FRS15_90a; adapted (a) CIELAB data

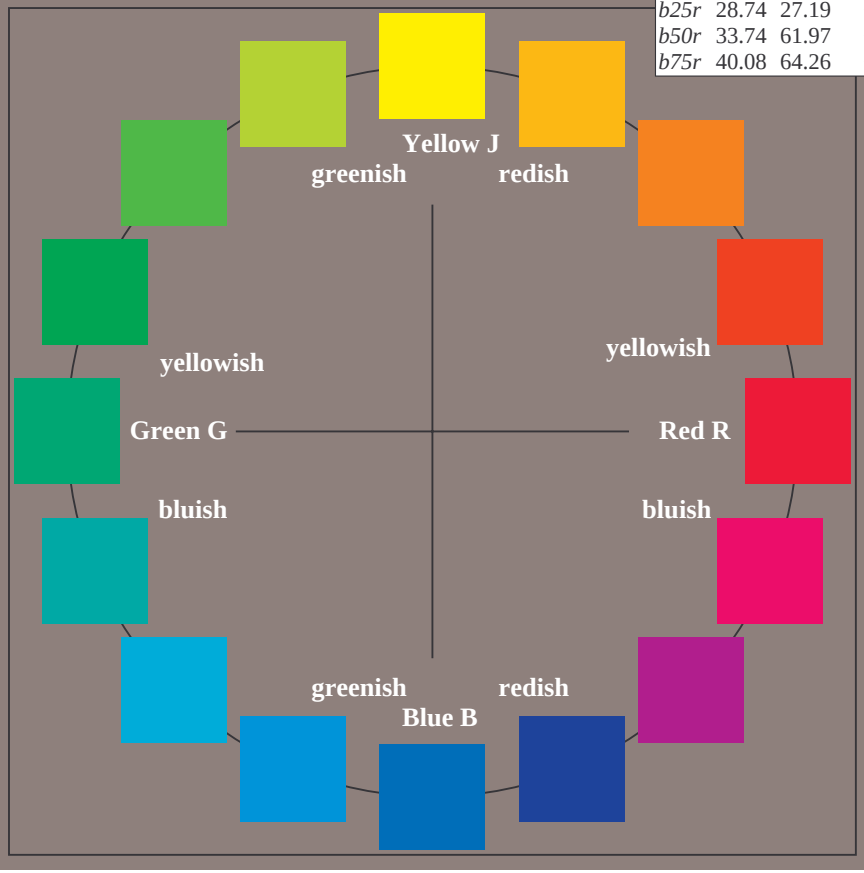
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*

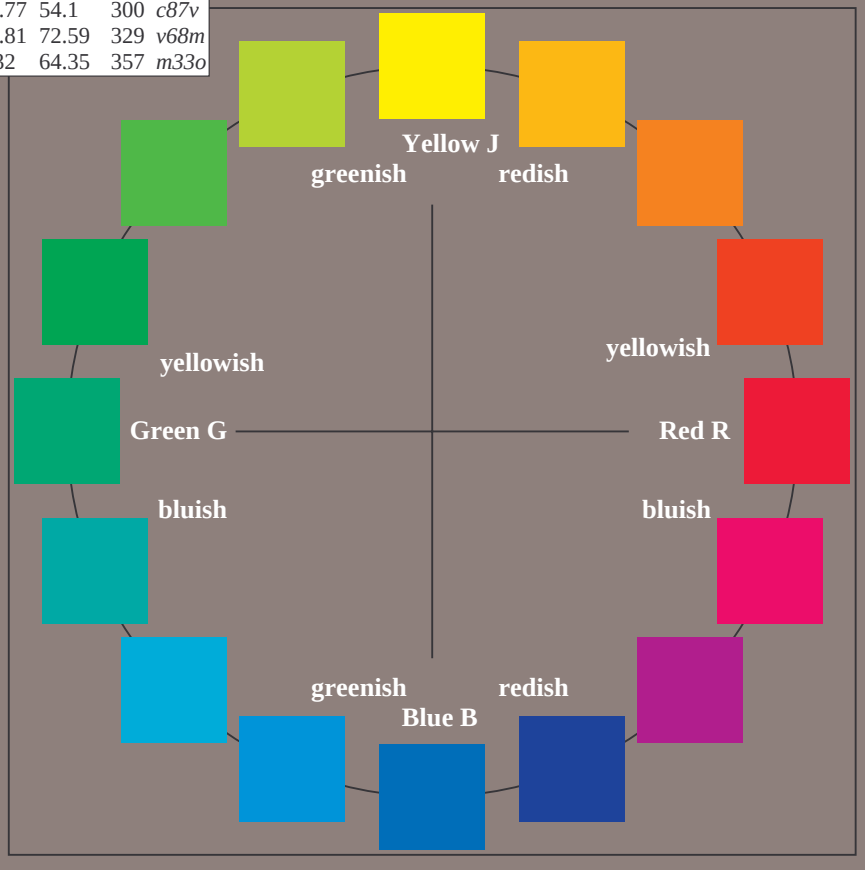


%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; adapted (a) CIELAB data

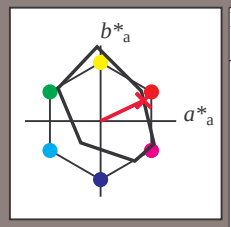
Name	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.89	71.56	71.62	92
G_{CIE}	52.23	−42.42	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.47	46.49	272





Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.071$ $u^*_e = r00j$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e **= *r00j*** u^*_d **= *m81o***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

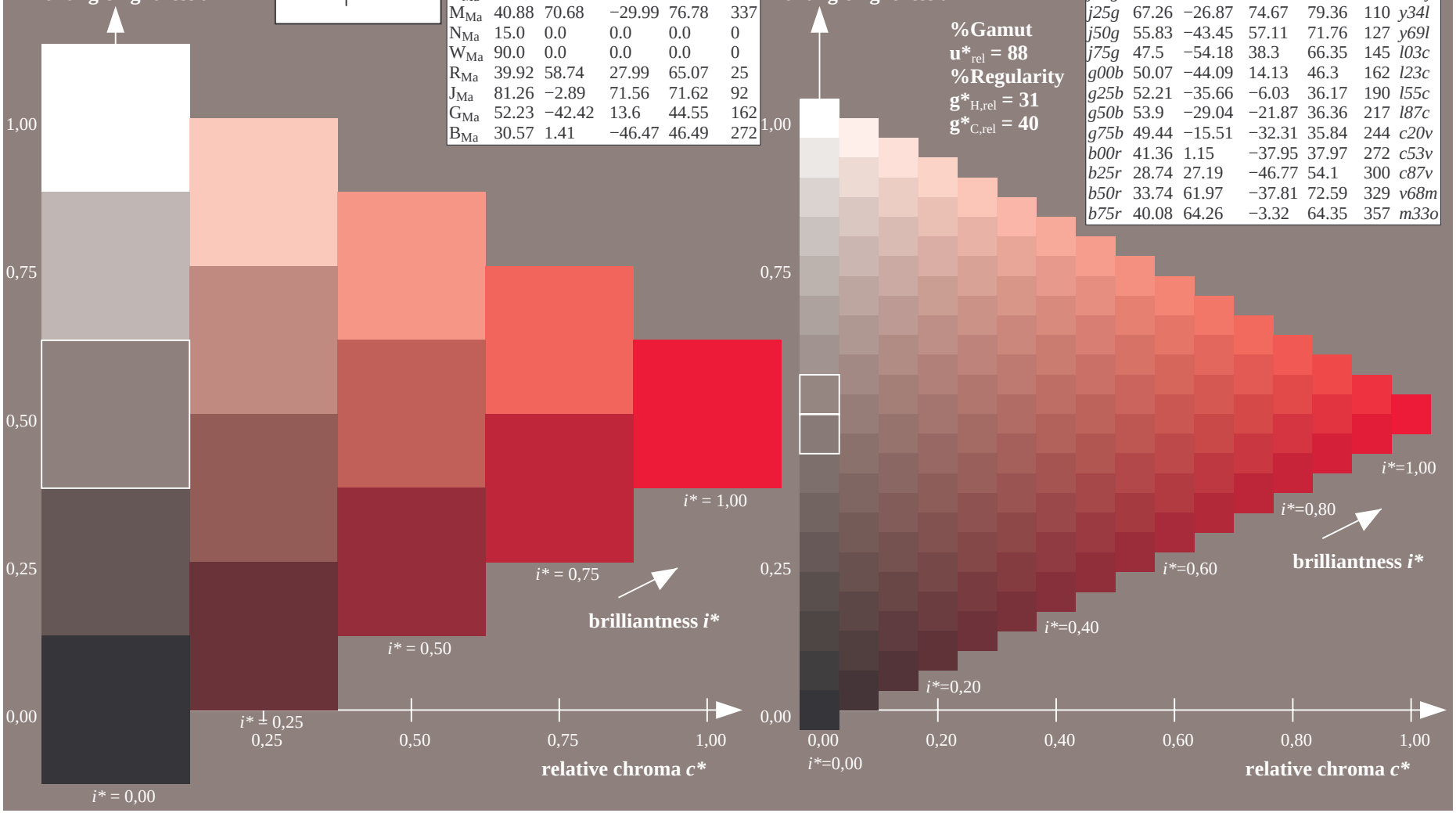
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 39 57 27**
LAB*LCH*$_{Ma}$**: 39 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**

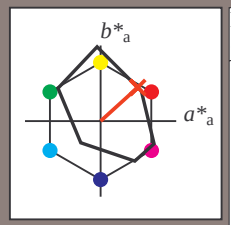
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.117$ $u^*_e = r25j$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e **= *r25j*** u^*_d **= *o10y***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

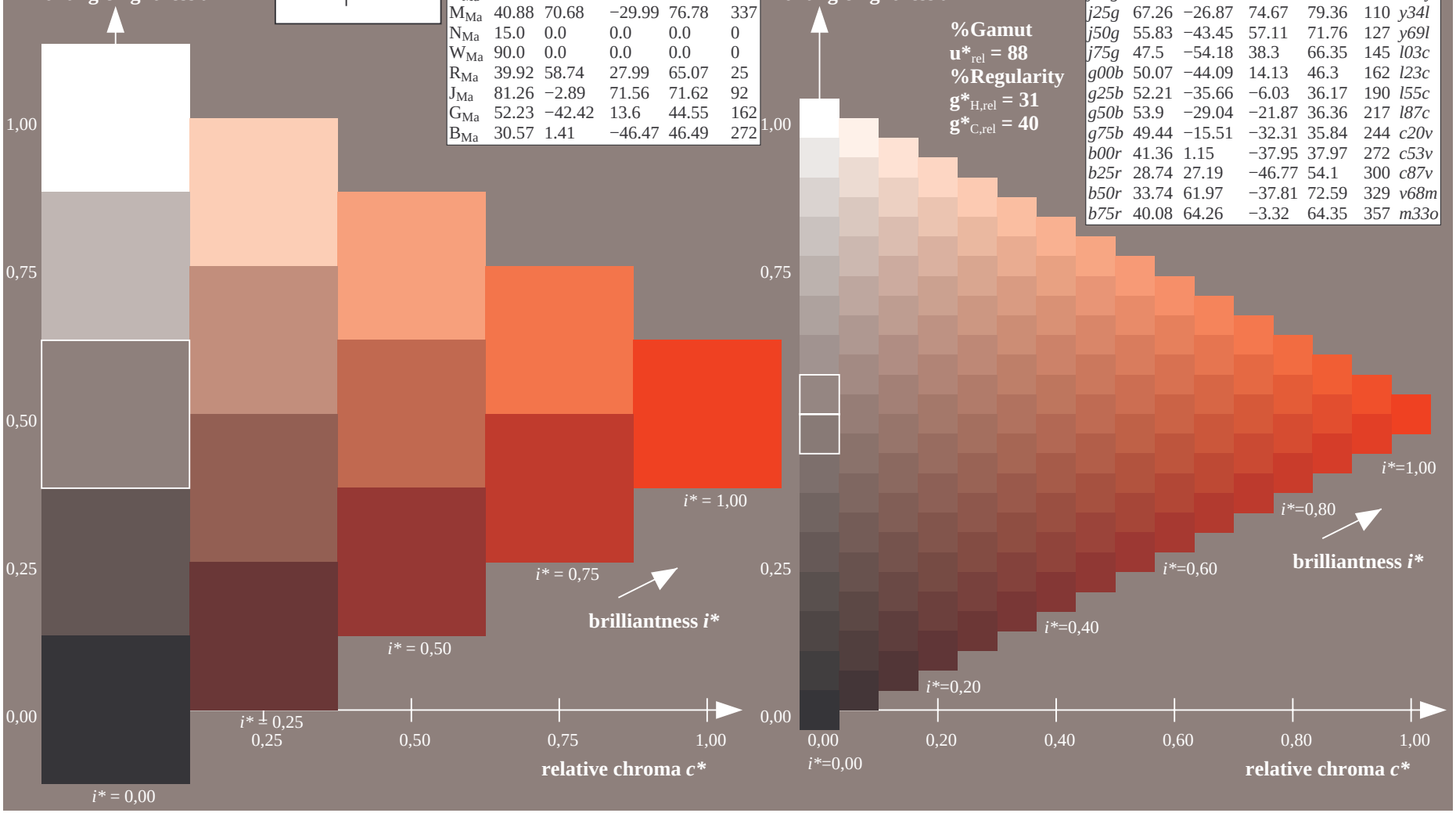
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 42 49 44**
LAB*LCH*$_{Ma}$**: 42 66 42**
lab*rgb*$_{Ma}$**: 1.0 0.25 0.0**
lab*olv*$_{Ma}$**: 1.0 0.1 0.0**
triangle lightness *t**

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

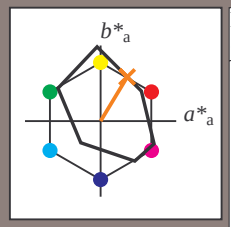
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e **= *r50j*** u^*_d **= *o40y***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

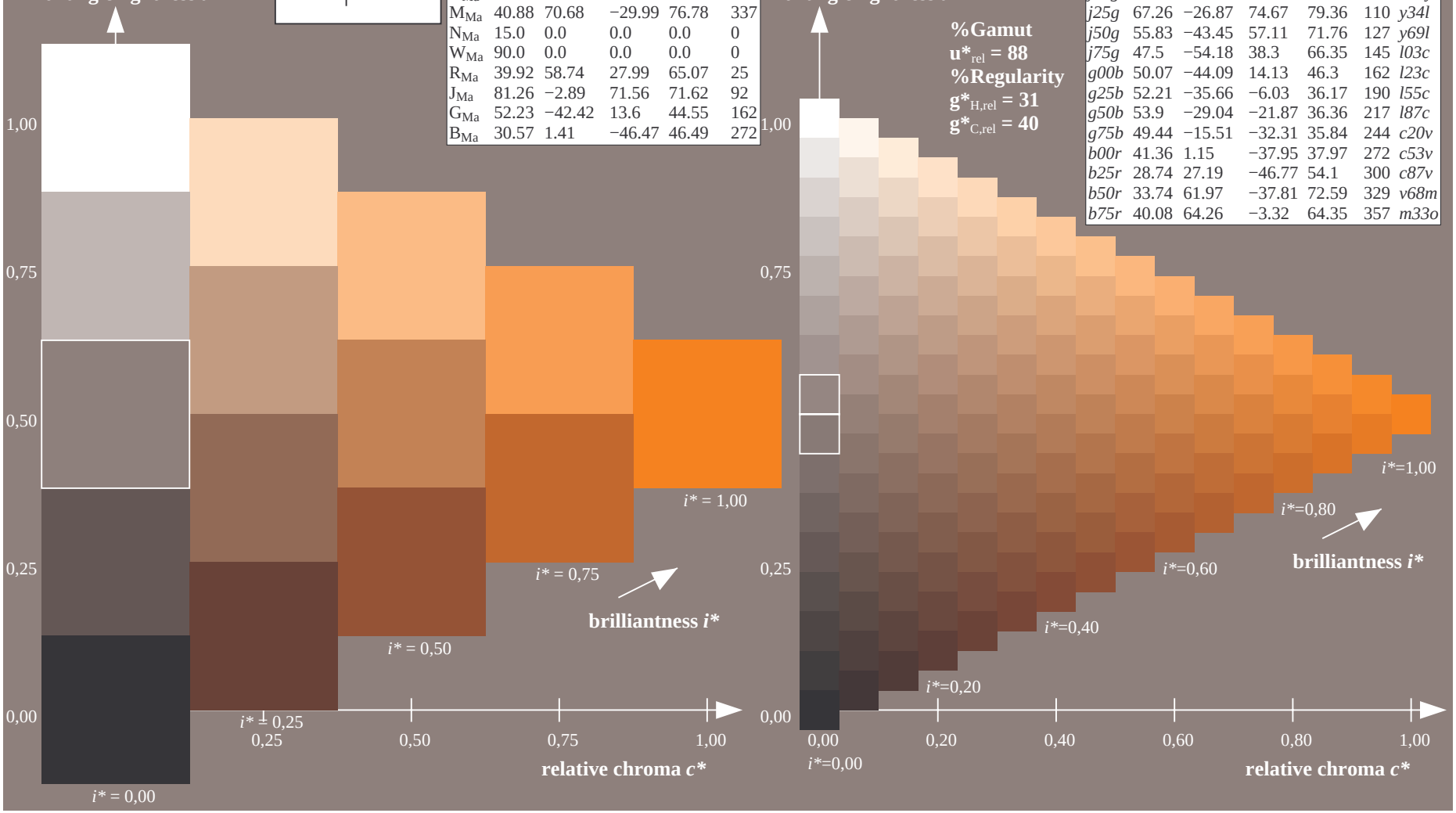
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 53 35 58**
LAB*LCH*$_{Ma}$**: 53 68 58**
lab*rgb*$_{Ma}$**: 1.0 0.5 0.0**
lab*olv*$_{Ma}$**: 1.0 0.4 0.0**
triangle lightness *t**

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

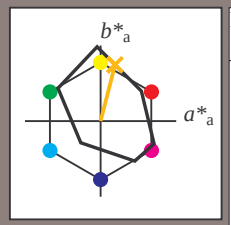
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *r75j* u^*_d = *o69y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

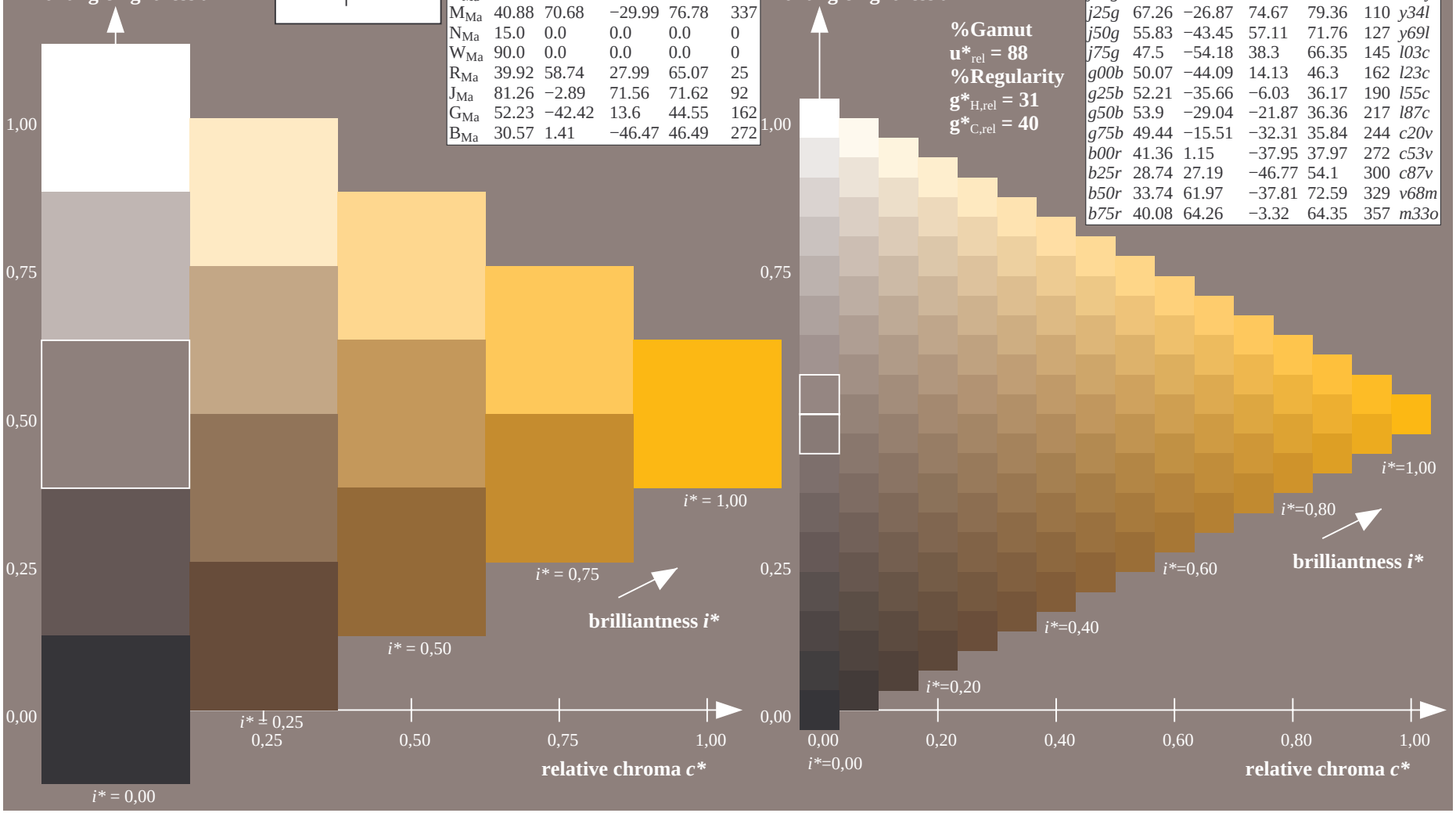
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 65 19 74**
***LAB*LCH*Ma*: 65 77 75**
***lab*rgb*Ma*: 1.0 0.75 0.0**
***lab*olv*Ma*: 1.0 0.7 0.0**
triangle lightness *t**

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

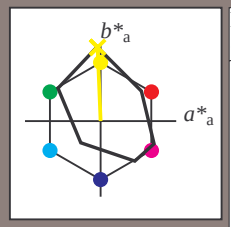
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.256$ $u^*_e = j00g$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j00g* u^*_d = *o98y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

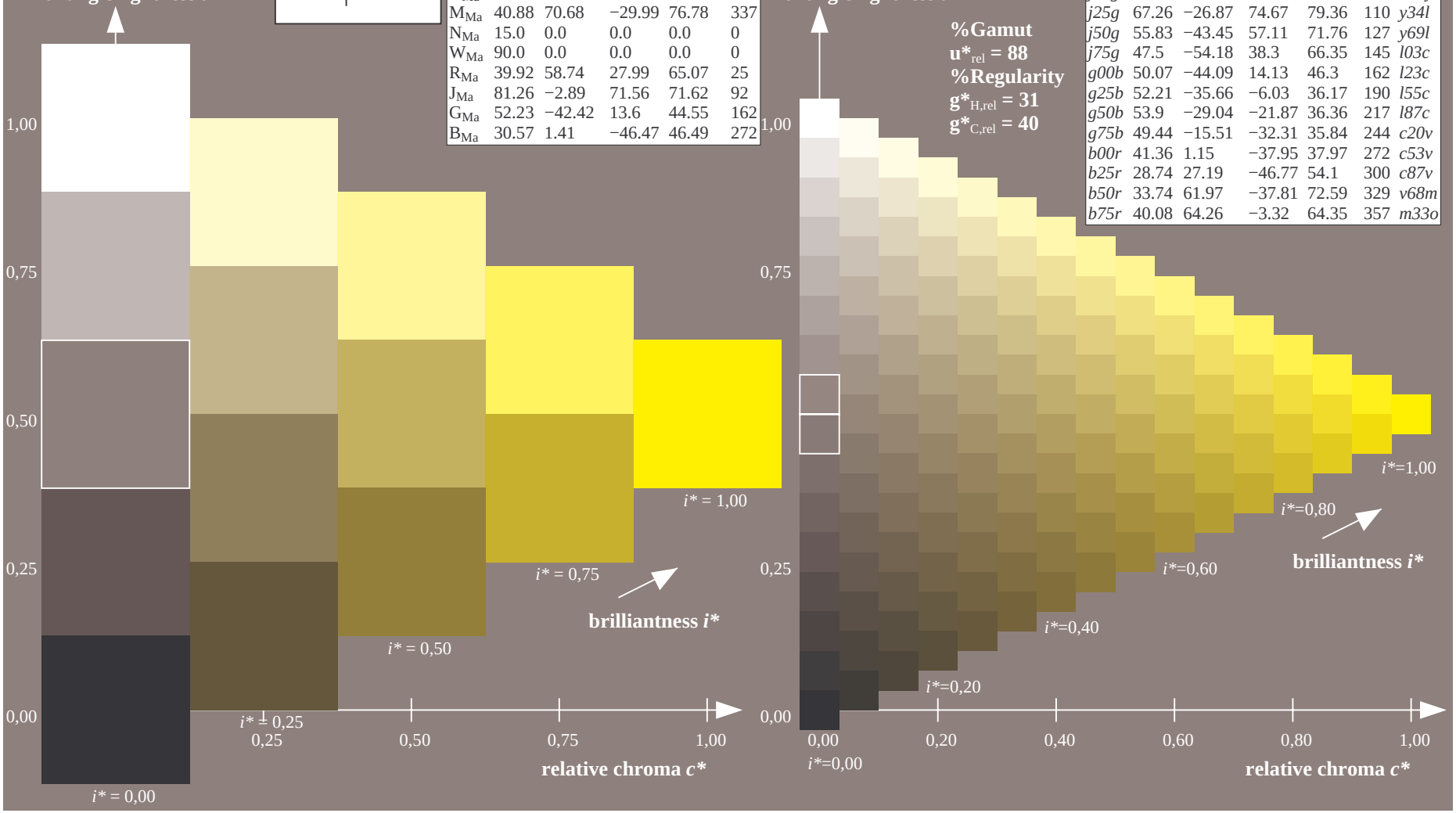
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 82 −4 98**
***LAB*LCH*Ma*: 82 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
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

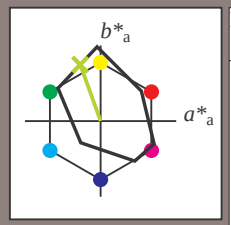
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



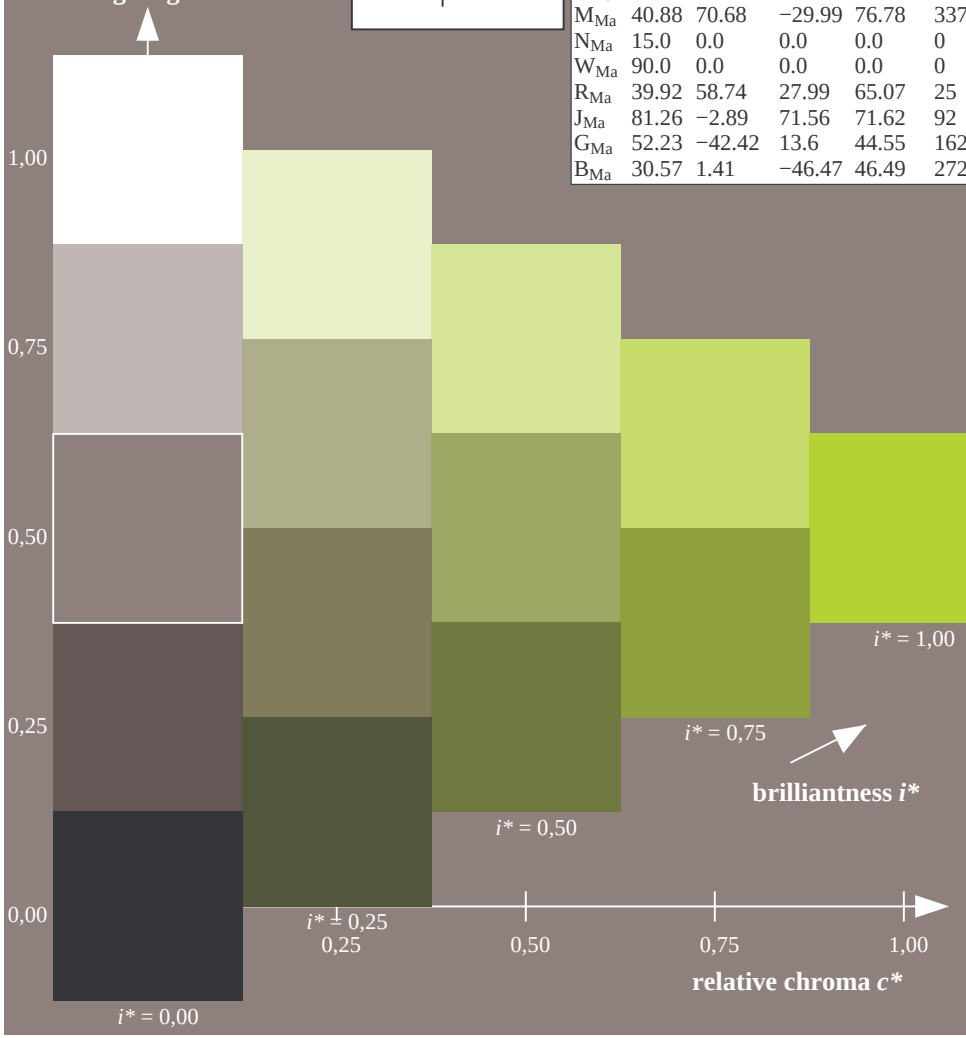
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.305$ $u^*_e = j25g$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
$u^*_e = j25g$ $u^*_d = y34l$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

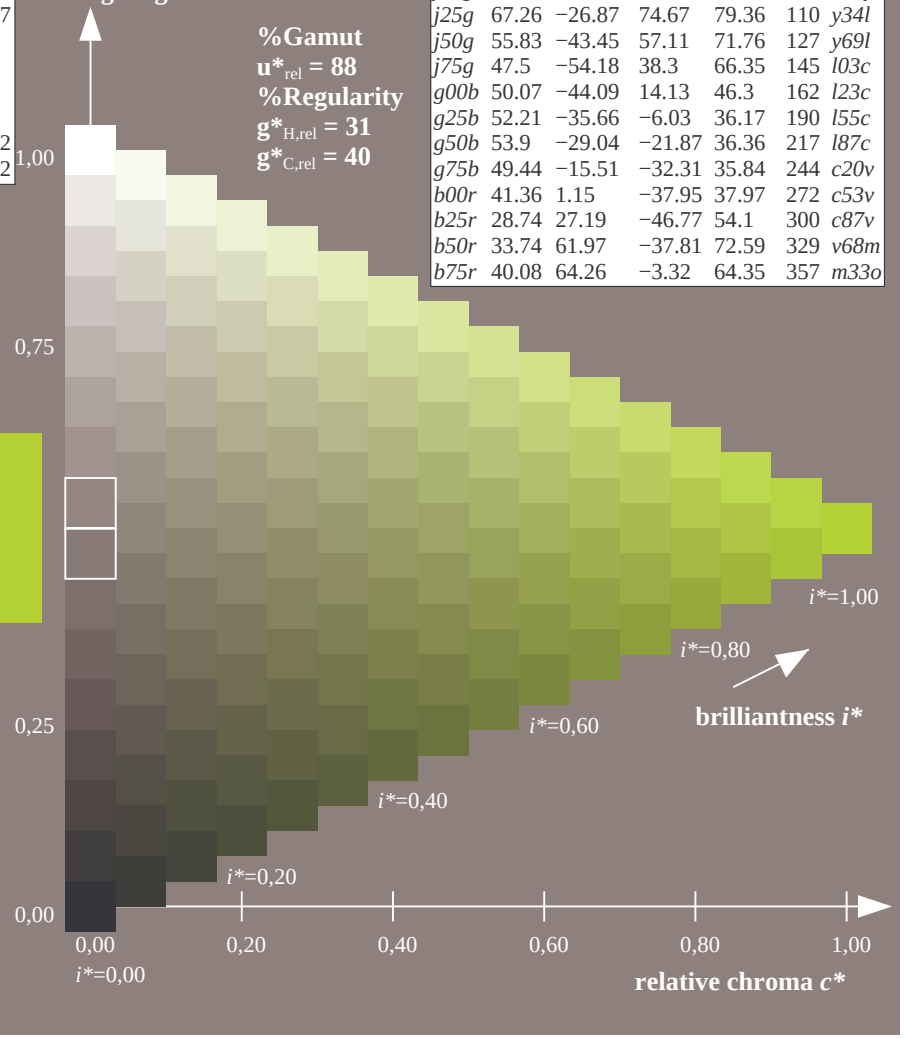


Data for maximum colour (Ma):
$LAB^*LAB^*_{Ma}$: 67 −27 75
$LAB^*LCH^*_{Ma}$: 67 79 109
$lab^*rgb^*_{Ma}$: 0.75 1.0 0.0
$lab^*olv^*_{Ma}$: 0.66 1.0 0.0
triangle lightness *t**

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

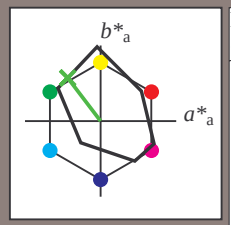
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.354$ $u^*_e = j50g$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
$u^*_e = j50g$ $u^*_d = y69l$
contrast reduction factor:
$c_R = 0.9$
triangle lightness t^*



FRS15_90a; adapted (a) CIELAB data

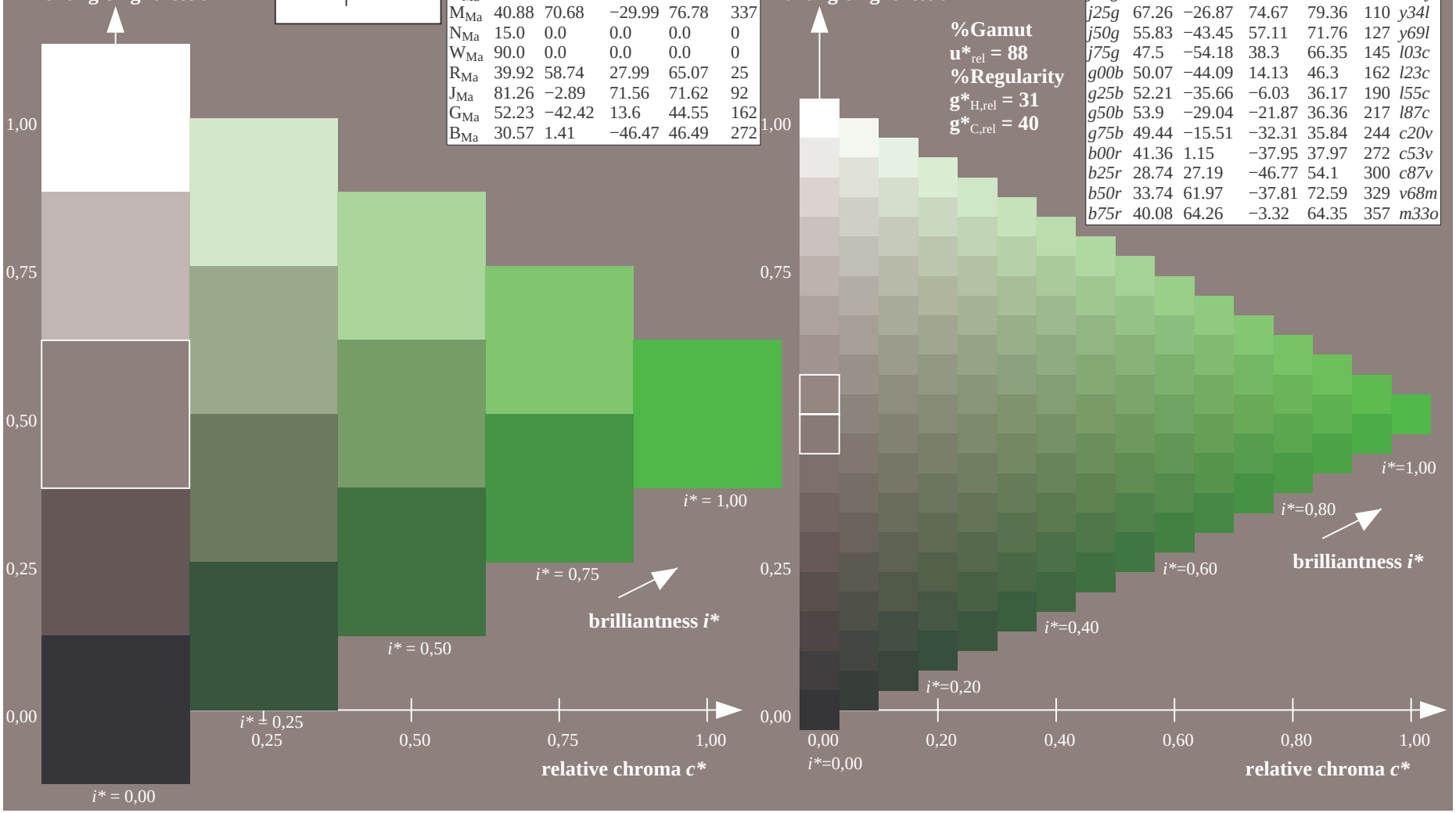
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 56 −43 57**
***LAB*LCH*Ma*: 56 72 127**
***lab*rgb*Ma*: 0.5 1.0 0.0**
***lab*olv*Ma*: 0.3 1.0 0.0**
triangle lightness t^*

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

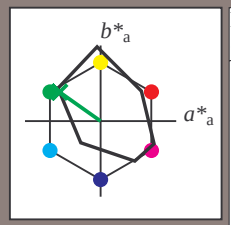
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.402$ $u^*_e = j75g$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j75g* u^*_d = *l03c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

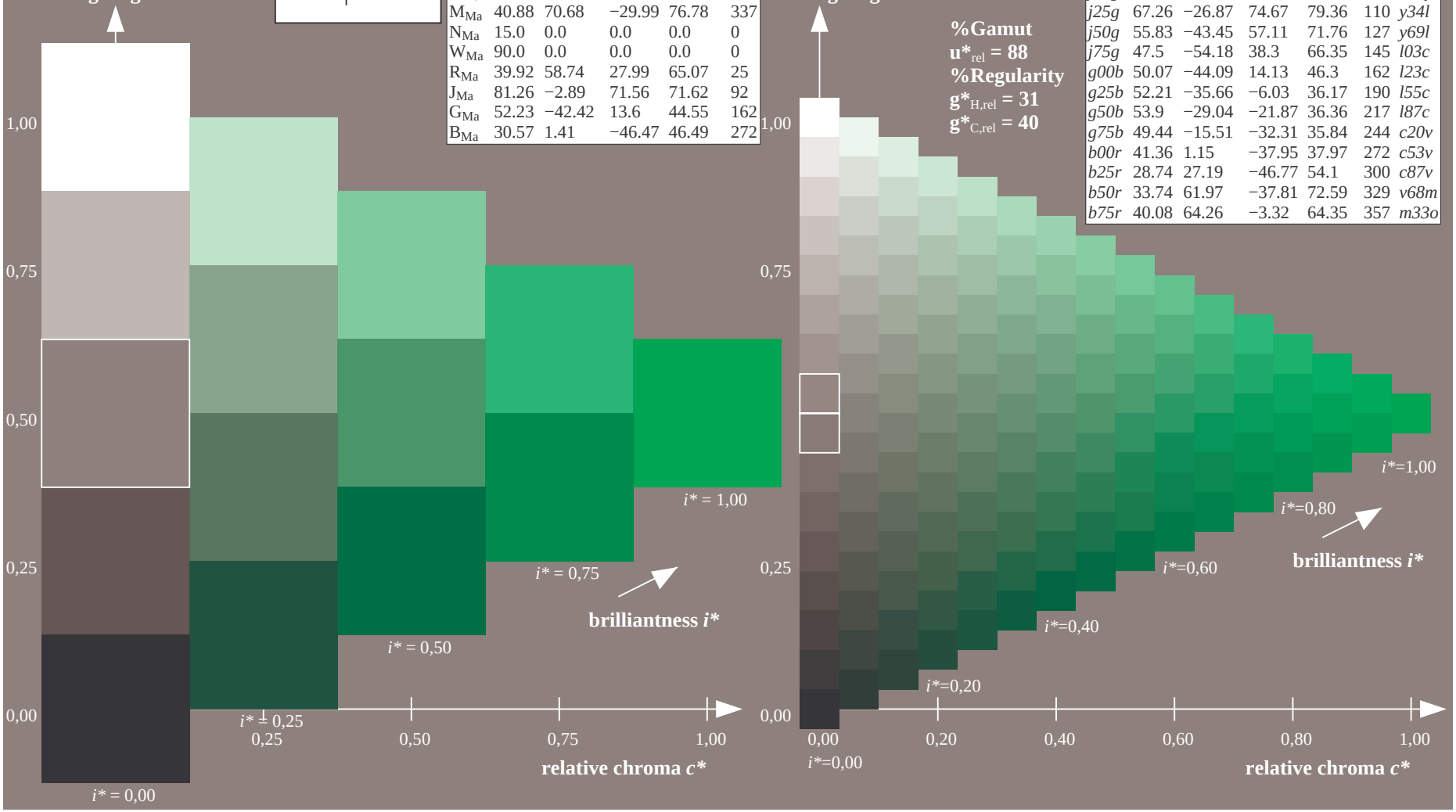
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 48 −54 38**
***LAB*LCH*Ma*: 48 66 144**
***lab*rgb*Ma*: 0.25 1.0 0.0**
***lab*olv*Ma*: 0.0 1.0 0.03**
triangle lightness *t**

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

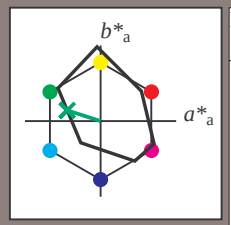
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
$u^*_e = g00b$ $u^*_d = l23c$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

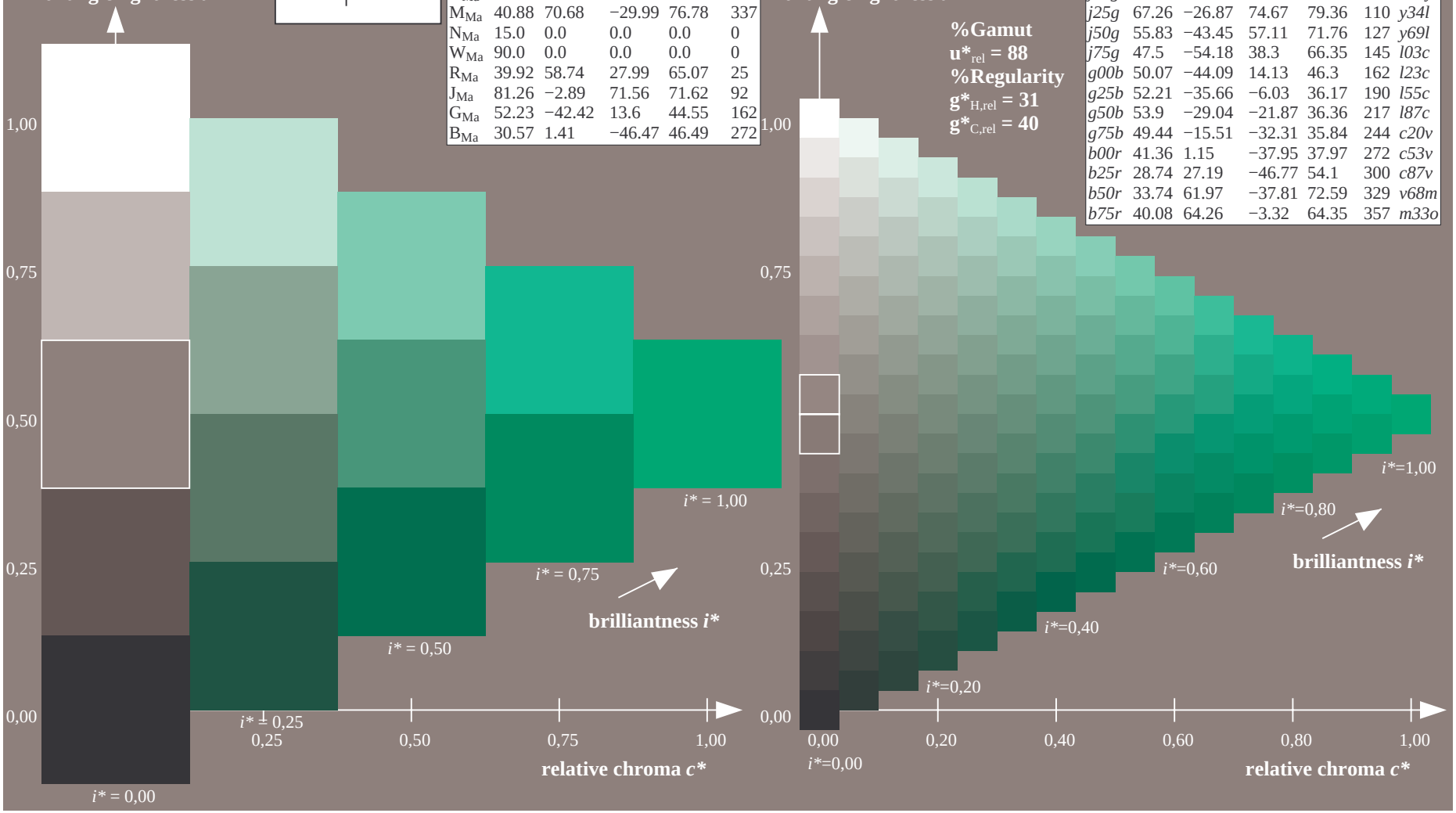
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 50 −44 14**
***LAB*LCH*Ma*: 50 46 162**
***lab*rgb*Ma*: 0.0 1.0 0.0**
***lab*olv*Ma*: 0.0 1.0 0.23**
triangle lightness *t**

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

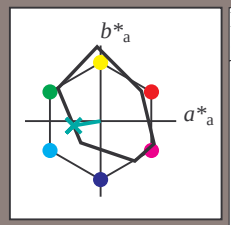
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
$u^*_e = g25b$ $u^*_d = l55c$
contrast reduction factor:
$c_R = 0.9$
triangle lightness t^*



FRS15_90a; adapted (a) CIELAB data

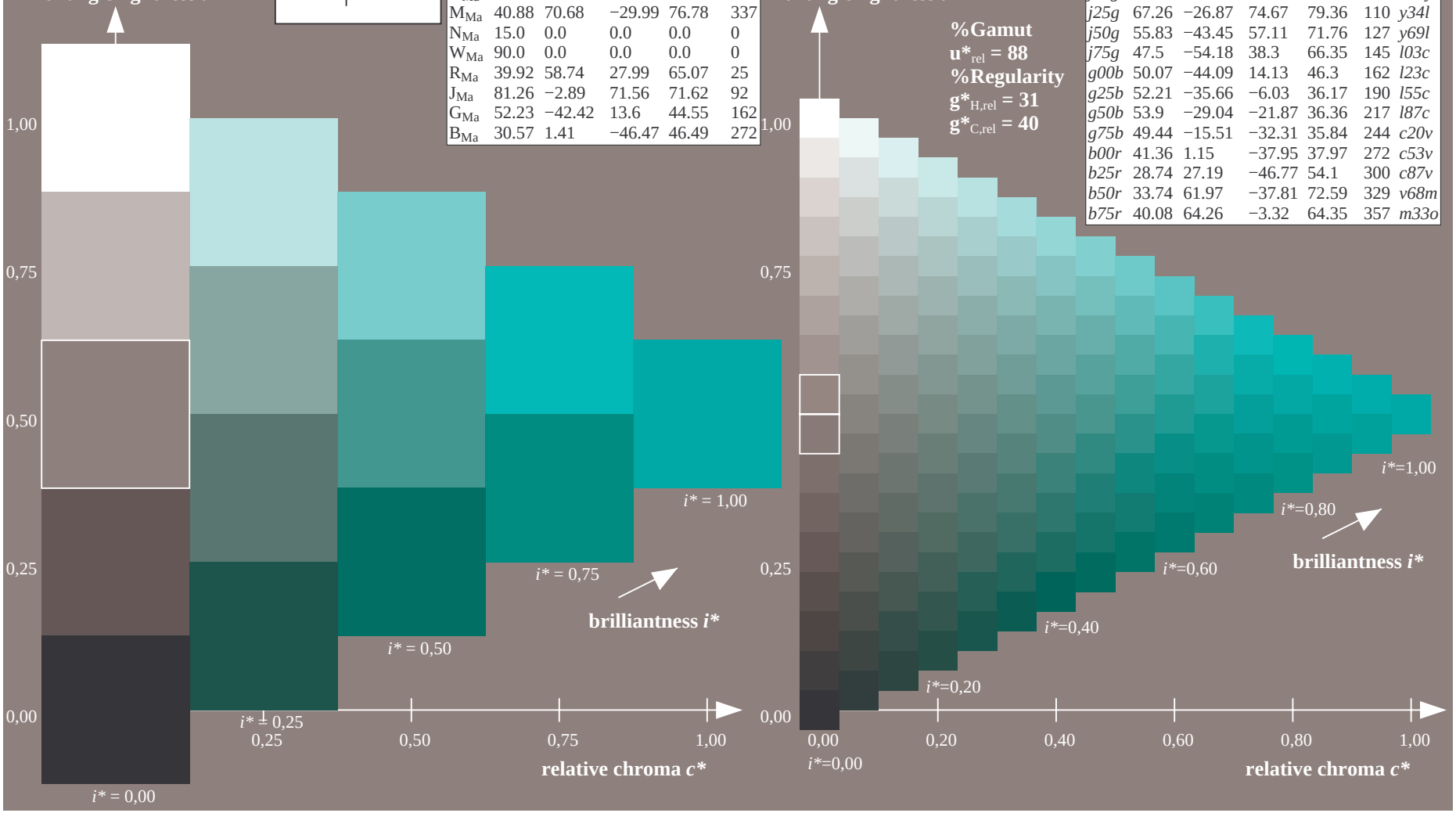
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 52 −36 −6**
***LAB*LCH*Ma*: 52 36 189**
***lab*rgb*Ma*: 0.0 1.0 0.5**
***lab*olv*Ma*: 0.0 1.0 0.55**
triangle lightness t^*

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

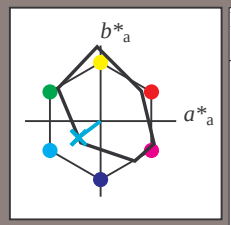
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
$u^*_e = g50b$ $u^*_d = l87c$
contrast reduction factor:
$c_R = 0.9$
triangle lightness t^*



FRS15_90a; adapted (a) CIELAB data

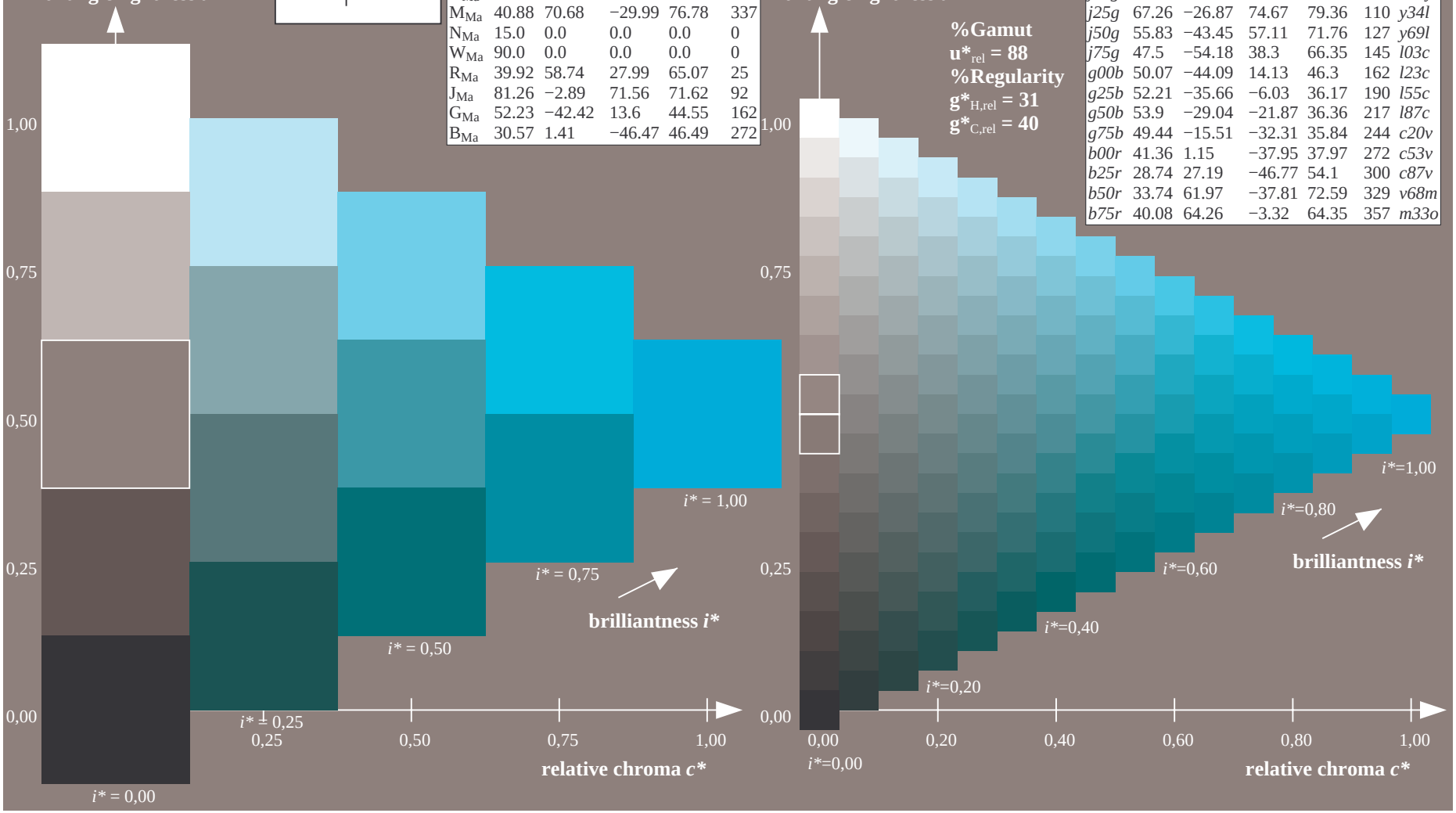
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 54 −29 −22**
***LAB*LCH*Ma*: 54 36 216**
***lab*rgb*Ma*: 0.0 1.0 1.0**
***lab*olv*Ma*: 0.0 1.0 0.88**
triangle lightness t^*

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

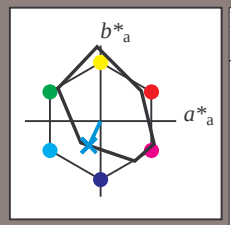
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.679$ $u^*_e = g75b$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *g75b* u^*_d = *c20v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

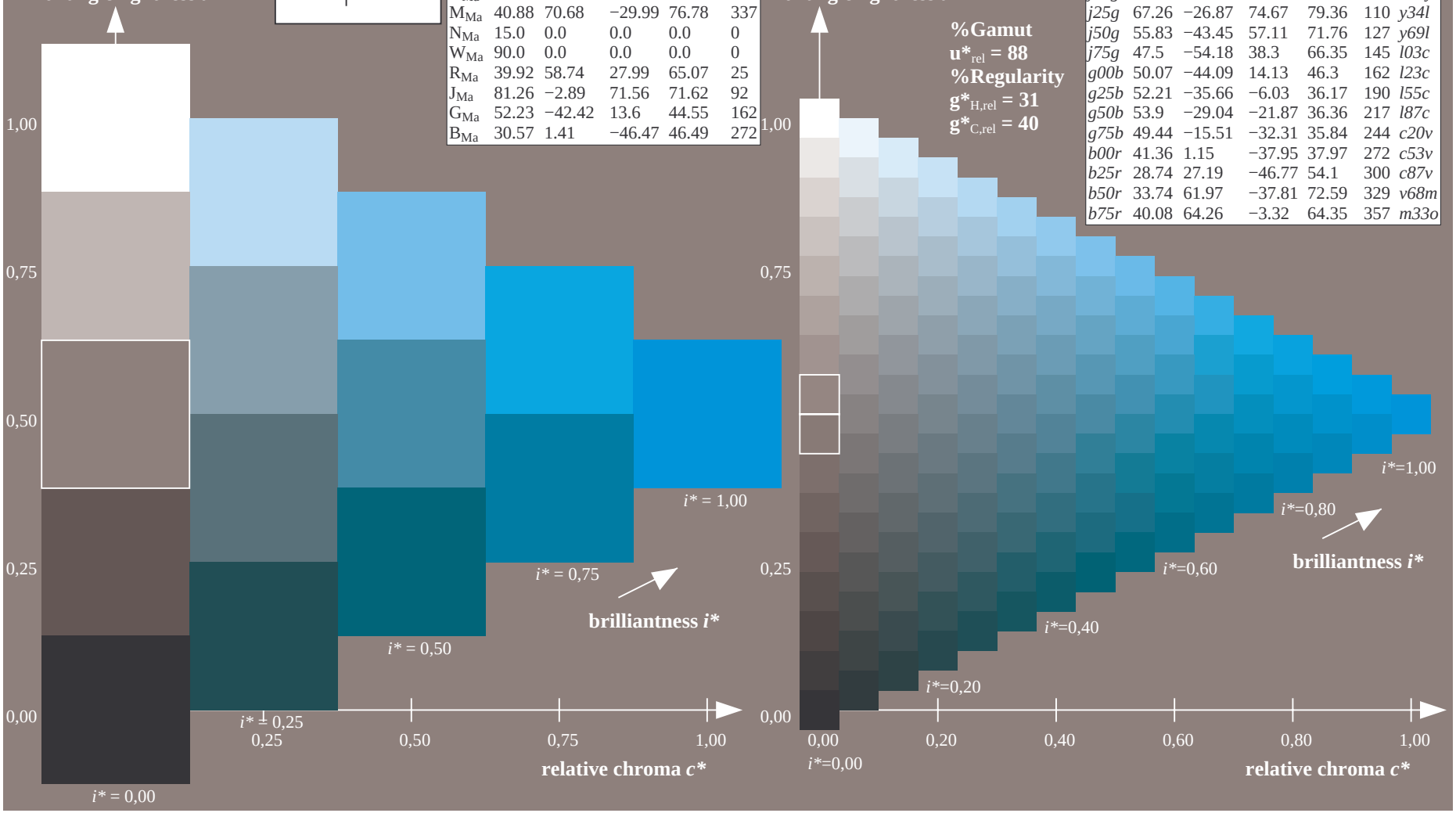
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 49 −16 −32**
LAB*LCH*$_{Ma}$**: 49 36 244**
lab*rgb*$_{Ma}$**: 0.0 0.5 1.0**
lab*olv*$_{Ma}$**: 0.0 0.8 1.0**
triangle lightness *t**

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

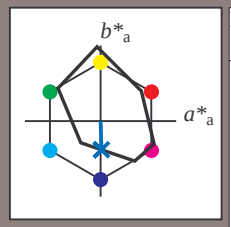
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



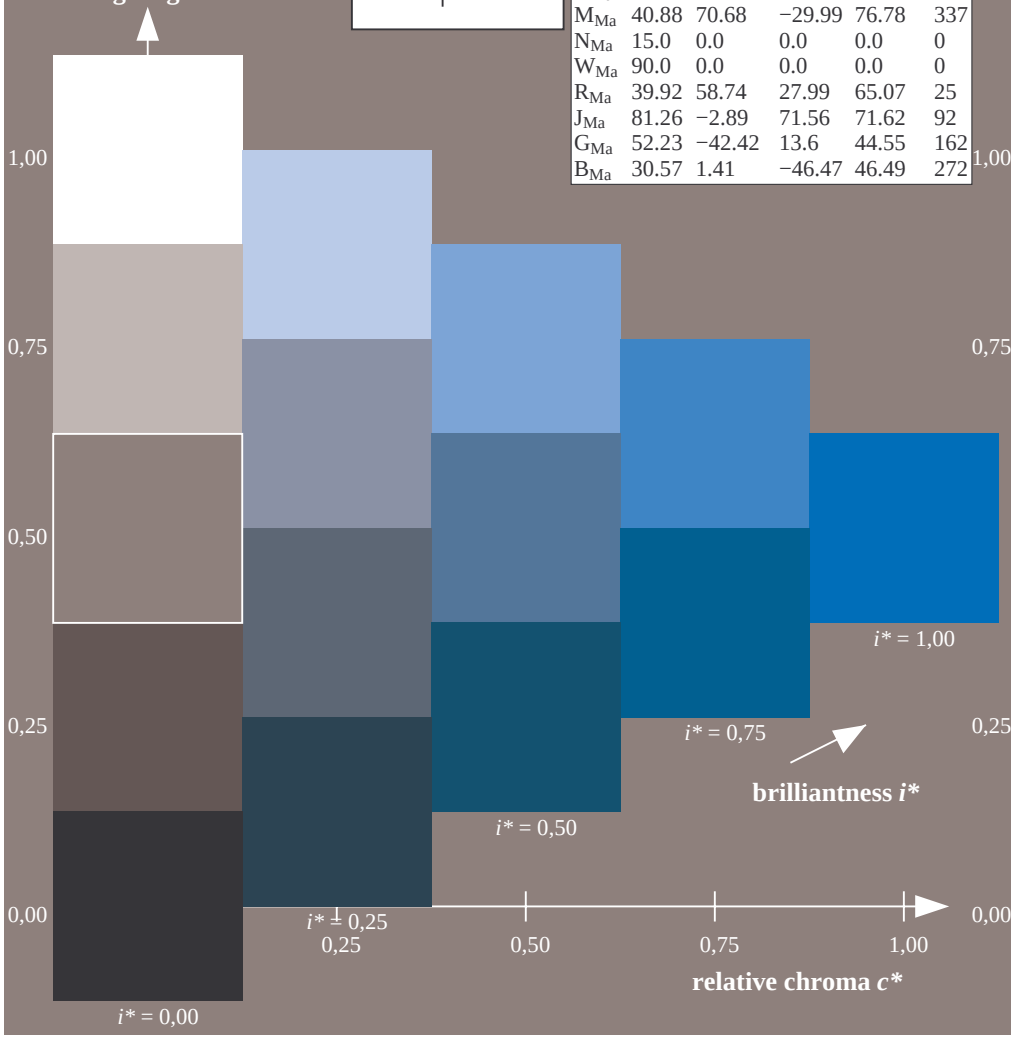
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.755$ $u^*_e = b00r$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *b00r* u^*_d = *c53v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

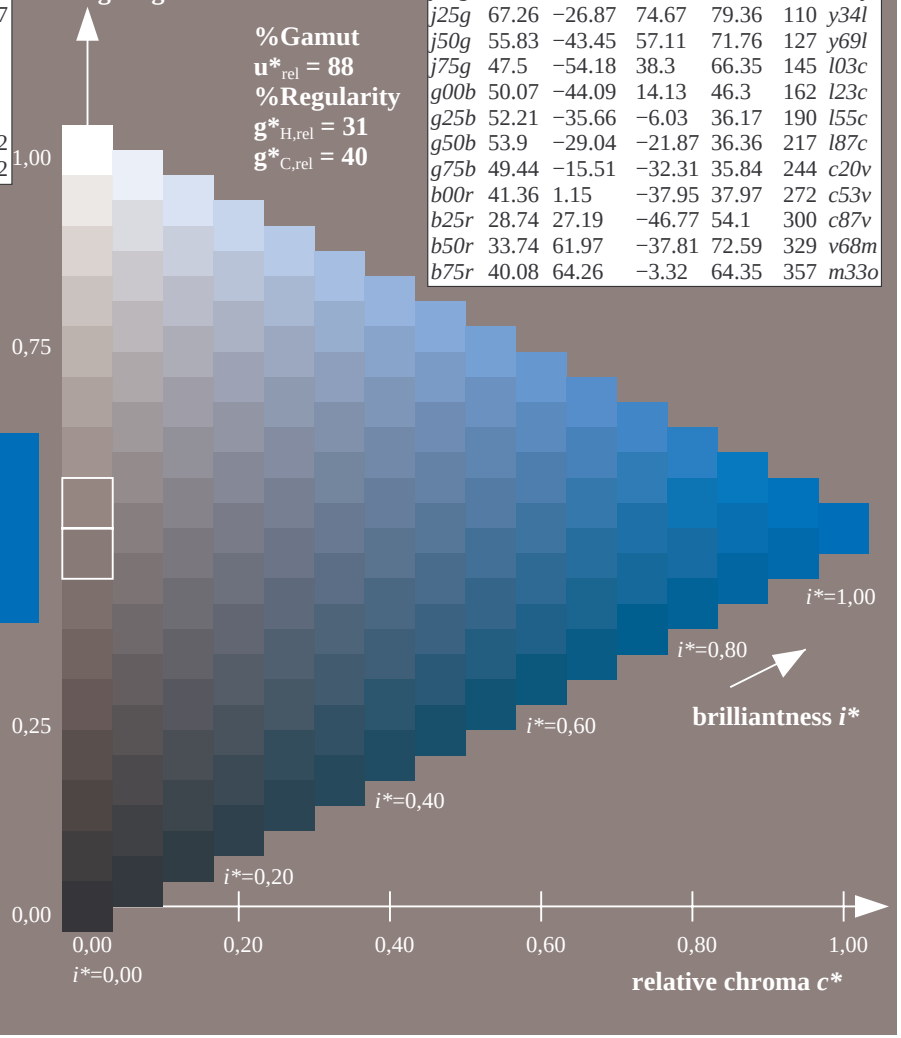


Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 41 1 −38**
LAB*LCH*$_{Ma}$**: 41 38 271**
lab*rgb*$_{Ma}$**: 0.0 0.0 1.0**
lab*olv*$_{Ma}$**: 0.0 0.47 1.0**
triangle lightness *t**

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

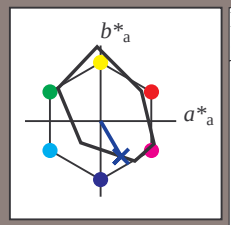
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *b25r* u^*_d = *c87v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

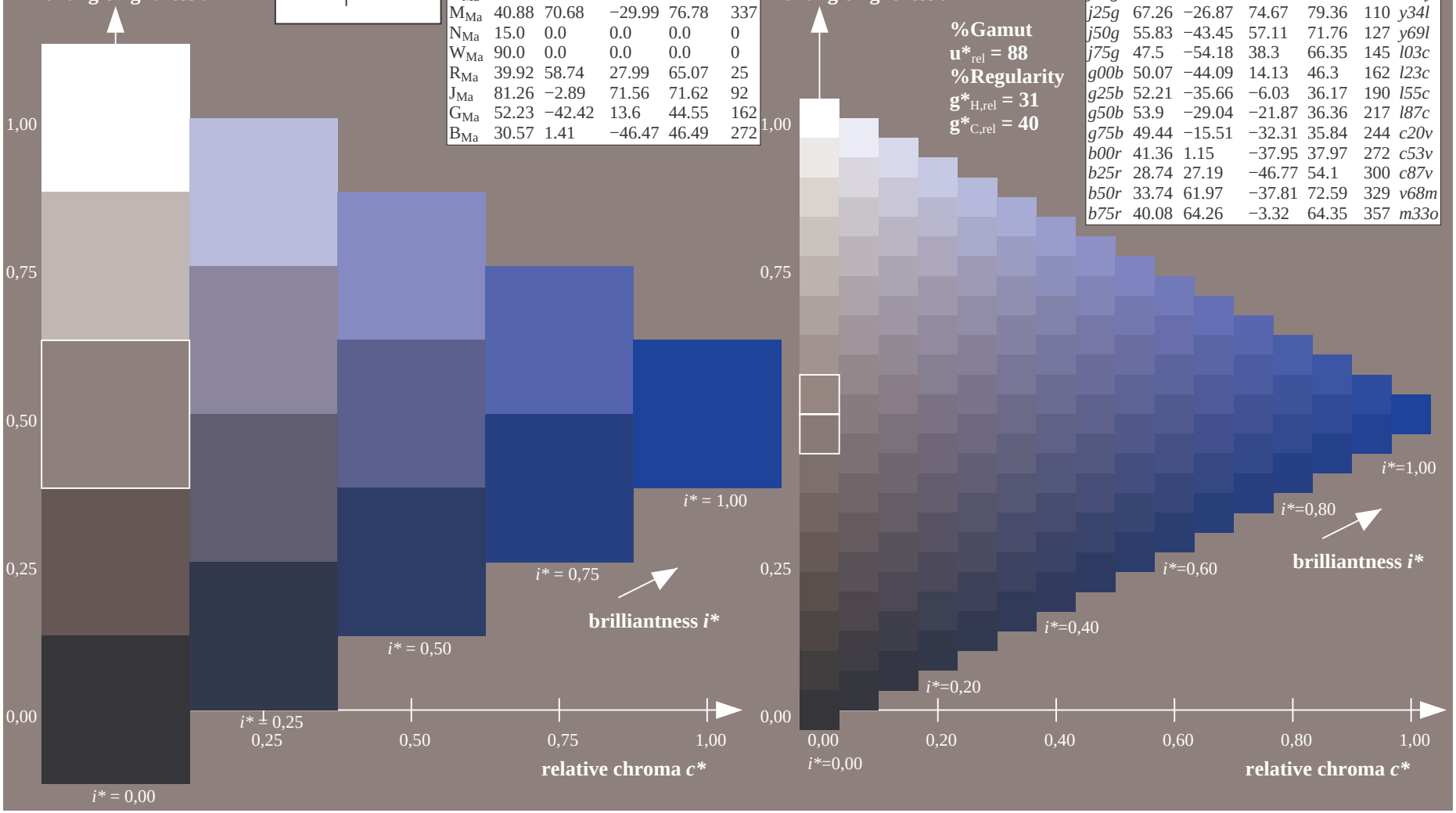
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 29 27 −47**
LAB*LCH*$_{Ma}$**: 29 54 300**
lab*rgb*$_{Ma}$**: 0.5 0.0 1.0**
lab*olv*$_{Ma}$**: 0.0 0.12 1.0**
triangle lightness *t**

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

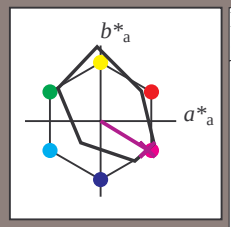
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.913$ $u^*_e = b50r$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
$u^*_e = b50r$ $u^*_d = v68m$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

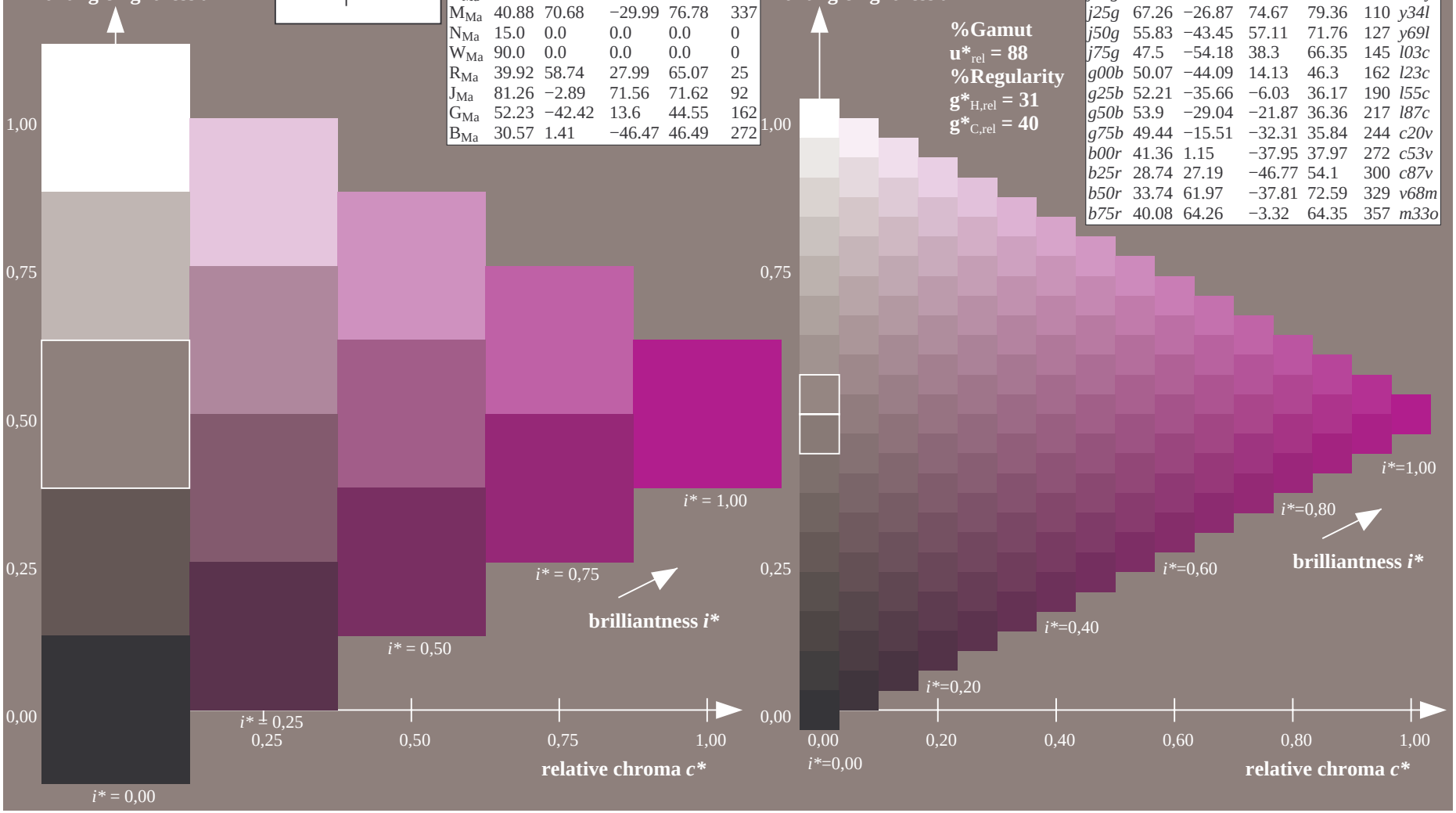
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 34 62 −38**
***LAB*LCH*Ma*: 34 73 328**
***lab*rgb*Ma*: 1.0 0.0 1.0**
***lab*olv*Ma*: 0.68 0.0 1.0**
triangle lightness *t**

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

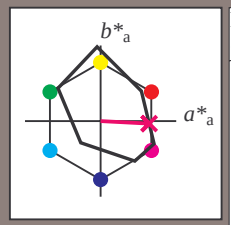
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.992$ $u^*_e = b75r$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *b75r* u^*_d = *m33o*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

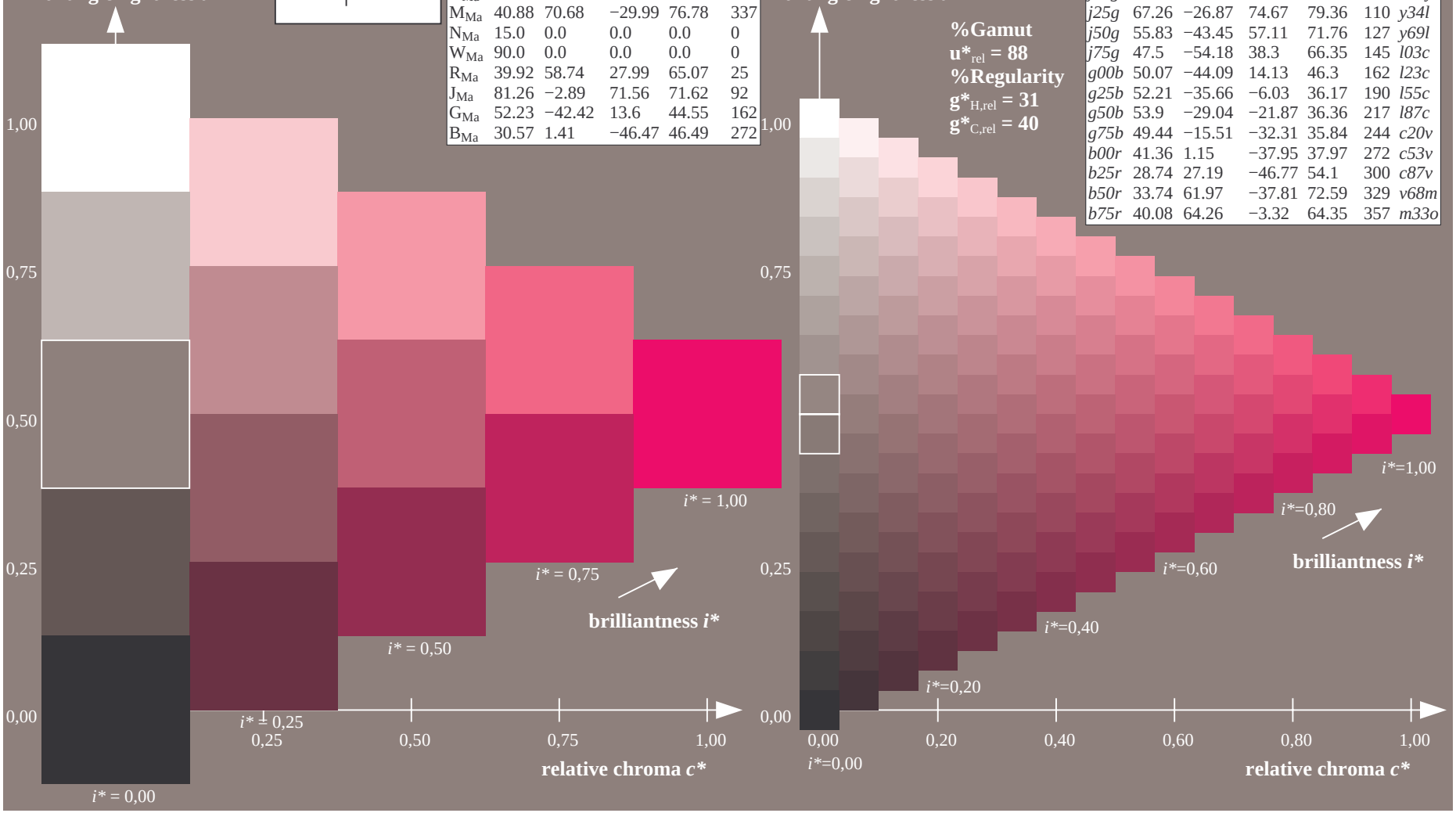
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

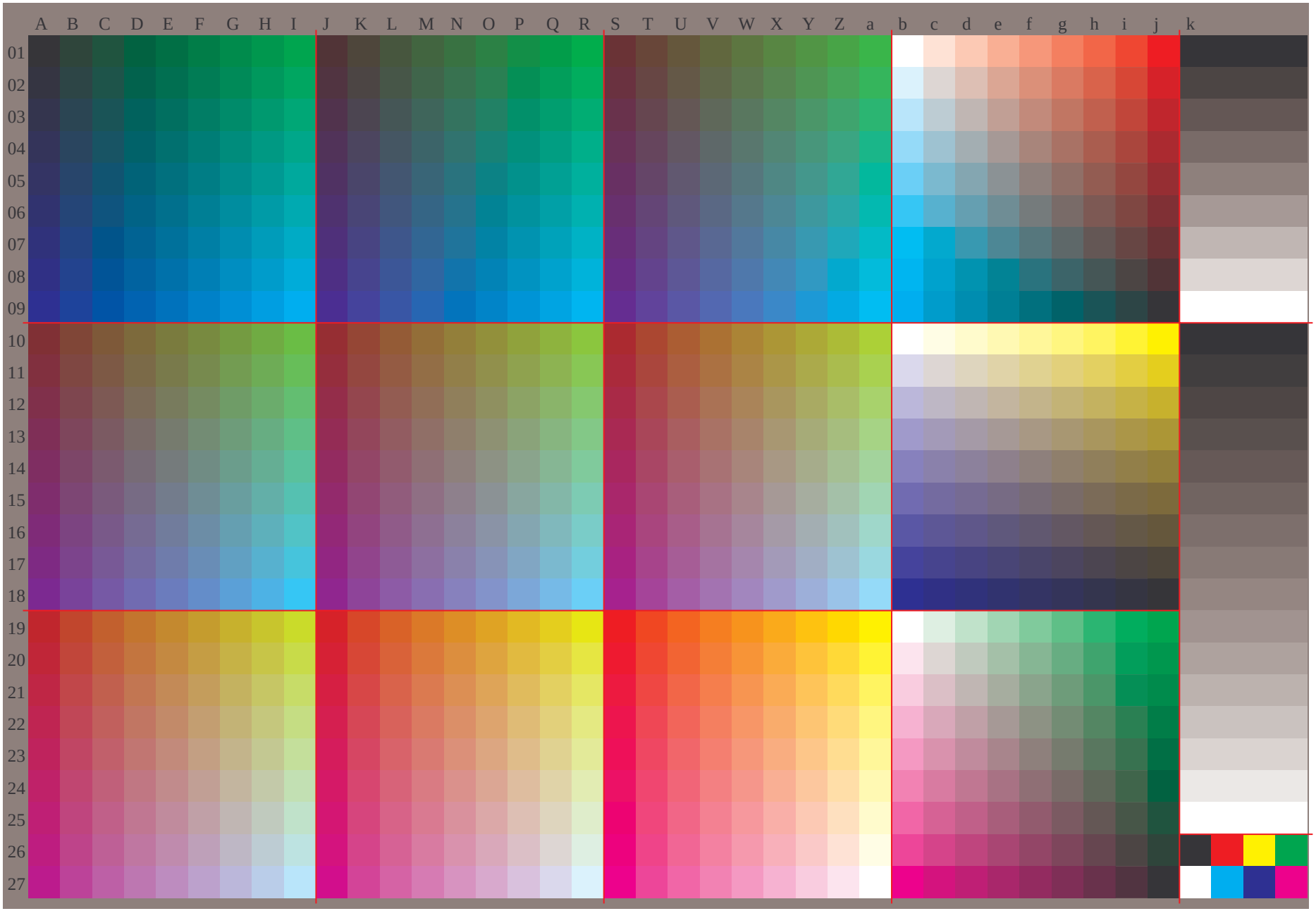
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 40 64 −3**
***LAB*LCH*Ma*: 40 64 357**
***lab*rgb*Ma*: 1.0 0.0 0.5**
***lab*olv*Ma*: 1.0 0.0 0.66**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*

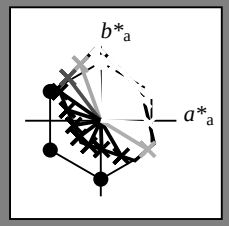



A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k
01 02 03 04 05 06 07 08 09
10 11 12 13 14 15 16 17 18
19 20 21 22 23 24 25 26 27

Input and output:
Colorimetric Printer Reflective System FRS15_90a
data for any colour:
u^*_e and number *no.* = 00 .. 15
elementary hue text:
u^*_e = 16 hues *r00j, r25j, ..., b75r*
contrast reduction factor:
c_R = 0.9

FRS15_90a; adapted (a) CIELAB data

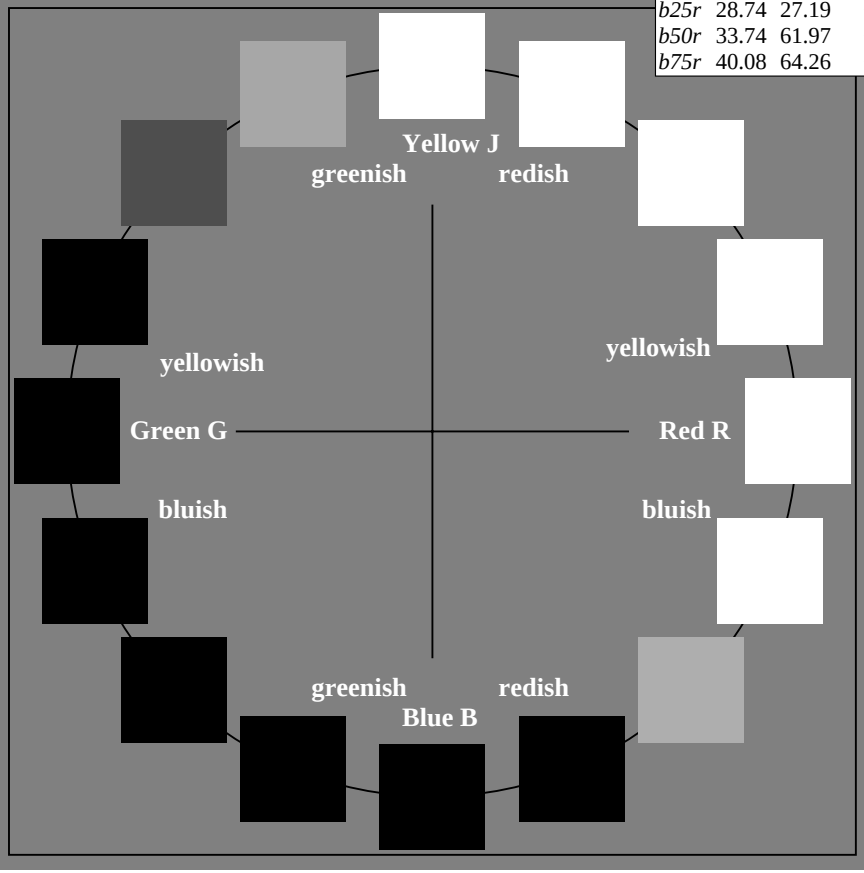
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*

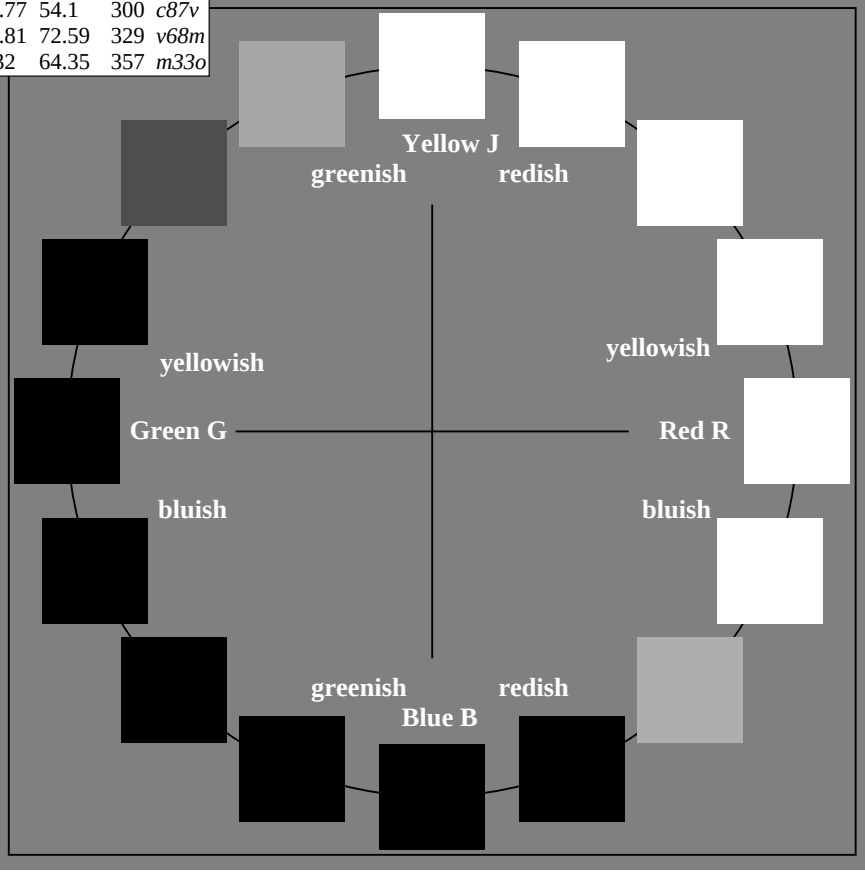


%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; adapted (a) CIELAB data

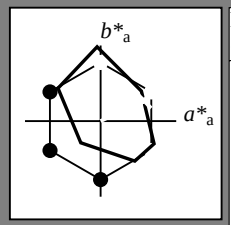
Name	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.89	71.56	71.62	92
G_{CIE}	52.23	−42.42	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.47	46.49	272





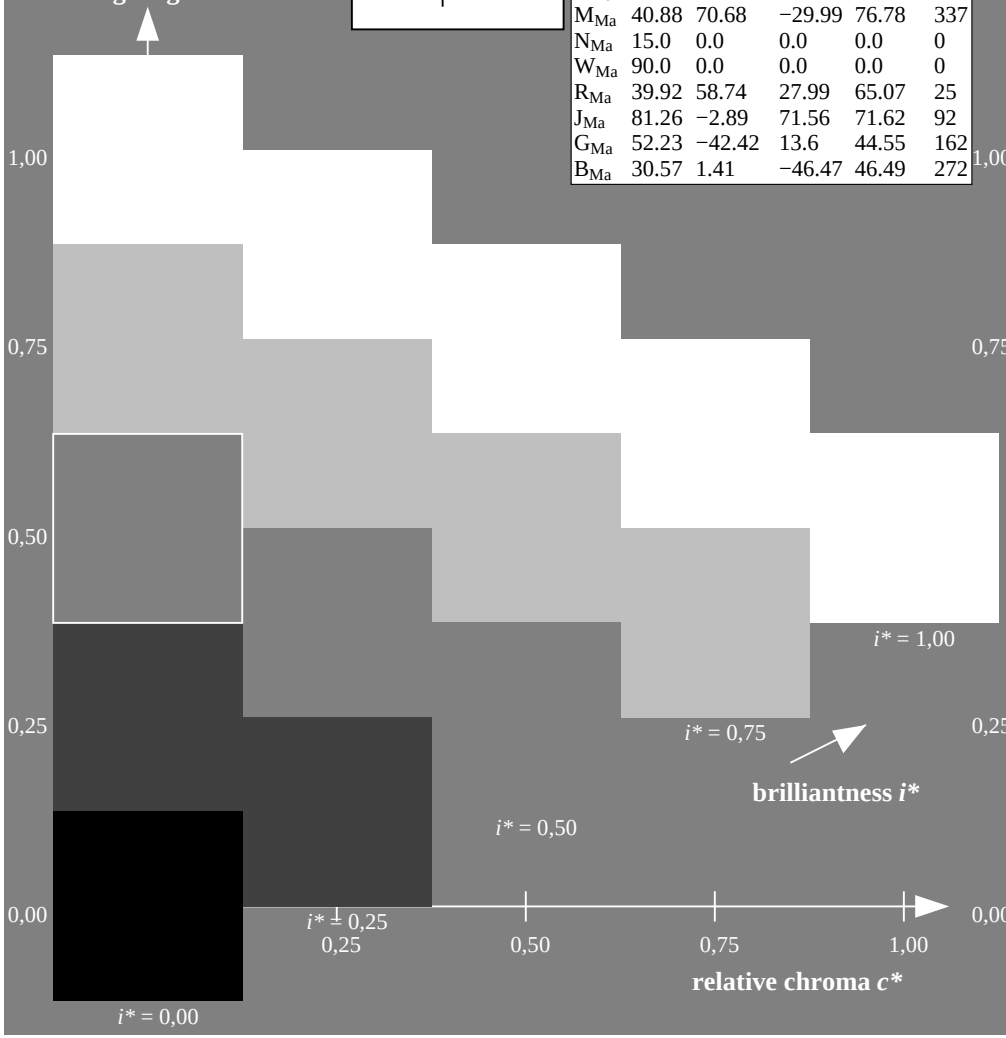
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.071$ **$u^*_e = r00j$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **= *r00j*** u^*_d **= *m81o***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

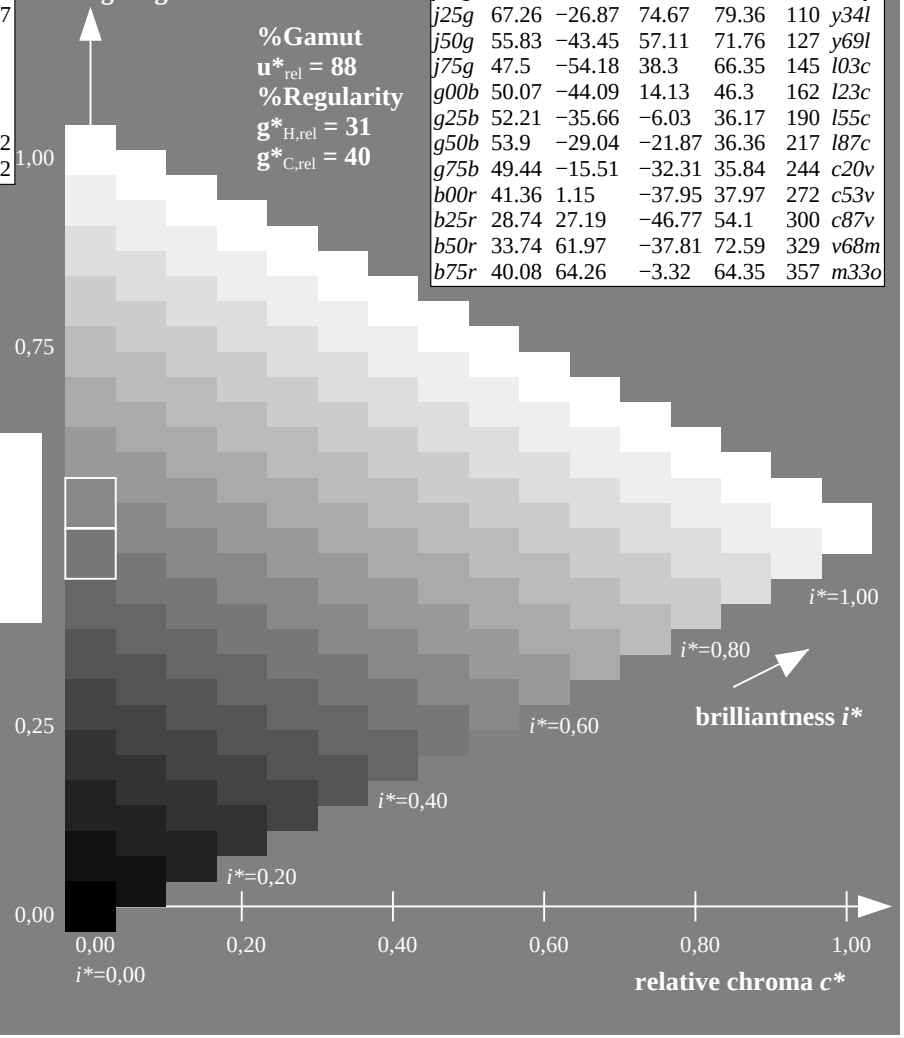


Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 39 57 27**
LAB*LCH*$_{Ma}$**: 39 63 25**
lab*rgb*$_{Ma}$**: 1.0 0.0 0.0**
lab*olv*$_{Ma}$**: 1.0 0.0 0.18**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.117$ **$u^*_e = r25j$**

data for any colour:

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

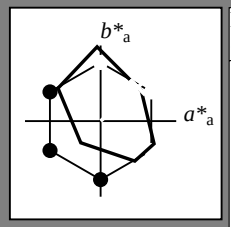
Hue texts:

u^*_e = *r25j* u^*_d = *o10y*

contrast reduction factor:

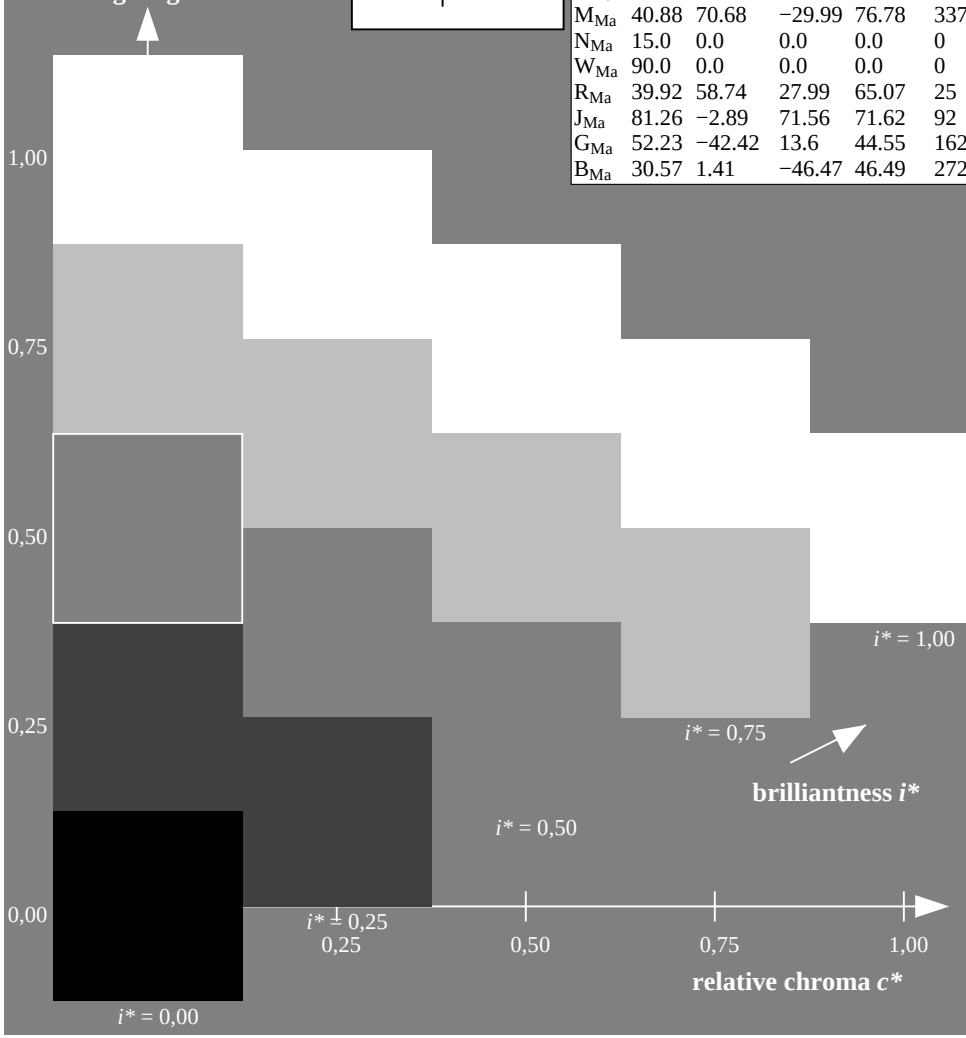
$c_R = 0.9$

triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272



Data for maximum colour (Ma):

LAB*LAB*$_{Ma}$**: 42 49 44**

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

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

lab*olv*$_{Ma}$**: 1.0 0.1 0.0**

triangle lightness *t**

%Gamut

u^*_{rel} = 88

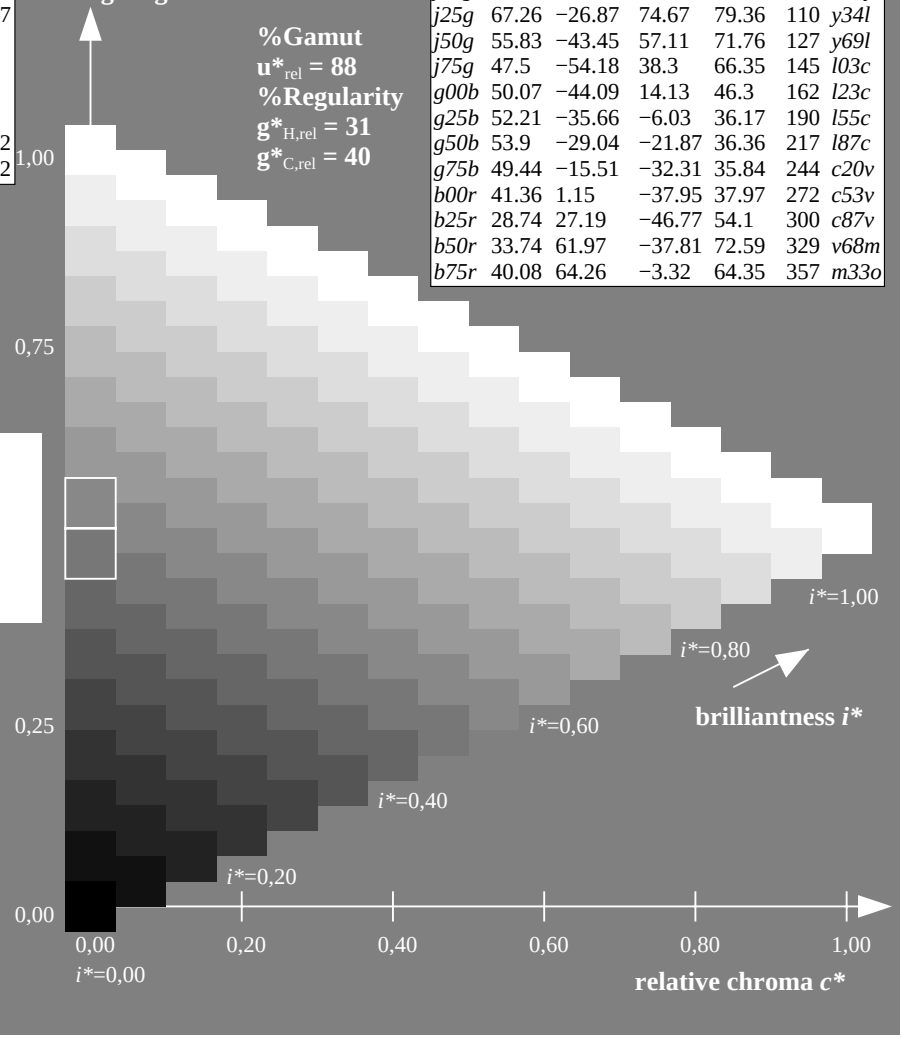
%Regularity

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

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

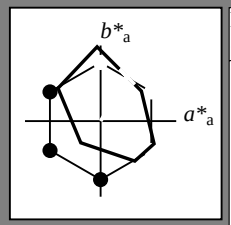
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



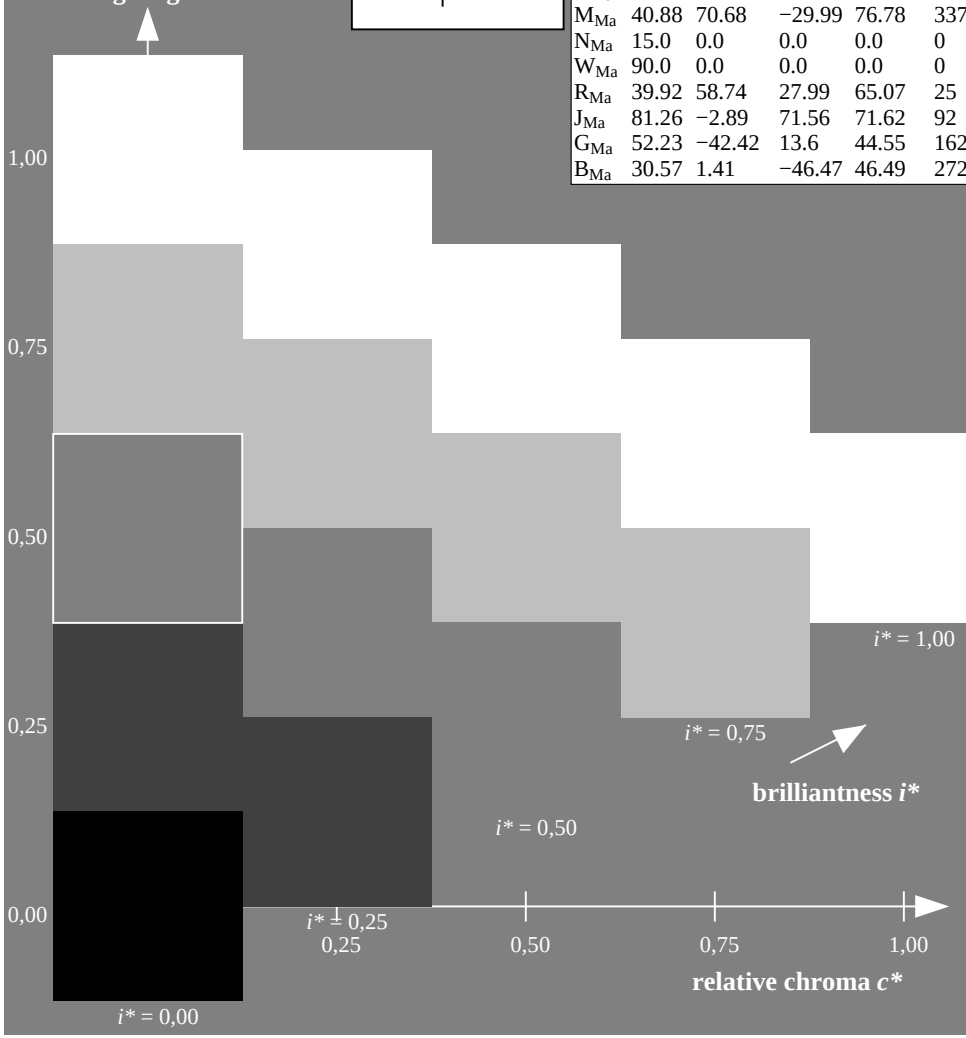
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.164$ **$u^*_e = r50j$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **= *r50j*** u^*_d **= *o40y***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

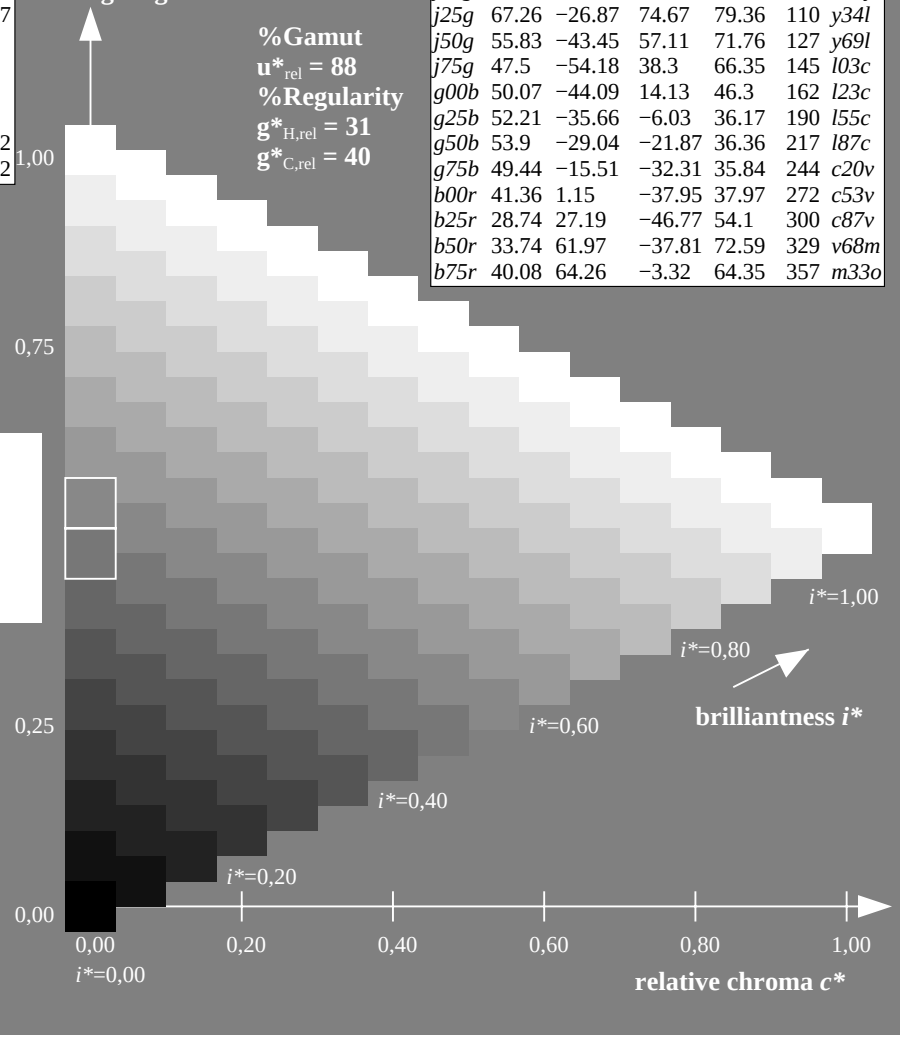


Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 53 35 58**
LAB*LCH*$_{Ma}$**: 53 68 58**
lab*rgb*$_{Ma}$**: 1.0 0.5 0.0**
lab*olv*$_{Ma}$**: 1.0 0.4 0.0**
triangle lightness *t**

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

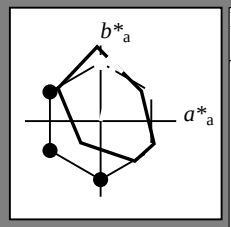
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



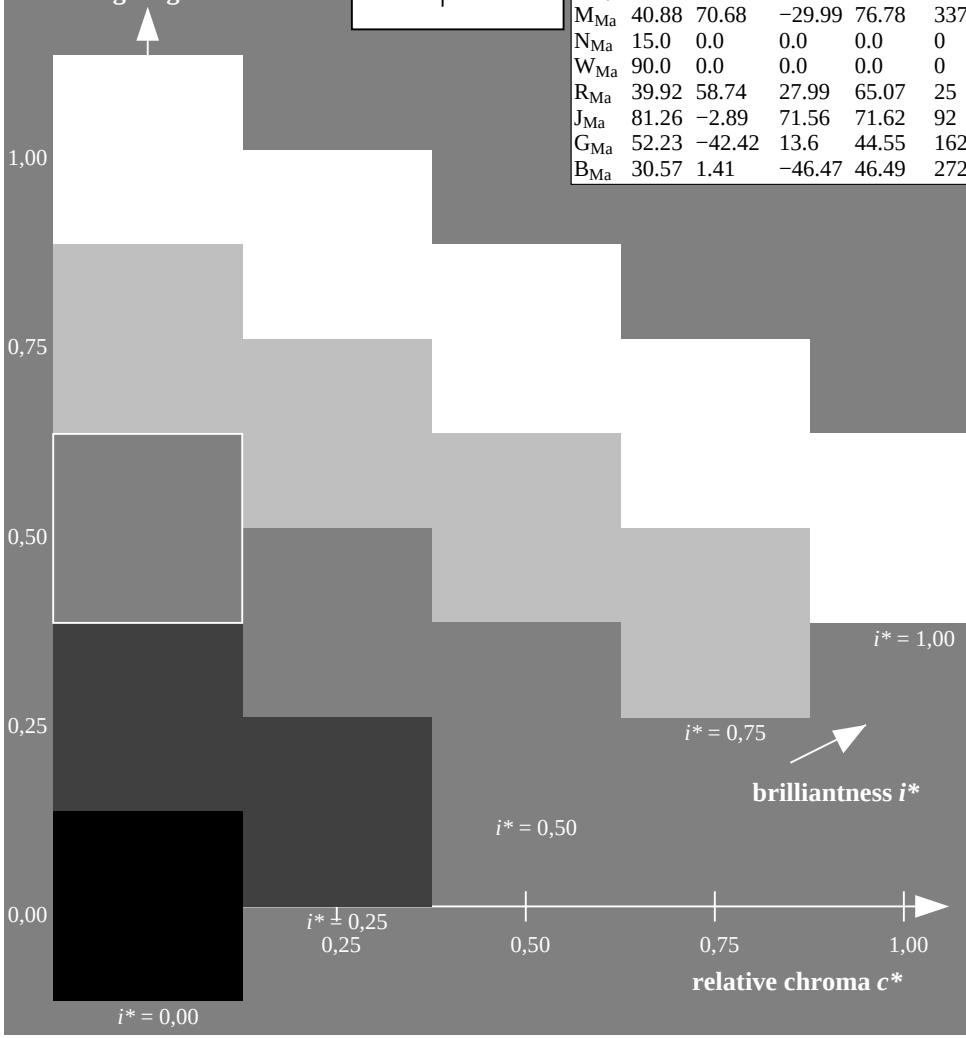
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.21$ **$u^*_e = r75j$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **= *r75j*** u^*_d **= *o69y***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

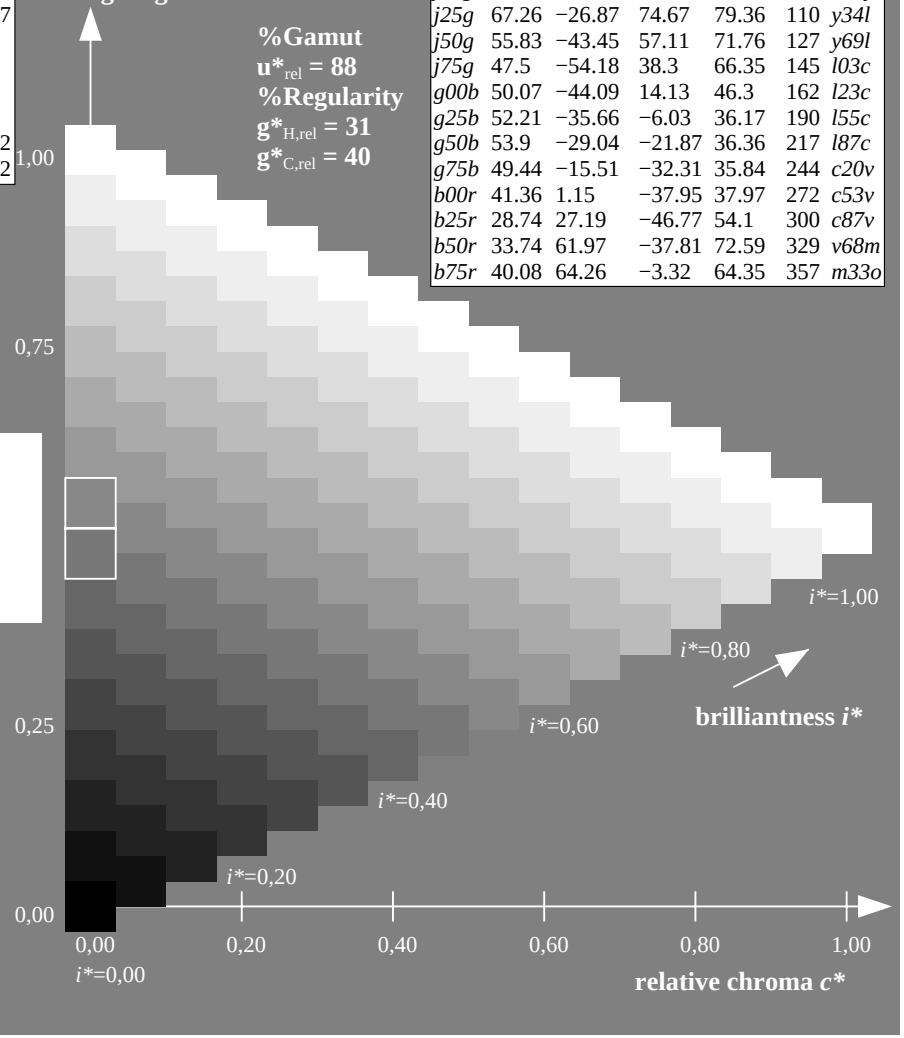


Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 65 19 74**
LAB*LCH*$_{Ma}$**: 65 77 75**
lab*rgb*$_{Ma}$**: 1.0 0.75 0.0**
lab*olv*$_{Ma}$**: 1.0 0.7 0.0**
triangle lightness *t**

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

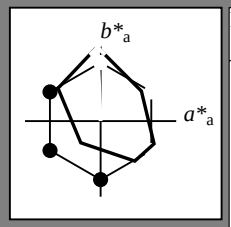
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.256$ **$u^*_e = j00g$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **=** ***j00g*** u^*_d **=** ***o98y***
contrast reduction factor:
$c_R = 0.9$
triangle lightness ***t****



FRS15_90a; adapted (a) CIELAB data

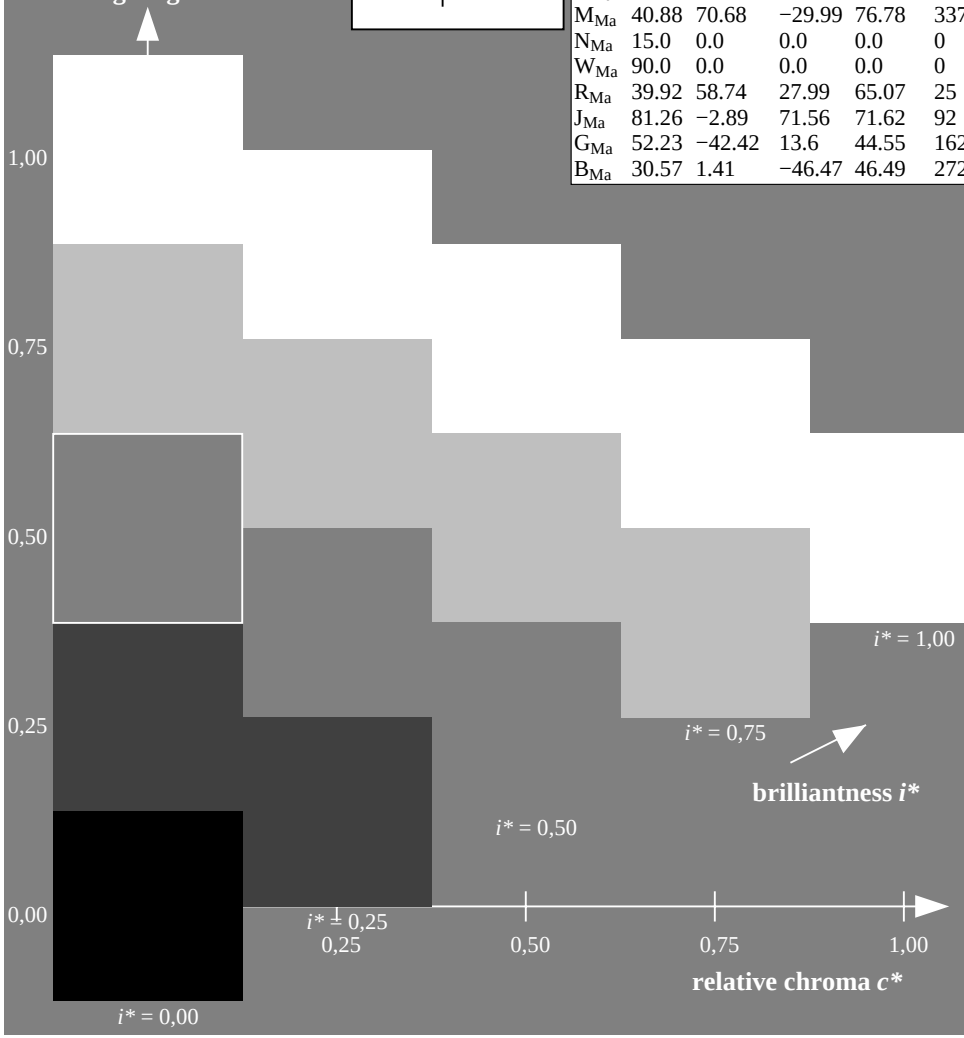
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

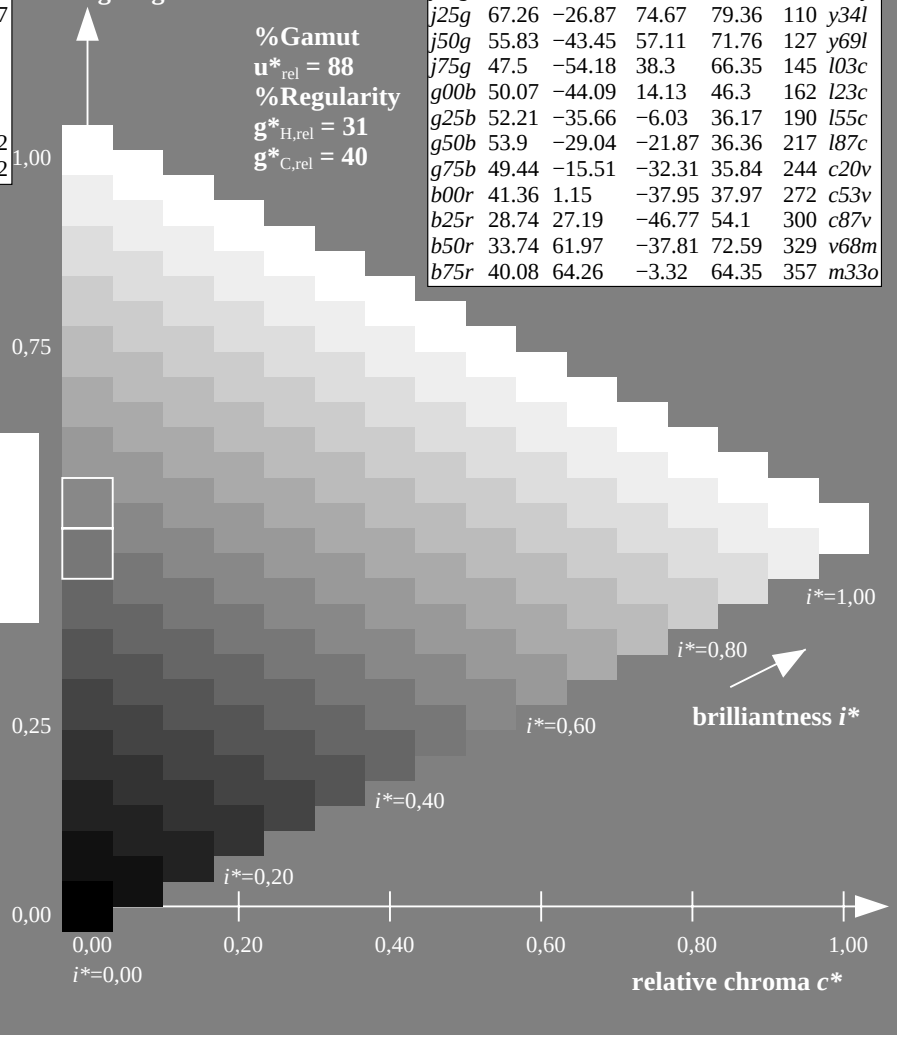
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 82 −4 98**
LAB*LCH*$_{Ma}$**: 82 98 92**
lab*rgb*$_{Ma}$**: 1.0 1.0 0.0**
lab*olv*$_{Ma}$**: 1.0 0.99 0.0**
triangle lightness ***t****

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

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*





Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.305$ **$u^*_e = j25g$**

data for any colour:

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

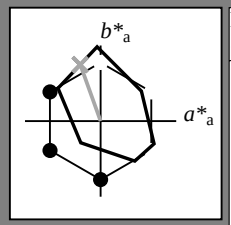
Hue texts:

$u^*_e = j25g$ $u^*_d = y34l$

contrast reduction factor:

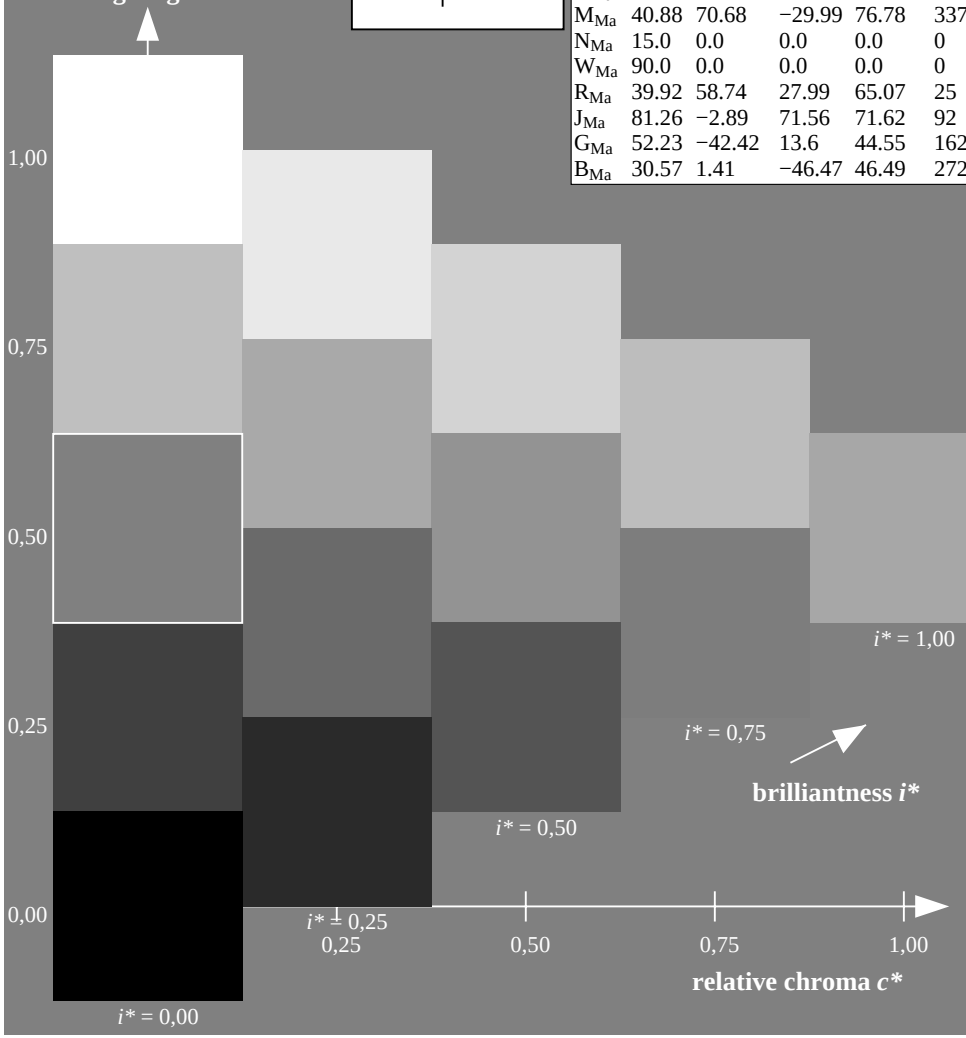
$c_R = 0.9$

triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272



Data for maximum colour (Ma):

LAB*LAB*$_{Ma}$**: 67 −27 75**

LAB*LCH*$_{Ma}$**: 67 79 109**

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

lab*olv*$_{Ma}$**: 0.66 1.0 0.0**

triangle lightness *t**

%Gamut

u^*_{rel} = 88

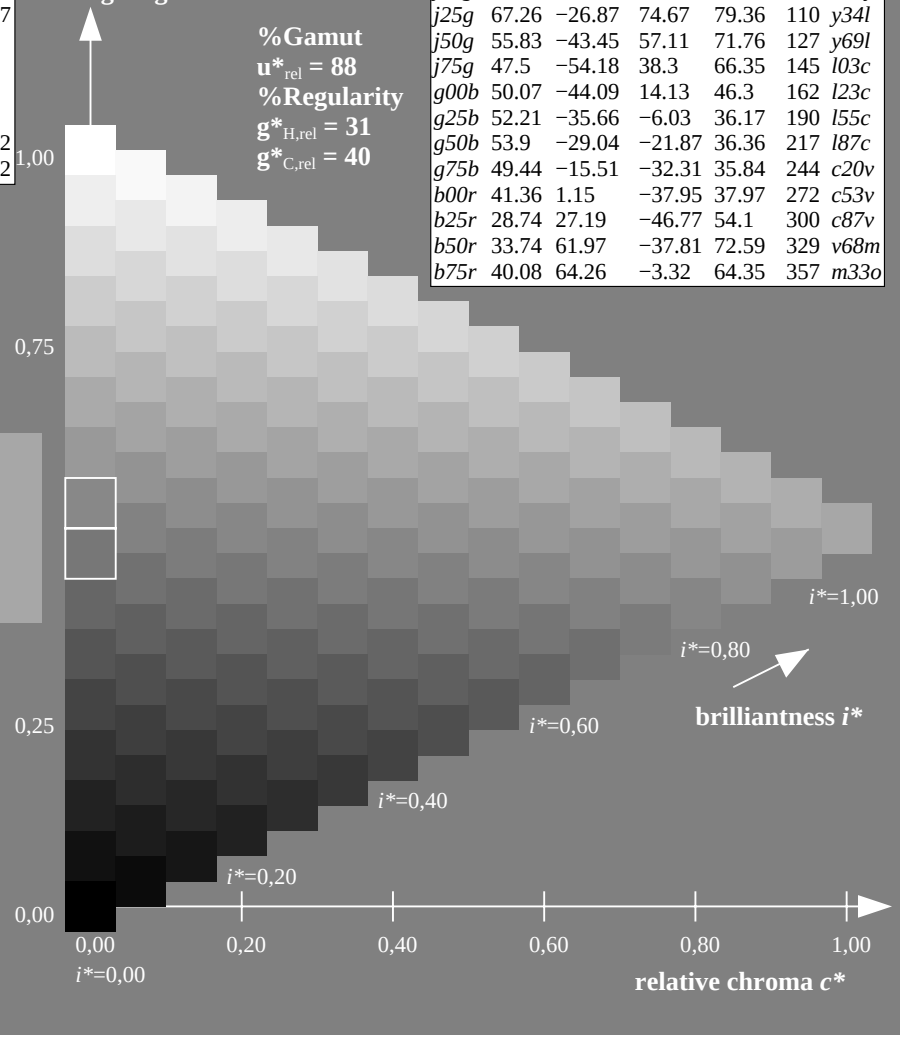
%Regularity

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

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

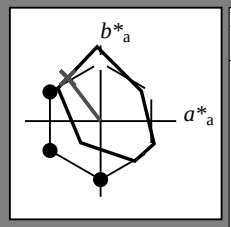
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.354$ **$u^*_e = j50g$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **=** ***j50g*** u^*_d **=** ***y69l***
contrast reduction factor:
$c_R = 0.9$
triangle lightness ***t****



FRS15_90a; adapted (a) CIELAB data

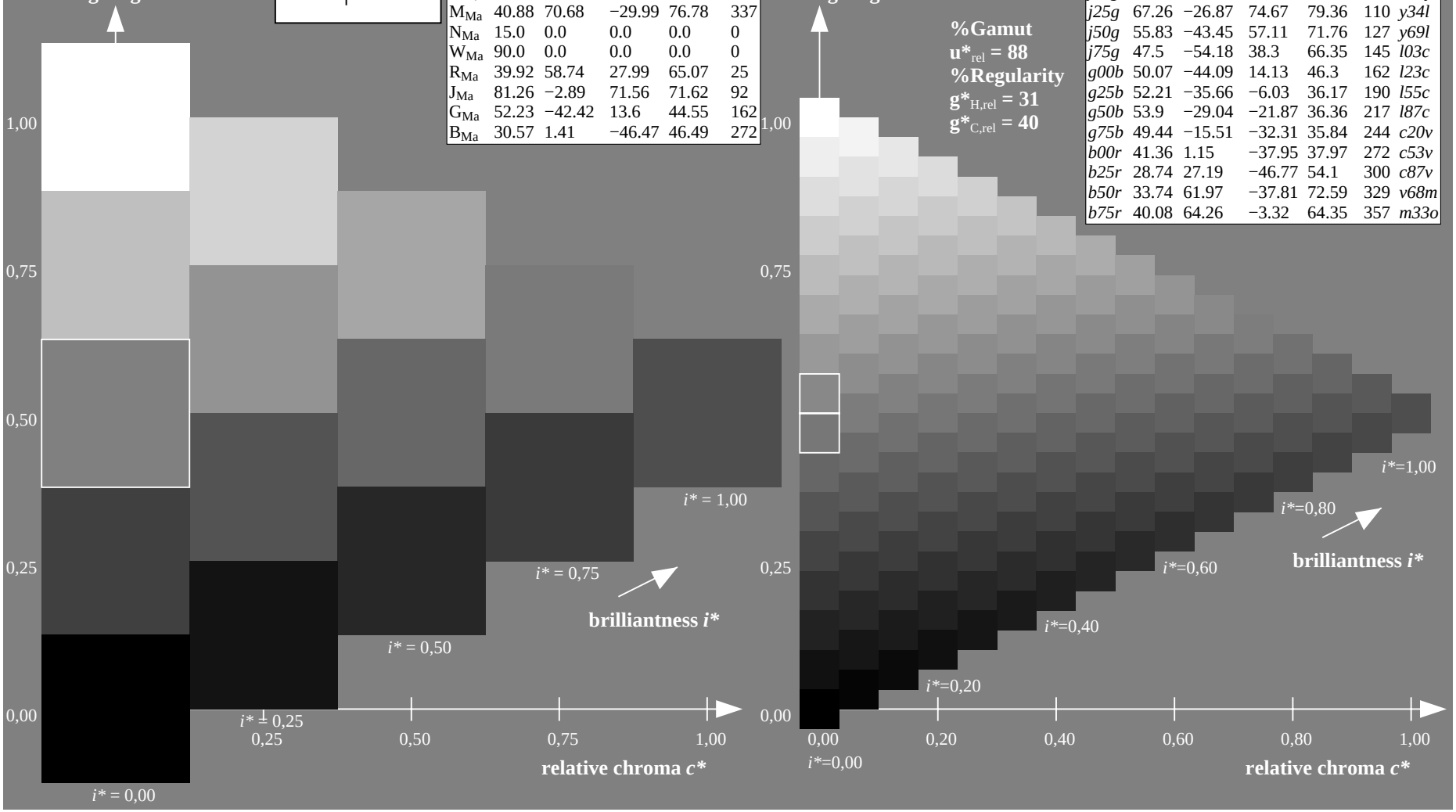
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 56 −43 57**
LAB*LCH*$_{Ma}$**: 56 72 127**
lab*rgb*$_{Ma}$**: 0.5 1.0 0.0**
lab*olv*$_{Ma}$**: 0.3 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

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.402$ **$u^*_e = j75g$**

data for any colour:

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

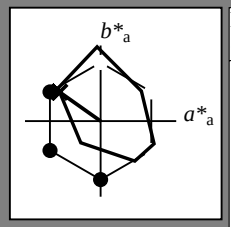
Hue texts:

u^*_e = *j75g* u^*_d = *l03c*

contrast reduction factor:

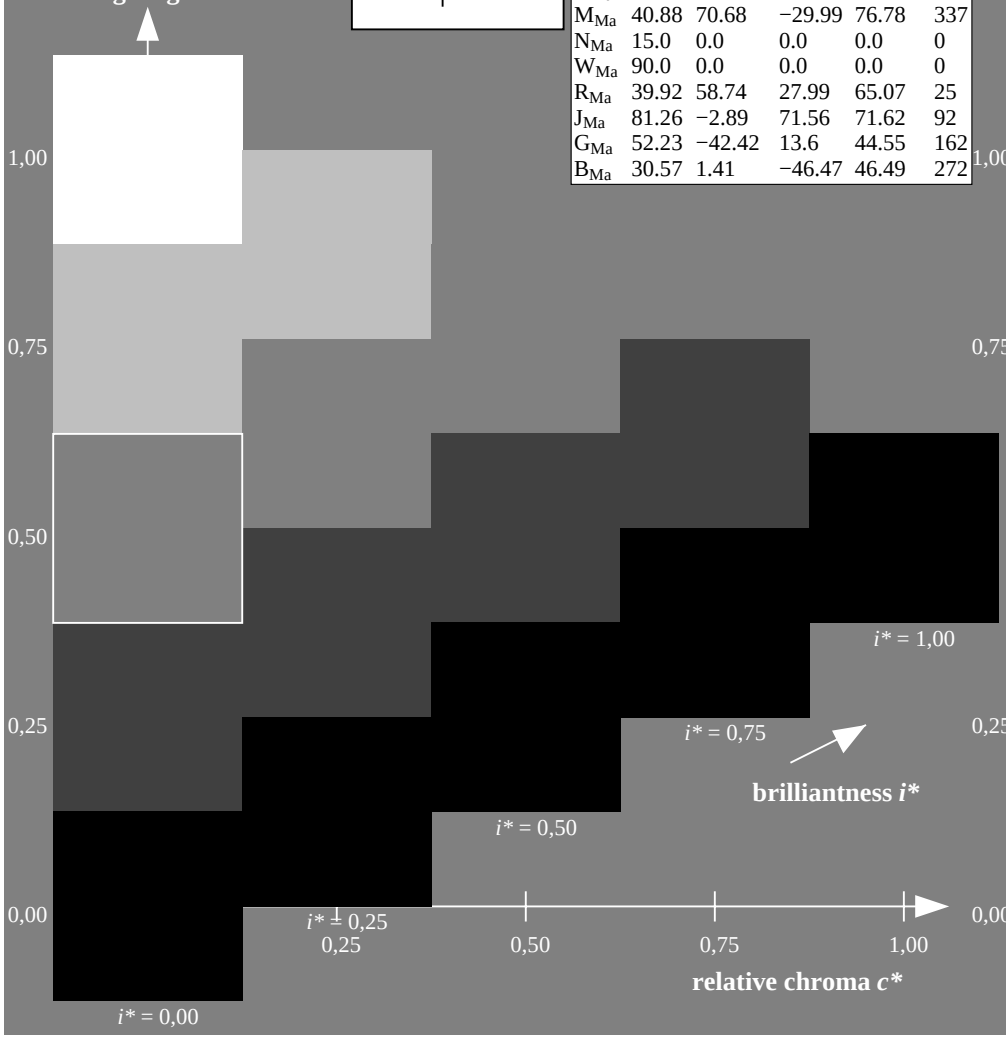
$c_R = 0.9$

triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272



Data for maximum colour (Ma):

LAB*LAB*$_{Ma}$**: 48 −54 38**

LAB*LCH*$_{Ma}$**: 48 66 144**

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

lab*olv*$_{Ma}$**: 0.0 1.0 0.03**

triangle lightness *t**

%Gamut

u^*_{rel} = 88

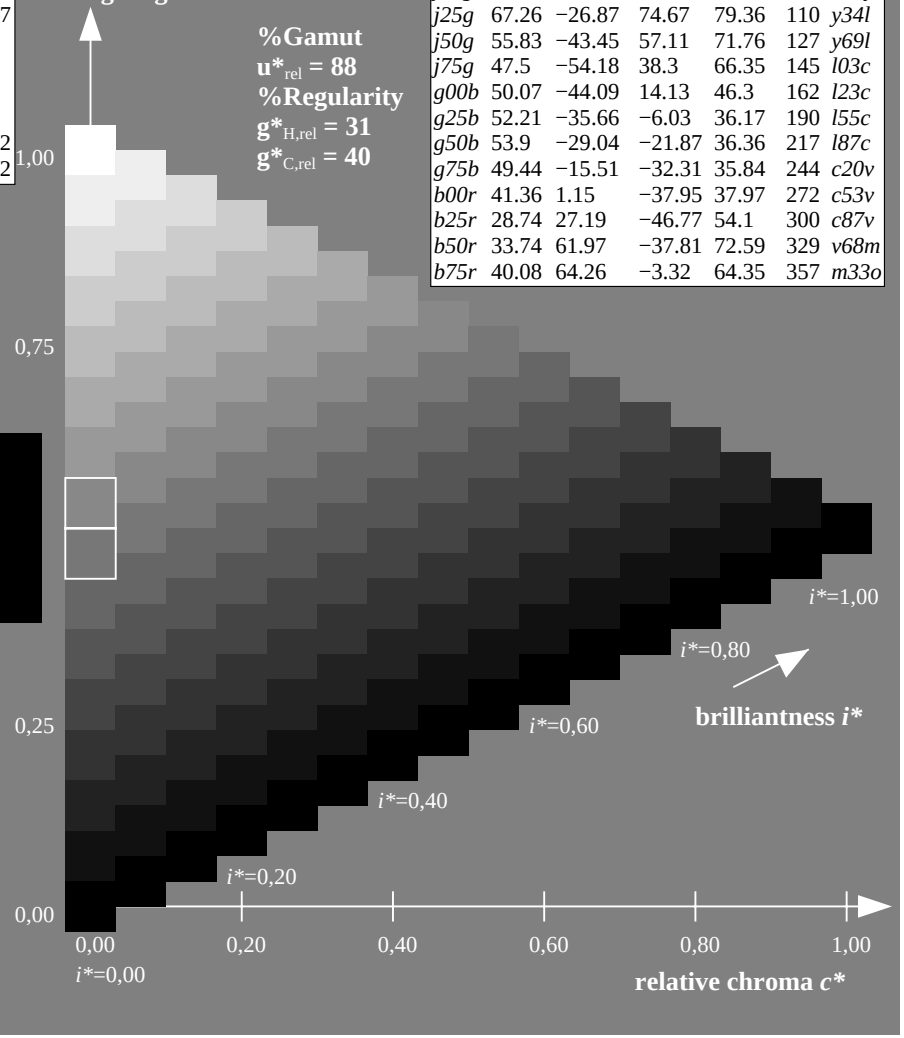
%Regularity

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

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

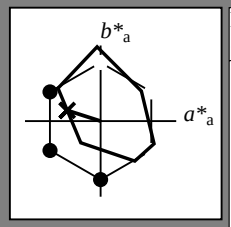
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



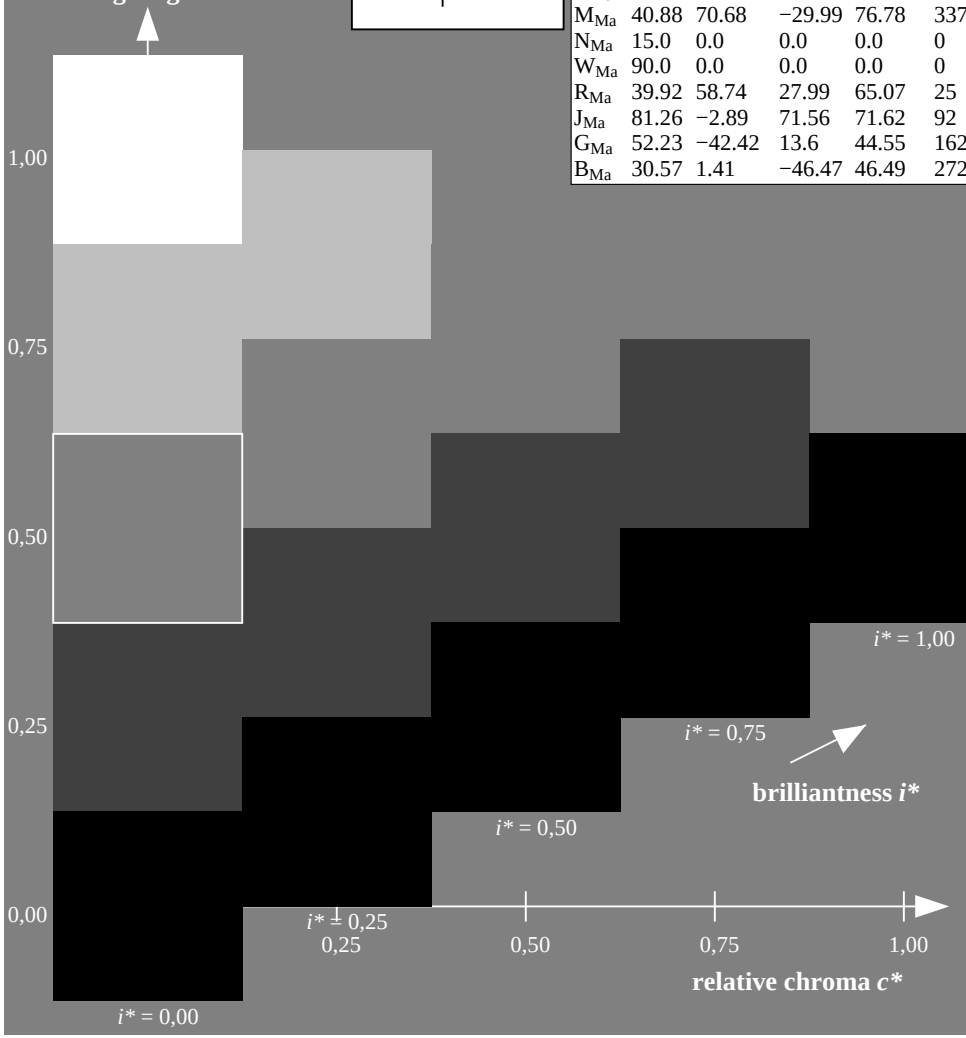
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.451$ **$u^*_e = g00b$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **=** ***g00b*** u^*_d **=** ***l23c***
contrast reduction factor:
$c_R = 0.9$
triangle lightness ***t****



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

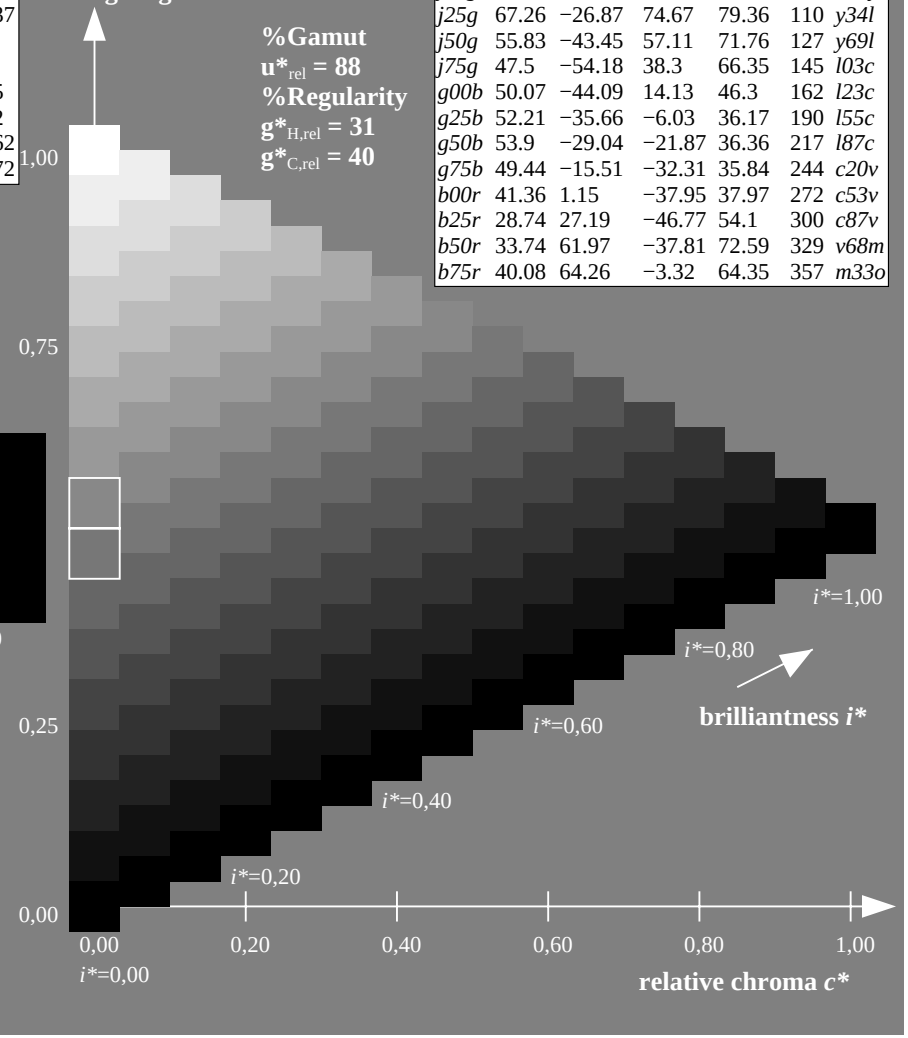


Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 50 −44 14**
LAB*LCH*$_{Ma}$**: 50 46 162**
lab*rgb*$_{Ma}$**: 0.0 1.0 0.0**
lab*olv*$_{Ma}$**: 0.0 1.0 0.23**
triangle lightness ***t****

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

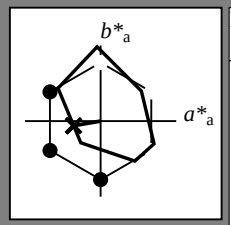
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **= *g25b*** u^*_d **= *l55c***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

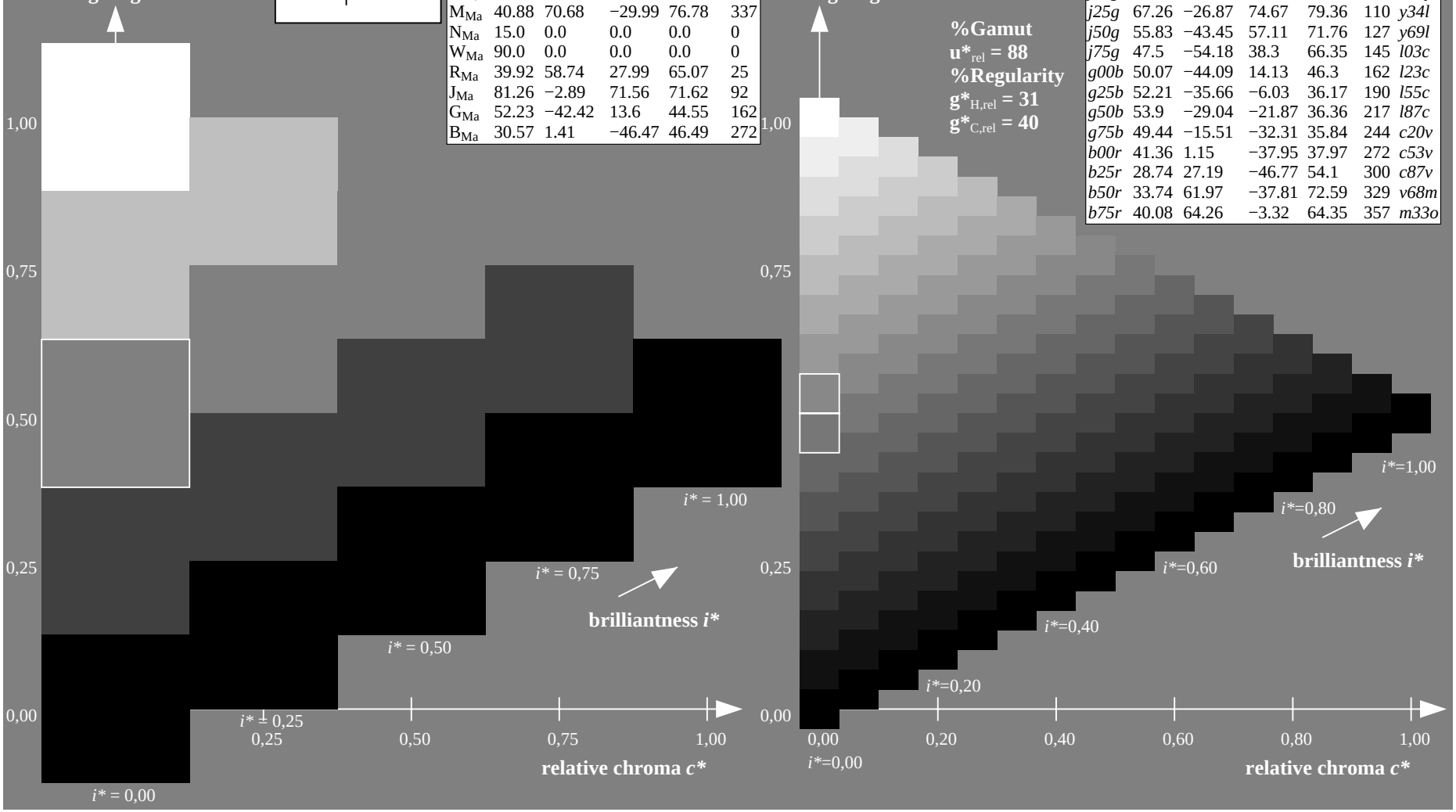
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 52 −36 −6**
LAB*LCH*$_{Ma}$**: 52 36 189**
lab*rgb*$_{Ma}$**: 0.0 1.0 0.5**
lab*olv*$_{Ma}$**: 0.0 1.0 0.55**
triangle lightness *t**

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

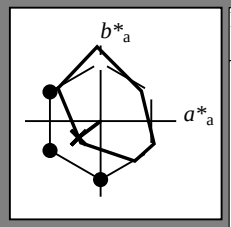
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **= *g50b*** u^*_d **= *l87c***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

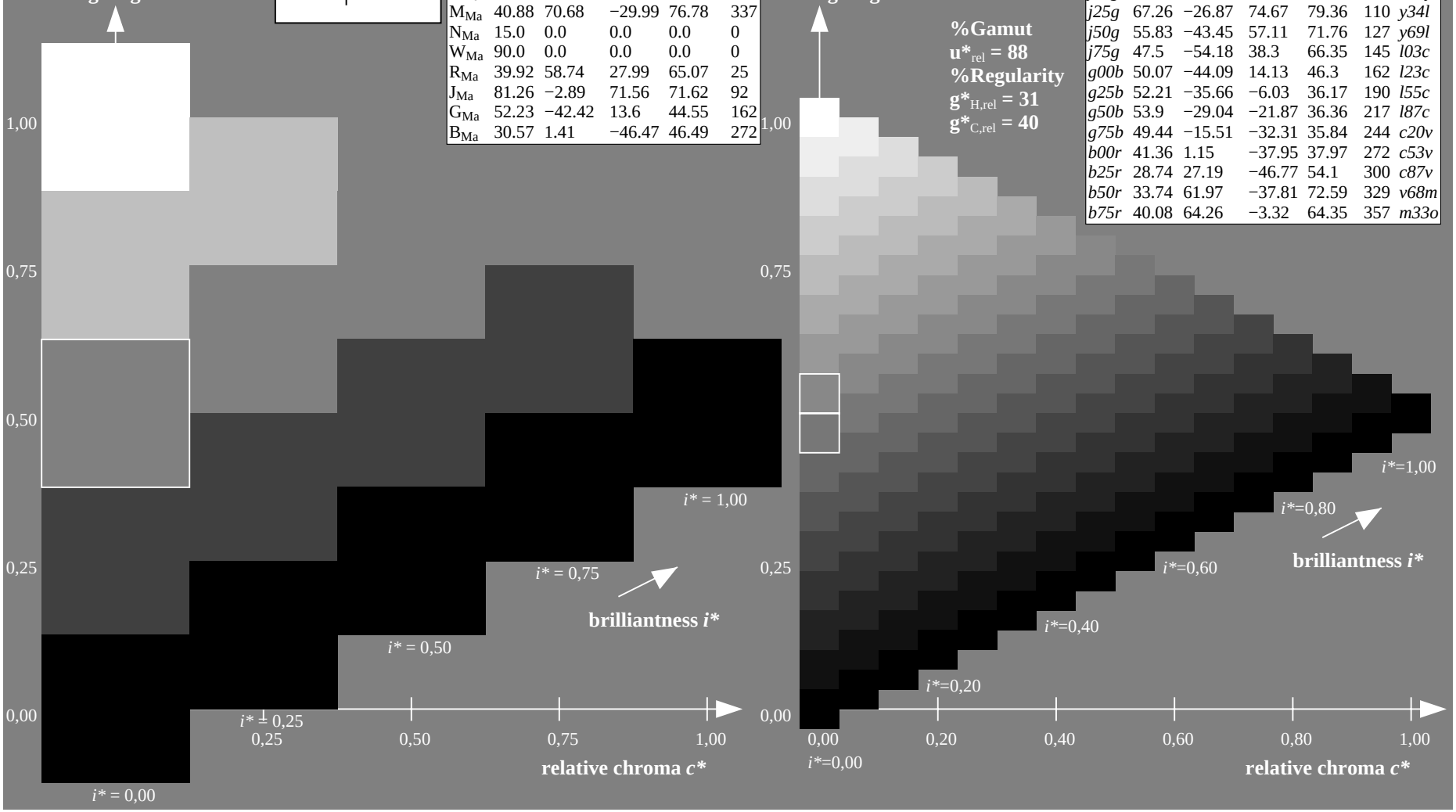
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 54 −29 −22**
LAB*LCH*$_{Ma}$**: 54 36 216**
lab*rgb*$_{Ma}$**: 0.0 1.0 1.0**
lab*olv*$_{Ma}$**: 0.0 1.0 0.88**
triangle lightness *t**

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

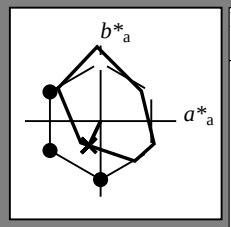
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.679$ **$u^*_e = g75b$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **= *g75b*** u^*_d **= *c20v***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

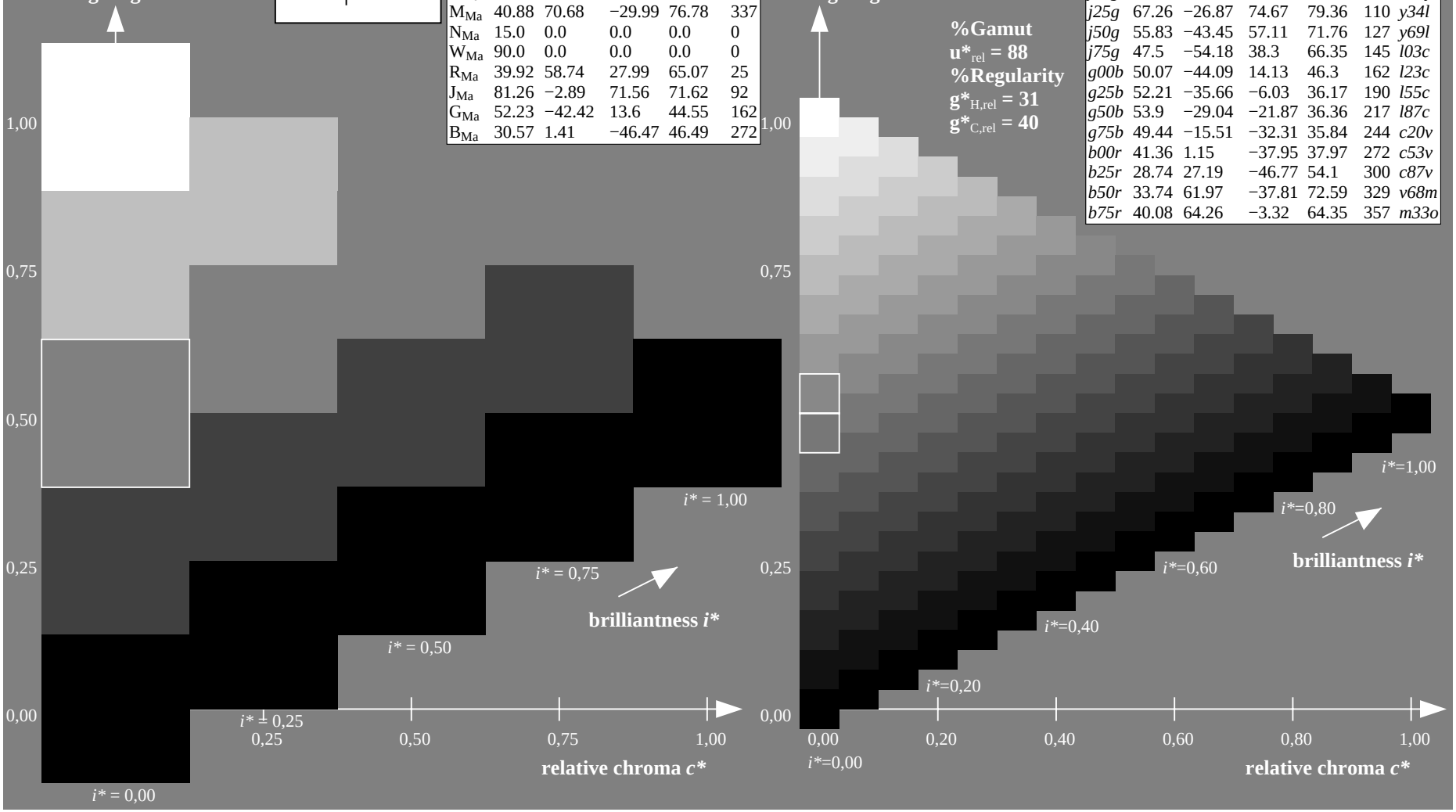
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 49 −16 −32**
LAB*LCH*$_{Ma}$**: 49 36 244**
lab*rgb*$_{Ma}$**: 0.0 0.5 1.0**
lab*olv*$_{Ma}$**: 0.0 0.8 1.0**
triangle lightness *t**

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

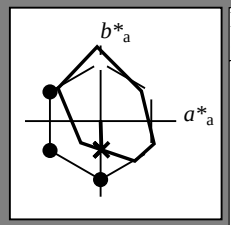
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **= *b00r*** u^*_d **= *c53v***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

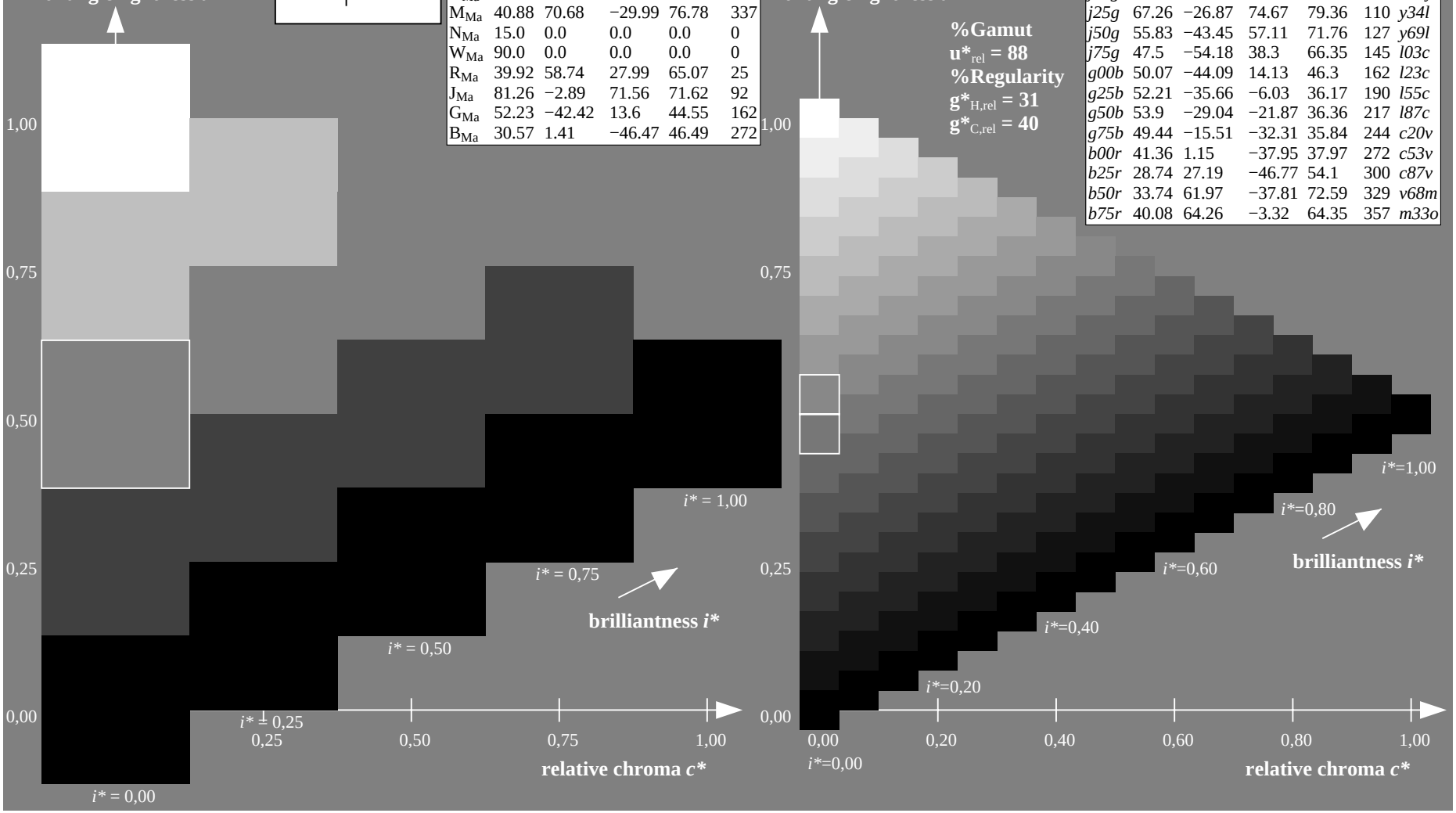
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 41 1 −38**
LAB*LCH*$_{Ma}$**: 41 38 271**
lab*rgb*$_{Ma}$**: 0.0 0.0 1.0**
lab*olv*$_{Ma}$**: 0.0 0.47 1.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:

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

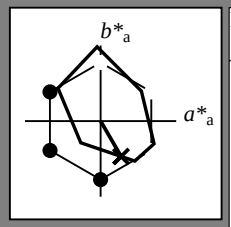
Hue texts:

u^*_e = *b25r* u^*_d = *c87v*

contrast reduction factor:

$c_R = 0.9$

triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):

LAB*LAB*$_{Ma}$**: 29 27 −47**

LAB*LCH*$_{Ma}$**: 29 54 300**

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

lab*olv*$_{Ma}$**: 0.0 0.12 1.0**

triangle lightness *t**

%Gamut

u^*_{rel} = 88

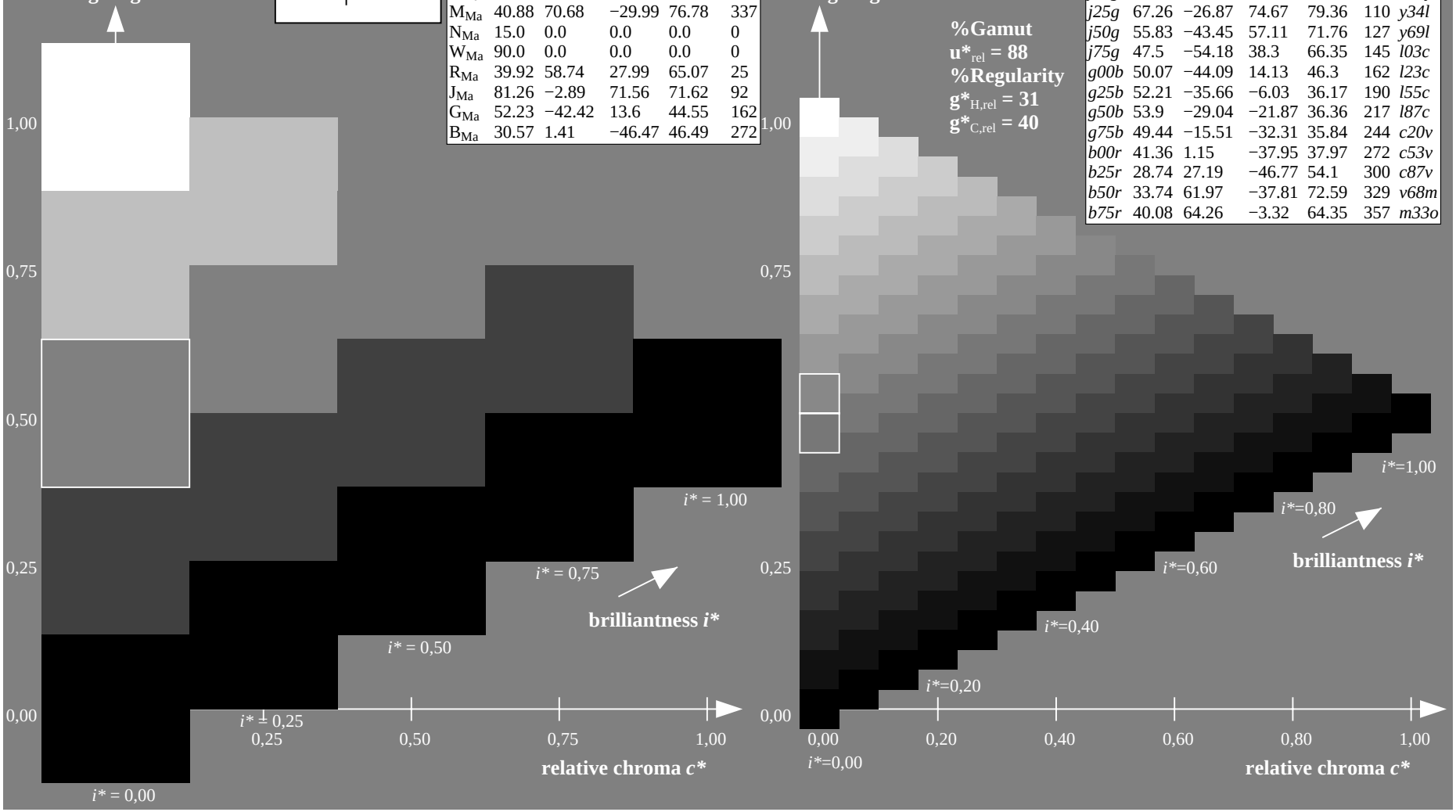
%Regularity

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

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

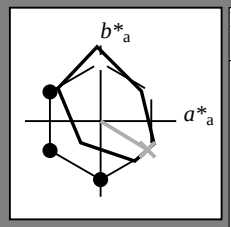
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.913$ **$u^*_e = b50r$**

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e **= *b50r*** u^*_d **= *v68m***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

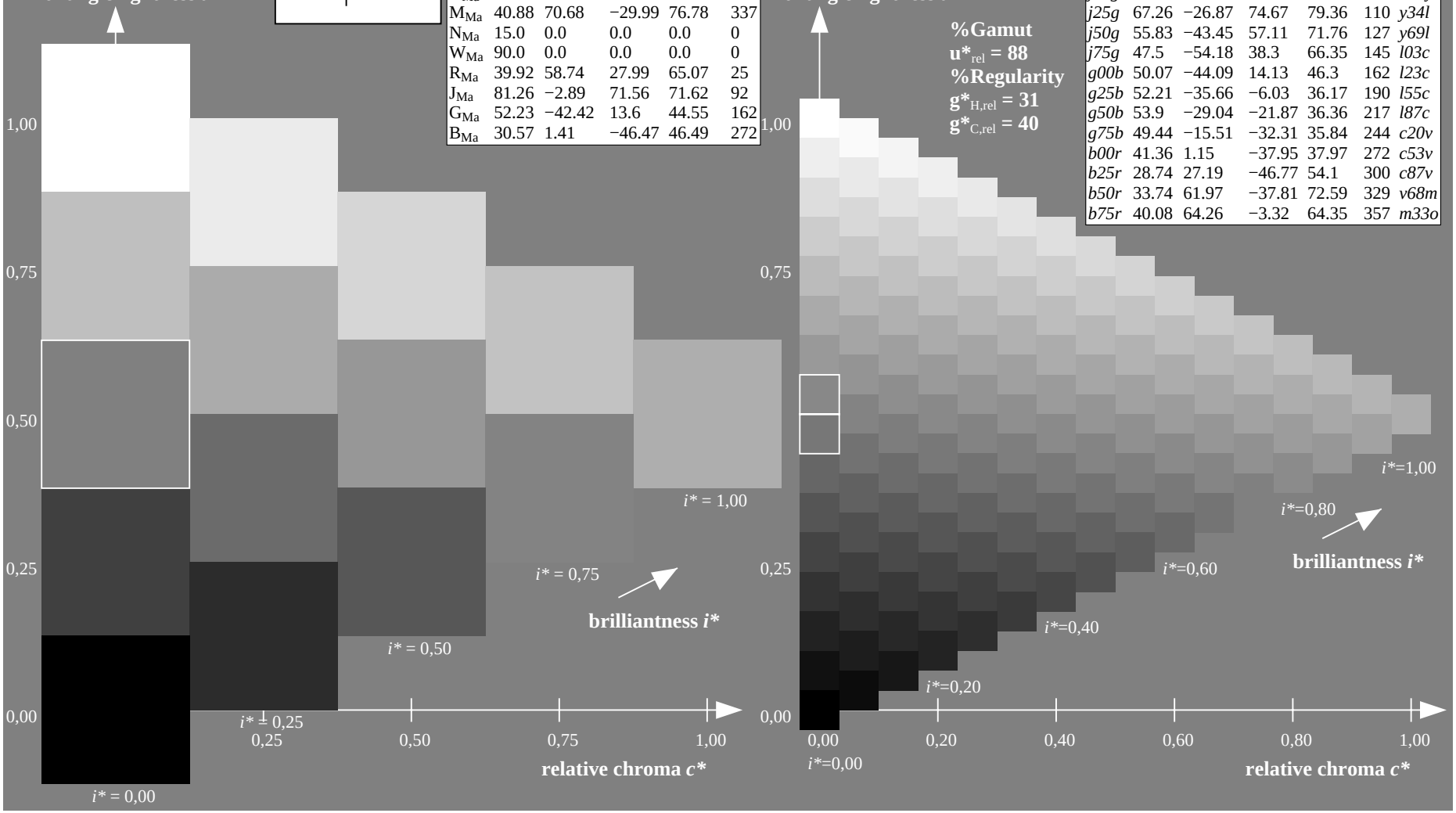
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 34 62 −38**
LAB*LCH*$_{Ma}$**: 34 73 328**
lab*rgb*$_{Ma}$**: 1.0 0.0 1.0**
lab*olv*$_{Ma}$**: 0.68 0.0 1.0**
triangle lightness *t**

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

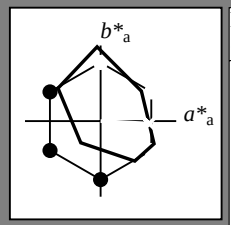
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



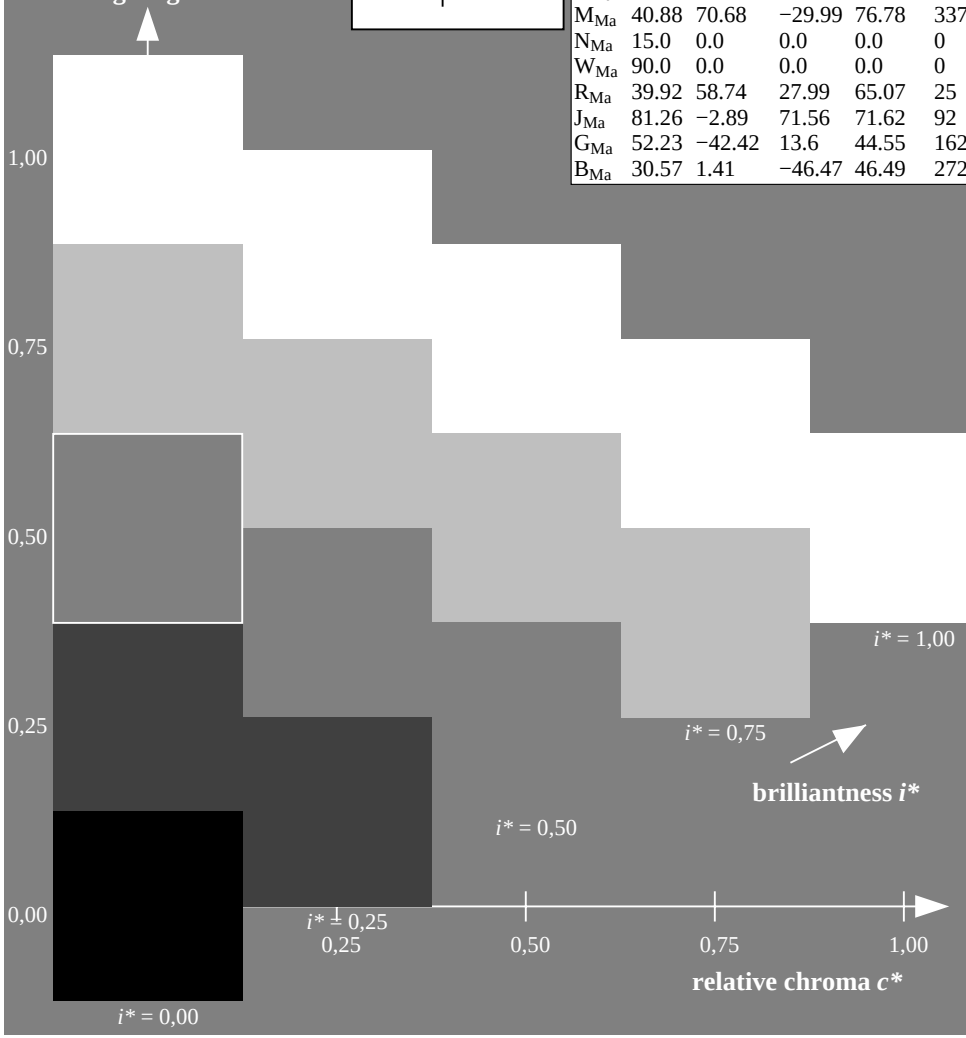
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.992$ **$u^*_e = b75r$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **= *b75r*** u^*_d **= *m33o***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

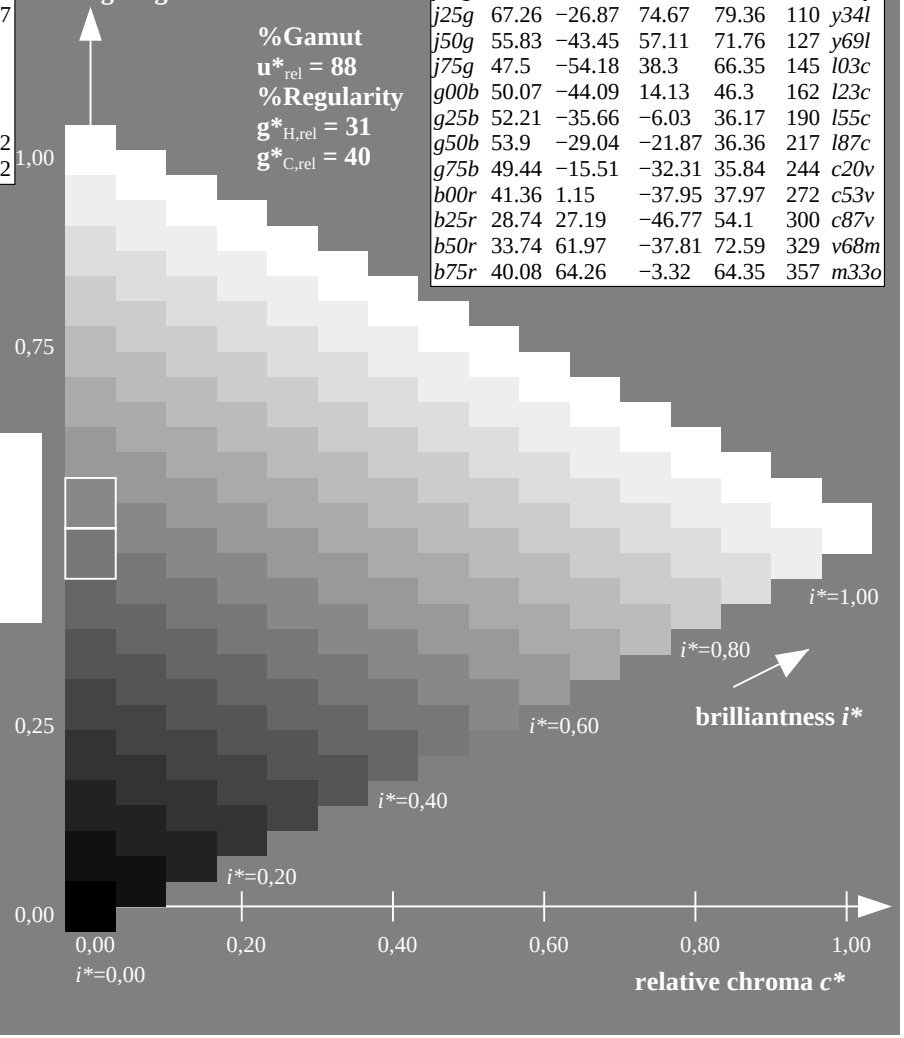


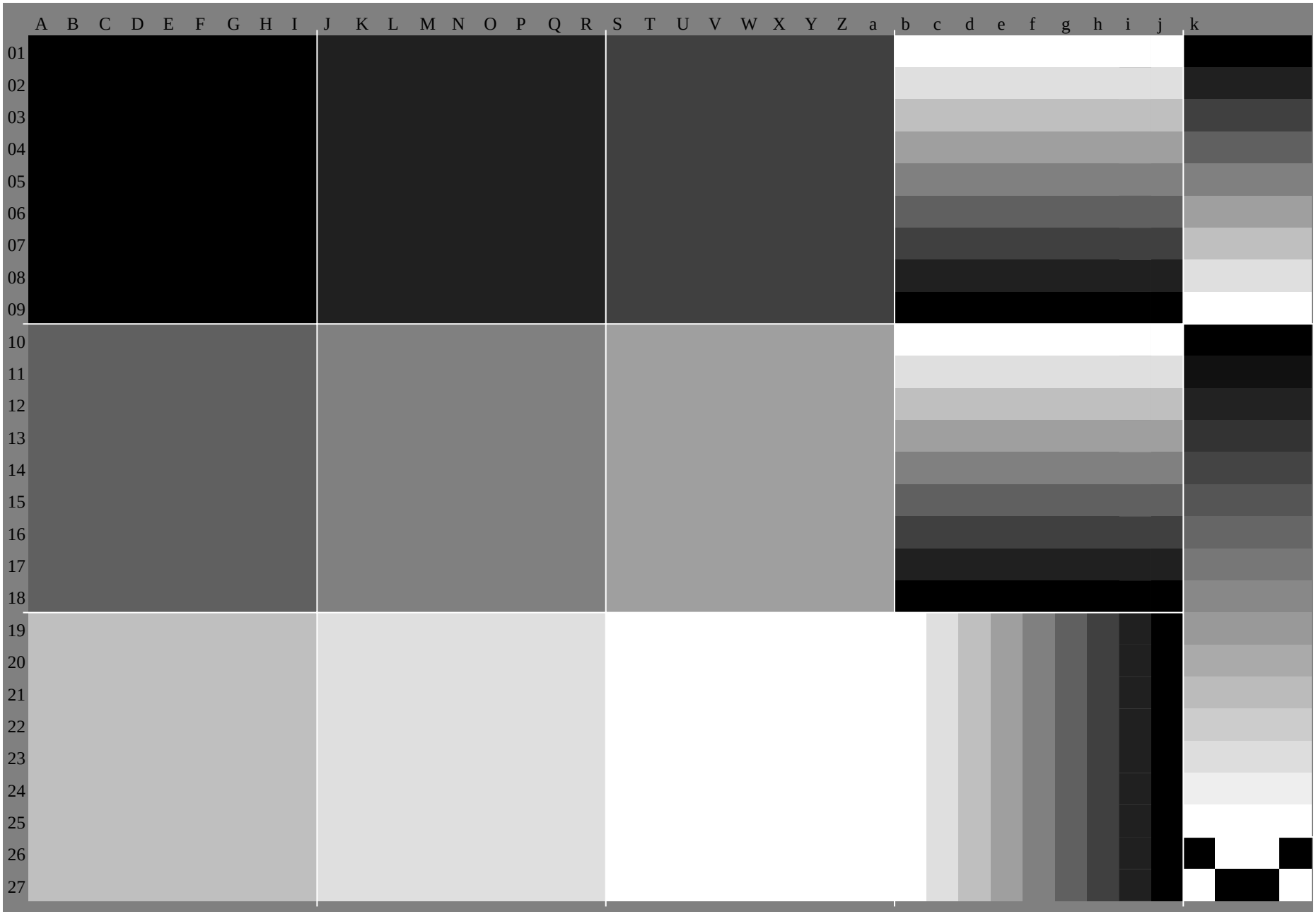
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 40 64 −3**
LAB*LCH*$_{Ma}$**: 40 64 357**
lab*rgb*$_{Ma}$**: 1.0 0.0 0.5**
lab*olv*$_{Ma}$**: 1.0 0.0 0.66**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*

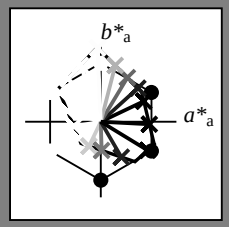



A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k
01 02 03 04 05 06 07 08 09
10 11 12 13 14 15 16 17 18
19 20 21 22 23 24 25 26 27

Input and output:
Colorimetric Printer Reflective System FRS15_90a
data for any colour:
u^*_e and number *no.* = 00 .. 15
elementary hue text:
u^*_e = 16 hues *r00j, r25j, ..., b75r*
contrast reduction factor:
c_R = 0.9

FRS15_90a; adapted (a) CIELAB data

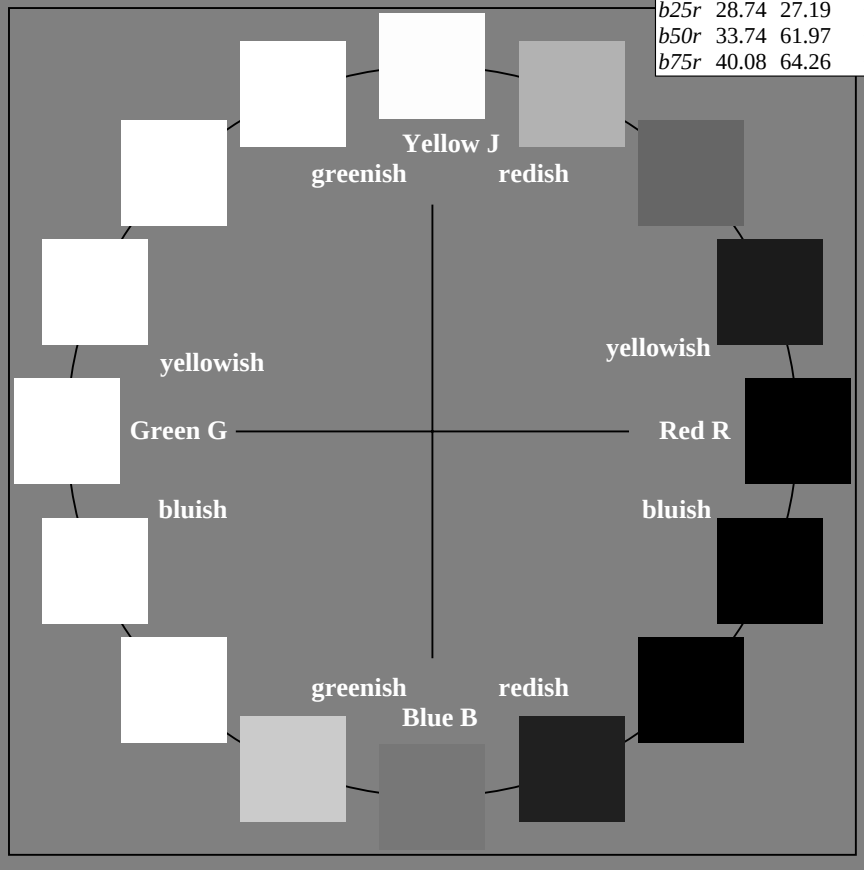
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*

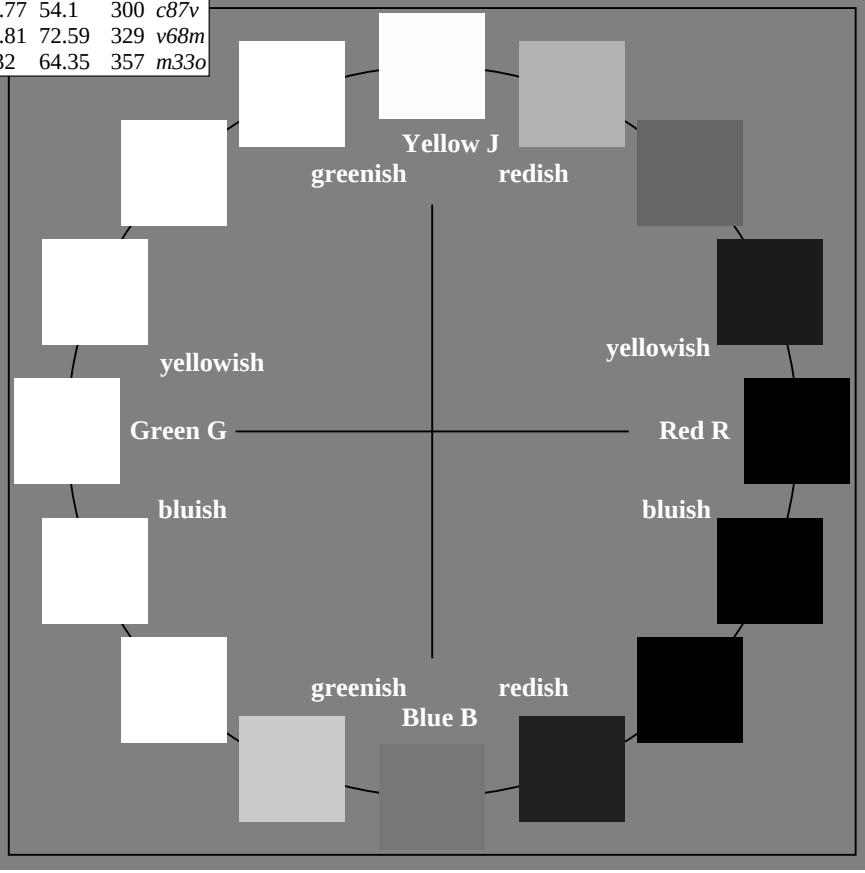


%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; adapted (a) CIELAB data

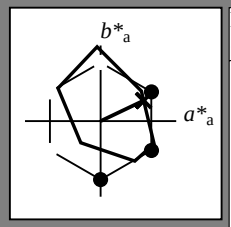
Name	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.89	71.56	71.62	92
G_{CIE}	52.23	−42.42	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.47	46.49	272





Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.071$ **$u^*_e = r00j$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **= *r00j*** u^*_d **= *m81o***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

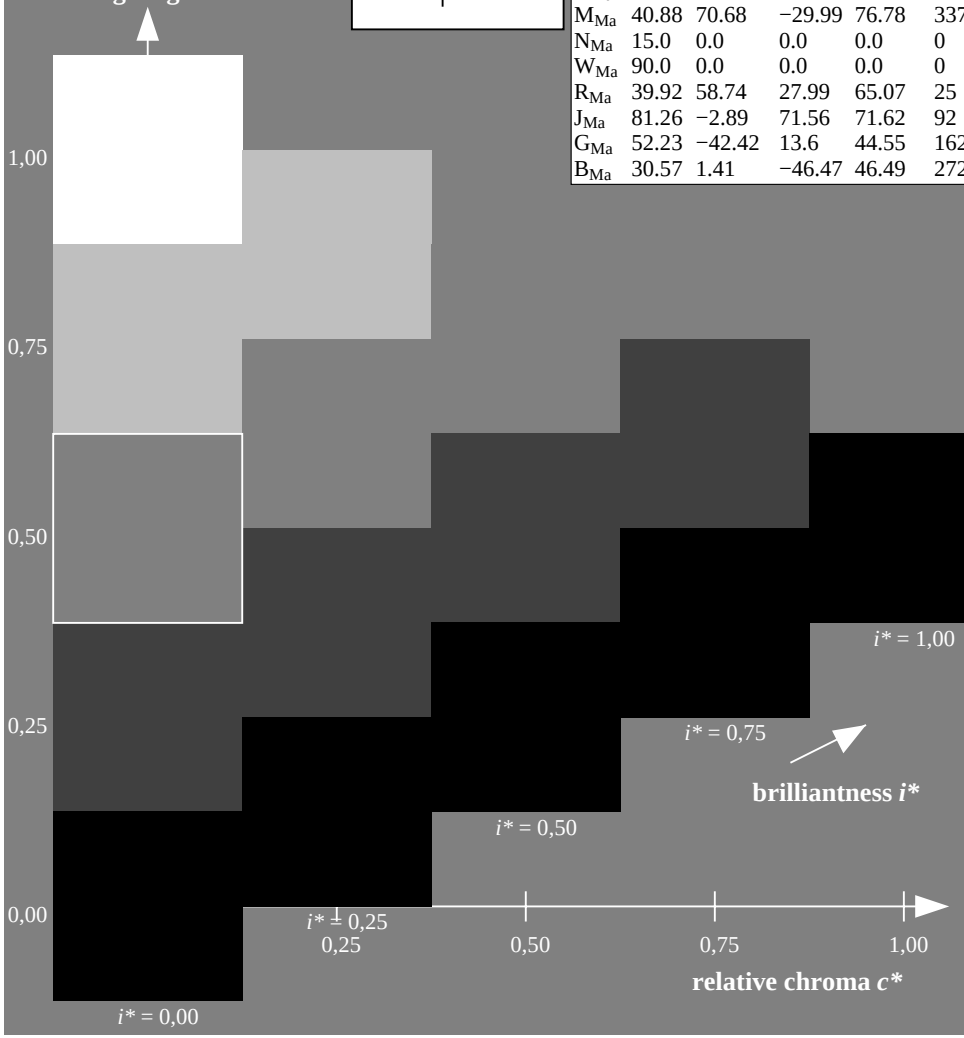
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

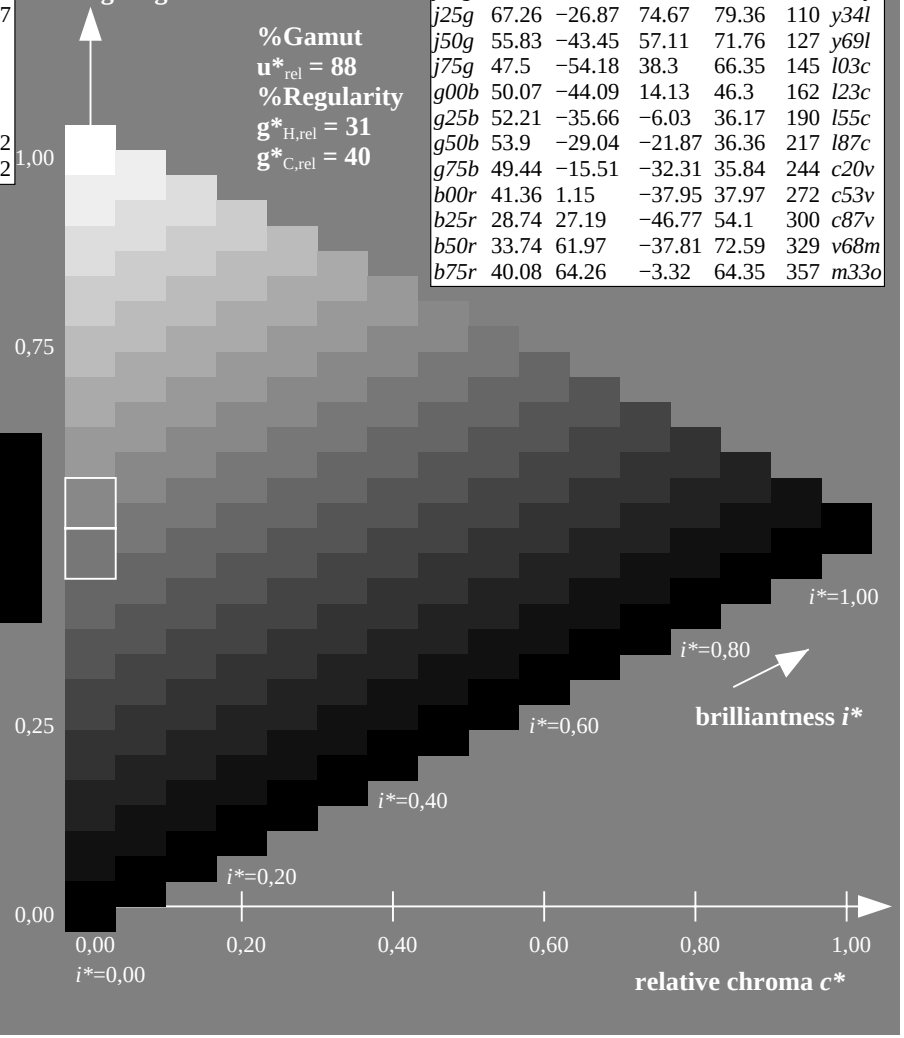
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 39 57 27**
LAB*LCH*$_{Ma}$**: 39 63 25**
lab*rgb*$_{Ma}$**: 1.0 0.0 0.0**
lab*olv*$_{Ma}$**: 1.0 0.0 0.18**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

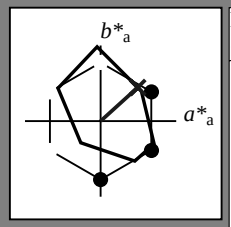
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*





Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.117$ **$u^*_e = r25j$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e = *r25j* u^*_d = *o10y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

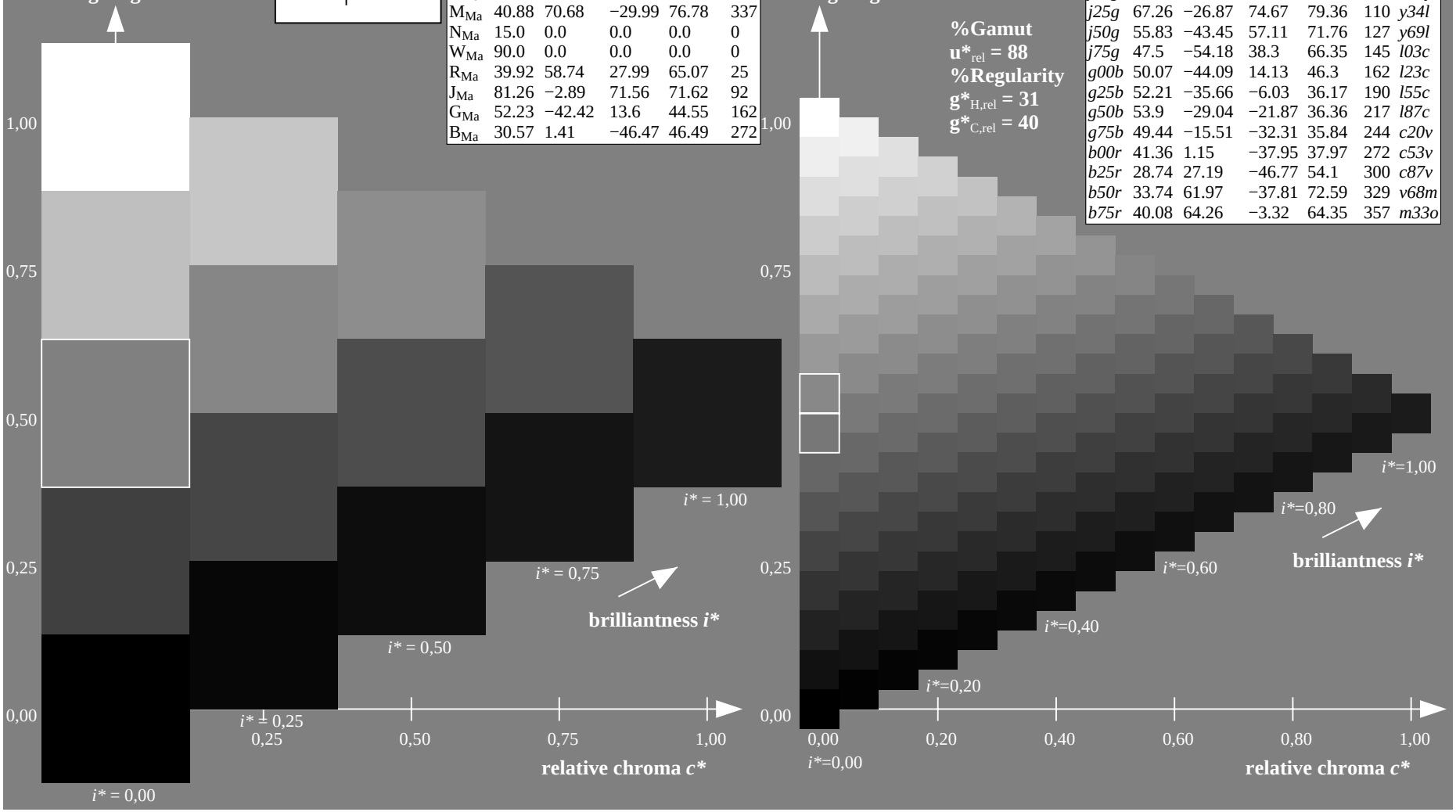
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 42 49 44**
LAB*LCH*$_{Ma}$**: 42 66 42**
lab*rgb*$_{Ma}$**: 1.0 0.25 0.0**
lab*olv*$_{Ma}$**: 1.0 0.1 0.0**
triangle lightness *t**

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

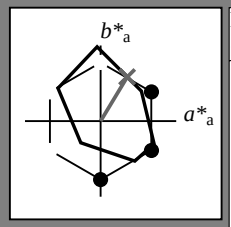
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **= *r50j*** u^*_d **= *o40y***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

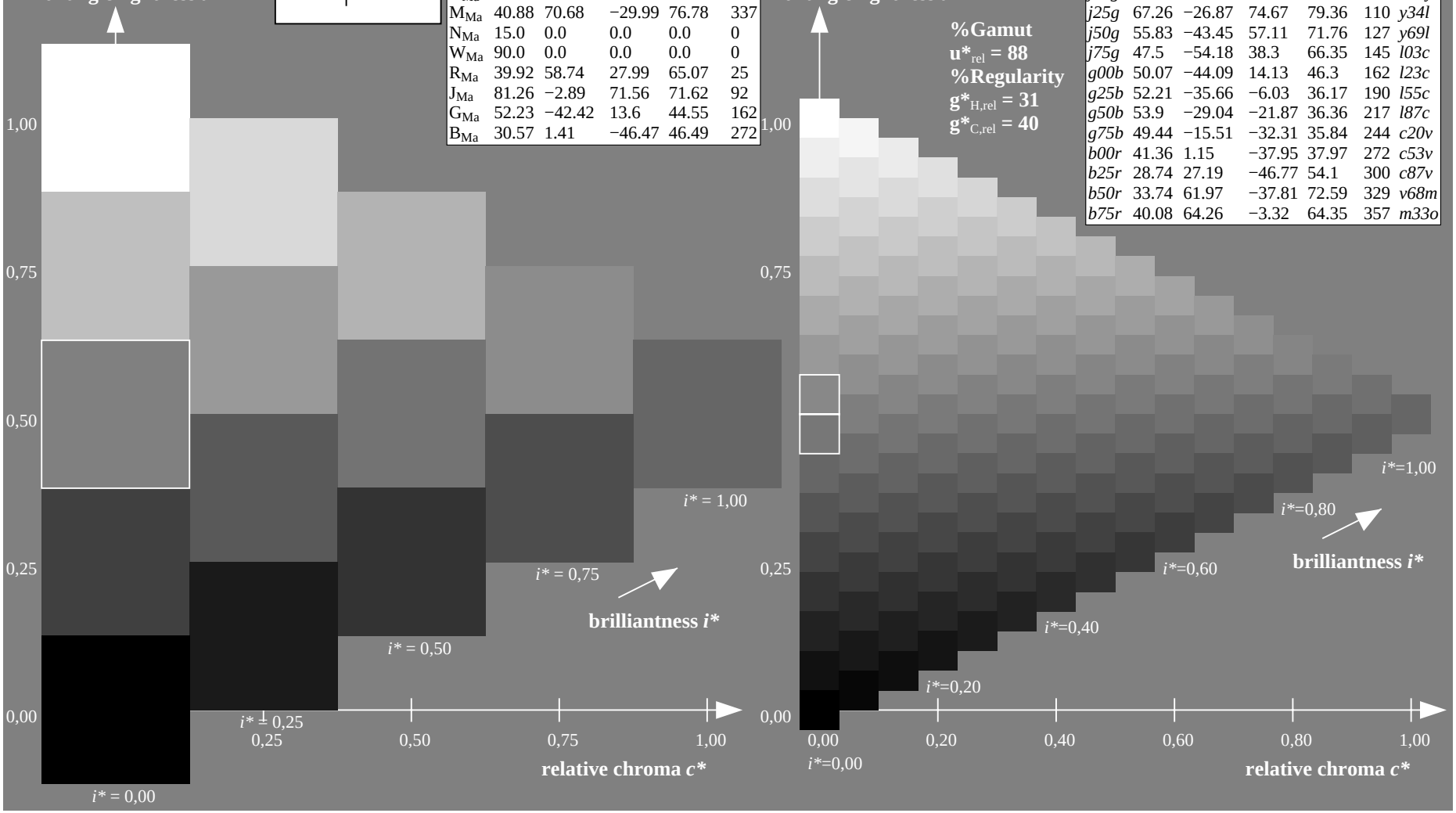
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 53 35 58**
LAB*LCH*$_{Ma}$**: 53 68 58**
lab*rgb*$_{Ma}$**: 1.0 0.5 0.0**
lab*olv*$_{Ma}$**: 1.0 0.4 0.0**
triangle lightness *t**

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

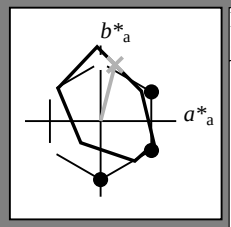
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **= *r75j*** u^*_d **= *o69y***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

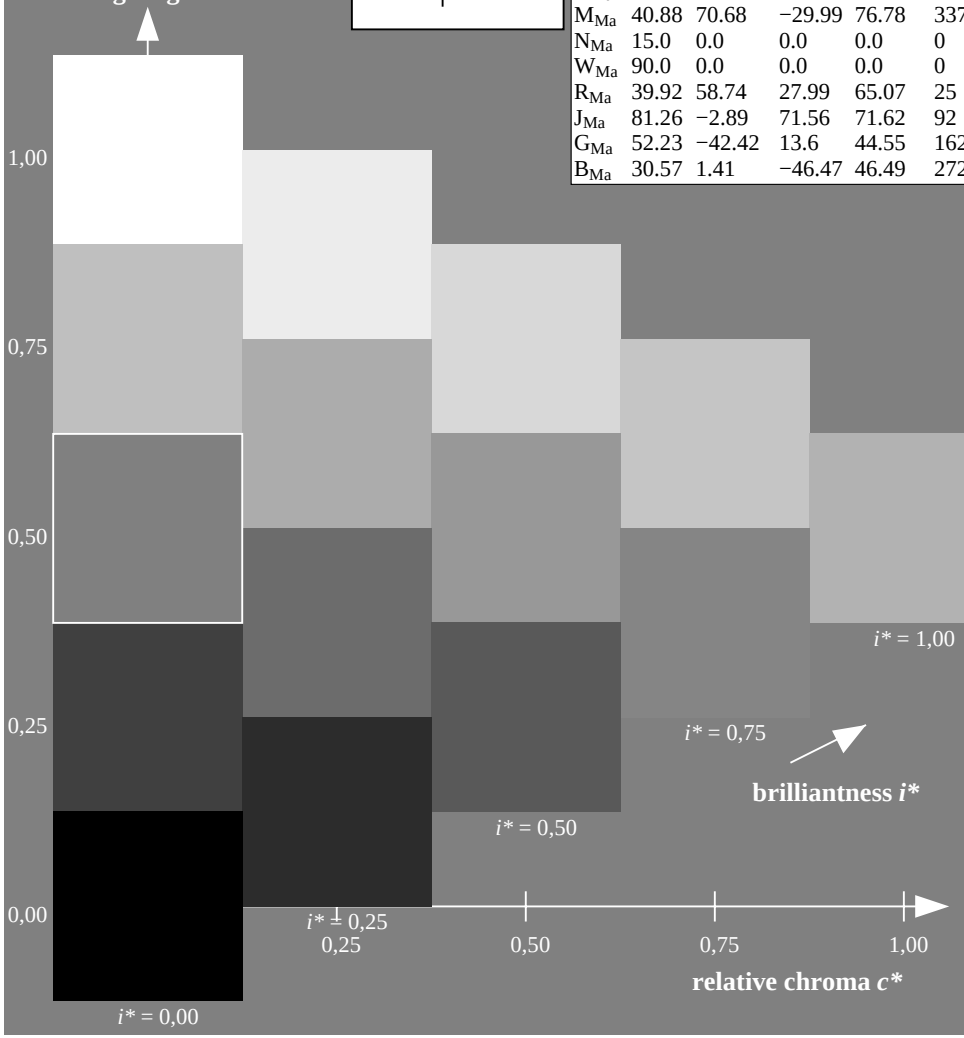
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

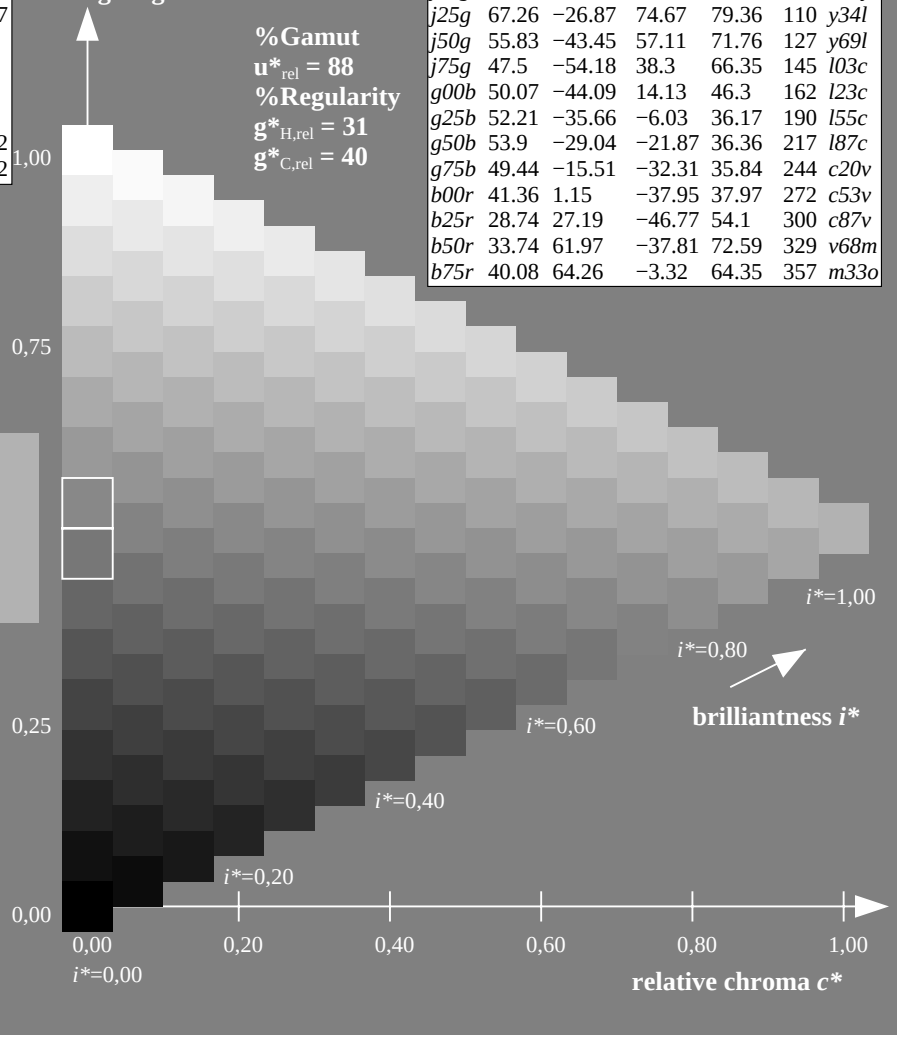
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 65 19 74**
LAB*LCH*$_{Ma}$**: 65 77 75**
lab*rgb*$_{Ma}$**: 1.0 0.75 0.0**
lab*olv*$_{Ma}$**: 1.0 0.7 0.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*





Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.256$ **$u^*_e = j00g$**

data for any colour:

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

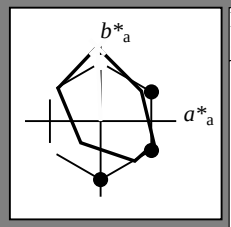
Hue texts:

u^*_e **=** ***j00g*** u^*_d **=** ***o98y***

contrast reduction factor:

$c_R = 0.9$

triangle lightness ***t****



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):

LAB*LAB*$_{Ma}$**: 82 −4 98**

LAB*LCH*$_{Ma}$**: 82 98 92**

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

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

triangle lightness ***t****

%Gamut

$u^*_{rel} = 88$

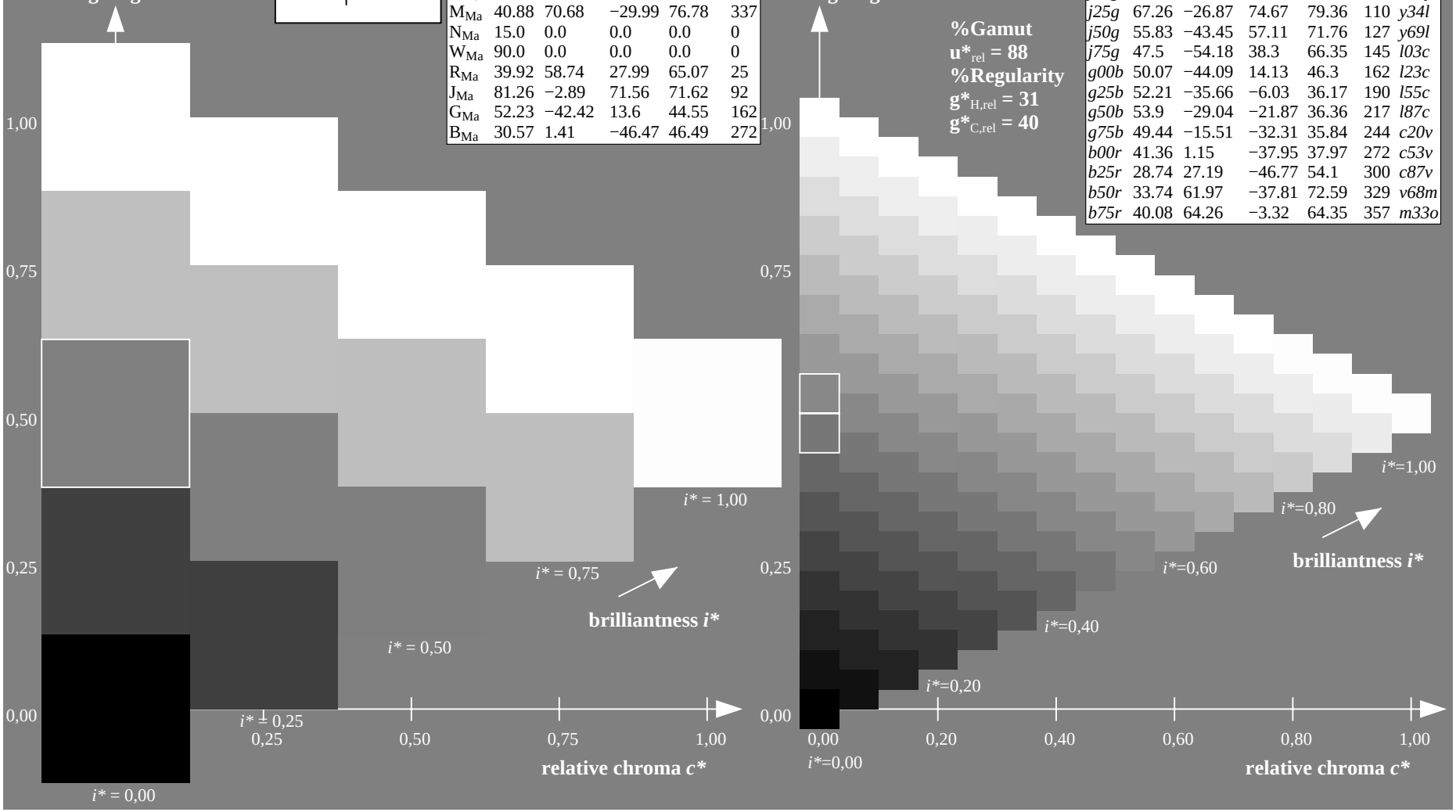
%Regularity

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

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

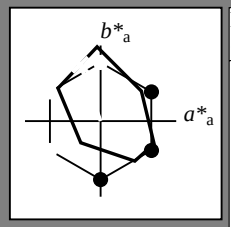
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.305$ **$u^*_e = j25g$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **=** ***j25g*** u^*_d **=** ***y34l***
contrast reduction factor:
$c_R = 0.9$
triangle lightness ***t****



FRS15_90a; adapted (a) CIELAB data

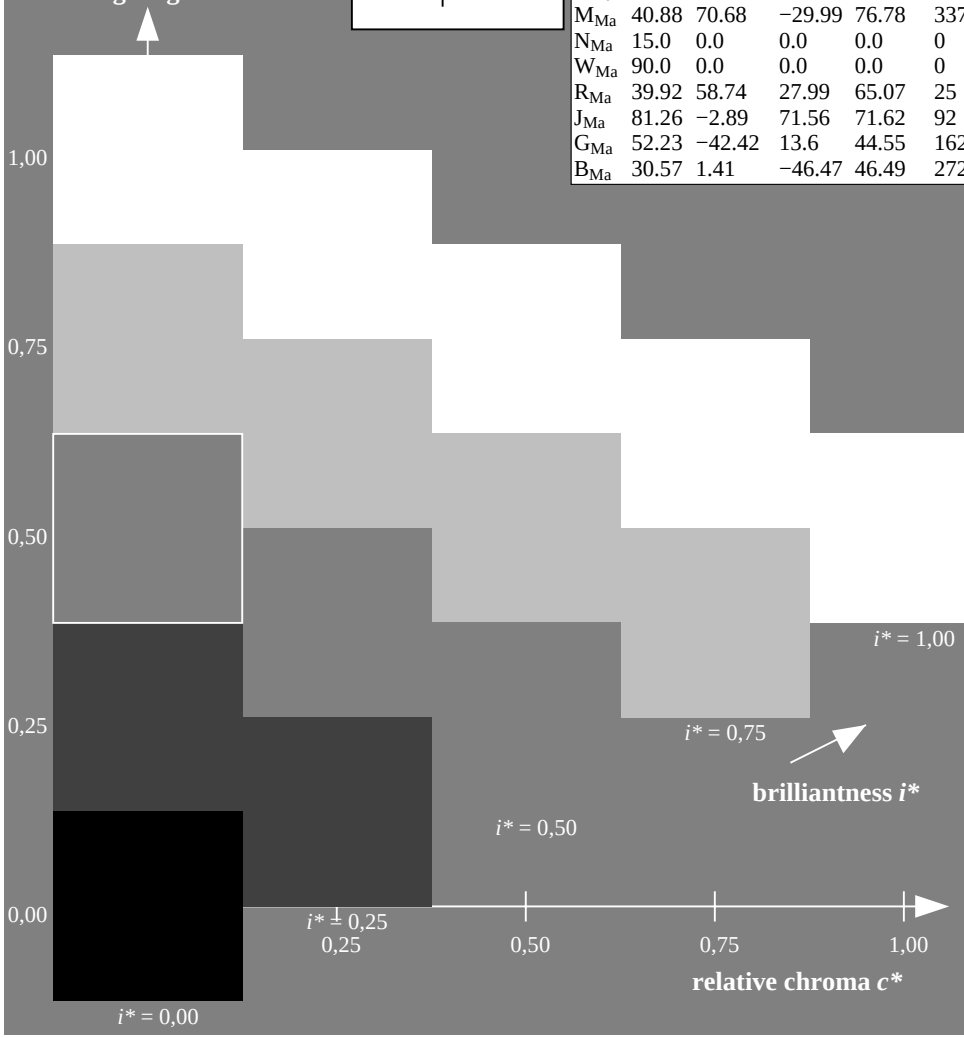
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

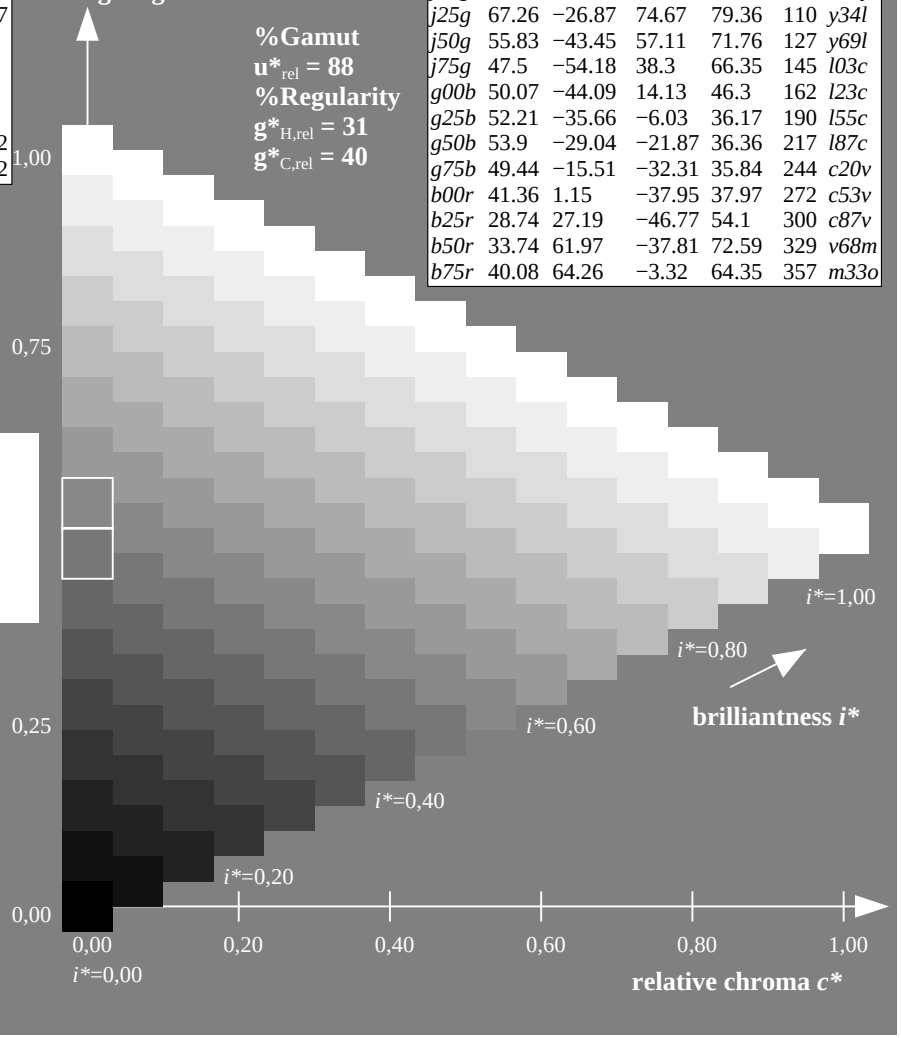
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 67 −27 75**
LAB*LCH*$_{Ma}$**: 67 79 109**
lab*rgb*$_{Ma}$**: 0.75 1.0 0.0**
lab*olv*$_{Ma}$**: 0.66 1.0 0.0**
triangle lightness ***t****

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

FRS15_90a; adapted (a) CIELAB data

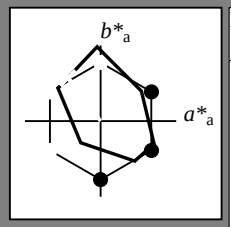
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*





Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.354$ **$u^*_e = j50g$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **=** ***j50g*** u^*_d **=** ***y69l***
contrast reduction factor:
$c_R = 0.9$
triangle lightness ***t****



FRS15_90a; adapted (a) CIELAB data

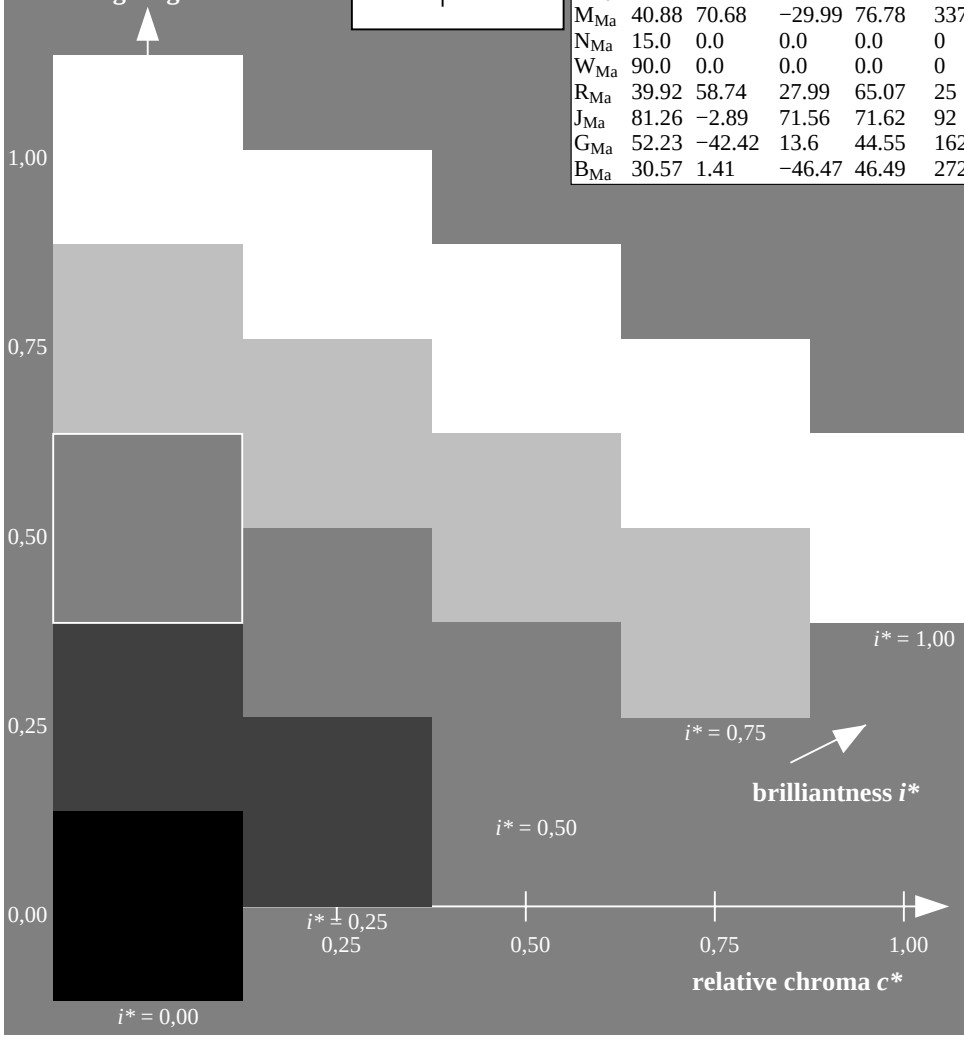
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

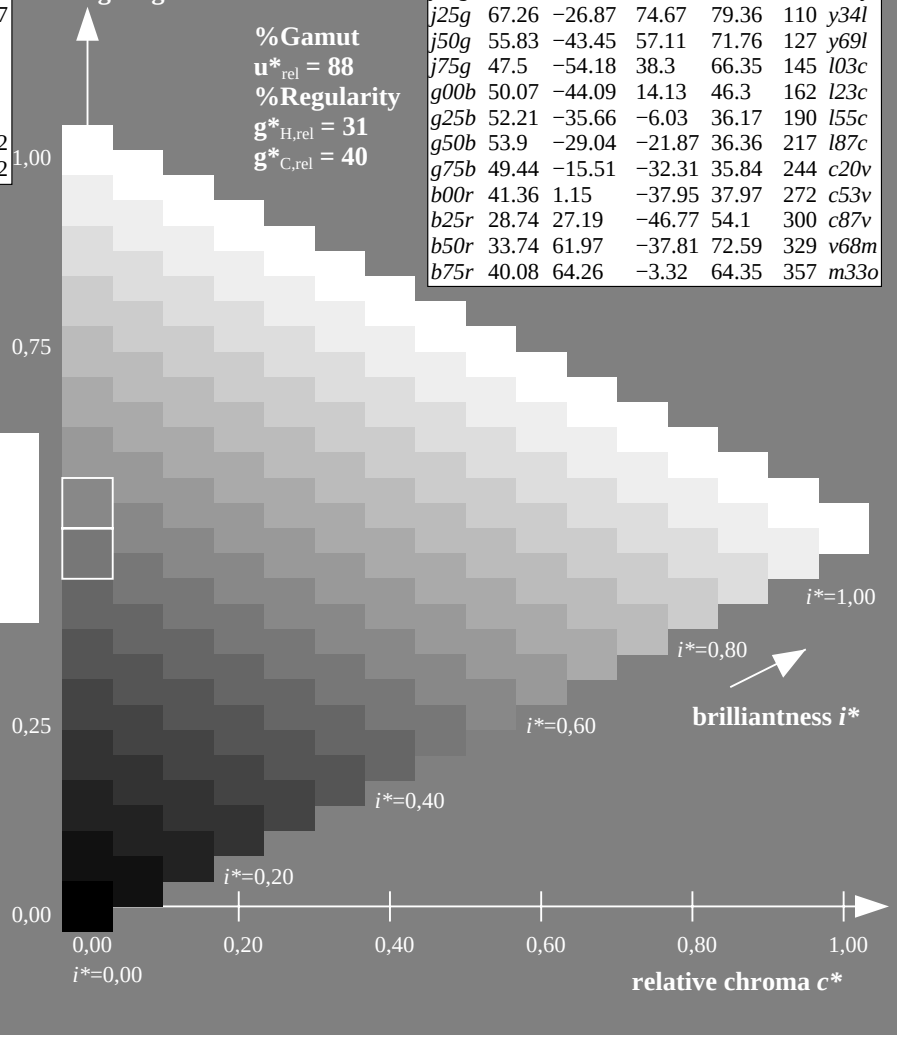
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 56 −43 57**
LAB*LCH*$_{Ma}$**: 56 72 127**
lab*rgb*$_{Ma}$**: 0.5 1.0 0.0**
lab*olv*$_{Ma}$**: 0.3 1.0 0.0**
triangle lightness ***t****

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

FRS15_90a; adapted (a) CIELAB data

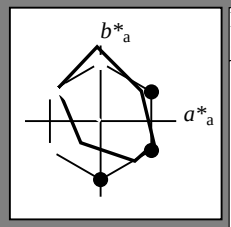
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*





Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.402$ **$u^*_e = j75g$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **=** ***j75g*** u^*_d **=** ***l03c***
contrast reduction factor:
$c_R = 0.9$
triangle lightness ***t****



FRS15_90a; adapted (a) CIELAB data

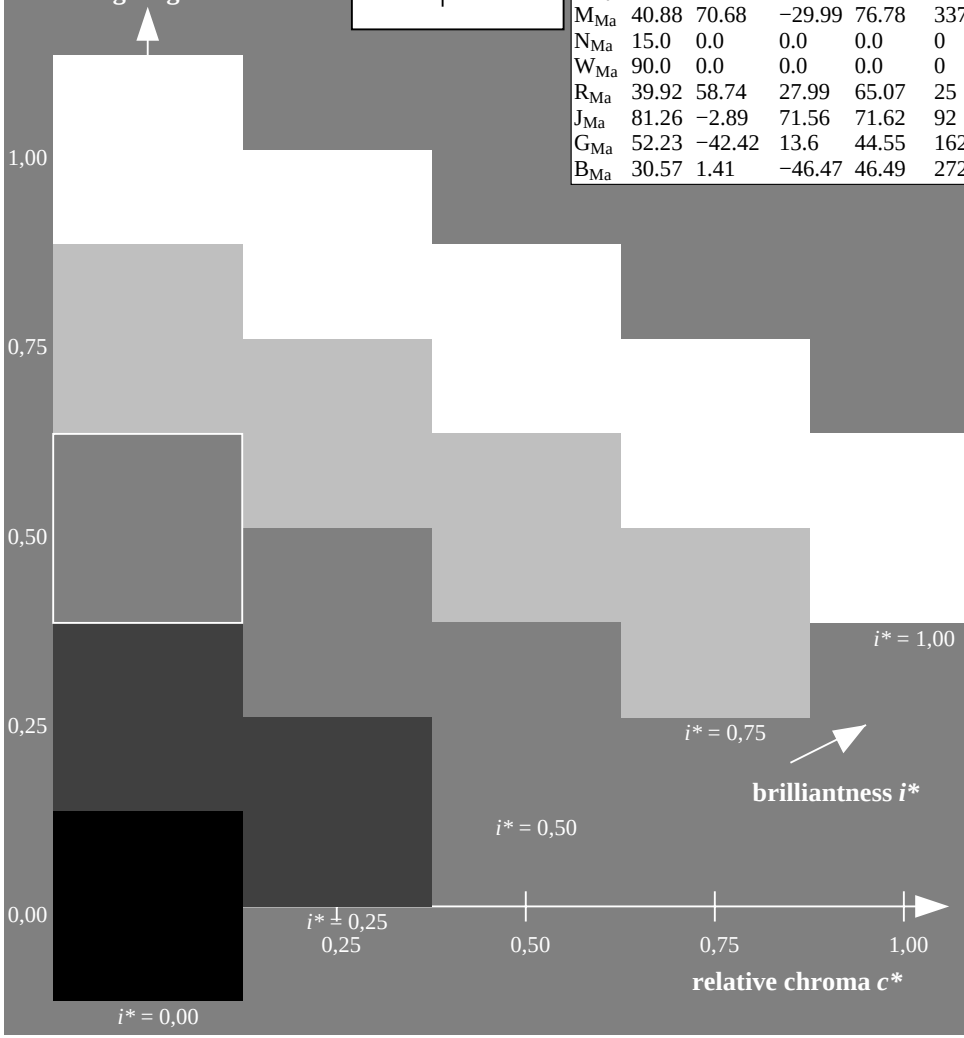
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

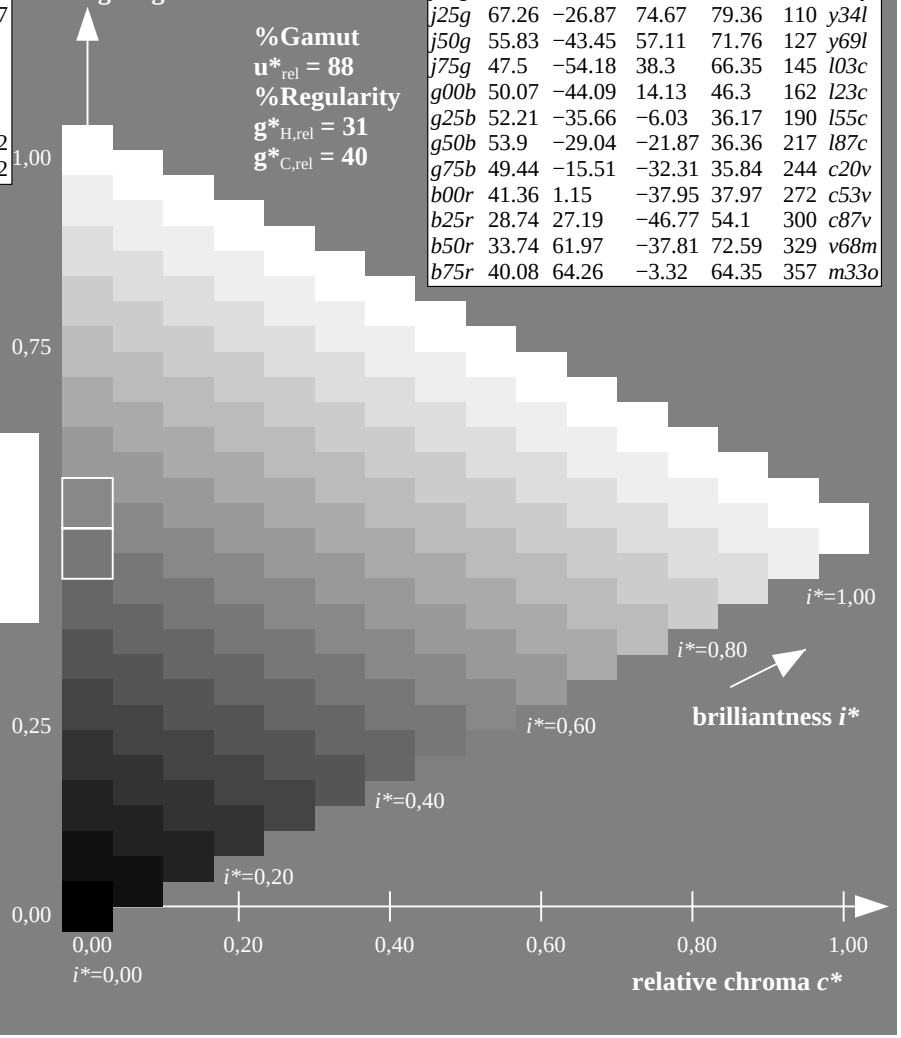
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 48 −54 38**
LAB*LCH*$_{Ma}$**: 48 66 144**
lab*rgb*$_{Ma}$**: 0.25 1.0 0.0**
lab*olv*$_{Ma}$**: 0.0 1.0 0.03**
triangle lightness ***t****

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

FRS15_90a; adapted (a) CIELAB data

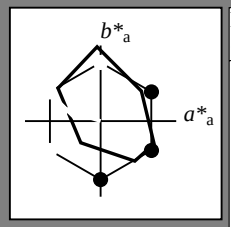
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*





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

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e = *g00b* u^*_d = *l23c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

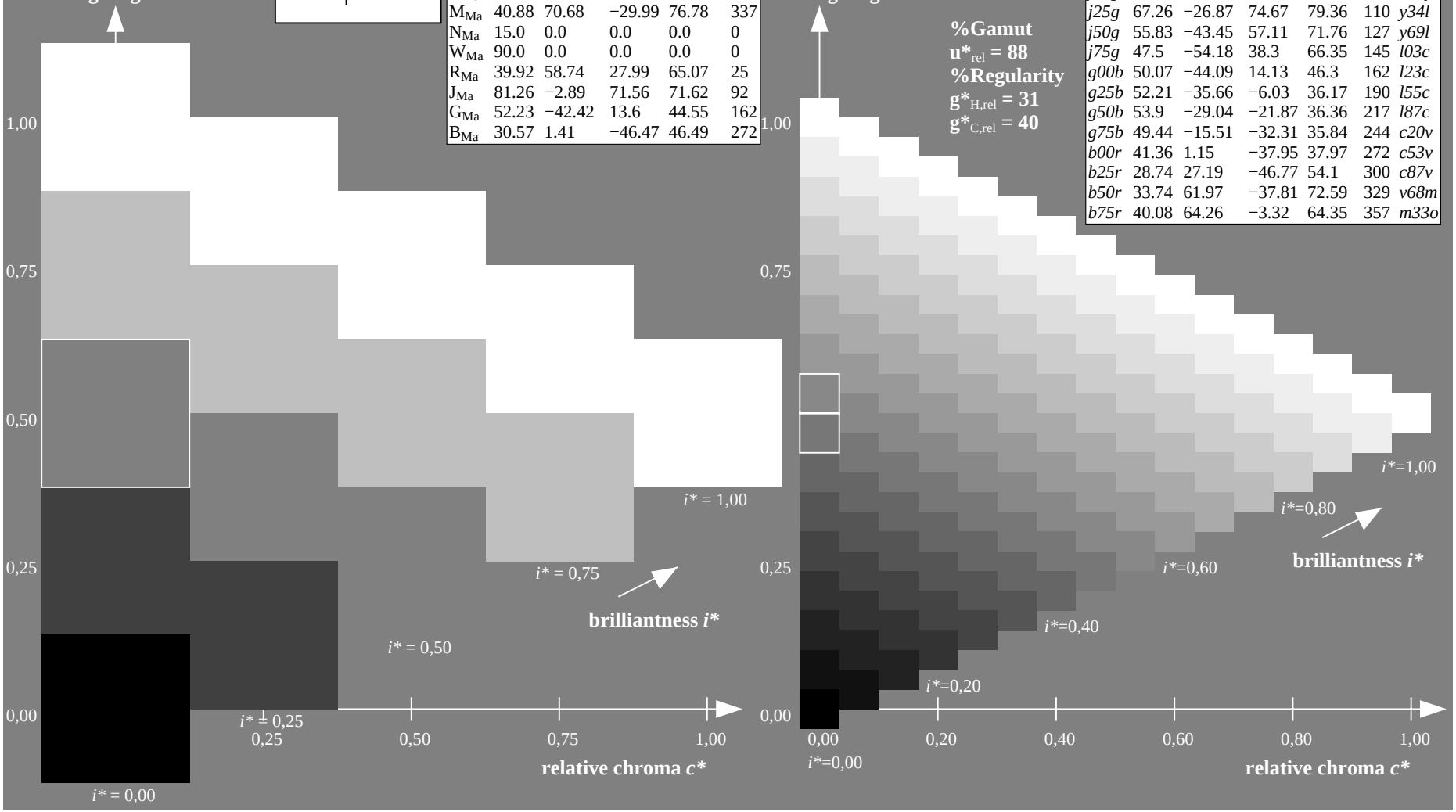
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 50 −44 14**
LAB*LCH*$_{Ma}$**: 50 46 162**
lab*rgb*$_{Ma}$**: 0.0 1.0 0.0**
lab*olv*$_{Ma}$**: 0.0 1.0 0.23**
triangle lightness *t**

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

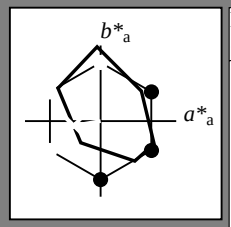
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **=** ***g25b*** u^*_d **=** ***l55c***
contrast reduction factor:
$c_R = 0.9$
triangle lightness ***t****



FRS15_90a; adapted (a) CIELAB data

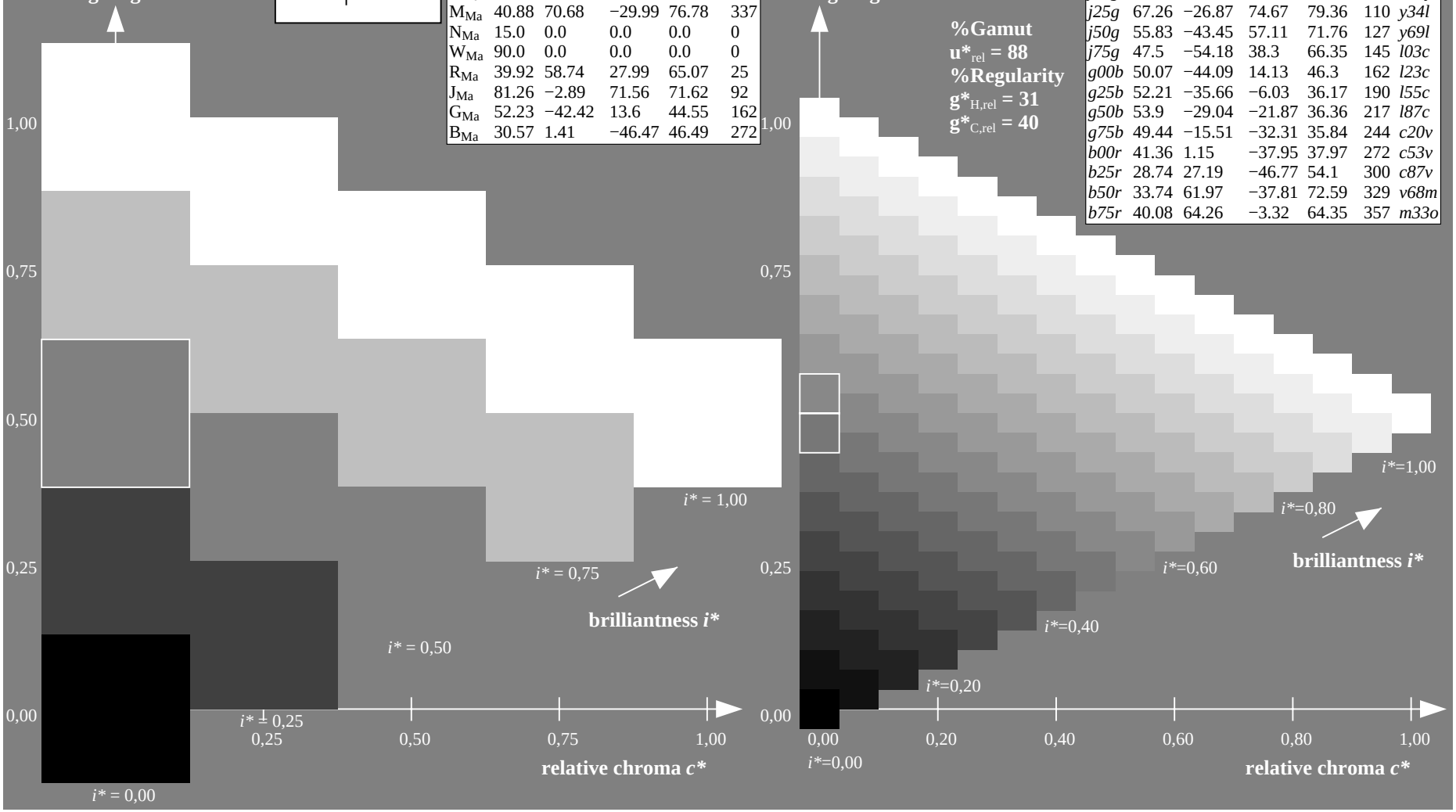
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 52 −36 −6**
LAB*LCH*$_{Ma}$**: 52 36 189**
lab*rgb*$_{Ma}$**: 0.0 1.0 0.5**
lab*olv*$_{Ma}$**: 0.0 1.0 0.55**
triangle lightness ***t****

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

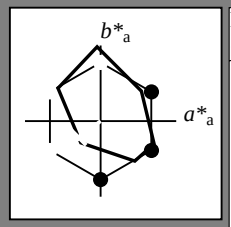
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



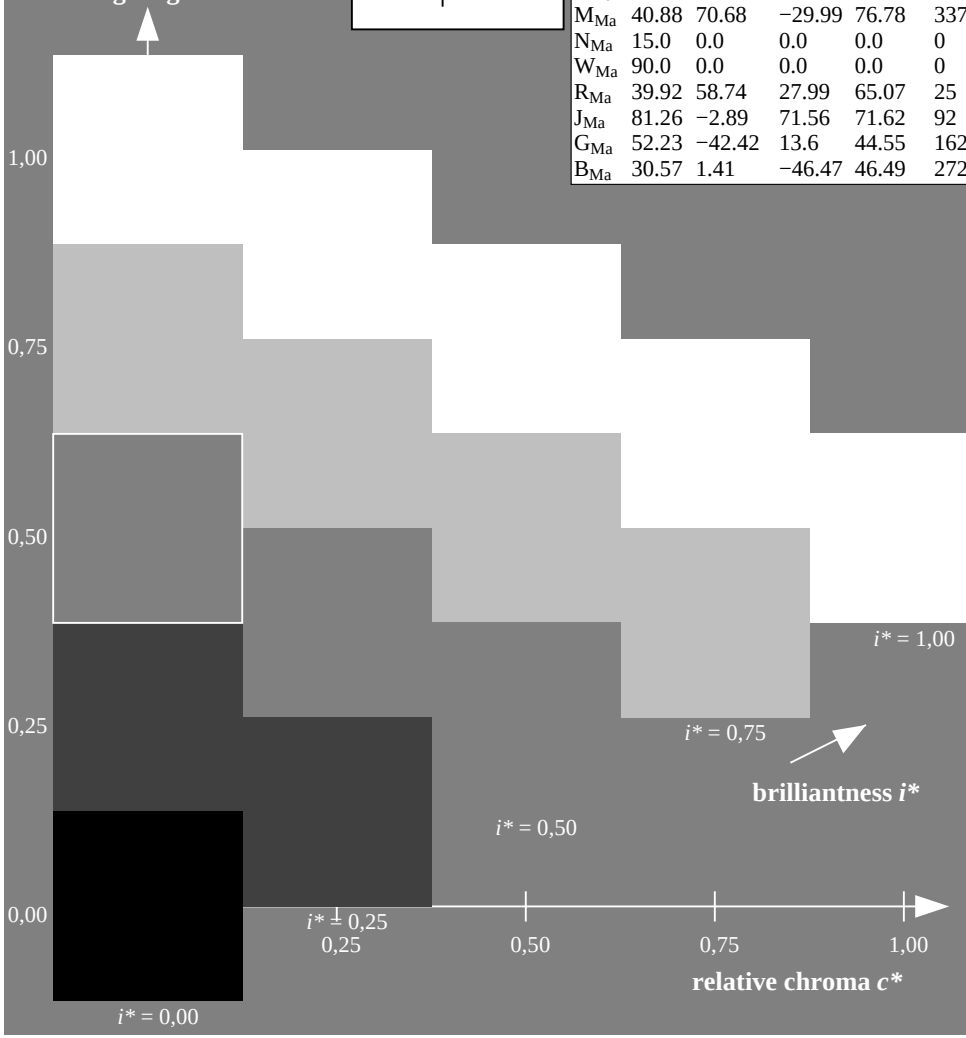
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.603$ **$u^*_e = g50b$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **= *g50b*** u^*_d **= *l87c***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

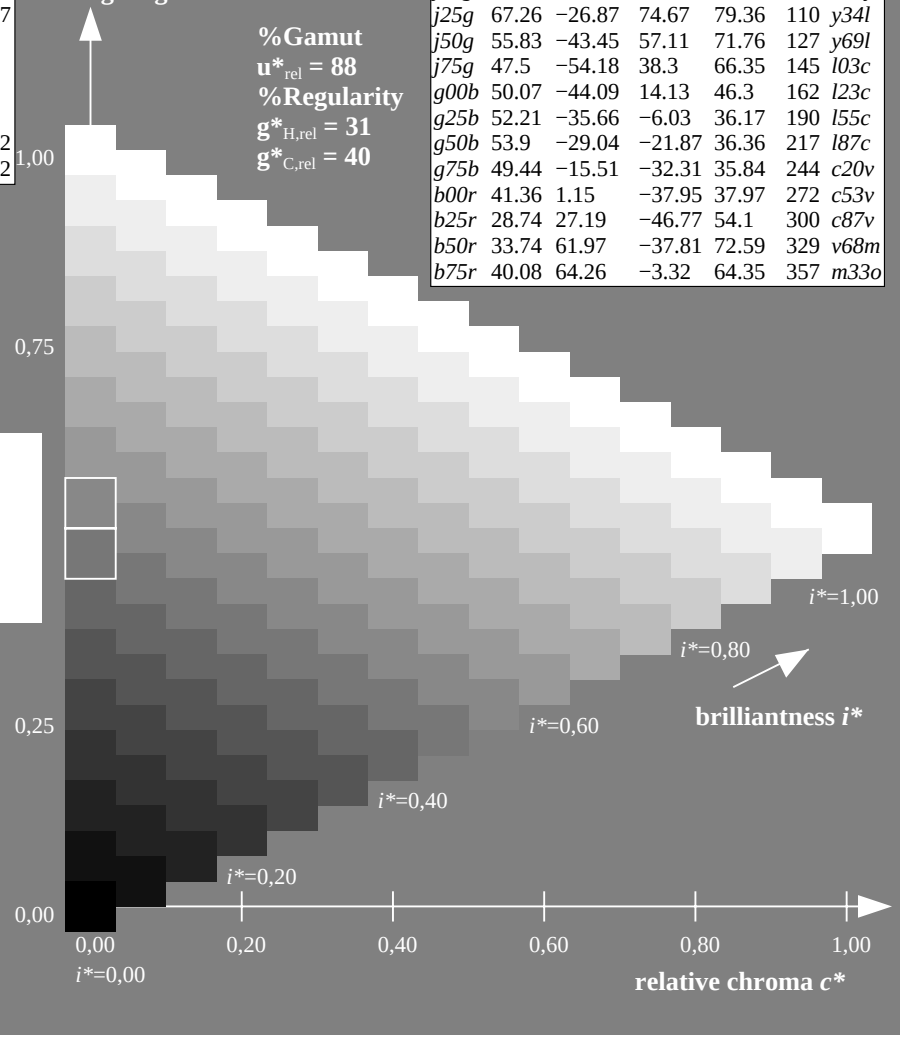


Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 54 −29 −22**
LAB*LCH*$_{Ma}$**: 54 36 216**
lab*rgb*$_{Ma}$**: 0.0 1.0 1.0**
lab*olv*$_{Ma}$**: 0.0 1.0 0.88**
triangle lightness *t**

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

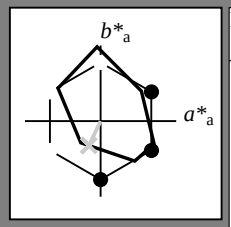
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.679$ **$u^*_e = g75b$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e = *g75b* u^*_d = *c20v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

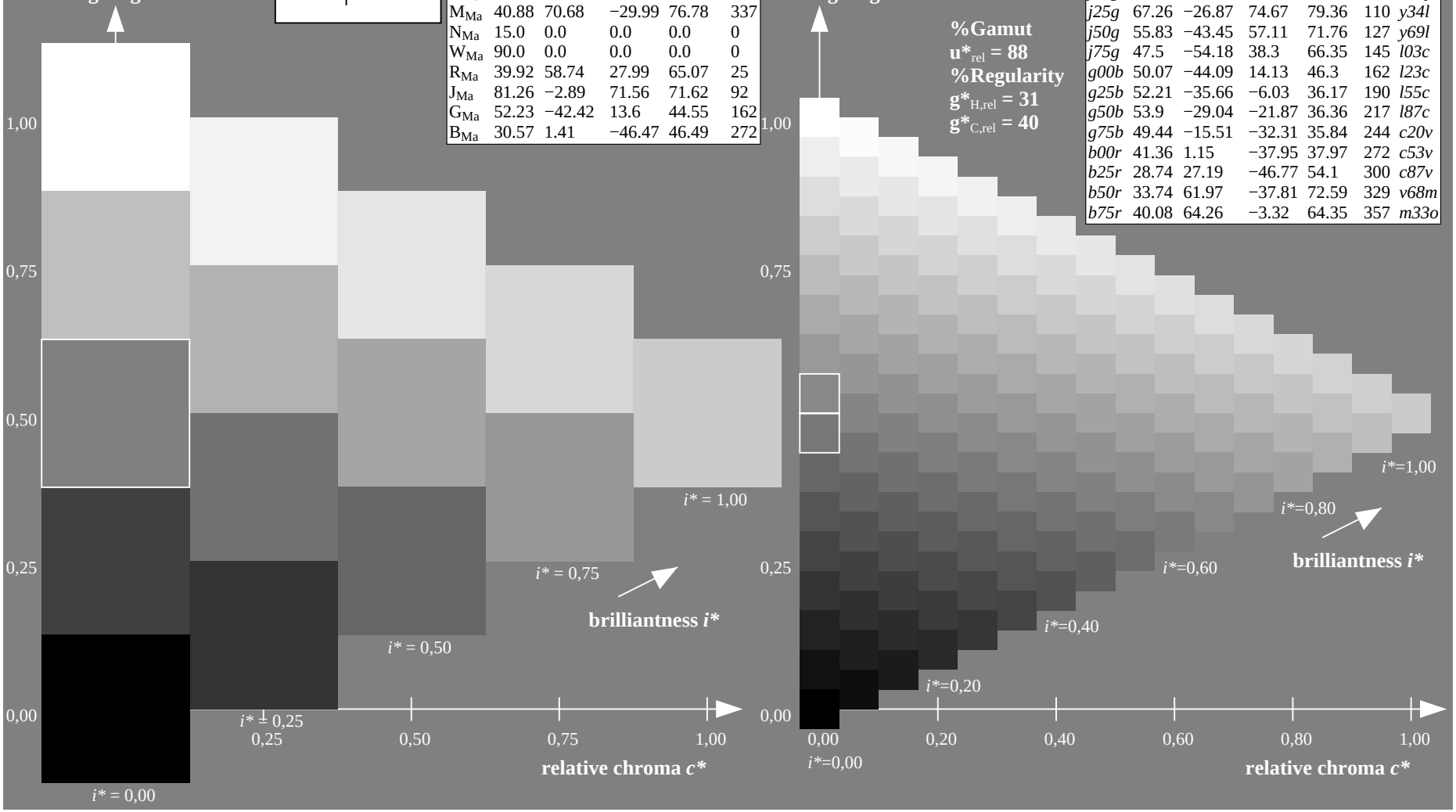
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 49 −16 −32**
LAB*LCH*$_{Ma}$**: 49 36 244**
lab*rgb*$_{Ma}$**: 0.0 0.5 1.0**
lab*olv*$_{Ma}$**: 0.0 0.8 1.0**
triangle lightness *t**

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

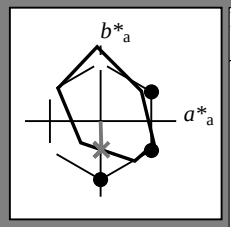
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **= *b00r*** u^*_d **= *c53v***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

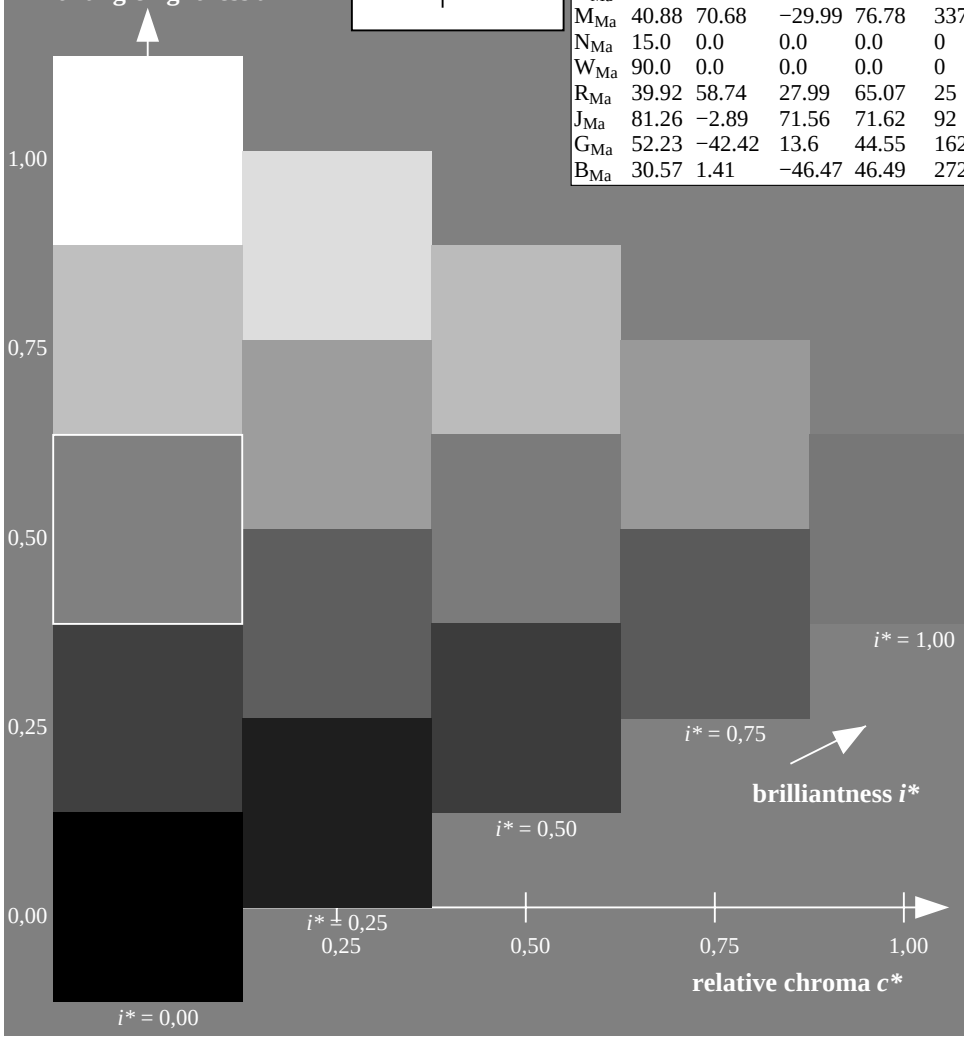
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

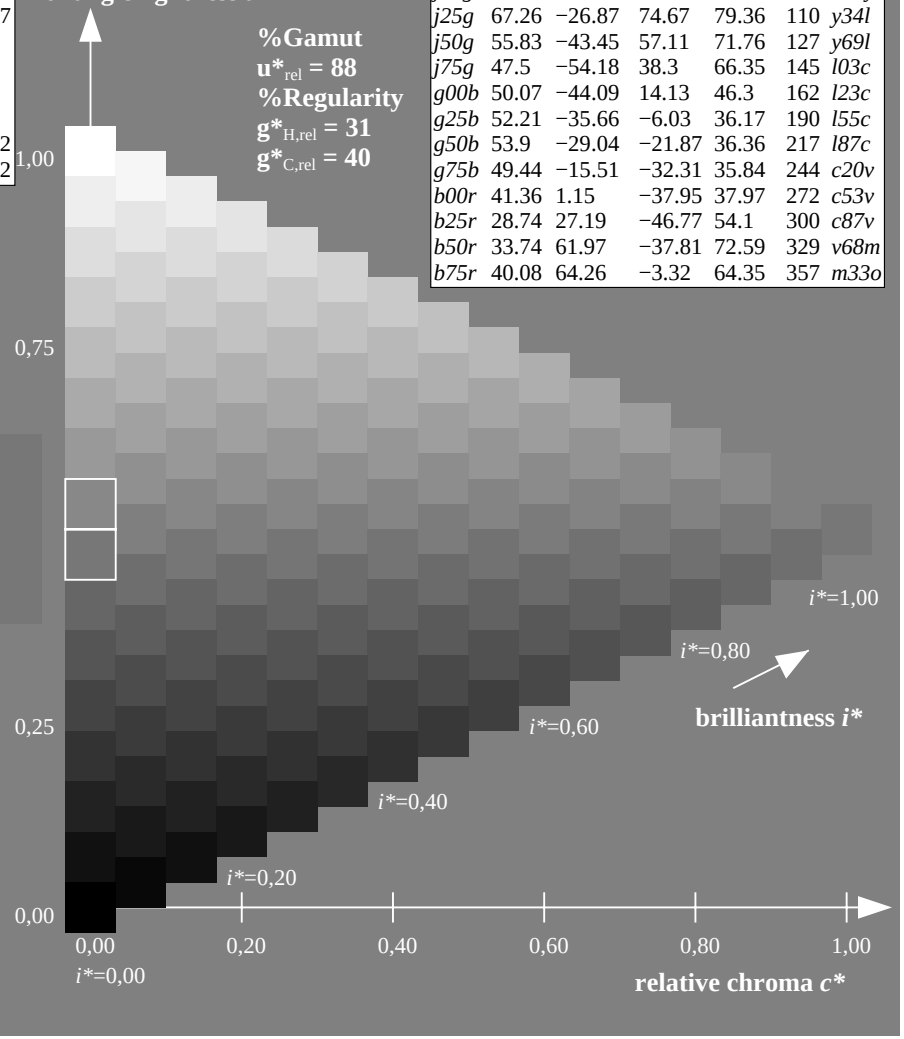
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 41 1 −38**
LAB*LCH*$_{Ma}$**: 41 38 271**
lab*rgb*$_{Ma}$**: 0.0 0.0 1.0**
lab*olv*$_{Ma}$**: 0.0 0.47 1.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*





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

data for any colour:

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

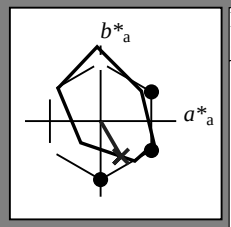
Hue texts:

u^*_e = *b25r* u^*_d = *c87v*

contrast reduction factor:

$c_R = 0.9$

triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):

LAB*LAB*$_{Ma}$**: 29 27 −47**

LAB*LCH*$_{Ma}$**: 29 54 300**

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

lab*olv*$_{Ma}$**: 0.0 0.12 1.0**

triangle lightness *t**

%Gamut

u^*_{rel} = 88

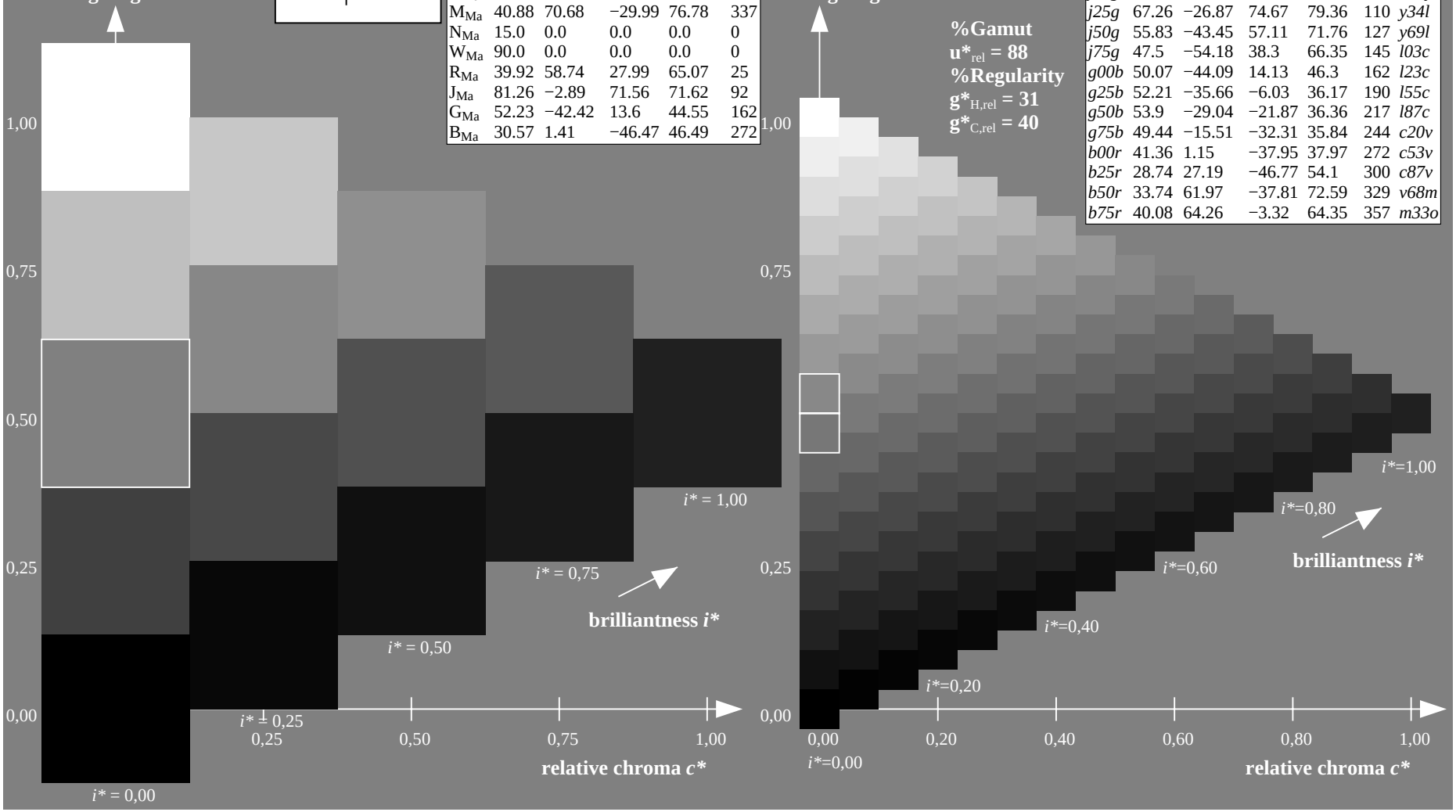
%Regularity

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

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

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.913$ **$u^*_e = b50r$**

data for any colour:

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

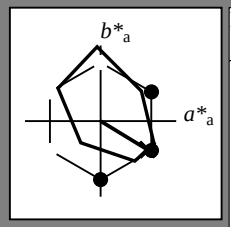
Hue texts:

u^*_e **= *b50r*** u^*_d **= *v68m***

contrast reduction factor:

$c_R = 0.9$

triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):

LAB*LAB*$_{Ma}$**: 34 62 −38**

LAB*LCH*$_{Ma}$**: 34 73 328**

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

lab*olv*$_{Ma}$**: 0.68 0.0 1.0**

triangle lightness *t**

%Gamut

u^*_{rel} = 88

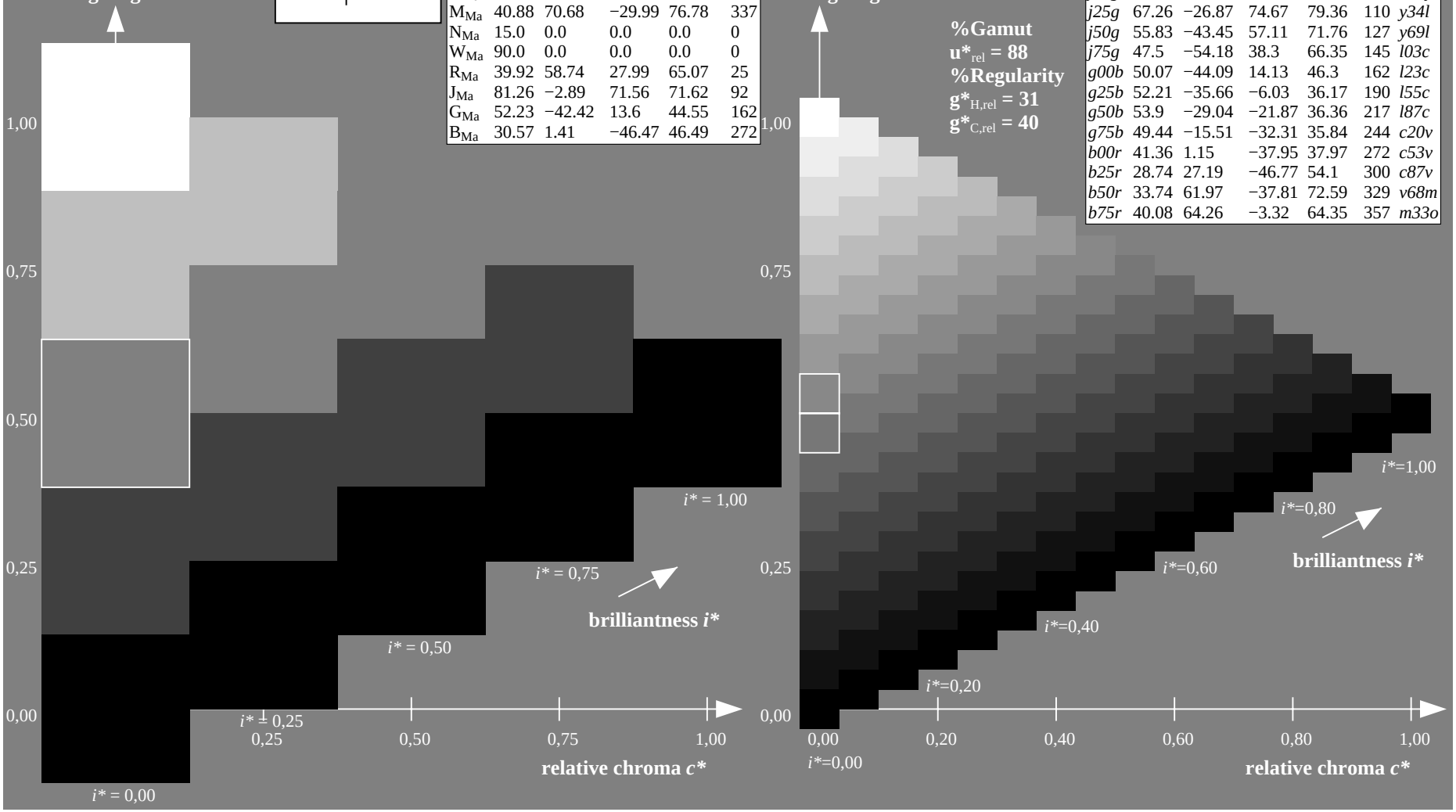
%Regularity

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

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

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.992$ **$u^*_e = b75r$**

data for any colour:

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

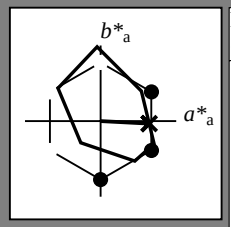
Hue texts:

u^*_e **= *b75r*** u^*_d **= *m33o***

contrast reduction factor:

$c_R = 0.9$

triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):

LAB*LAB*$_{Ma}$**: 40 64 −3**

LAB*LCH*$_{Ma}$**: 40 64 357**

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

lab*olv*$_{Ma}$**: 1.0 0.0 0.66**

triangle lightness *t**

%Gamut

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

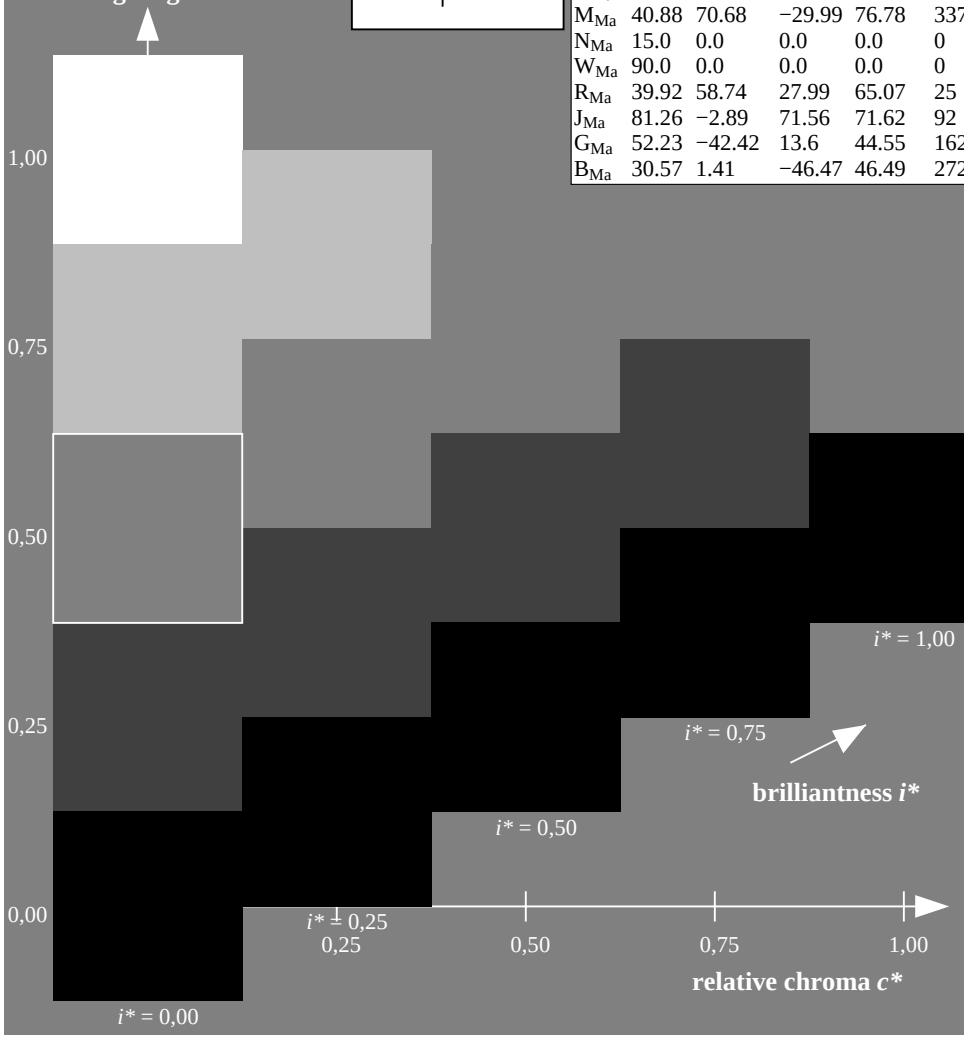
%Regularity

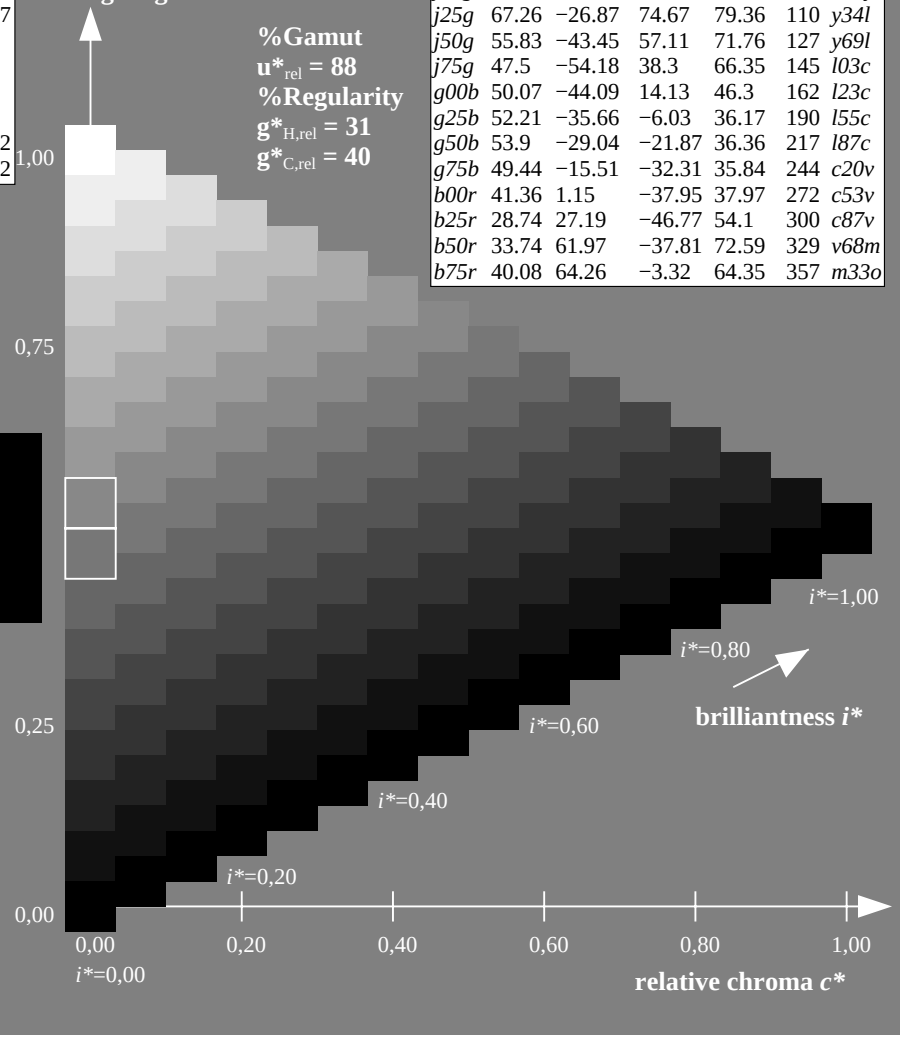
$g^*_{H,rel}$ **= 31**

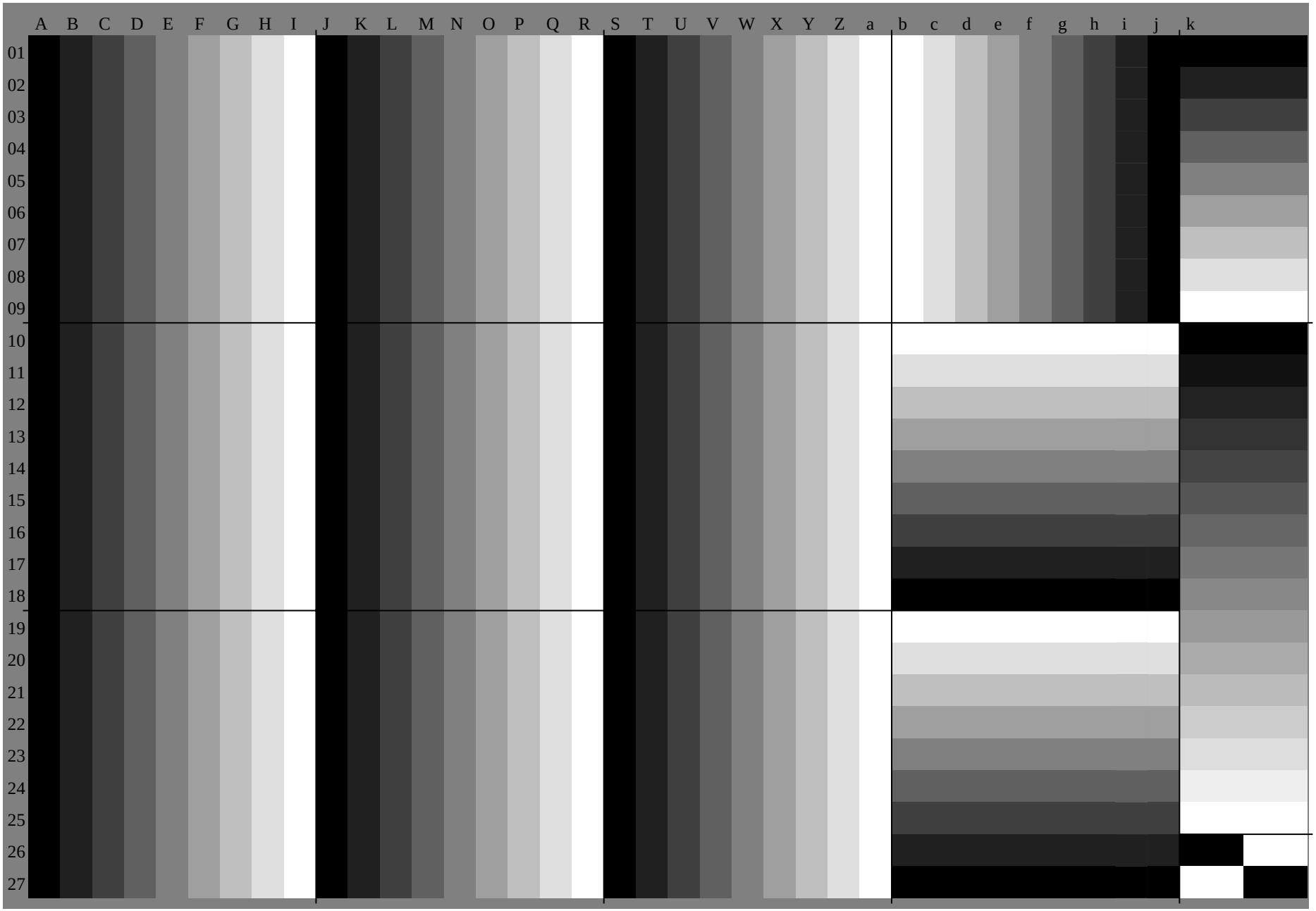
$g^*_{C,rel}$ **= 40**

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



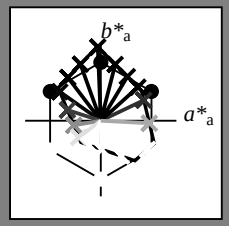



A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

Input and output:
Colorimetric Printer Reflective System FRS15_90a
data for any colour:
u^*_e and number *no.* = 00 .. 15
elementary hue text:
u^*_e = 16 hues *r00j, r25j, ..., b75r*
contrast reduction factor:
c_R = 0.9

FRS15_90a; adapted (a) CIELAB data

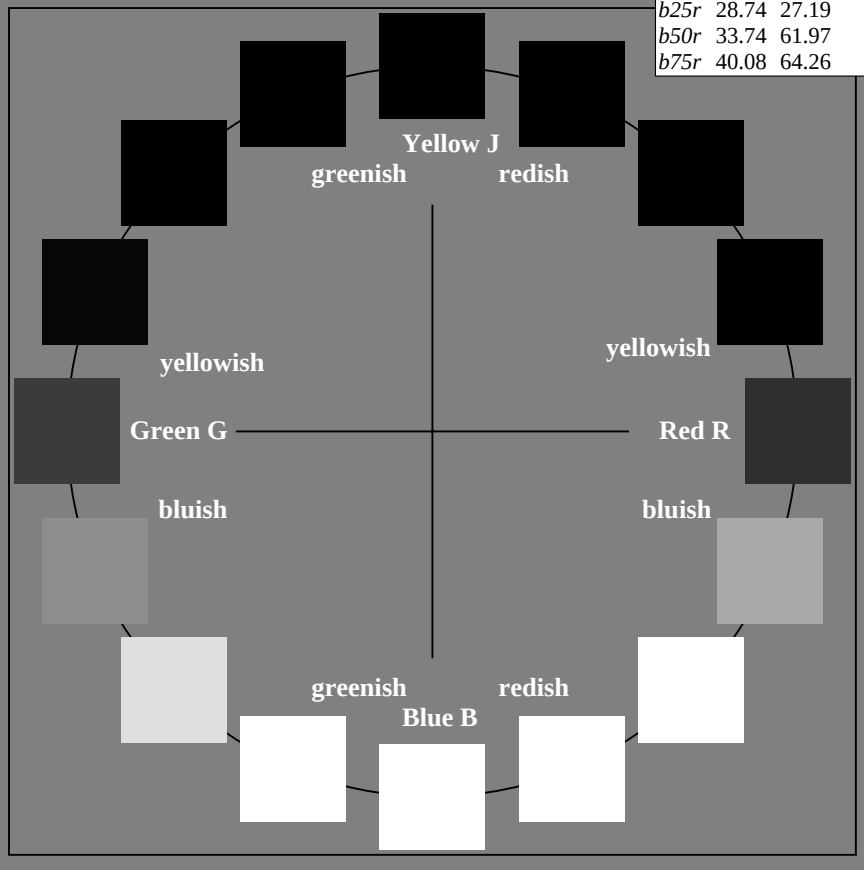
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*

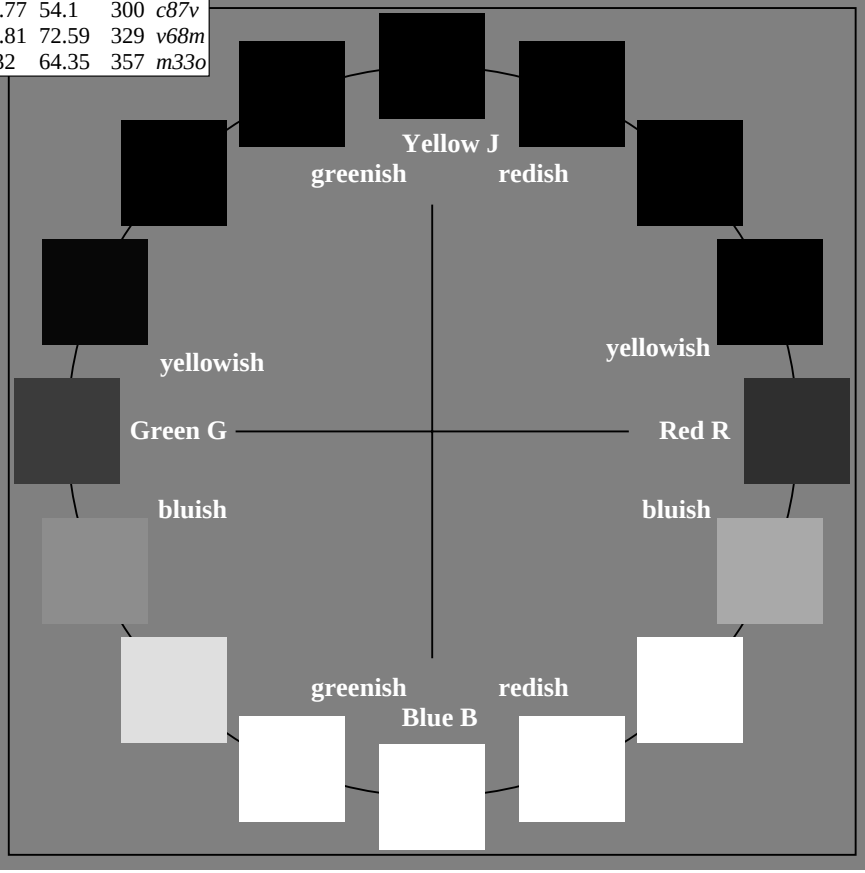


%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

FRS15_90a; adapted (a) CIELAB data

Name	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	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	−2.89	71.56	71.62	92
G_{CIE}	52.23	−42.42	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.47	46.49	272





Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.071$ **$u^*_e = r00j$**

data for any colour:

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

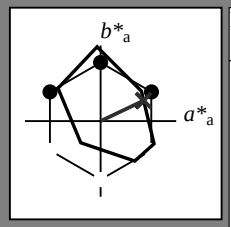
Hue texts:

u^*_e = *r00j* u^*_d = *m81o*

contrast reduction factor:

$c_R = 0.9$

triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):

LAB*LAB*$_{Ma}$**: 39 57 27**

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

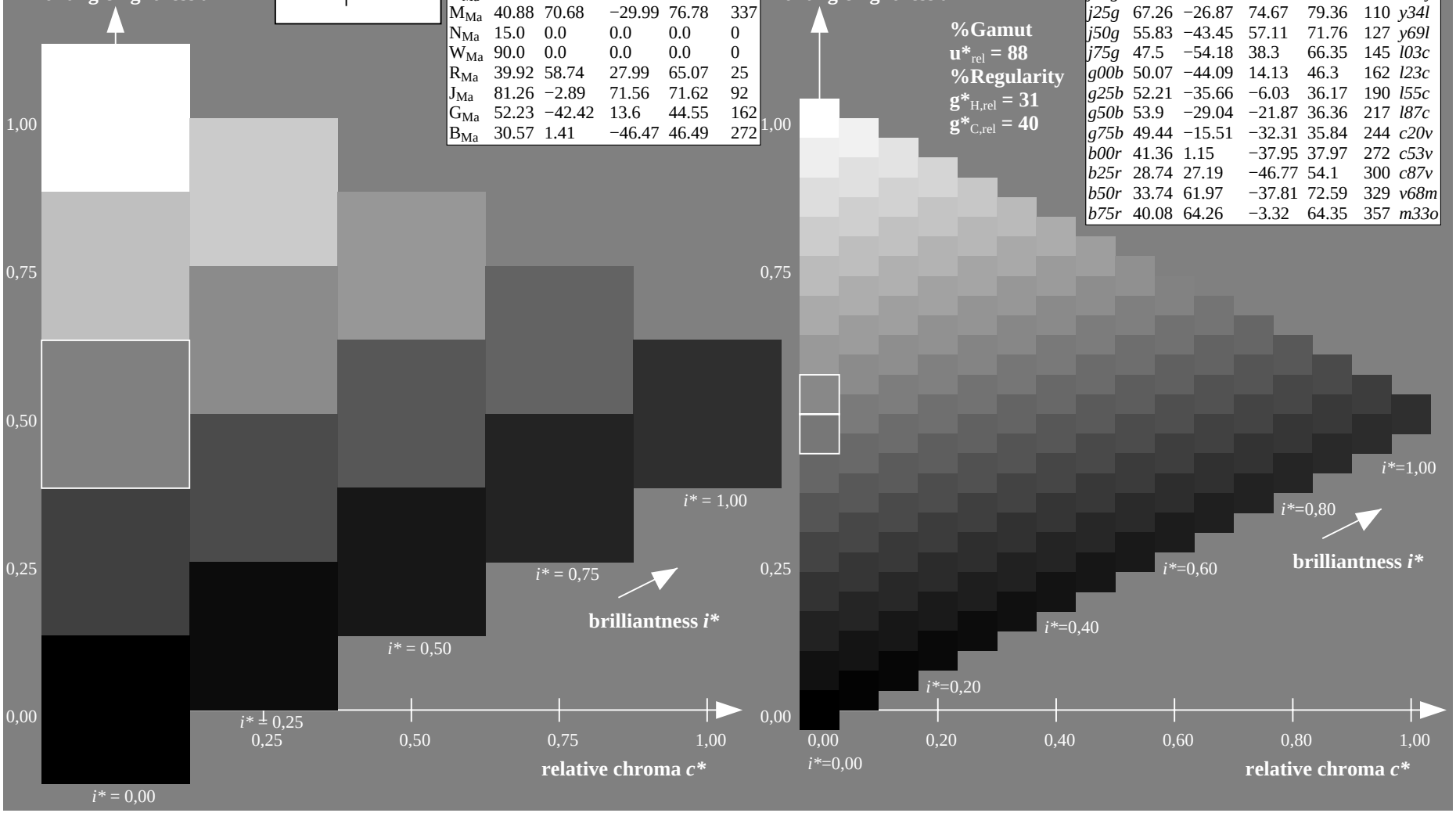
%Regularity

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

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

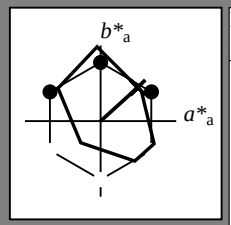
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.117$ **$u^*_e = r25j$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **= *r25j*** u^*_d **= *o10y***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

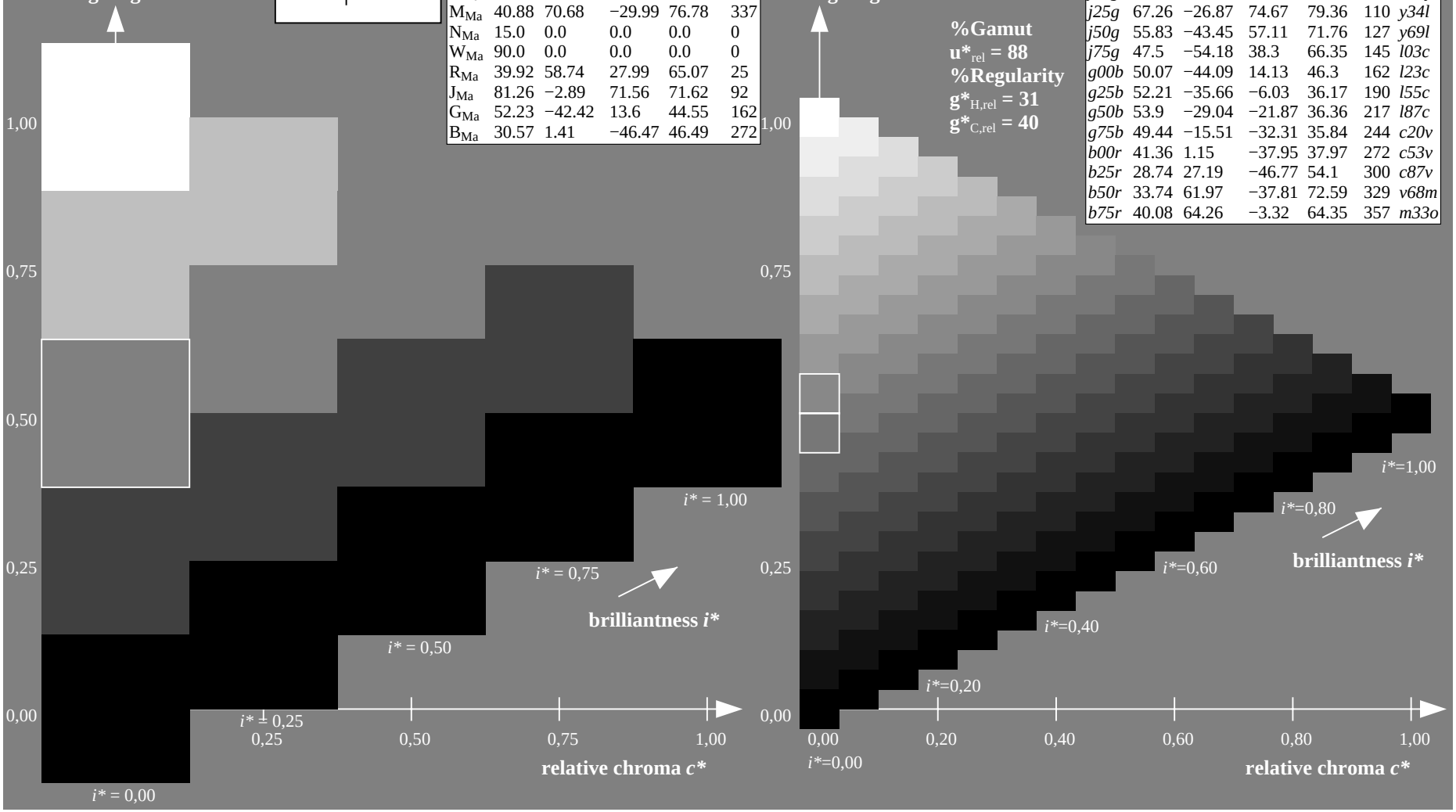
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 42 49 44**
LAB*LCH*$_{Ma}$**: 42 66 42**
lab*rgb*$_{Ma}$**: 1.0 0.25 0.0**
lab*olv*$_{Ma}$**: 1.0 0.1 0.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:

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

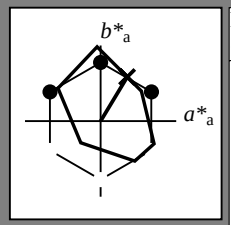
Hue texts:

u^*_e **= *r50j*** u^*_d **= *o40y***

contrast reduction factor:

$c_R = 0.9$

triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):

LAB*LAB*$_{Ma}$**: 53 35 58**

LAB*LCH*$_{Ma}$**: 53 68 58**

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

lab*olv*$_{Ma}$**: 1.0 0.4 0.0**

triangle lightness *t**

%Gamut

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

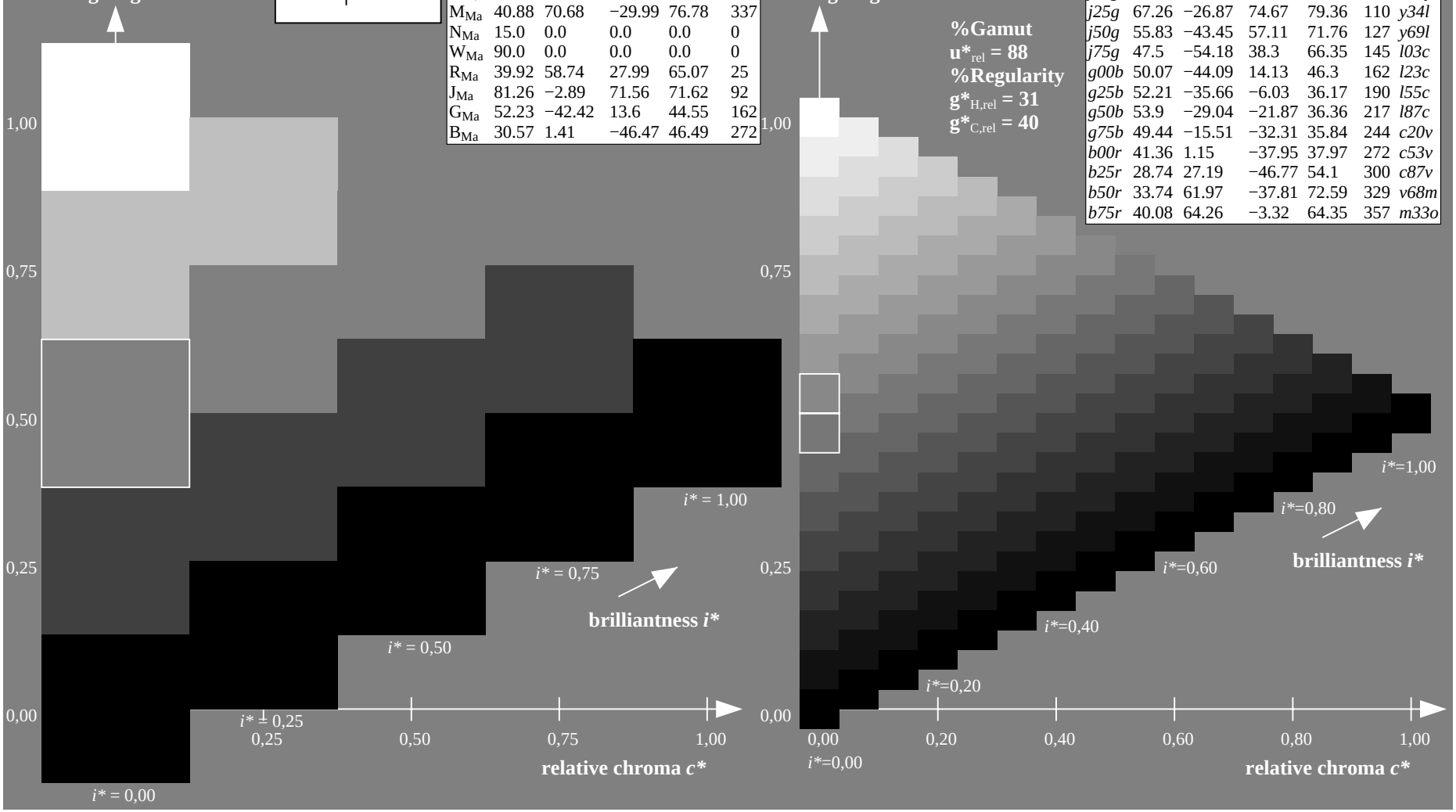
%Regularity

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

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

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:

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

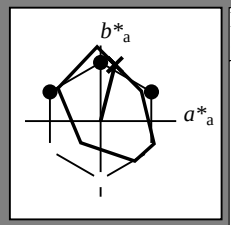
Hue texts:

u^*_e **= *r75j*** u^*_d **= *o69y***

contrast reduction factor:

$c_R = 0.9$

triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):

LAB*LAB*$_{Ma}$**: 65 19 74**

LAB*LCH*$_{Ma}$**: 65 77 75**

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

lab*olv*$_{Ma}$**: 1.0 0.7 0.0**

triangle lightness *t**

%Gamut

u^*_{rel} = 88

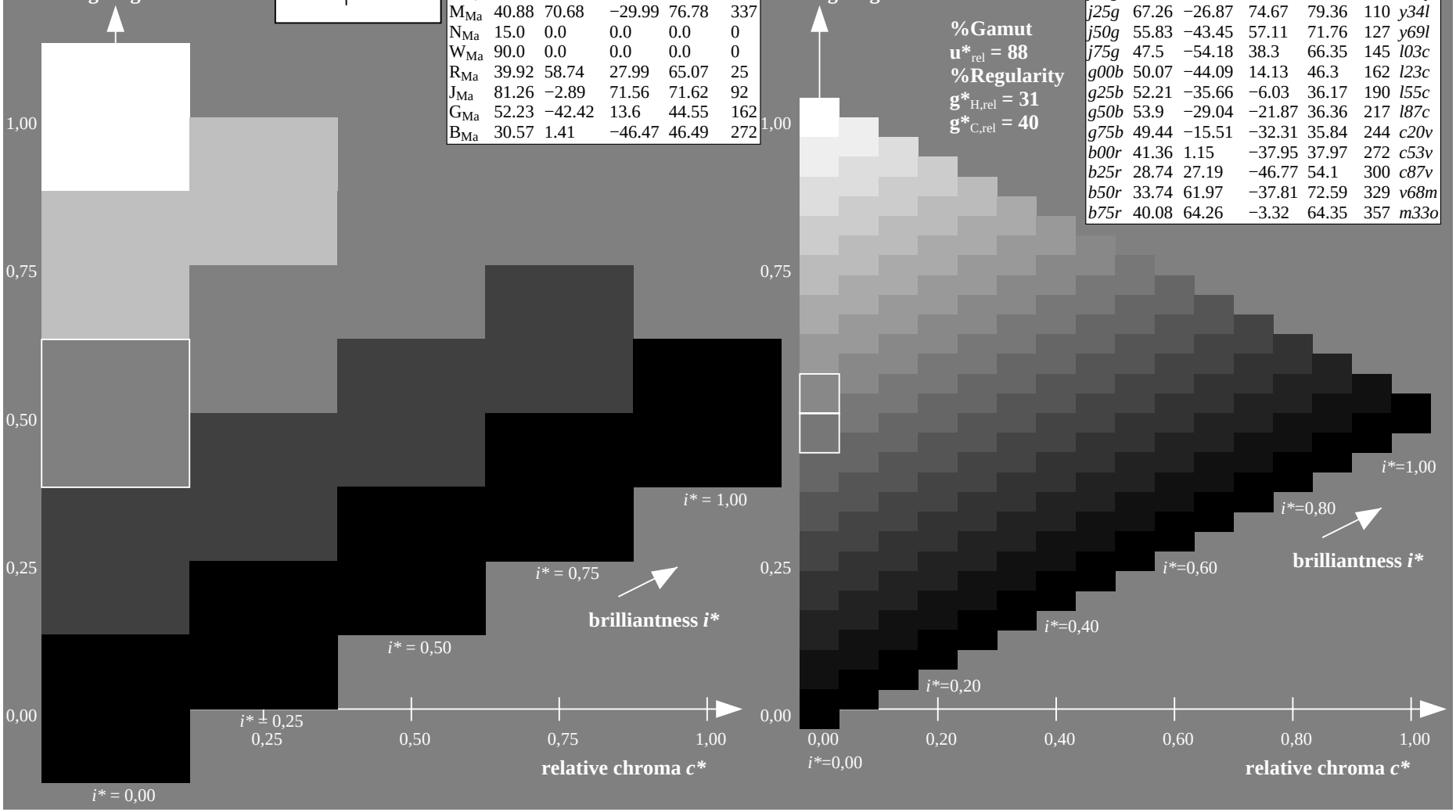
%Regularity

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

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

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.256$ **$u^*_e = j00g$**

data for any colour:

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

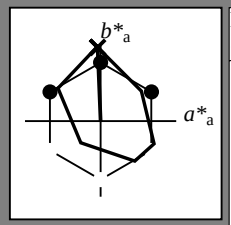
Hue texts:

u^*_e = *j00g* u^*_d = *o98y*

contrast reduction factor:

$c_R = 0.9$

triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):

LAB*LAB*$_{Ma}$**: 82 −4 98**

LAB*LCH*$_{Ma}$**: 82 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

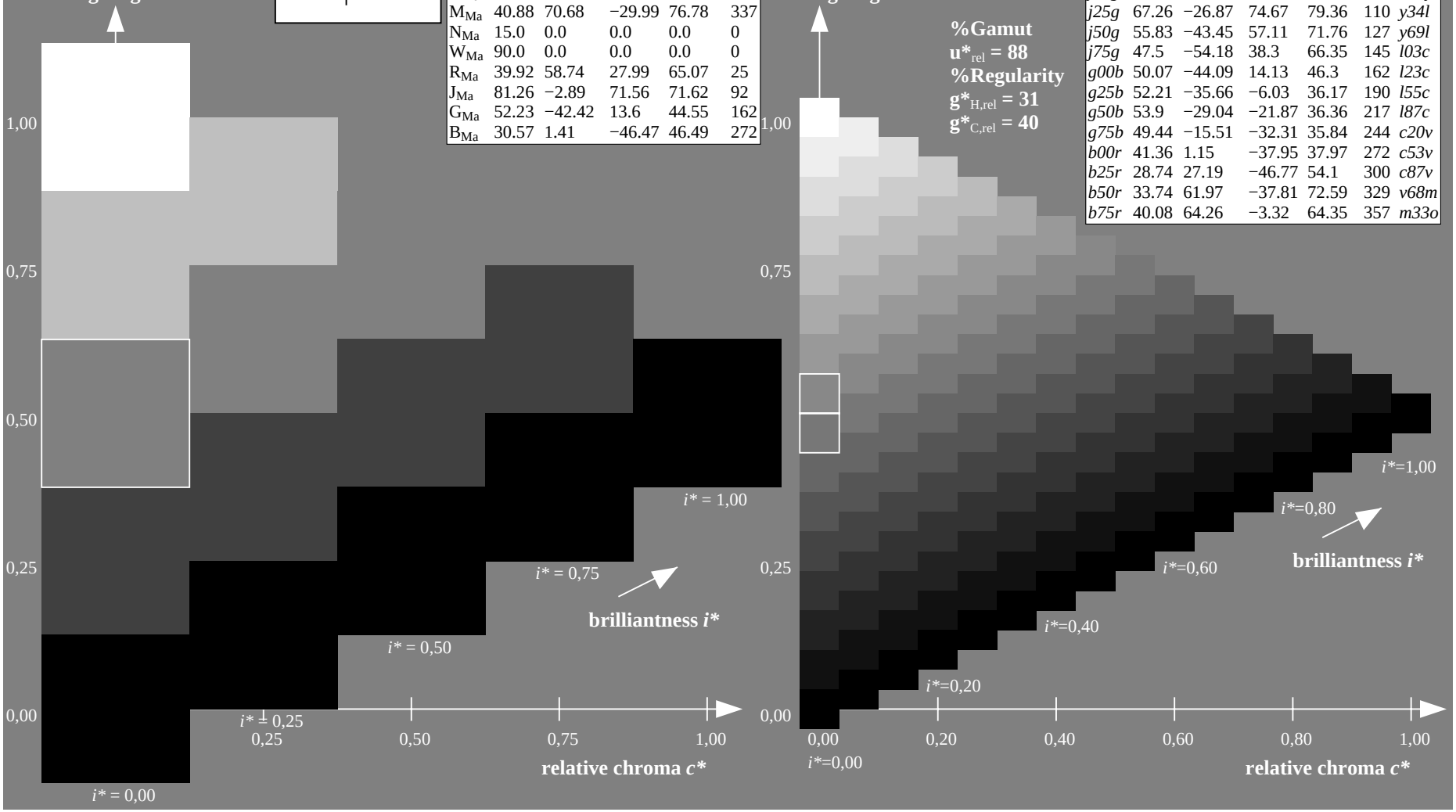
%Regularity

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

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

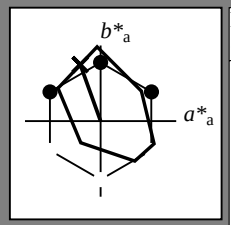
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.305$ **$u^*_e = j25g$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **=** ***j25g*** u^*_d **=** ***y34l***
contrast reduction factor:
$c_R = 0.9$
triangle lightness ***t****



FRS15_90a; adapted (a) CIELAB data

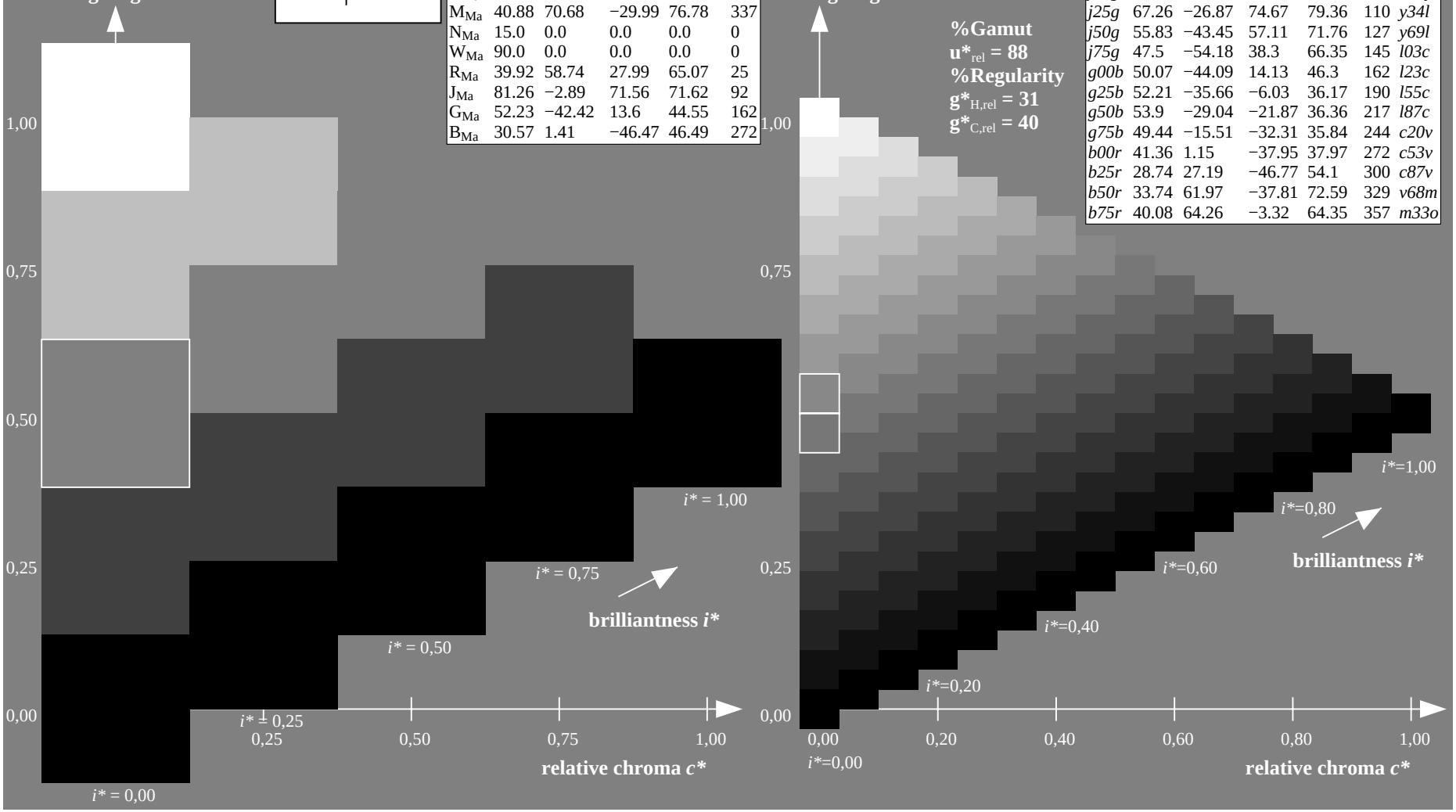
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 67 −27 75**
LAB*LCH*$_{Ma}$**: 67 79 109**
lab*rgb*$_{Ma}$**: 0.75 1.0 0.0**
lab*olv*$_{Ma}$**: 0.66 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

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.354$ **$u^*_e = j50g$**

data for any colour:

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

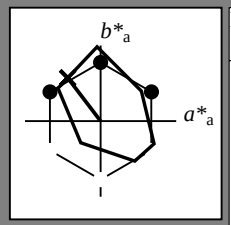
Hue texts:

u^*_e **=** ***j50g*** u^*_d **=** ***y69l***

contrast reduction factor:

$c_R = 0.9$

triangle lightness ***t****



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):

LAB*LAB*$_{Ma}$**: 56 −43 57**

LAB*LCH*$_{Ma}$**: 56 72 127**

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

lab*olv*$_{Ma}$**: 0.3 1.0 0.0**

triangle lightness ***t****

%Gamut

$u^*_{rel} = 88$

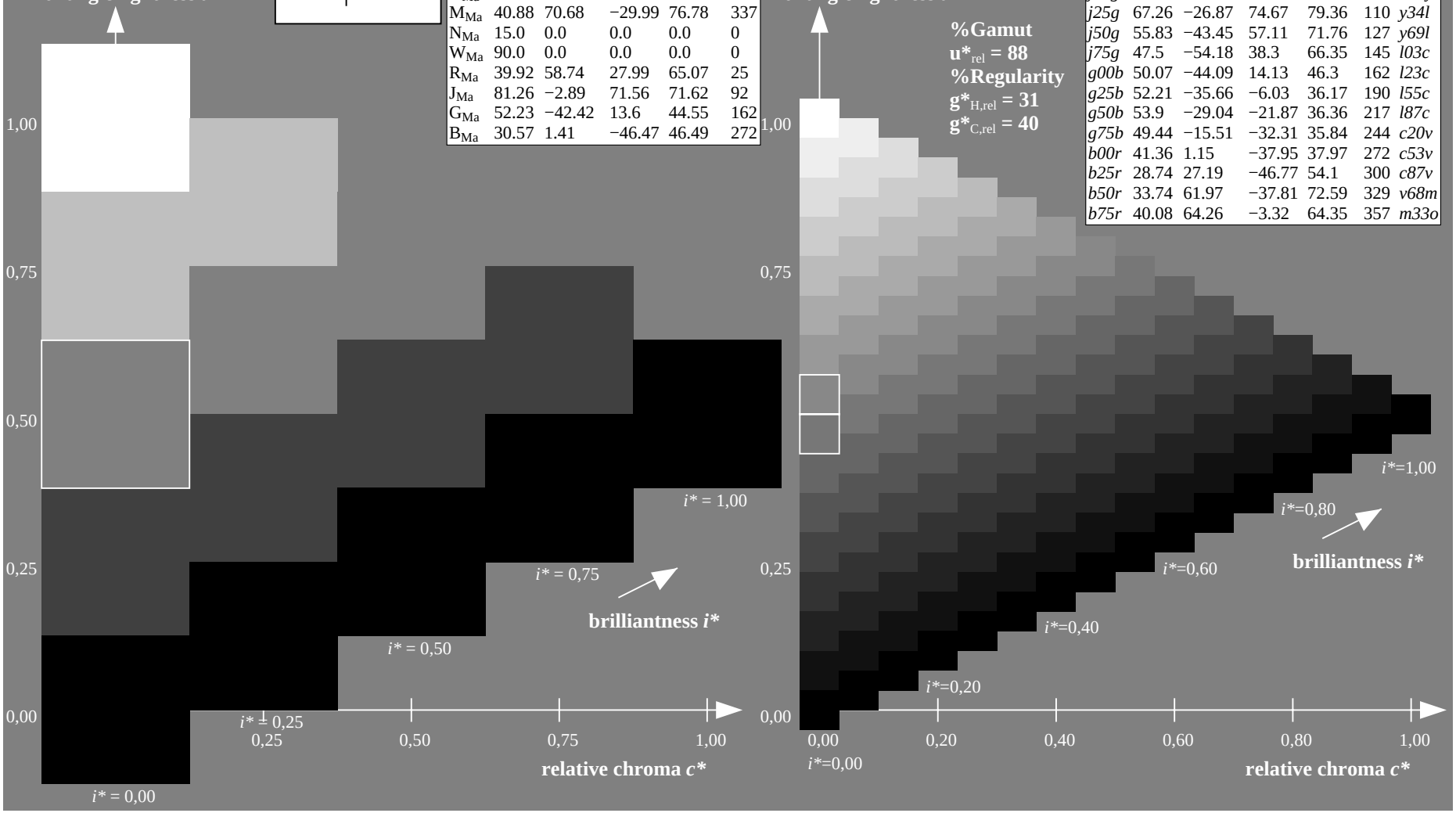
%Regularity

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

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

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.402$ **$u^*_e = j75g$**

data for any colour:

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

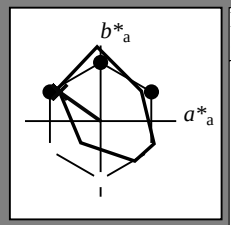
Hue texts:

u^*_e **=** ***j75g*** u^*_d **=** ***l03c***

contrast reduction factor:

$c_R = 0.9$

triangle lightness ***t****



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):

LAB*LAB*$_{Ma}$**: 48 −54 38**

LAB*LCH*$_{Ma}$**: 48 66 144**

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

lab*olv*$_{Ma}$**: 0.0 1.0 0.03**

triangle lightness ***t****

%Gamut

$u^*_{rel} = 88$

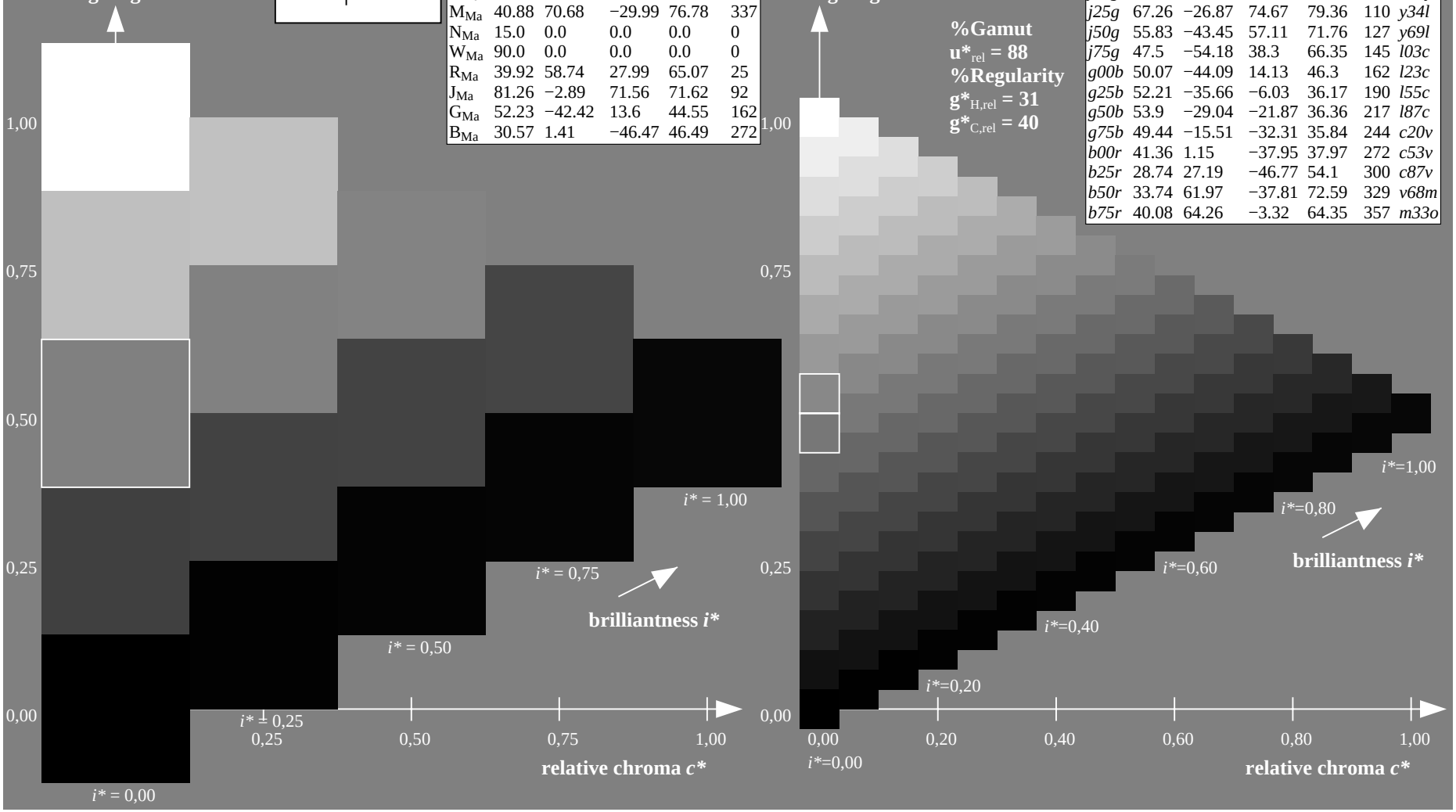
%Regularity

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

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

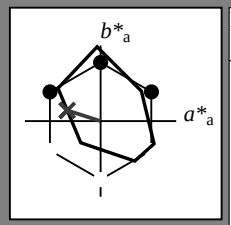
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **=** ***g00b*** u^*_d **=** ***l23c***
contrast reduction factor:
$c_R = 0.9$
triangle lightness ***t****



FRS15_90a; adapted (a) CIELAB data

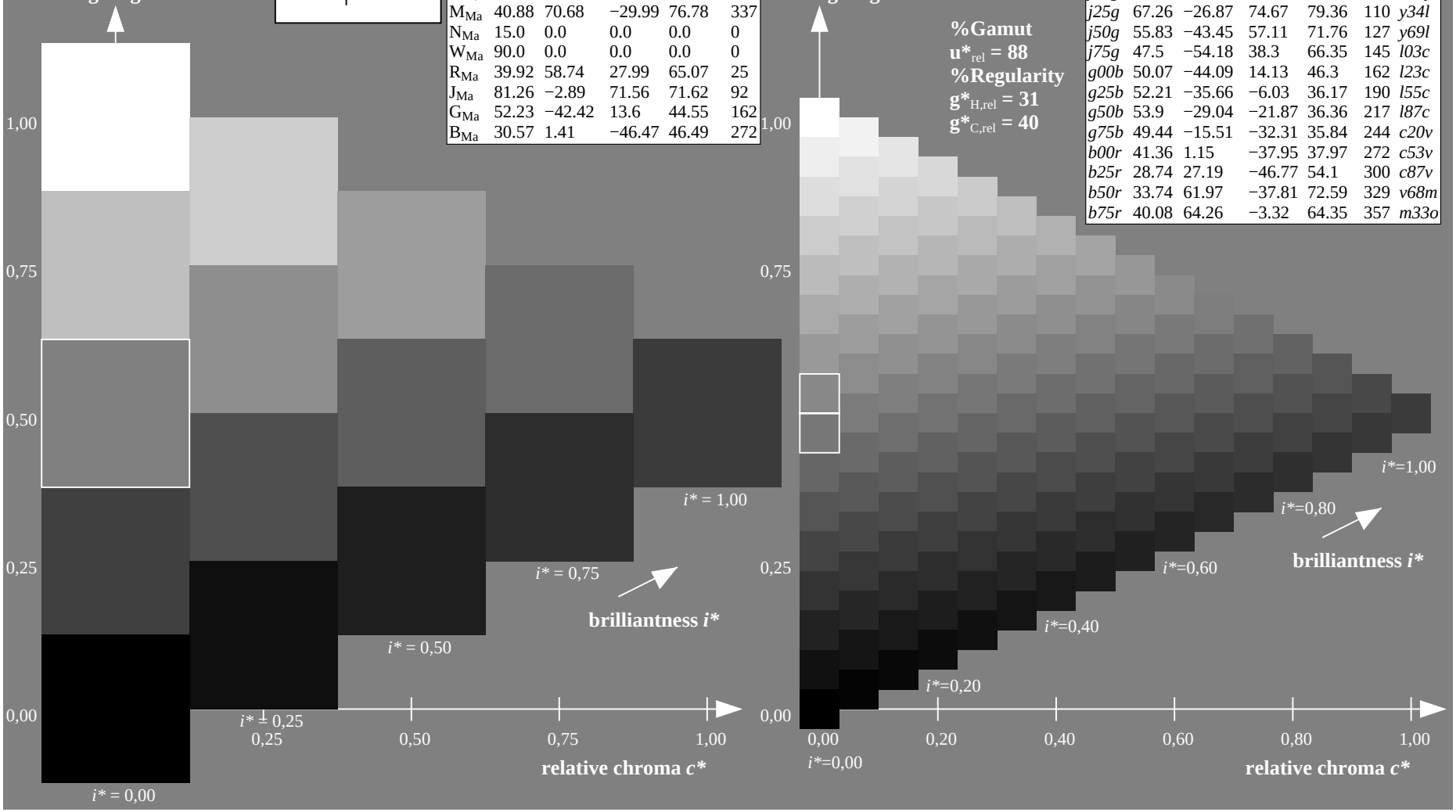
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 50 −44 14**
LAB*LCH*$_{Ma}$**: 50 46 162**
lab*rgb*$_{Ma}$**: 0.0 1.0 0.0**
lab*olv*$_{Ma}$**: 0.0 1.0 0.23**
triangle lightness ***t****

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

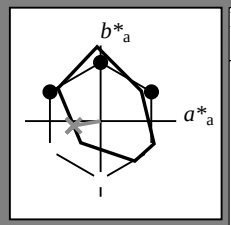
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



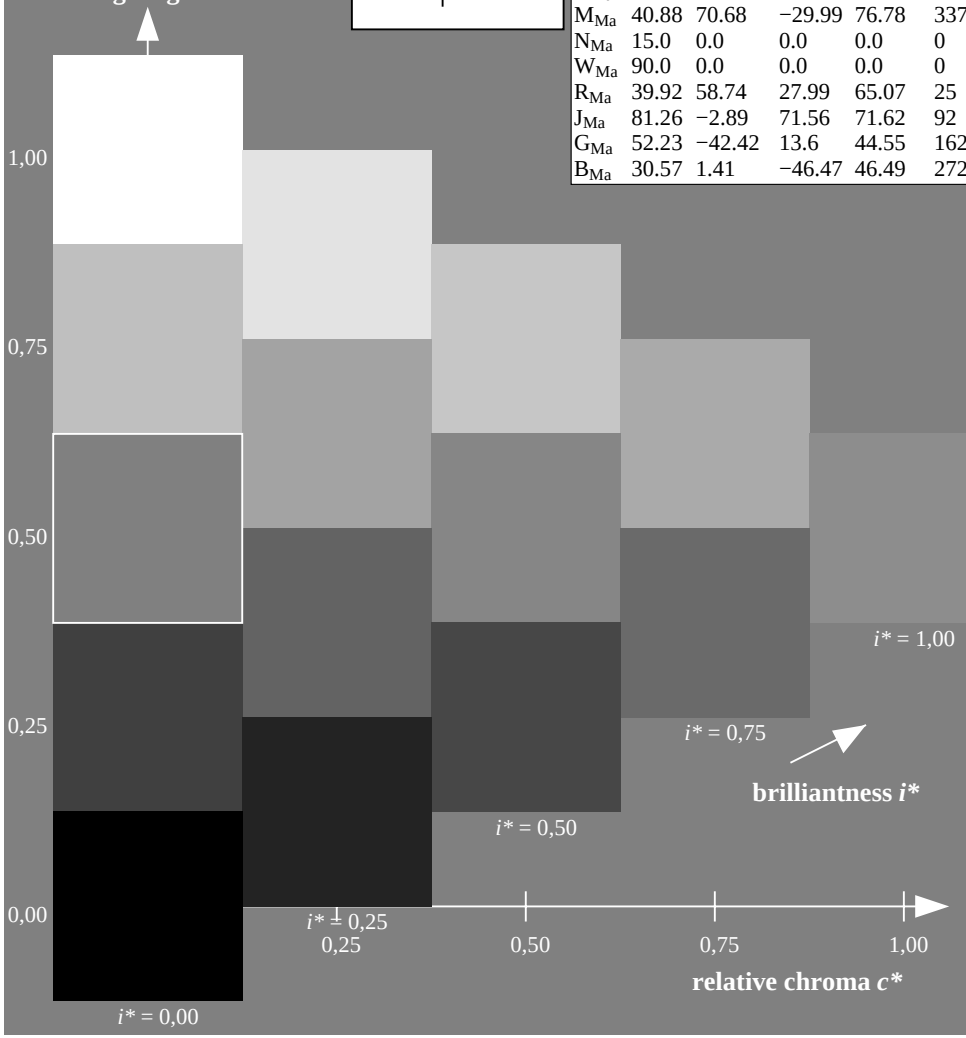
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.527$ **$u^*_e = g25b$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **=** ***g25b*** u^*_d **=** ***l55c***
contrast reduction factor:
$c_R = 0.9$
triangle lightness ***t****



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

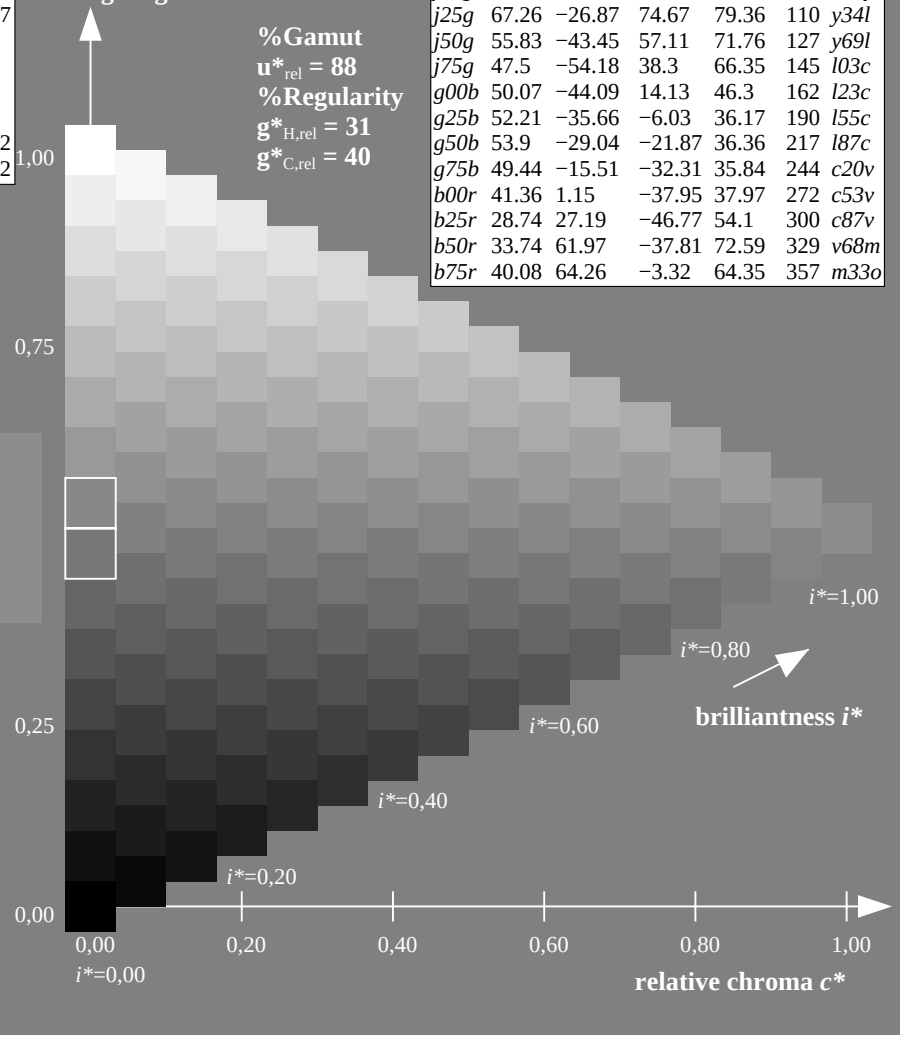


Data for maximum colour (Ma):
$LAB^*LAB^*_{Ma}$**: 52 −36 −6**
$LAB^*LCH^*_{Ma}$**: 52 36 189**
$lab^*rgb^*_{Ma}$**: 0.0 1.0 0.5**
$lab^*olv^*_{Ma}$**: 0.0 1.0 0.55**
triangle lightness ***t****

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

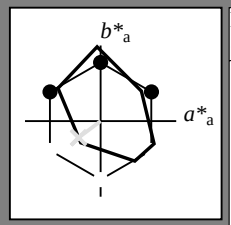
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **= *g50b*** u^*_d **= *l87c***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

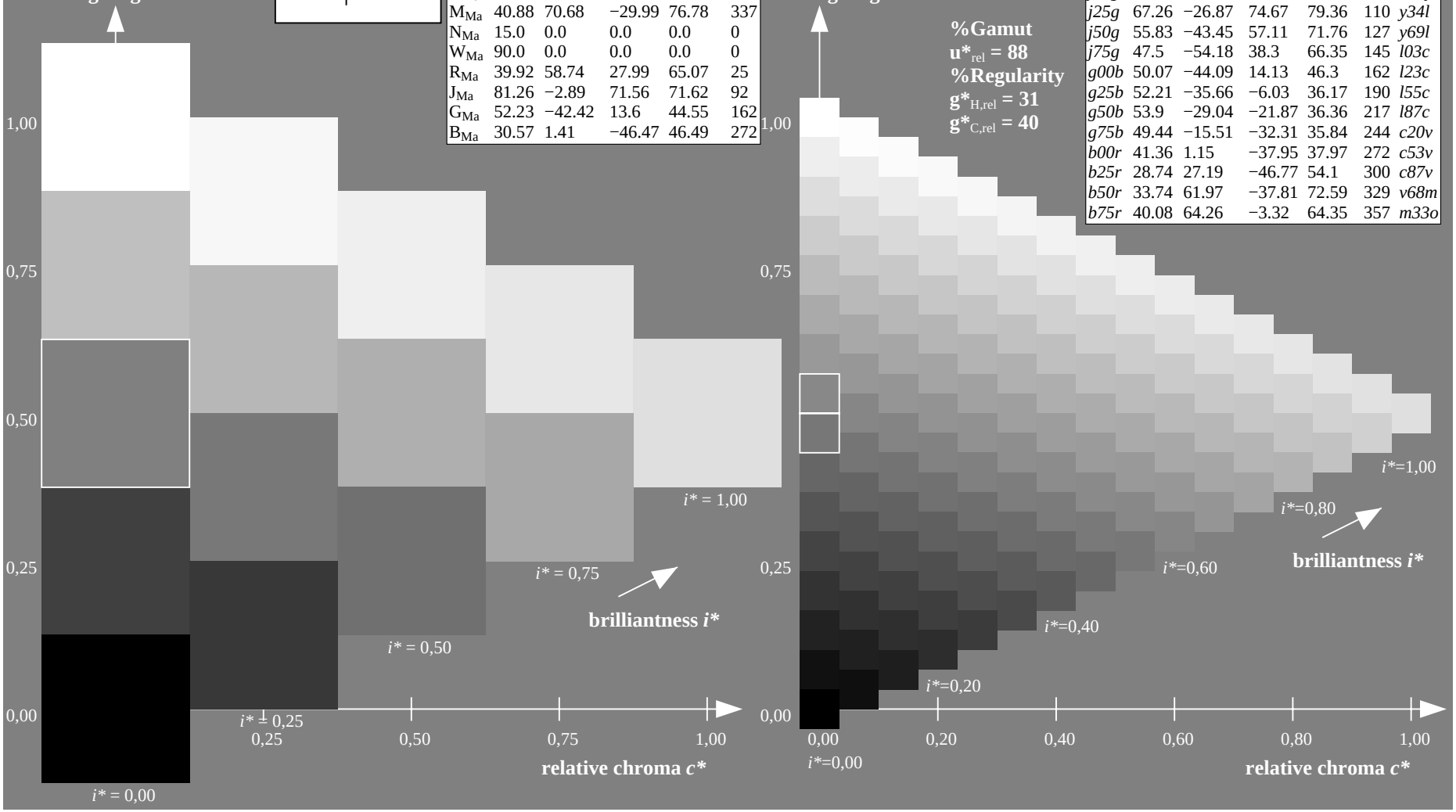
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 54 −29 −22**
LAB*LCH*$_{Ma}$**: 54 36 216**
lab*rgb*$_{Ma}$**: 0.0 1.0 1.0**
lab*olv*$_{Ma}$**: 0.0 1.0 0.88**
triangle lightness *t**

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

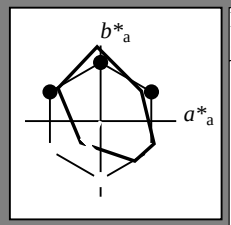
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



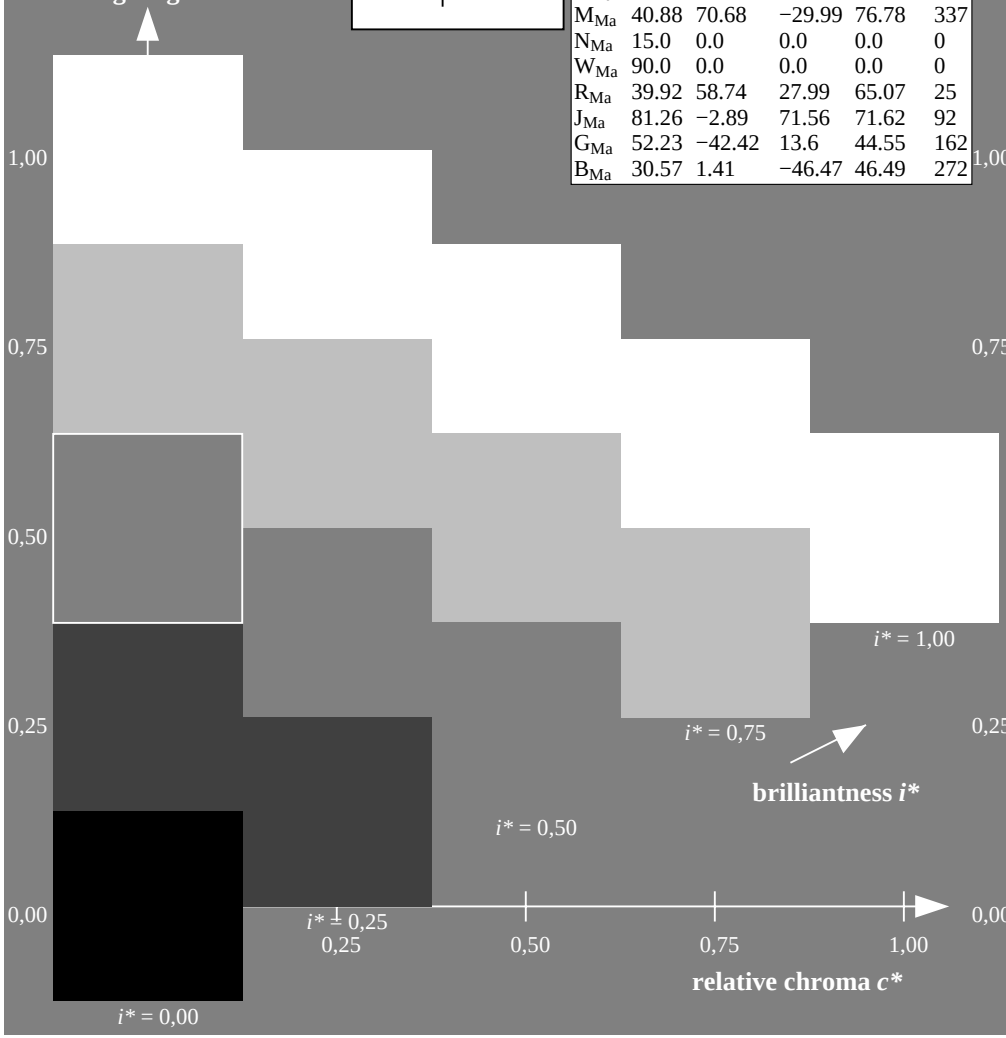
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.679$ **$u^*_e = g75b$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e = *g75b* u^*_d = *c20v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

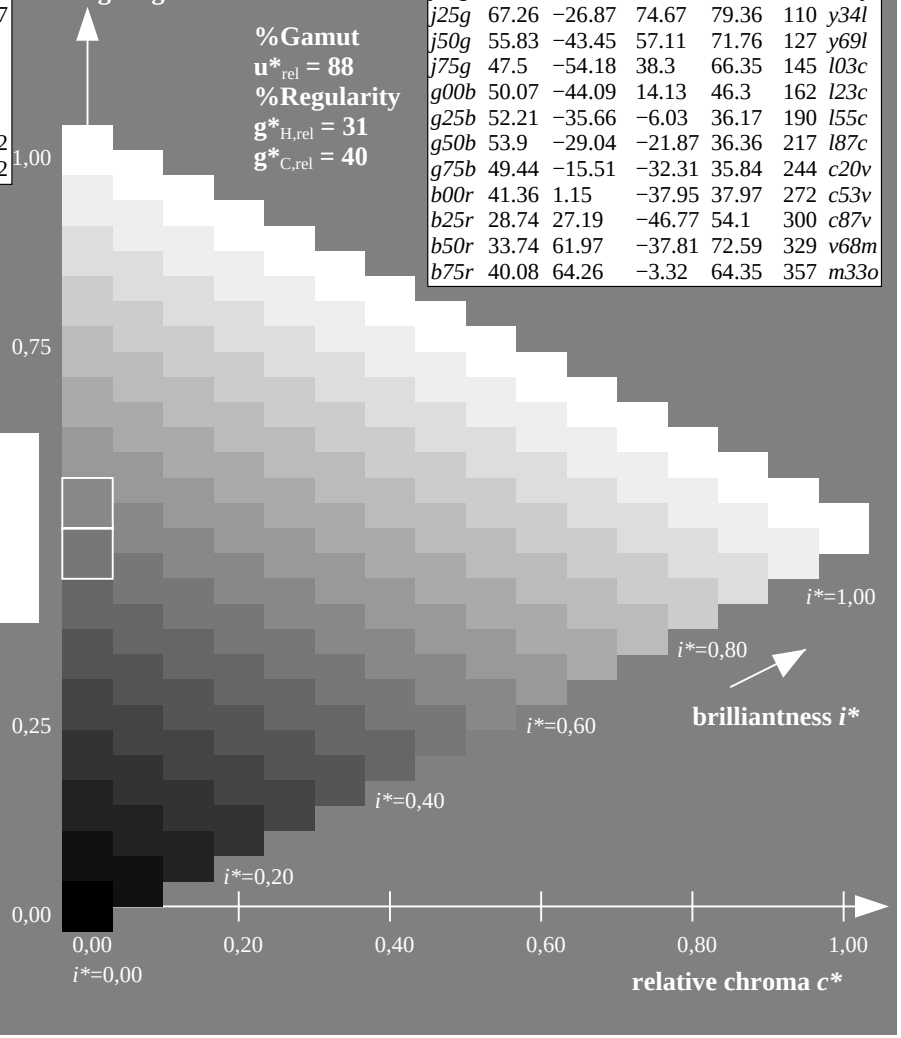


Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 49 −16 −32**
LAB*LCH*$_{Ma}$**: 49 36 244**
lab*rgb*$_{Ma}$**: 0.0 0.5 1.0**
lab*olv*$_{Ma}$**: 0.0 0.8 1.0**
triangle lightness *t**

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

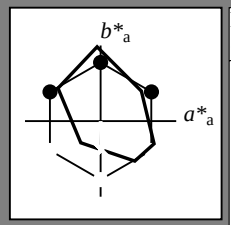
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e = ***b00r*** u^*_d = ***c53v***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

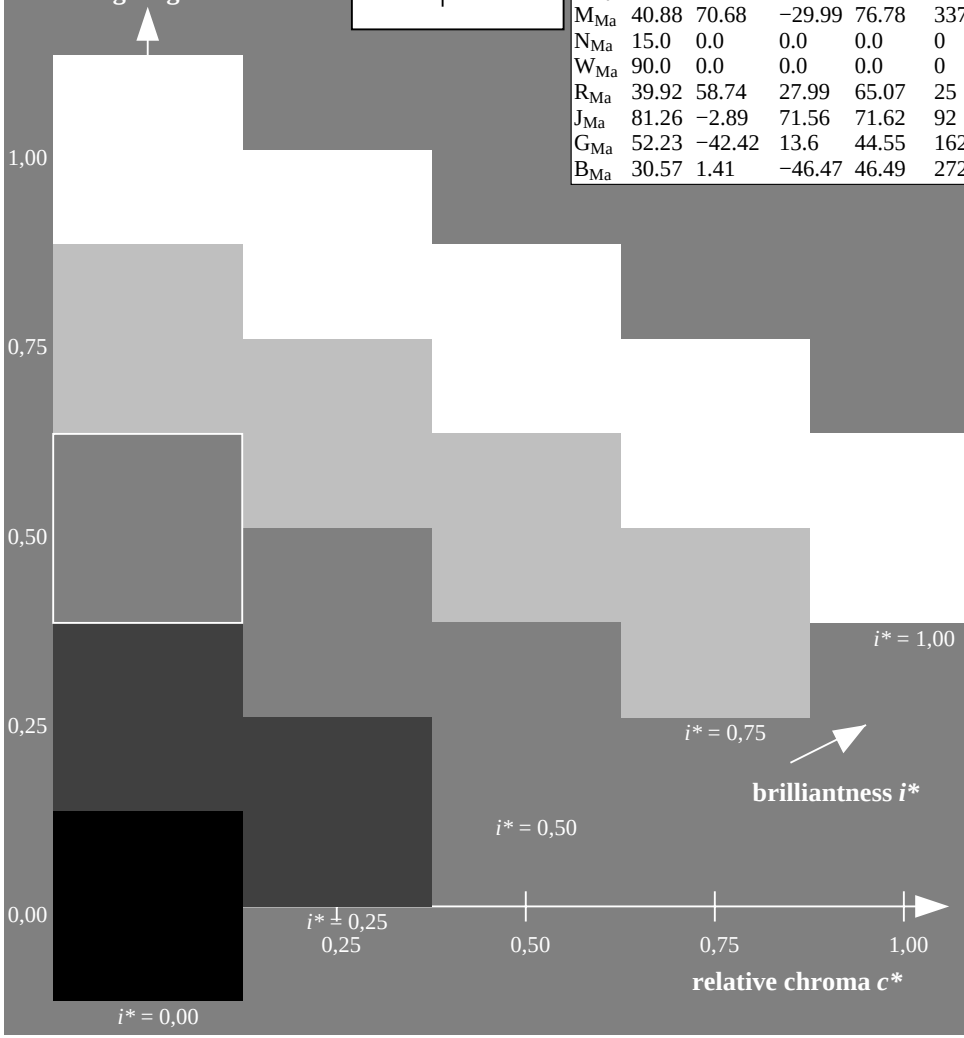
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

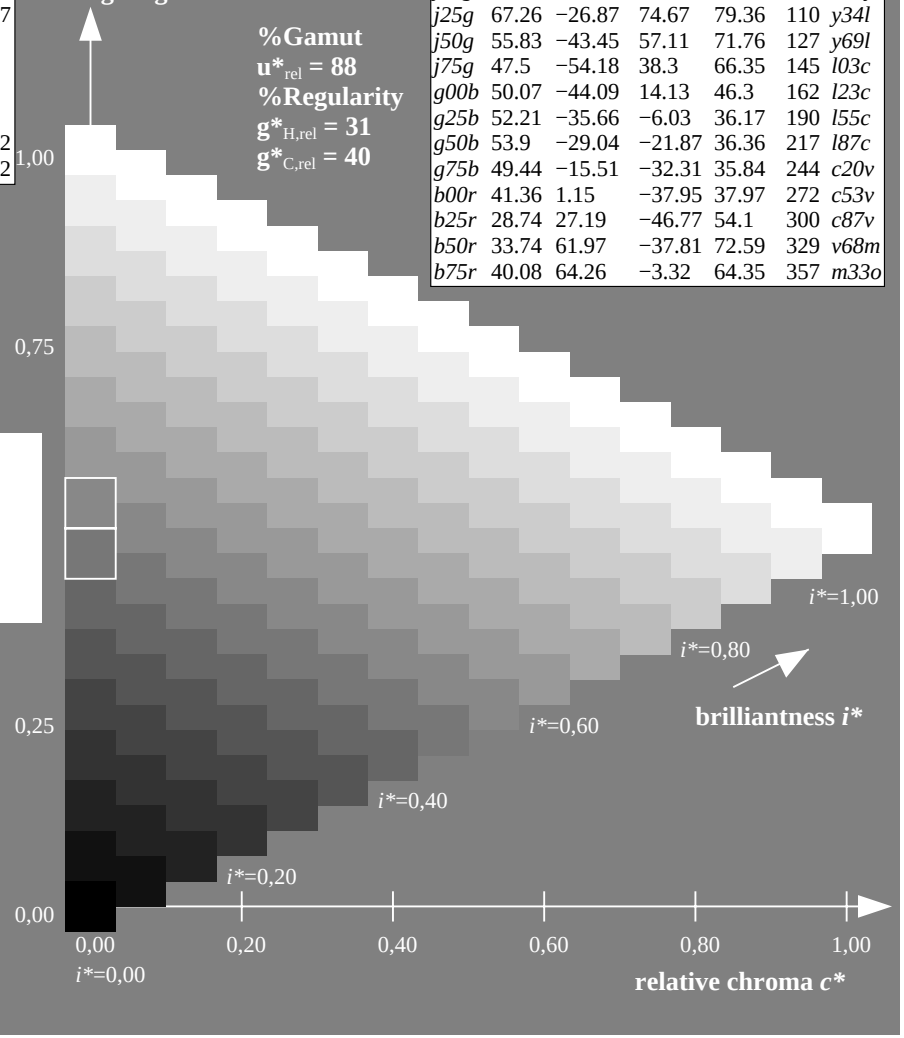
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 41 1 −38**
LAB*LCH*$_{Ma}$**: 41 38 271**
lab*rgb*$_{Ma}$**: 0.0 0.0 1.0**
lab*olv*$_{Ma}$**: 0.0 0.47 1.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

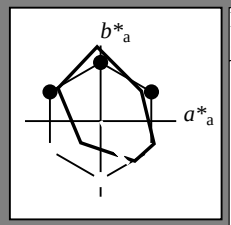
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*





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

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e = *b25r* u^*_d = *c87v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

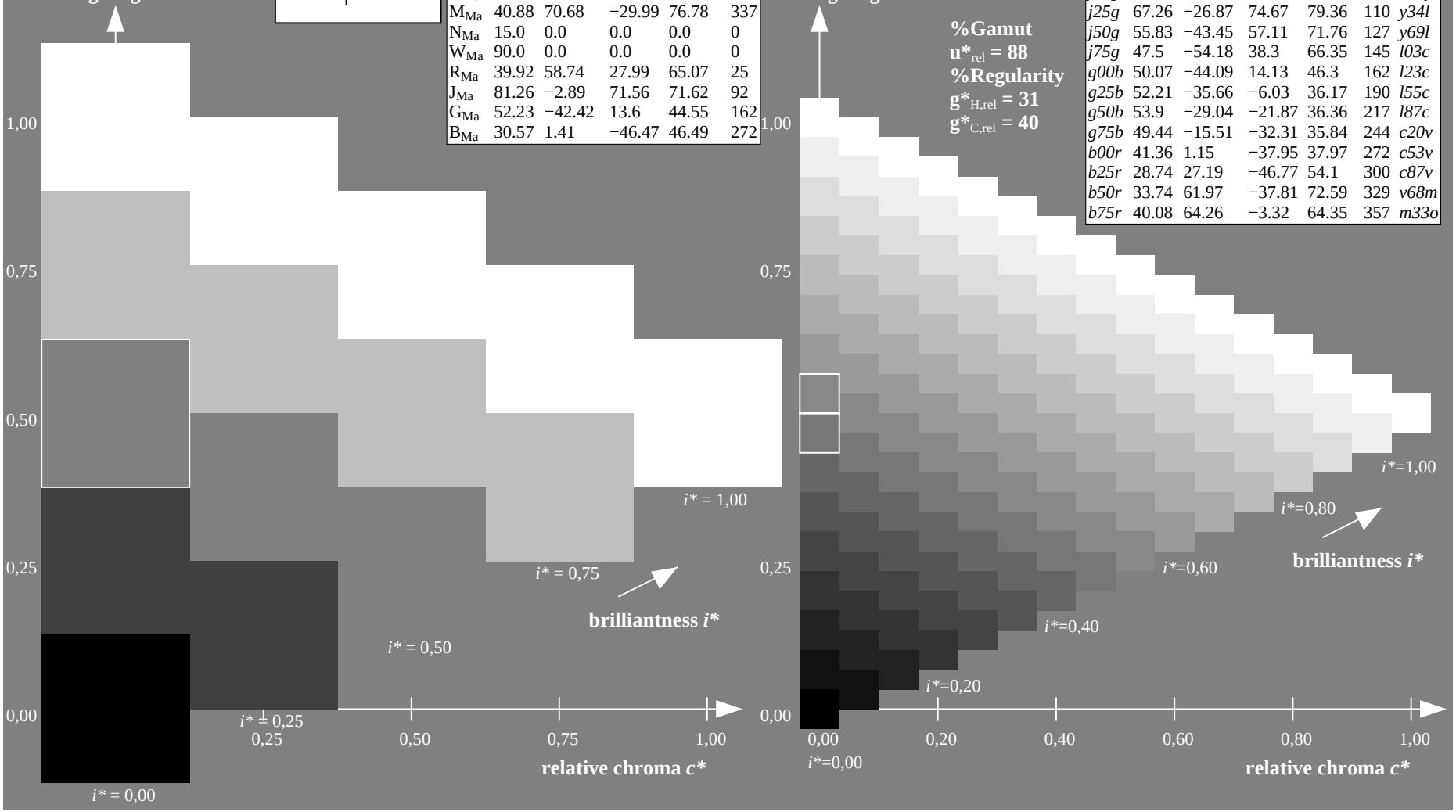
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 29 27 −47**
LAB*LCH*$_{Ma}$**: 29 54 300**
lab*rgb*$_{Ma}$**: 0.5 0.0 1.0**
lab*olv*$_{Ma}$**: 0.0 0.12 1.0**
triangle lightness *t**

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

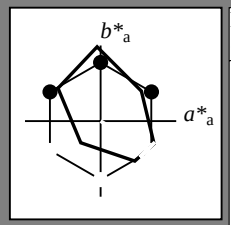
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



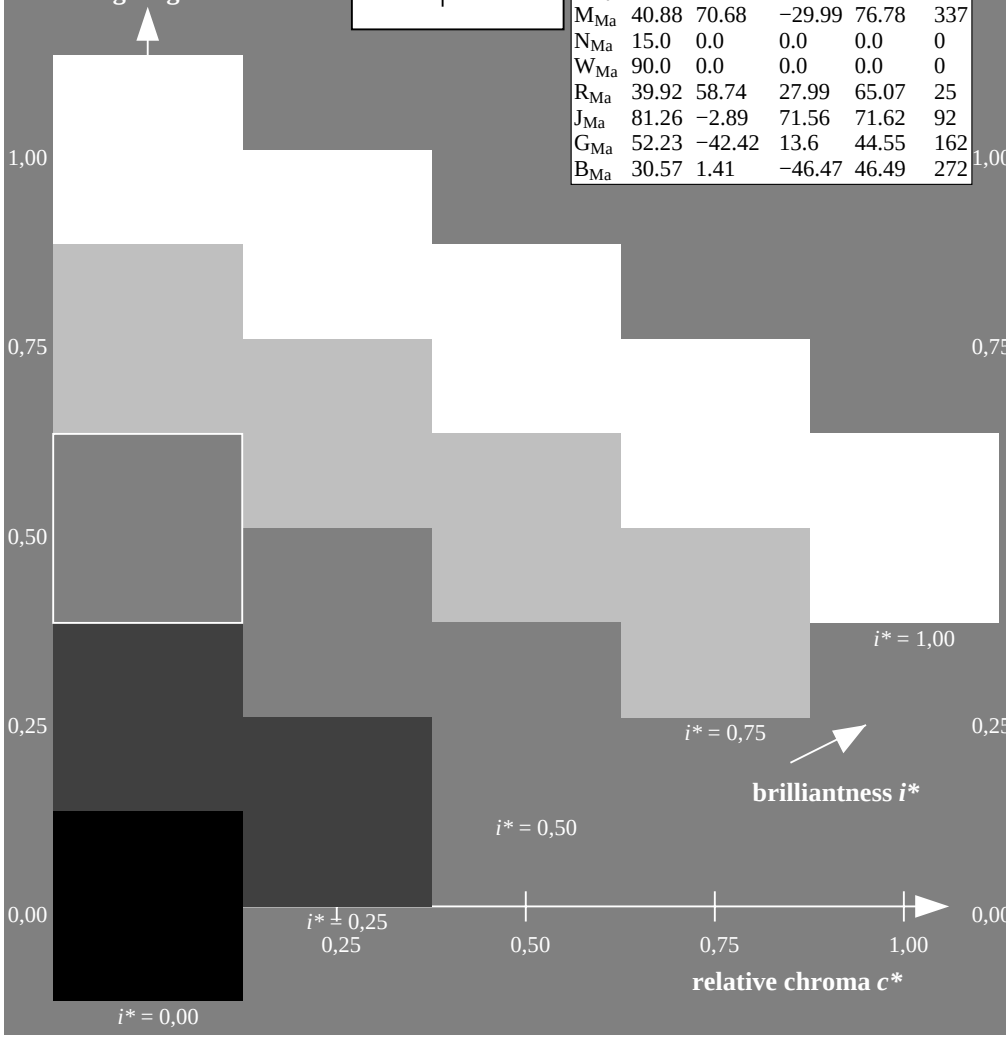
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.913$ **$u^*_e = b50r$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **= *b50r*** u^*_d **= *v68m***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

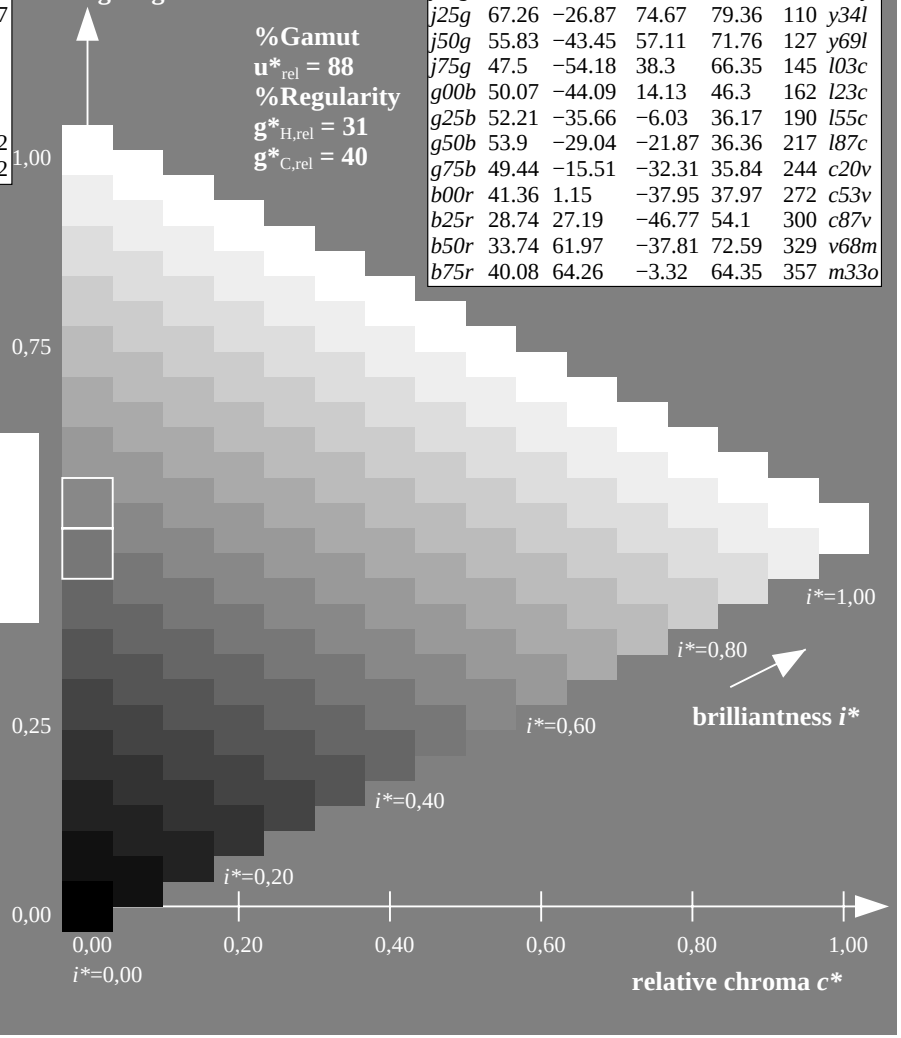


Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 34 62 −38**
LAB*LCH*$_{Ma}$**: 34 73 328**
lab*rgb*$_{Ma}$**: 1.0 0.0 1.0**
lab*olv*$_{Ma}$**: 0.68 0.0 1.0**
triangle lightness *t**

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

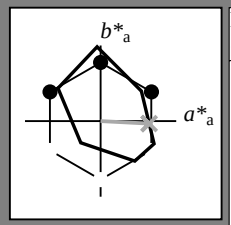
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.992$ **$u^*_e = b75r$**

data for any colour:
lab*tch* **and** ***lab*icu****
Hue texts:
u^*_e **= *b75r*** u^*_d **= *m33o***
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

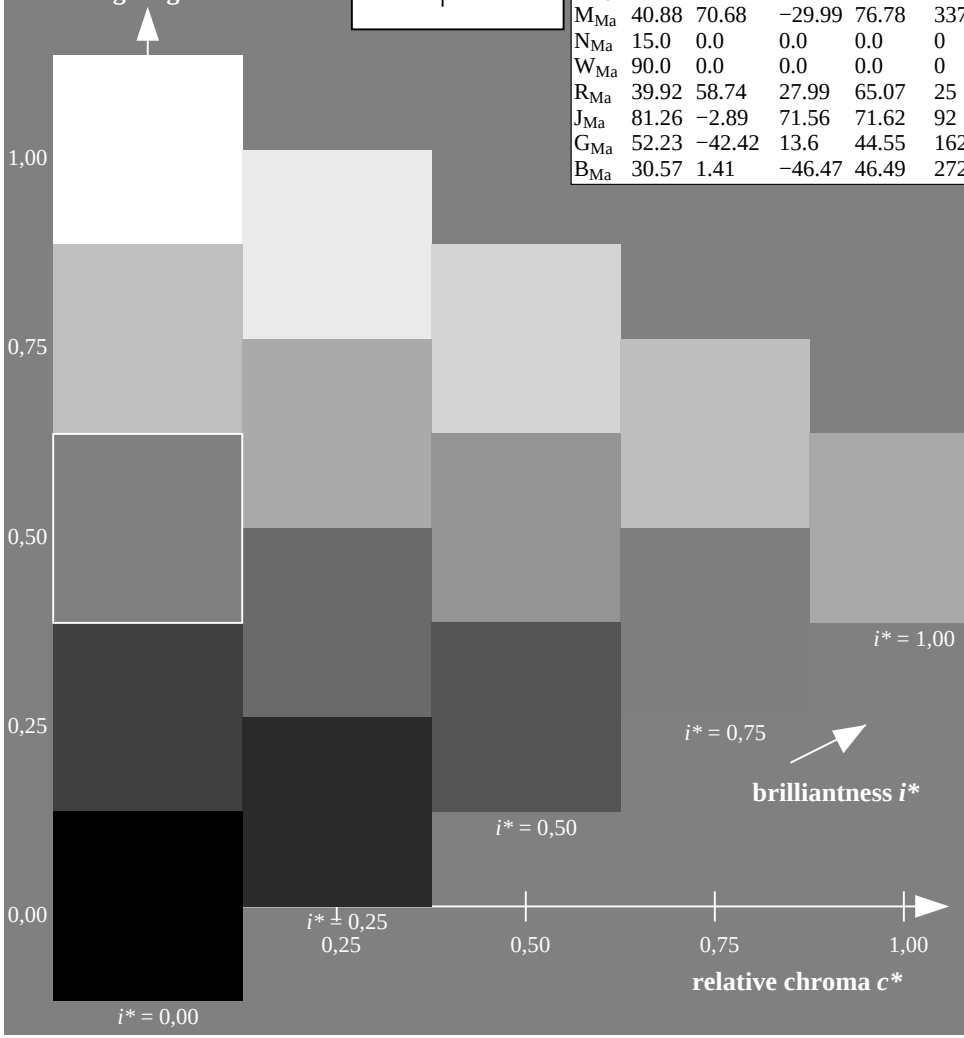
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

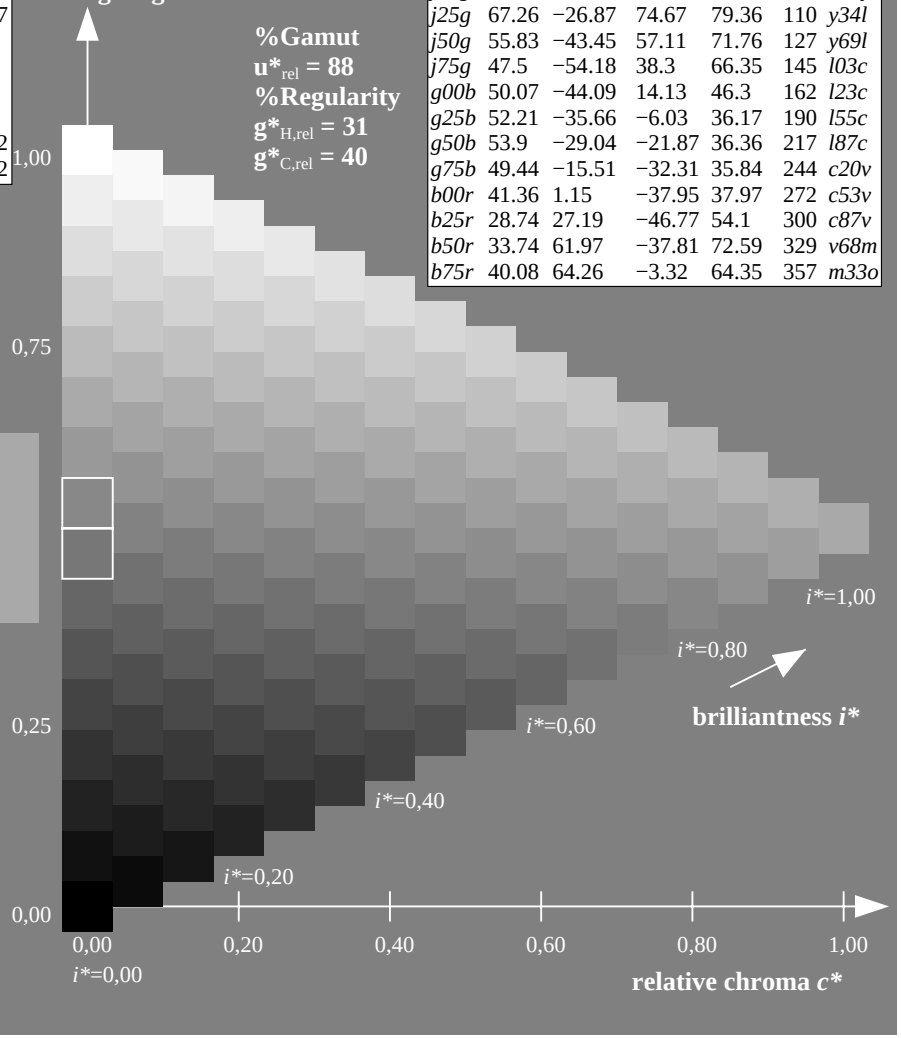
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 40 64 −3**
LAB*LCH*$_{Ma}$**: 40 64 357**
lab*rgb*$_{Ma}$**: 1.0 0.0 0.5**
lab*olv*$_{Ma}$**: 1.0 0.0 0.66**
triangle lightness *t**

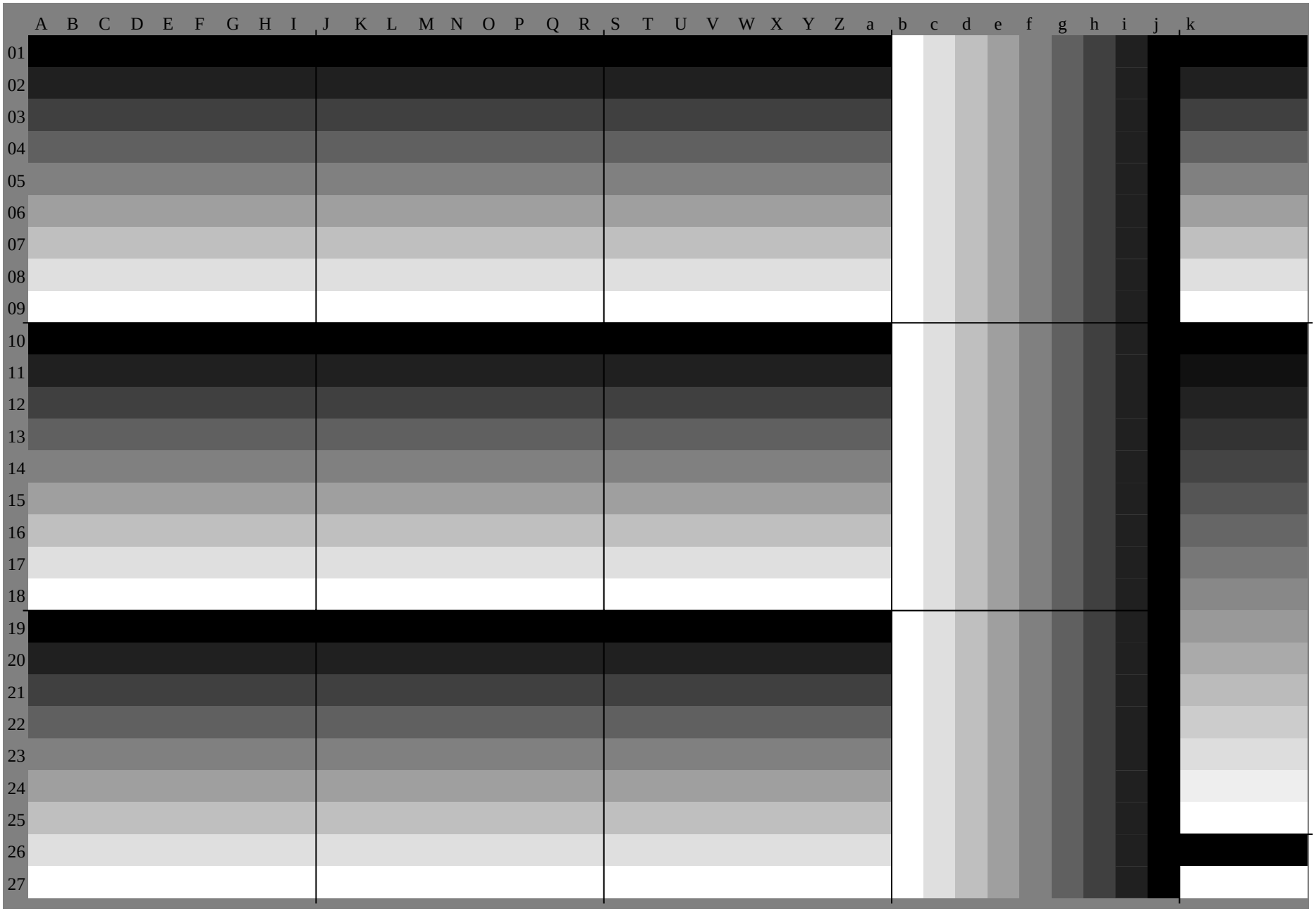
%Gamut
u^*_{rel} **= 88**
%Regularity
$g^*_{H,rel}$ **= 31**
$g^*_{C,rel}$ **= 40**

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



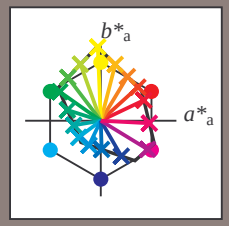



A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k
01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27

Input and output:
Colorimetric Printer Reflective System FRS15_90a
data for any colour:
***u**e* and number *no.* = 00 .. 15**
elementary hue text:
u**e* = 16 hues *r00j, r25j, ..., b75r
contrast reduction factor:
c_R = 0.9

FRS15_90a; adapted (a) CIELAB data

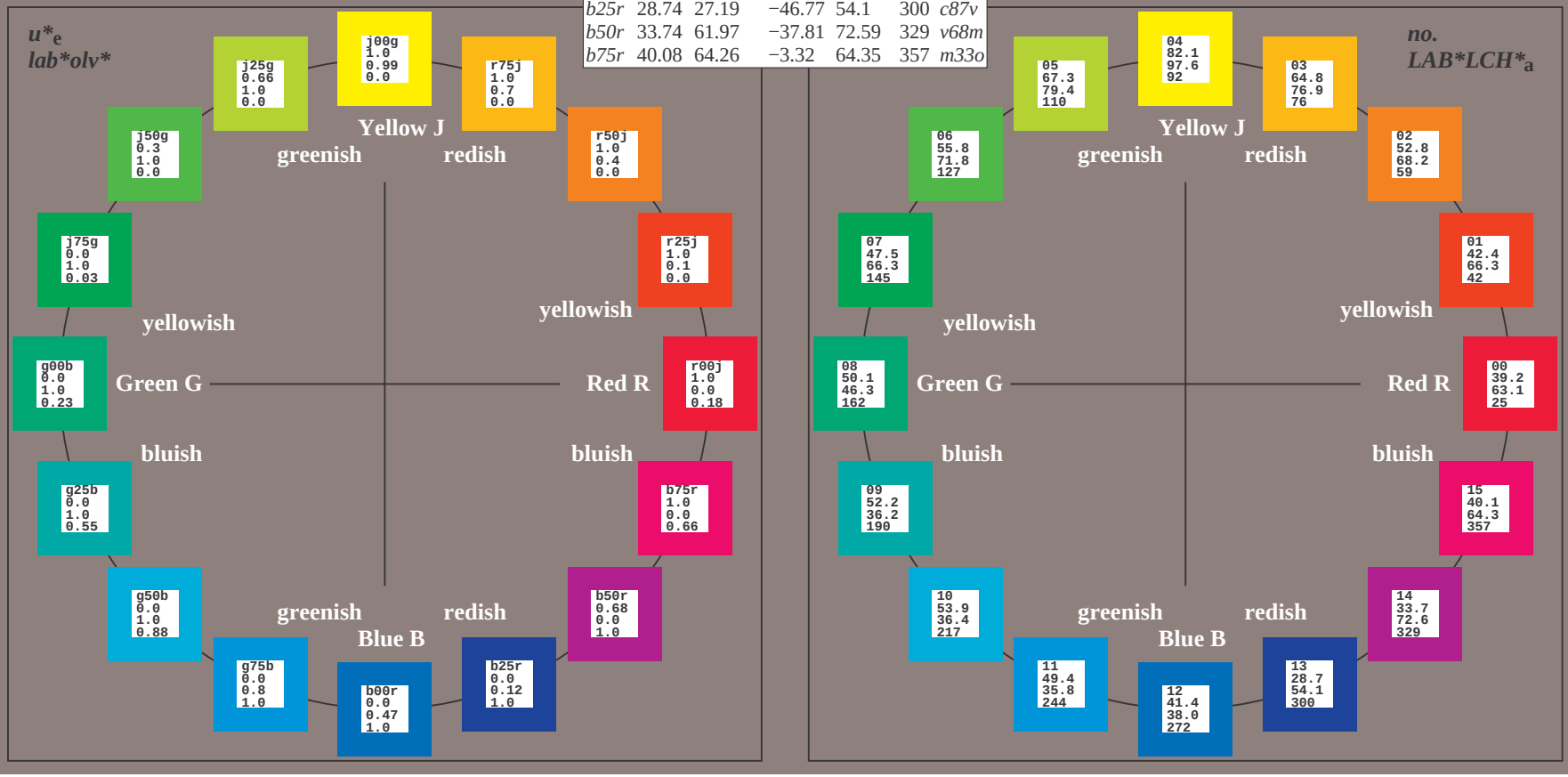
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

FRS15_90a; adapted (a) CIELAB data

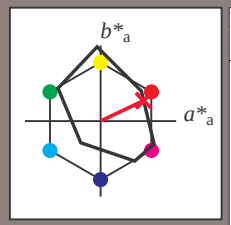
Name	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.89	71.56	71.62	92
G_{CIE}	52.23	−42.42	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.47	46.49	272



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

$u^*_e = r00j$
lab^*olv^*

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = r00j$ $u^*_d = m81o$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

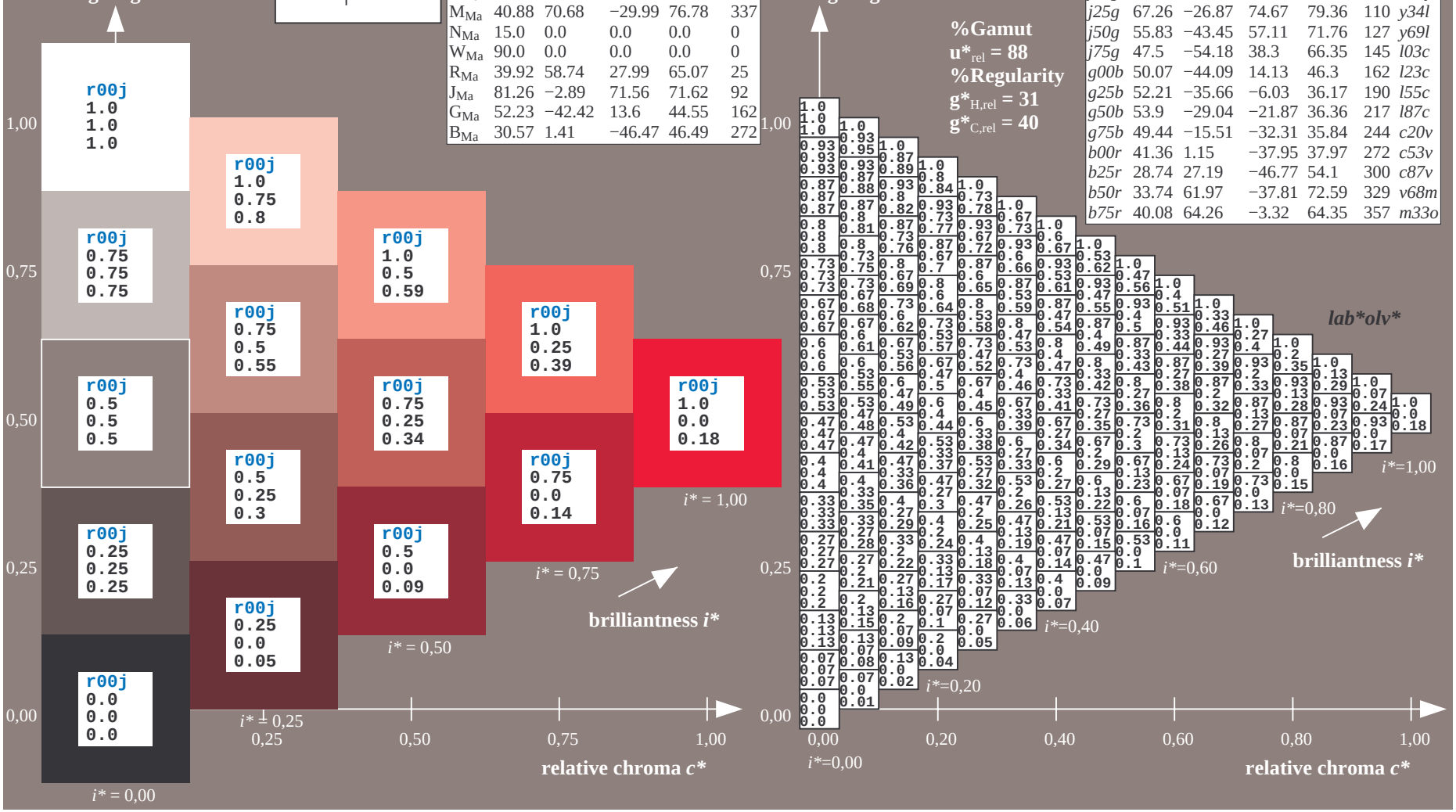
	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 39 57 27**
***LAB*LCH*Ma*: 39 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
$g^*_{H,rel} = 31$
$g^*_{C,rel} = 40$

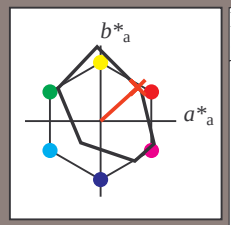
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.117$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *r25j* u^*_d = *o10y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

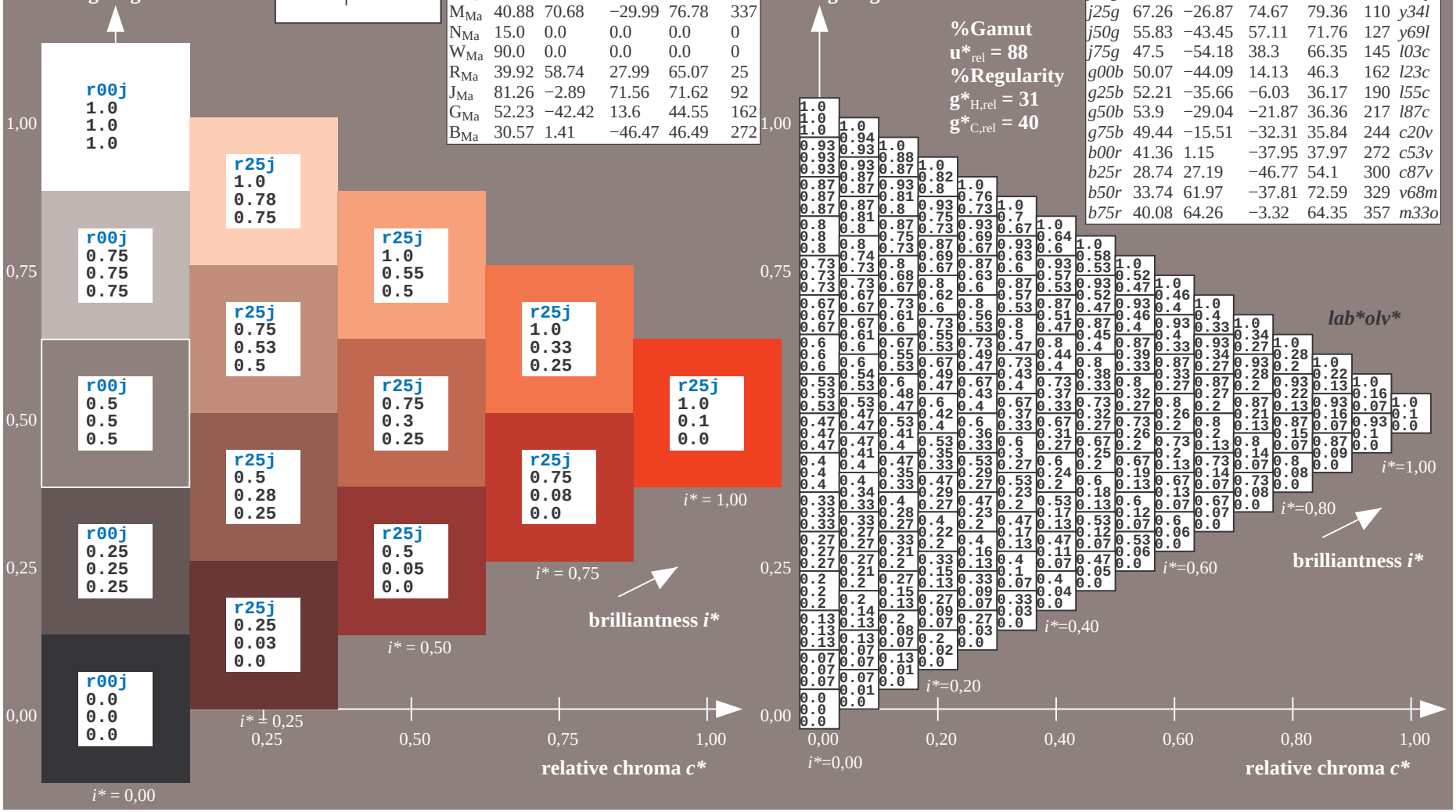
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 42 49 44**
***LAB*LCH*Ma*: 42 66 42**
***lab*rgb*Ma*: 1.0 0.25 0.0**
***lab*olv*Ma*: 1.0 0.1 0.0**
triangle lightness *t**

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

u^*_e = *r25j*
lab*olv*

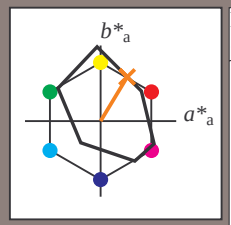
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



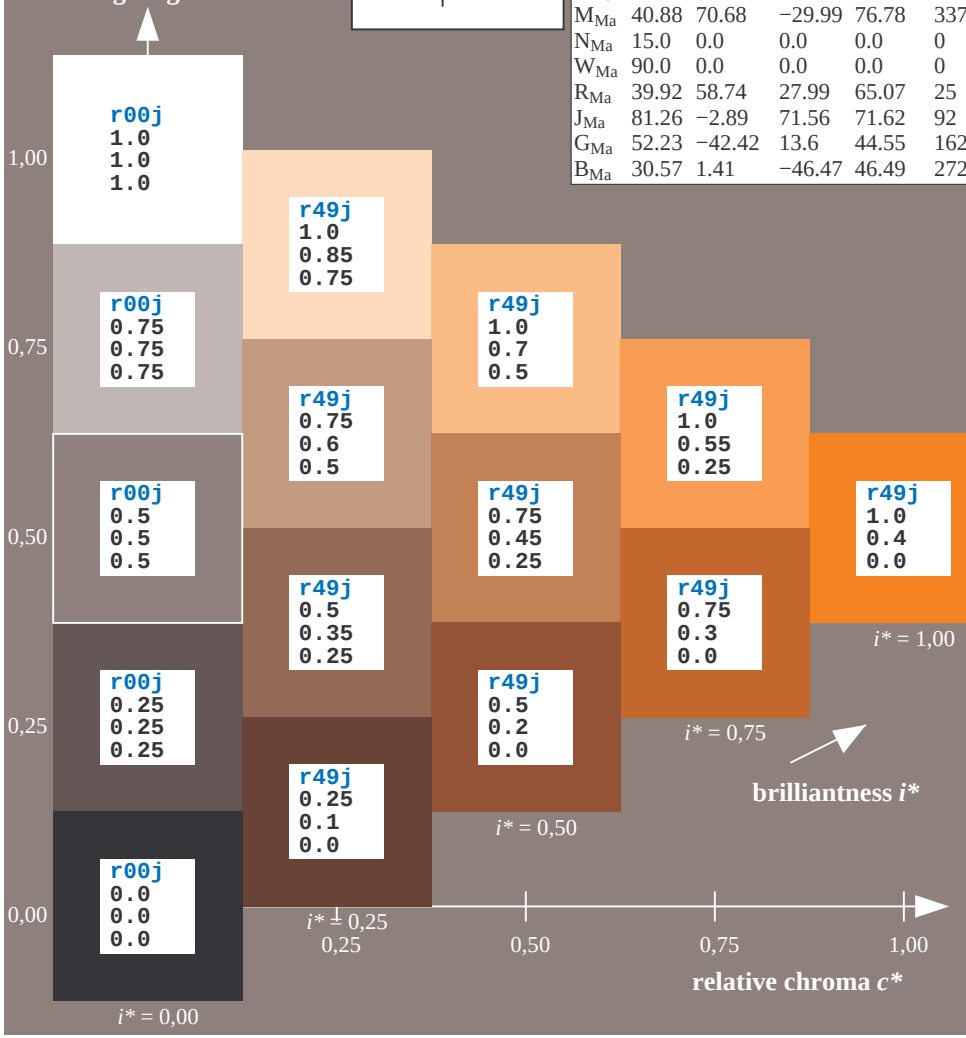
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.164$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *r50j* u^*_d = *o40y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	



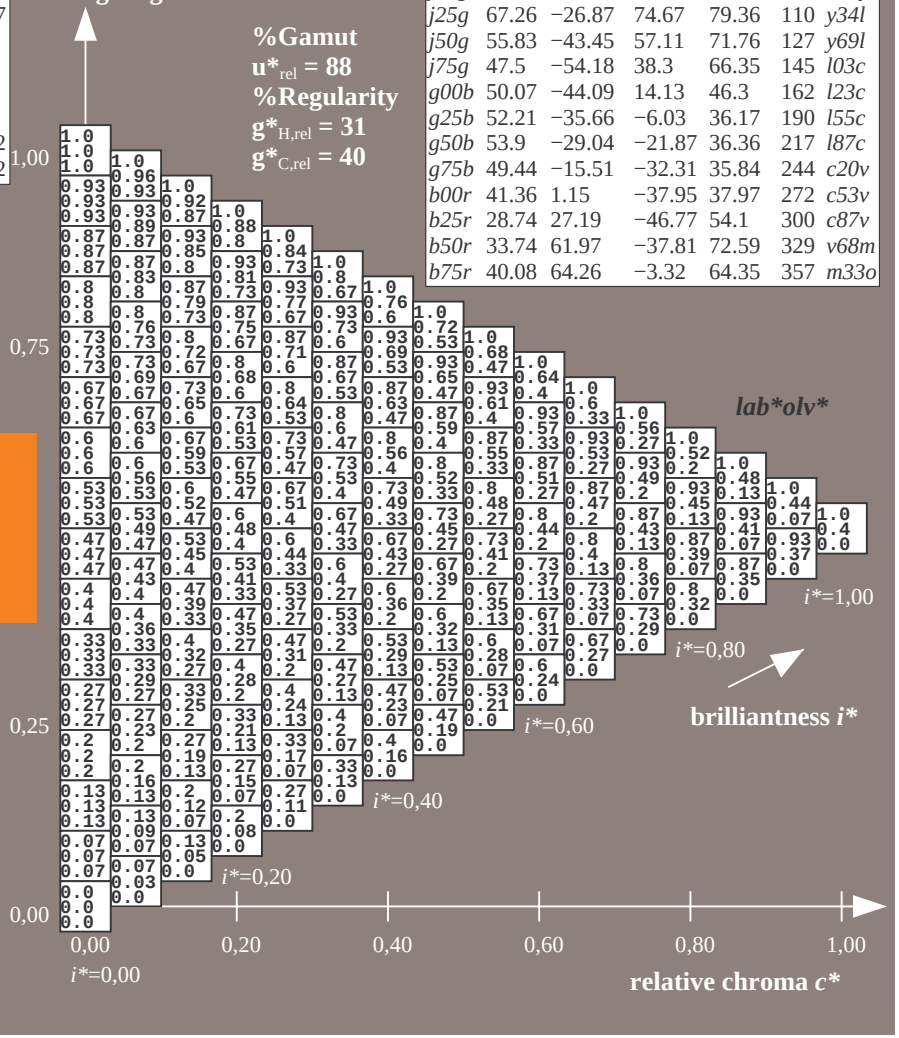
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 53 35 58
LAB*LCH*$_{Ma}$: 53 68 58
lab*rgb*$_{Ma}$: 1.0 0.5 0.0
lab*olv*$_{Ma}$: 1.0 0.4 0.0
triangle lightness *t**

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

u^*_e = *r50j*
lab*olv*

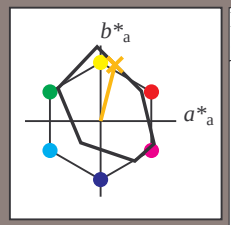
FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25		*m81o*
r25j	42.41	49.1	44.5	66.26	42		*o10y*
r50j	52.78	35.22	58.37	68.17	59		*o40y*
r75j	64.82	19.12	74.47	76.89	76		*o69y*
j00g	82.06	−3.94	97.52	97.6	92		*o98y*
j25g	67.26	−26.87	74.67	79.36	110		*y34l*
j50g	55.83	−43.45	57.11	71.76	127		*y69l*
j75g	47.5	−54.18	38.3	66.35	145		*l03c*
g00b	50.07	−44.09	14.13	46.3	162		*l23c*
g25b	52.21	−35.66	−6.03	36.17	190		*l55c*
g50b	53.9	−29.04	−21.87	36.36	217		*l87c*
g75b	49.44	−15.51	−32.31	35.84	244		*c20v*
b00r	41.36	1.15	−37.95	37.97	272		*c53v*
b25r	28.74	27.19	−46.77	54.1	300		*c87v*
b50r	33.74	61.97	−37.81	72.59	329		*v68m*
b75r	40.08	64.26	−3.32	64.35	357		*m33o*



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *r75j* u^*_d = *o69y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

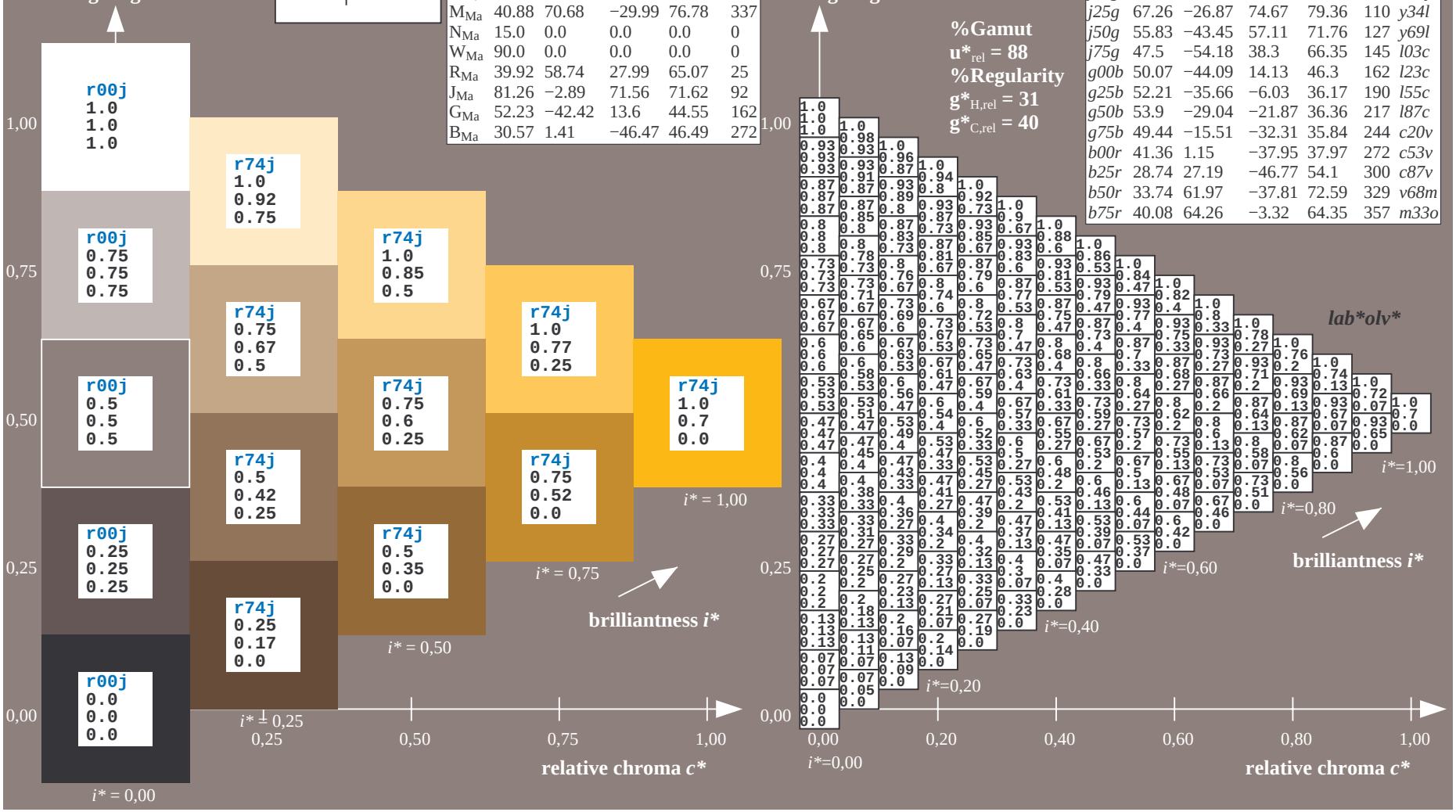
Data for maximum colour (Ma):
*LAB*LAB**$_{Ma}$: 65 19 74
*LAB*LCH**$_{Ma}$: 65 77 75
*lab*rgb**$_{Ma}$: 1.0 0.75 0.0
*lab*olv**$_{Ma}$: 1.0 0.7 0.0
triangle lightness *t**

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

u^*_e = *r75j*
*lab*olv**

FRS15_90a; adapted (a) CIELAB data

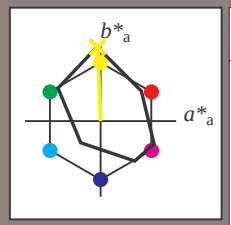
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.256$

$u^*_e = j00g$
lab^*olv^*

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = j00g$ $u^*_d = o98y$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

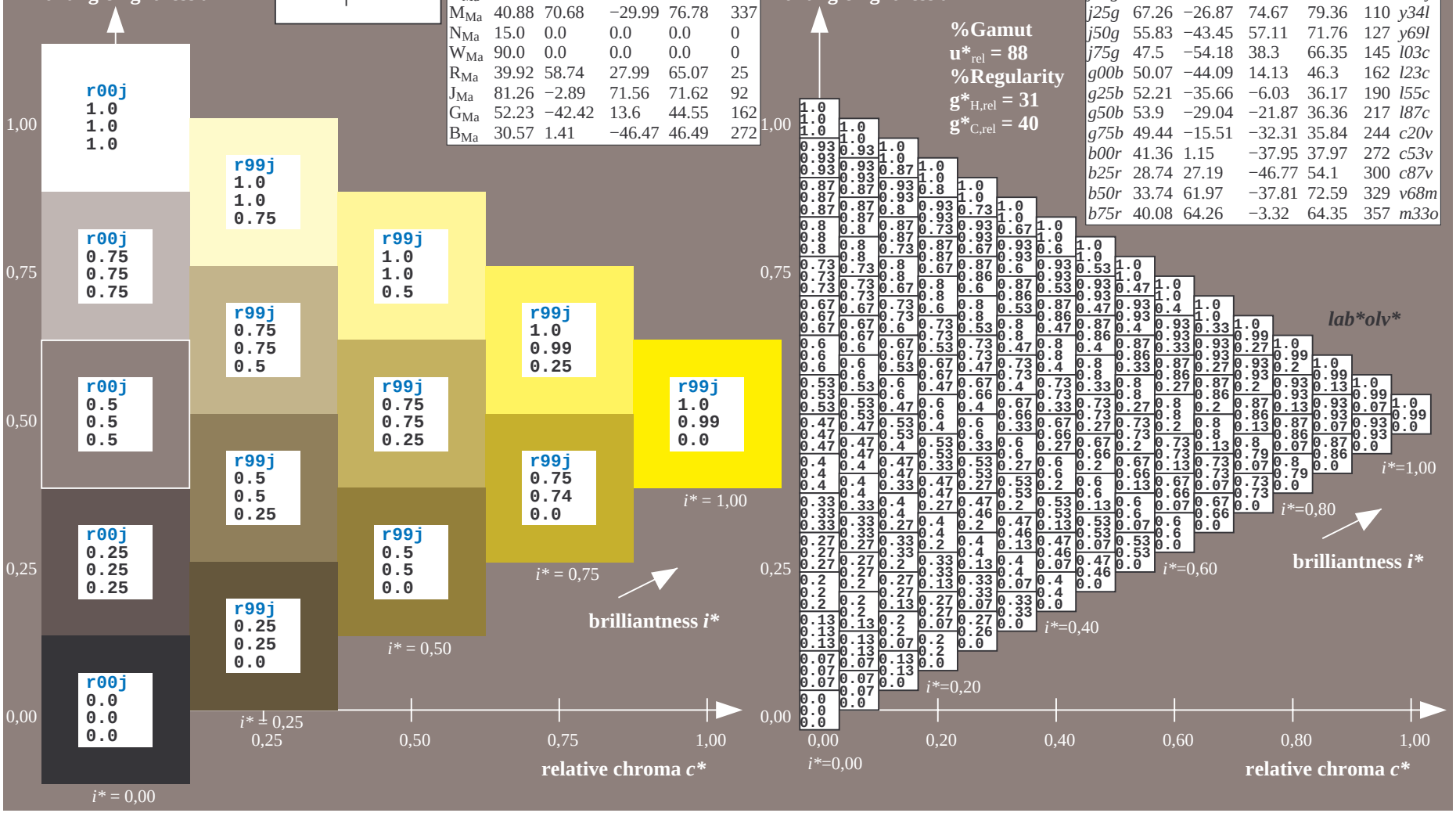
	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

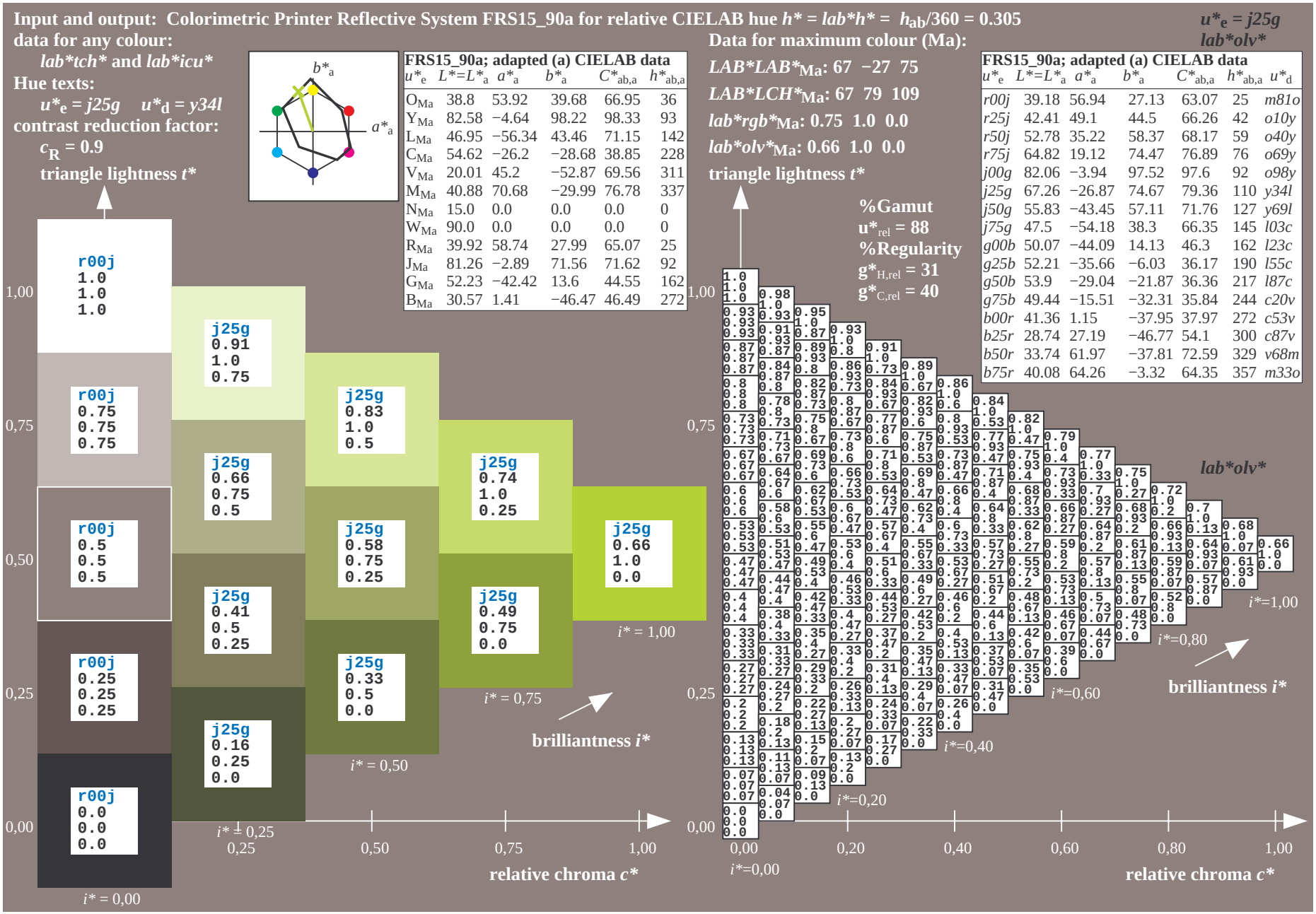
Data for maximum colour (Ma):
LAB*LAB**Ma: 82 −4 98
LAB*LCH**Ma: 82 98 92
lab*rgb**Ma: 1.0 1.0 0.0
lab*olv**Ma: 1.0 0.99 0.0
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

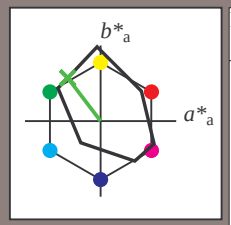
	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25		*m81o*
r25j	42.41	49.1	44.5	66.26	42		*o10y*
r50j	52.78	35.22	58.37	68.17	59		*o40y*
r75j	64.82	19.12	74.47	76.89	76		*o69y*
j00g	82.06	−3.94	97.52	97.6	92		*o98y*
j25g	67.26	−26.87	74.67	79.36	110		*y34l*
j50g	55.83	−43.45	57.11	71.76	127		*y69l*
j75g	47.5	−54.18	38.3	66.35	145		*l03c*
g00b	50.07	−44.09	14.13	46.3	162		*l23c*
g25b	52.21	−35.66	−6.03	36.17	190		*l55c*
g50b	53.9	−29.04	−21.87	36.36	217		*l87c*
g75b	49.44	−15.51	−32.31	35.84	244		*c20v*
b00r	41.36	1.15	−37.95	37.97	272		*c53v*
b25r	28.74	27.19	−46.77	54.1	300		*c87v*
b50r	33.74	61.97	−37.81	72.59	329		*v68m*
b75r	40.08	64.26	−3.32	64.35	357		*m33o*




Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue h* = lab*h* = hab/360 = 0.305
data for any colour:
lab*tch* and lab*icu*
Hue texts:
u*e = j25g u*d = y34l
contrast reduction factor:
cR = 0.9
triangle lightness t*
b*a
a*a
FRS15_90a; adapted (a) CIELAB data
u*e L*=L*a a*a b*a C*ab,a h*ab,a
OMa 38.8 53.92 39.68 66.95 36
YMa 82.58 −4.64 98.22 98.33 93
LMa 46.95 −56.34 43.46 71.15 142
CMa 54.62 −26.2 −28.68 38.85 228
VMa 20.01 45.2 −52.87 69.56 311
MMa 40.88 70.68 −29.99 76.78 337
NMa 15.0 0.0 0.0 0.0 0
WMa 90.0 0.0 0.0 0.0 0
RMa 39.92 58.74 27.99 65.07 25
JMa 81.26 −2.89 71.56 71.62 92
GMa 52.23 −42.42 13.6 44.55 162
BMa 30.57 1.41 −46.47 46.49 272
r00j 1.0 1.0 1.0
r00j 0.75 0.75 0.75
r00j 0.5 0.5 0.5
r00j 0.25 0.25 0.25
r00j 0.0 0.0 0.0
j25g 0.91 1.0 0.75
j25g 0.66 0.75 0.5
j25g 0.41 0.5 0.25
j25g 0.16 0.25 0.0
j25g 0.83 1.0 0.5
j25g 0.58 0.75 0.25
j25g 0.33 0.5 0.0
j25g 0.74 1.0 0.25
j25g 0.49 0.75 0.0
j25g 0.66 1.0 0.0
1,00
0,75
0,50
0,25
0,00
i* = 0,00
i* ± 0,25
i* = 0,50
i* = 0,75
i* = 1,00
0,25
0,50
0,75
1,00
relative chroma c*
brilliantness i*
u*e = j25g
lab*olv*
Data for maximum colour (Ma):
LAB*LAB*Ma: 67 −27 75
LAB*LCH*Ma: 67 79 109
lab*rgb*Ma: 0.75 1.0 0.0
lab*olv*Ma: 0.66 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
u*e L*=L*a a*a b*a C*ab,a h*ab,a u*d
r00j 39.18 56.94 27.13 63.07 25 m81o
r25j 42.41 49.1 44.5 66.26 42 o10y
r50j 52.78 35.22 58.37 68.17 59 o40y
r75j 64.82 19.12 74.47 76.89 76 o69y
j00g 82.06 −3.94 97.52 97.6 92 o98y
j25g 67.26 −26.87 74.67 79.36 110 y34l
j50g 55.83 −43.45 57.11 71.76 127 y69l
j75g 47.5 −54.18 38.3 66.35 145 l03c
g00b 50.07 −44.09 14.13 46.3 162 l23c
g25b 52.21 −35.66 −6.03 36.17 190 l55c
g50b 53.9 −29.04 −21.87 36.36 217 l87c
g75b 49.44 −15.51 −32.31 35.84 244 c20v
b00r 41.36 1.15 −37.95 37.97 272 c53v
b25r 28.74 27.19 −46.77 54.1 300 c87v
b50r 33.74 61.97 −37.81 72.59 329 v68m
b75r 40.08 64.26 −3.32 64.35 357 m33o
lab*olv*
i*=1,00
i*=0,80
i*=0,60
i*=0,40
i*=0,20
i*=0,00
0,20
0,40
0,60
0,80
1,00
relative chroma c*
brilliantness i*

Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.354$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j50g* u^*_d = *y69l*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

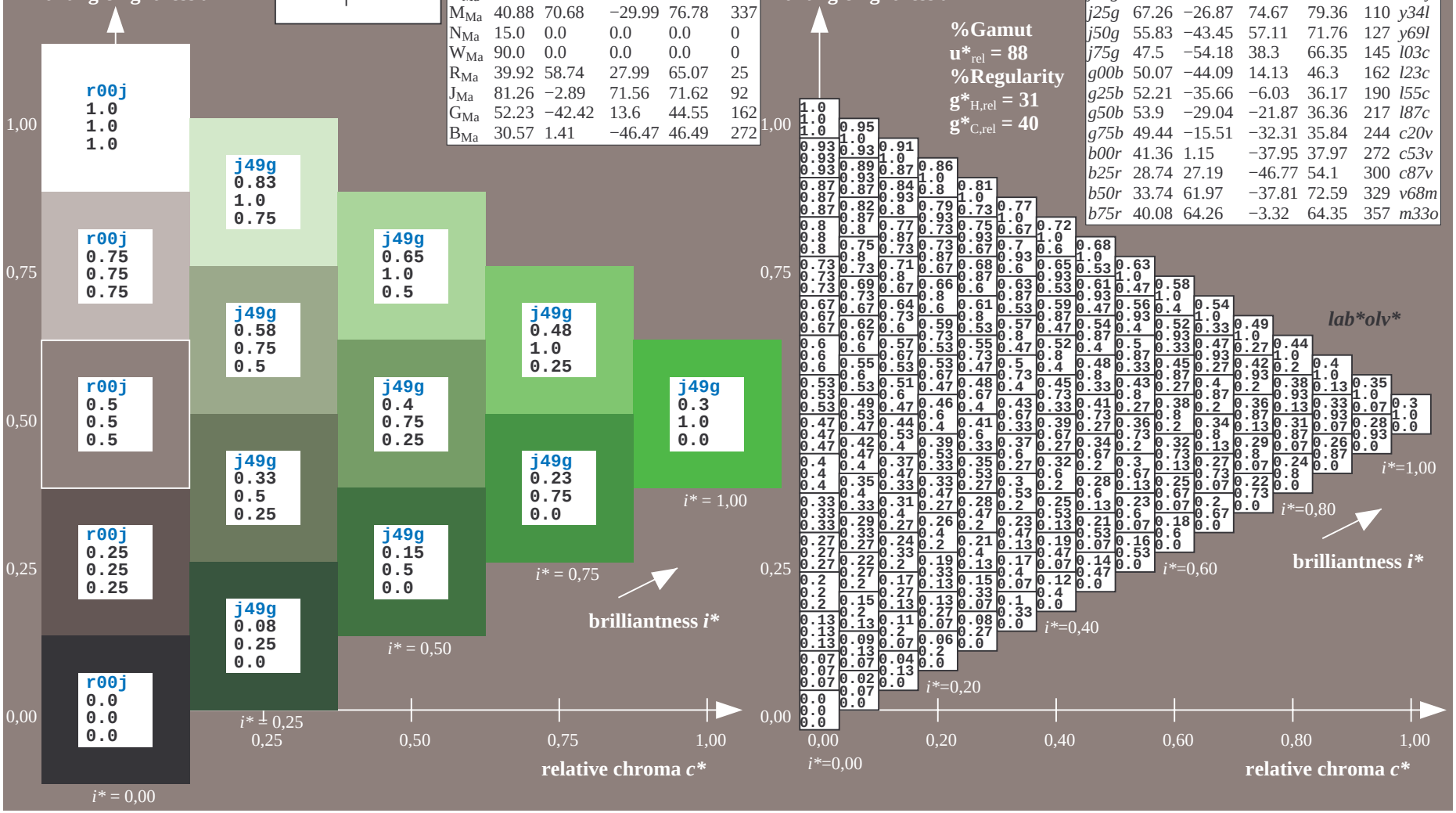
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 56 −43 57
LAB*LCH*$_{Ma}$: 56 72 127
lab*rgb*$_{Ma}$: 0.5 1.0 0.0
lab*olv*$_{Ma}$: 0.3 1.0 0.0
triangle lightness *t**

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

u^*_e = *j50g*
lab*olv*

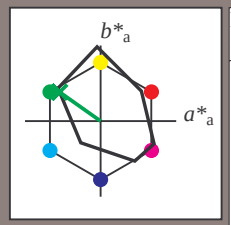
FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25		*m81o*
r25j	42.41	49.1	44.5	66.26	42		*o10y*
r50j	52.78	35.22	58.37	68.17	59		*o40y*
r75j	64.82	19.12	74.47	76.89	76		*o69y*
j00g	82.06	−3.94	97.52	97.6	92		*o98y*
j25g	67.26	−26.87	74.67	79.36	110		*y34l*
j50g	55.83	−43.45	57.11	71.76	127		*y69l*
j75g	47.5	−54.18	38.3	66.35	145		*l03c*
g00b	50.07	−44.09	14.13	46.3	162		*l23c*
g25b	52.21	−35.66	−6.03	36.17	190		*l55c*
g50b	53.9	−29.04	−21.87	36.36	217		*l87c*
g75b	49.44	−15.51	−32.31	35.84	244		*c20v*
b00r	41.36	1.15	−37.95	37.97	272		*c53v*
b25r	28.74	27.19	−46.77	54.1	300		*c87v*
b50r	33.74	61.97	−37.81	72.59	329		*v68m*
b75r	40.08	64.26	−3.32	64.35	357		*m33o*



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *j75g* u^*_d = *l03c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

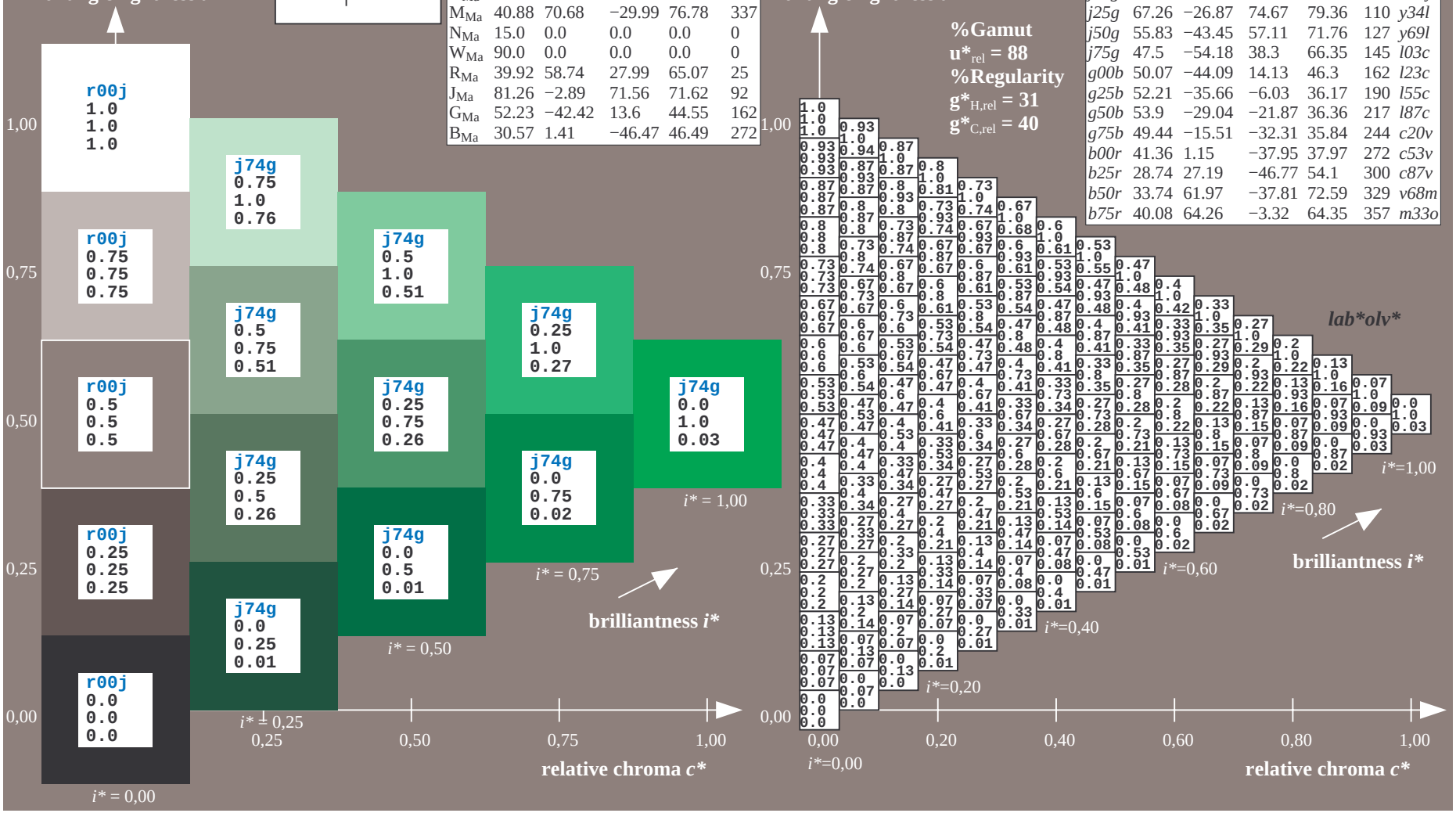
Data for maximum colour (Ma):
***LAB*LAB**$_{Ma}$: 48 −54 38**
***LAB*LCH**$_{Ma}$: 48 66 144**
***lab*rgb**$_{Ma}$: 0.25 1.0 0.0**
***lab*olv**$_{Ma}$: 0.0 1.0 0.03**
triangle lightness *t**

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

u^*_e = *j75g*
lab*olv*

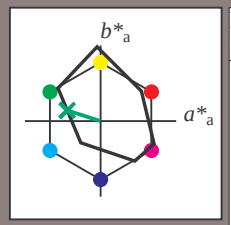
FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25		*m81o*
r25j	42.41	49.1	44.5	66.26	42		*o10y*
r50j	52.78	35.22	58.37	68.17	59		*o40y*
r75j	64.82	19.12	74.47	76.89	76		*o69y*
j00g	82.06	−3.94	97.52	97.6	92		*o98y*
j25g	67.26	−26.87	74.67	79.36	110		*y34l*
j50g	55.83	−43.45	57.11	71.76	127		*y69l*
j75g	47.5	−54.18	38.3	66.35	145		*l03c*
g00b	50.07	−44.09	14.13	46.3	162		*l23c*
g25b	52.21	−35.66	−6.03	36.17	190		*l55c*
g50b	53.9	−29.04	−21.87	36.36	217		*l87c*
g75b	49.44	−15.51	−32.31	35.84	244		*c20v*
b00r	41.36	1.15	−37.95	37.97	272		*c53v*
b25r	28.74	27.19	−46.77	54.1	300		*c87v*
b50r	33.74	61.97	−37.81	72.59	329		*v68m*
b75r	40.08	64.26	−3.32	64.35	357		*m33o*



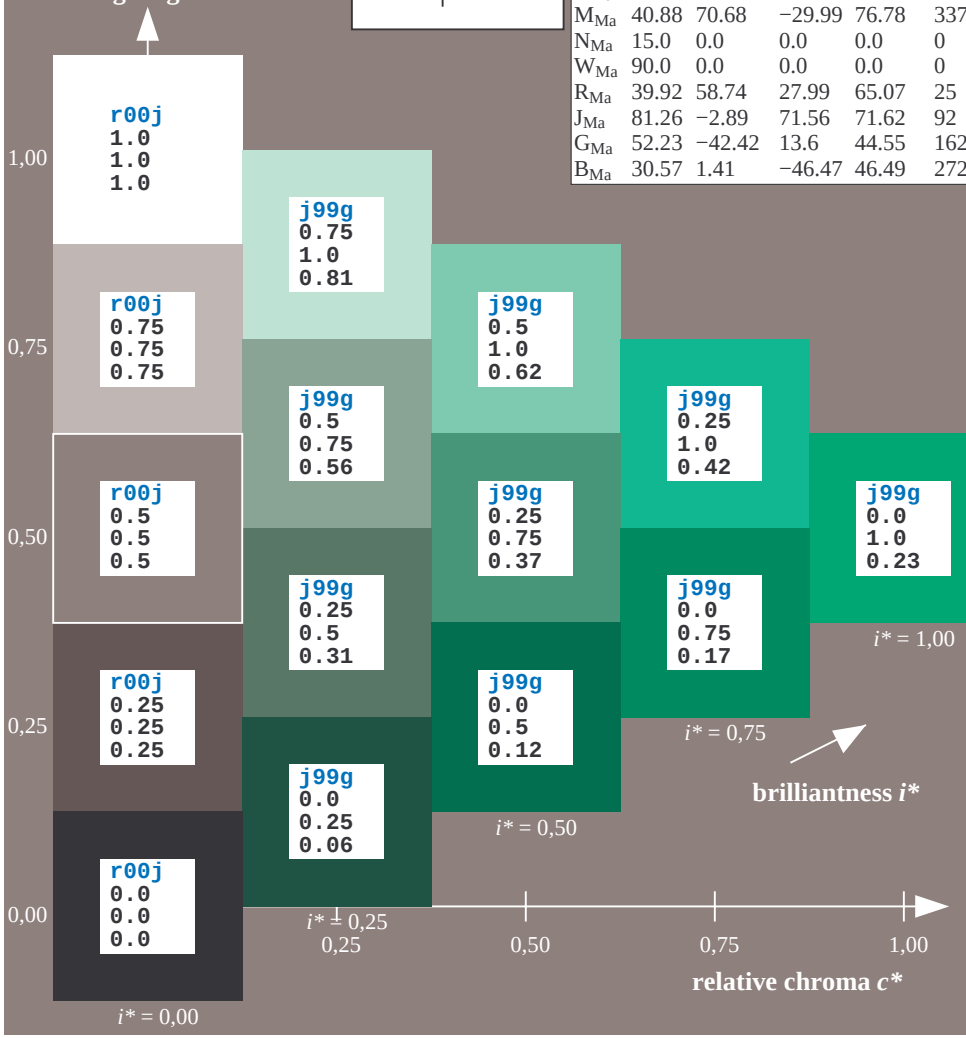
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.451$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *g00b* u^*_d = *l23c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	



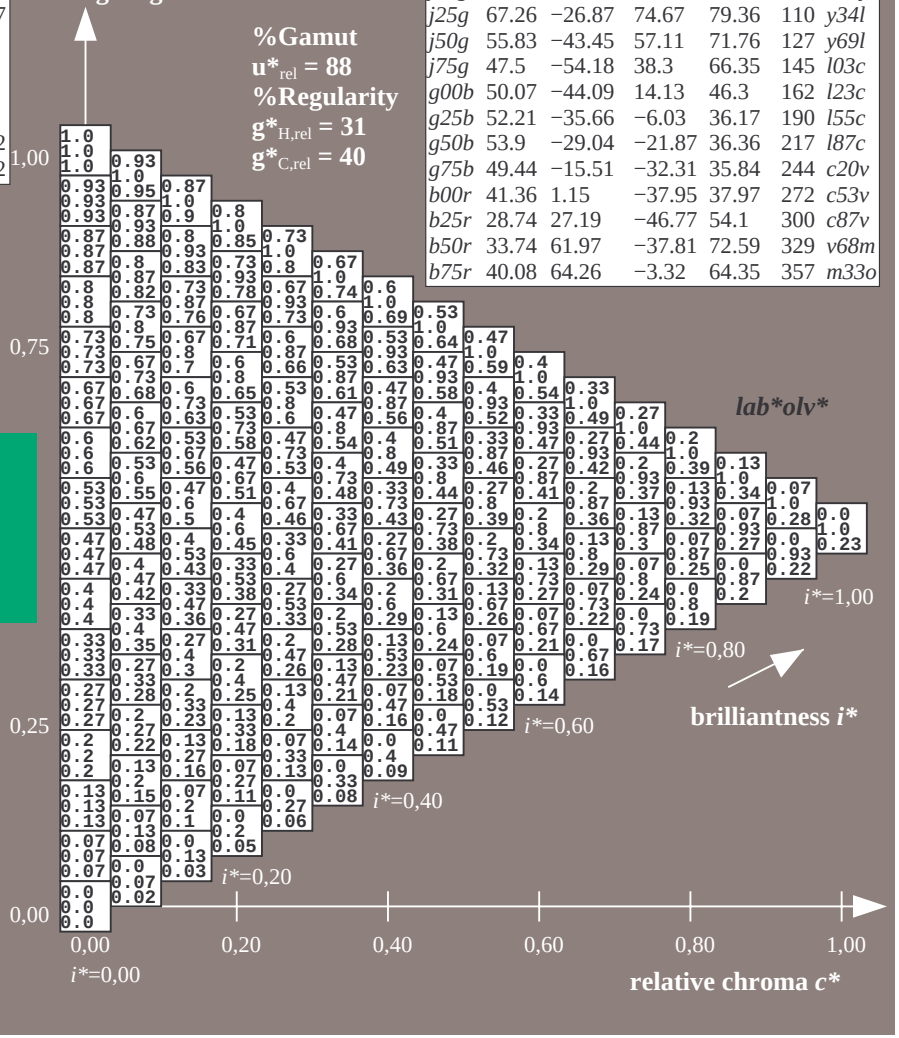
u^*_e = *g00b*
lab*olv*

Data for maximum colour (Ma):
***LAB*LAB**Ma*: 50 −44 14**
***LAB*LCH**Ma*: 50 46 162**
***lab*rgb**Ma*: 0.0 1.0 0.0**
***lab*olv**Ma*: 0.0 1.0 0.23**
triangle lightness *t**

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

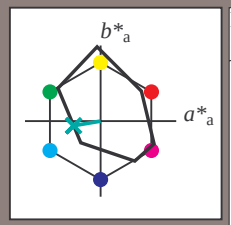
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *g25b* u^*_d = *l55c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

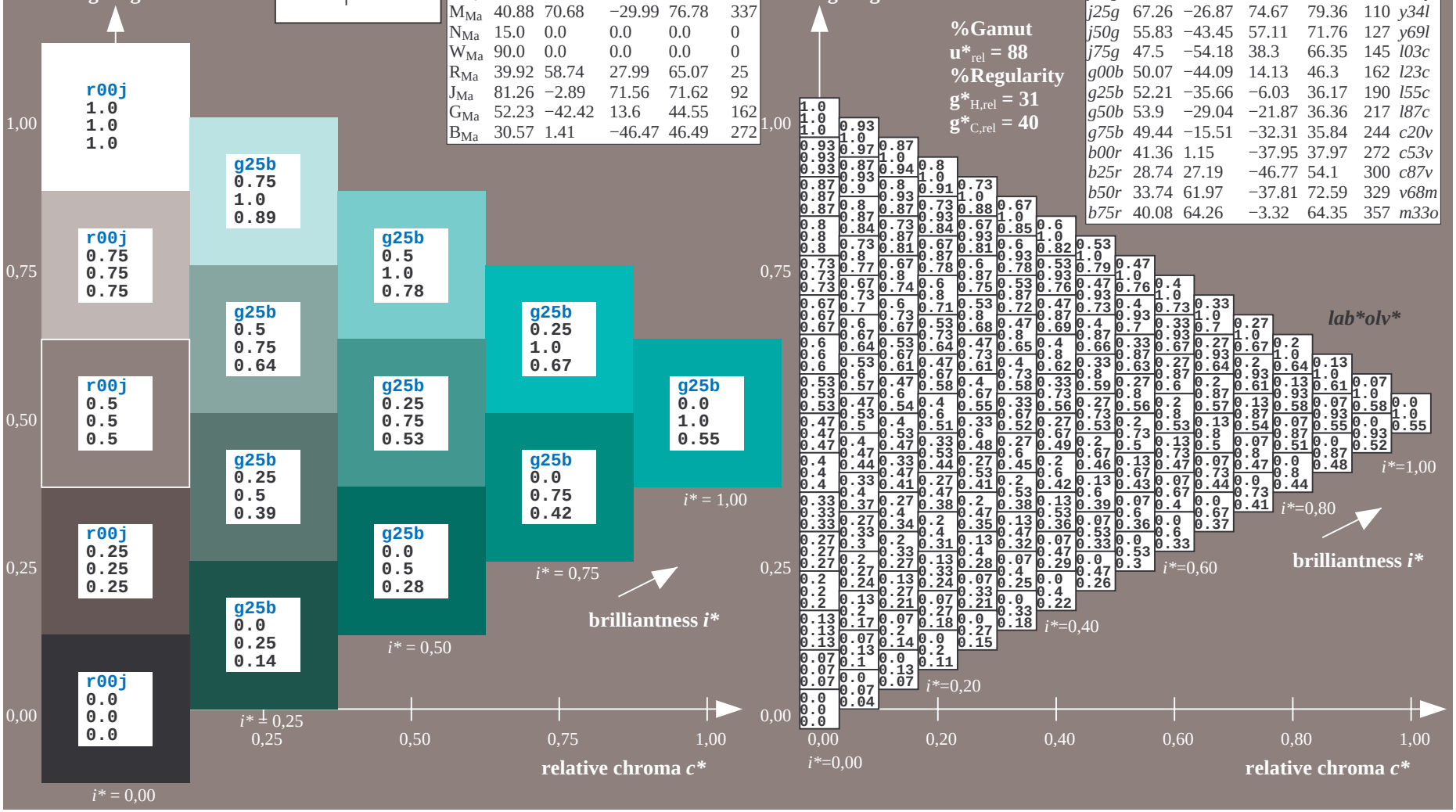
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 52 −36 −6
LAB*LCH*$_{Ma}$: 52 36 189
lab*rgb*$_{Ma}$: 0.0 1.0 0.5
lab*olv*$_{Ma}$: 0.0 1.0 0.55
triangle lightness *t**

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

u^*_e = *g25b*
lab*olv*

FRS15_90a; adapted (a) CIELAB data

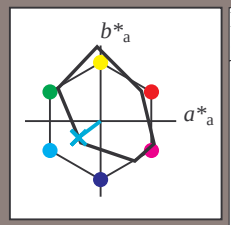
	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25		*m81o*
r25j	42.41	49.1	44.5	66.26	42		*o10y*
r50j	52.78	35.22	58.37	68.17	59		*o40y*
r75j	64.82	19.12	74.47	76.89	76		*o69y*
j00g	82.06	−3.94	97.52	97.6	92		*o98y*
j25g	67.26	−26.87	74.67	79.36	110		*y34l*
j50g	55.83	−43.45	57.11	71.76	127		*y69l*
j75g	47.5	−54.18	38.3	66.35	145		*l03c*
g00b	50.07	−44.09	14.13	46.3	162		*l23c*
g25b	52.21	−35.66	−6.03	36.17	190		*l55c*
g50b	53.9	−29.04	−21.87	36.36	217		*l87c*
g75b	49.44	−15.51	−32.31	35.84	244		*c20v*
b00r	41.36	1.15	−37.95	37.97	272		*c53v*
b25r	28.74	27.19	−46.77	54.1	300		*c87v*
b50r	33.74	61.97	−37.81	72.59	329		*v68m*
b75r	40.08	64.26	−3.32	64.35	357		*m33o*



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

$u^*_e = g50b$
lab^*olv^*

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = g50b$ $u^*_d = l87c$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

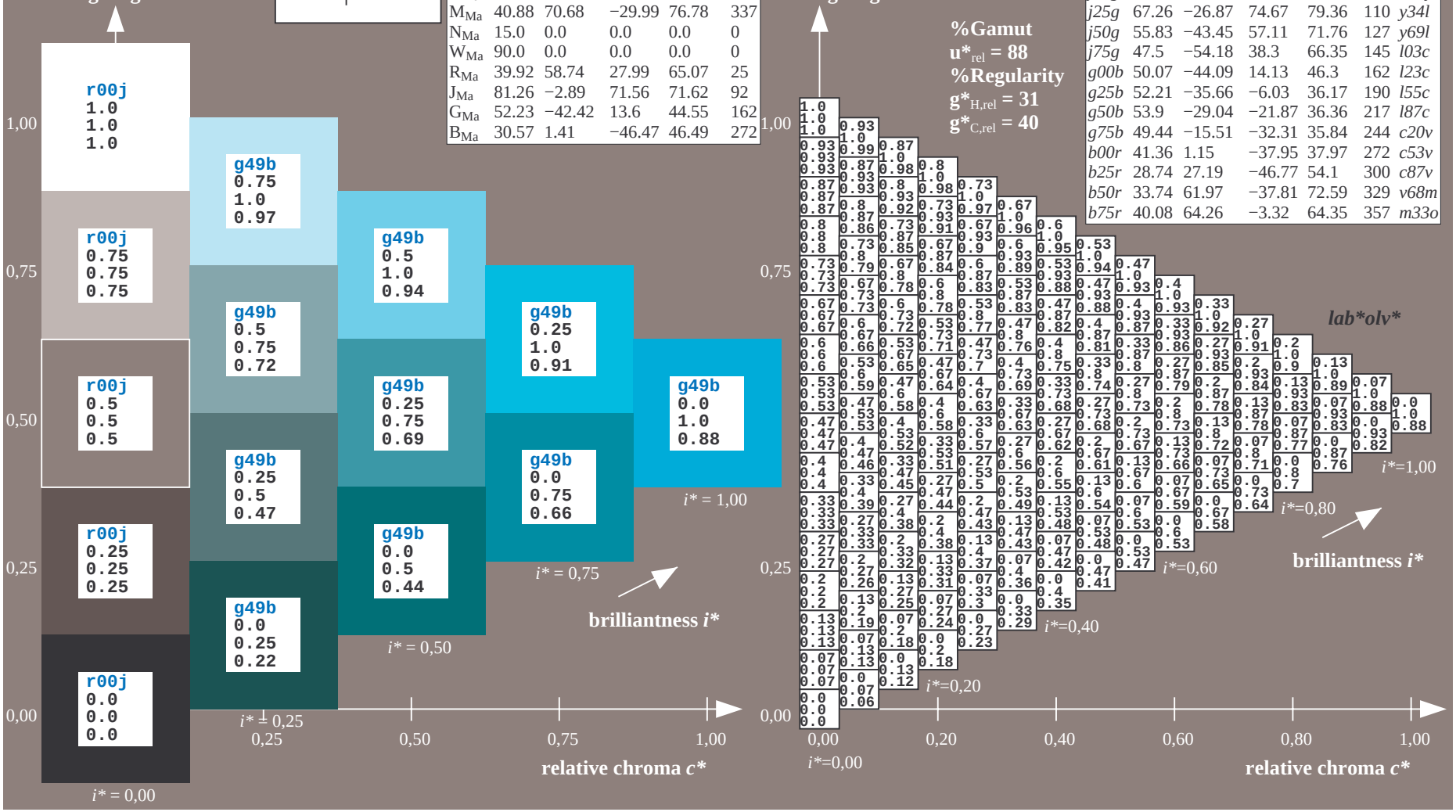
	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

Data for maximum colour (Ma):
***LAB*LAB**$_{Ma}$: 54 −29 −22**
***LAB*LCH**$_{Ma}$: 54 36 216**
***lab*rgb**$_{Ma}$: 0.0 1.0 1.0**
***lab*olv**$_{Ma}$: 0.0 1.0 0.88**
triangle lightness *t**

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

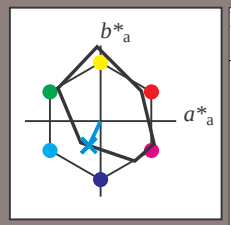
FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25		*m81o*
r25j	42.41	49.1	44.5	66.26	42		*o10y*
r50j	52.78	35.22	58.37	68.17	59		*o40y*
r75j	64.82	19.12	74.47	76.89	76		*o69y*
j00g	82.06	−3.94	97.52	97.6	92		*o98y*
j25g	67.26	−26.87	74.67	79.36	110		*y34l*
j50g	55.83	−43.45	57.11	71.76	127		*y69l*
j75g	47.5	−54.18	38.3	66.35	145		*l03c*
g00b	50.07	−44.09	14.13	46.3	162		*l23c*
g25b	52.21	−35.66	−6.03	36.17	190		*l55c*
g50b	53.9	−29.04	−21.87	36.36	217		*l87c*
g75b	49.44	−15.51	−32.31	35.84	244		*c20v*
b00r	41.36	1.15	−37.95	37.97	272		*c53v*
b25r	28.74	27.19	−46.77	54.1	300		*c87v*
b50r	33.74	61.97	−37.81	72.59	329		*v68m*
b75r	40.08	64.26	−3.32	64.35	357		*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.679$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *g75b* u^*_d = *c20v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

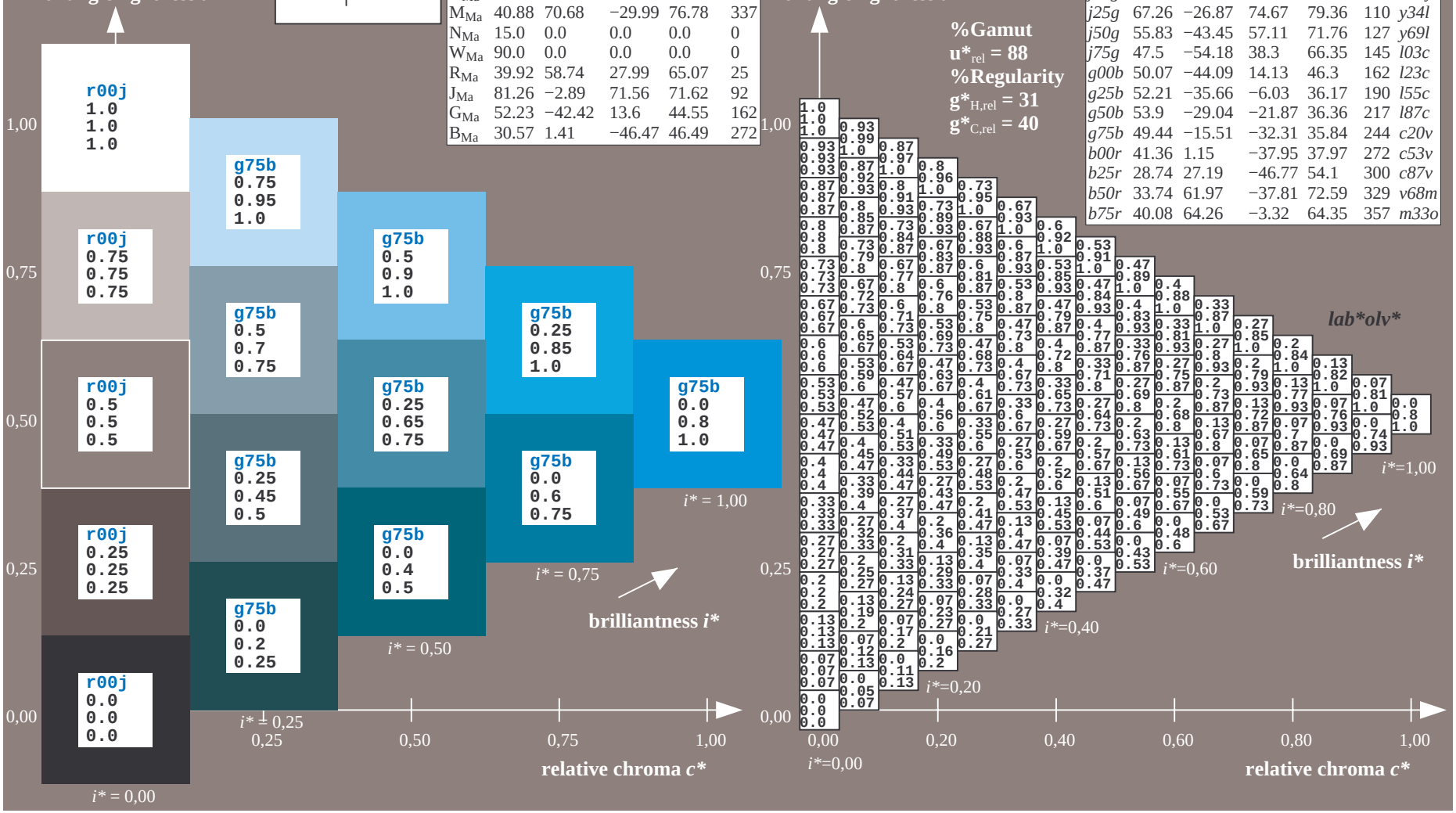
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB**$_{Ma}$: 49 −16 −32**
***LAB*LCH**$_{Ma}$: 49 36 244**
***lab*rgb**$_{Ma}$: 0.0 0.5 1.0**
***lab*olv**$_{Ma}$: 0.0 0.8 1.0**
triangle lightness *t**

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

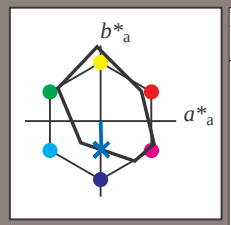
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *b00r* u^*_d = *c53v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

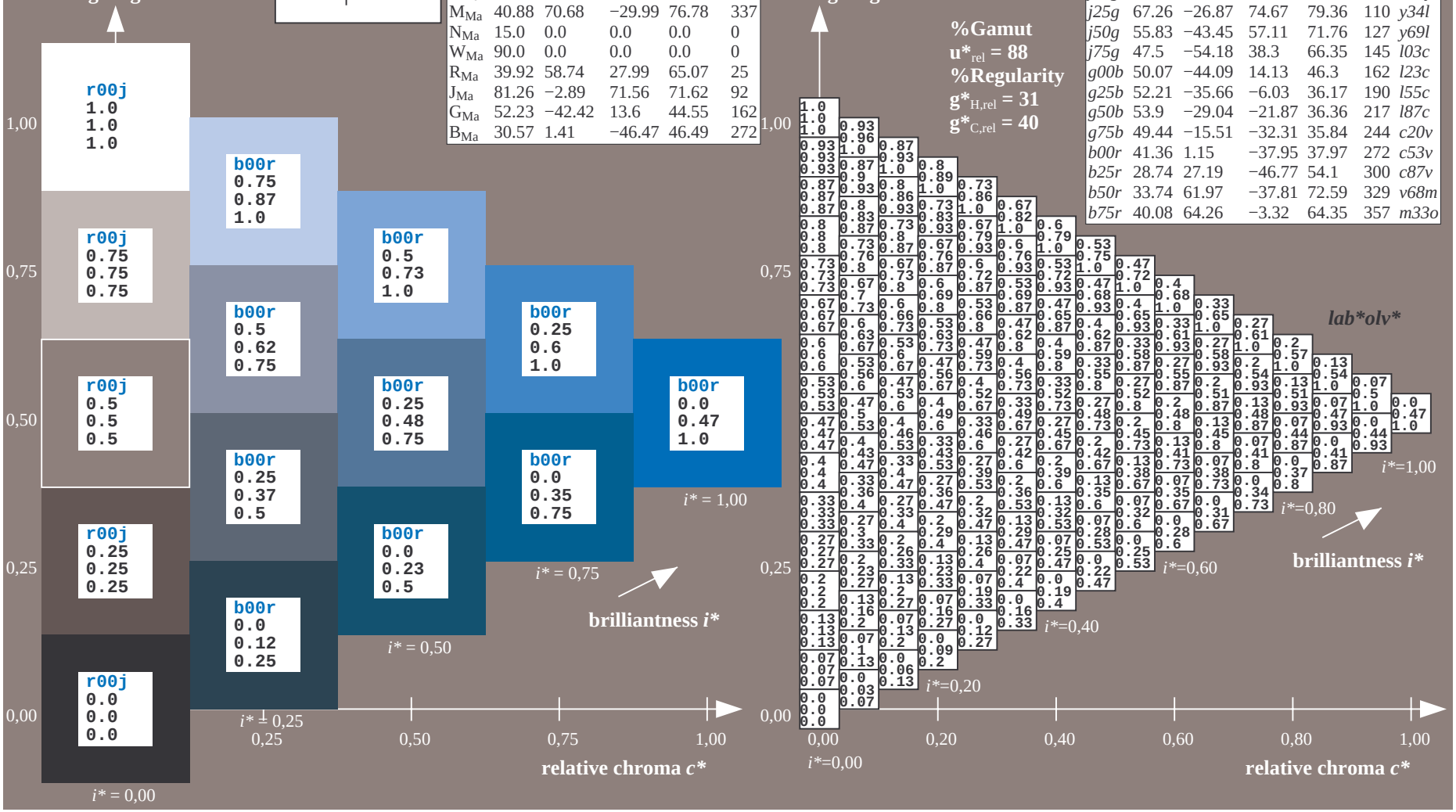
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 41 1 −38**
***LAB*LCH*Ma*: 41 38 271**
***lab*rgb*Ma*: 0.0 0.0 1.0**
***lab*olv*Ma*: 0.0 0.47 1.0**
triangle lightness *t**

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

u^*_e = *b00r*
lab*olv*

FRS15_90a; adapted (a) CIELAB data

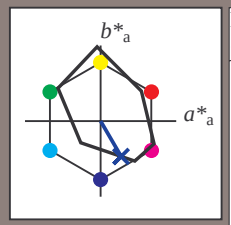
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

$u^*_e = b25r$
lab^*olv^*

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = b25r$ $u^*_d = c87v$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

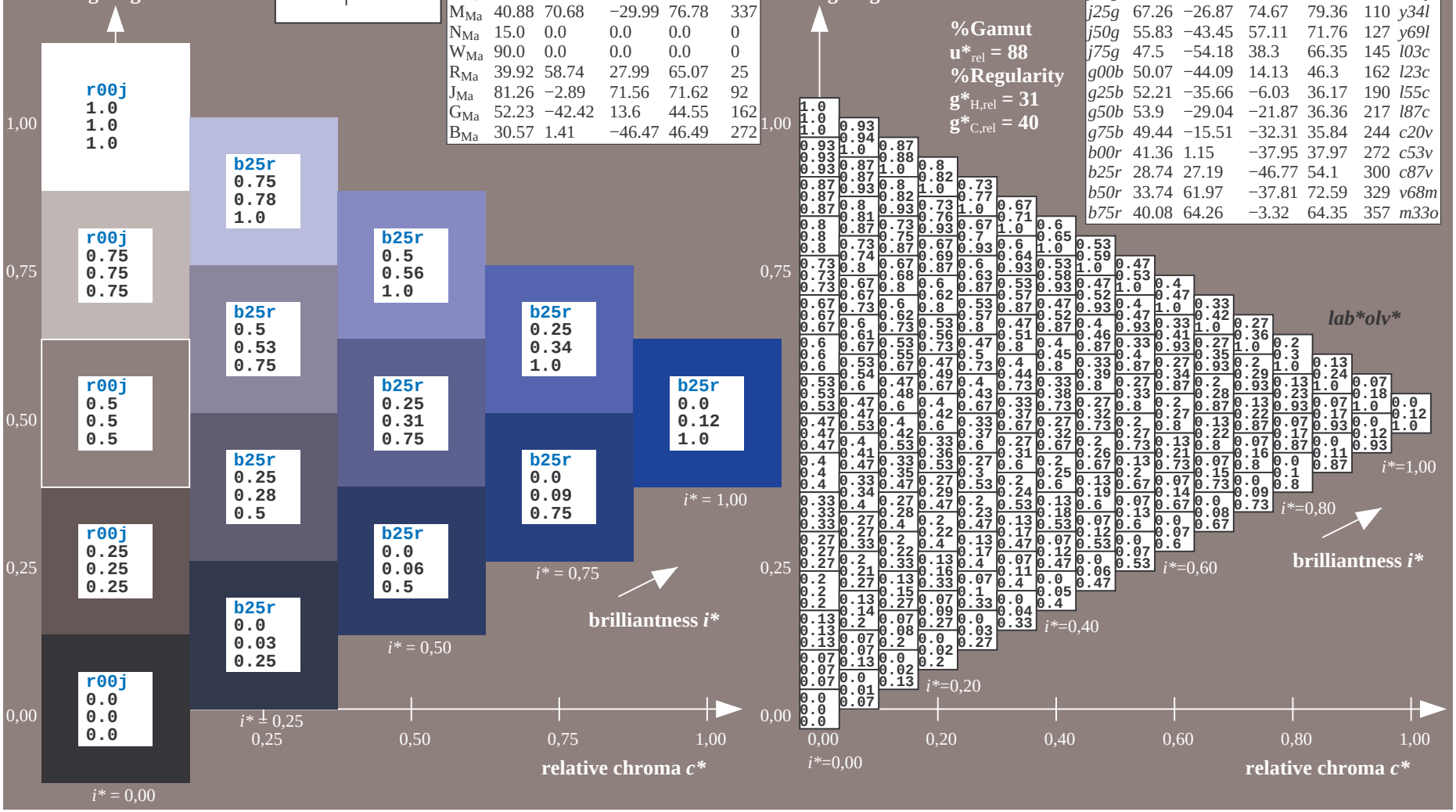
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB**Ma: 29 27 −47
LAB*LCH**Ma: 29 54 300
lab*rgb**Ma: 0.5 0.0 1.0
lab*olv**Ma: 0.0 0.12 1.0
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

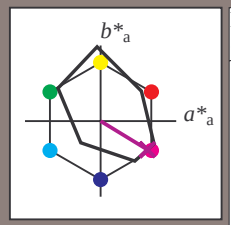
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.913$

$u^*_e = b50r$
lab^*olv^*

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = b50r$ $u^*_d = v68m$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

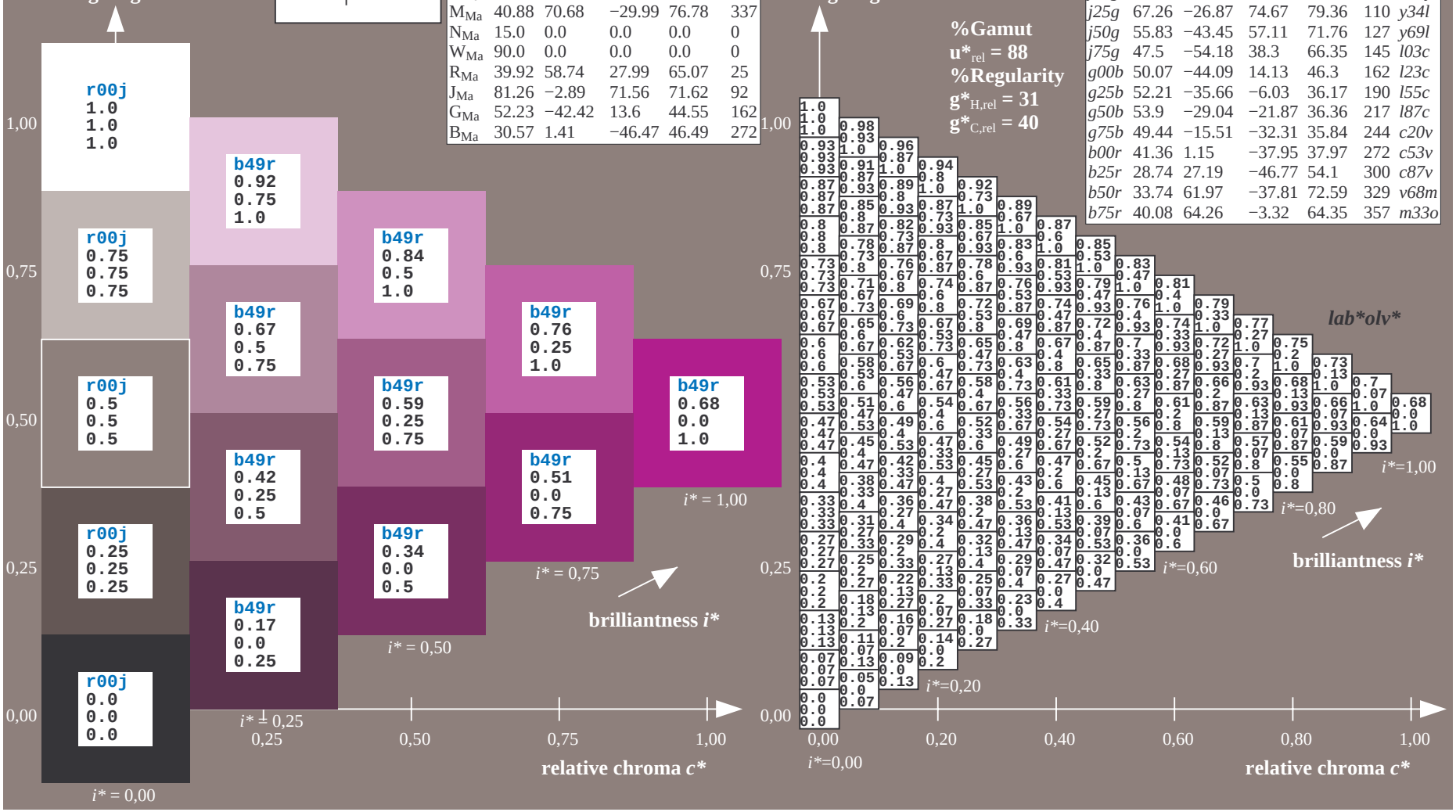
	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 34 62 −38**
***LAB*LCH*Ma*: 34 73 328**
***lab*rgb*Ma*: 1.0 0.0 1.0**
***lab*olv*Ma*: 0.68 0.0 1.0**
triangle lightness *t**

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

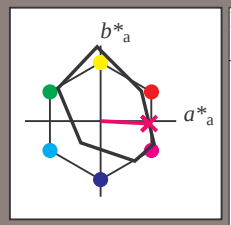
FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25		*m81o*
r25j	42.41	49.1	44.5	66.26	42		*o10y*
r50j	52.78	35.22	58.37	68.17	59		*o40y*
r75j	64.82	19.12	74.47	76.89	76		*o69y*
j00g	82.06	−3.94	97.52	97.6	92		*o98y*
j25g	67.26	−26.87	74.67	79.36	110		*y34l*
j50g	55.83	−43.45	57.11	71.76	127		*y69l*
j75g	47.5	−54.18	38.3	66.35	145		*l03c*
g00b	50.07	−44.09	14.13	46.3	162		*l23c*
g25b	52.21	−35.66	−6.03	36.17	190		*l55c*
g50b	53.9	−29.04	−21.87	36.36	217		*l87c*
g75b	49.44	−15.51	−32.31	35.84	244		*c20v*
b00r	41.36	1.15	−37.95	37.97	272		*c53v*
b25r	28.74	27.19	−46.77	54.1	300		*c87v*
b50r	33.74	61.97	−37.81	72.59	329		*v68m*
b75r	40.08	64.26	−3.32	64.35	357		*m33o*



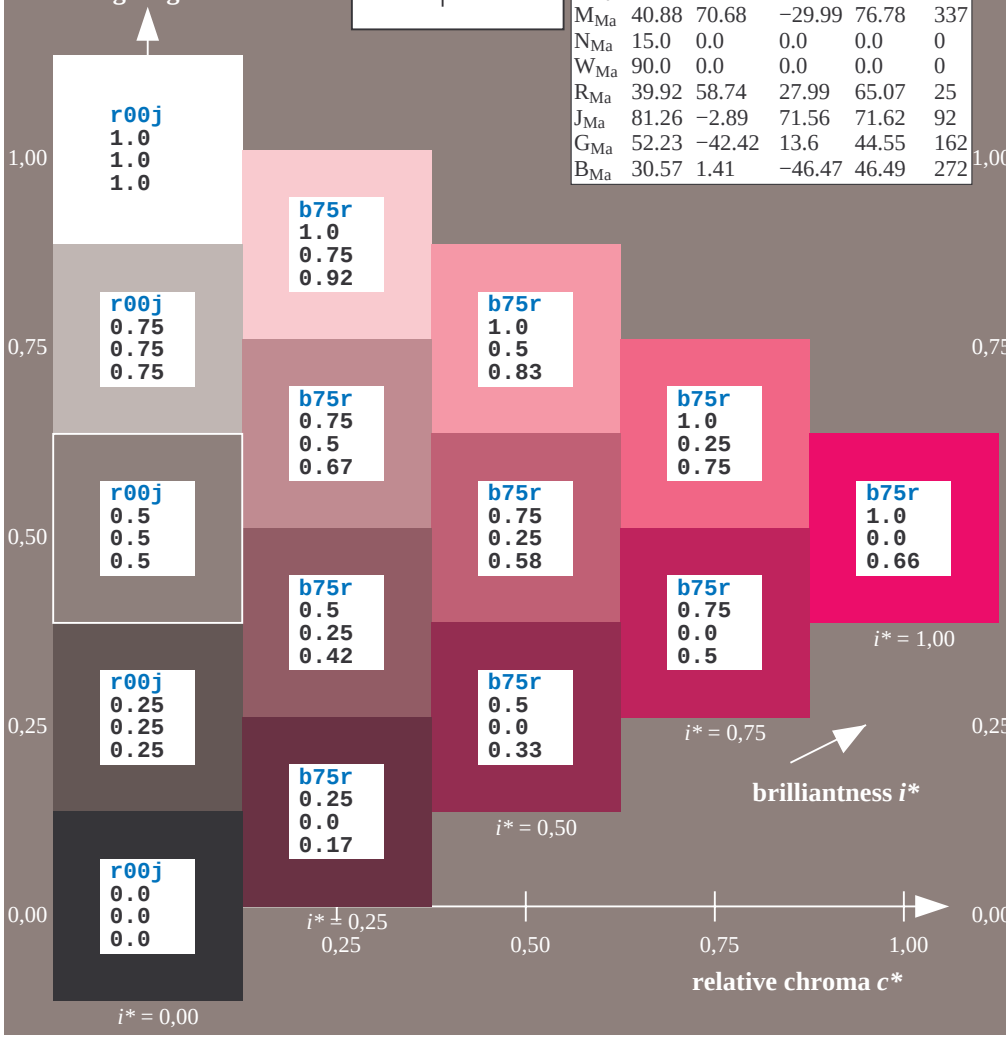
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.992$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *b75r* u^*_d = *m33o*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	



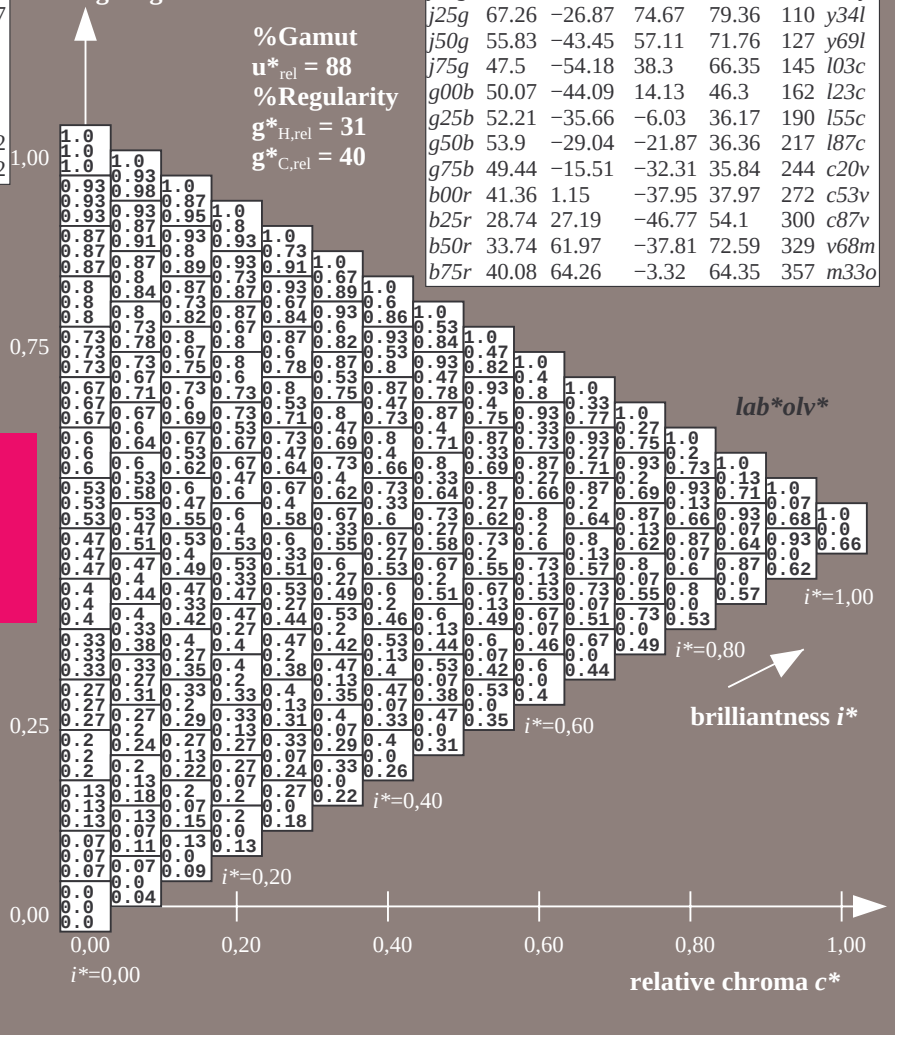
Data for maximum colour (Ma):
$LAB^*LAB^*_{Ma}$: 40 64 −3
$LAB^*LCH^*_{Ma}$: 40 64 357
$lab^*rgb^*_{Ma}$: 1.0 0.0 0.5
$lab^*olv^*_{Ma}$: 1.0 0.0 0.66
triangle lightness *t**

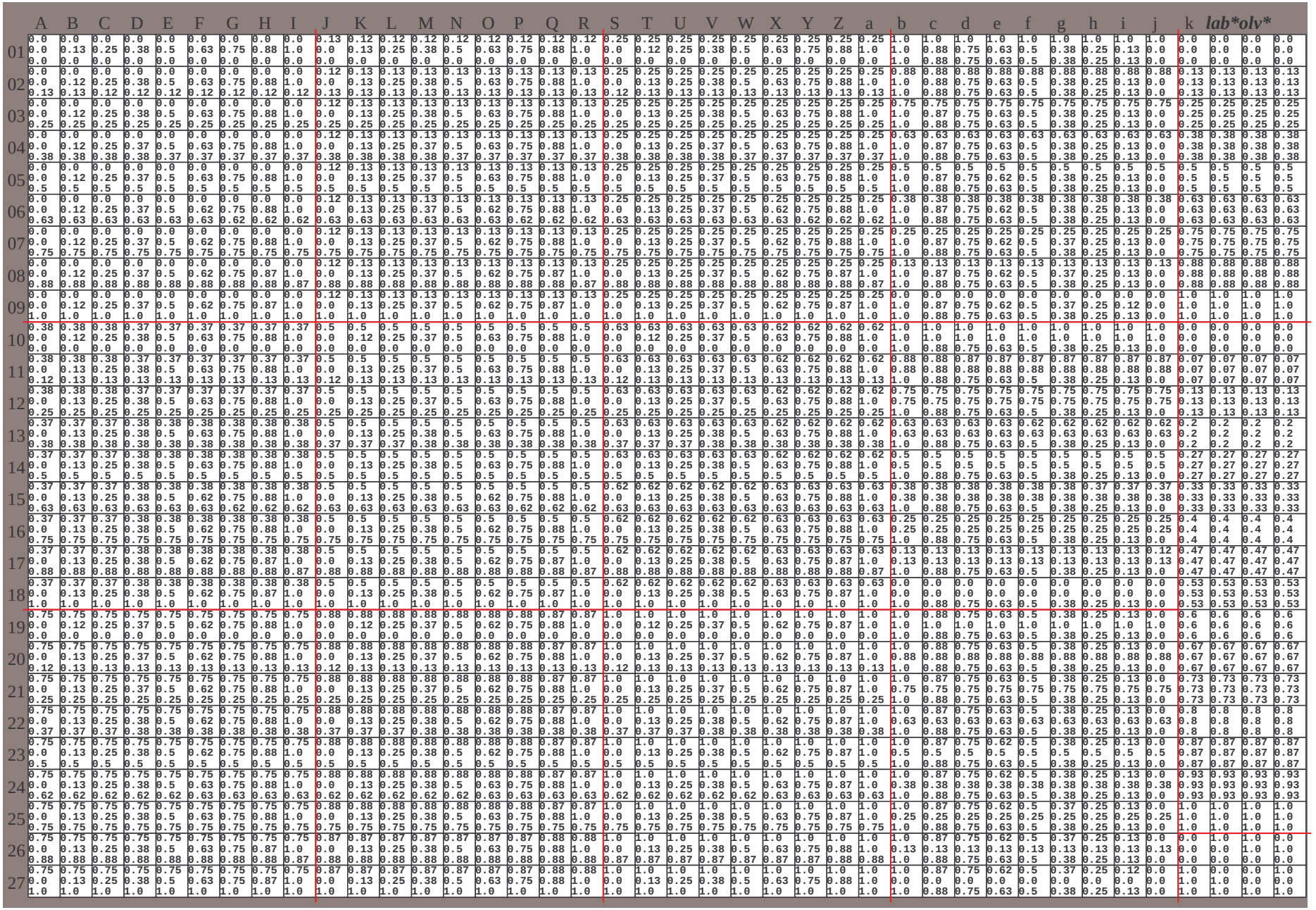
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

u^*_e = *b75r*
*lab*olv**

FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25		*m81o*
r25j	42.41	49.1	44.5	66.26	42		*o10y*
r50j	52.78	35.22	58.37	68.17	59		*o40y*
r75j	64.82	19.12	74.47	76.89	76		*o69y*
j00g	82.06	−3.94	97.52	97.6	92		*o98y*
j25g	67.26	−26.87	74.67	79.36	110		*y34l*
j50g	55.83	−43.45	57.11	71.76	127		*y69l*
j75g	47.5	−54.18	38.3	66.35	145		*l03c*
g00b	50.07	−44.09	14.13	46.3	162		*l23c*
g25b	52.21	−35.66	−6.03	36.17	190		*l55c*
g50b	53.9	−29.04	−21.87	36.36	217		*l87c*
g75b	49.44	−15.51	−32.31	35.84	244		*c20v*
b00r	41.36	1.15	−37.95	37.97	272		*c53v*
b25r	28.74	27.19	−46.77	54.1	300		*c87v*
b50r	33.74	61.97	−37.81	72.59	329		*v68m*
b75r	40.08	64.26	−3.32	64.35	357		*m33o*

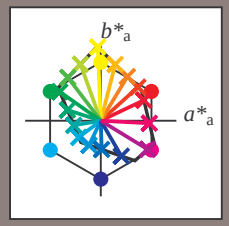



A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k
lab*olv*
01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27

Input and output:
Colorimetric Printer Reflective System FRS15_90a
data for any colour:
u^*_e and number *no.* = 00 .. 15
elementary hue text:
u^*_e = 16 hues *r00j, r25j, ..., b75r*
contrast reduction factor:
c_R = 0.9

FRS15_90a; adapted (a) CIELAB data

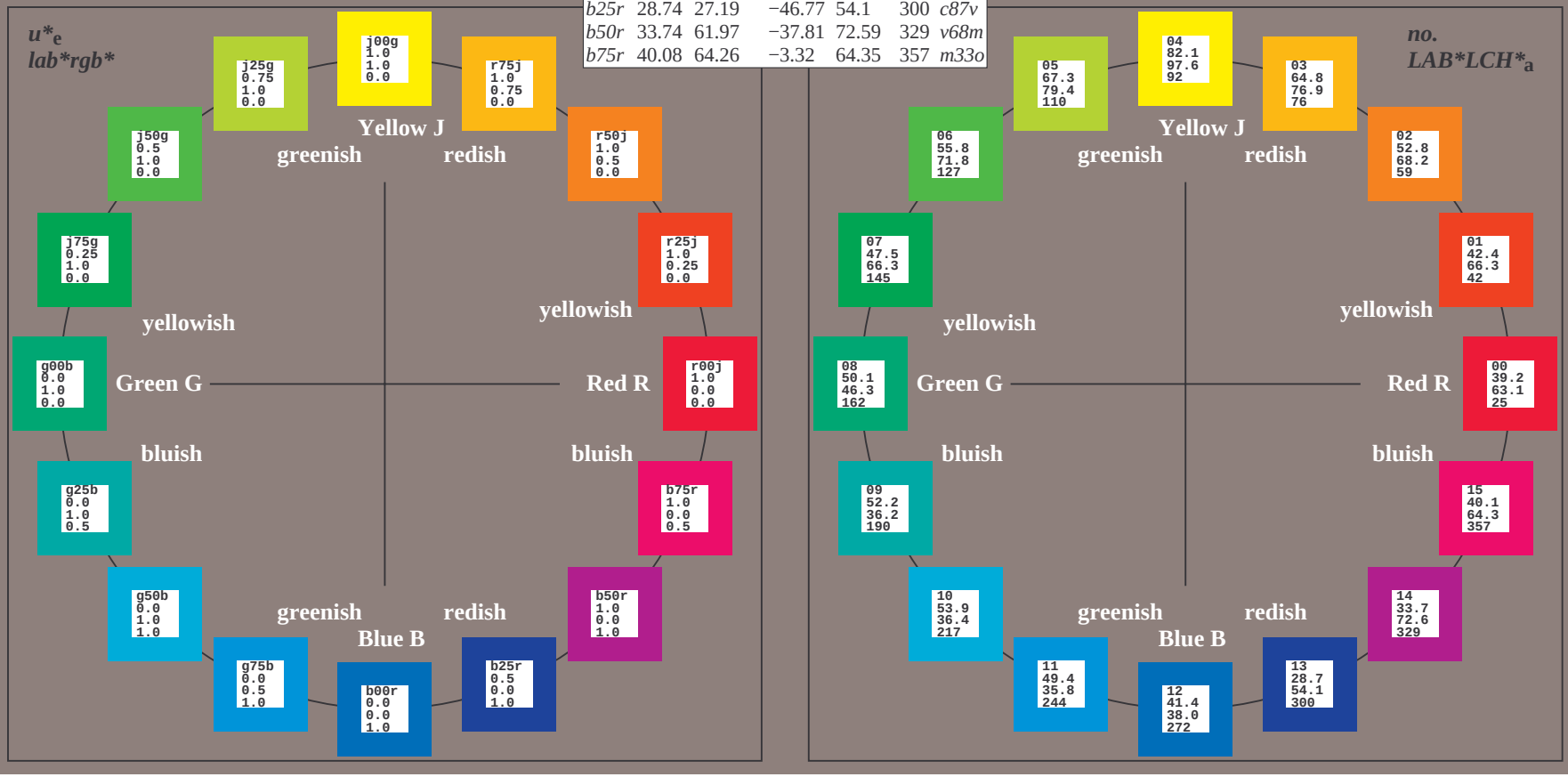
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

FRS15_90a; adapted (a) CIELAB data

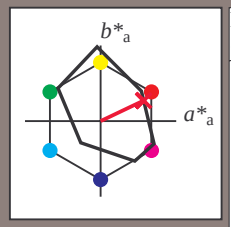
Name	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.89	71.56	71.62	92
G_{CIE}	52.23	−42.42	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.47	46.49	272



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

$u^*_e = r00j$
lab^*rgb^*

data for any colour:
lab^*tch^* and lab^*icu^*
Hue texts:
$u^*_e = r00j$ $u^*_d = m81o$
contrast reduction factor:
$c_R = 0.9$
triangle lightness t^*



FRS15_90a; adapted (a) CIELAB data

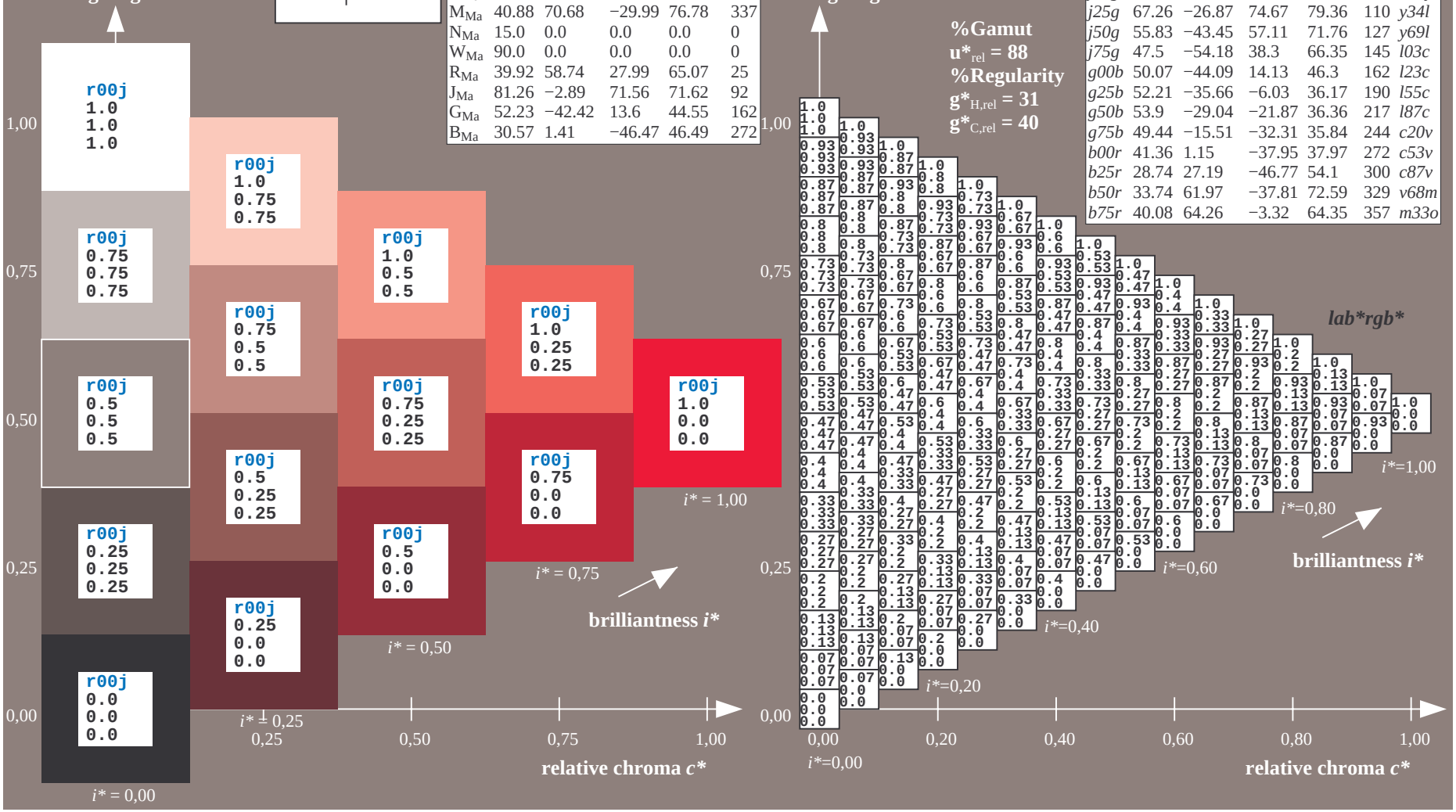
	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

Data for maximum colour (Ma):
$LAB^*LAB^*_{Ma}$: 39 57 27
$LAB^*LCH^*_{Ma}$: 39 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

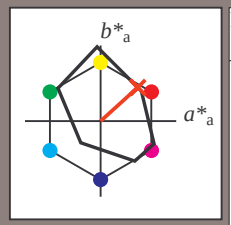
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.117$

$u^*_e = r25j$
lab^*rgb^*

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = r25j$ $u^*_d = o10y$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

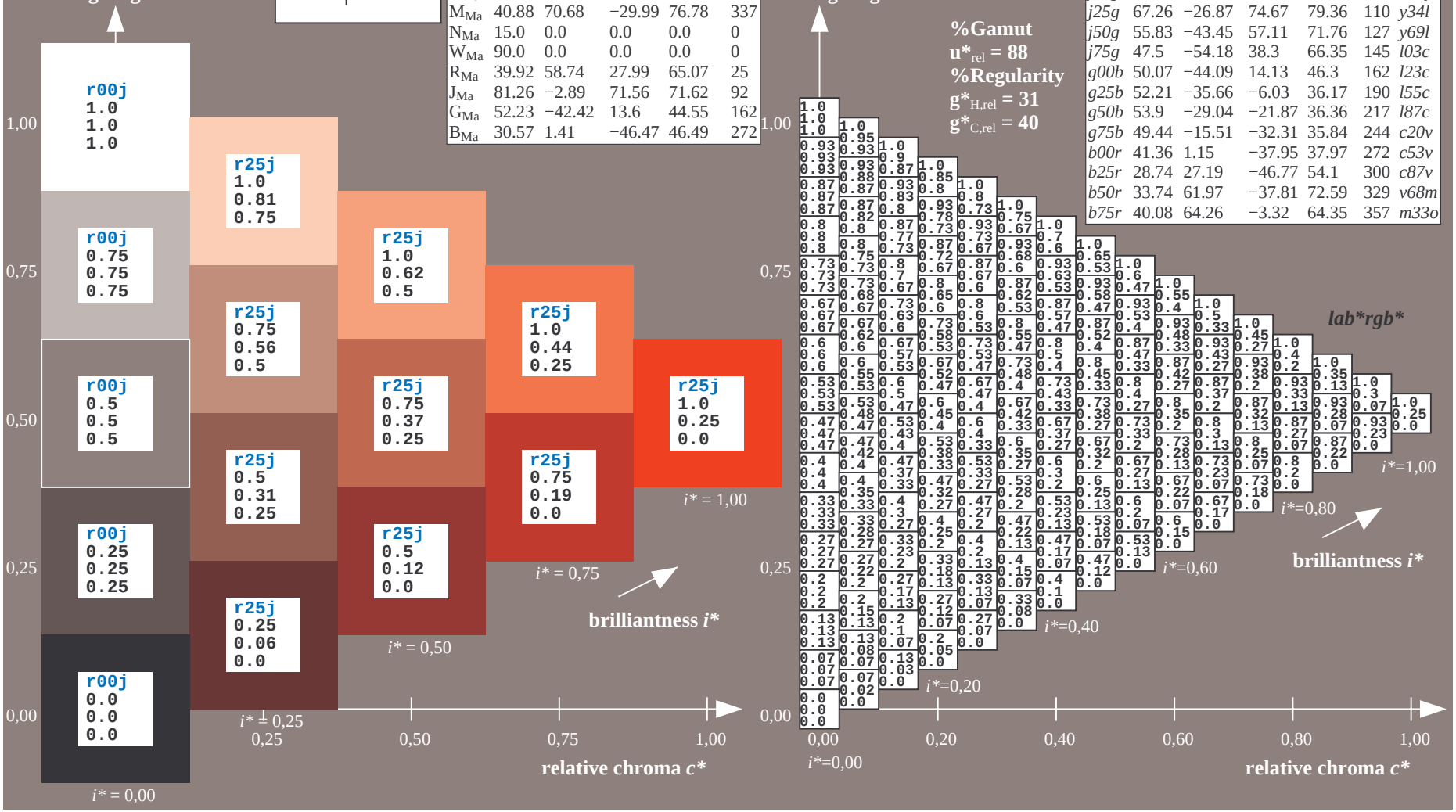
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 42 49 44**
***LAB*LCH*Ma*: 42 66 42**
***lab*rgb*Ma*: 1.0 0.25 0.0**
***lab*olv*Ma*: 1.0 0.1 0.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

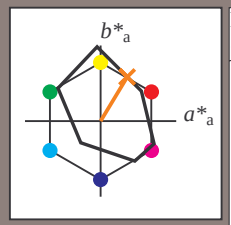
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

$u^*_e = r50j$
lab^*rgb^*

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = r50j$ $u^*_d = o40y$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

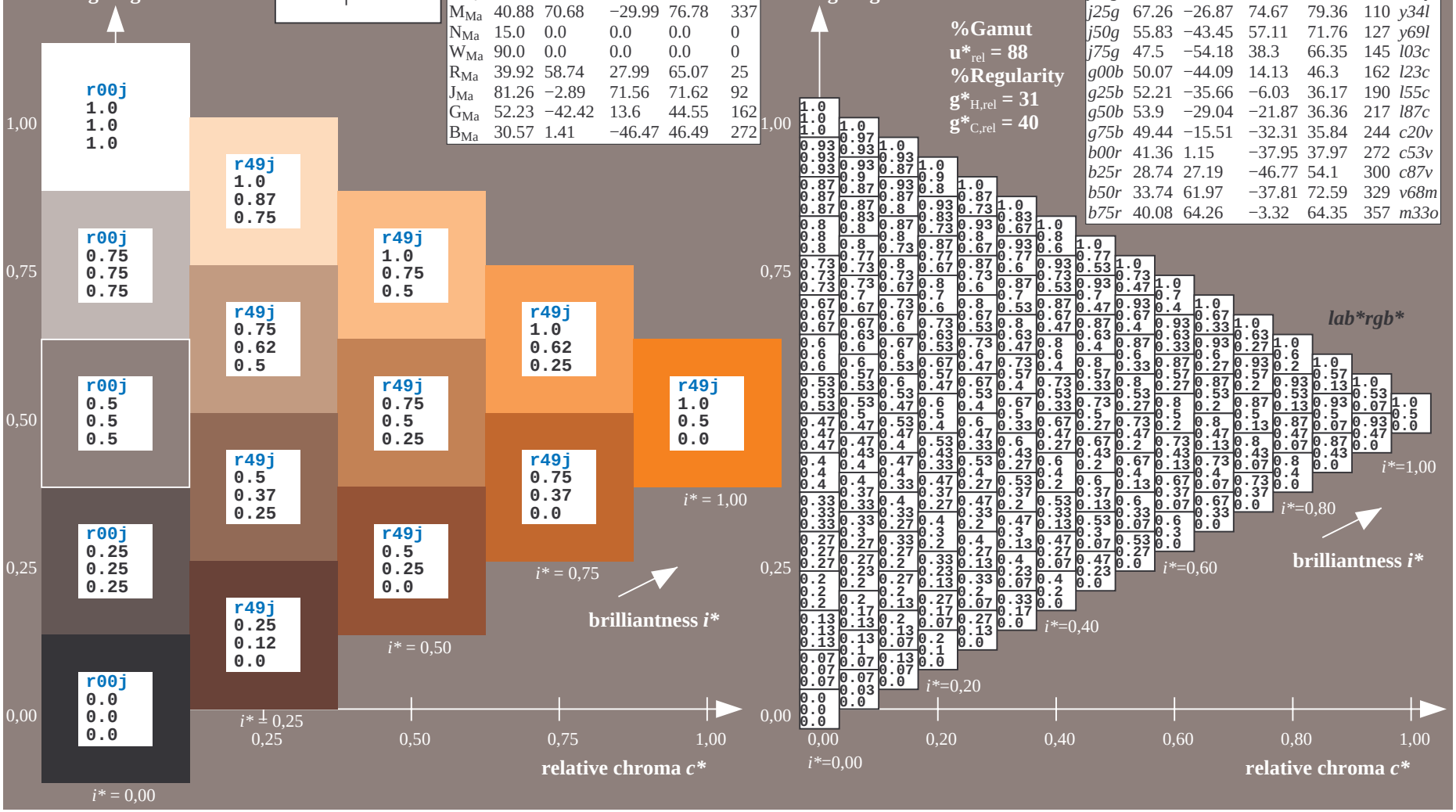
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 53 35 58**
***LAB*LCH*Ma*: 53 68 58**
***lab*rgb*Ma*: 1.0 0.5 0.0**
***lab*olv*Ma*: 1.0 0.4 0.0**
triangle lightness *t**

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

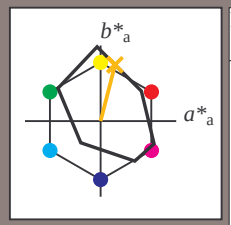
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *r75j* u^*_d = *o69y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

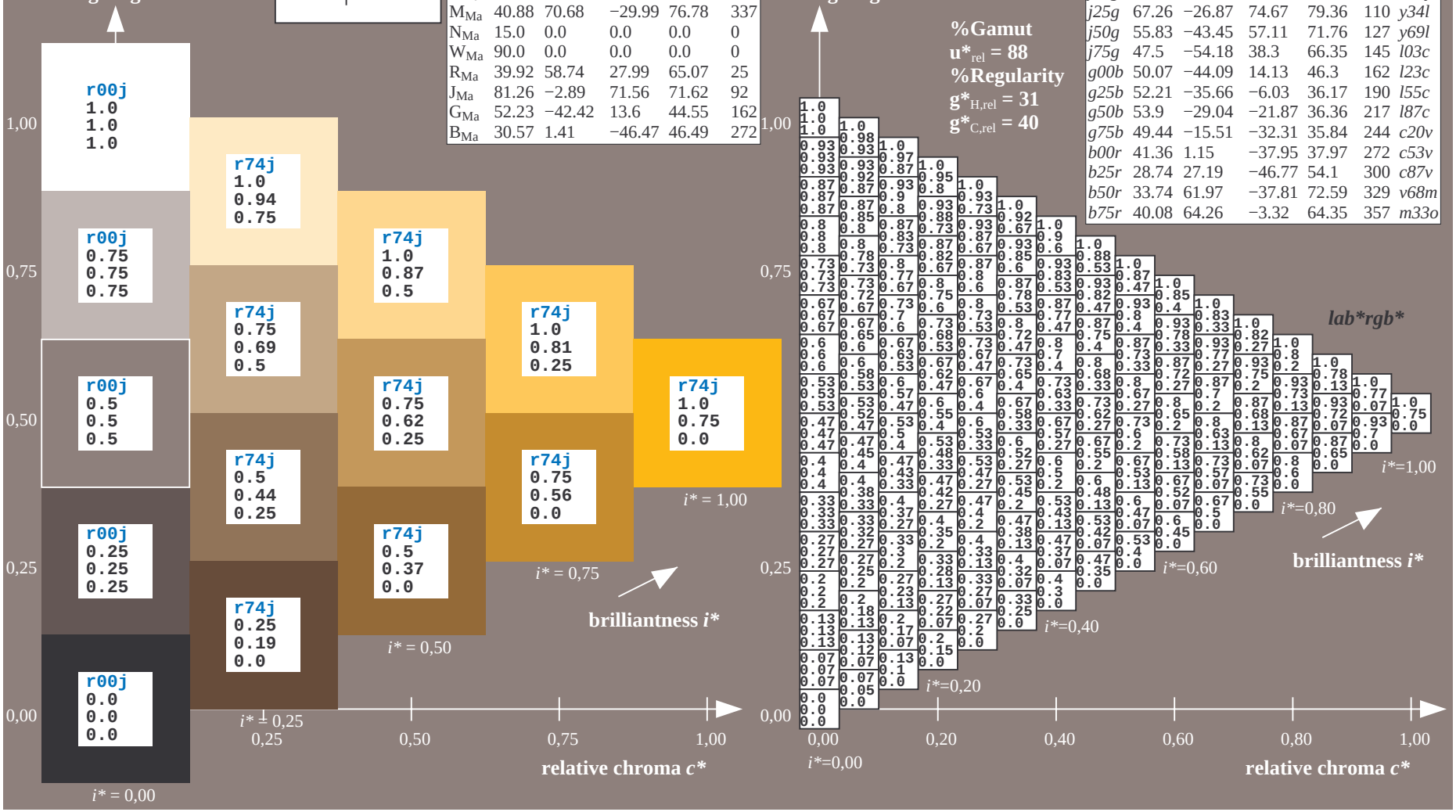
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 65 19 74**
***LAB*LCH*Ma*: 65 77 75**
***lab*rgb*Ma*: 1.0 0.75 0.0**
***lab*olv*Ma*: 1.0 0.7 0.0**
triangle lightness *t**

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

u^*_e = *r75j*
lab*rgb*

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.256$

$u^*_e = j00g$ *lab*rgb**

data for any colour:

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

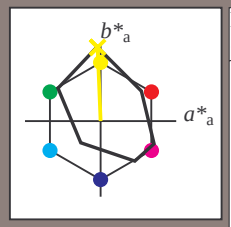
Hue texts:

$u^*_e = j00g$ $u^*_d = o98y$

contrast reduction factor:

$c_R = 0.9$

triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):

***LAB*LAB*Ma*: 82 −4 98**

***LAB*LCH*Ma*: 82 98 92**

***lab*rgb*Ma*: 1.0 1.0 0.0**

***lab*olv*Ma*: 1.0 0.99 0.0**

triangle lightness *t**

%Gamut

$u^*_{rel} = 88$

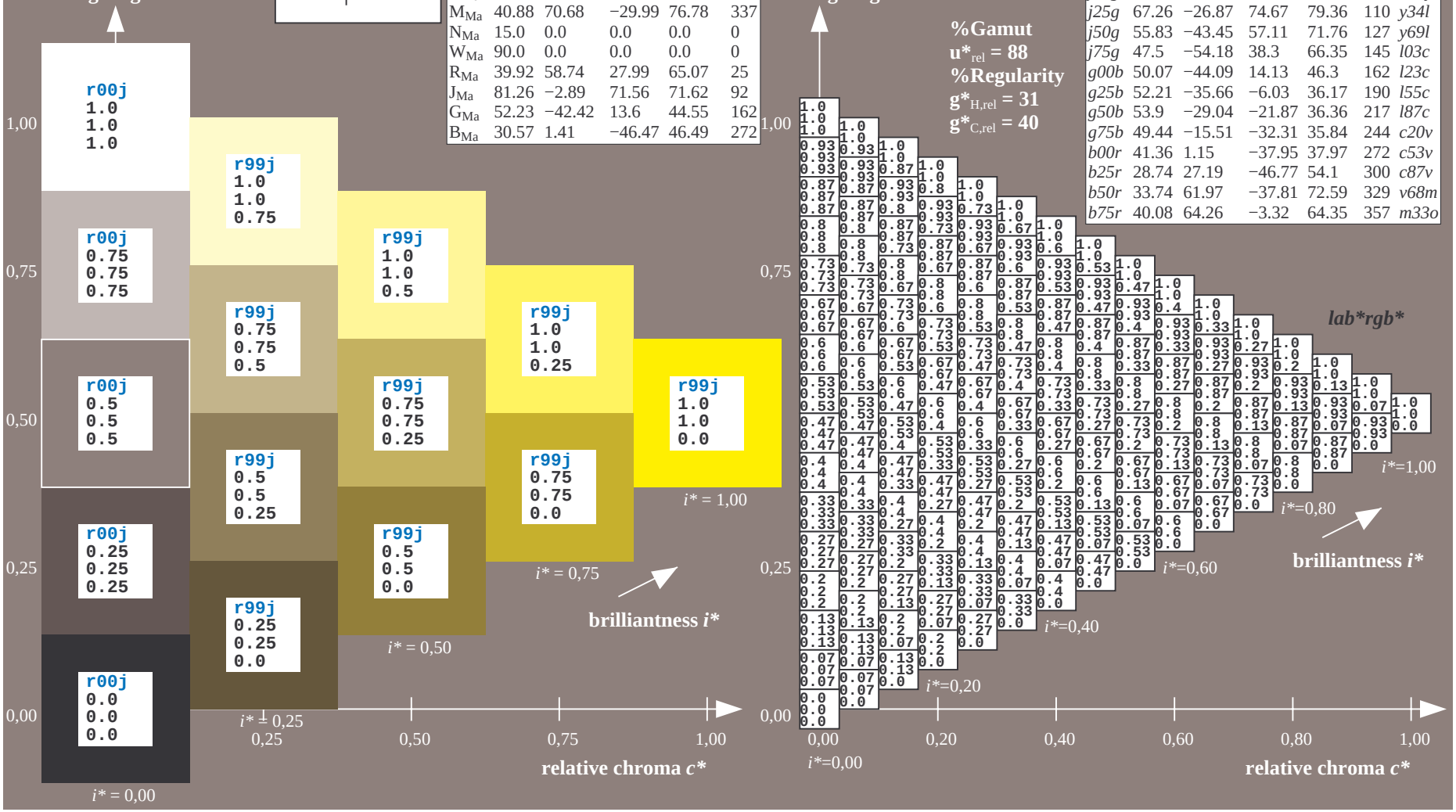
%Regularity

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

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

FRS15_90a; adapted (a) CIELAB data

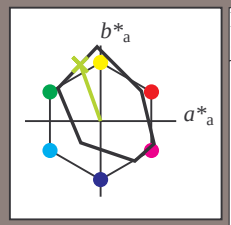
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

$u^*_e = j25g$ lab^*rgb^*

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = j25g$ $u^*_d = y34l$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

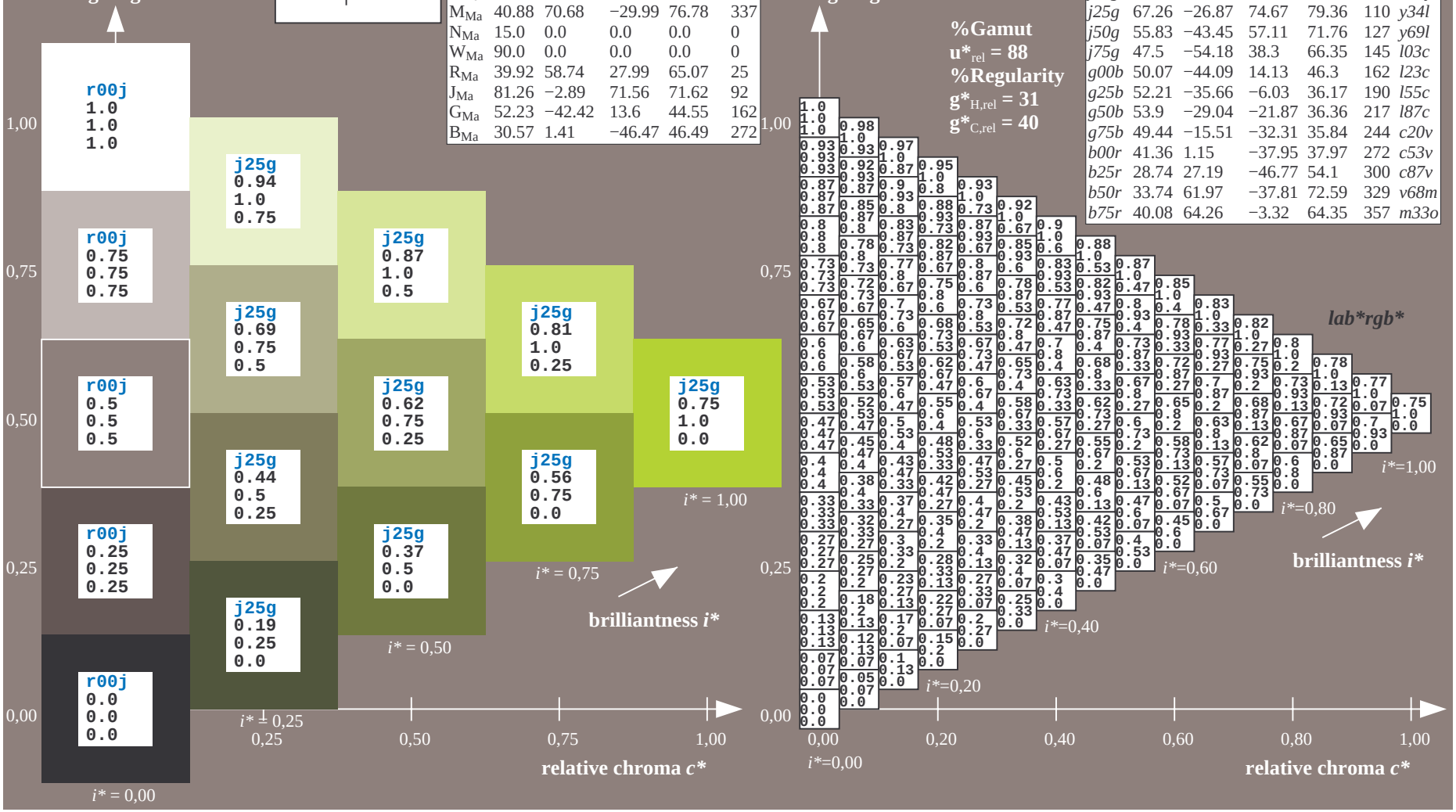
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 67 −27 75**
***LAB*LCH*Ma*: 67 79 109**
***lab*rgb*Ma*: 0.75 1.0 0.0**
***lab*olv*Ma*: 0.66 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

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.354$

$u^*_e = j50g$ *lab*rgb**

data for any colour:

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

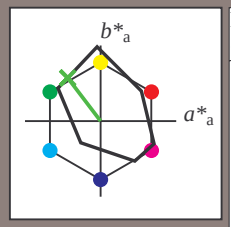
Hue texts:

$u^*_e = j50g$ $u^*_d = y69l$

contrast reduction factor:

$c_R = 0.9$

triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

Data for maximum colour (Ma):

***LAB*LAB*Ma*: 56 −43 57**

***LAB*LCH*Ma*: 56 72 127**

***lab*rgb*Ma*: 0.5 1.0 0.0**

***lab*olv*Ma*: 0.3 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

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*

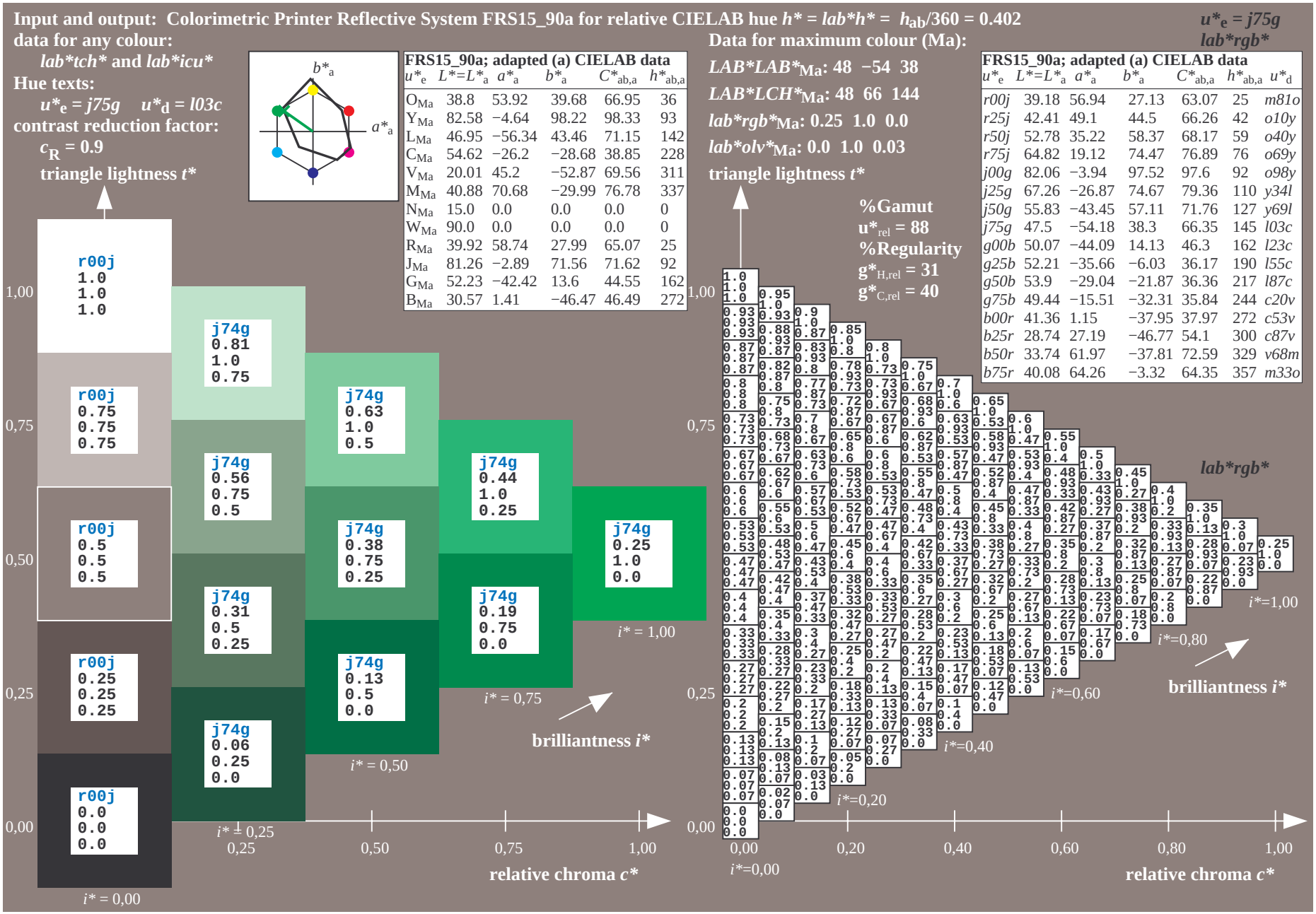
*lab*rgb**

brilliantness *i**

brilliantness *i**

relative chroma *c**

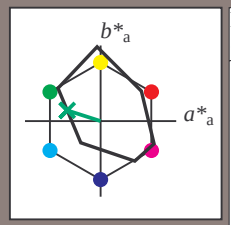
relative chroma *c**


Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue h* = lab*h* = hab/360 = 0.402
data for any colour:
lab*tch* and lab*icu*
Hue texts:
u*e = j75g u*d = l03c
contrast reduction factor:
cR = 0.9
triangle lightness t*
b*a
a*a
FRS15_90a; adapted (a) CIELAB data
u*e L*=L*a a*a b*a C*ab,a h*ab,a
OMa 38.8 53.92 39.68 66.95 36
YMa 82.58 −4.64 98.22 98.33 93
LMa 46.95 −56.34 43.46 71.15 142
CMa 54.62 −26.2 −28.68 38.85 228
VMa 20.01 45.2 −52.87 69.56 311
MMa 40.88 70.68 −29.99 76.78 337
NMa 15.0 0.0 0.0 0.0 0
WMa 90.0 0.0 0.0 0.0 0
RMa 39.92 58.74 27.99 65.07 25
JMa 81.26 −2.89 71.56 71.62 92
GMa 52.23 −42.42 13.6 44.55 162
BMa 30.57 1.41 −46.47 46.49 272
r00j 1.0 1.0 1.0
r00j 0.75 0.75 0.75
r00j 0.5 0.5 0.5
r00j 0.25 0.25 0.25
r00j 0.0 0.0 0.0
j74g 0.81 1.0 0.75
j74g 0.56 0.75 0.5
j74g 0.31 0.5 0.25
j74g 0.06 0.25 0.0
j74g 0.63 1.0 0.5
j74g 0.38 0.75 0.25
j74g 0.13 0.5 0.0
j74g 0.44 1.0 0.25
j74g 0.19 0.75 0.0
j74g 0.25 1.0 0.0
1,00
0,75
0,50
0,25
0,00
i* = 0,00
i* ± 0,25
i* = 0,50
i* = 0,75
i* = 1,00
0,25
0,50
0,75
1,00
relative chroma c*
brilliantness i*
u*e = j75g
lab*rgb*
Data for maximum colour (Ma):
LAB*LAB*Ma: 48 −54 38
LAB*LCH*Ma: 48 66 144
lab*rgb*Ma: 0.25 1.0 0.0
lab*olv*Ma: 0.0 1.0 0.03
triangle lightness t*
%Gamut
u*rel = 88
%Regularity
g*H,rel = 31
g*C,rel = 40
FRS15_90a; adapted (a) CIELAB data
u*e L*=L*a a*a b*a C*ab,a h*ab,a u*d
r00j 39.18 56.94 27.13 63.07 25 m81o
r25j 42.41 49.1 44.5 66.26 42 o10y
r50j 52.78 35.22 58.37 68.17 59 o40y
r75j 64.82 19.12 74.47 76.89 76 o69y
j00g 82.06 −3.94 97.52 97.6 92 o98y
j25g 67.26 −26.87 74.67 79.36 110 y34l
j50g 55.83 −43.45 57.11 71.76 127 y69l
j75g 47.5 −54.18 38.3 66.35 145 l03c
g00b 50.07 −44.09 14.13 46.3 162 l23c
g25b 52.21 −35.66 −6.03 36.17 190 l55c
g50b 53.9 −29.04 −21.87 36.36 217 l87c
g75b 49.44 −15.51 −32.31 35.84 244 c20v
b00r 41.36 1.15 −37.95 37.97 272 c53v
b25r 28.74 27.19 −46.77 54.1 300 c87v
b50r 33.74 61.97 −37.81 72.59 329 v68m
b75r 40.08 64.26 −3.32 64.35 357 m33o
lab*rgb*
i*=1,00
i*=0,80
i*=0,60
i*=0,40
i*=0,20
i*=0,00
0,00
0,20
0,40
0,60
0,80
1,00
relative chroma c*
brilliantness i*

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

$u^*_e = g00b$
lab^*rgb^*

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = g00b$ $u^*_d = l23c$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

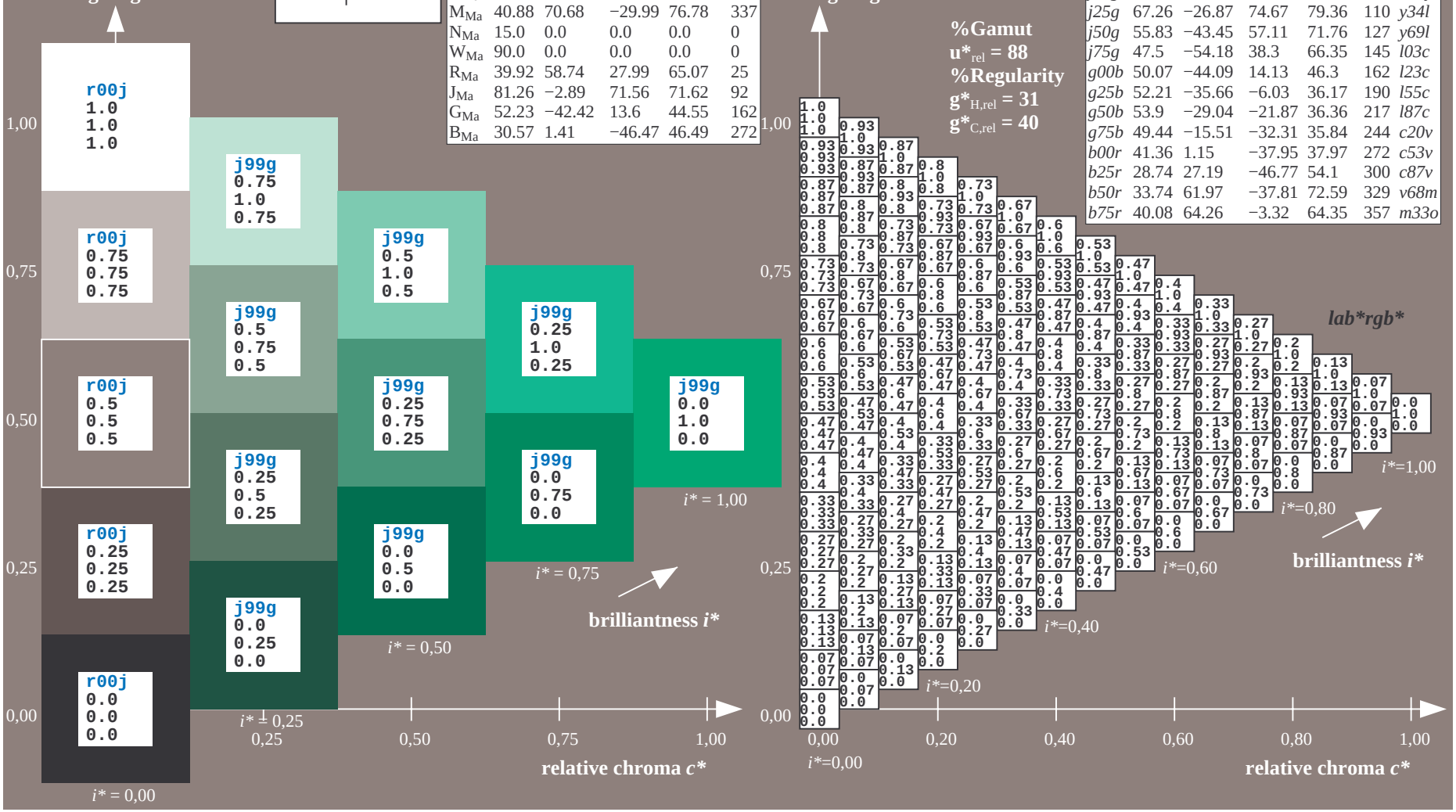
	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 50 −44 14**
***LAB*LCH*Ma*: 50 46 162**
***lab*rgb*Ma*: 0.0 1.0 0.0**
***lab*olv*Ma*: 0.0 1.0 0.23**
triangle lightness *t**

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

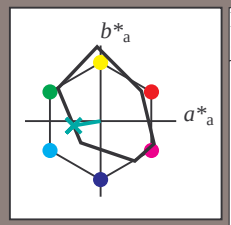
FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25		*m81o*
r25j	42.41	49.1	44.5	66.26	42		*o10y*
r50j	52.78	35.22	58.37	68.17	59		*o40y*
r75j	64.82	19.12	74.47	76.89	76		*o69y*
j00g	82.06	−3.94	97.52	97.6	92		*o98y*
j25g	67.26	−26.87	74.67	79.36	110		*y34l*
j50g	55.83	−43.45	57.11	71.76	127		*y69l*
j75g	47.5	−54.18	38.3	66.35	145		*l03c*
g00b	50.07	−44.09	14.13	46.3	162		*l23c*
g25b	52.21	−35.66	−6.03	36.17	190		*l55c*
g50b	53.9	−29.04	−21.87	36.36	217		*l87c*
g75b	49.44	−15.51	−32.31	35.84	244		*c20v*
b00r	41.36	1.15	−37.95	37.97	272		*c53v*
b25r	28.74	27.19	−46.77	54.1	300		*c87v*
b50r	33.74	61.97	−37.81	72.59	329		*v68m*
b75r	40.08	64.26	−3.32	64.35	357		*m33o*



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *g25b* u^*_d = *l55c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

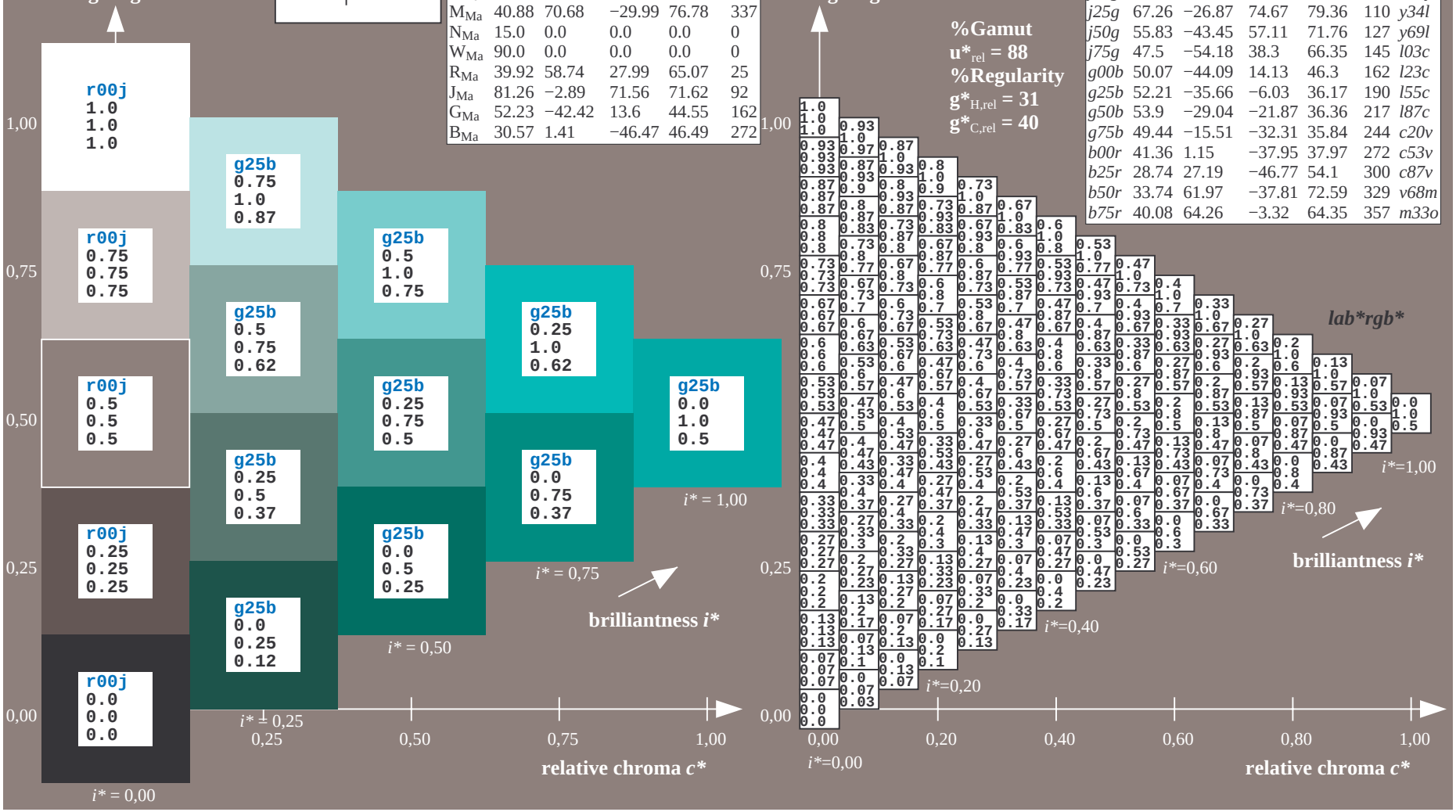
Data for maximum colour (Ma):
***LAB*LAB**$_{Ma}$: 52 −36 −6**
***LAB*LCH**$_{Ma}$: 52 36 189**
***lab*rgb**$_{Ma}$: 0.0 1.0 0.5**
***lab*olv**$_{Ma}$: 0.0 1.0 0.55**
triangle lightness *t**

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

u^*_e = *g25b*
lab*rgb*

FRS15_90a; adapted (a) CIELAB data

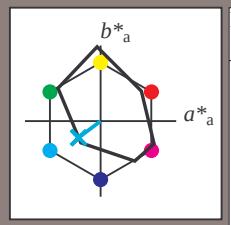
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

$u^*_e = g50b$
lab^*rgb^*

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = g50b$ $u^*_d = l87c$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

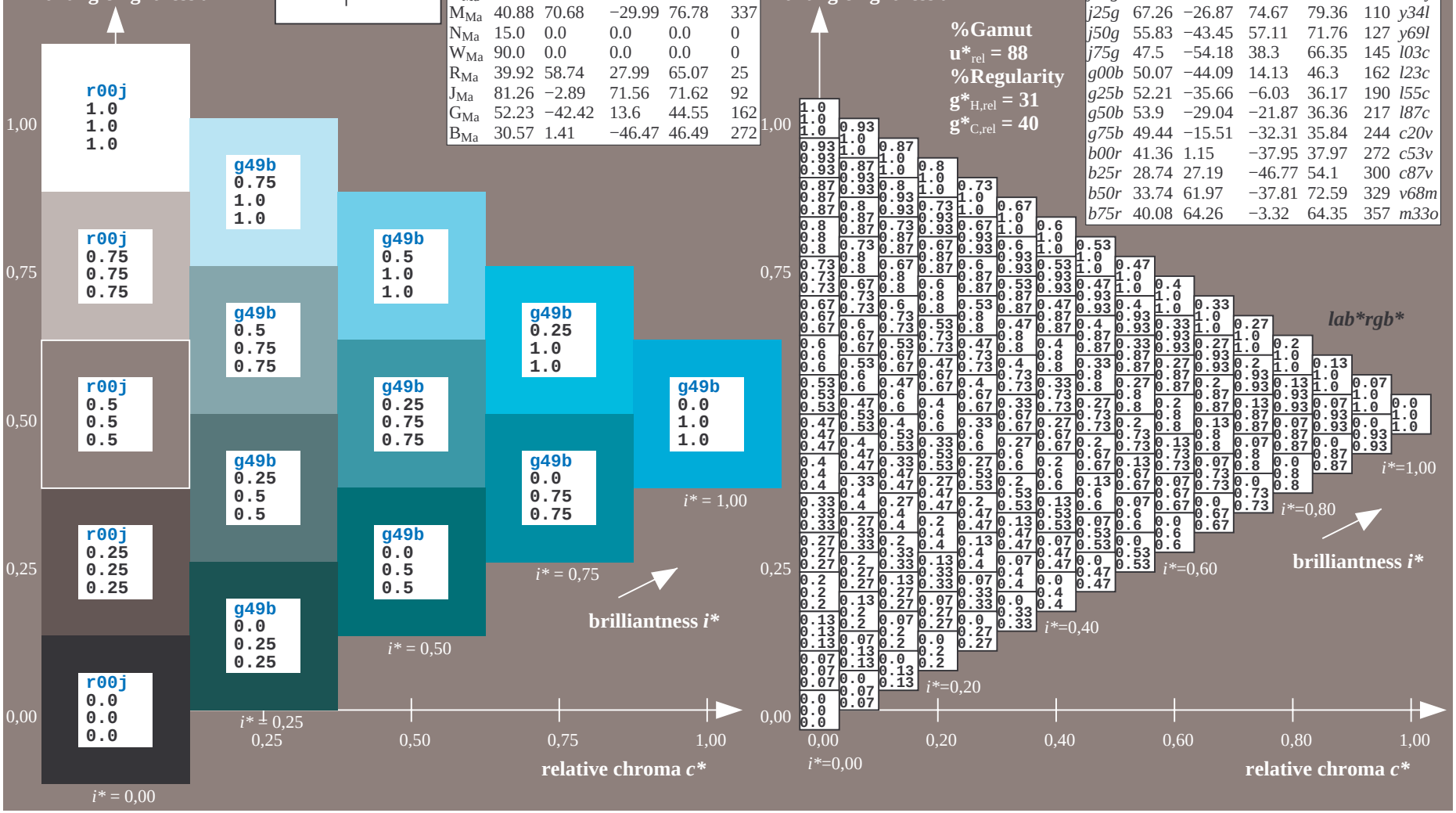
	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 54 −29 −22**
***LAB*LCH*Ma*: 54 36 216**
***lab*rgb*Ma*: 0.0 1.0 1.0**
***lab*olv*Ma*: 0.0 1.0 0.88**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

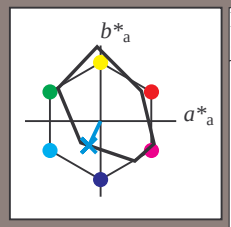
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.679$

$u^*_e = g75b$
*lab*rgb**

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = g75b$ $u^*_d = c20v$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

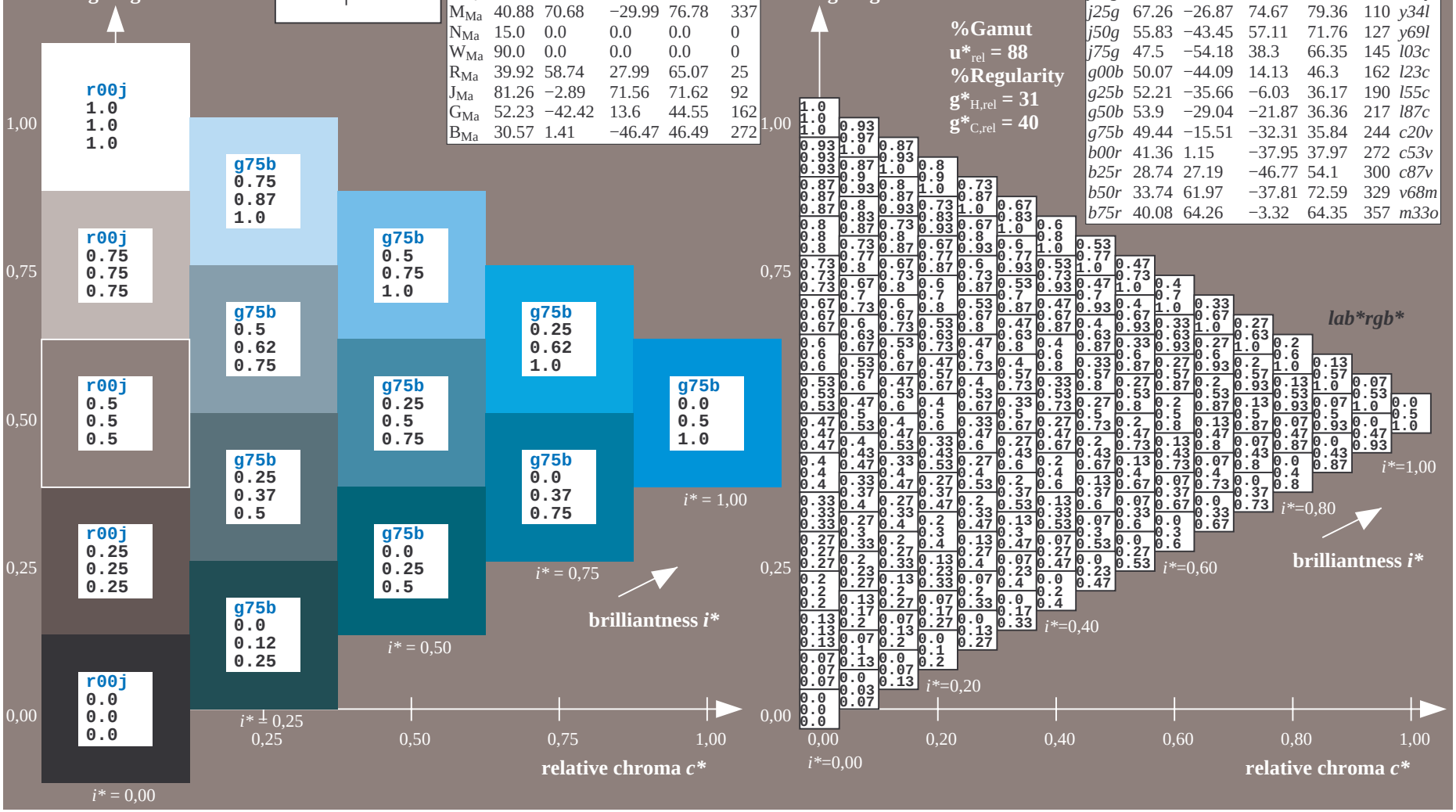
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 49 −16 −32**
***LAB*LCH*Ma*: 49 36 244**
***lab*rgb*Ma*: 0.0 0.5 1.0**
***lab*olv*Ma*: 0.0 0.8 1.0**
triangle lightness *t**

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

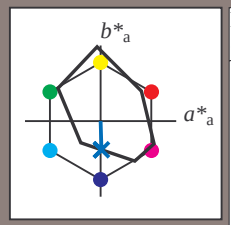
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *b00r* u^*_d = *c53v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

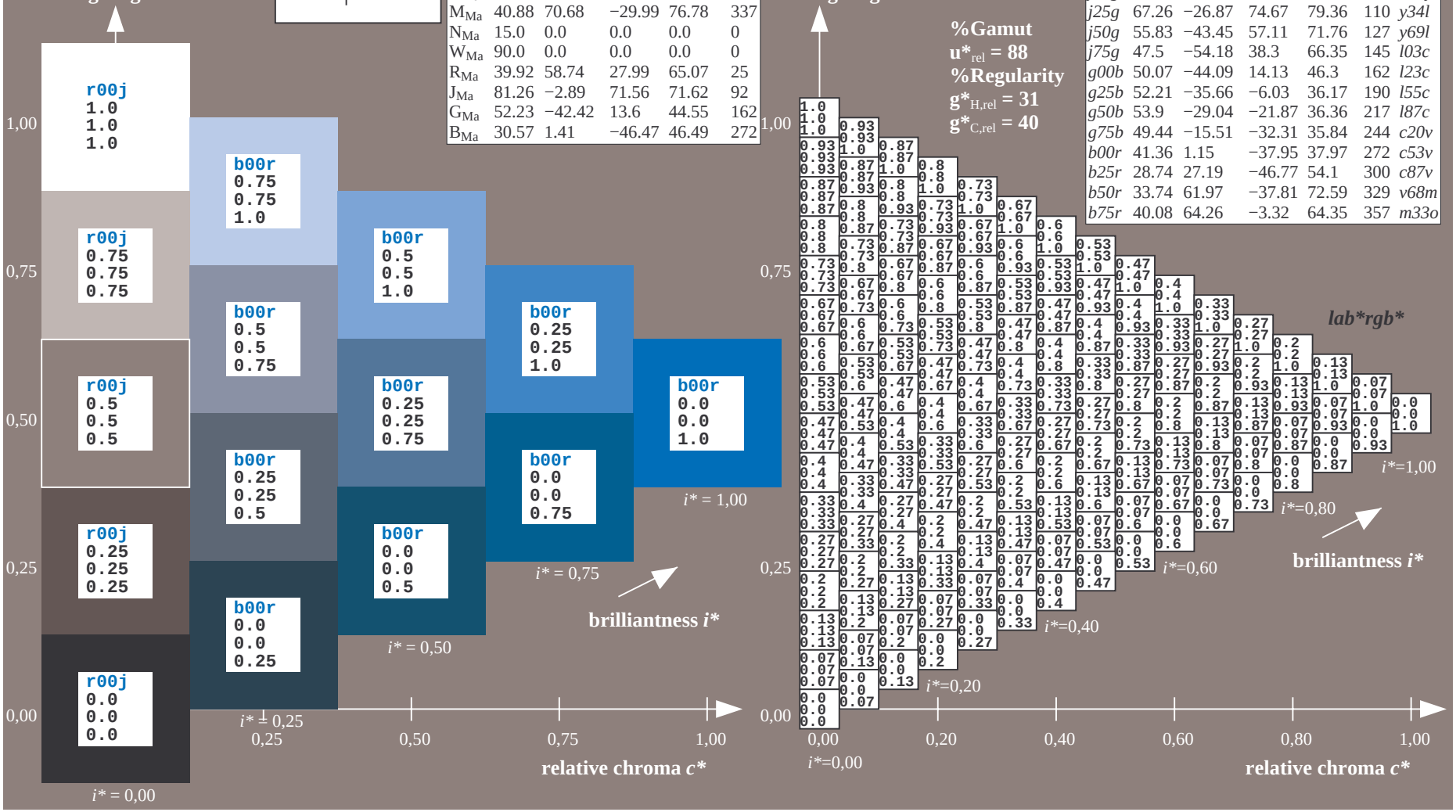
Data for maximum colour (Ma):
***LAB*LAB**$_{Ma}$: 41 1 −38**
***LAB*LCH**$_{Ma}$: 41 38 271**
***lab*rgb**$_{Ma}$: 0.0 0.0 1.0**
***lab*olv**$_{Ma}$: 0.0 0.47 1.0**
triangle lightness *t**

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

u^*_e = *b00r*
lab*rgb*

FRS15_90a; adapted (a) CIELAB data

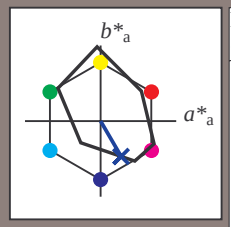
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = b25r$ $u^*_d = c87v$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

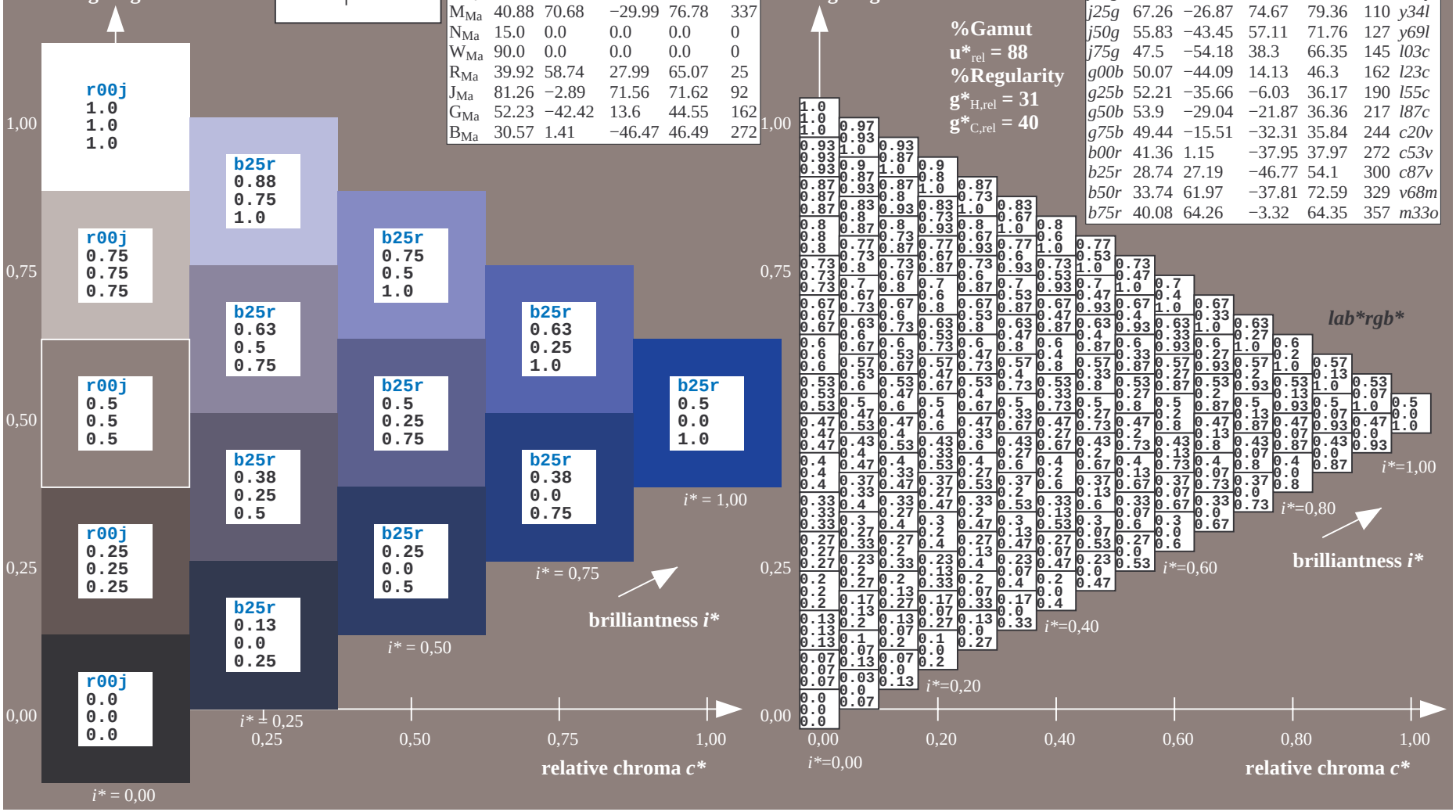
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 29 27 −47**
***LAB*LCH*Ma*: 29 54 300**
***lab*rgb*Ma*: 0.5 0.0 1.0**
***lab*olv*Ma*: 0.0 0.12 1.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.913$

data for any colour:

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

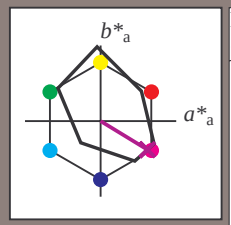
Hue texts:

u^*_e = *b50r* u^*_d = *v68m*

contrast reduction factor:

$c_R = 0.9$

triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):

LAB*LAB*$_{Ma}$**: 34 62 −38**

LAB*LCH*$_{Ma}$**: 34 73 328**

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

lab*olv*$_{Ma}$**: 0.68 0.0 1.0**

triangle lightness *t**

%Gamut

u^*_{rel} = 88

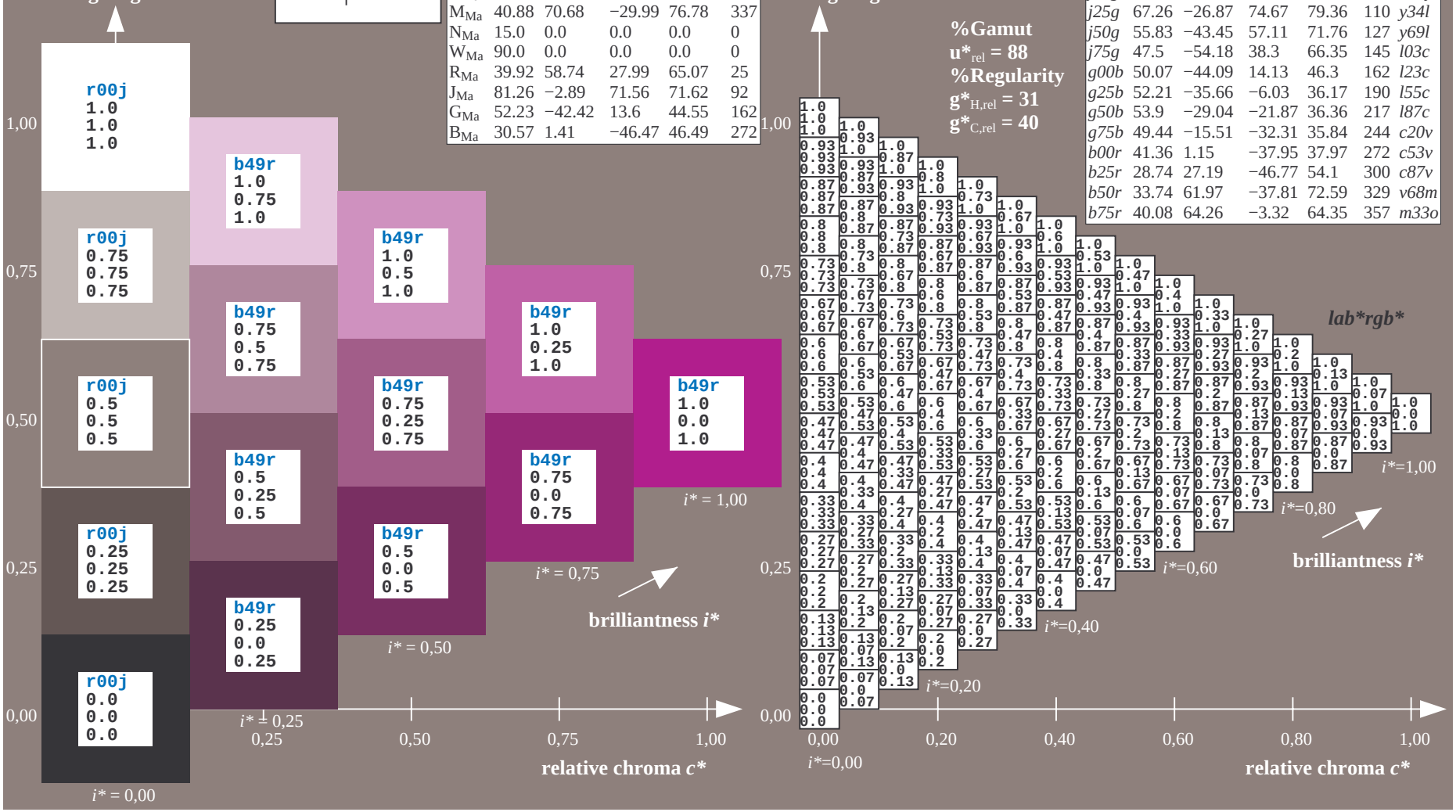
%Regularity

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

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

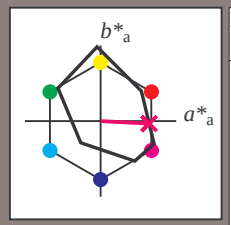
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



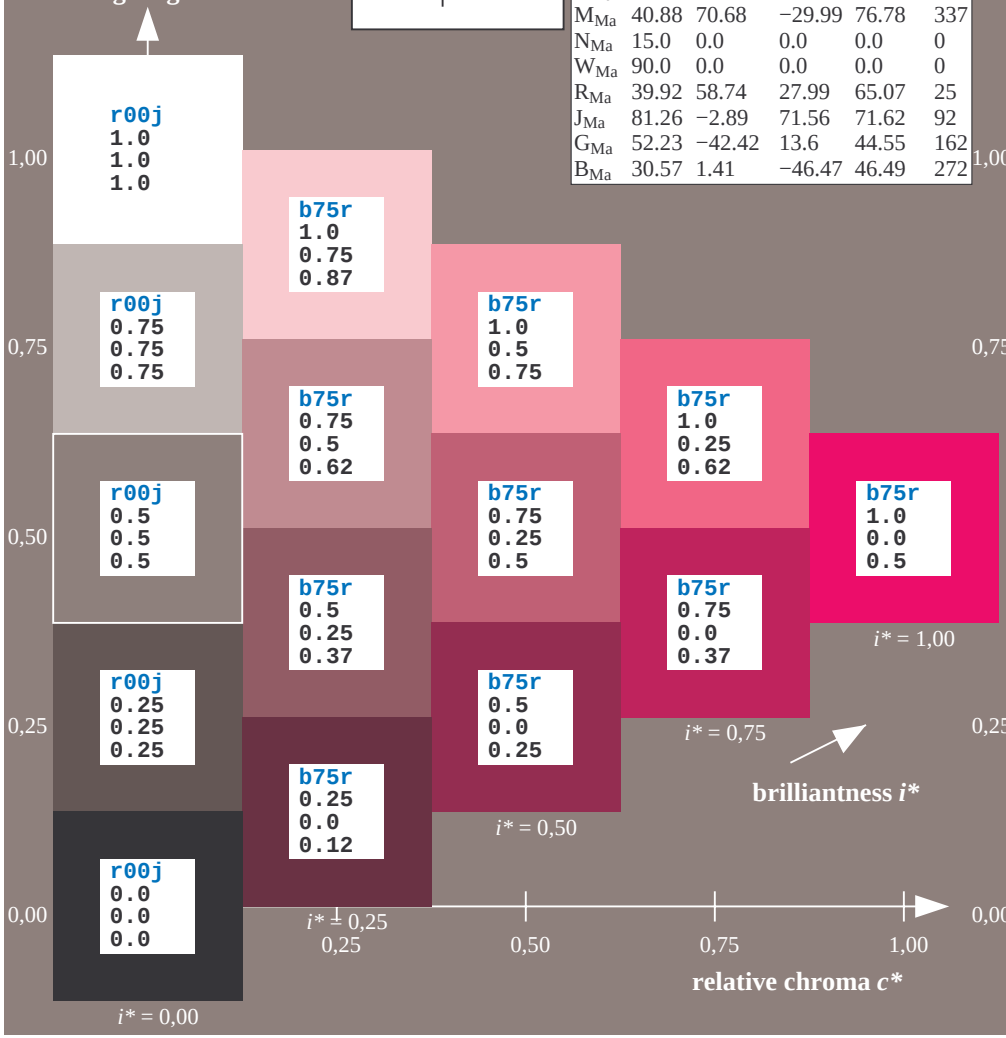
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.992$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *b75r* u^*_d = *m33o*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	



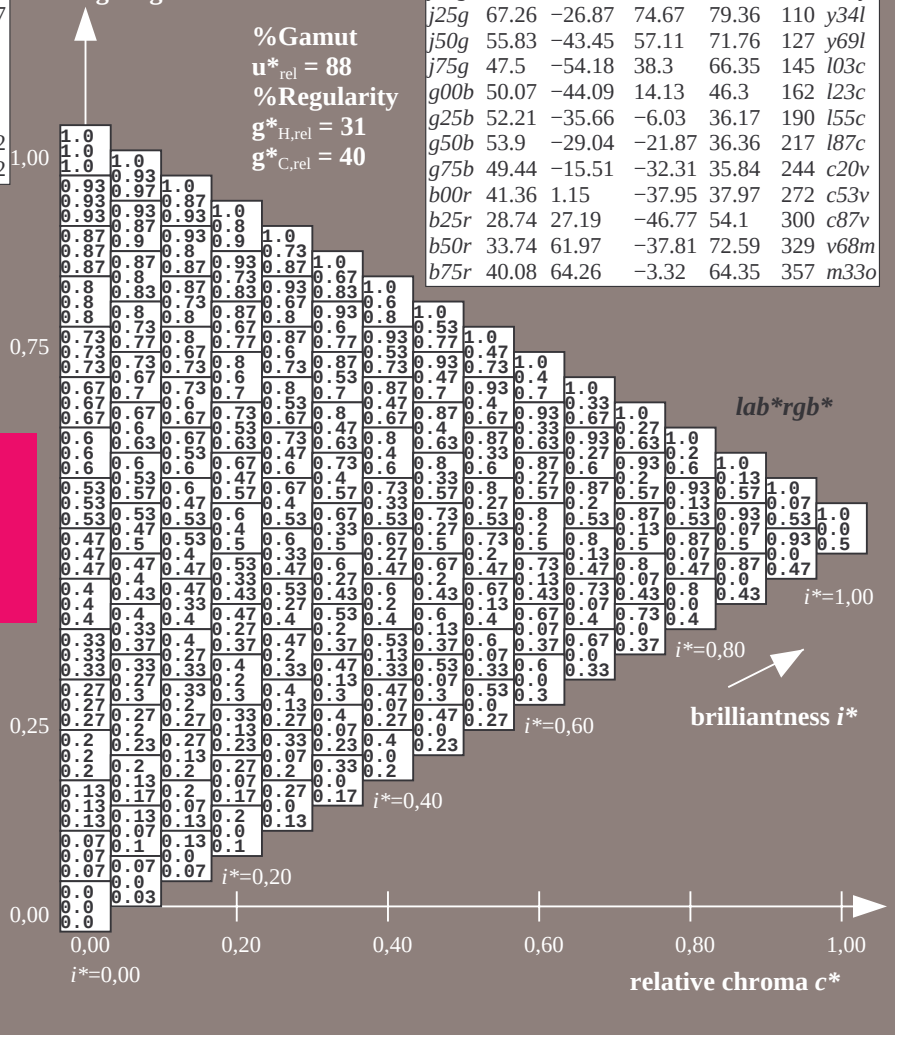
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 40 64 −3
LAB*LCH*$_{Ma}$: 40 64 357
lab*rgb*$_{Ma}$: 1.0 0.0 0.5
lab*olv*$_{Ma}$: 1.0 0.0 0.66
triangle lightness *t**

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

u^*_e = *b75r*
lab*rgb*

FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25		*m81o*
r25j	42.41	49.1	44.5	66.26	42		*o10y*
r50j	52.78	35.22	58.37	68.17	59		*o40y*
r75j	64.82	19.12	74.47	76.89	76		*o69y*
j00g	82.06	−3.94	97.52	97.6	92		*o98y*
j25g	67.26	−26.87	74.67	79.36	110		*y34l*
j50g	55.83	−43.45	57.11	71.76	127		*y69l*
j75g	47.5	−54.18	38.3	66.35	145		*l03c*
g00b	50.07	−44.09	14.13	46.3	162		*l23c*
g25b	52.21	−35.66	−6.03	36.17	190		*l55c*
g50b	53.9	−29.04	−21.87	36.36	217		*l87c*
g75b	49.44	−15.51	−32.31	35.84	244		*c20v*
b00r	41.36	1.15	−37.95	37.97	272		*c53v*
b25r	28.74	27.19	−46.77	54.1	300		*c87v*
b50r	33.74	61.97	−37.81	72.59	329		*v68m*
b75r	40.08	64.26	−3.32	64.35	357		*m33o*



	A	B	C	D	E	F	G	H	I
01	0.0 0.0 0.0	0.04 0.13 0.0	0.07 0.25 0.0	0.11 0.38 0.0	0.14 0.5 0.0	0.18 0.63 0.0	0.21 0.75 0.0	0.25 0.88 0.0	0.28 1.0 0.0
02	0.09 0.0 0.13	0.0 0.1 0.13	0.0 0.25 0.1	0.0 0.38 0.06	0.0 0.5 0.01	0.03 0.63 0.0	0.06 0.75 0.0	0.1 0.88 0.0	0.13 1.0 0.0
03	0.17 0.0 0.25	0.0 0.01 0.25	0.0 0.2 0.25	0.0 0.38 0.25	0.0 0.5 0.21	0.0 0.63 0.16	0.0 0.75 0.12	0.0 0.88 0.07	0.0 1.0 0.03
04	0.26 0.0 0.38	0.07 0.0 0.38	0.0 0.11 0.38	0.0 0.3 0.38	0.0 0.5 0.4	0.0 0.63 0.36	0.0 0.75 0.31	0.0 0.88 0.27	0.0 1.0 0.22
05	0.34 0.0 0.5	0.16 0.0 0.5	0.0 0.02 0.5	0.0 0.21 0.5	0.0 0.4 0.5	0.0 0.63 0.55	0.0 0.75 0.51	0.0 0.88 0.46	0.0 1.0 0.42
06	0.43 0.0 0.63	0.24 0.0 0.63	0.06 0.0 0.63	0.0 0.13 0.63	0.0 0.31 0.63	0.0 0.5 0.63	0.0 0.75 0.7	0.0 0.88 0.66	0.0 1.0 0.61
07	0.51 0.0 0.75	0.33 0.0 0.75	0.15 0.0 0.75	0.0 0.04 0.75	0.0 0.23 0.75	0.0 0.42 0.75	0.0 0.6 0.75	0.0 0.88 0.85	0.0 1.0 0.8
08	0.6 0.0 0.88	0.41 0.0 0.88	0.23 0.0 0.88	0.05 0.0 0.88	0.0 0.14 0.88	0.0 0.33 0.88	0.0 0.52 0.88	0.0 0.71 0.88	0.0 1.0 1.0
09	0.68 0.0 1.0	0.5 0.0 1.0	0.32 0.0 1.0	0.14 0.0 1.0	0.0 0.05 1.0	0.0 0.24 1.0	0.0 0.43 1.0	0.0 0.62 1.0	0.0 0.81 1.0
10	0.38 0.06 0.0	0.38 0.17 0.0	0.38 0.27 0.0	0.37 0.38 0.0	0.41 0.5 0.0	0.44 0.63 0.0	0.48 0.75 0.0	0.52 0.88 0.0	0.55 1.0 0.0
11	0.38 0.0 0.06	0.38 0.17 0.13	0.38 0.27 0.13	0.37 0.38 0.13	0.41 0.5 0.13	0.44 0.63 0.13	0.48 0.75 0.13	0.52 0.88 0.13	0.55 1.0 0.13
12	0.38 0.0 0.19	0.38 0.13 0.21	0.38 0.27 0.25	0.37 0.38 0.25	0.41 0.5 0.25	0.45 0.63 0.25	0.48 0.75 0.25	0.52 0.88 0.25	0.55 1.0 0.25
13	0.38 0.0 0.32	0.38 0.13 0.34	0.38 0.25 0.36	0.38 0.38 0.38	0.41 0.5 0.38	0.45 0.63 0.38	0.48 0.75 0.38	0.52 0.88 0.38	0.55 1.0 0.38
14	0.5 0.0 0.48	0.5 0.13 0.5	0.48 0.25 0.5	0.46 0.38 0.5	0.38 0.48 0.5	0.38 0.63 0.48	0.38 0.75 0.43	0.38 0.88 0.39	0.4 1.0 0.38
15	0.6 0.0 0.63	0.58 0.13 0.63	0.56 0.25 0.63	0.55 0.38 0.63	0.38 0.39 0.63	0.38 0.58 0.63	0.38 0.75 0.63	0.38 0.88 0.58	0.38 1.0 0.54
16	0.69 0.0 0.75	0.67 0.13 0.75	0.65 0.25 0.75	0.63 0.38 0.75	0.45 0.38 0.75	0.38 0.49 0.75	0.38 0.68 0.75	0.38 0.88 0.78	0.38 1.0 0.73
17	0.77 0.0 0.88	0.75 0.13 0.88	0.73 0.25 0.88	0.72 0.38 0.88	0.53 0.38 0.88	0.38 0.4 0.88	0.38 0.59 0.88	0.38 0.78 0.88	0.38 1.0 0.93
18	0.86 0.0 1.0	0.84 0.13 1.0	0.82 0.25 1.0	0.8 0.38 1.0	0.62 0.38 1.0	0.44 0.38 1.0	0.38 0.5 1.0	0.38 0.69 1.0	0.38 0.88 1.0
19	0.75 0.12 0.0	0.75 0.23 0.0	0.75 0.33 0.0	0.75 0.44 0.0	0.75 0.54 0.0	0.75 0.65 0.0	0.75 0.75 0.0	0.78 0.88 0.0	0.82 1.0 0.0
20	0.75 0.01 0.0	0.75 0.23 0.13	0.75 0.33 0.13	0.75 0.44 0.13	0.75 0.54 0.13	0.75 0.65 0.13	0.75 0.75 0.13	0.78 0.88 0.13	0.82 1.0 0.13
21	0.75 0.0 0.12	0.75 0.13 0.14	0.75 0.33 0.25	0.75 0.44 0.25	0.75 0.54 0.25	0.75 0.65 0.25	0.75 0.75 0.25	0.78 0.88 0.25	0.82 1.0 0.25
22	0.75 0.0 0.25	0.75 0.13 0.27	0.75 0.25 0.28	0.75 0.44 0.38	0.75 0.54 0.38	0.75 0.65 0.38	0.75 0.75 0.38	0.78 0.88 0.38	0.82 1.0 0.38
23	0.75 0.0 0.38	0.75 0.13 0.4	0.75 0.25 0.42	0.75 0.38 0.43	0.75 0.54 0.5	0.75 0.65 0.5	0.75 0.75 0.5	0.78 0.88 0.5	0.82 1.0 0.5
24	0.75 0.0 0.51	0.75 0.13 0.53	0.75 0.25 0.55	0.75 0.38 0.56	0.75 0.5 0.58	0.75 0.65 0.63	0.75 0.75 0.63	0.78 0.88 0.63	0.82 1.0 0.63
25	0.75 0.0 0.64	0.75 0.13 0.66	0.75 0.25 0.68	0.75 0.38 0.69	0.75 0.5 0.71	0.75 0.63 0.73	0.75 0.75 0.75	0.79 0.88 0.75	0.82 1.0 0.75
26	0.88 0.0 0.8	0.88 0.13 0.82	0.88 0.25 0.84	0.88 0.38 0.86	0.87 0.5 0.88	0.85 0.63 0.88	0.84 0.75 0.88	0.75 0.85 0.88	0.75 1.0 0.85
27	1.0 0.0 0.97	1.0 0.13 0.99	0.99 0.25 1.0	0.98 0.38 1.0	0.96 0.5 1.0	0.94 0.63 1.0	0.92 0.75 1.0	0.75 0.76 1.0	0.75 0.95 1.0

	J	K	L	M	N	O	P	Q	R
01	0.13 0.02 0.0	0.12 0.13 0.0	0.16 0.25 0.0	0.2 0.38 0.0	0.23 0.5 0.0	0.27 0.63 0.0	0.3 0.75 0.0	0.34 0.88 0.0	0.37 1.0 0.0
02	0.13 0.0 0.11	0.13 0.13 0.13	0.16 0.25 0.13	0.2 0.38 0.13	0.23 0.5 0.13	0.27 0.63 0.13	0.3 0.75 0.13	0.34 0.88 0.13	0.37 1.0 0.13
03	0.23 0.0 0.25	0.21 0.13 0.25	0.13 0.23 0.25	0.13 0.38 0.23	0.13 0.5 0.18	0.13 0.63 0.14	0.15 0.75 0.13	0.19 0.88 0.13	0.22 1.0 0.13
04	0.31 0.0 0.38	0.3 0.13 0.38	0.13 0.14 0.38	0.13 0.33 0.38	0.13 0.5 0.38	0.13 0.63 0.33	0.13 0.75 0.29	0.13 0.88 0.24	0.13 1.0 0.2
05	0.4 0.0 0.5	0.38 0.13 0.5	0.2 0.13 0.5	0.13 0.24 0.5	0.13 0.43 0.5	0.13 0.63 0.53	0.13 0.75 0.48	0.13 0.88 0.44	0.13 1.0 0.39
06	0.48 0.0 0.63	0.47 0.13 0.63	0.28 0.13 0.63	0.13 0.15 0.63	0.13 0.34 0.63	0.13 0.53 0.63	0.13 0.75 0.68	0.13 0.88 0.63	0.13 1.0 0.59
07	0.57 0.0 0.75	0.55 0.13 0.75	0.37 0.13 0.75	0.19 0.13 0.75	0.13 0.25 0.75	0.13 0.44 0.75	0.13 0.63 0.75	0.13 0.88 0.83	0.13 1.0 0.78
08	0.66 0.0 0.88	0.64 0.13 0.88	0.45 0.13 0.88	0.27 0.13 0.88	0.13 0.16 0.88	0.13 0.35 0.88	0.13 0.54 0.88	0.13 0.73 0.88	0.13 1.0 0.97
09	0.74 0.0 1.0	0.72 0.13 1.0	0.54 0.13 1.0	0.36 0.13 1.0	0.17 0.13 1.0	0.13 0.26 1.0	0.13 0.45 1.0	0.13 0.64 1.0	0.13 0.83 1.0
10	0.5 0.08 0.0	0.5 0.19 0.0	0.5 0.29 0.0	0.5 0.4 0.0	0.5 0.5 0.0	0.53 0.63 0.0	0.57 0.75 0.0	0.6 0.88 0.0	0.64 1.0 0.0
11	0.5 0.0 0.03	0.5 0.19 0.13	0.5 0.29 0.13	0.5 0.4 0.13	0.5 0.5 0.13	0.53 0.63 0.13	0.57 0.75 0.13	0.6 0.88 0.13	0.64 1.0 0.13
12	0.5 0.0 0.17	0.5 0.13 0.18	0.5 0.29 0.25	0.5 0.4 0.25	0.5 0.5 0.25	0.53 0.63 0.25	0.57 0.75 0.25	0.61 0.88 0.25	0.64 1.0 0.25
13	0.5 0.0 0.3	0.5 0.13 0.31	0.5 0.25 0.33	0.5 0.4 0.38	0.5 0.5 0.38	0.53 0.63 0.38	0.57 0.75 0.38	0.61 0.88 0.38	0.64 1.0 0.38
14	0.5 0.0 0.43	0.5 0.13 0.44	0.5 0.25 0.46	0.5 0.38 0.48	0.5 0.5 0.5	0.54 0.63 0.5	0.57 0.75 0.5	0.61 0.88 0.5	0.64 1.0 0.5
15	0.63 0.0 0.59	0.63 0.13 0.61	0.62 0.25 0.63	0.6 0.38 0.63	0.59 0.5 0.63	0.5 0.6 0.63	0.5 0.75 0.6	0.5 0.88 0.56	0.5 1.0 0.51
16	0.74 0.0 0.75	0.73 0.13 0.75	0.71 0.25 0.75	0.69 0.38 0.75	0.67 0.5 0.75	0.5 0.51 0.75	0.5 0.7 0.75	0.5 0.88 0.75	0.5 1.0 0.71
17	0.83 0.0 0.88	0.81 0.13 0.88	0.79 0.25 0.88	0.77 0.38 0.88	0.76 0.5 0.88	0.57 0.5 0.88	0.5 0.61 0.88	0.5 0.8 0.88	0.5 1.0 0.9
18	0.91 0.0 1.0	0.9 0.13 1.0	0.88 0.25 1.0	0.86 0.38 1.0	0.84 0.5 1.0	0.66 0.5 1.0	0.5 0.52 1.0	0.5 0.71 1.0	0.5 0.9 1.0
19	0.88 0.14 0.0	0.88 0.25 0.0	0.88 0.35 0.0	0.88 0.46 0.0	0.88 0.56 0.0	0.88 0.67 0.0	0.88 0.77 0.0	0.87 0.88 0.0	0.91 1.0 0.0
20	0.88 0.03 0.0	0.88 0.25 0.13	0.88 0.35 0.13	0.88 0.46 0.13	0.88 0.56 0.13	0.88 0.67 0.13	0.88 0.77 0.13	0.87 0.88 0.13	0.91 1.0 0.13
21	0.88 0.0 0.09	0.88 0.14 0.13	0.88 0.35 0.25	0.88 0.46 0.25	0.88 0.56 0.25	0.88 0.67 0.25	0.88 0.77 0.25	0.87 0.88 0.25	0.91 1.0 0.25
22	0.88 0.0 0.22	0.88 0.13 0.24	0.88 0.25 0.26	0.88 0.46 0.38	0.88 0.56 0.38	0.88 0.67 0.38	0.88 0.77 0.38	0.87 0.88 0.38	0.91 1.0 0.38
23	0.88 0.0 0.35	0.88 0.13 0.37	0.88 0.25 0.39	0.88 0.38 0.41	0.88 0.56 0.5	0.88 0.67 0.5	0.88 0.77 0.5	0.87 0.88 0.5	0.91 1.0 0.5
24	0.88 0.0 0.48	0.88 0.13 0.5	0.88 0.25 0.52	0.88 0.38 0.54	0.88 0.5 0.56	0.88 0.67 0.63	0.88 0.77 0.63	0.87 0.88 0.63	0.91 1.0 0.63
25	0.88 0.0 0.62	0.88 0.13 0.63	0.88 0.25 0.65	0.88 0.38 0.67	0.88 0.5 0.69	0.88 0.63 0.71	0.88 0.77 0.75	0.87 0.88 0.75	0.91 1.0 0.75
26	0.88 0.0 0.75	0.88 0.13 0.76	0.88 0.25 0.78	0.88 0.38 0.8	0.88 0.5 0.82	0.88 0.63 0.84	0.88 0.75 0.86	0.88 0.88 0.88	0.91 1.0 0.88
27	1.0 0.0 0.91	1.0 0.13 0.93	1.0 0.25 0.95	1.0 0.38 0.97	1.0 0.5 0.98	1.0 0.63 1.0	0.98 0.75 1.0	0.96 0.88 1.0	0.88 0.98 1.0

	S	T	U	V	W	X	Y	Z	a
01	0.25 0.04 0.0	0.25 0.15 0.0	0.25 0.25 0.0	0.28 0.38 0.0	0.32 0.5 0.0	0.36 0.63 0.0	0.39 0.75 0.0	0.43 0.88 0.0	0.46 1.0 0.0
02	0.25 0.0 0.08	0.25 0.15 0.13	0.25 0.25 0.13	0.28 0.38 0.13	0.32 0.5 0.13	0.36 0.63 0.13	0.39 0.75 0.13	0.43 0.88 0.13	0.46 1.0 0.13
03	0.25 0.0 0.21	0.25 0.13 0.23	0.25 0.25 0.25	0.29 0.38 0.25	0.32 0.5 0.25	0.36 0.63 0.25	0.39 0.75 0.25	0.43 0.88 0.25	0.46 1.0 0.25
04	0.37 0.0 0.38	0.35 0.13 0.38	0.34 0.25 0.38	0.25 0.35 0.38	0.25 0.5 0.35	0.25 0.63 0.31	0.25 0.75 0.26	0.28 0.88 0.25	0.31 1.0 0.25
05	0.46 0.0 0.5	0.44 0.13 0.5	0.42 0.25 0.5	0.25 0.26 0.5	0.25 0.45 0.5	0.25 0.63 0.5	0.25 0.75 0.46	0.25 0.88 0.41	0.25 1.0 0.37
06	0.54 0.0 0.63	0.52 0.13 0.63	0.51 0.25 0.63	0.32 0.25 0.63	0.25 0.36 0.63	0.25 0.55 0.63	0.25 0.75 0.65	0.25 0.88 0.61	0.25 1.0 0.56
07	0.63 0.0 0.75	0.61 0.13 0.75	0.59 0.25 0.75	0.41 0.25 0.75	0.25 0.27 0.75	0.25 0.46 0.75	0.25 0.65 0.75	0.25 0.88 0.8	0.25 1.0 0.76
08	0.71 0.0 0.88	0.69 0.13 0.88	0.68 0.25 0.88	0.49 0.25 0.88	0.31 0.25 0.88	0.25 0.38 0.88	0.25 0.56 0.88	0.25 0.75 0.88	0.25 1.0 0.95
09	0.8 0.0 1.0	0.78 0.13 1.0	0.76 0.25 1.0	0.58 0.25 1.0	0.4 0.25 1.0	0.25 0.29 1.0	0.25 0.48 1.0	0.25 0.67 1.0	0.25 0.85 1.0
10	0.63 0.1 0.0	0.63 0.21 0.0	0.63 0.31 0.0	0.63 0.42 0.0	0.63 0.52 0.0	0.62 0.63 0.0	0.66 0.75 0.0	0.69 0.88 0.0	0.73 1.0 0.0
11	0.63 0.0 0.01	0.63 0.21 0.13	0.63 0.31 0.13	0.63 0.42 0.13	0.63 0.52 0.13	0.62 0.63 0.13	0.66 0.75 0.13	0.69 0.88 0.13	0.73 1.0 0.13
12	0.63 0.0 0.14	0.63 0.13 0.16	0.63 0.31 0.25	0.63 0.42 0.25	0.63 0.52 0.25	0.62 0.63 0.25	0.66 0.75 0.25	0.69 0.88 0.25	0.73 1.0 0.25
13	0.63 0.0 0.27	0.63 0.13 0.29	0.63 0.25 0.31	0.63 0.42 0.38	0.63 0.52 0.38	0.62 0.63 0.38	0.66 0.75 0.38	0.69 0.88 0.38	0.73 1.0 0.38
14	0.63 0.0 0.4	0.63 0.13 0.42	0.63 0.25 0.44	0.63 0.38 0.46	0.63 0.52 0.5	0.62 0.63 0.5	0.66 0.75 0.5	0.7 0.88 0.5	0.73 1.0 0.5
15	0.63 0.0 0.53	0.63 0.13 0.55	0.63 0.25 0.57	0.63 0.38 0.59	0.63 0.5 0.61	0.63 0.63 0.63	0.66 0.75 0.63	0.7 0.88 0.63	0.73 1.0 0.63
16	0.75 0.0 0.7	0.75 0.13 0.72	0.75 0.25 0.73	0.75 0.38 0.75	0.73 0.5 0.75	0.71 0.63 0.75	0.63 0.73 0.75	0.63 0.88 0.73	0.63 1.0 0.68
17	0.88 0.0 0.86	0.87 0.13 0.88	0.85 0.25 0.88	0.83 0.38 0.88	0.81 0.5 0.88	0.8 0.63 0.88	0.63 0.64 0.88	0.63 0.83 0.88	0.63 1.0 0.88
18	0.97 0.0 1.0	0.95 0.13 1.0	0.94 0.25 1.0	0.92 0.38 1.0	0.9 0.5 1.0	0.88 0.63 1.0	0.7 0.63 1.0	0.63 0.74 1.0	0.63 0.93 1.0
19	1.0 0.16 0.0	1.0 0.27 0.0	1.0 0.37 0.0	1.0 0.48 0.0	1.0 0.58 0.0	1.0 0.69 0.0	1.0 0.8 0.0	1.0 0.9 0.0	0.99 1.0 0.0
20	1.0 0.05 0.0	1.0 0.27 0.13	1.0 0.37 0.13	1.0 0.48 0.13	1.0 0.58 0.13	1.0 0.69 0.13	1.0 0.79 0.13	1.0 0.9 0.13	1.0 1.0 0.13
21	1.0 0.0 0.07	1.0 0.16 0.13	1.0 0.37 0.25	1.0 0.48 0.25	1.0 0.58 0.25	1.0 0.69 0.25	1.0 0.79 0.25	1.0 0.9 0.25	1.0 1.0 0.25
22	1.0 0.0 0.2	1.0 0.13 0.22	1.0 0.26 0.25	1.0 0.48 0.38	1.0 0.58 0.38	1.0 0.69 0.38	1.0 0.79 0.38	1.0 0.9 0.38	1.0 1.0 0.38
23	1.0 0.0 0.33	1.0 0.13 0.35	1.0 0.25 0.37	1.0 0.38 0.39	1.0 0.58 0.5	1.0 0.69 0.5	1.0 0.79 0.5	1.0 0.9 0.5	1.0 1.0 0.5
24	1.0 0.0 0.46	1.0 0.13 0.48	1.0 0.25 0.5	1.0 0.38 0.52	1.0 0.5 0.53	1.0 0.69 0.63	1.0 0.79 0.63	1.0 0.9 0.63	1.0 1.0 0.63
25	1.0 0.0 0.59	1.0 0.13 0.61	1.0 0.25 0.63	1.0 0.38 0.65	1.0 0.5 0.67	1.0 0.63 0.68	1.0 0.79 0.75	1.0 0.9 0.75	1.0 1.0 0.75
26	1.0 0.0 0.72	1.0 0.13 0.74	1.0 0.25 0.76	1.0 0.38 0.78	1.0 0.5 0.8	1.0 0.63 0.81	1.0 0.75 0.83	1.0 0.9 0.88	1.0 1.0 0.88
27	1.0 0.0 0.85	1.0 0.13 0.87	1.0 0.25 0.89	1.0 0.38 0.91	1.0 0.5 0.93	1.0 0.63 0.94	1.0 0.75 0.96	1.0 0.88 0.98	1.0 1.0 1.0

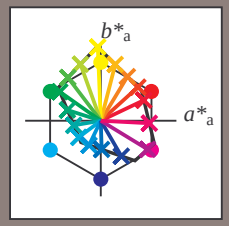
	b	c	d	e	f	g	h	i	j
01	1.0 1.0 1.0	1.0 0.9 0.88	1.0 0.79 0.75	1.0 0.69 0.63	1.0 0.58 0.5	1.0 0.48 0.38	1.0 0.37 0.25	1.0 0.27 0.13	1.0 0.16 0.0
02	0.88 0.98 1.0	0.88 0.88 0.88	0.88 0.77 0.75	0.88 0.67 0.63	0.88 0.56 0.5	0.88 0.46 0.38	0.88 0.35 0.25	0.88 0.25 0.13	0.88 0.14 0.0
03	0.75 0.95 1.0	0.75 0.85 0.88	0.75 0.75 0.75	0.75 0.65 0.63	0.75 0.54 0.5	0.75 0.44 0.38	0.75 0.33 0.25	0.75 0.23 0.13	0.75 0.12 0.0
04	0.63 0.93 1.0	0.63 0.83 0.88	0.63 0.73 0.75	0.63 0.63 0.63	0.63 0.52 0.5	0.63 0.42 0.38	0.63 0.31 0.25	0.63 0.21 0.13	0.63 0.1 0.0
05	0.5 0.9 1.0	0.5 0.8 0.88	0.5 0.7 0.75	0.5 0.6 0.63	0.5 0.5 0.5	0.5 0.4 0.38	0.5 0.29 0.25	0.5 0.19 0.13	0.5 0.08 0.0
06	0.38 0.88 1.0	0.38 0.78 0.88	0.38 0.68 0.75	0.38 0.58 0.63	0.38 0.48 0.5	0.38 0.38 0.38	0.38 0.27 0.25	0.38 0.17 0.13	0.38 0.06 0.0
07	0.25 0.85 1.0	0.25 0.75 0.88	0.25 0.65 0.75	0.25 0.55 0.63	0.25 0.45 0.5	0.25 0.35 0.38	0.25 0.25 0.25	0.25 0.15 0.13	0.25 0.04 0.0
08	0.13 0.83 1.0	0.13 0.73 0.88	0.13 0.63 0.75	0.13 0.53 0.63	0.13 0.43 0.5	0.13 0.33 0.38	0.13 0.23 0.25	0.13 0.13 0.13	0.13 0.02 0.0
09	0.0 0.81 1.0	0.0 0.71 0.88	0.0 0.6 0.75	0.0 0.5 0.63	0.0 0.4 0.5	0.0 0.3 0.38	0.0 0.2 0.25	0.0 0.1 0.13	0.0 0.0 0.0
10	1.0 1.0 1.0	1.0 1.0 0.88	1.0 1.0 0.75	1.0 1.0 0.63	1.0 1.0 0.5	1.0 1.0 0.38	1.0 1.0 0.25	1.0 1.0 0.13	0.99 1.0 0.0
11	0.96 0.88 1.0	0.88 0.88 0.88	0.87 0.88 0.75	0.87 0.88 0.63	0.87 0.88 0.5	0.87 0.88 0.38	0.87 0.88 0.25	0.87 0.88 0.13	0.87 0.88 0.0
12	0.92 0.75 1.0	0.84 0.75 0.88	0.75 0.75 0.75	0.75 0.75 0.63	0.75 0.75 0.5	0.75 0.75 0.38	0.75 0.75 0.25	0.75 0.75 0.13	0.75 0.75 0.0
13	0.88 0.63 1.0	0.8 0.63 0.88	0.71 0.63 0.75	0.63 0.63 0.63	0.62 0.63 0.5	0.62 0.63 0.38	0.62 0.63 0.25	0.62 0.63 0.13	0.62 0.63 0.0
14	0.84 0.5 1.0	0.76 0.5 0.88	0.67 0.5 0.75	0.59 0.5 0.63	0.5 0.5 0.5	0.5 0.5 0.38	0.5 0.5 0.25	0.5 0.5 0.13	0.5 0.5 0.0
15	0.8 0.38 1.0	0.72 0.38 0.88	0.63 0.38 0.75	0.55 0.38 0.63	0.46 0.38 0.5	0.38 0.38 0.38	0.37 0.38 0.25	0.37 0.38 0.13	0.37 0.38 0.0
16	0.76 0.25 1.0	0.68 0.25 0.88	0.59 0.25 0.75	0.51 0.25 0.63	0.42 0.25 0.5	0.34 0.25 0.38	0.25 0.25 0.25	0.25 0.25 0.13	0.25 0.25 0.0
17	0.72 0.13 1.0	0.64 0.13 0.88	0.55 0.13 0.75	0.47 0.13 0.63	0.38 0.13 0.5	0.3 0.13 0.38	0.21 0.13 0.25	0.13 0.13 0.13	0.12 0.13 0.0
18	0.68 0.0 1.0	0.6 0.0 0.88	0.51 0.0 0.75	0.43 0.0 0.63	0.34 0.0 0.5	0.26 0.0 0.38	0.17 0.0 0.25	0.09 0.0 0.13	0.0 0.0 0.0
19	1.0 1.0 1.0	0.91 1.0 0.88	0.82 1.0 0.75	0.73 1.0 0.63	0.64 1.0 0.5	0.55 1.0 0.38	0.46 1.0 0.25	0.37 1.0 0.13	0.28 1.0 0.0
20	1.0 0.88 0.98	0.88 0.88 0.88	0.79 0.88 0.75	0.7 0.88 0.63	0.61 0.88 0.5	0.52 0.88 0.38	0.43 0.88 0.25	0.34 0.88 0.13	0.25 0.88 0.0
21	1.0 0.75 0.96	0.88 0.75 0.86	0.75 0.75 0.75	0.66 0.75 0.63	0.57 0.75 0.5	0.48 0.75 0.38	0.39 0.75 0.25	0.3 0.75 0.13	0.21 0.75 0.0
22	1.0 0.63 0.94	0.88 0.63 0.84	0.75 0.63 0.73	0.63 0.63 0.63	0.54 0.63 0.5	0.45 0.63 0.38	0.36 0.63 0.25	0.27 0.63 0.13	0.18 0.63 0.0
23	1.0 0.5 0.93	0.88 0.5 0.82	0.75 0.5 0.71	0.63 0.5 0.61	0.5 0.5 0.5	0.41 0.5 0.38	0.32 0.5 0.25	0.23 0.5 0.13	0.14 0.5 0.0
24	1.0 0.38 0.91	0.88 0.38 0.8	0.75 0.38 0.69	0.63 0.38 0.59	0.5 0.38 0.48	0.38 0.38 0.38	0.29 0.38 0.25	0.2 0.38 0.13	0.11 0.38 0.0
25	1.0 0.25 0.89	0.88 0.25 0.78	0.75 0.25 0.68	0.63 0.25 0.57	0.5 0.25 0.46	0.38 0.25 0.36	0.25 0.25 0.25	0.16 0.25 0.13	0.07 0.25 0.0
26	1.0 0.13 0.87	0.88 0.13 0.76	0.75 0.13 0.66	0.63 0.13 0.55	0.5 0.13 0.44	0.38 0.13 0.34	0.25 0.13 0.23	0.13 0.13 0.13	0.04 0.13 0.0
27	1.0 0.0 0.85	0.88 0.0 0.75	0.75 0.0 0.64	0.63 0.0 0.53	0.5 0.0 0.43	0.38 0.0 0.32	0.25 0.0 0.21	0.13 0.0 0.11	0.0 0.0 0.0

	k	*lab*rgb**		
01	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0
02	0.13 0.13 0.13	0.13 0.13 0.13	0.13 0.13 0.13	0.13 0.13 0.13
03	0.25 0.25 0.25	0.25 0.25 0.25	0.25 0.25 0.25	0.25 0.25 0.25
04	0.38 0.38 0.38	0.38 0.38 0.38	0.38 0.38 0.38	0.38 0.38 0.38
05	0.5 0.5 0.5	0.5 0.5 0.5	0.5 0.5 0.5	0.5 0.5 0.5
06	0.63 0.63 0.63	0.63 0.63 0.63	0.63 0.63 0.63	0.63 0.63 0.63
07	0.75 0.75 0.75	0.75 0.75 0.75	0.75 0.75 0.75	0.75 0.75 0.75
08	0.88 0.88 0.88	0.88 0.88 0.88	0.88 0.88 0.88	0.88 0.88 0.88
09	1.0 1.0 1.0	1.0 1.0 1.0	1.0 1.0 1.0	1.0 1.0 1.0
10	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0
11	0.07 0.07 0.07	0.07 0.07 0.07	0.07 0.07 0.07	0.07 0.07 0.07
12	0.13 0.13 0.13	0.13 0.13 0.13	0.13 0.13 0.13	0.13 0.13 0.13
13	0.2 0.2 0.2	0.2 0.2 0.2	0.2 0.2 0.2	0.2 0.2 0.2
14	0.27 0.27 0.27	0.27 0.27 0.27	0.27 0.27 0.27	0.27 0.27 0.27
15	0.33 0.33 0.33	0.33 0.33 0.33	0.33 0.33 0.33	0.33 0.33 0.33
16	0.4 0.4 0.4	0.4 0.4 0.4	0.4 0.4 0.4	0.4 0.4 0.4
17	0.47 0.47 0.47	0.47 0.47 0.47	0.47 0.47 0.47	0.47 0.47 0.47
18	0.53 0.53 0.53	0.53 0.53 0.53	0.53 0.53 0.53	0.53 0.53 0.53
19	0.6 0.6 0.6	0.6 0.6 0.6	0.6 0.6 0.6	0.6 0.6 0.6
20	0.67 0.67 0.67	0.67 0.67 0.67	0.67 0.67 0.67	0.67 0.67 0.67
21	0.73 0.73 0.73	0.73 0.73 0.73	0.73 0.73 0.73	0.73 0.73 0.73
22	0.8 0.8 0.8	0.8 0.8 0.8	0.8 0.8 0.8	0.8 0.8 0.8
23	0.87 0.87 0.87	0.87 0.87 0.87	0.87 0.87 0.87	0.87 0.87 0.87
24	0.93 0.93 0.93	0.93 0.93 0.93	0.93 0.93 0.93	0.93 0.93 0.93
25	1.0 1.0 1.0	1.0 1.0 1.0	1.0 1.0 1.0	1.0 1.0 1.0
26	0.0 0.0 0.0	1.0 0.16 0.0	0.99 1.0 0.0	0.28 1.0 0.0
27	1.0 1.0 1.0	0.0 0.81 1.0	0.68 0.0 1.0	1.0 0.0 0.85

Input and output:
Colorimetric Printer Reflective System FRS15_90a
data for any colour:
u^*_e and number *no.* = 00 .. 15
elementary hue text:
u^*_e = 16 hues *r00j, r25j, ..., b75r*
contrast reduction factor:
c_R = 0.9

FRS15_90a; adapted (a) CIELAB data

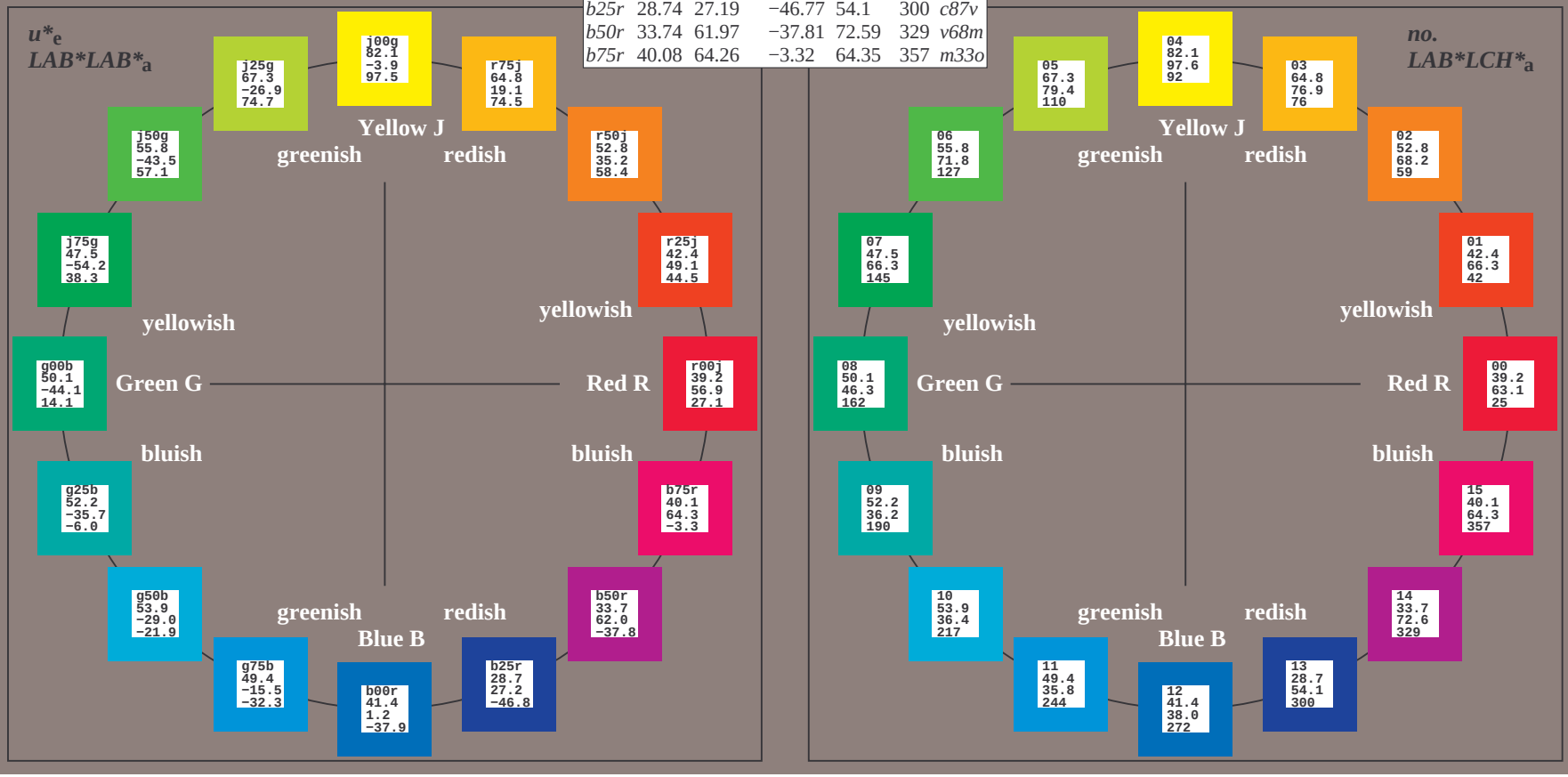
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

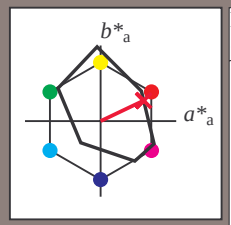
FRS15_90a; adapted (a) CIELAB data

Name	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	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	−2.89	71.56	71.62	92
G_{CIE}	52.23	−42.42	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.47	46.49	272



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *r00j* u^*_d = *m81o*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

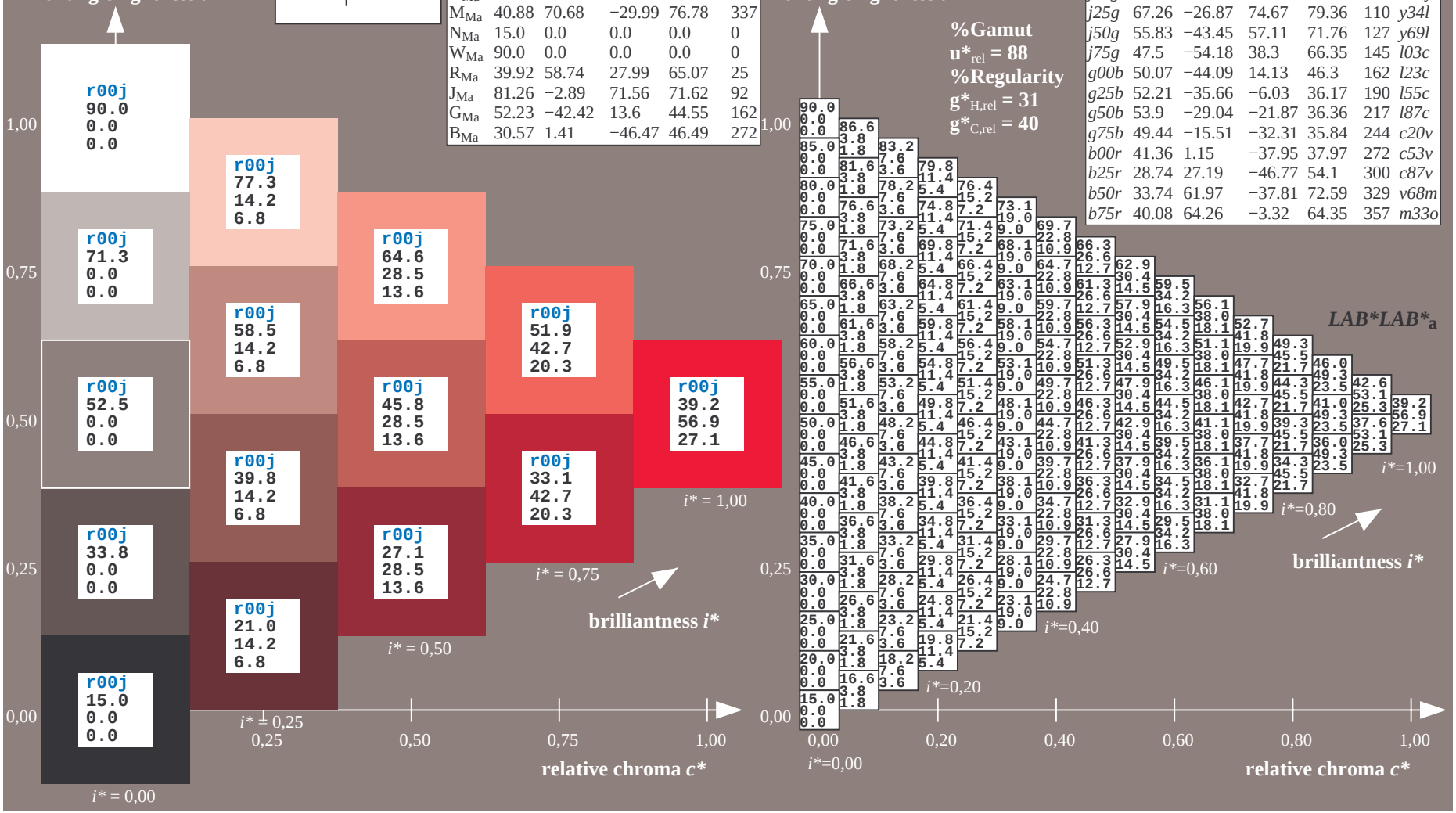
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 39 57 27
LAB*LCH*$_{Ma}$: 39 63 25
lab*rgb*$_{Ma}$: 1.0 0.0 0.0
lab*olv*$_{Ma}$: 1.0 0.0 0.18
triangle lightness *t**

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

u^*_e = *r00j*
LAB*LAB*$_a$

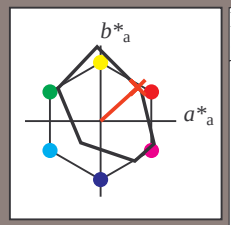
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.117$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *r25j* u^*_d = *o10y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

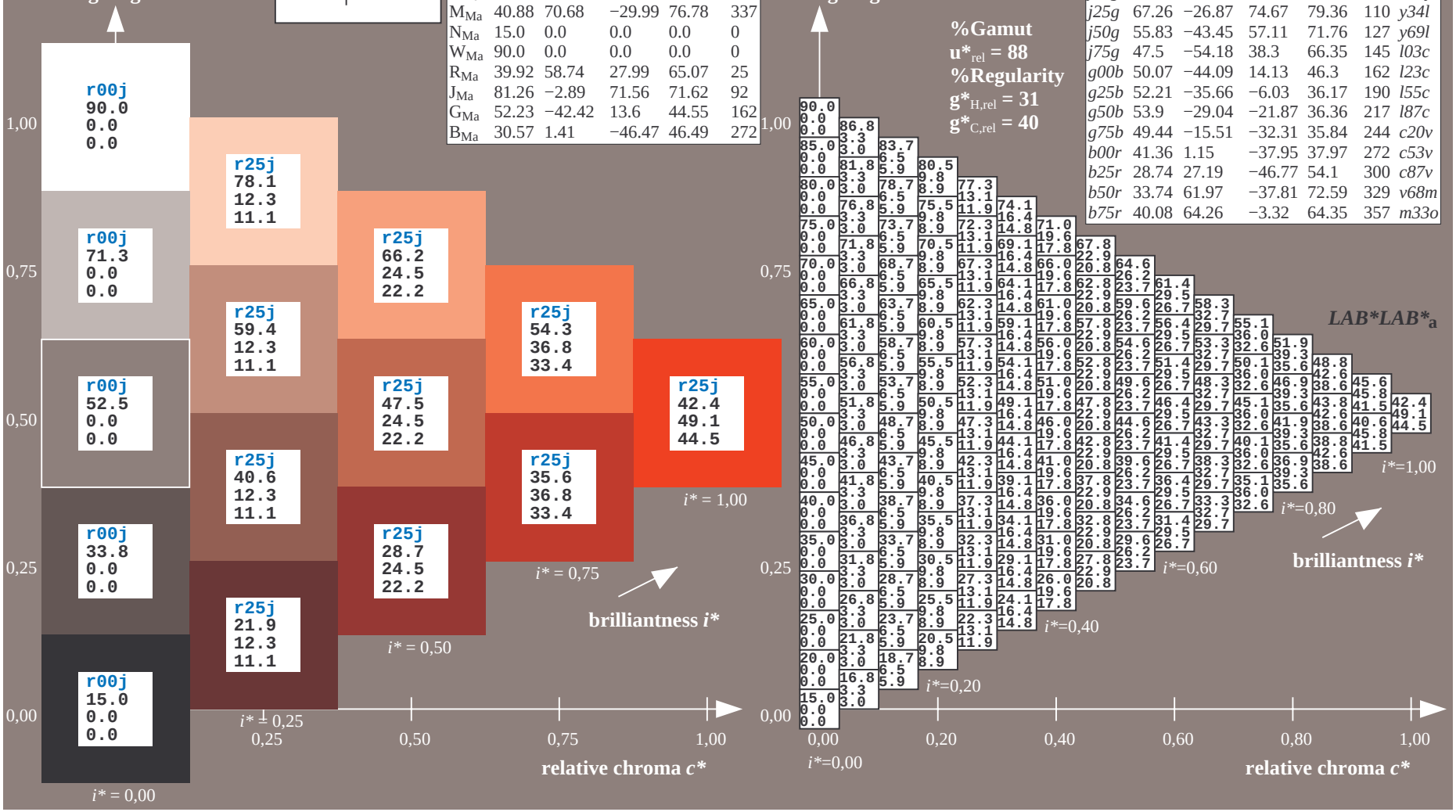
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 42 49 44
LAB*LCH*$_{Ma}$: 42 66 42
lab*rgb*$_{Ma}$: 1.0 0.25 0.0
lab*olv*$_{Ma}$: 1.0 0.1 0.0
triangle lightness *t**

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

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

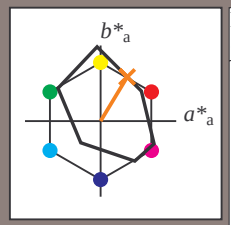
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *r50j* u^*_d = *o40y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

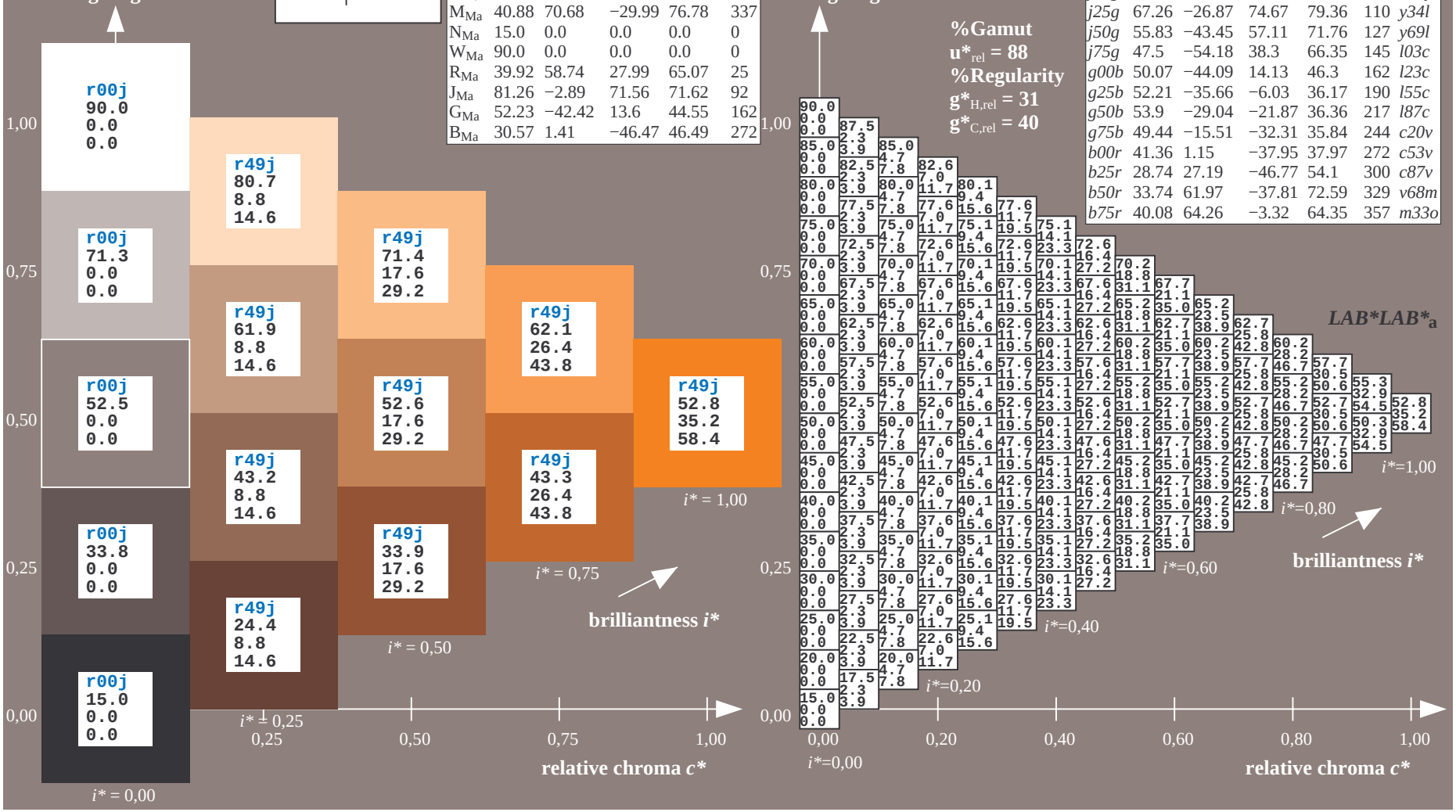
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 53 35 58
LAB*LCH*$_{Ma}$: 53 68 58
lab*rgb*$_{Ma}$: 1.0 0.5 0.0
lab*olv*$_{Ma}$: 1.0 0.4 0.0
triangle lightness *t**

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

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

FRS15_90a; adapted (a) CIELAB data

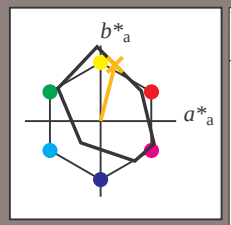
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = r75j$ $u^*_d = o69y$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

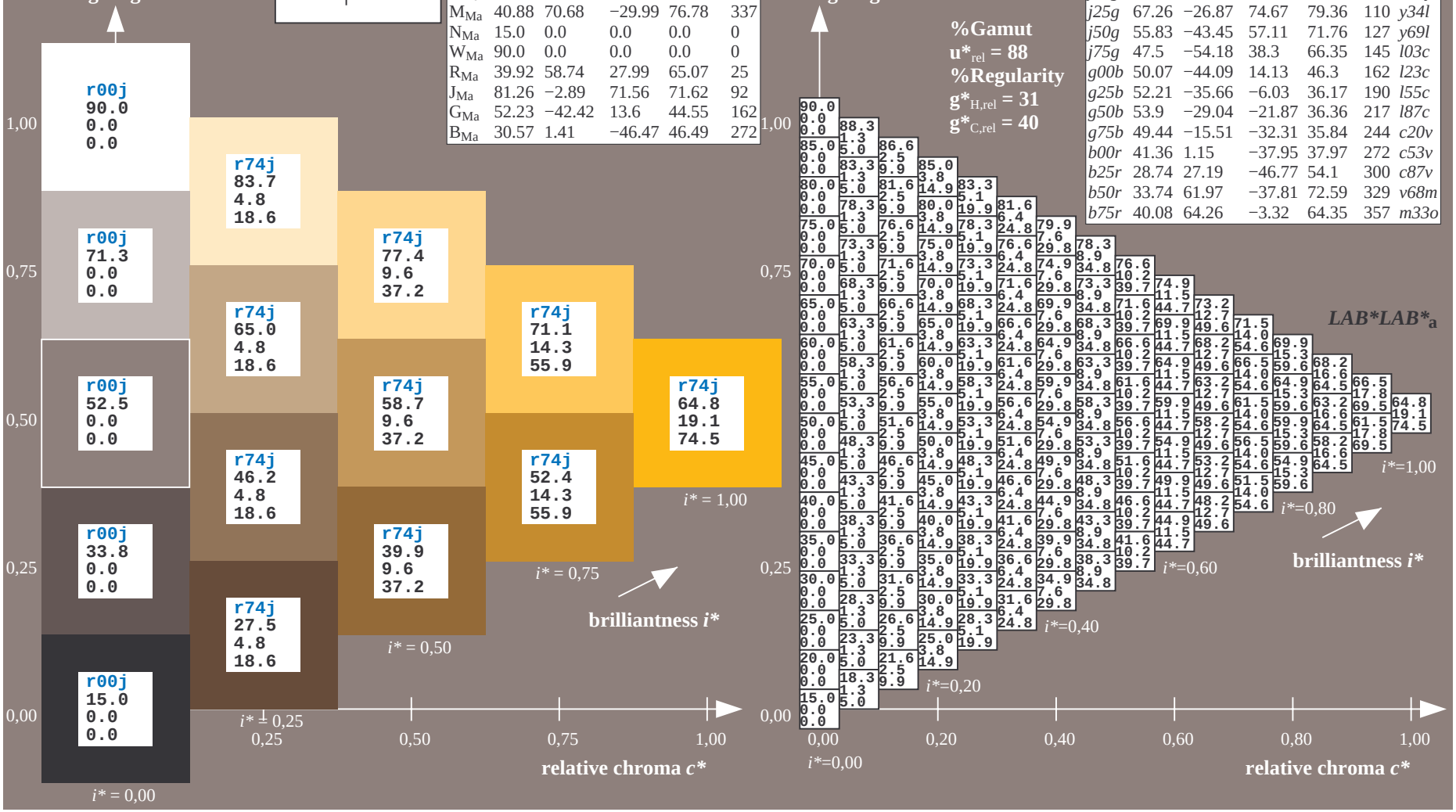
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 65 19 74**
***LAB*LCH*Ma*: 65 77 75**
***lab*rgb*Ma*: 1.0 0.75 0.0**
***lab*olv*Ma*: 1.0 0.7 0.0**
triangle lightness *t**

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

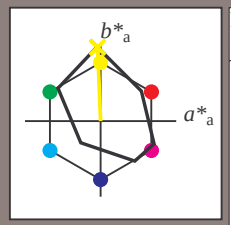
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



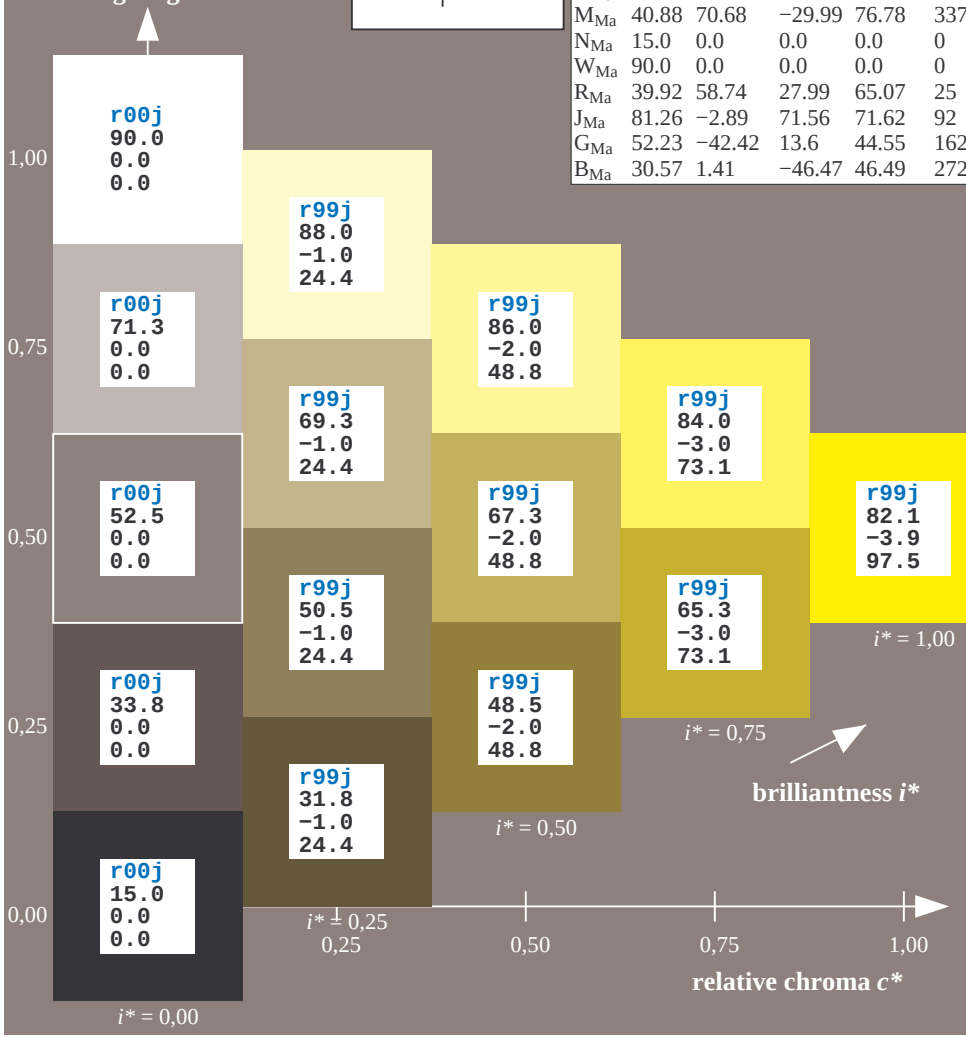
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.256$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j00g* u^*_d = *o98y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272



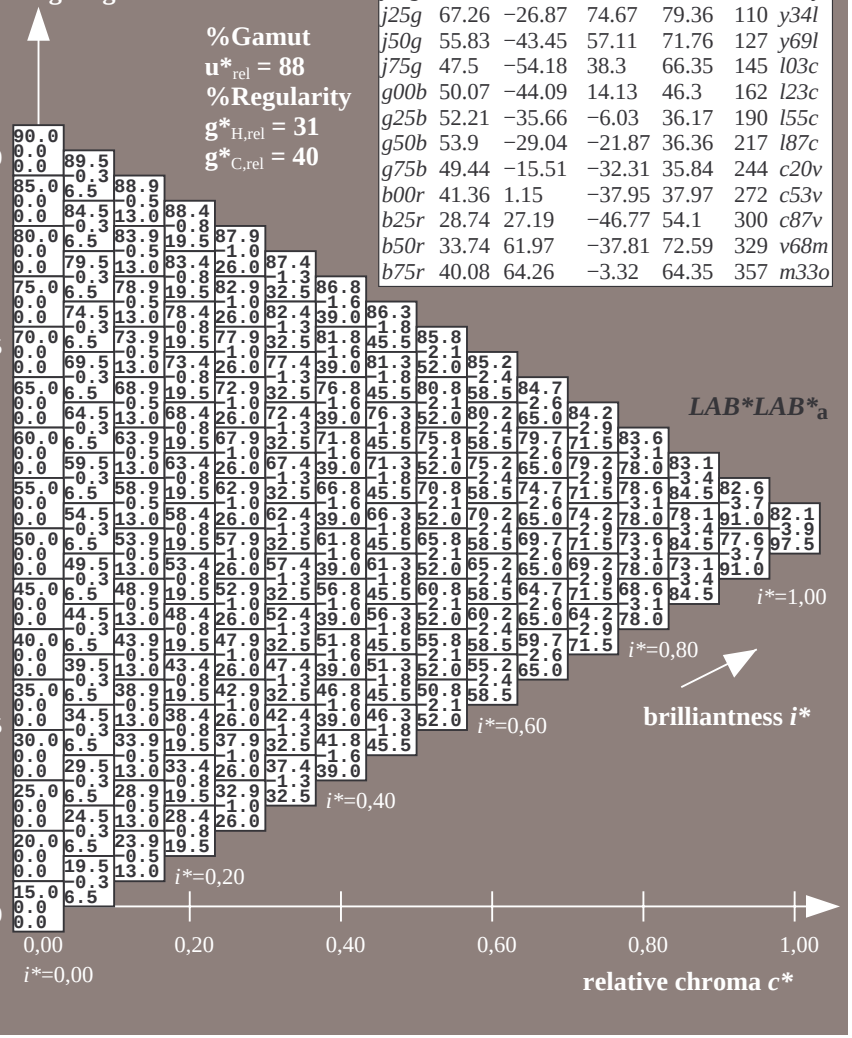
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 82 −4 98
LAB*LCH*$_{Ma}$: 82 98 92
lab*rgb*$_{Ma}$: 1.0 1.0 0.0
lab*olv*$_{Ma}$: 1.0 0.99 0.0
triangle lightness *t**

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

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

FRS15_90a; adapted (a) CIELAB data

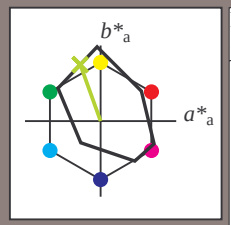
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

$u^*_e = j25g$
$LAB^*LAB^*_a$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = j25g$ $u^*_d = y34l$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

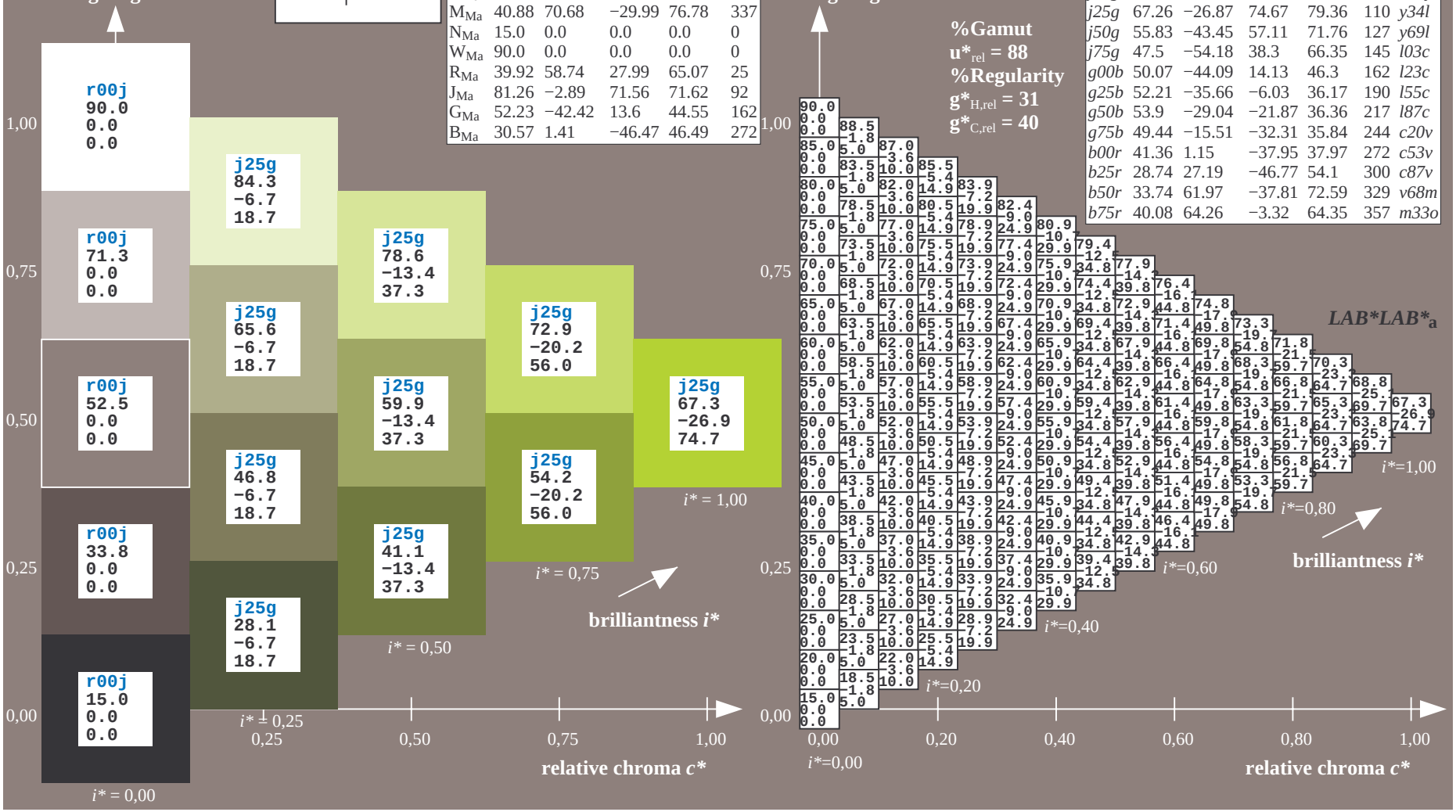
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 67 −27 75**
***LAB*LCH*Ma*: 67 79 109**
***lab*rgb*Ma*: 0.75 1.0 0.0**
***lab*olv*Ma*: 0.66 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

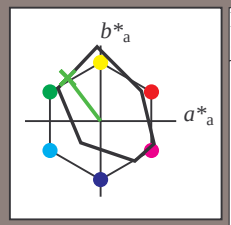
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.354$

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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = j50g$ $u^*_d = y69l$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

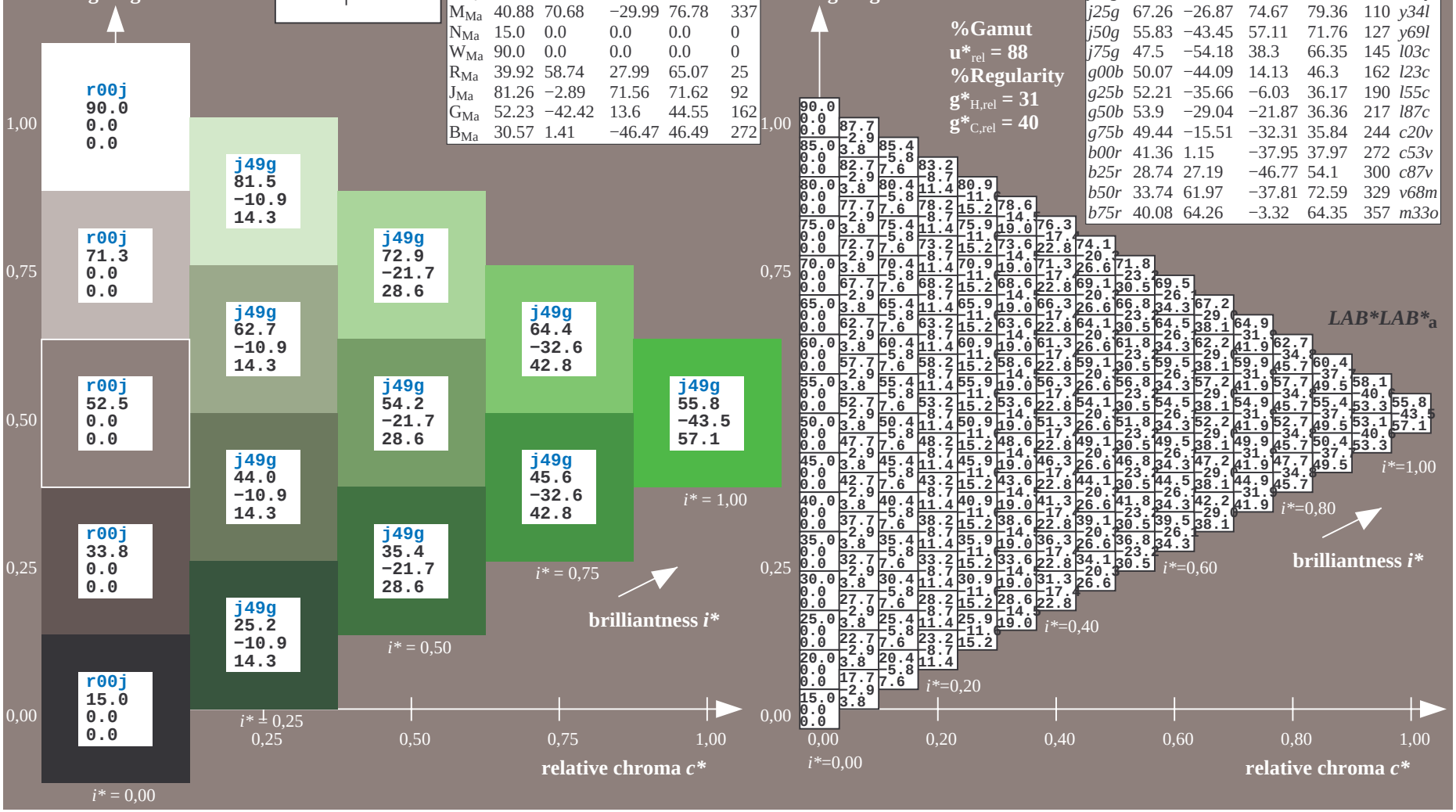
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 56 −43 57
LAB*LCH*$_{Ma}$: 56 72 127
lab*rgb*$_{Ma}$: 0.5 1.0 0.0
lab*olv*$_{Ma}$: 0.3 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

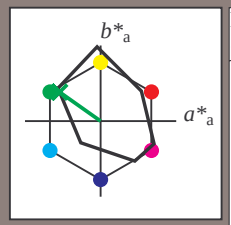
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = j75g$ $u^*_d = l03c$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

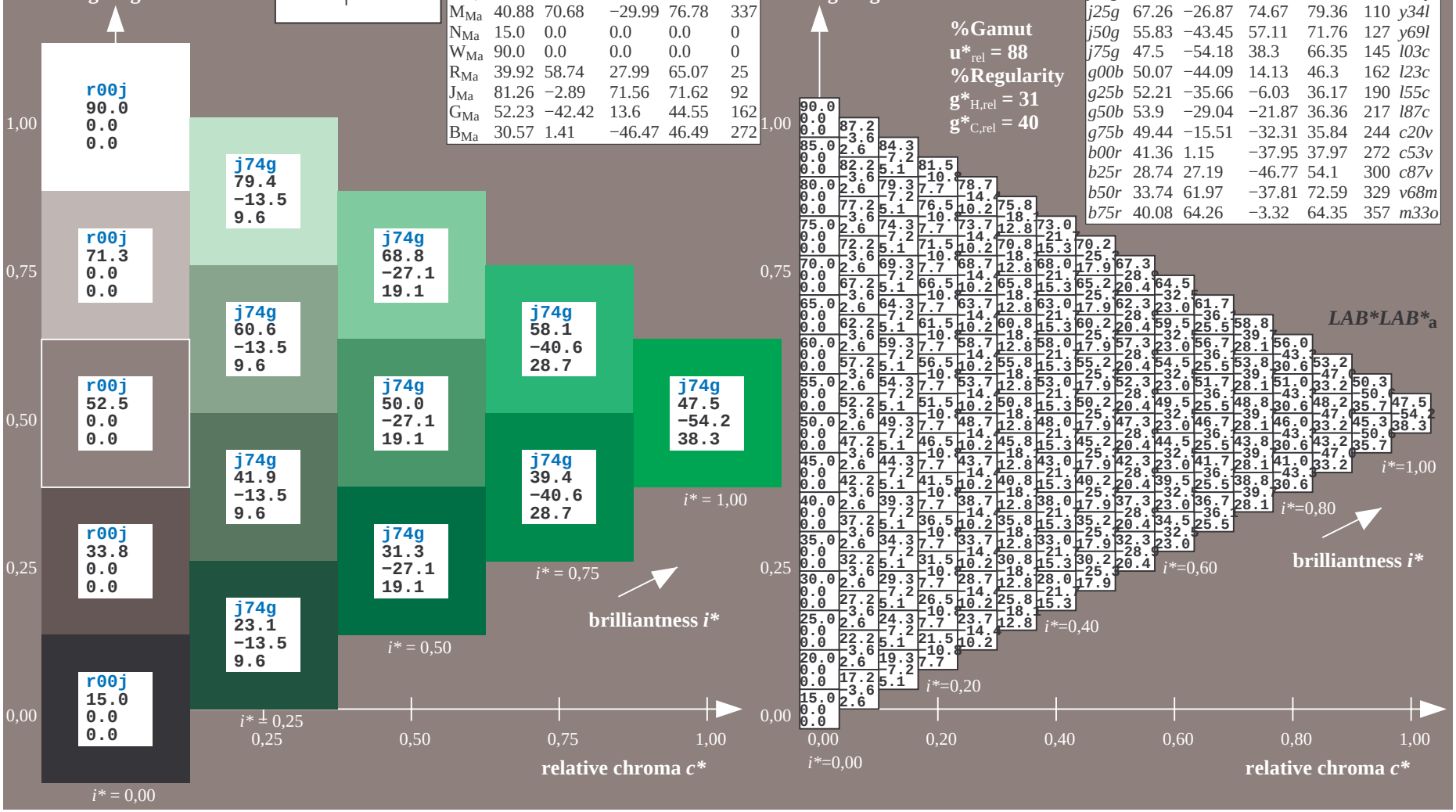
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 48 −54 38
LAB*LCH*$_{Ma}$: 48 66 144
lab*rgb*$_{Ma}$: 0.25 1.0 0.0
lab*olv*$_{Ma}$: 0.0 1.0 0.03
triangle lightness *t**

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

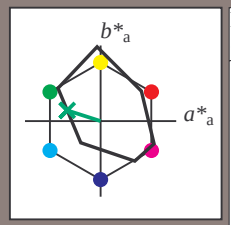
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



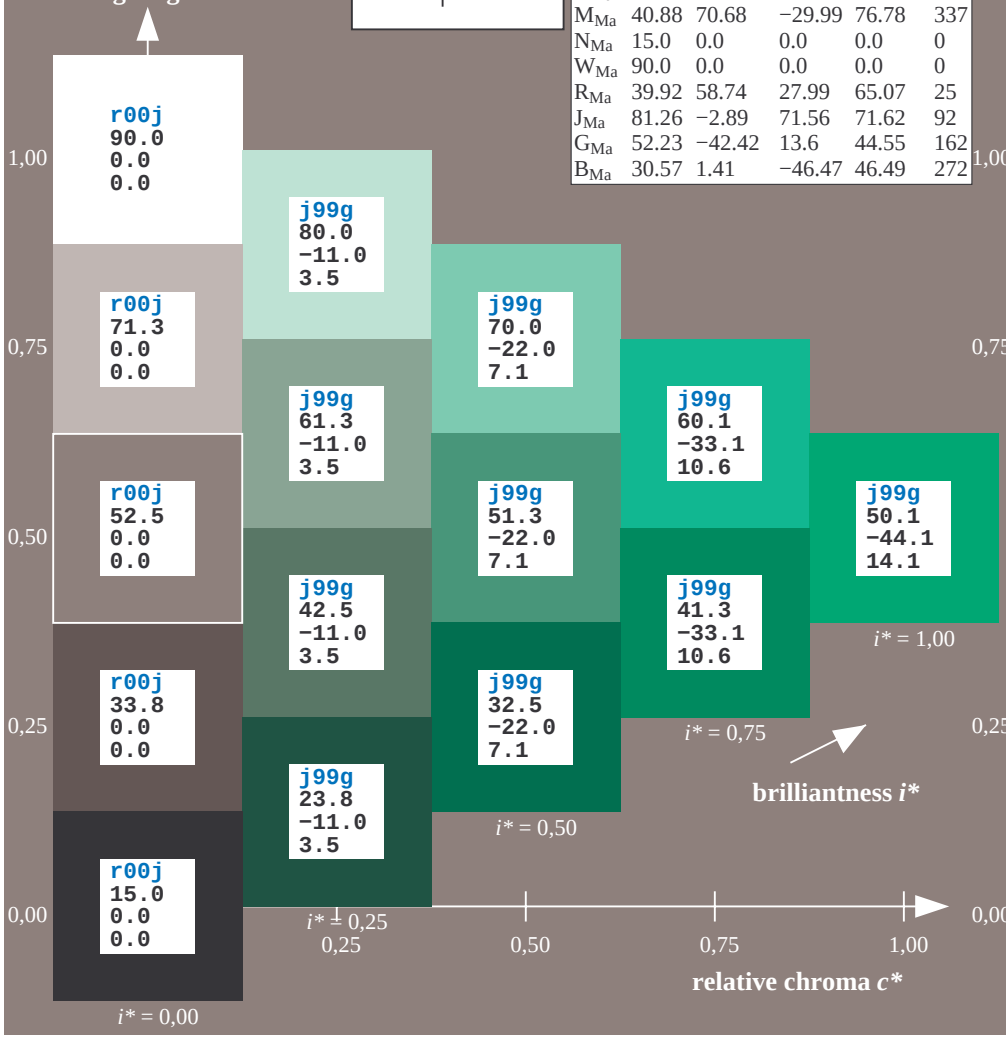
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.451$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *g00b* u^*_d = *l23c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272



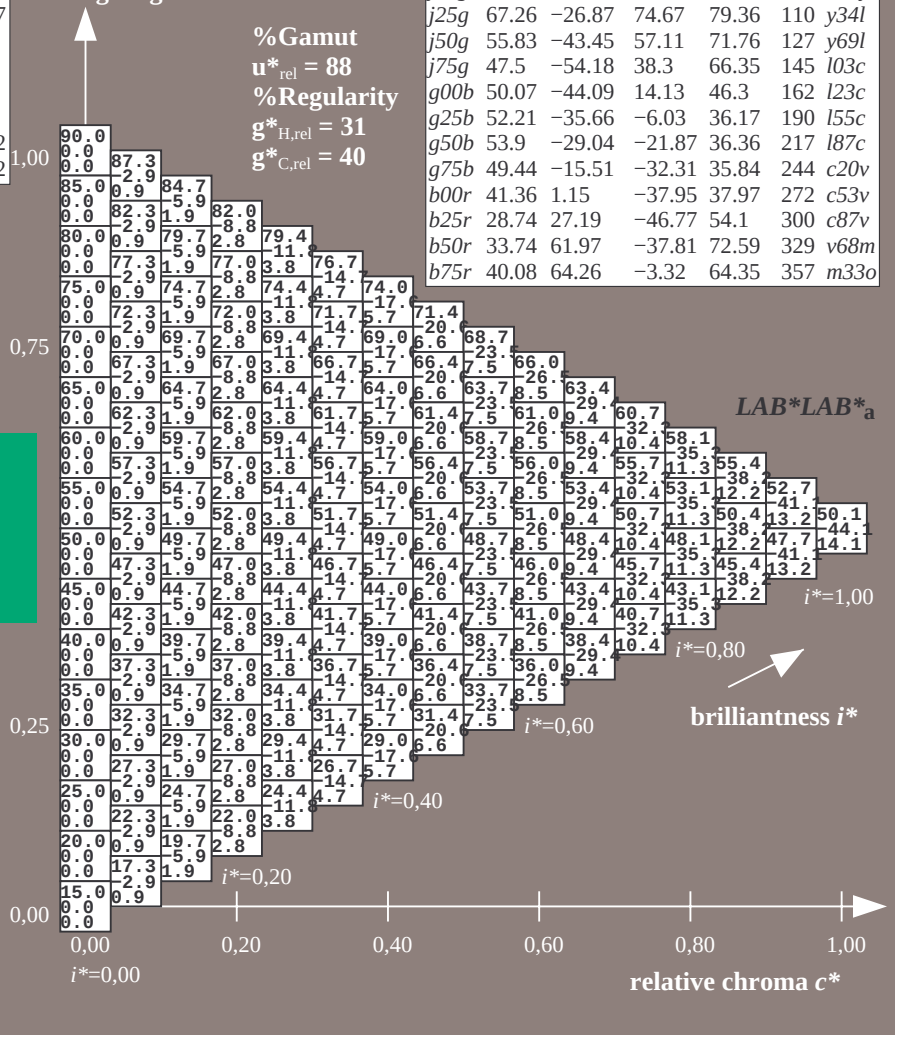
Data for maximum colour (Ma):
*LAB*LAB**$_{Ma}$: 50 −44 14
*LAB*LCH**$_{Ma}$: 50 46 162
*lab*rgb**$_{Ma}$: 0.0 1.0 0.0
*lab*olv**$_{Ma}$: 0.0 1.0 0.23
triangle lightness *t**

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

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

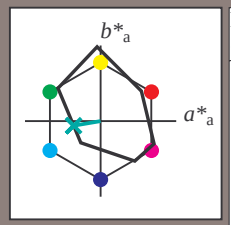
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *g25b* u^*_d = *l55c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

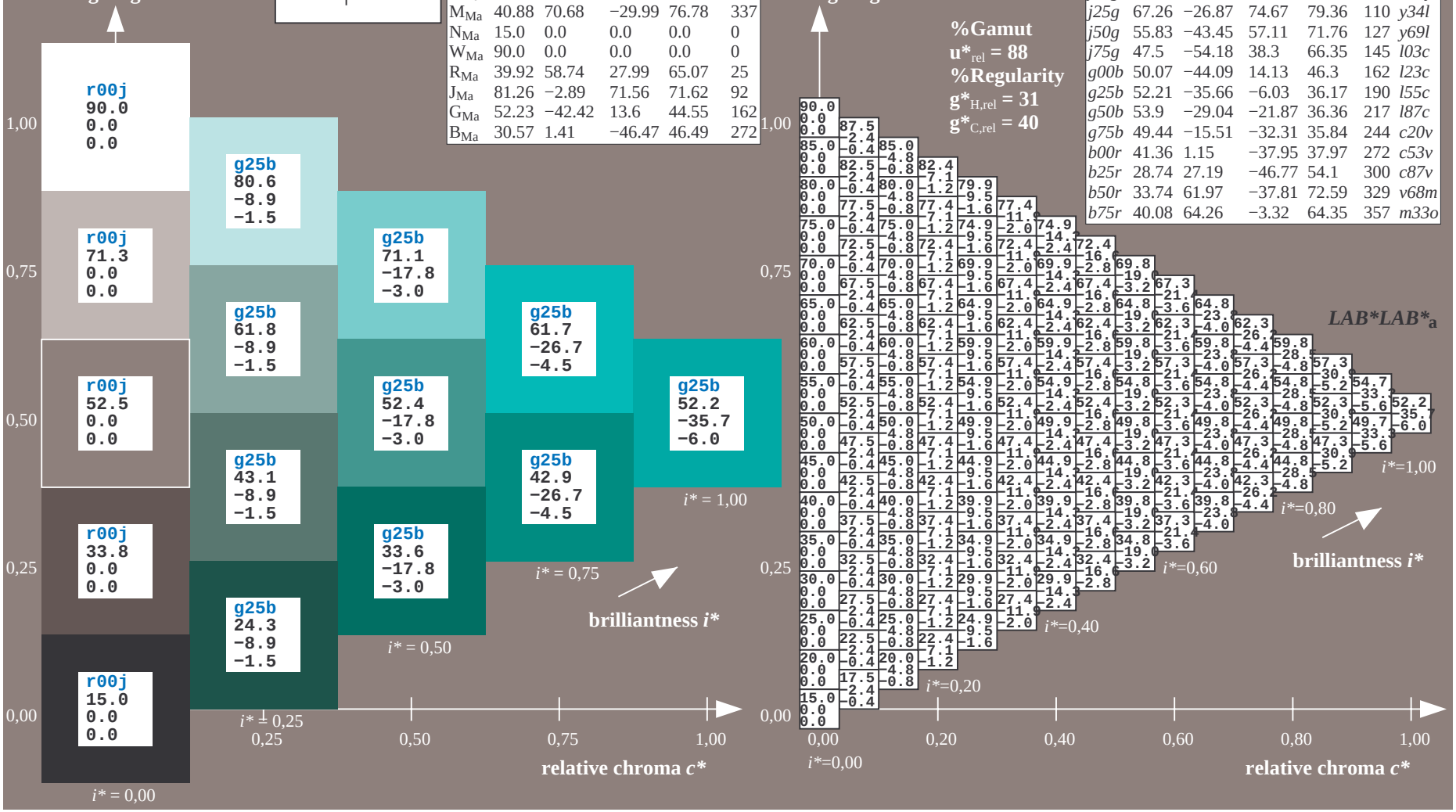
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 52 −36 −6
LAB*LCH*$_{Ma}$: 52 36 189
lab*rgb*$_{Ma}$: 0.0 1.0 0.5
lab*olv*$_{Ma}$: 0.0 1.0 0.55
triangle lightness *t**

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

u^*_e = *g25b*
LAB*LAB*$_a$

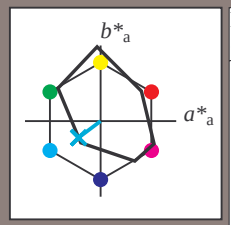
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



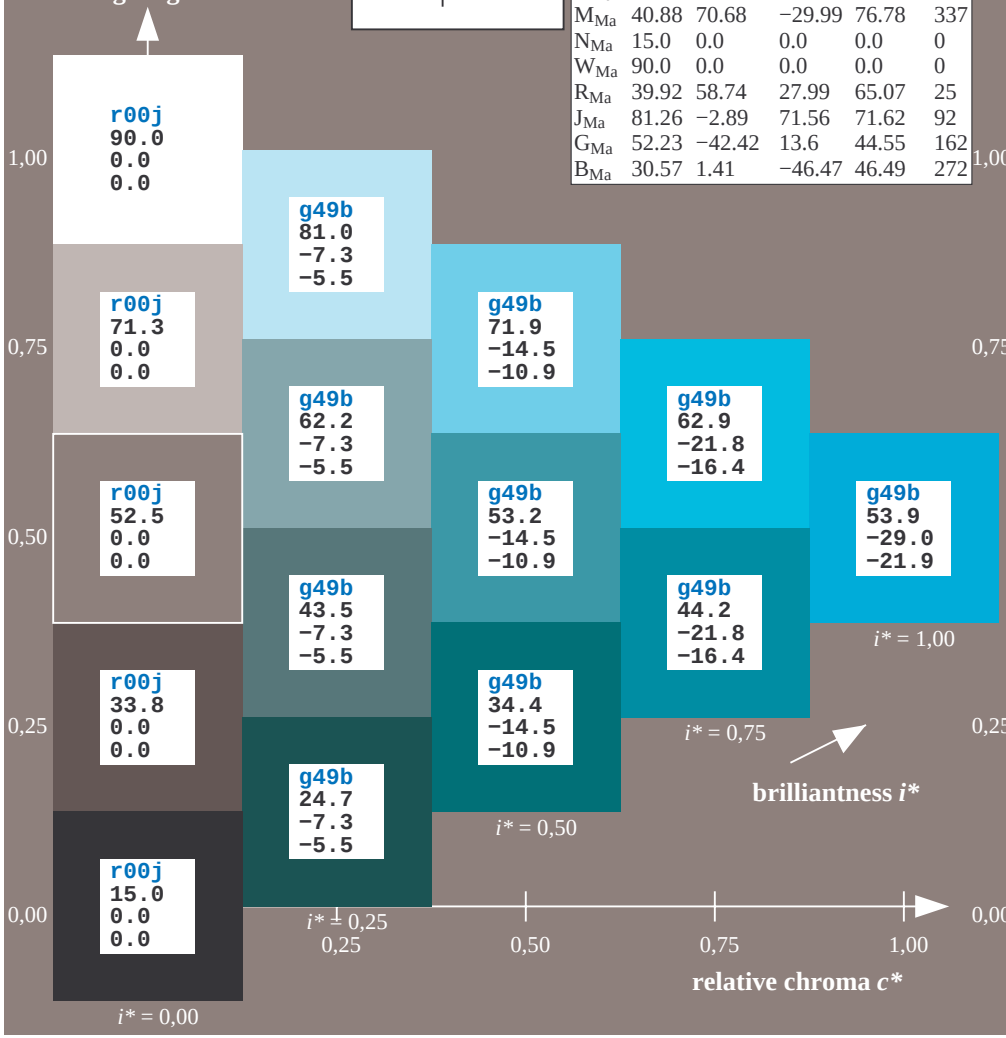
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.603$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *g50b* u^*_d = *l87c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272



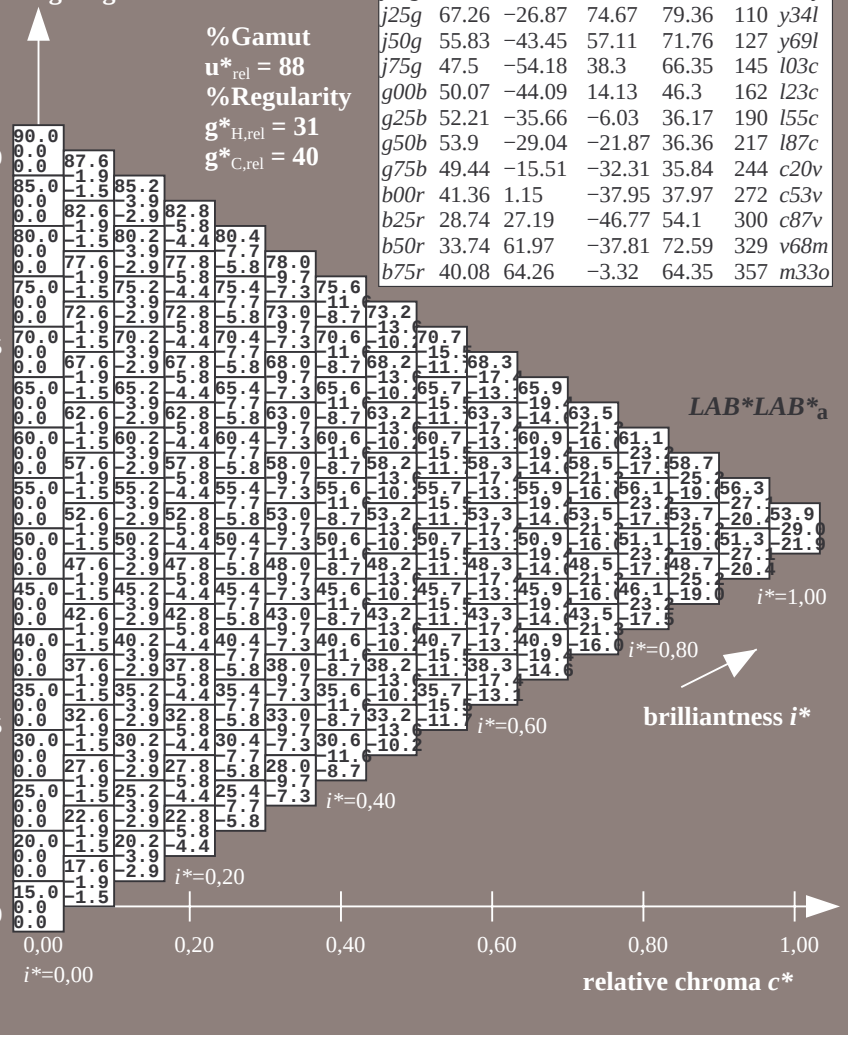
Data for maximum colour (Ma):
$LAB^*LAB^*_{Ma}$: 54 −29 −22
$LAB^*LCH^*_{Ma}$: 54 36 216
$lab^*rgb^*_{Ma}$: 0.0 1.0 1.0
$lab^*olv^*_{Ma}$: 0.0 1.0 0.88
triangle lightness *t**

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

u^*_e = *g50b*
$LAB^*LAB^*_a$

FRS15_90a; adapted (a) CIELAB data

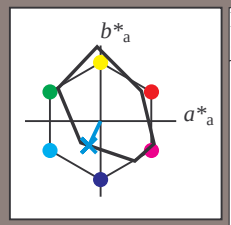
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.679$

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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = g75b$ $u^*_d = c20v$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

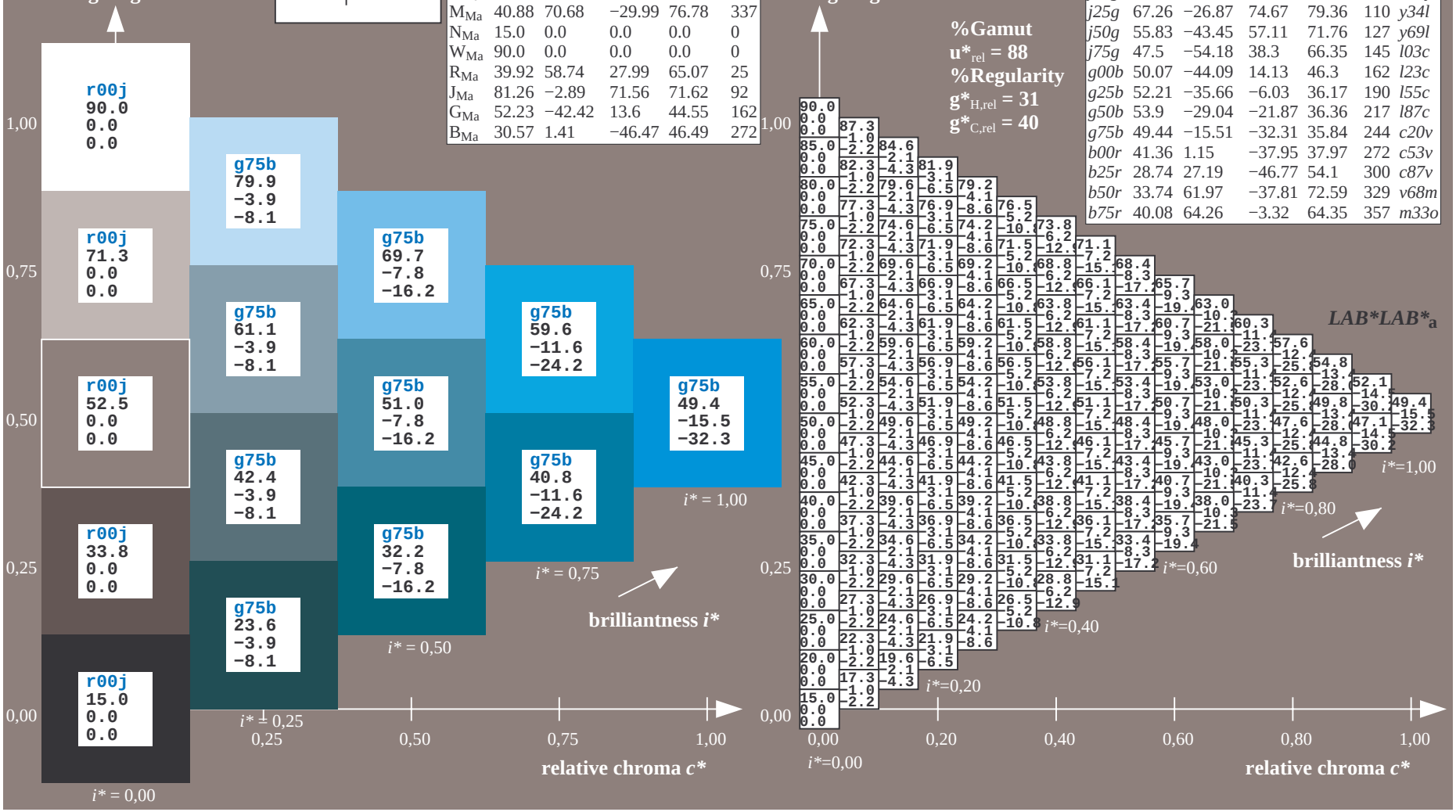
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 49 −16 −32**
***LAB*LCH*Ma*: 49 36 244**
***lab*rgb*Ma*: 0.0 0.5 1.0**
***lab*olv*Ma*: 0.0 0.8 1.0**
triangle lightness *t**

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

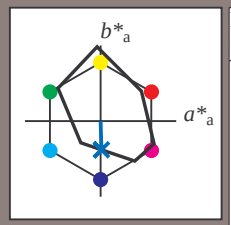
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *b00r* u^*_d = *c53v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

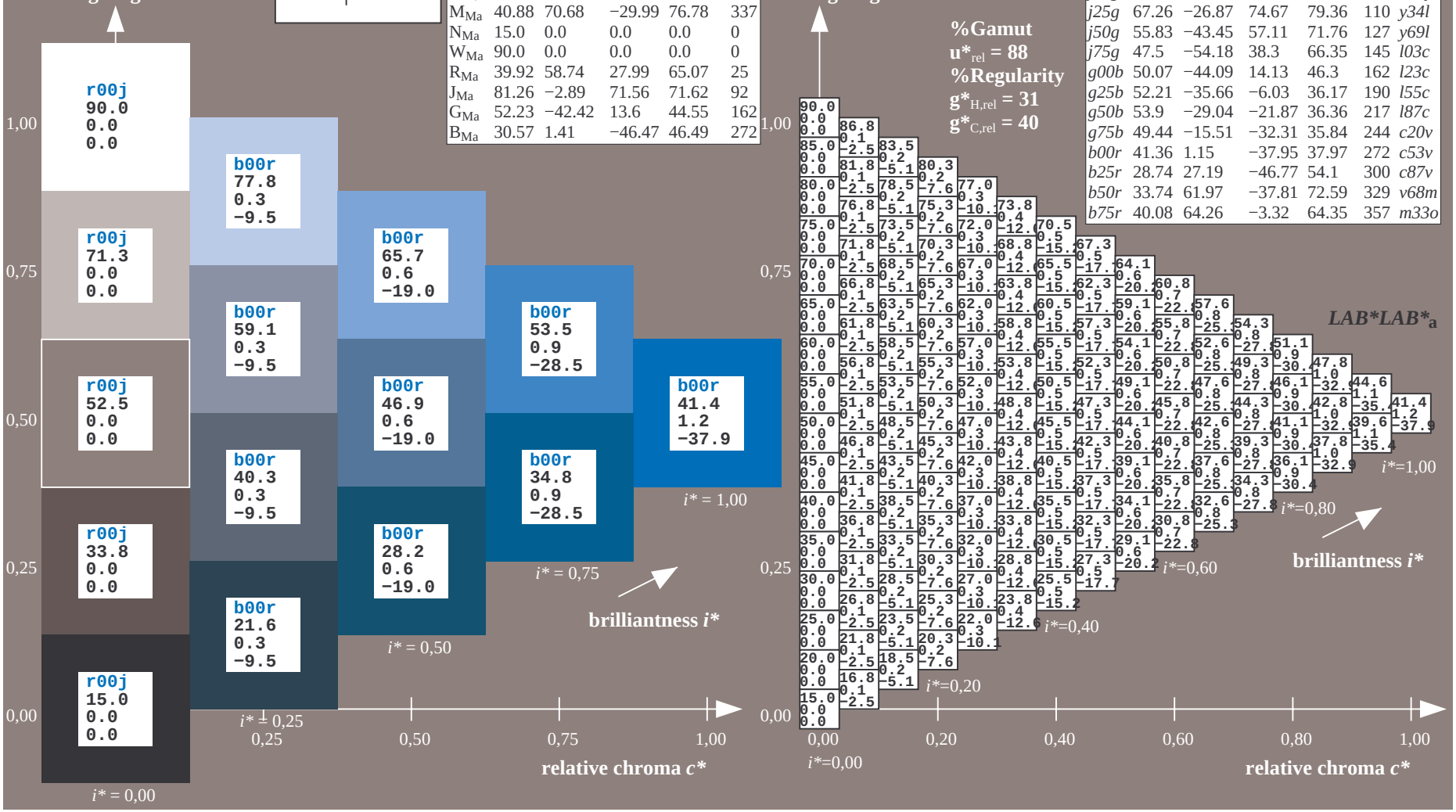
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 41 1 −38
LAB*LCH*$_{Ma}$: 41 38 271
lab*rgb*$_{Ma}$: 0.0 0.0 1.0
lab*olv*$_{Ma}$: 0.0 0.47 1.0
triangle lightness *t**

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

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

FRS15_90a; adapted (a) CIELAB data

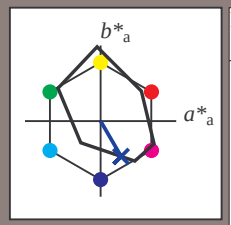
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = b25r$ $u^*_d = c87v$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

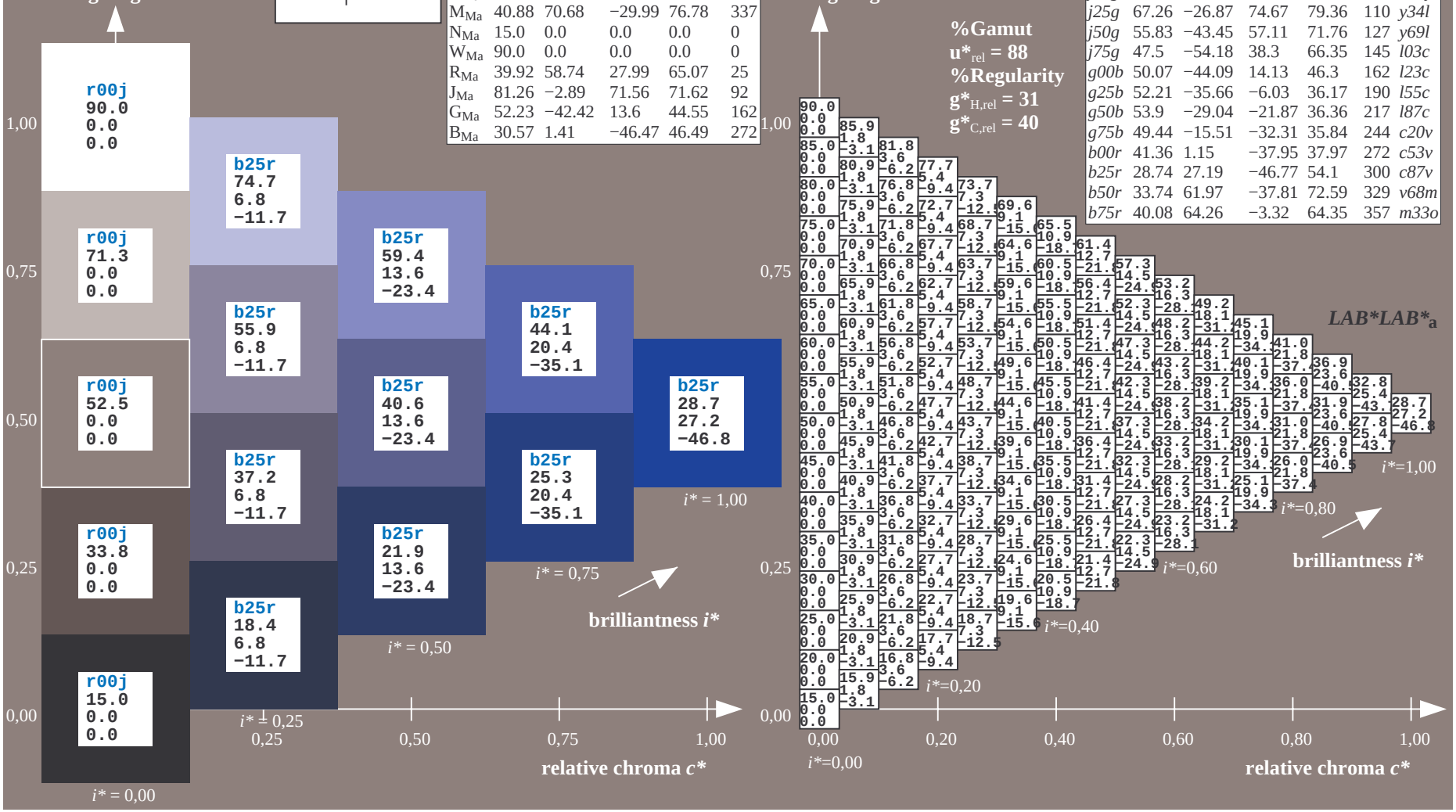
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 29 27 −47
LAB*LCH*$_{Ma}$: 29 54 300
lab*rgb*$_{Ma}$: 0.5 0.0 1.0
lab*olv*$_{Ma}$: 0.0 0.12 1.0
triangle lightness *t**

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

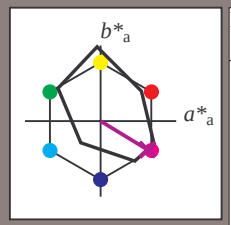
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.913$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *b50r* u^*_d = *v68m*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 34 62 −38
LAB*LCH*$_{Ma}$: 34 73 328
lab*rgb*$_{Ma}$: 1.0 0.0 1.0
lab*olv*$_{Ma}$: 0.68 0.0 1.0
triangle lightness *t**

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

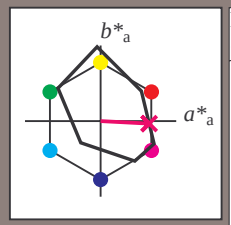
u^*_e = *b50r*
LAB*LAB*$_a$

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*

Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.992$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *b75r* u^*_d = *m33o*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

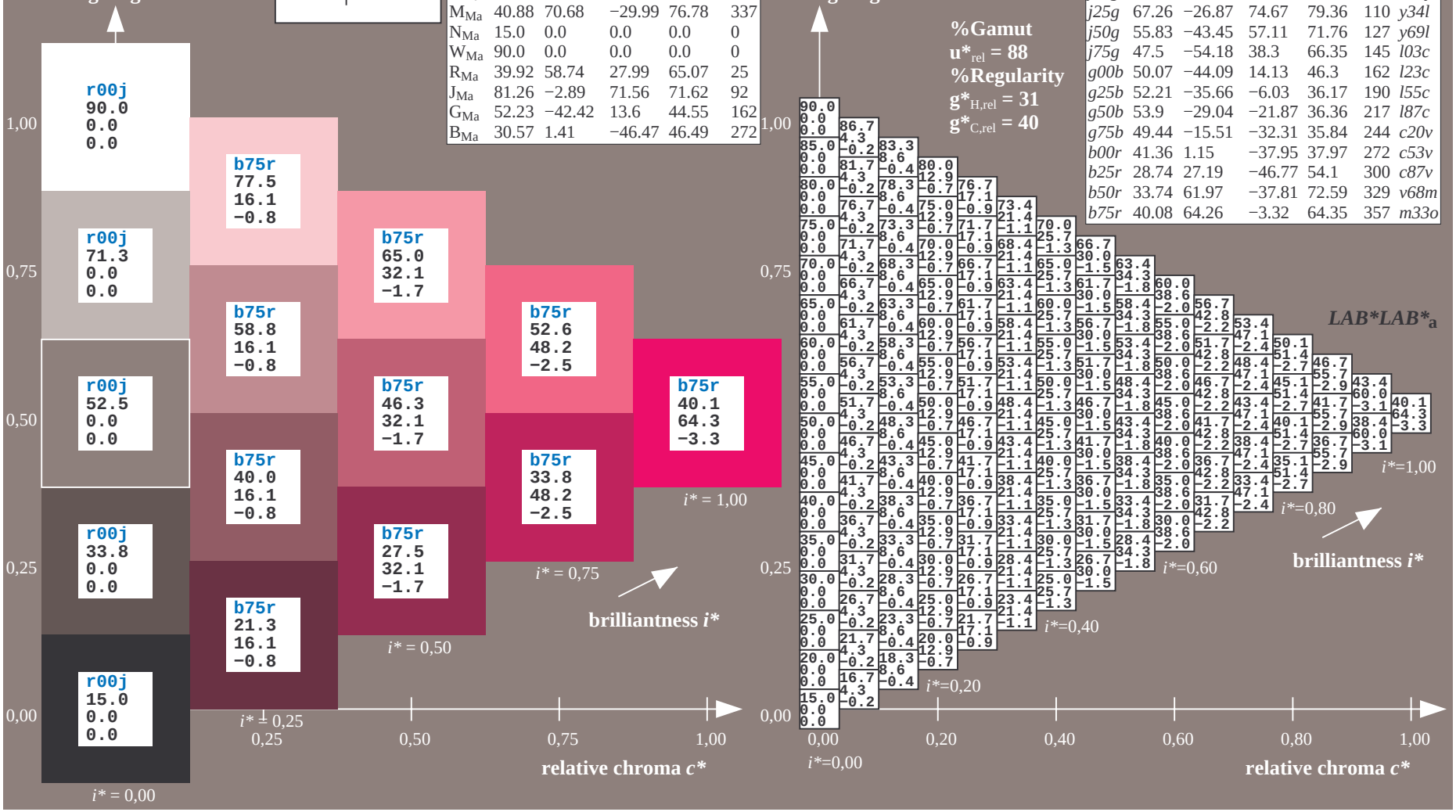
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 40 64 −3
LAB*LCH*$_{Ma}$: 40 64 357
lab*rgb*$_{Ma}$: 1.0 0.0 0.5
lab*olv*$_{Ma}$: 1.0 0.0 0.66
triangle lightness *t**

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

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

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*

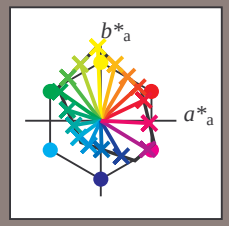


	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	a	b	c	d	e	f	g	h	i	j	k	LAB*LAB*a		
01	15.0	19.0	23.0	27.0	31.0	35.0	39.0	43.0	47.0	18.0	23.4	26.7	30.6	34.6	38.6	42.6	46.6	50.6	21.0	25.4	31.9	34.7	38.5	42.3	46.3	50.3	54.2	90.0	83.6	77.2	70.8	64.4	58.0	51.6	45.2	38.8	15.0	15.0	15.0	15.0
	0.0	-7.0	-14.1	-21.1	-28.2	-35.2	-42.3	-49.3	-56.3	6.7	-0.6	-8.7	-15.8	-22.9	-29.9	-37.0	-44.0	-51.1	13.5	7.5	-1.2	-9.9	-17.3	-24.5	-31.6	-38.7	-45.8	0.0	6.7	13.5	20.2	27.0	33.7	40.4	47.2	53.9	0.0	0.0	0.0	0.0
	0.0	5.4	10.9	16.3	21.7	27.2	32.6	38.0	43.5	5.0	12.3	16.6	21.9	27.3	32.8	38.2	43.6	49.1	9.9	15.8	24.6	28.2	33.2	38.5	43.8	49.2	54.7	0.0	5.0	9.9	14.9	19.8	24.8	29.8	34.7	39.7	0.0	0.0	0.0	0.0
02	15.6	20.0	24.2	28.4	32.6	36.7	40.8	44.9	48.9	18.2	24.4	28.4	32.4	36.4	40.4	44.3	48.3	52.3	21.2	27.4	32.8	36.1	40.0	44.0	48.0	52.0	56.0	85.6	80.6	74.2	67.8	61.4	55.0	48.6	42.2	35.8	24.4	24.4	24.4	24.4
	5.7	-3.3	-9.2	-15.4	-21.8	-28.3	-35.0	-41.7	-48.5	8.8	0.0	-7.0	-14.1	-21.1	-28.2	-35.2	-42.3	-49.3	15.4	6.7	-0.6	-8.7	-15.8	-22.9	-29.9	-37.0	-44.0	-3.3	0.0	6.7	13.5	20.2	27.0	33.7	40.4	47.2	0.0	0.0	0.0	0.0
	-6.6	-3.6	-0.8	2.5	6.4	10.6	15.2	19.9	24.7	-3.7	0.0	5.4	10.9	16.3	21.7	27.2	32.6	38.0	1.8	5.0	12.3	16.6	21.9	27.3	32.8	38.2	43.6	-3.6	0.0	5.0	9.9	14.9	19.8	24.8	29.8	34.7	0.0	0.0	0.0	0.0
03	16.3	21.8	24.9	29.2	33.5	37.7	41.9	46.1	50.2	18.7	25.0	29.3	33.6	37.8	42.0	46.1	50.2	54.3	21.5	27.6	33.8	37.7	41.7	45.7	49.7	53.7	57.7	81.2	76.2	71.3	64.9	58.5	52.1	45.7	39.3	32.9	33.8	33.8	33.8	33.8
	11.3	-0.2	-6.5	-12.5	-18.4	-24.5	-30.7	-37.1	-43.5	14.3	5.7	-3.3	-9.2	-15.4	-21.8	-28.3	-35.0	-41.7	17.7	8.8	0.0	-7.0	-14.1	-21.1	-28.2	-35.2	-42.3	-6.5	-3.3	0.0	6.7	13.5	20.2	27.0	33.7	40.4	0.0	0.0	0.0	0.0
	-13.2	-9.3	-7.2	-4.3	-1.6	1.5	5.0	8.8	12.8	-10.5	-6.6	-3.6	-0.8	2.5	6.4	10.6	15.2	19.9	-7.5	-3.7	0.0	5.4	10.9	16.3	21.7	27.2	32.6	-7.2	-3.6	0.0	5.0	9.9	14.9	19.8	24.8	29.8	0.0	0.0	0.0	0.0
04	16.9	23.4	26.7	29.9	34.1	38.4	42.7	46.9	51.2	19.3	25.6	31.2	34.3	38.6	42.8	47.1	51.3	55.4	21.9	28.1	34.4	38.7	43.0	47.2	51.4	55.5	59.6	76.7	71.8	66.8	61.9	55.5	49.1	42.7	36.3	29.9	43.1	43.1	43.1	43.1
	17.0	3.5	-3.4	-9.8	-15.8	-21.7	-27.6	-33.7	-39.8	20.0	11.3	-0.2	-6.5	-12.5	-18.4	-24.5	-30.7	-37.1	23.1	14.3	5.7	-3.3	-9.2	-15.4	-21.8	-28.3	-35.0	-9.8	-6.5	-3.3	0.0	6.7	13.5	20.2	27.0	33.7	0.0	0.0	0.0	0.0
	-19.8	-15.3	-12.9	-10.8	-7.8	-5.2	-2.4	0.7	4.0	-17.1	-13.2	-9.3	-7.2	-4.3	-1.6	1.5	5.0	8.8	-14.3	-10.5	-6.6	-3.6	-0.8	2.5	6.4	10.6	15.2	-10.8	-7.2	-3.6	0.0	5.0	9.9	14.9	19.8	24.8	0.0	0.0	0.0	0.0
05	17.5	24.7	28.6	31.6	34.8	39.1	43.4	47.6	51.9	20.0	26.3	32.8	36.1	39.2	43.5	47.8	52.1	56.3	22.5	28.7	35.0	40.6	43.7	47.9	52.2	56.4	60.6	72.3	67.4	62.4	57.5	52.5	46.1	39.7	33.3	26.9	52.5	52.5	52.5	52.5
	22.6	7.7	-0.3	-6.6	-13.1	-19.1	-25.0	-30.9	-36.8	25.6	17.0	3.5	-3.4	-9.8	-15.8	-21.7	-27.6	-33.7	28.7	20.0	11.3	-0.2	-6.5	-12.5	-18.4	-24.5	-30.7	-13.1	-9.8	-6.5	-3.3	0.0	6.7	13.5	20.2	27.0	0.0	0.0	0.0	0.0
	-26.4	-21.4	-18.7	-16.6	-14.3	-11.3	-8.7	-6.0	-3.2	-23.7	-19.8	-15.3	-12.9	-10.8	-7.8	-5.2	-2.4	0.7	-21.0	-17.1	-13.2	-9.3	-7.2	-4.3	-1.6	1.5	5.0	-14.3	-10.8	-7.2	-3.6	0.0	5.0	9.9	14.9	19.8	0.0	0.0	0.0	0.0
06	18.1	25.9	30.3	33.6	36.6	39.8	44.0	48.3	52.6	20.6	26.9	34.1	38.0	41.0	44.2	48.4	52.7	57.0	23.1	29.3	35.6	42.2	45.5	48.6	52.9	57.2	61.4	67.9	62.9	58.0	53.0	48.1	43.1	36.7	30.3	23.9	61.9	61.9	61.9	61.9
	28.3	12.3	3.2	-3.6	-9.8	-16.4	-22.5	-28.3	-34.2	31.2	22.6	7.7	-0.3	-6.6	-13.1	-19.1	-25.0	-30.9	34.3	25.6	17.0	3.5	-3.4	-9.8	-15.8	-21.7	-27.6	-16.4	-13.1	-9.8	-6.5	-3.3	0.0	6.7	13.5	20.2	0.0	0.0	0.0	0.0
	-33.0	-27.6	-24.5	-22.2	-20.2	-17.9	-14.8	-12.2	-9.6	-30.4	-26.4	-21.4	-18.7	-16.6	-14.3	-11.3	-8.7	-6.0	-27.6	-23.7	-19.8	-15.3	-12.9	-10.8	-7.8	-5.2	-2.4	-17.9	-14.3	-10.8	-7.2	-3.6	0.0	5.0	9.9	14.9	0.0	0.0	0.0	0.0
07	18.8	26.9	31.8	35.4	38.5	41.5	44.7	48.9	53.2	21.2	27.5	35.3	39.7	43.0	45.9	49.1	53.4	57.7	23.7	30.0	36.3	43.5	47.4	50.4	53.6	57.8	62.1	63.5	58.5	53.6	48.6	43.7	38.7	33.8	27.4	21.0	71.3	71.3	71.3	71.3
	33.9	17.1	7.0	-0.5	-6.8	-13.0	-19.6	-25.8	-31.7	36.9	28.3	12.3	3.2	-3.6	-9.8	-16.4	-22.5	-28.3	39.9	31.2	22.6	7.7	-0.3	-6.6	-13.1	-19.1	-25.0	-19.6	-16.4	-13.1	-9.8	-6.5	-3.3	0.0	6.7	13.5	0.0	0.0	0.0	0.0
	-39.7	-34.0	-30.5	-28.0	-25.9	-23.8	-21.5	-18.3	-15.6	-37.0	-33.0	-27.6	-24.5	-22.2	-20.2	-17.9	-14.8	-12.2	-34.3	-30.4	-26.4	-21.4	-18.7	-16.6	-14.3	-11.3	-8.7	-21.5	-17.9	-14.3	-10.8	-7.2	-3.6	0.0	5.0	9.9	0.0	0.0	0.0	0.0
08	19.4	27.9	33.2	37.1	40.4	43.4	46.4	49.7	53.9	21.8	28.1	36.3	41.2	44.8	47.9	50.8	54.1	58.3	24.3	30.6	36.9	44.6	49.0	52.3	55.3	58.5	62.8	59.0	54.1	49.1	44.2	39.2	34.3	29.3	24.4	18.0	80.6	80.6	80.6	80.6
	39.6	22.1	11.1	3.0	-3.8	-10.0	-16.2	-22.9	-29.1	42.5	33.9	17.1	7.0	-0.5	-6.8	-13.0	-19.6	-25.8	45.5	36.9	28.3	12.3	3.2	-3.6	-9.8	-16.4	-22.5	-22.9	-19.6	-16.4	-13.1	-9.8	-6.5	-3.3	0.0	6.7	0.0	0.0	0.0	0.0
	-46.3	-40.3	-36.6	-33.9	-31.6	-29.5	-27.4	-25.1	-21.8	-43.6	-39.7	-34.0	-30.5	-28.0	-25.9	-23.8	-21.5	-18.3	-40.9	-37.0	-33.0	-27.6	-24.5	-22.2	-20.2	-17.9	-14.8	-25.1	-21.5	-17.9	-14.3	-10.8	-7.2	-3.6	0.0	5.0	0.0	0.0	0.0	0.0
09	20.0	28.7	34.5	38.7	42.2	45.3	48.3	51.3	54.6	22.5	28.8	37.2	42.6	46.5	49.8	52.8	55.8	59.0	24.9	31.2	37.5	45.7	50.6	54.2	57.2	60.2	63.5	54.6	49.7	44.7	39.8	34.8	29.9	24.9	20.0	15.0	90.0	90.0	90.0	90.0
	45.2	27.2	15.4	6.6	-0.6	-7.0	-13.2	-19.4	-26.2	48.2	39.6	22.1	11.1	3.0	-3.8	-10.0	-16.2	-22.9	51.2	42.5	33.9	17.1	7.0	-0.5	-6.8	-13.0	-19.6	-26.2	-22.9	-19.6	-16.4	-13.1	-9.8	-6.5	-3.3	0.0	0.0	0.0	0.0	0.0
	-52.9	-46.8	-42.8	-39.8	-37.4	-35.2	-33.1	-31.0	-28.7	-50.2	-46.3	-40.3	-36.6	-33.9	-31.6	-29.5	-27.4	-25.1	-47.5	-43.6	-39.7	-34.0	-30.5	-28.0	-25.9	-23.8	-21.5	-28.7	-25.1	-21.5	-17.9	-14.3	-10.8	-7.2	-3.6	0.0	0.0	0.0	0.0	0.0
10	23.9	28.3	33.2	40.3	42.9	46.4	50.2	54.1	58.0	26.9	31.2	35.8	41.2	48.8	51.2	54.5	58.1	61.9	29.9	34.2	38.6	43.5	49.3	57.2	59.5	62.6	66.2	90.0	89.1	88.1	87.2	86.3	85.4	84.4	83.5	82.6	15.0	15.0	15.0	15.0
	20.2	14.4	7.9	-1.7	-10.8	-18.6	-26.0	-33.2	-40.3	27.0	21.2	15.1	7.8	-2.3	-11.7	-19.7	-27.3	-34.6	33.7	27.9	22.0	15.5	7.7	-2.9	-12.4	-20.7	-28.5	0.0	-0.6	-1.2	-1.7	-2.3	-2.9	-3.5	-4.1	-4.6	0.0	0.0	0.0	0.0
	14.9	20.7	27.2	36.8	40.1	44.8	49.8	55.1	60.4	19.8	25.6	31.7	39.0	49.1	52.1	56.5	61.3	66.4	24.8	30.6	36.5	43.0	50.8	61.4	64.2	68.3	73.0	0.0	12.3	24.6	36.8	49.1	61.4	73.7	85.9	98.2	0.0	0.0	0.0	0.0
11	24.2	30.3	34.8	41.3	44.1	47.8	51.7	55.7	59.6	27.2	33.3	37.6	42.5	49.7	52.3	55.8	59.6	63.4	30.1	36.3	40.6	45.1	50.6	58.2	60.6	63.9	67.5	81.3	80.6	79.7	78.8	77.8	76.9	76.0	75.1	74.1	20.0	20.0	20.0	20.0
	22.2	13.5	7.5	-1.2	-9.9	-17.3	-24.5	-31.6	-38.7	29.0	20.2	14.4	7.9	-1.7	-10.8	-18.6	-26.0	-33.2	35.7	27.0	21.2	15.1	7.8	-2.3	-11.7	-19.7	-27.3	5.7	0.0	-0.6	-1.2	-1.7	-2.3	-2.9	-3.5	-4.1	0.0	0.0	0.0	0.0
	6.6	9.9	15.8	24.6	28.2	33.2	38.5	43.8	49.2	11.4	14.9	20.7	27.2	36.8	40.1	44.8	49.8	55.1	16.3	19.8	25.6	31.7	39.0	49.1	52.1	56.5	61.3	-6.6	0.0	12.3	24.6	36.8	49.1	61.4	73.7	85.9	0.0	0.0	0.0	0.0
12	24.4	30.6	36.7	42.2	45.5	49.4	53.4	57.4	61.4	27.4	33.5	39.7	44.1	50.6	53.5	57.2	61.1	65.0	30.4	36.5	42.7	47.0	51.9	59.1	61.7	65.2	68.9	72.5	71.9	71.3	70.3	69.4	68.5	67.5	66.6	65.7	25.0	25.0	25.0	25.0
	24.1	15.4	6.7	-0.6	-8.7	-15.8	-22.9	-29.9	-37.0	30.9	22.2	13.5	7.5	-1.2	-9.9	-17.3	-24.5	-31.6	37.6	29.0	20.2	14.4	7.9	-1.7	-10.8	-18.6	-26.0	11.3	5.7	0.0	-0.6	-1.2	-1.7	-2.3	-2.9	-3.5	0.0	0.0	0.0	0.0
	-1.4	1.8	5.0	12.3	16.6	21.9	27.3	32.8	38.2	3.6	6.6	9.9	15.8	24.6	28.2	33.2	38.5	43.8	8.4	11.4	14.9	20.7	27.2	36.8	40.1	44.8	49.8	-13.2	-6.6	0.0	12.3	24.6	36.8	49.1	61.4	73.7	0.0	0.0	0.0	0.0
13	24.7	30.8	37.0	43.1	47.1	51.1	55.1	59.1	63.1	27.6	33.8	39.9	46.1	51.6	54.9	58.8	62.7	66.7	30.6	36.8	42.9	49.1	53.5	60.0	62.9	66.6	70.5	63.8	63.1	62.5	61.9	60.9	60.0	59.1	58.2	57.2	30.0	30.0	30.0	30.0
	26.5	17.7	8.8	0.0	-7.0	-14.1	-21.1	-28.2	-35.2	32.9	24.1	15.4	6.7	-0.6	-8.7	-15.8	-22.9	-29.9	39.5	30.9	22.2	13.5	7.5	-1.2	-9.9	-17.3	-24.5	17.0	11.3	5.7	0.0	-0.6	-1.2	-1.7	-2.3	-2.9	0.0	0.0	0.0	0.0
	-11.2	-7.5	-3.7	0.0	5.4	10.9	16.3	21.7	27.2	-4.7	-1.4	1.8	5.0	12.3	16.6	21.9	27.3	32.8	0.5	3.6	6.6	9.9	15.8	24.6	28.2	33.2	38.5	-19.8	-13.2	-6.6	0.0	12.3	24.6	36.8	49.1	61.4	0.0	0.0	0.0	0.0
14	25.1	31.3	37.5	43.8	48.1	52.4	56.6	60.7	64.9	27.9	34.1	40.2	46.4	52.5	56.5	60.5	64.5	68.5	30.9	37.0	43.2	49.3	55.5	60.9	64.2	68.1	72.1	55.0	54.4	53.8	53.1	52.5	51.6	50.6	49.7	48.8	35.0	35.0	35.0	35.0
	31.9	23.1	14.3	5.7	-3.3	-9.2	-15.4	-21.8	-28.3	35.3	26.5	17.7	8.8	0.0	-7.0	-14.1	-21.1	-28.2	41.6	32.9	24.1	15.4	6.7	-0.6	-8.7	-15.8	-22.9	22.6	17.0	11.3	5.7	0.0	-0.6	-1.2	-1.7	-2.3	0.0	0.0	0.0	0.0
	-18.1	-14.3	-10.5	-6.6	-3.6	-0.8	2.5	6.4	10.6	-15.0	-11.2	-7.5	-3.7	0.0	5.4	10.9	16.3	21.7	-8.2	-4.7	-1.4	1.8	5.0	12.3	16.6	21.9	27.3	-26.4	-19.8	-13.2	-6.6	0.0	12.3	24.6	36.8	49.1	0.0	0.0	0.0	0.0
15	25.6	31.8	38.1	44.4	49.9	53.0	57.3	61.6	65.8	28.3	34.5	40.6	46.9	53.1	57.5	61.7	65.9	70.1	31.2	37.3	43.5	49.6	55.7	61.9	65.9	69.9	73.9	46.3	45.6	45.0	44.4	43.8	43.1	42.2	41.3	40.3	40.0	40.0	40.0	40.0
	37.4	28.7	20.0	11.3	-0.2	-6.5	-12.5	-18.4	-24.5	40.7	31.9	23.1	14.3	5.7	-3.3	-9.2	-15.4	-21.8	44.2	35.3	26.5	17.7	8.8	0.0	-7.0	-14.1	-21.1	28.3	22.6	17.0	11.3	5.7	0.0	-0.6	-1.2	-1.7	0.0	0.0	0.0	0.0
	-24.8	-21.0	-17.1	-13.2	-9.3	-7.2	-4.3	-1.6	1.5	-21.9	-18.1	-14.3	-10.5	-6.6	-3.6	-0.8	2.5	6.4	-18.7	-15.0	-11.2	-7.5	-3.7	0.0	5.4	10.9	16.3	-33.0	-26.4	-19.8	-13.2	-6.6	0.0	12.3	24.6	36.8	0.0	0.0	0.0	0.0
16	26.2	32.4	38.7	45.0	51.5	54.9	58.0	62.2	66.5	28.8	35.0	41.2	47.5	53.8	59.3	62.4	66.7	71.0	31.5	37.7	43.8	50.0	56.2	62.5	66.8	71.1	75.3	37.5	36.9	36.3	35.6	35.0	34.4	33.8	32.8	31.9	45.0	45.0	45.0	45.0
	43.0	34.3	25.6	17.0	3.5	-3.4	-9.8	-15.8	-21.7	46.2	37.4	28.7	20.0	11.3	-0.2	-6.5	-12.5	-18.4	49.5	40.7	31.9	23.1	14.3	5.7	-3.3	-9.2	-15.4	33.9	28.3	22.6	17.0	11.3	5.7	0.0	-0.6	-1.2	0.0	0.0	0.0	0.0
	-31.5	-27.6	-23.7	-19.8	-15.3	-12.9	-10.8	-7.8	-5.2	-28.6	-24.8	-21.0	-17.1	-13.2	-9.3	-7.2	-4.3	-1.6	-25.7	-21.9	-18.1	-14.3	-10.5	-6.6	-3.6	-0.8	2.5	-39.7	-33.0	-26.4	-19.8	-13.2	-6.6	0.0	12.3	24.6	0.0	0.0	0.0	0.0
17	26.8	33.1	39.3	45.6	52.9	56.7	59.8	62.9	67.2	29.3	35.6	41.8	48.1	54.4	60.9	64.2	67.4	71.6	32.0	38.2	44.4	50.6	56.8	63.1	68.7	71.8	76.1	28.8	28.1	27.5	26.9	26.3	25.6	25.0	24.4	23.4	50.0	50.0	50.0	50.0
	48.6	39.9	31.2	22.6	7.7	-0.3	-6.6	-13.1	-19.1	51.7	43.0	34.3	25.6	17.0	3.5	-3.4	-9.8	-15.8	54.9	46.2	37.4	28.7	20.0	11.3	-0.2	-6.5	-12.5	39.6	33.9	28.3	22.6	17.0	11.3	5.7	0.0	-0.6	0.0	0.0	0.0	0.0
	-38.1	-34.3	-30.4	-26.4	-21.4	-18.7	-16.6	-14.3	-11.3	-35.3	-31.5	-27.6	-23.7	-19.8	-15.3	-12.9	-10.8	-7.8	-32.4	-28.6	-24.8	-21.0	-17.1	-13.2	-9.3	-7.2	-4.3	-46.3	-39.7	-33.0	-26.4	-19.8	-13.2	-6.6	0.0	12.3	0.0	0.0	0.0	0.0
18	27.4	33.7	40.0	46.3	54.0	58.4	61.7	64.7	67.9	29.9	36.2	42.4	48.7	55.0	62.2	66.1	69.1	72.3	32.5	38.7	44.9	51.2	57.5	63.8	70.3	73.6	76.7	20.0	19.4	18.8	18.1	17.5	16.9	16.3	15.6	15.0	55.0	55.0	55.0	55.0
	54.2	45.5	36.9	28.3	12.3	3.2	-3.6	-9.8	-16.4	57.3	48.6	39.9	31.2	22.6	7.7	-0.3	-6.6	-13.1	60.5	51.7	43.0	34.3	25.6	17.0	3.5	-3.4	-9.8	45.2	39.6	33.9	28.3	22.6	17.0	11.3	5.7	0.0	0.0	0.0	0.0	0.0
	-44.8	-40.9	-37.0	-33.0	-27.6	-24.5	-22.2	-20.2	-17.9	-42.0	-38.1	-34.3	-30.4	-26.4	-21.4	-18.7	-16.6	-14.3	-39.2	-35.3	-31.5	-27.6	-23.7	-19.8	-15.3	-12.9	-10.8	-52.9	-46.3	-39.7	-33.0	-26.4	-19.8	-13.2	-6.6	0.0	0.0	0.0	0.0	0.0
19	32.9	37.2	41.5	46.2	51.3	57.6	65.7	67.9	70.9	35.8	40.2	44.5	49.0	53.8	59.3	65.9	74.1	76.2	38.8	43.1	47.5	51.9	56.5	61.6	67.4	74.2	82.6	90.0	84.6	79.2	73.9	68.5	63.1	57.7	52.3	47.0	60.0	60.0	60.0	60.0
	40.4	34.6	28.8	22.6	15.7	7.4	-3.5	-13.2	-21.7	47.2	41.4	35.6	29.6	23.1	15.8	7.0	-4.1	-13.9	53.9	48.1	42.3	36.4	30.2	23.4	15.7	6.6	-4.6	0.0	-7.0	-14.1	-21.1	-28.2	-35.2	-42.3	-49.3	-56.3	0.0	0.0	0.0	0.0
	29.8	35.6	41.4	47.5	54.5	62.8	73.7	76.3	80.2	34.7	40.5	46.3	52.3	58.8	66.1	74.9	85.9	88.4	39.7	45.5	51.3	57.2	63.4	70.2	77.9	87.0	98.2	0.0	5.4	10.9	16.3	21.7	27.2	32.6	38.0	43.5	0.0	0.0	0.0	0.0
20	33.1	39.3	43.6	48.0	52.9	58.7	66.6	68.9	72.0	36.1	42.2	46.6	50.9	55.5	60.7	67.0	75.1	77.2	39.1	45.2	49.5	53.9	58.4	63.2	68.7	75.2	83.5	83.9	80.6	75.2	69.9	64.5	59.1	53.7	48.3	43.0	65.0	65.0	65.0	65.0
	42.5	33.7	27.9	22.0	15.5	7.7	-2.9	-12.4	-20.7	49.3	40.4	34.6	28.8	22.6	15.7	7.4	-3.5	-13.2	56.0	47.2	41.4	35.6	29.6	23.1	15.8	7.0	-4.1	8.8	0.0	-7.0	-14.1	-21.1	-28.2	-35.2	-42.3	-49.3	0.0	0.0	0.0	0.0
	21.2	24.8	30.6	36.5	43.0	50.8	61.4	64.2	68.3	26.1	29.8	35.6	41.4	47.5	54.5	62.8	73.7	76.3	31.0	34.7	40.5	46.3	52.3	58.8	66.1	74.9	85.9	-3.7	0.0	5.4	10.9	16.3	21.7	27.2	32.6	38.0	0.0	0.0	0.0	0.0
21	33.3	39.5	45.7	50.0	54.5	59.9	67.5	69.9	73.2	36.3	42.5	48.6	53.0	57.4	62.2	68.1	76.0	78.3	39.3	45.5	51.6	55.9	60.3	64.9	70.1	76.3	84.4	77.7	74.5	71.3	65.9	60.5	55.1	49.7	44.3	39.0	70.0	70.0	70.0	70.0
	44.4	35.7	27.0	21.2	15.1	7.8	-2.3	-11.7	-19.7	51.2	42.5	33.7	27.9	22.0	15.5	7.7	-2.9	-12.4	58.0	49.3	40.4	34.6	28.8	22.6	15.7	7.4	-3.5	17.7	8.8	0.0	-7.0	-14.1	-21.1	-28.2	-35.2	-42.3	0.0	0.0	0.0	0.0
	13.2	16.3	19.8	25.6	31.7	39.0	49.1	52.1	56.5	18.0	21.2	24.8	30.6	36.5	43.0	50.8	61.4	64.2	22.8	26.1	29.8	35.6	41.4	47.5	54.5	62.8	73.7	-7.5	-3.7	0.0	5.4	10.9	16.3	21.7	27.2	32.6	0.0	0.0	0.0	0.0
22	33.6	39.7	45.9	52.1	56.4	61.3	68.5	71.1	74.5	36.6	42.7	48.9	55.0	59.4	63.9	69.3	76.9	79.3	39.5	45.7	51.9	58.0	62.3	66.7	71.6	77.5	85.4	71.6	68.3	65.1	61.9	56.5	51.1	45.7	40.4	35.0	75.0	75.0	75.0	75.0
	46.3	37.6	29.0	20.2	14.4	7.9	-1.7	-10.8	-18.6	53.1	44.4	35.7	27.0	21.2	15.1	7.8	-2.3	-11.7	59.8	51.2	42.5	33.7	27.9	22.0	15.5	7.7	-2.9	26.5	17.7	8.8	0.0	-7.0	-14.1	-21.1	-28.2	-35.2	0.0	0.0	0.0	0.0
	5.4	8.4	11.4	14.9	20.7	27.2	36.8	40.1	44.8	10.2	13.2	16.3	19.8	25.6	31.7	39.0	49.1	52.1	15.0	18.0	21.2	24.8	30.6	36.5	43.0	50.8	61.4	-11.2	-7.5	-3.7	0.0	5.4	10.9	16.3	21.7	27.2	0.0	0.0	0.0	0.0
23	33.8	40.0	46.1	52.3	58.5	62.9	69.4	72.2	76.0	36.8	43.0	49.1	55.3	61.4	65.8	70.7	77.8	80.4	39.8	45.9	52.1	58.3	64.4	68.7	73.3	78.7	86.3	65.4	62.2	59.0	55.7	52.5	47.1	41.7	36.4	31.0	80.0	80.0	80.0	80.0
	48.2	39.5	30.9	22.2	13.5	7.6	-1.2	-9.9	-17.3	55.0	46.3	37.6	29.0	20.2	14.4	7.9	-1.7	-10.8	61.7	53.1	44.4	35.7	27.0	21.2	15.1	7.8	-2.3	35.3	26.5	17.7	8.8	0.0	-7.0	-14.1	-21.1	-28.2	0.0	0.0	0.0	0.0
	-2.7	0.5	3.6	6.6	9.9	15.8	24.6	28.2	33.2	2.3	5.4	8.4	11.4	14.9	20.7	27.2	36.8	40.1	7.2	10.2	13.2	16.3	19.8	25.6	31.7	39.0	49.1	-15.0	-11.2	-7.5	-3.7	0.0	5.4	10.9	16.3	21.7	0.0	0.0	0.0	0.0
24	34.1	40.2	46.4	52.5	58.7	64.9	70.3	73.6	77.5	37.0	43.2	49.3	55.5	61.7	67.8	72.3	78.8	81.6	40.0	46.2	52.3	58.5	64.7	70.8	75.1	80.0	87.2	59.3	56.1	52.8	49.6	46.4	43.1	37.7	32.4	27.0	85.0	85.0	85.0	85.0
	50.4	41.6	32.9	24.1	15.4	6.7	-0.6	-8.7	-15.8	57.0	48.2	39.5	30.9	22.2	13.5	7.6	-1.2	-9.9	63.7	55.0	46.3	37.6	29.0	20.2	14.4	7.9	-1.7	44.2	35.3	26.5	17.7	8.8	0.0	-7.0	-14.1	-21.1	0.0	0.0	0.0	0.0
	-11.7	-8.2	-4.7	-1.4	1.8	5.0	12.3	16.6	21.9	-6.0	-2.7	0.5	3.6	6.6	9.9	15.8	24.6	28.2	-0.8	2.3	5.4	8.4	11.4	14.9	20.7	27.2	36.8	-18.7	-15.0	-11.2	-7.5	-3.7	0.0	5.4	10.9	16.3	0.0	0.0	0.0	0.0
25	34.4	40.5	46.7	52.8	59.0	65.1	71.3	75.2	79.2	37.3	43.5	49.6	55.8	61.9	68.1	74.2	79.7	83.0	40.3	46.4	52.6	58.7	64.9	71.0	77.2	81.6	88.1	53.2	49.9	46.7	43.5	40.2	37.0	33.8	28.4	23.0	90.0	90.0	90.0	90.0
	53.0	44.2	35.3	26.5	17.7	8.8	0.0	-7.0	-14.1	59.2	50.4	41.6	32.9	24.1	15.4	6.7	-0.6	-8.7	65.7	57.0	48.2	39.5	30.9	22.2	13.5	7.6	-1.2	53.0	44.2	35.3	26.5	17.7	8.8	0.0	-7.0	-14.1	0.0	0.0	0.0	0.0
	-22.5	-18.7	-15.0	-11.2	-7.5	-3.7	0.0	5.4	10.9	-15.3	-11.7	-8.2	-4.7	-1.4	1.8	5.0	12.3	16.6	-9.4	-6.0	-2.7	0.5	3.6	6.6	9.9	15.8	24.6	-22.5	-18.7	-15.0	-11.2	-7.5	-3.7	0.0	5.4	10.9	0.0	0.0	0.0	0.0
26	34.7	40.9	47.1	53.2	59.4	65.6	71.9	76.2	80.5	37.6	43.8	49.9	56.1	62.2	68.3	74.5	80.6	84.6	40.5	46.7	52.8	59.0	65.1	71.3	77.4	83.6	89.1	47.0	43.8	40.5	37.3	34.1	30.8	27.6	24.4	19.0	15.0	38.8	82.6	47.0
	58.3	49.5	40.7	31.9	23.1	14.3	5.7	-3.3	-9.2	61.8	53.0	44.2	35.3	26.5	17.7	8.8	0.0	-7.0	68.0	59.2	50.4	41.6	32.9	24.1	15.4	6.7	-0.6	61.8	53.0	44.2	35.3	26.5	17.7	8.8	0.0	-7.0	0.0	53.9	-4.6	-56.3
	-29.4	-25.7	-21.9	-18.1	-14.3	-10.5	-6.6	-3.6	-0.8	-26.2	-22.5	-18.7	-15.0	-11.2	-7.5	-3.7	0.0	5.4	-19.0	-15.3	-11.7	-8.2	-4.7	-1.4	1.8	5.0	12.3	-26.2	-22.5	-18.7	-15.0	-11.2	-7.5	-3.7	0.0	5.4	0.0	39.7	98.2	43.5
27	35.2	41.4	47.5	53.7	60.0	66.2	72.5	78.1	81.2	38.0	44.1	50.3	56.4	62.6	68.8	75.0	81.3	85.6	40.9	47.0	53.2	59.3	65.4	71.6	77.7	83.9	90.0	40.9	37.6	34.4	31.2	27.9	24.7	21.5	18.2	15.0	90.0	54.6	20.0	40.9
	63.7	54.9	46.2	37.4	28.7	20.0	11.3	-0.2	-6.5	67.1	58.3	49.5	40.7	31.9	23.1	14.3	5.7	-3.3	70.7	61.8	53.0	44.2	35.3	26.5	17.7	8.8	0.0	70.7	61.8	53.0	44.2	35.3	26.5	17.7	8.8	0.0	0.0	-26.2	45.2	70.7
	-36.2	-32.4	-28.6	-24.8	-21.0	-17.1	-13.2	-9.3	-7.2	-33.2	-29.4	-25.7	-21.9	-18.1	-14.3	-10.5	-6.6	-3.6	-30.0	-26.2	-22.5	-18.7	-15.0	-11.2	-7.5	-3.7	0.0	-30.0	-26.2	-22.5	-18.7	-15.0	-11.2	-7.5	-3.7	0.0	0.0	-28.7	-52.9	-30.0

Input and output:
Colorimetric Printer Reflective System FRS15_90a
data for any colour:
u^*_e and number *no.* = 00 .. 15
elementary hue text:
u^*_e = 16 hues *r00j, r25j, ..., b75r*
contrast reduction factor:
c_R = 0.9

FRS15_90a; adapted (a) CIELAB data

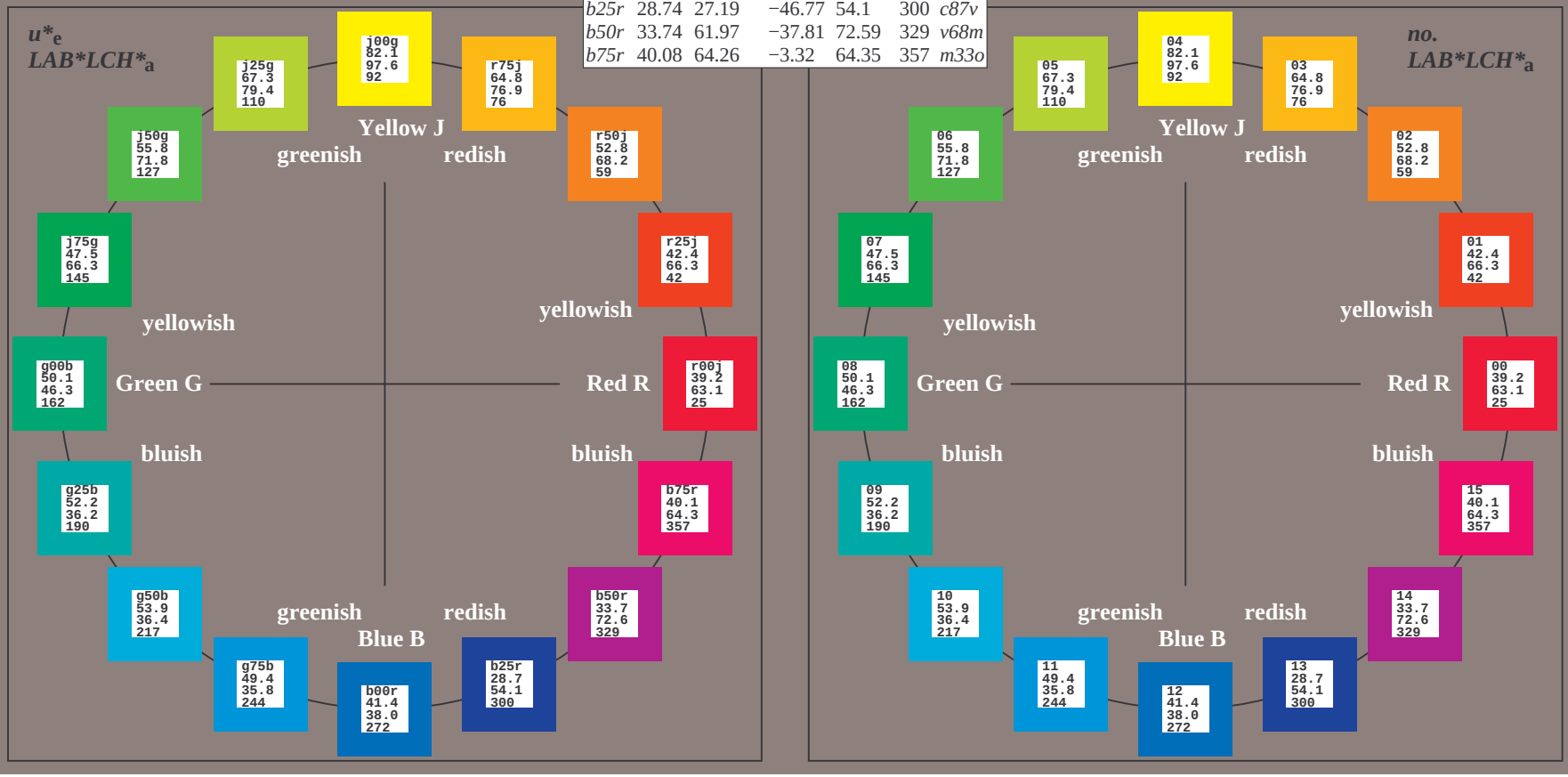
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

FRS15_90a; adapted (a) CIELAB data

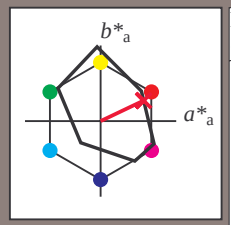
Name	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.89	71.56	71.62	92
G_{CIE}	52.23	−42.42	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.47	46.49	272



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

$u^*_e = r00j$
$LAB^*LCH^*_a$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = r00j$ $u^*_d = m81o$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

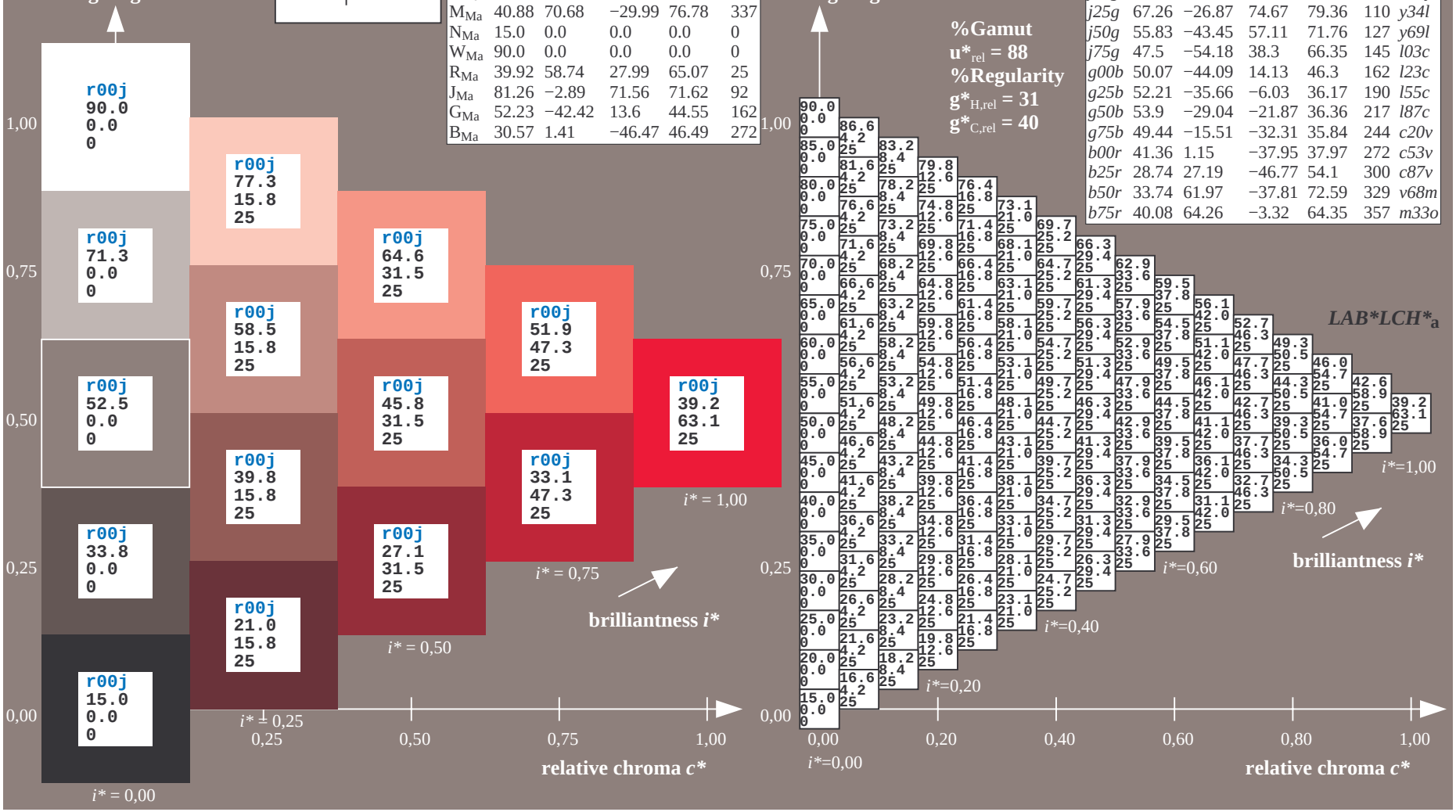
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 39 57 27**
***LAB*LCH*Ma*: 39 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

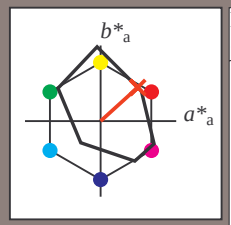
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.117$

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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = r25j$ $u^*_d = o10y$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

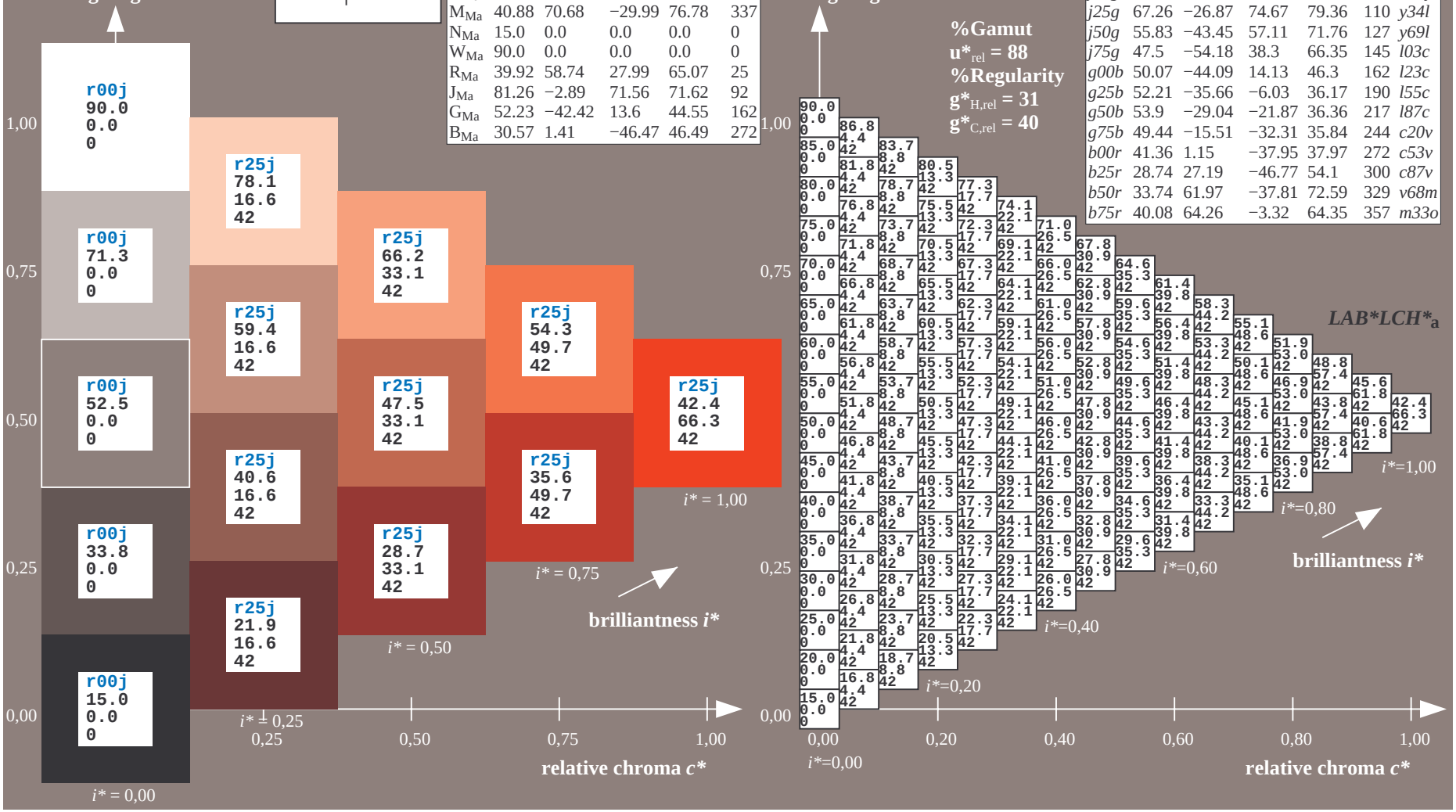
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 42 49 44**
***LAB*LCH*Ma*: 42 66 42**
***lab*rgb*Ma*: 1.0 0.25 0.0**
***lab*olv*Ma*: 1.0 0.1 0.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

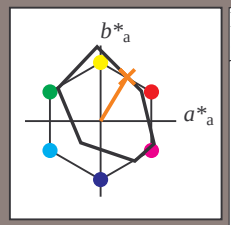
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = r50j$ $u^*_d = o40y$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

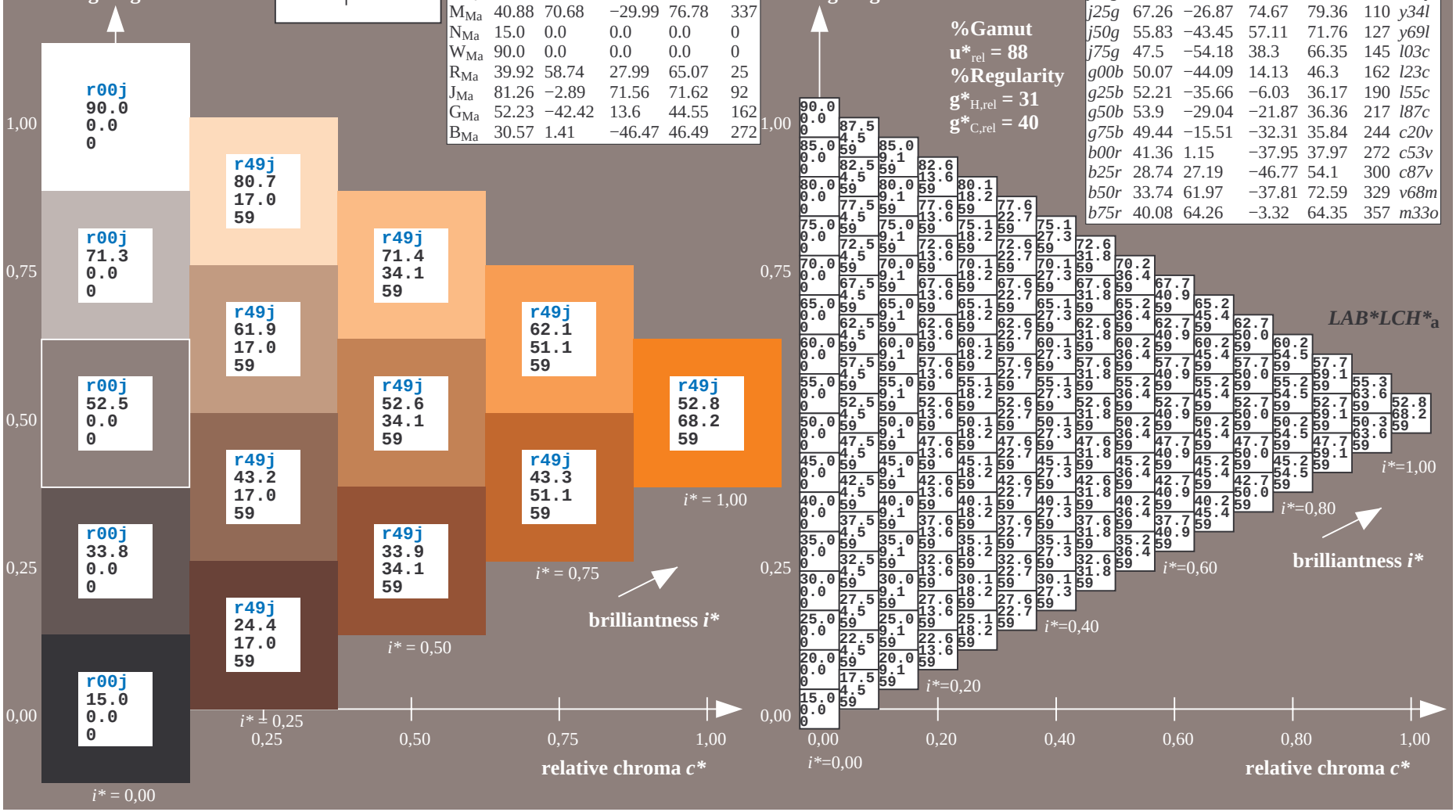
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 53 35 58**
***LAB*LCH*Ma*: 53 68 58**
***lab*rgb*Ma*: 1.0 0.5 0.0**
***lab*olv*Ma*: 1.0 0.4 0.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

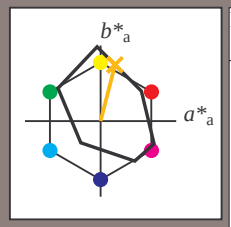
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
$u^*_e = r75j$ $u^*_d = o69y$
contrast reduction factor:
$c_R = 0.9$
triangle lightness t^*



FRS15_90a; adapted (a) CIELAB data

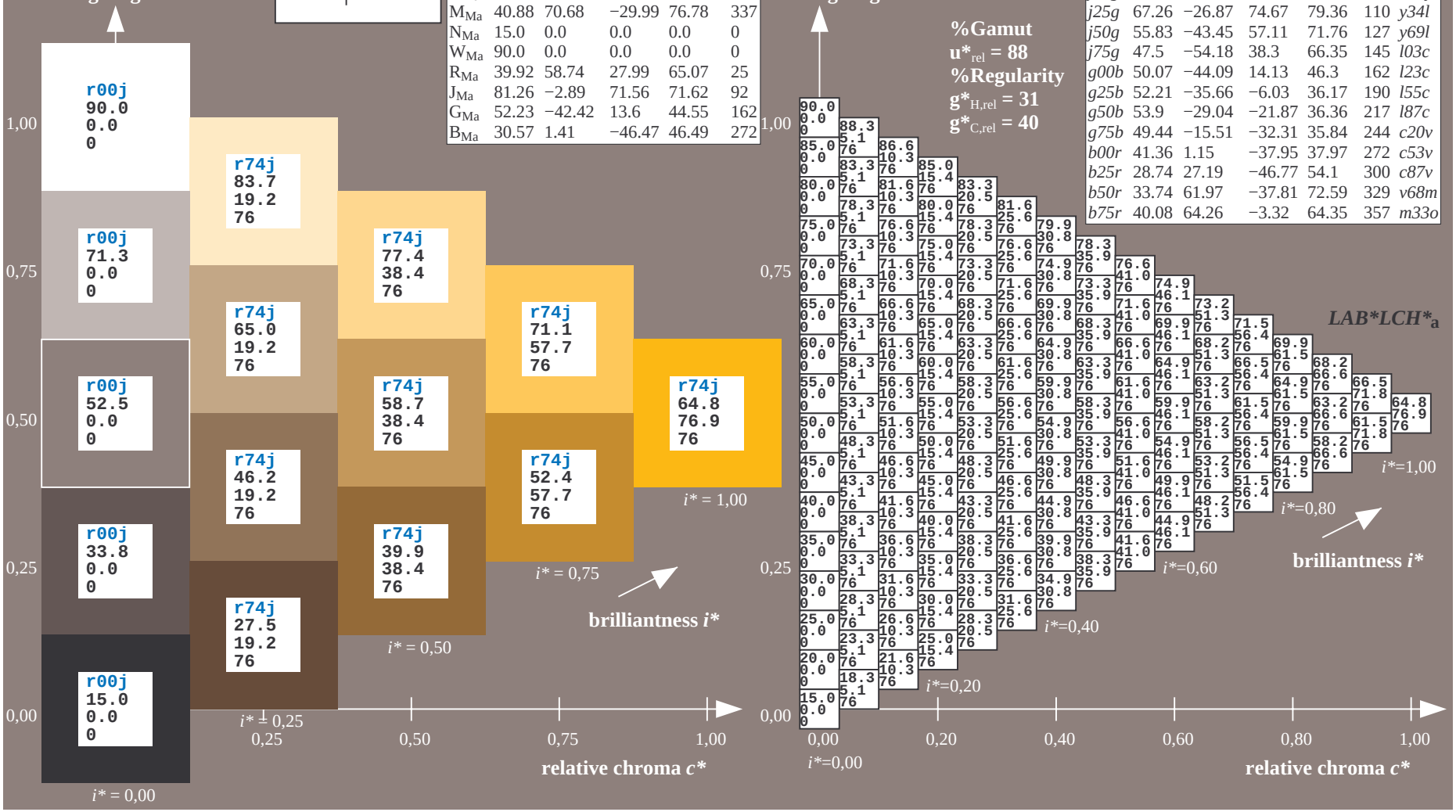
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 65 19 74**
***LAB*LCH*Ma*: 65 77 75**
***lab*rgb*Ma*: 1.0 0.75 0.0**
***lab*olv*Ma*: 1.0 0.7 0.0**
triangle lightness t^*

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

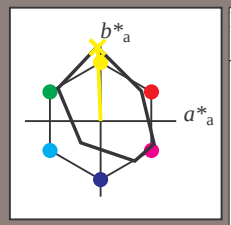
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.256$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j00g* u^*_d = *o98y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

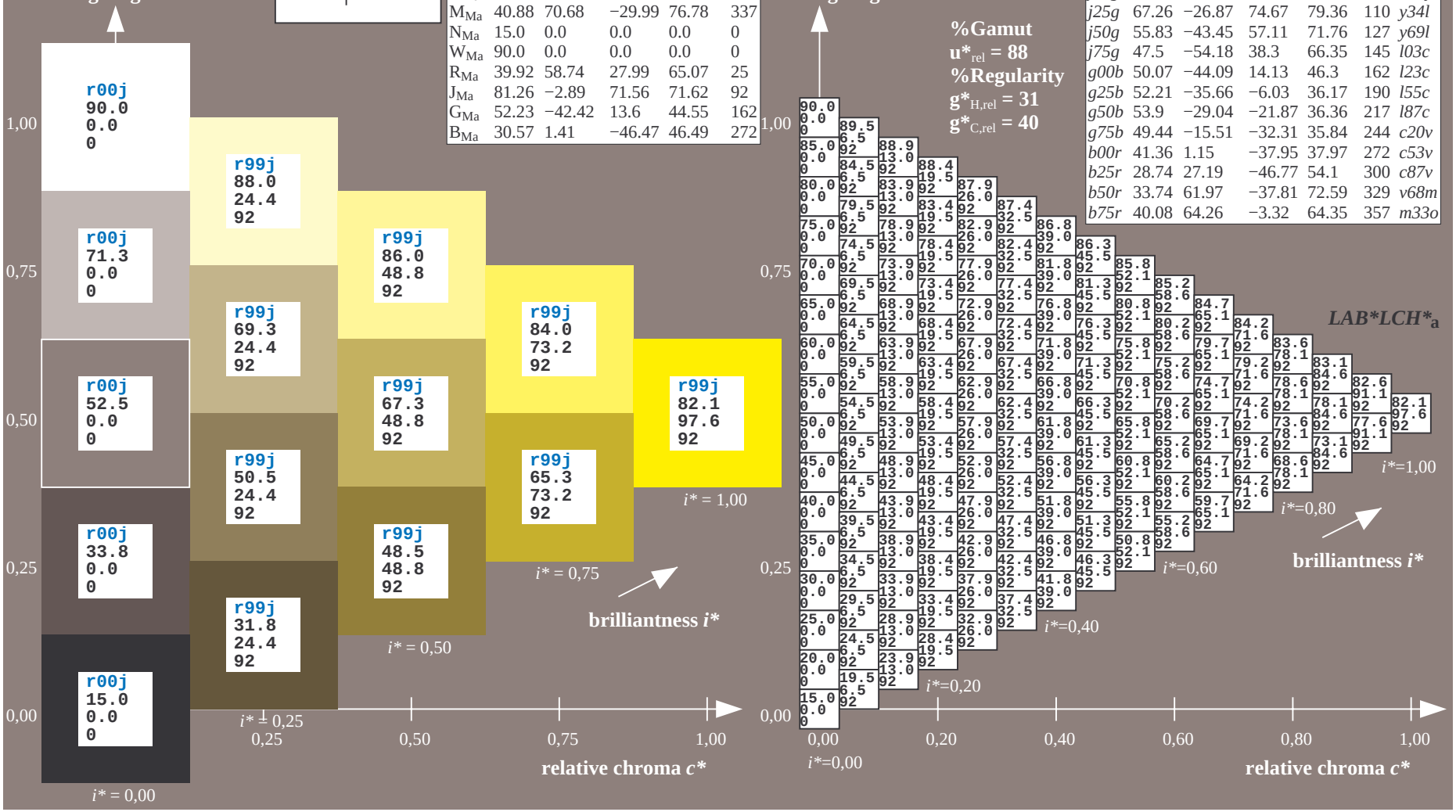
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 82 −4 98**
***LAB*LCH*Ma*: 82 98 92**
***lab*rgb*Ma*: 1.0 1.0 0.0**
***lab*olv*Ma*: 1.0 0.99 0.0**
triangle lightness *t**

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

u^*_e = *j00g*
LAB*LCH*a

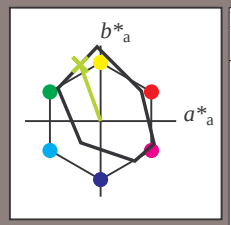
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j25g* u^*_d = *y34l*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

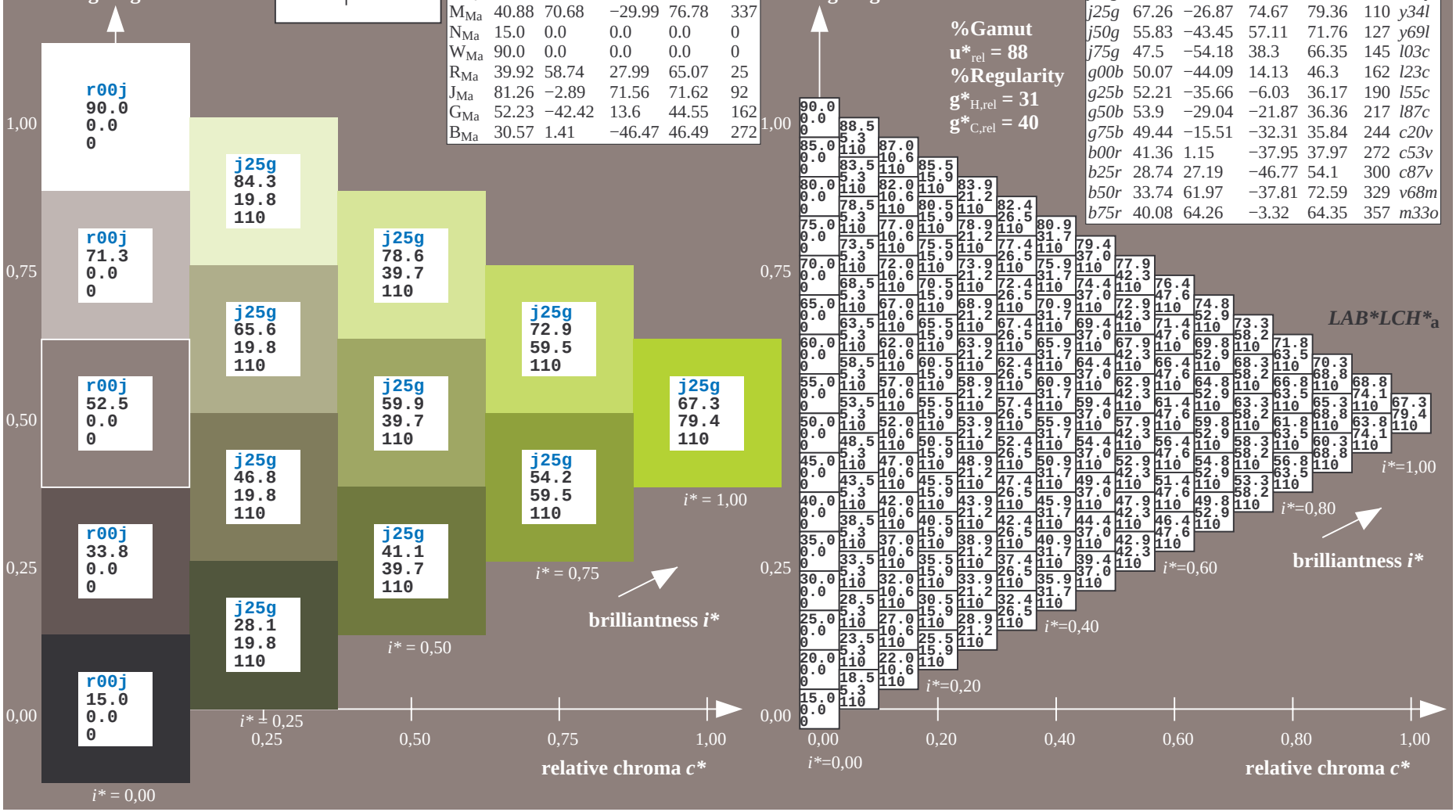
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 67 −27 75**
***LAB*LCH*Ma*: 67 79 109**
***lab*rgb*Ma*: 0.75 1.0 0.0**
***lab*olv*Ma*: 0.66 1.0 0.0**
triangle lightness *t**

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

u^*_e = *j25g*
LAB*LCH*a

FRS15_90a; adapted (a) CIELAB data

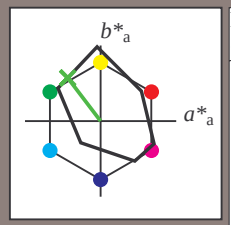
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.354$

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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = j50g$ $u^*_d = y69l$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

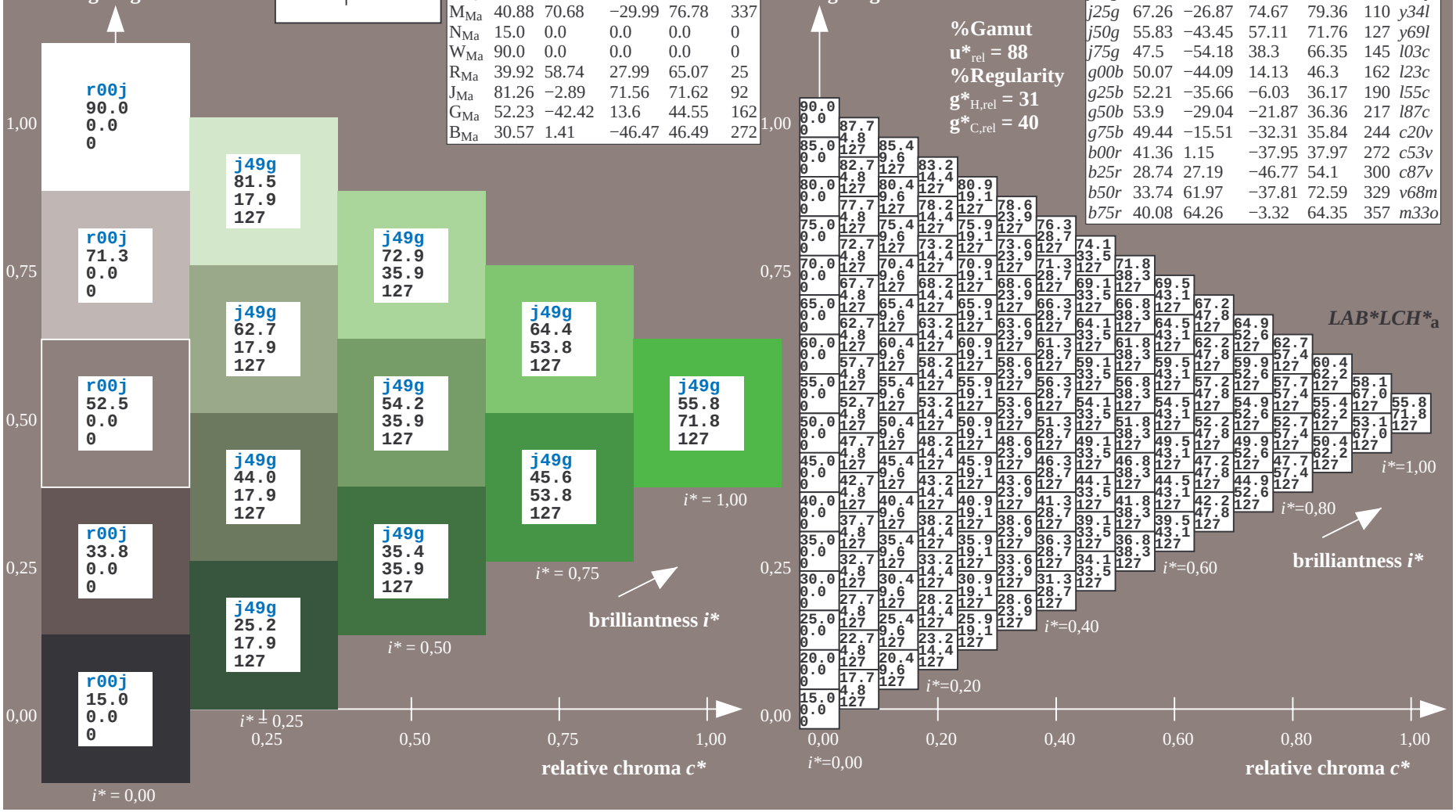
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 56 −43 57**
***LAB*LCH*Ma*: 56 72 127**
***lab*rgb*Ma*: 0.5 1.0 0.0**
***lab*olv*Ma*: 0.3 1.0 0.0**
triangle lightness *t**

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

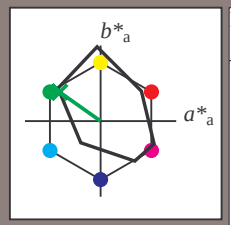
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *j75g* u^*_d = *l03c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

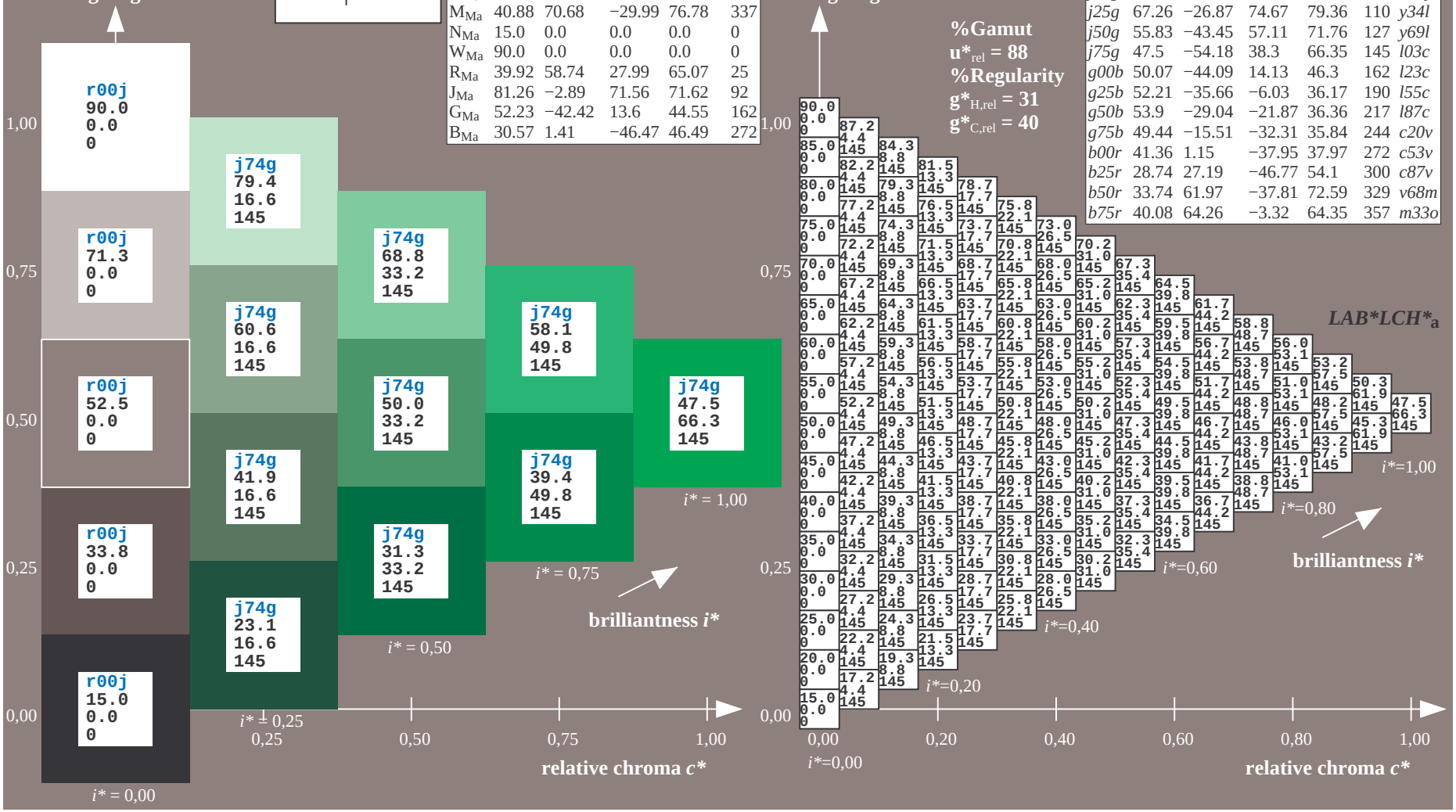
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 48 −54 38**
***LAB*LCH*Ma*: 48 66 144**
***lab*rgb*Ma*: 0.25 1.0 0.0**
***lab*olv*Ma*: 0.0 1.0 0.03**
triangle lightness *t**

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

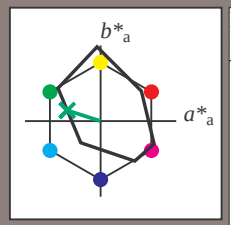
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *g00b* u^*_d = *l23c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

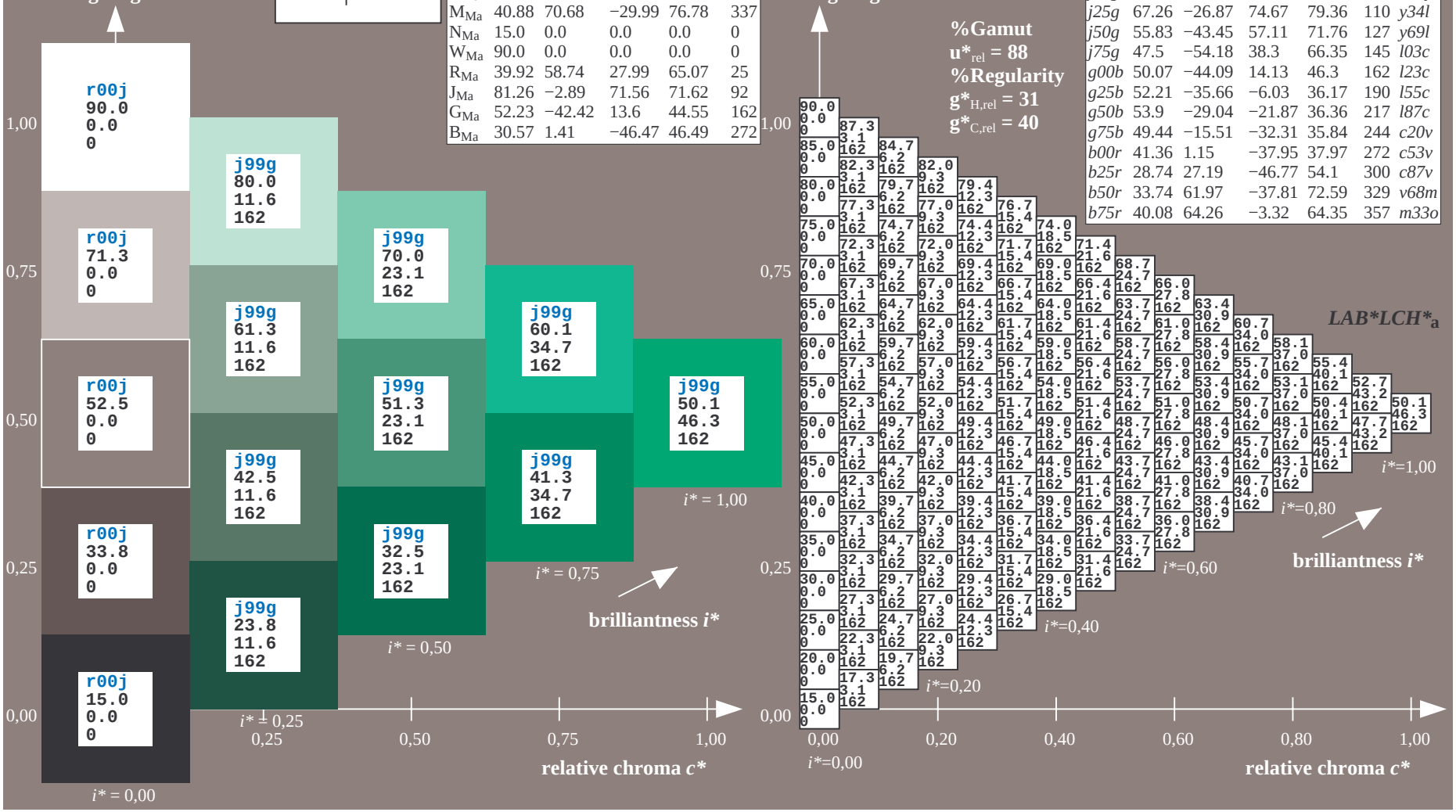
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 50 −44 14**
***LAB*LCH*Ma*: 50 46 162**
***lab*rgb*Ma*: 0.0 1.0 0.0**
***lab*olv*Ma*: 0.0 1.0 0.23**
triangle lightness *t**

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

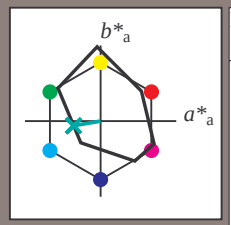
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *g25b* u^*_d = *l55c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

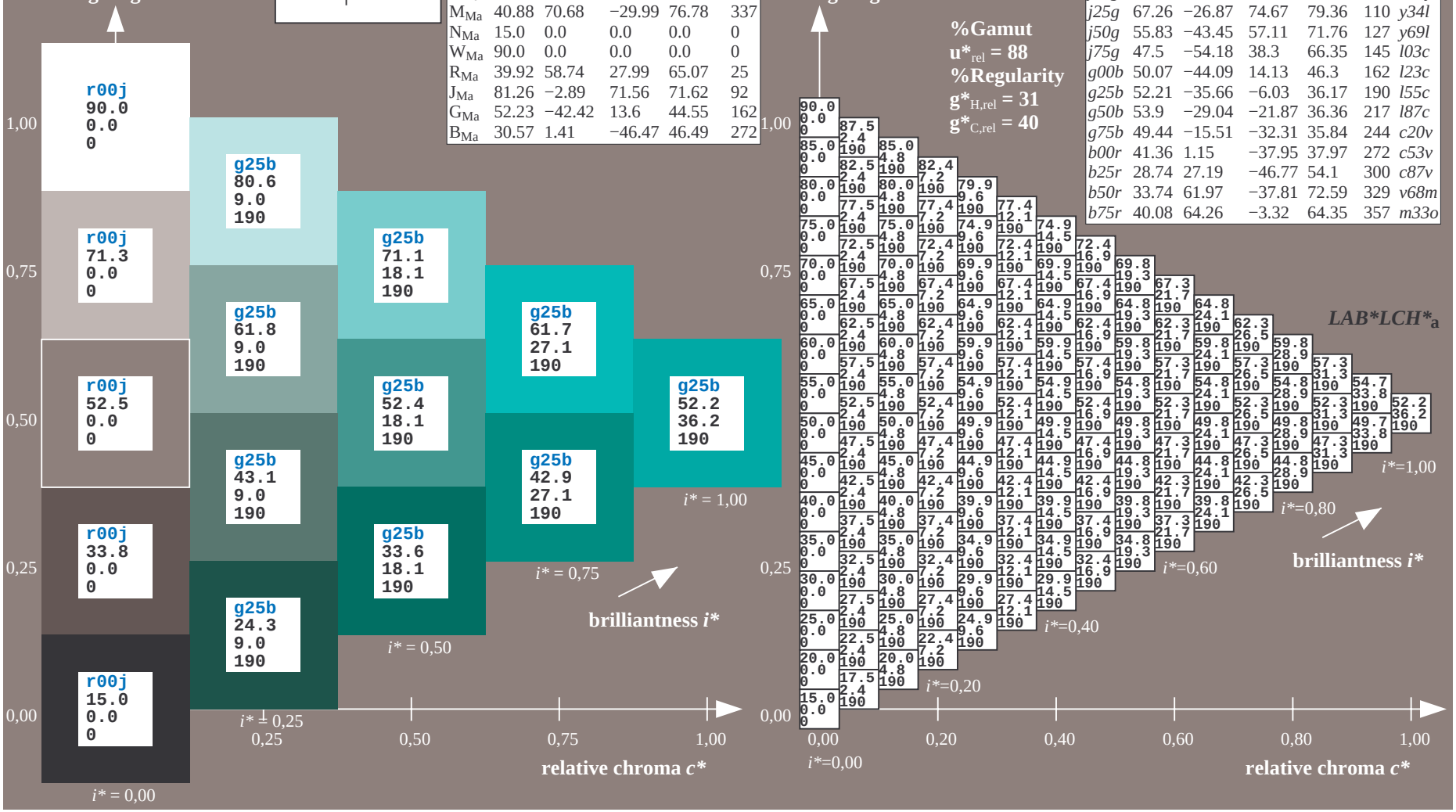
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 52 −36 −6
LAB*LCH*$_{Ma}$: 52 36 189
lab*rgb*$_{Ma}$: 0.0 1.0 0.5
lab*olv*$_{Ma}$: 0.0 1.0 0.55
triangle lightness *t**

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

u^*_e = *g25b*
LAB*LCH*$_a$

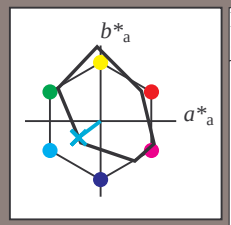
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *g50b* u^*_d = *l87c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

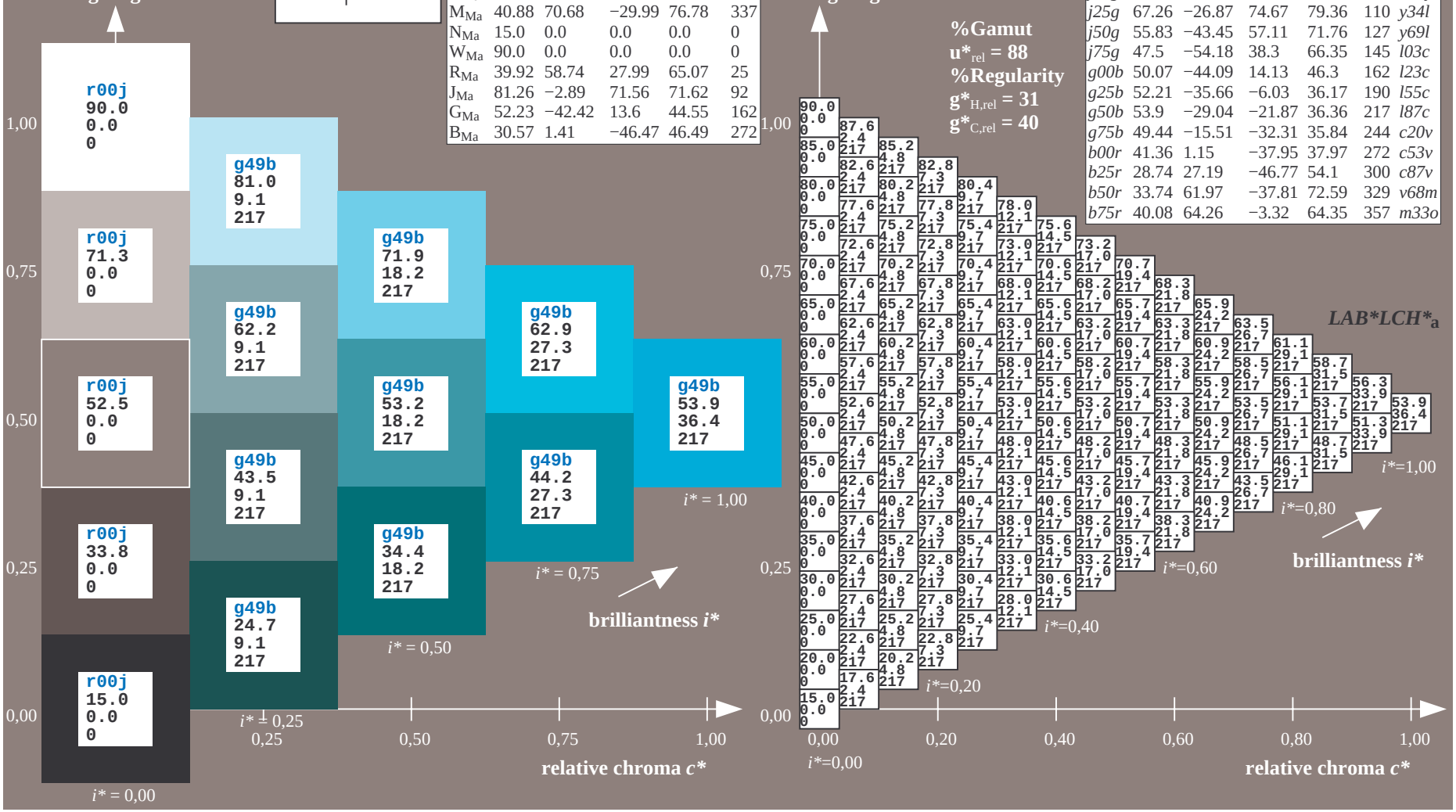
Data for maximum colour (Ma):
***LAB*LAB**Ma**: 54 −29 −22**
***LAB*LCH**Ma**: 54 36 216**
***lab*rgb**Ma**: 0.0 1.0 1.0**
***lab*olv**Ma**: 0.0 1.0 0.88**
triangle lightness *t**

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

u^*_e = *g50b*
***LAB*LCH**a**

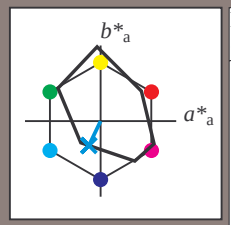
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.679$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *g75b* u^*_d = *c20v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

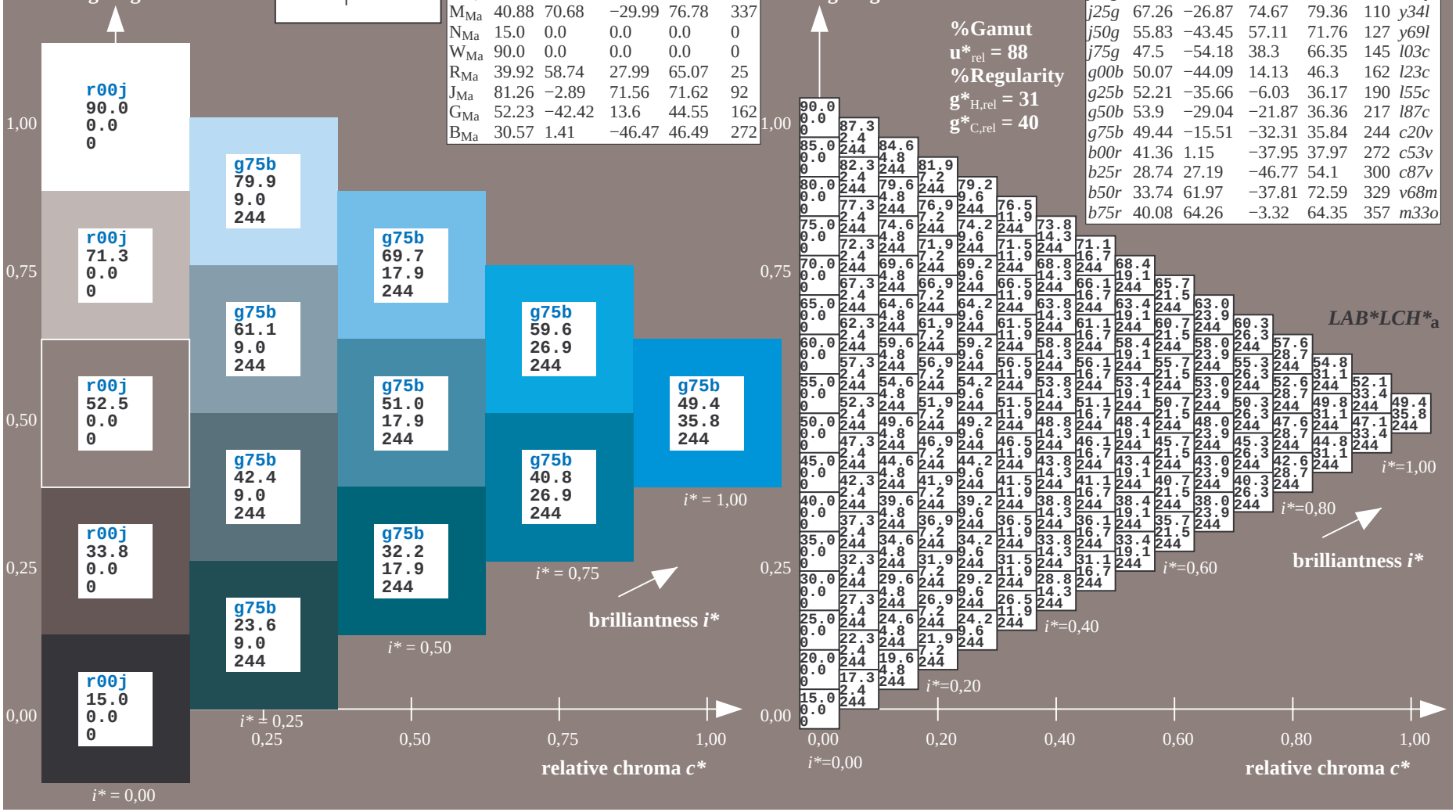
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 49 −16 −32**
***LAB*LCH*Ma*: 49 36 244**
***lab*rgb*Ma*: 0.0 0.5 1.0**
***lab*olv*Ma*: 0.0 0.8 1.0**
triangle lightness *t**

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

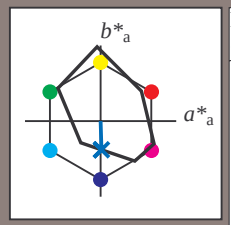
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



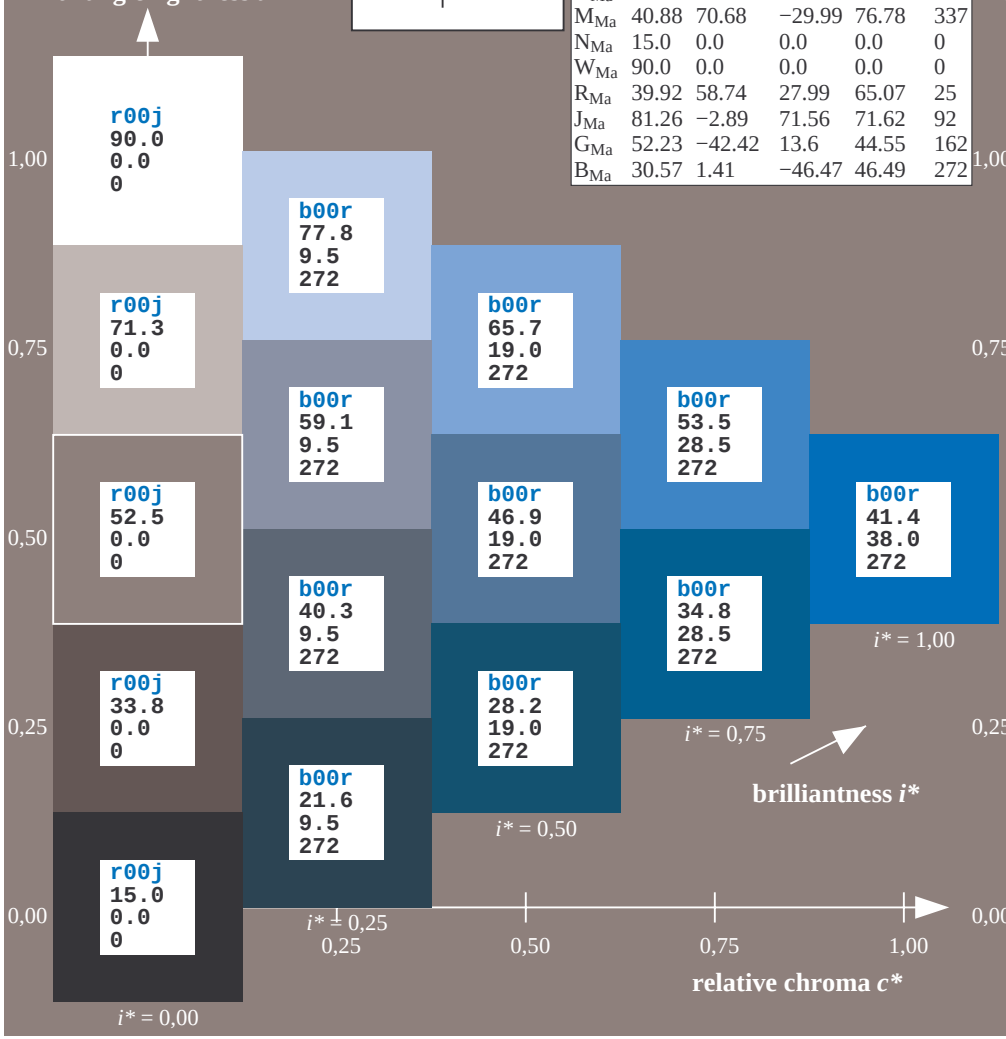
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.755$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *b00r* u^*_d = *c53v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272



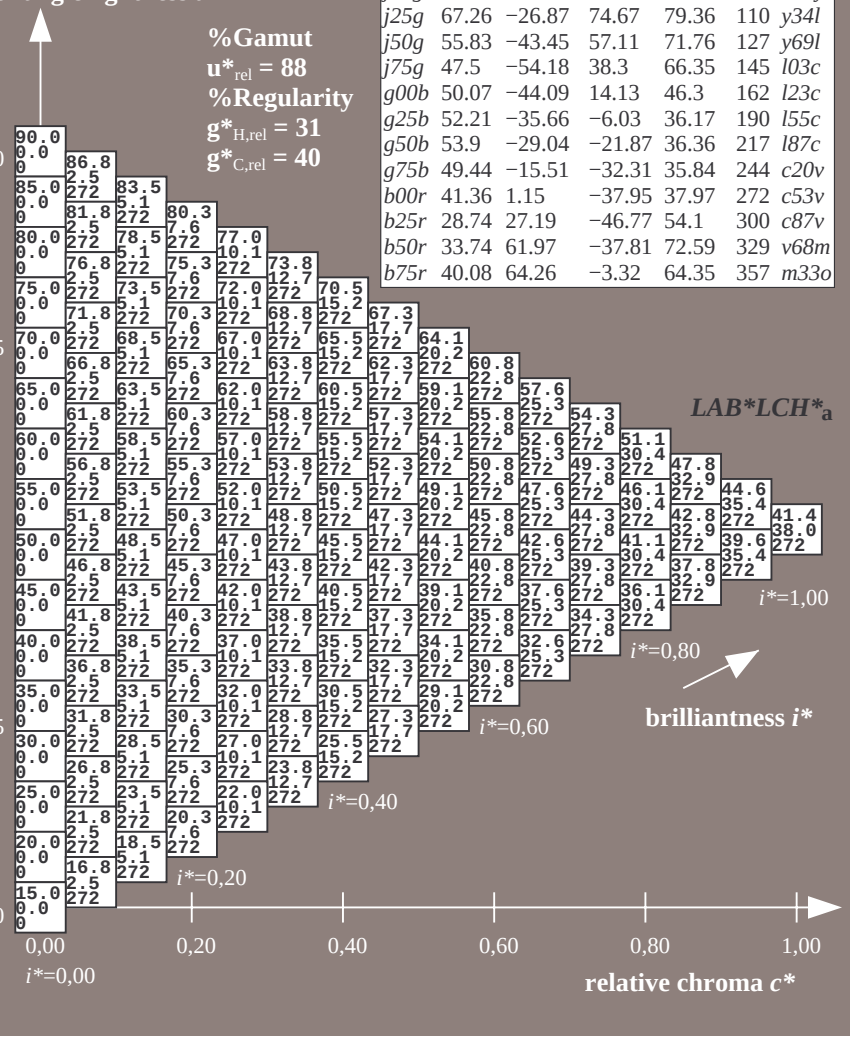
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 41 1 −38
LAB*LCH*$_{Ma}$: 41 38 271
lab*rgb*$_{Ma}$: 0.0 0.0 1.0
lab*olv*$_{Ma}$: 0.0 0.47 1.0
triangle lightness *t**

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

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

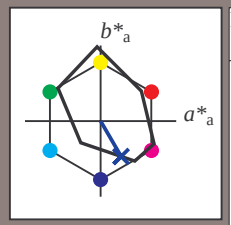
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *b25r* u^*_d = *c87v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

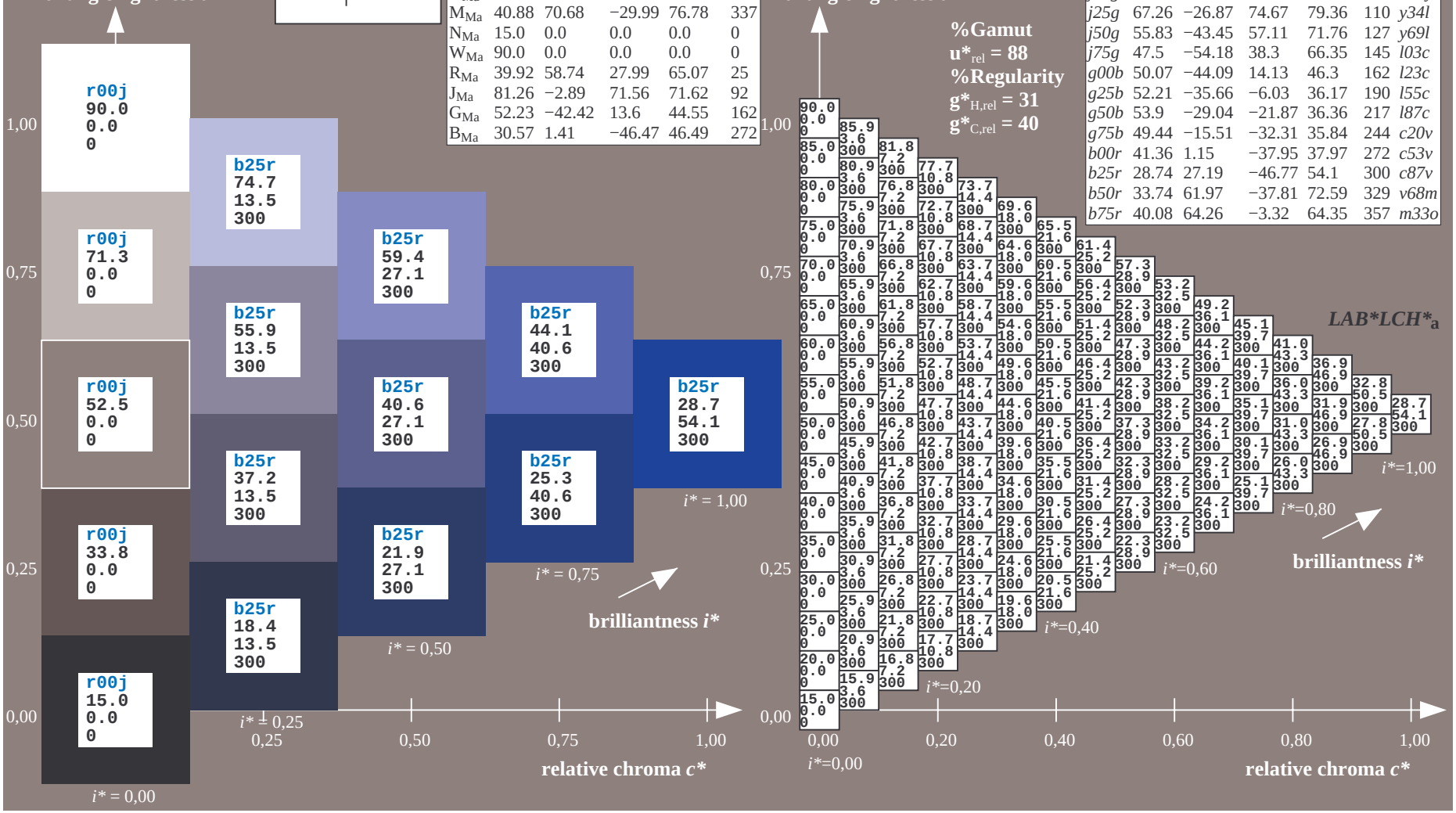
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 29 27 −47
LAB*LCH*$_{Ma}$: 29 54 300
lab*rgb*$_{Ma}$: 0.5 0.0 1.0
lab*olv*$_{Ma}$: 0.0 0.12 1.0
triangle lightness *t**

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

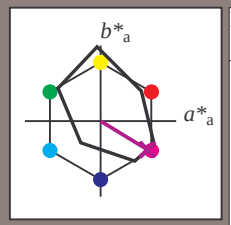
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.913$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *b50r* u^*_d = *v68m*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

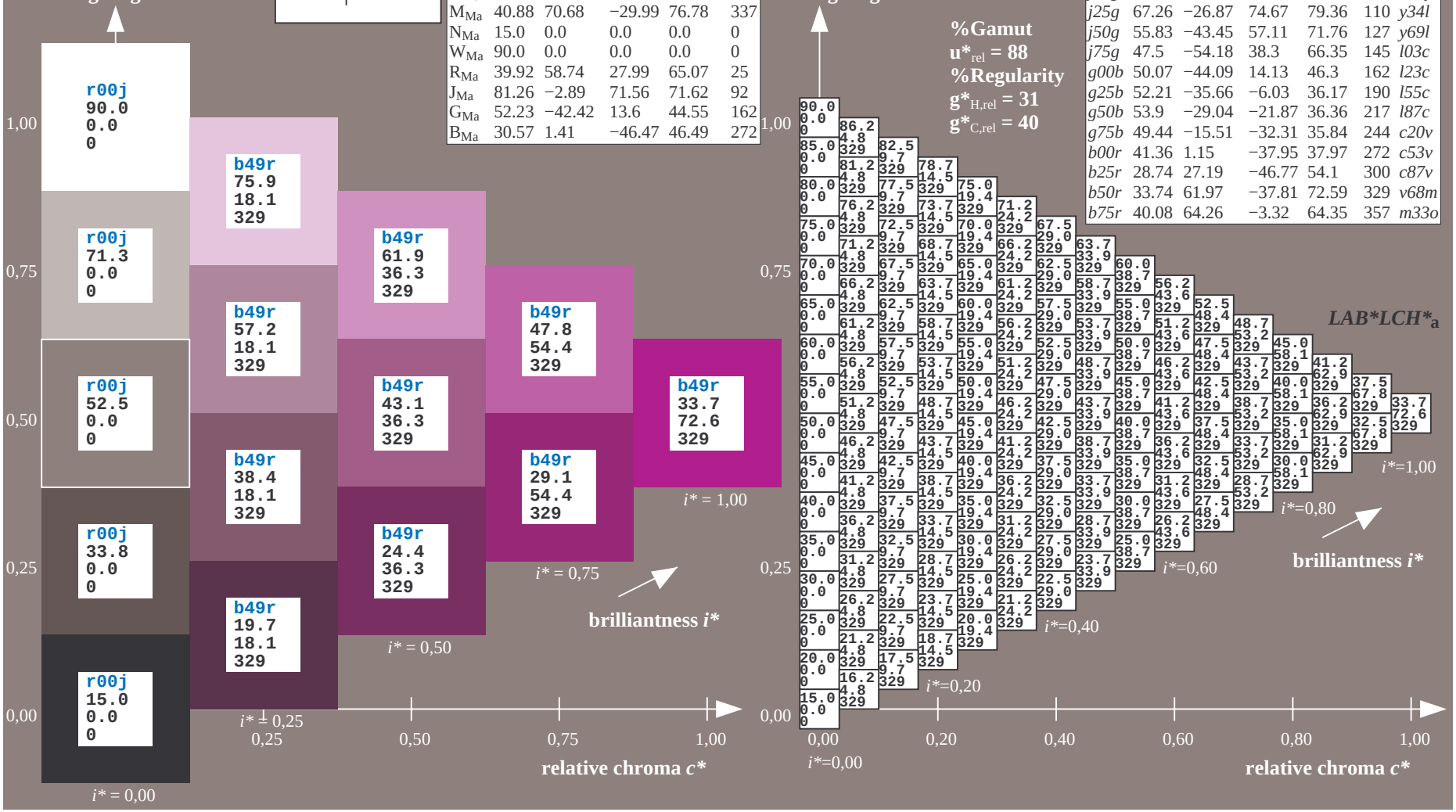
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 34 62 −38**
***LAB*LCH*Ma*: 34 73 328**
***lab*rgb*Ma*: 1.0 0.0 1.0**
***lab*olv*Ma*: 0.68 0.0 1.0**
triangle lightness *t**

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

u^*_e = *b50r*
LAB*LCH*a

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.992$

$u^*_e = b75r$

$LAB^*LCH^*_a$

data for any colour:

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

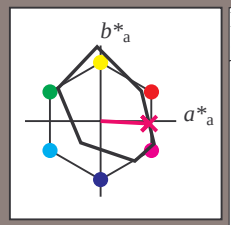
Hue texts:

$u^*_e = b75r$ $u^*_d = m33o$

contrast reduction factor:

$c_R = 0.9$

triangle lightness t^*



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):

$LAB^*LAB^*_{Ma}$: 40 64 −3

$LAB^*LCH^*_{Ma}$: 40 64 357

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

$lab^*olv^*_{Ma}$: 1.0 0.0 0.66

triangle lightness t^*

%Gamut

$u^*_{rel} = 88$

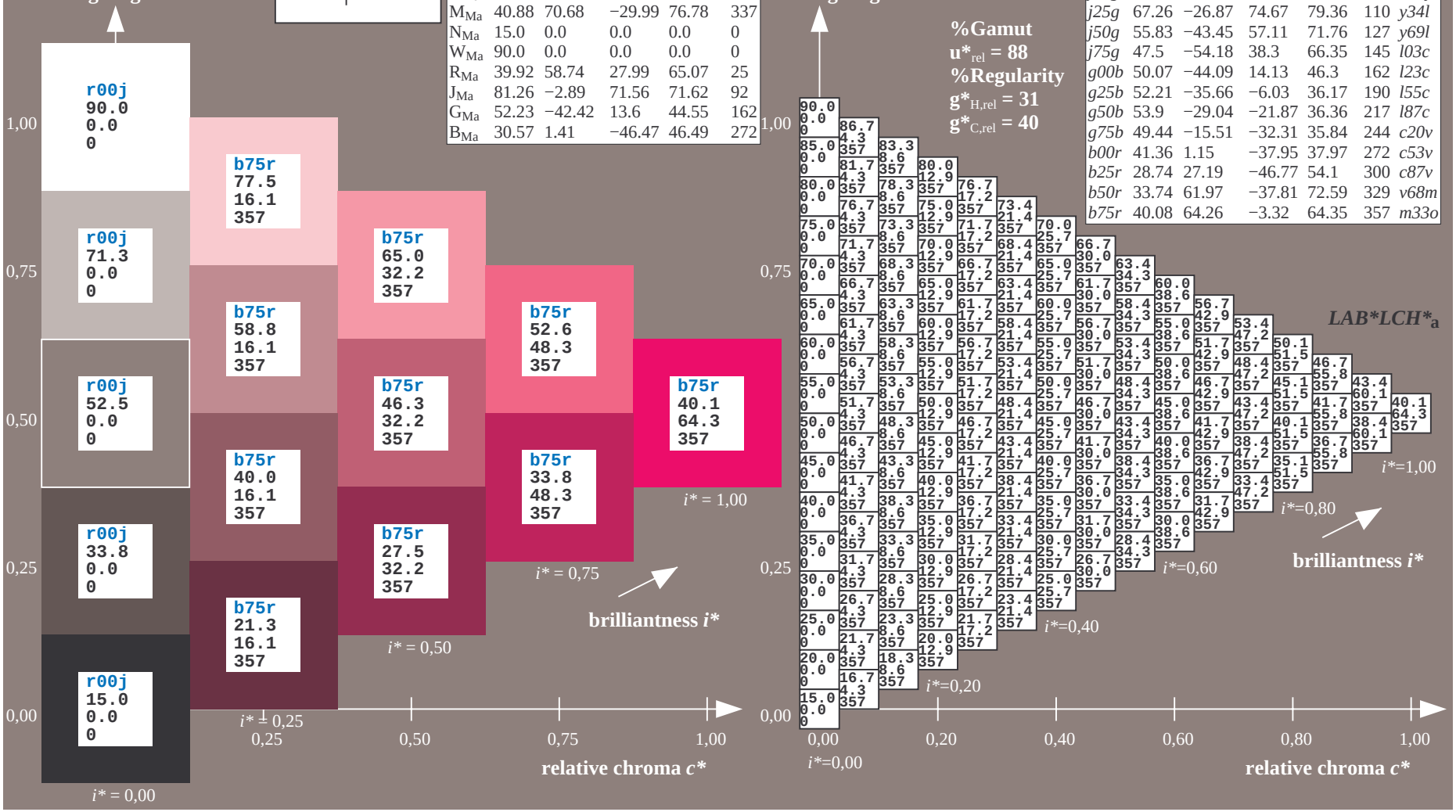
%Regularity

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

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

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



	A	B	C	D	E	F	G	H	I	J	K	L	M	N
01	15.0 0.0 0	19.0 8.9 142	23.0 17.8 142	27.0 26.7 142	31.0 35.6 142	35.0 44.5 142	39.0 53.4 142	43.0 62.3 142	47.0 71.2 142	18.0 8.4 36	23.4 12.3 93	26.7 18.7 118	30.6 27.0 126	34.6 35.6 130
02	15.6 8.7 311	20.0 4.9 228	24.2 9.2 185	28.4 15.6 171	32.6 22.7 164	36.7 30.2 159	40.8 38.1 157	44.9 46.2 155	48.9 54.4 153	18.2 9.6 337	24.4 0.0 0	28.4 8.9 142	32.4 17.8 142	36.4 26.7 142
03	16.3 17.4 311	21.8 9.3 269	24.9 9.7 228	29.2 13.2 199	33.5 18.5 185	37.7 24.5 176	41.9 31.1 171	46.1 38.1 167	50.2 45.3 164	18.7 17.8 324	25.0 8.7 311	29.3 4.9 228	33.6 9.2 185	37.8 15.6 171
04	16.9 26.1 311	23.4 15.7 283	26.7 13.4 255	29.9 14.6 228	34.1 17.7 206	38.4 22.3 193	42.7 27.7 185	46.9 33.7 179	51.2 40.0 174	19.3 26.3 319	25.6 17.4 311	31.2 9.3 269	34.3 9.7 228	38.6 13.2 199
05	17.5 34.8 311	24.7 22.7 290	28.6 18.7 269	31.6 17.8 248	34.8 19.4 228	39.1 22.2 211	43.4 26.5 199	47.6 31.5 191	51.9 37.0 185	20.0 34.9 317	26.3 26.1 311	32.8 15.7 283	36.1 13.4 255	39.2 14.6 228
06	18.1 43.5 311	25.9 30.2 294	30.3 24.8 277	33.6 22.5 261	36.6 22.4 244	39.8 24.3 228	44.0 26.9 213	48.3 30.8 203	52.6 35.5 196	20.6 43.6 316	26.9 34.8 311	34.1 22.7 290	38.0 18.7 269	41.0 17.8 248
07	18.8 52.2 311	26.9 38.0 297	31.8 31.3 283	35.4 28.0 269	38.5 26.7 255	41.5 27.1 241	44.7 29.1 228	48.9 31.6 215	53.2 35.3 206	21.2 52.2 315	27.5 43.5 311	35.3 30.2 294	39.7 24.8 277	43.0 22.5 261
08	19.4 60.9 311	27.9 46.0 299	33.2 38.3 287	37.1 34.0 275	40.4 31.8 263	43.4 31.1 251	46.4 31.8 239	49.7 34.0 228	53.9 36.4 217	21.8 60.9 314	28.1 52.2 311	36.3 38.0 297	41.2 31.3 283	44.8 28.0 269
09	20.0 69.6 311	28.7 54.1 300	34.5 45.5 290	38.7 40.3 279	42.2 37.4 269	45.3 35.9 259	48.3 35.6 248	51.3 36.6 238	54.6 38.8 228	22.5 69.6 314	28.8 60.9 311	37.2 46.0 299	42.6 38.3 287	46.5 34.0 275
10	23.9 25.1 36	28.3 25.2 55	33.2 28.4 74	40.3 36.9 93	42.9 41.5 105	46.4 48.5 113	50.2 56.2 118	54.1 64.3 121	58.0 72.6 124	26.9 33.5 36	31.2 33.2 50	35.8 35.1 65	41.2 39.7 79	48.8 49.2 93
11	24.2 23.2 17	30.3 16.7 36	34.8 17.6 65	41.3 24.6 93	44.1 29.9 109	47.8 37.5 118	51.7 45.6 122	55.7 54.1 126	59.6 62.6 128	27.2 31.2 22	33.3 25.1 36	37.6 25.2 55	42.5 28.4 74	49.7 36.9 93
12	24.4 24.2 357	30.6 15.5 7	36.7 8.4 36	42.2 12.3 93	45.5 18.7 118	49.4 27.0 126	53.4 35.6 130	57.4 44.4 132	61.4 53.2 134	27.4 31.1 7	33.5 23.2 17	39.7 16.7 36	44.1 17.6 65	50.6 24.6 93
13	24.7 28.8 337	30.8 19.2 337	37.0 9.6 337	43.1 0.0 0	47.1 8.9 142	51.1 17.8 142	55.1 26.7 142	59.1 35.6 142	63.1 44.5 142	27.6 33.2 352	33.8 24.2 357	39.9 15.5 7	46.1 8.4 36	51.6 12.3 93
14	25.1 36.7 330	31.3 27.2 328	37.5 17.8 324	43.8 8.7 311	48.1 4.9 228	52.4 9.2 185	56.6 15.6 171	60.7 22.7 164	64.9 30.2 159	27.9 38.4 337	34.1 28.8 337	40.2 19.2 337	46.4 9.6 337	52.5 0.0 0
15	25.6 44.9 326	31.8 35.5 324	38.1 26.3 319	44.4 17.4 311	49.9 9.3 269	53.0 9.7 228	57.3 13.2 199	61.6 18.5 185	65.8 24.5 176	28.3 46.2 332	34.5 36.7 330	40.6 27.2 328	46.9 17.8 324	53.1 8.7 311
16	26.2 53.3 324	32.4 44.0 321	38.7 34.9 317	45.0 26.1 311	51.5 15.7 283	54.9 13.4 255	58.0 14.6 228	62.2 17.7 206	66.5 22.3 193	28.8 54.3 328	35.0 44.9 326	41.2 35.5 324	47.5 26.3 319	53.8 17.4 311
17	26.8 61.8 322	33.1 52.6 319	39.3 43.6 316	45.6 34.8 311	52.9 22.7 290	56.7 18.7 269	59.8 17.8 248	62.9 19.4 228	67.2 22.2 211	29.3 62.6 326	35.6 53.3 324	41.8 44.0 321	48.1 34.9 317	54.4 26.1 311
18	27.4 70.3 320	33.7 61.2 318	40.0 52.2 315	46.3 43.5 311	54.0 30.2 294	58.4 24.8 277	61.7 22.5 261	64.7 22.4 244	67.9 24.3 228	29.9 71.1 324	36.2 61.8 322	42.4 52.6 319	48.7 43.6 316	55.0 34.8 311
19	32.9 50.2 36	37.2 49.6 46	41.5 50.4 55	46.2 52.7 65	51.3 56.7 74	57.6 63.3 83	65.7 73.7 93	67.9 77.4 100	70.9 83.1 105	35.8 58.6 36	40.2 57.9 44	44.5 58.4 52	49.0 60.1 61	53.8 63.2 69
20	33.1 47.5 26	39.3 41.8 36	43.6 41.4 48	48.0 42.6 59	52.9 45.7 70	58.7 51.4 81	66.6 61.5 93	68.9 65.4 101	72.0 71.4 107	36.1 55.7 28	42.2 50.2 36	46.6 49.6 46	50.9 50.4 55	55.5 52.7 65
21	33.3 46.3 17	39.5 39.3 24	45.7 33.5 36	50.0 33.2 50	54.5 35.1 65	59.9 39.7 79	67.5 49.2 93	69.9 53.4 103	73.2 59.8 109	36.3 54.3 19	42.5 47.5 26	48.6 41.8 36	53.0 41.4 48	57.4 42.6 59
22	33.6 46.6 7	39.7 38.6 13	45.9 31.2 22	52.1 25.1 36	56.4 25.2 55	61.3 28.4 74	68.5 36.9 93	71.1 41.5 105	74.5 48.5 113	36.6 54.0 11	42.7 46.3 17	48.9 39.3 24	55.0 33.5 36	59.4 33.2 50
23	33.8 48.3 357	40.0 39.5 1	46.1 31.1 7	52.3 23.2 17	58.5 16.7 36	62.9 17.6 65	69.4 24.6 93	72.2 29.9 109	76.0 37.5 118	36.8 55.0 2	43.0 46.6 7	49.1 38.6 13	55.3 31.2 22	61.4 25.1 36
24	34.1 51.8 347	40.2 42.4 349	46.4 33.2 352	52.5 24.2 357	58.7 15.5 7	64.9 8.4 36	70.3 12.3 93	73.6 18.7 118	77.5 27.0 126	37.0 57.3 354	43.2 48.3 357	49.3 39.5 1	55.5 31.1 7	61.7 23.2 17
25	34.4 57.6 337	40.5 48.0 337	46.7 38.4 337	52.8 28.8 337	59.0 19.2 337	65.1 9.6 337	71.3 0.0 0	75.2 8.9 142	79.2 17.8 142	37.3 61.2 345	43.5 51.8 347	49.6 42.4 349	55.8 33.2 352	61.9 24.2 357
26	34.7 65.3 333	40.9 55.7 333	47.1 46.2 332	53.2 36.7 330	59.4 27.2 328	65.6 17.8 324	71.9 8.7 311	76.2 4.9 228	80.5 9.2 185	37.6 67.2 337	43.8 57.6 337	49.9 48.0 337	56.1 38.4 337	62.2 28.8 337
27	35.2 73.3 330	41.4 63.8 329	47.5 54.3 328	53.7 44.9 326	60.0 35.5 324	66.2 26.3 319	72.5 17.4 311	78.1 9.3 269	81.2 9.7 228	38.0 74.9 334	44.1 65.3 333	50.3 55.7 333	56.4 46.2 332	62.6 36.7 330

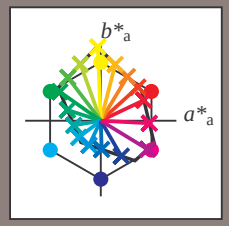
	O	P	Q	R	S	T	U	V	W	X	Y	Z	a
01	38.6 44.4 132	42.6 53.2 134	46.6 62.0 135	50.6 70.8 136	21.0 16.7 36	25.4 17.6 65	31.9 24.6 93	34.7 29.9 109	38.5 37.5 118	42.3 45.6 122	46.3 54.1 126	50.3 62.6 128	54.2 71.3 130
02	40.4 35.6 142	44.3 44.5 142	48.3 53.4 142	52.3 62.3 142	21.2 15.5 7	27.4 8.4 36	32.8 12.3 93	36.1 18.7 118	40.0 27.0 126	44.0 35.6 130	48.0 44.4 132	52.0 53.2 134	56.0 62.0 135
03	42.0 22.7 164	46.1 30.2 159	50.2 38.1 157	54.3 46.2 155	21.5 19.2 337	27.6 9.6 337	33.8 0.0 0	37.7 8.9 142	41.7 17.8 142	45.7 26.7 142	49.7 35.6 142	53.7 44.5 142	57.7 53.4 142
04	42.8 18.5 185	47.1 24.5 176	51.3 31.1 171	55.4 38.1 167	21.9 27.2 328	28.1 17.8 324	34.4 8.7 311	38.7 4.9 228	43.0 9.2 185	47.2 15.6 171	51.4 22.7 164	55.5 30.2 159	59.6 38.1 157
05	43.5 17.7 206	47.8 22.3 193	52.1 27.7 185	56.3 33.7 179	22.5 35.5 324	28.7 26.3 319	35.0 17.4 311	40.6 9.3 269	43.7 9.7 228	47.9 13.2 199	52.2 18.5 185	56.4 24.5 176	60.6 31.1 171
06	44.2 19.4 228	48.4 22.2 211	52.7 26.5 199	57.0 31.5 191	23.1 44.0 321	29.3 34.9 317	35.6 26.1 311	42.2 15.7 283	45.5 13.4 255	48.6 14.6 228	52.9 17.7 206	57.2 22.3 193	61.4 27.7 185
07	45.9 22.4 244	49.1 24.3 228	53.4 26.9 213	57.7 30.8 203	23.7 52.6 319	30.0 43.6 316	36.3 34.8 311	43.5 22.7 290	47.4 18.7 269	50.4 17.8 248	53.6 19.4 228	57.8 22.2 211	62.1 26.5 199
08	47.9 26.7 255	50.8 27.1 241	54.1 29.1 228	58.3 31.6 215	24.3 61.2 318	30.6 52.2 315	36.9 43.5 311	44.6 30.2 294	49.0 24.8 277	52.3 22.5 261	55.3 22.4 244	58.5 24.3 228	62.8 26.9 213
09	49.8 31.8 263	52.8 31.1 251	55.8 31.8 239	59.0 34.0 228	24.9 69.8 317	31.2 60.9 314	37.5 52.2 311	45.7 38.0 297	50.6 31.3 283	54.2 28.0 269	57.2 26.7 255	60.2 27.1 241	63.5 29.1 228
10	51.2 53.4 103	54.5 59.8 109	58.1 67.1 114	61.9 74.9 118	29.9 41.8 36	34.2 41.4 48	38.6 42.6 59	43.5 45.7 70	49.3 51.4 81	57.2 61.5 93	59.5 65.4 101	62.6 71.4 107	66.2 78.3 111
11	52.3 41.5 105	55.8 48.5 113	59.6 56.2 118	63.4 64.3 121	30.1 39.3 24	36.3 33.5 36	40.6 33.2 50	45.1 35.1 65	50.6 39.7 79	58.2 49.2 93	60.6 53.4 103	63.9 59.8 109	67.5 67.1 114
12	53.5 29.9 109	57.2 37.5 118	61.1 45.6 122	65.0 54.1 126	30.4 38.6 13	36.5 31.2 22	42.7 25.1 36	47.0 25.2 55	51.9 28.4 74	59.1 36.9 93	61.7 41.5 105	65.2 48.5 113	68.9 56.2 118
13	54.9 18.7 118	58.8 27.0 126	62.7 35.6 130	66.7 44.4 132	30.6 39.5 1	36.8 31.1 7	42.9 23.2 17	49.1 16.7 36	53.5 17.6 65	60.0 24.6 93	62.9 29.9 109	66.6 37.5 118	70.5 45.6 122
14	56.5 8.9 142	60.5 17.8 142	64.5 26.7 142	68.5 35.6 142	30.9 42.4 349	37.0 33.2 352	43.2 24.2 357	49.3 15.5 7	55.5 8.4 36	60.9 12.3 93	64.2 18.7 118	68.1 27.0 126	72.1 35.6 130
15	57.5 4.9 228	61.7 9.2 185	65.9 15.6 171	70.1 22.7 164	31.2 48.0 337	37.3 38.4 337	43.5 28.8 337	49.6 19.2 337	55.7 9.6 337	61.9 0.0 0	65.9 8.9 142	69.9 17.8 142	73.9 26.7 142
16	59.3 9.3 269	62.4 9.7 228	66.7 13.2 199	71.0 18.5 185	31.5 55.7 333	37.7 46.2 332	43.8 36.7 330	50.0 27.2 328	56.2 17.8 324	62.5 8.7 311	66.8 4.9 228	71.1 9.2 185	75.3 15.6 171
17	60.9 15.7 283	64.2 13.4 255	67.4 14.6 228	71.6 17.7 206	32.0 63.8 329	38.2 54.3 328	44.4 44.9 326	50.6 35.5 324	56.8 26.3 319	63.1 17.4 311	68.7 9.3 269	71.8 9.7 228	76.1 13.2 199
18	62.2 22.7 290	66.1 18.7 269	69.1 17.8 248	72.3 19.4 228	32.5 72.0 327	38.7 62.6 326	44.9 53.3 324	51.2 44.0 321	57.5 34.9 317	63.8 26.1 311	70.3 15.7 283	73.6 13.4 255	76.7 14.6 228
19	59.3 68.0 77	65.9 75.2 85	74.1 86.0 93	76.2 89.5 99	38.8 66.9 36	43.1 66.2 43	47.5 66.5 50	51.9 67.8 57	56.5 70.2 65	61.6 74.0 72	67.4 79.5 79	74.2 87.2 86	82.6 98.3 93
20	60.7 56.7 74	67.0 63.3 83	75.1 73.7 93	77.2 77.4 100	39.1 64.0 29	45.2 58.6 36	49.5 57.9 44	53.9 58.4 52	58.4 60.1 61	63.2 63.2 69	68.7 68.0 77	75.2 75.2 85	83.5 86.0 93
21	62.2 45.7 70	68.1 51.4 81	76.0 61.5 93	78.3 65.4 101	39.3 62.3 22	45.5 55.7 28	51.6 50.2 36	55.9 49.6 46	60.3 50.4 55	64.9 52.7 65	70.1 56.7 74	76.3 63.3 83	84.4 73.7 93
22	63.9 35.1 65	69.3 39.7 79	76.9 49.2 93	79.3 53.4 103	39.5 61.7 14	45.7 54.3 19	51.9 47.5 26	58.0 41.8 36	62.3 41.4 48	66.7 42.6 59	71.6 45.7 70	77.5 51.4 81	85.4 61.5 93
23	65.8 25.2 55	70.7 28.4 74	77.8 36.9 93	80.4 41.5 105	39.8 62.1 7	45.9 54.0 11	52.1 46.3 17	58.3 39.3 24	64.4 33.5 36	68.7 33.2 50	73.3 35.1 65	78.7 39.7 79	86.3 49.2 93
24	67.8 16.7 36	72.3 17.6 65	78.8 24.6 93	81.6 29.9 109	40.0 63.7 359	46.2 55.0 2	52.3 46.6 7	58.5 38.6 13	64.7 31.2 22	70.8 25.1 36	75.1 25.2 55	80.0 28.4 74	87.2 36.9 93
25	68.1 15.5 7	74.2 8.4 36	79.7 12.3 93	83.0 18.7 118	40.3 66.4 352	46.4 57.3 354	52.6 48.3 357	58.7 39.5 1	64.9 31.1 7	71.0 23.2 17	77.2 16.7 36	81.6 17.6 65	88.1 24.6 93
26	68.3 19.2 337	74.5 9.6 337	80.6 0.0 0	84.6 8.9 142	40.5 70.6 344	46.7 61.2 345	52.8 51.8 347	59.0 42.4 349	65.1 33.2 352	71.3 24.2 357	77.4 15.5 7	83.6 8.4 36	89.1 12.3 93
27	68.8 27.2 328	75.0 17.8 324	81.3 8.7 311	85.6 4.9 228	40.9 76.8 337	47.0 67.2 337	53.2 57.6 337	59.3 48.0 337	65.4 38.4 337	71.6 28.8 337	77.7 19.2 337	83.9 9.6 337	90.0 0.0 0

	b	c	d	e	f	g	h	i	j	k	LAB*LCH*a		
01	90.0 0.0 0	83.6 8.4 36	77.2 16.7 36	70.8 25.1 36	64.4 33.5 36	58.0 41.8 36	51.6 50.2 36	45.2 58.6 36	38.8 66.9 36	15.0 0.0 0	15.0 0.0 0	15.0 0.0 0	15.0 0.0 0
02	85.6 4.9 228	80.6 0.0 0	74.2 8.4 36	67.8 16.7 36	61.4 25.1 36	55.0 33.5 36	48.6 41.8 36	42.2 50.2 36	35.8 58.6 36	24.4 0.0 0	24.4 0.0 0	24.4 0.0 0	24.4 0.0 0
03	81.2 9.7 228	76.2 4.9 228	71.3 0.0 0	64.9 8.4 36	58.5 16.7 36	52.1 25.1 36	45.7 33.5 36	39.3 41.8 36	32.9 50.2 36	33.8 0.0 0	33.8 0.0 0	33.8 0.0 0	33.8 0.0 0
04	76.7 14.6 228	71.8 9.7 228	66.8 4.9 228	61.9 0.0 0	55.5 8.4 36	49.1 16.7 36	42.7 25.1 36	36.3 33.5 36	29.9 41.8 36	43.1 0.0 0	43.1 0.0 0	43.1 0.0 0	43.1 0.0 0
05	72.3 19.4 228	67.4 14.6 228	62.4 9.7 228	57.5 4.9 228	52.5 0.0 0	46.1 8.4 36	39.7 16.7 36	33.3 25.1 36	26.9 33.5 36	52.5 0.0 0	52.5 0.0 0	52.5 0.0 0	52.5 0.0 0
06	67.9 24.3 228	62.9 19.4 228	58.0 14.6 228	53.0 9.7 228	48.1 4.9 228	43.1 0.0 0	36.7 8.4 36	30.3 16.7 36	23.9 25.1 36	61.9 0.0 0	61.9 0.0 0	61.9 0.0 0	61.9 0.0 0
07	63.5 29.1 228	58.5 24.3 228	53.6 19.4 228	48.6 14.6 228	43.7 9.7 228	38.7 4.9 228	33.8 0.0 0	27.4 8.4 36	21.0 16.7 36	71.3 0.0 0	71.3 0.0 0	71.3 0.0 0	71.3 0.0 0
08	59.0 34.0 228	54.1 29.1 228	49.1 24.3 228	44.2 19.4 228	39.2 14.6 228	34.3 9.7 228	29.3 4.9 228	24.4 0.0 0	18.0 8.4 36	80.6 0.0 0	80.6 0.0 0	80.6 0.0 0	80.6 0.0 0
09	54.6 38.8 228	49.7 34.0 228	44.7 29.1 228	39.8 24.3 228	34.8 19.4 228	29.9 14.6 228	24.9 9.7 228	20.0 4.9 228	15.0 0.0 0	90.0 0.0 0	90.0 0.0 0	90.0 0.0 0	90.0 0.0 0
10	90.0 0.0 0	89.1 12.3 93	88.1 24.6 93	87.2 36.9 93	86.3 49.2 93	85.4 61.5 93	84.4 73.7 93	83.5 86.0 93	82.6 98.3 93	15.0 0.0 0	15.0 0.0 0	15.0 0.0 0	15.0 0.0 0
11	81.3 8.7 311	80.6 0.0 0	79.7 12.3 93	78.8 24.6 93	77.8 36.9 93	76.9 49.2 93	76.0 61.5 93	75.1 73.7 93	74.1 86.0 93	20.0 0.0 0	20.0 0.0 0	20.0 0.0 0	20.0 0.0 0
12	72.5 17.4 311	71.9 8.7 311	71.3 0.0 0	70.3 12.3 93	69.4 24.6 93	68.5 36.9 93	67.5 49.2 93	66.6 61.5 93	65.7 73.7 93	25.0 0.0 0	25.0 0.0 0	25.0 0.0 0	25.0 0.0 0
13	63.8 26.1 311	63.1 17.4 311	62.5 8.7 311	61.9 0.0 0	60.9 12.3 93	60.0 24.6 93	59.1 36.9 93	58.2 49.2 93	57.2 61.5 93	30.0 0.0 0	30.0 0.0 0	30.0 0.0 0	30.0 0.0 0
14	55.0 34.8 311	54.4 26.1 311	53.8 17.4 311	53.1 8.7 311	52.5 0.0 0	51.6 12.3 93	50.6 24.6 93	49.7 36.9 93	48.8 49.2 93	35.0 0.0 0	35.0 0.0 0	35.0 0.0 0	35.0 0.0 0
15	46.3 43.5 311	45.6 34.8 311	45.0 26.1 311	44.4 17.4 311	43.8 8.7 311	43.1 0.0 0	42.2 12.3 93	41.3 24.6 93	40.3 36.9 93	40.0 0.0 0	40.0 0.0 0	40.0 0.0 0	40.0 0.0 0
16	37.5 52.2 311	36.9 43.5 311	36.3 34.8 311	35.6 26.1 311	35.0 17.4 311	34.4 8.7 311	33.8 0.0 0	32.8 12.3 93	31.9 24.6 93	45.0 0.0 0	45.0 0.0 0	45.0 0.0 0	45.0 0.0 0
17	28.8 60.9 311	28.1 52.2 311	27.5 43.5 311	26.9 34.8 311	26.3 26.1 311	25.6 17.4 311	25.0 8.7 311	24.4 0.0 0	23.4 12.3 93	50.0 0.0 0	50.0 0.0 0	50.0 0.0 0	50.0 0.0 0
18	20.0 69.6 311	19.4 60.9 311	18.8 52.2 311	18.1 43.5 311	17.5 34.8 311	16.9 26.1 311	16.3 17.4 311	15.6 8.7 311	15.0 0.0 0	55.0 0.0 0	55.0 0.0 0	55.0 0.0 0	55.0 0.0 0
19	90.0 0.0 0	84.6 8.9 142	79.2 17.8 142	73.9 26.7 142	68.5 35.6 142	63.1 44.5 142	57.7 53.4 142	52.3 62.3 142	47.0 71.2 142	60.0 0.0 0	60.0 0.0 0	60.0 0.0 0	60.0 0.0 0
20	83.9 9.6 337	80.6 0.0 0	75.2 8.9 142	69.9 17.8 142	64.5 26.7 142	59.1 35.6 142	53.7 44.5 142	48.3 53.4 142	43.0 62.3 142	65.0 0.0 0	65.0 0.0 0	65.0 0.0 0	65.0 0.0 0
21	77.7 19.2 337	74.5 9.6 337	71.3 0.0 0	65.9 8.9 142	60.5 17.8 142	55.1 26.7 142	49.7 35.6 142	44.3 44.5 142	39.0 53.4 142	70.0 0.0 0	70.0 0.0 0	70.0 0.0 0	70.0 0.0 0
22	71.6 28.8 337	68.3 19.2 337	65.1 9.6 337	61.9 0.0 0	56.5 8.9 142	51.1 17.8 142	45.7 26.7 142	40.4 35.6 142	35.0 44.5 142	75.0 0.0 0	75.0 0.0 0	75.0 0.0 0	75.0 0.0 0
23	65.4 38.4 337	62.2 28.8 337	59.0 19.2 337	55.7 9.6 337	52.5 0.0 0	47.1 8.9 142	41.7 17.8 142	36.4 26.7 142	31.0 35.6 142	80.0 0.0 0	80.0 0.0 0	80.0 0.0 0	80.0 0.0 0
24	59.3 48.0 337	56.1 38.4 337	52.8 28.8 337	49.6 19.2 337	46.4 9.6 337	43.1 0.0 0	37.7 8.9 142	32.4 17.8 142	27.0 26.7 142	85.0 0.0 0	85.0 0.0 0	85.0 0.0 0	85.0 0.0 0
25	53.2 57.6 337	49.9 48.0 337	46.7 38.4 337	43.5 28.8 337	40.2 19.2 337	37.0 9.6 337	33.8 0.0 0	28.4 8.9 142	23.0 17.8 142	90.0 0.0 0	90.0 0.0 0	90.0 0.0 0	90.0 0.0 0
26	47.0 67.2 337	43.8 57.6 337	40.5 48.0 337	37.3 38.4 337	34.1 28.8 337	30.8 19.2 337	27.6 9.6 337	24.4 0.0 0	19.0 8.9 142	15.0 0.0 0	38.8 66.9 36	82.6 98.3 93	47.0 71.2 142
27	40.9 76.8 337	37.6 67.2 337	34.4 57.6 337	31.2 48.0 337	27.9 38.4 337	24.7 28.8 337	21.5 19.2 337	18.2 9.6 337	15.0 0.0 0	90.0 0.0 0	54.6 38.8 228	20.0 69.6 311	40.9 76.8 337

Input and output:
Colorimetric Printer Reflective System FRS15_90a
data for any colour:
u^*_e and number *no.* = 00 .. 15
elementary hue text:
u^*_e = 16 hues *r00j, r25j, ..., b75r*
contrast reduction factor:
c_R = 0.9

FRS15_90a; adapted (a) CIELAB data

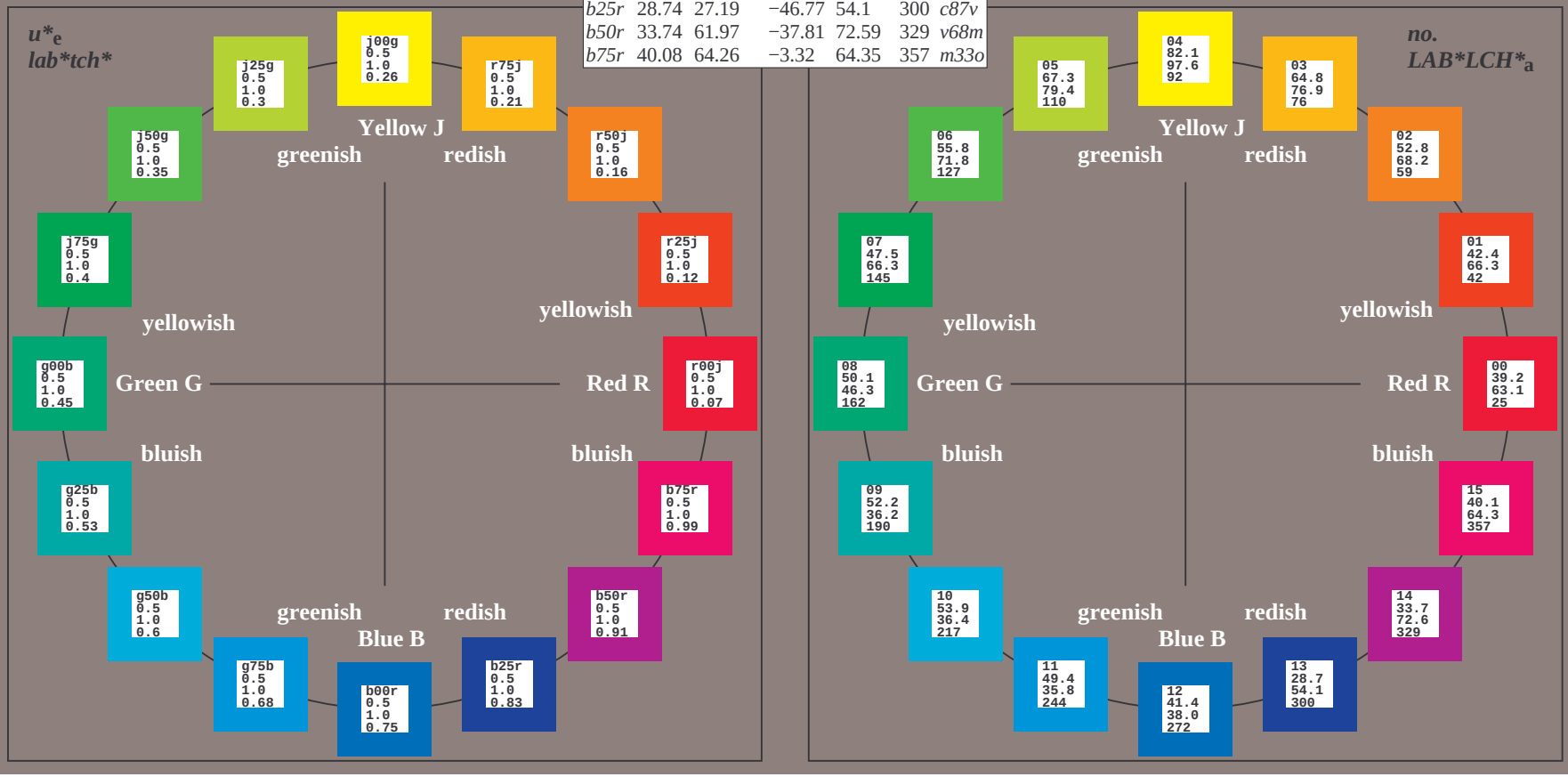
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

FRS15_90a; adapted (a) CIELAB data

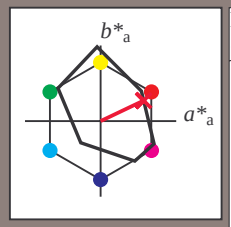
Name	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.89	71.56	71.62	92
G_{CIE}	52.23	−42.42	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.47	46.49	272



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

$u^*_e = r00j$
lab^*tch^*

data for any colour:
lab^*tch^* **and** lab^*icu^*
Hue texts:
$u^*_e = r00j$ $u^*_d = m81o$
contrast reduction factor:
$c_R = 0.9$
triangle lightness t^*



FRS15_90a; adapted (a) CIELAB data

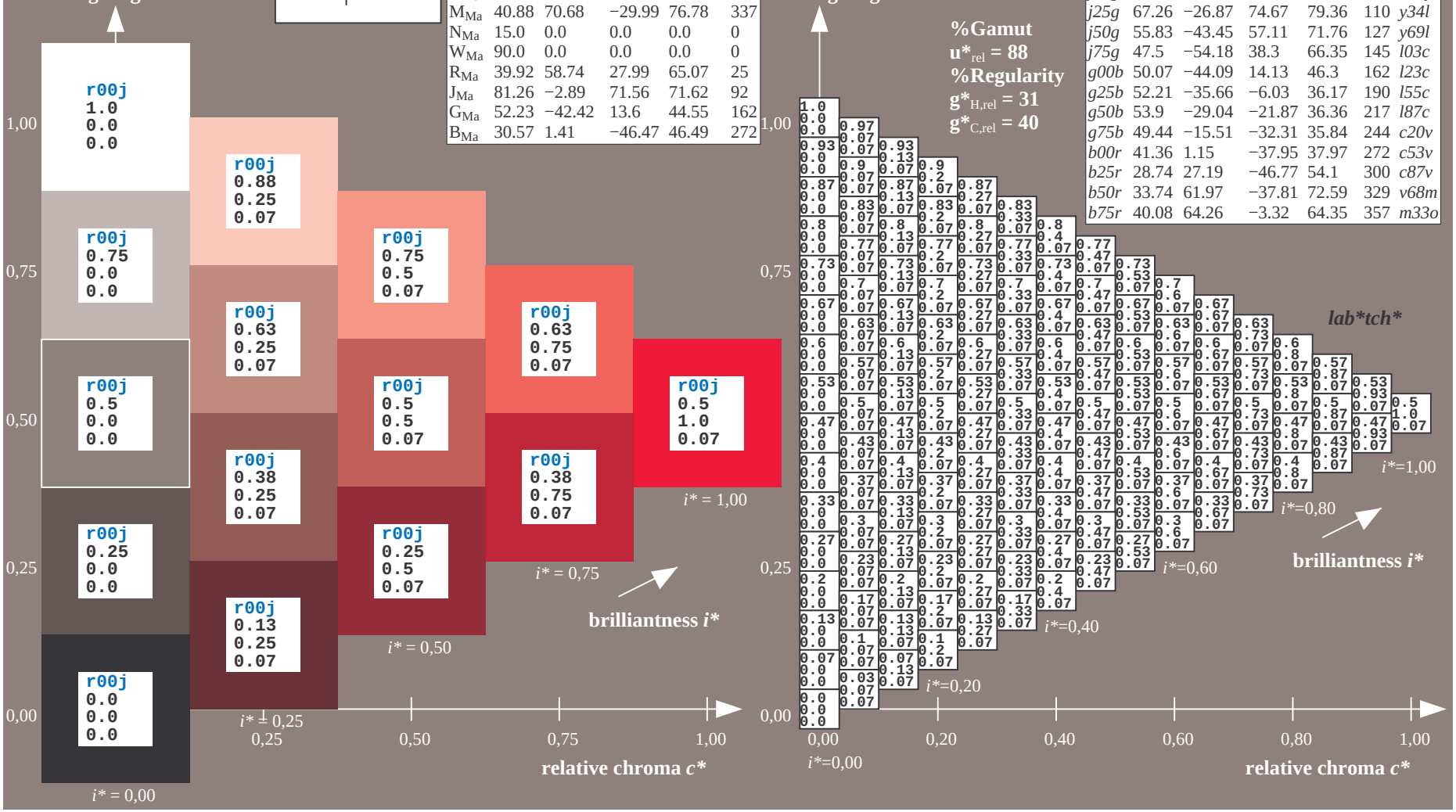
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
$LAB^*LAB^*_{Ma}$: 39 57 27
$LAB^*LCH^*_{Ma}$: 39 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

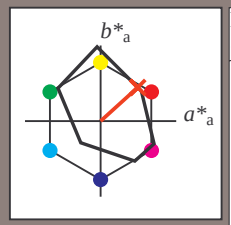
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.117$

$u^*_e = r25j$
lab^*tch^*

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
$u^*_e = r25j$ $u^*_d = o10y$
contrast reduction factor:
$c_R = 0.9$
triangle lightness t^*



FRS15_90a; adapted (a) CIELAB data

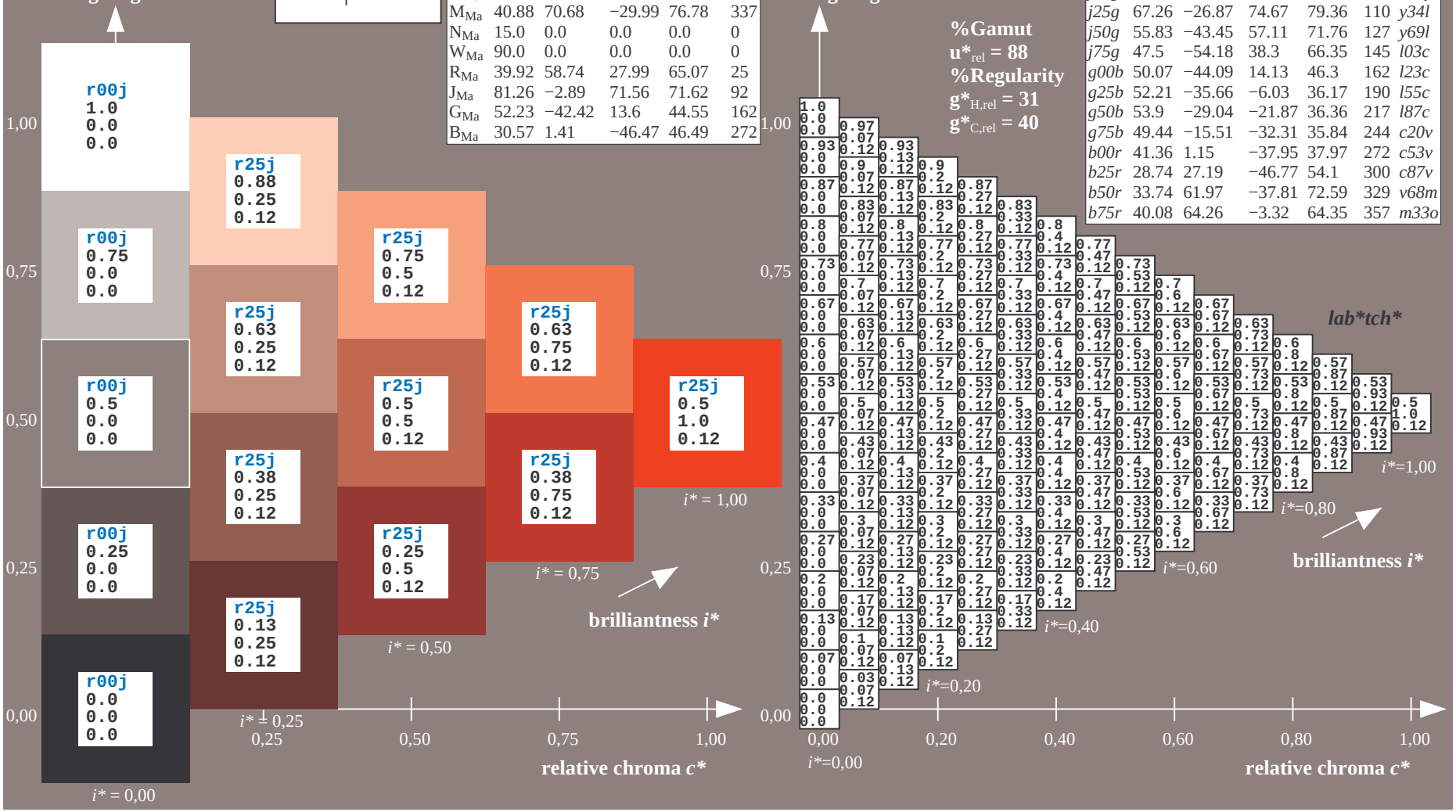
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 42 49 44**
***LAB*LCH*Ma*: 42 66 42**
***lab*rgb*Ma*: 1.0 0.25 0.0**
***lab*olv*Ma*: 1.0 0.1 0.0**
triangle lightness t^*

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

FRS15_90a; adapted (a) CIELAB data

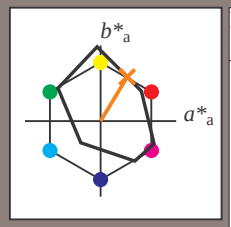
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

$u^*_e = r50j$
lab^*tch^*

data for any colour:
lab^*tch^* **and** lab^*icu^*
Hue texts:
$u^*_e = r50j$ $u^*_d = o40y$
contrast reduction factor:
$c_R = 0.9$
triangle lightness t^*



FRS15_90a; adapted (a) CIELAB data

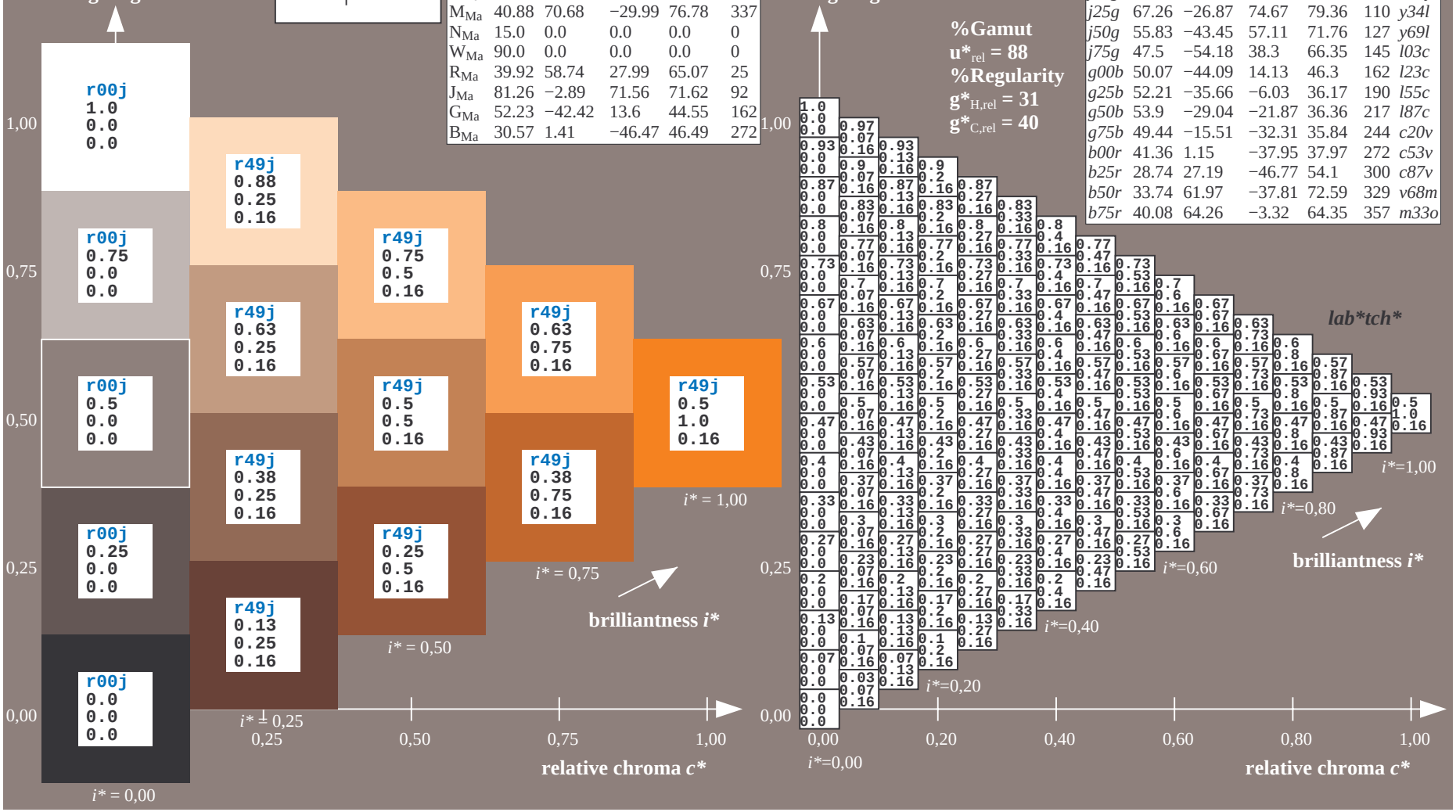
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
$LAB^*LAB^*_{Ma}$: 53 35 58
$LAB^*LCH^*_{Ma}$: 53 68 58
$lab^*rgb^*_{Ma}$: 1.0 0.5 0.0
$lab^*olv^*_{Ma}$: 1.0 0.4 0.0
triangle lightness t^*

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

FRS15_90a; adapted (a) CIELAB data

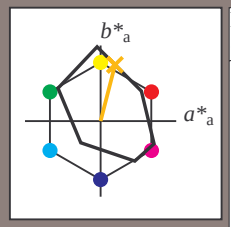
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

$u^*_e = r75j$
lab^*tch^*

data for any colour:
lab^*tch^* **and** lab^*icu^*
Hue texts:
$u^*_e = r75j$ $u^*_d = o69y$
contrast reduction factor:
$c_R = 0.9$
triangle lightness t^*



FRS15_90a; adapted (a) CIELAB data

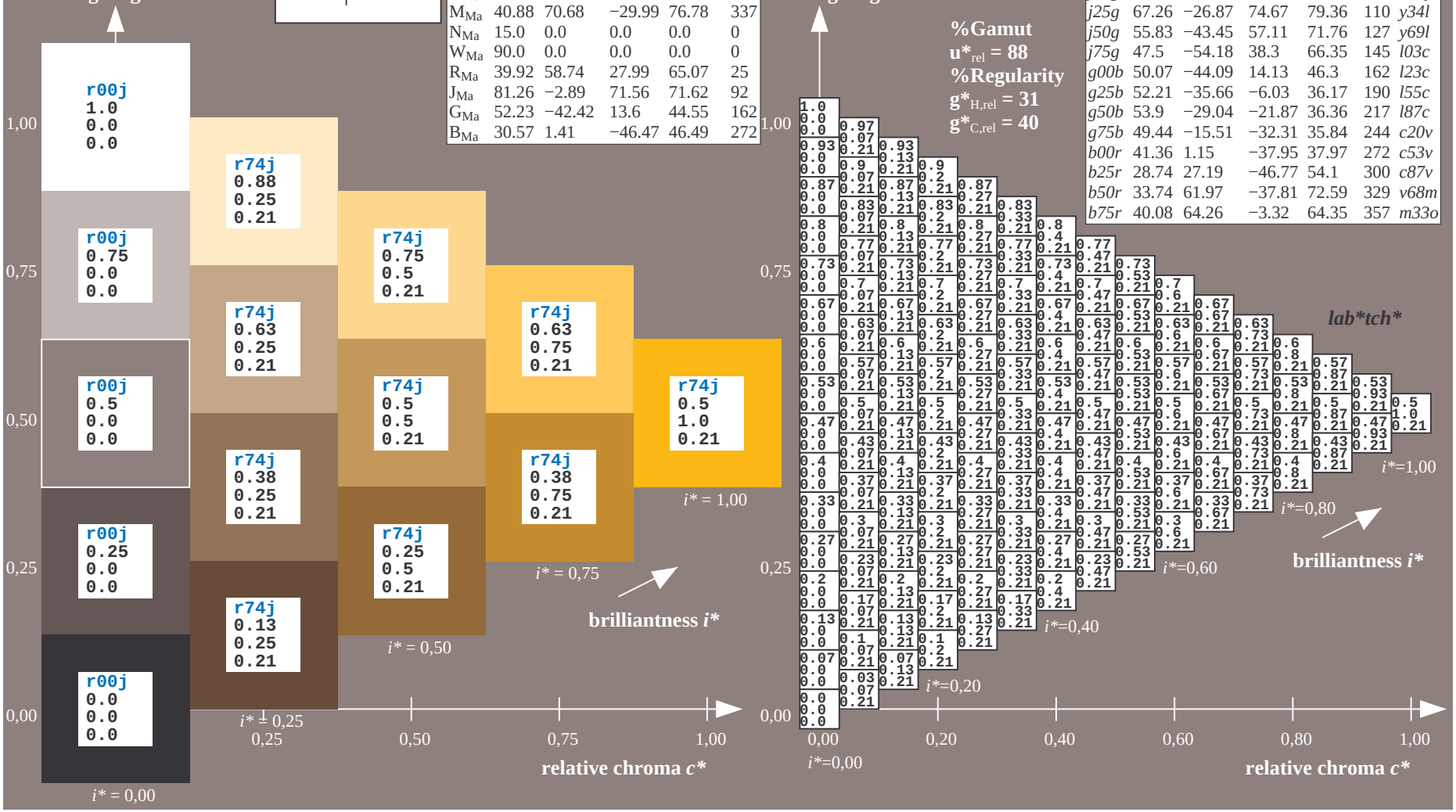
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
$LAB^*LAB^*_{Ma}$: 65 19 74
$LAB^*LCH^*_{Ma}$: 65 77 75
$lab^*rgb^*_{Ma}$: 1.0 0.75 0.0
$lab^*olv^*_{Ma}$: 1.0 0.7 0.0
triangle lightness t^*

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

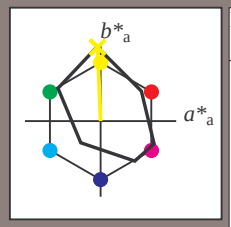
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.256$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j00g* u^*_d = *o98y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

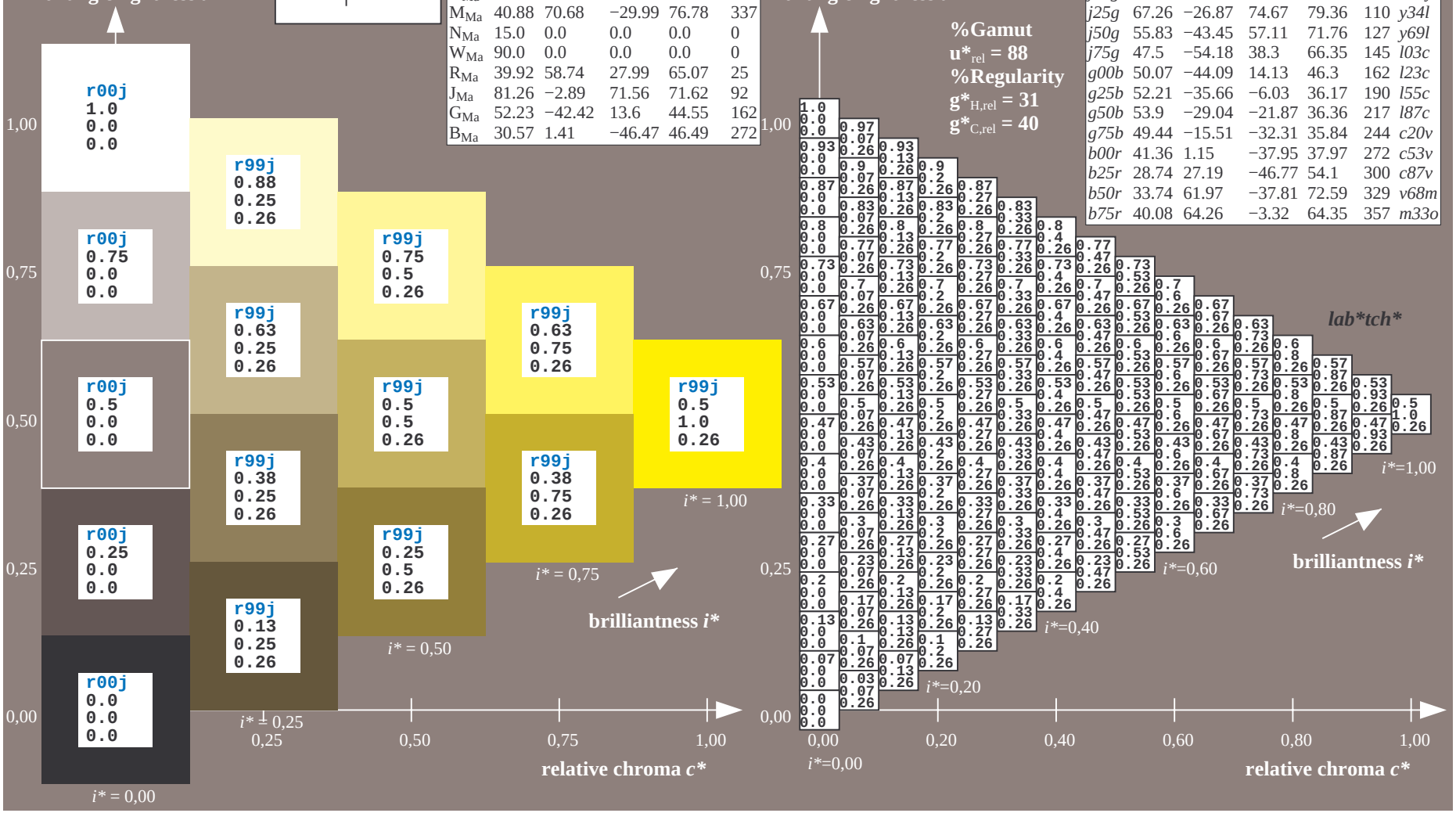
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 82 −4 98**
***LAB*LCH*Ma*: 82 98 92**
***lab*rgb*Ma*: 1.0 1.0 0.0**
***lab*olv*Ma*: 1.0 0.99 0.0**
triangle lightness *t**

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

u^*_e = *j00g*
*lab*tch**

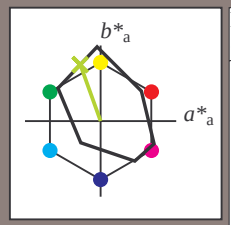
FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*	
r25j	42.41	49.1	44.5	66.26	42	*o10y*	
r50j	52.78	35.22	58.37	68.17	59	*o40y*	
r75j	64.82	19.12	74.47	76.89	76	*o69y*	
j00g	82.06	−3.94	97.52	97.6	92	*o98y*	
j25g	67.26	−26.87	74.67	79.36	110	*y34l*	
j50g	55.83	−43.45	57.11	71.76	127	*y69l*	
j75g	47.5	−54.18	38.3	66.35	145	*l03c*	
g00b	50.07	−44.09	14.13	46.3	162	*l23c*	
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*	
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*	
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*	
b00r	41.36	1.15	−37.95	37.97	272	*c53v*	
b25r	28.74	27.19	−46.77	54.1	300	*c87v*	
b50r	33.74	61.97	−37.81	72.59	329	*v68m*	
b75r	40.08	64.26	−3.32	64.35	357	*m33o*	



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j25g* u^*_d = *y34l*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

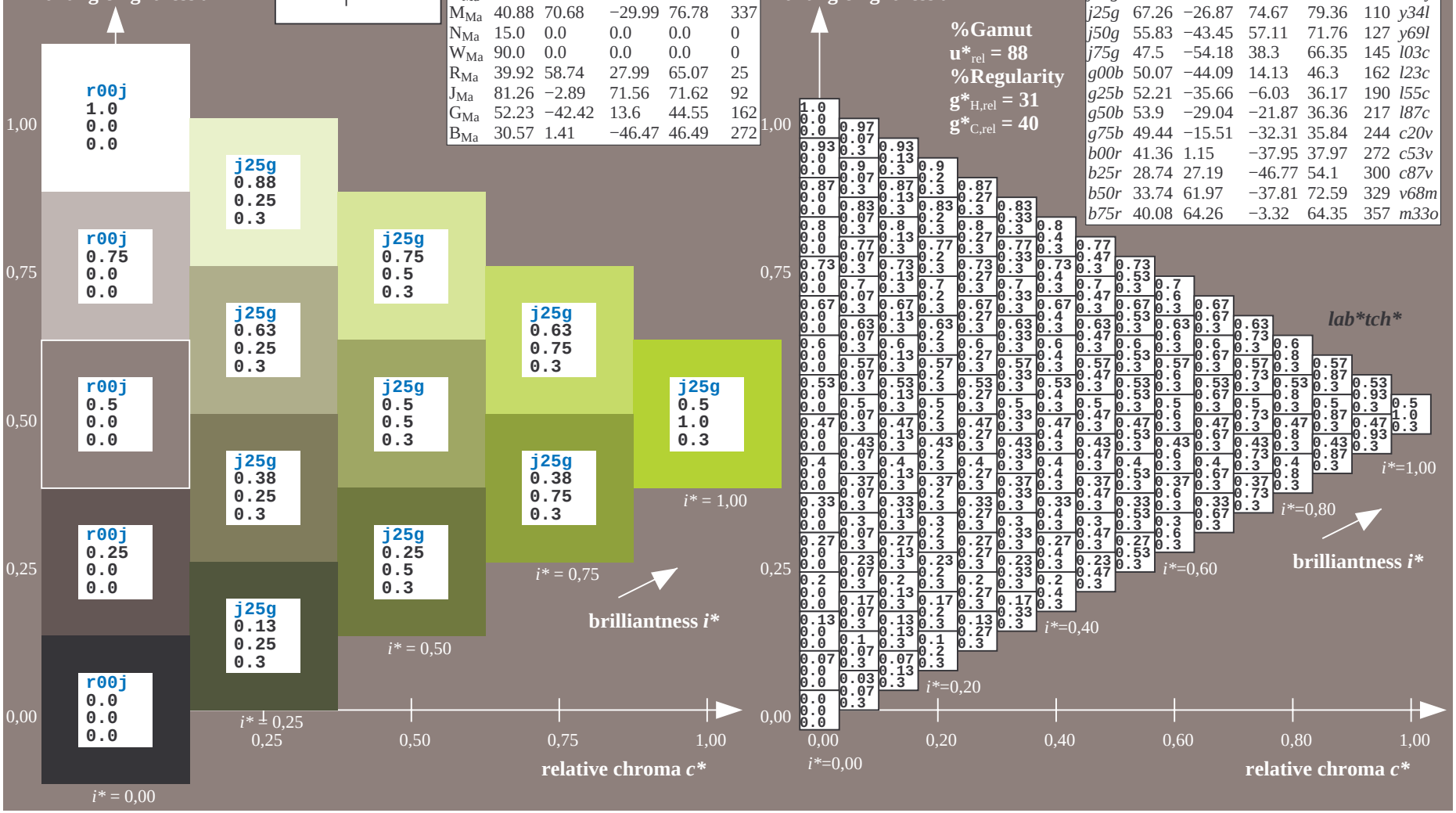
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$**: 67 −27 75**
LAB*LCH*$_{Ma}$**: 67 79 109**
lab*rgb*$_{Ma}$**: 0.75 1.0 0.0**
lab*olv*$_{Ma}$**: 0.66 1.0 0.0**
triangle lightness *t**

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

u^*_e = *j25g*
*lab*tch**

FRS15_90a; adapted (a) CIELAB data

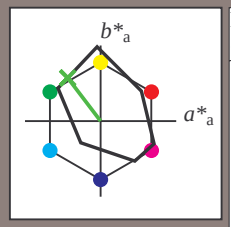
	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25		*m81o*
r25j	42.41	49.1	44.5	66.26	42		*o10y*
r50j	52.78	35.22	58.37	68.17	59		*o40y*
r75j	64.82	19.12	74.47	76.89	76		*o69y*
j00g	82.06	−3.94	97.52	97.6	92		*o98y*
j25g	67.26	−26.87	74.67	79.36	110		*y34l*
j50g	55.83	−43.45	57.11	71.76	127		*y69l*
j75g	47.5	−54.18	38.3	66.35	145		*l03c*
g00b	50.07	−44.09	14.13	46.3	162		*l23c*
g25b	52.21	−35.66	−6.03	36.17	190		*l55c*
g50b	53.9	−29.04	−21.87	36.36	217		*l87c*
g75b	49.44	−15.51	−32.31	35.84	244		*c20v*
b00r	41.36	1.15	−37.95	37.97	272		*c53v*
b25r	28.74	27.19	−46.77	54.1	300		*c87v*
b50r	33.74	61.97	−37.81	72.59	329		*v68m*
b75r	40.08	64.26	−3.32	64.35	357		*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.354$

$u^*_e = j50g$
lab^*tch^*

data for any colour:
lab^*tch^* **and** lab^*icu^*
Hue texts:
$u^*_e = j50g$ $u^*_d = y69l$
contrast reduction factor:
$c_R = 0.9$
triangle lightness t^*



FRS15_90a; adapted (a) CIELAB data

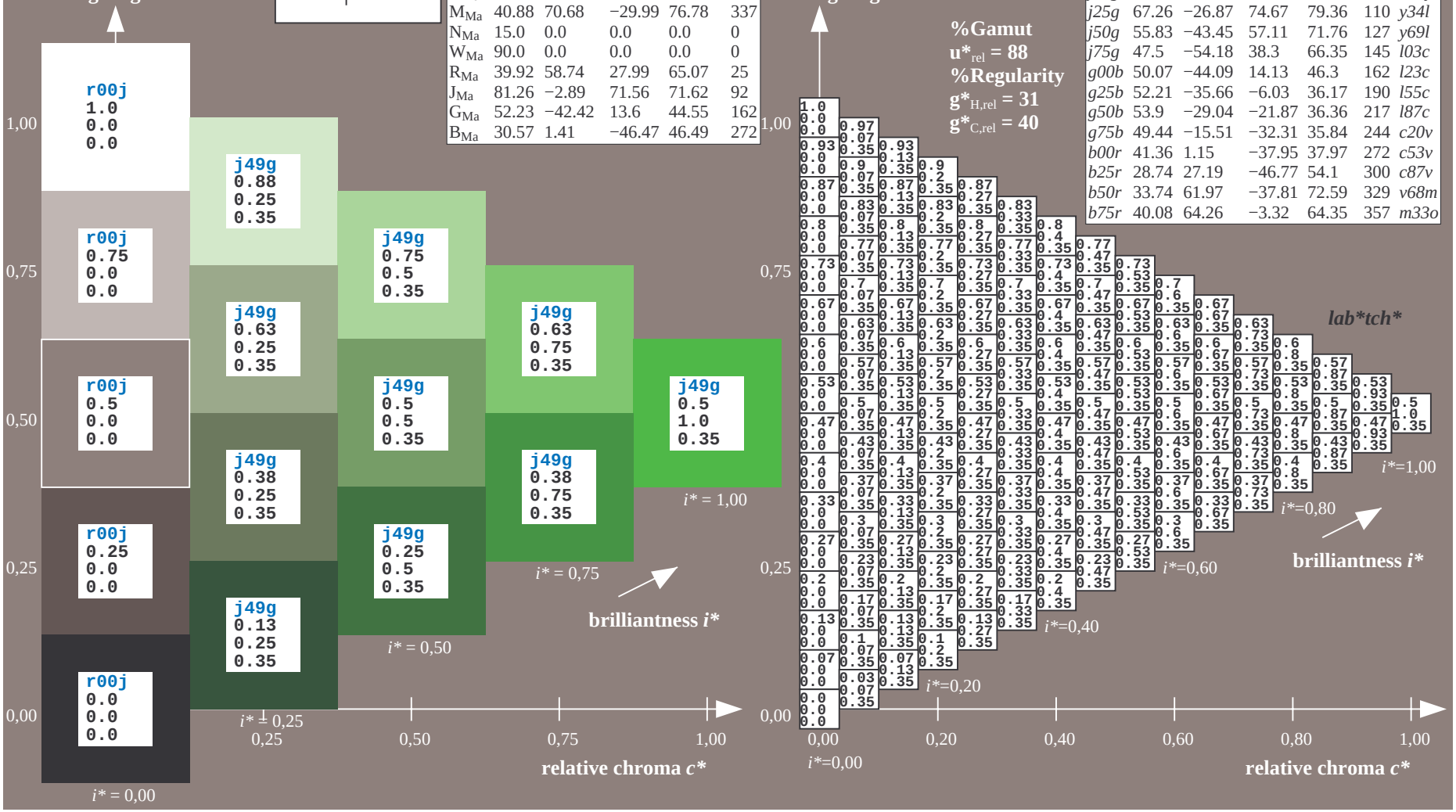
	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

Data for maximum colour (Ma):
$LAB^*LAB^*_{Ma}$: 56 −43 57
$LAB^*LCH^*_{Ma}$: 56 72 127
$lab^*rgb^*_{Ma}$: 0.5 1.0 0.0
$lab^*olv^*_{Ma}$: 0.3 1.0 0.0
triangle lightness t^*

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

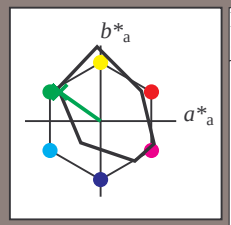
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *j75g* u^*_d = *l03c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

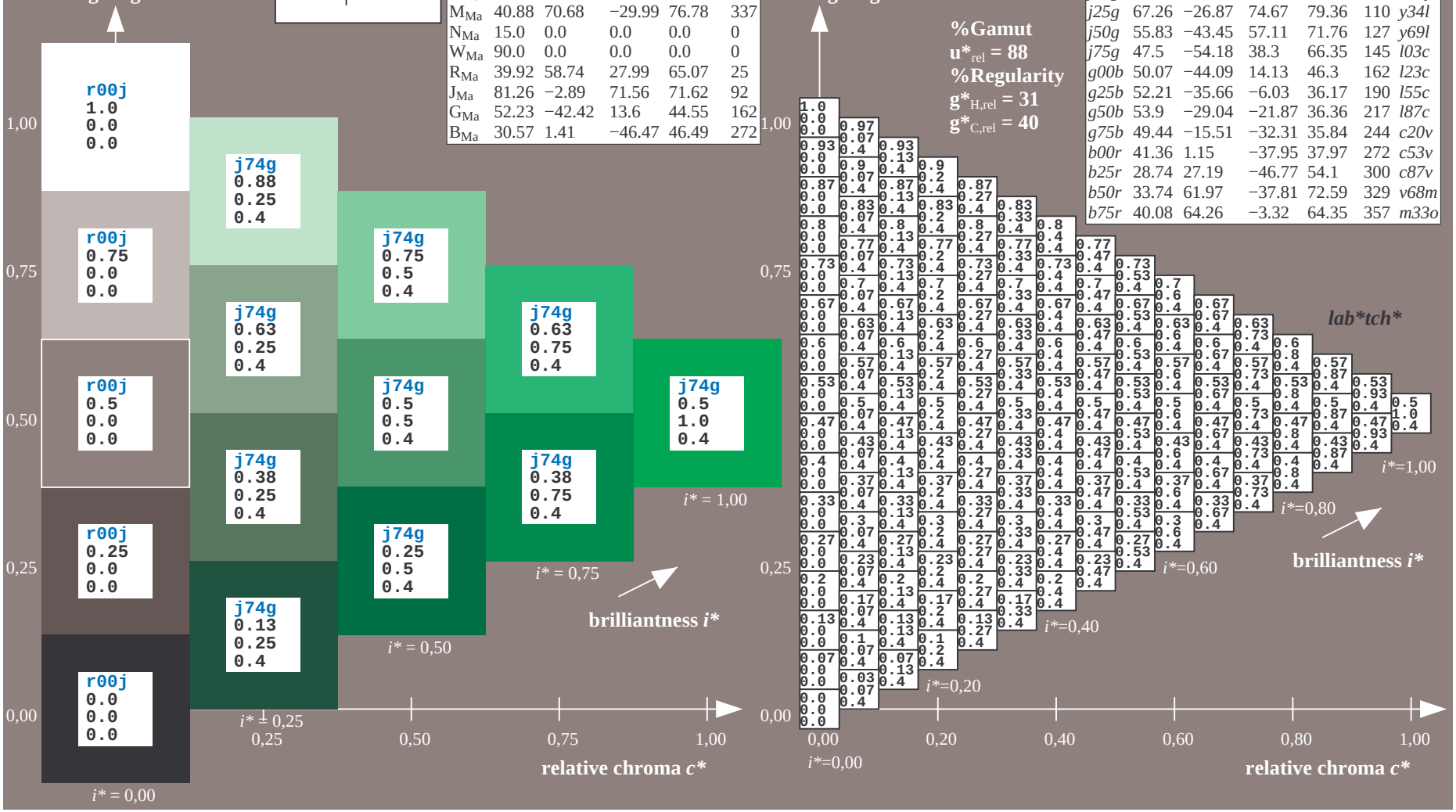
	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 48 −54 38**
***LAB*LCH*Ma*: 48 66 144**
***lab*rgb*Ma*: 0.25 1.0 0.0**
***lab*olv*Ma*: 0.0 1.0 0.03**
triangle lightness *t**

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

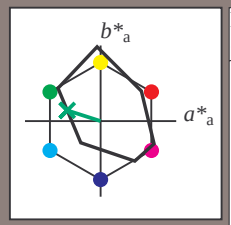
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *g00b* u^*_d = *l23c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

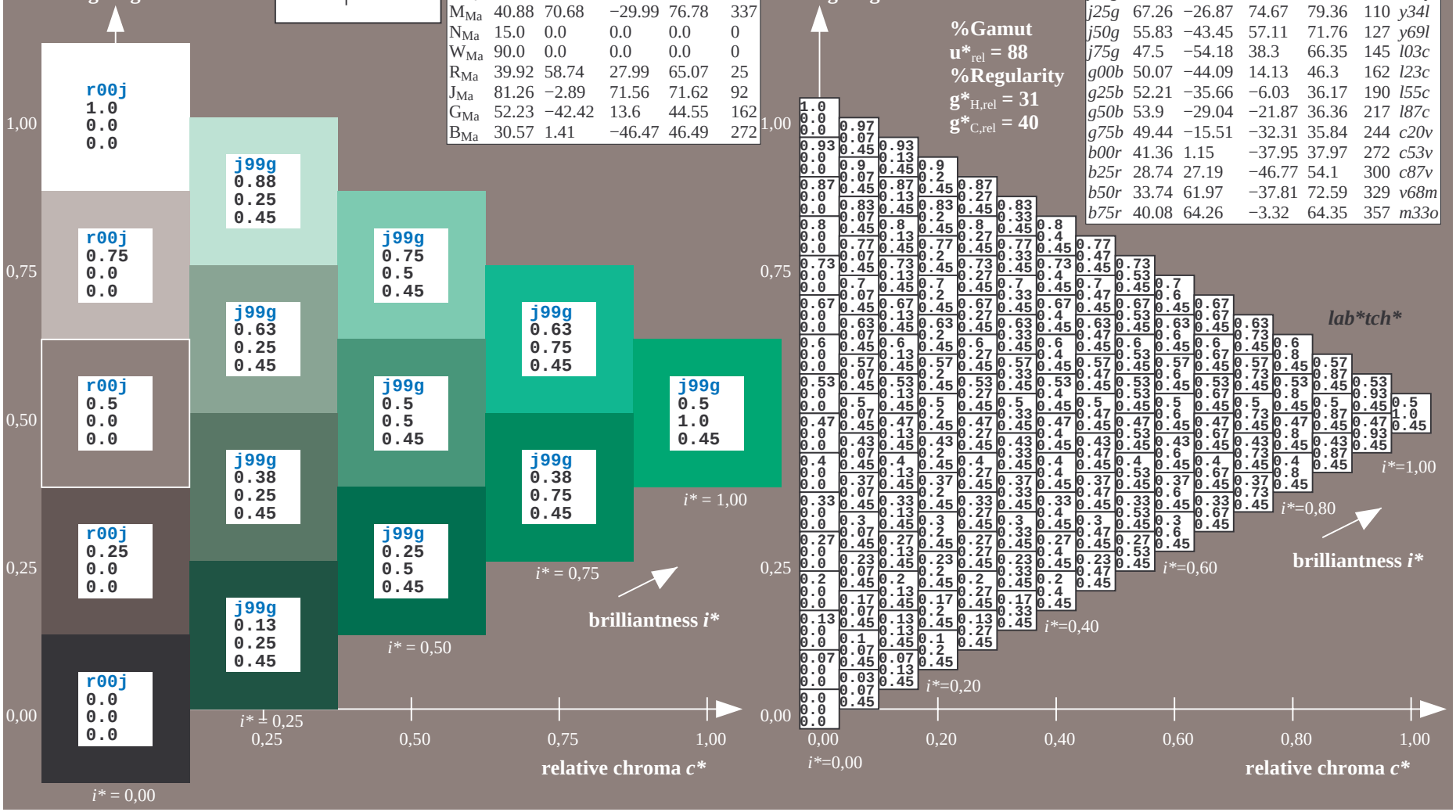
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 50 −44 14
LAB*LCH*$_{Ma}$: 50 46 162
lab*rgb*$_{Ma}$: 0.0 1.0 0.0
lab*olv*$_{Ma}$: 0.0 1.0 0.23
triangle lightness *t**

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

u^*_e = *g00b*
*lab*tch**

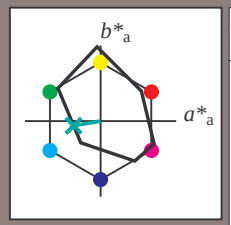
FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25		*m81o*
r25j	42.41	49.1	44.5	66.26	42		*o10y*
r50j	52.78	35.22	58.37	68.17	59		*o40y*
r75j	64.82	19.12	74.47	76.89	76		*o69y*
j00g	82.06	−3.94	97.52	97.6	92		*o98y*
j25g	67.26	−26.87	74.67	79.36	110		*y34l*
j50g	55.83	−43.45	57.11	71.76	127		*y69l*
j75g	47.5	−54.18	38.3	66.35	145		*l03c*
g00b	50.07	−44.09	14.13	46.3	162		*l23c*
g25b	52.21	−35.66	−6.03	36.17	190		*l55c*
g50b	53.9	−29.04	−21.87	36.36	217		*l87c*
g75b	49.44	−15.51	−32.31	35.84	244		*c20v*
b00r	41.36	1.15	−37.95	37.97	272		*c53v*
b25r	28.74	27.19	−46.77	54.1	300		*c87v*
b50r	33.74	61.97	−37.81	72.59	329		*v68m*
b75r	40.08	64.26	−3.32	64.35	357		*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *g25b* u^*_d = *l55c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

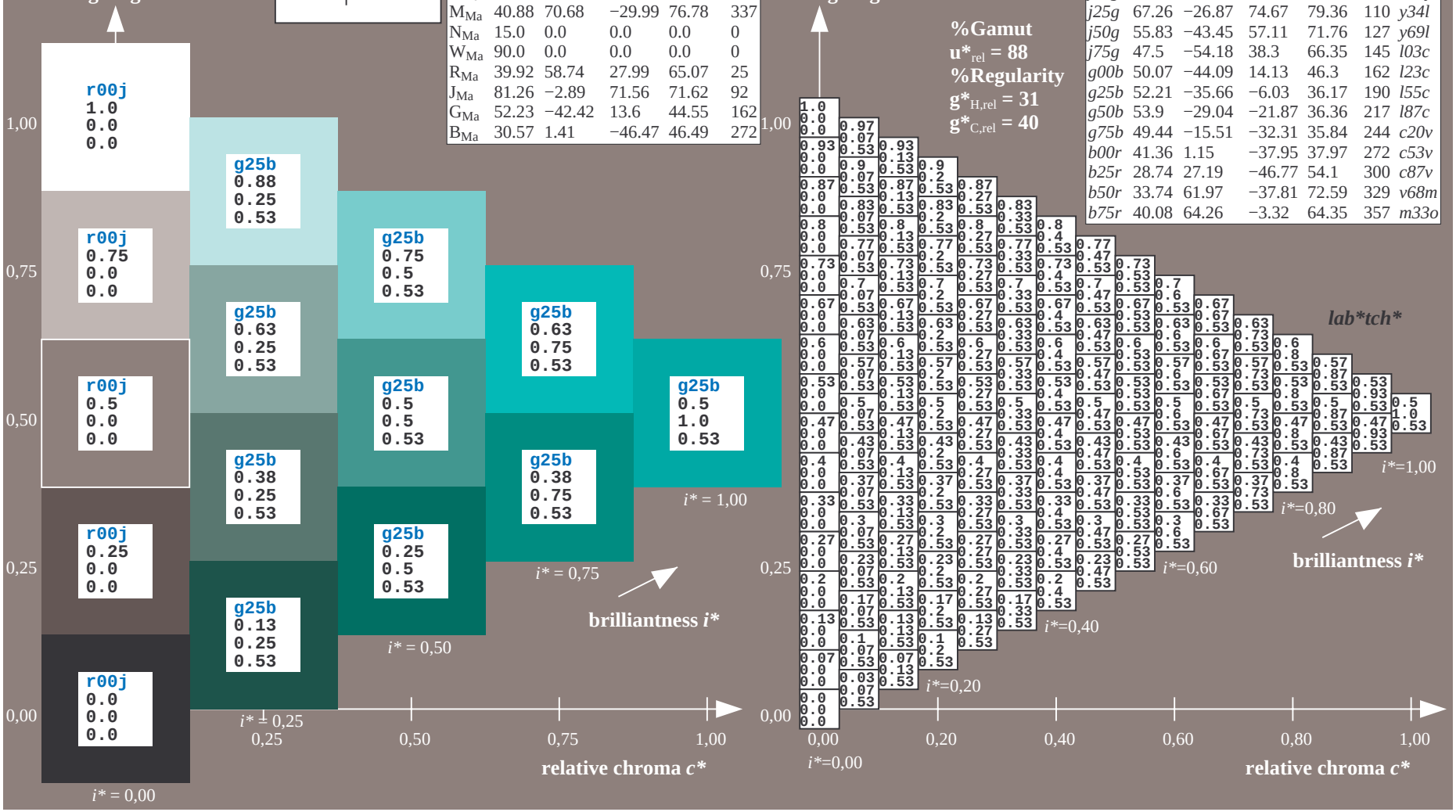
Data for maximum colour (Ma):
*LAB*LAB**$_{Ma}$: 52 −36 −6
*LAB*LCH**$_{Ma}$: 52 36 189
*lab*rgb**$_{Ma}$: 0.0 1.0 0.5
*lab*olv**$_{Ma}$: 0.0 1.0 0.55
triangle lightness *t**

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

u^*_e = *g25b*
*lab*tch**

FRS15_90a; adapted (a) CIELAB data

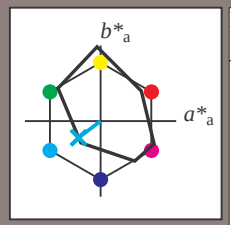
	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25		*m81o*
r25j	42.41	49.1	44.5	66.26	42		*o10y*
r50j	52.78	35.22	58.37	68.17	59		*o40y*
r75j	64.82	19.12	74.47	76.89	76		*o69y*
j00g	82.06	−3.94	97.52	97.6	92		*o98y*
j25g	67.26	−26.87	74.67	79.36	110		*y34l*
j50g	55.83	−43.45	57.11	71.76	127		*y69l*
j75g	47.5	−54.18	38.3	66.35	145		*l03c*
g00b	50.07	−44.09	14.13	46.3	162		*l23c*
g25b	52.21	−35.66	−6.03	36.17	190		*l55c*
g50b	53.9	−29.04	−21.87	36.36	217		*l87c*
g75b	49.44	−15.51	−32.31	35.84	244		*c20v*
b00r	41.36	1.15	−37.95	37.97	272		*c53v*
b25r	28.74	27.19	−46.77	54.1	300		*c87v*
b50r	33.74	61.97	−37.81	72.59	329		*v68m*
b75r	40.08	64.26	−3.32	64.35	357		*m33o*



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

$u^*_e = g50b$
lab^*tch^*

data for any colour:
lab^*tch^* **and** lab^*icu^*
Hue texts:
$u^*_e = g50b \quad u^*_d = l87c$
contrast reduction factor:
$c_R = 0.9$
triangle lightness t^*



FRS15_90a; adapted (a) CIELAB data

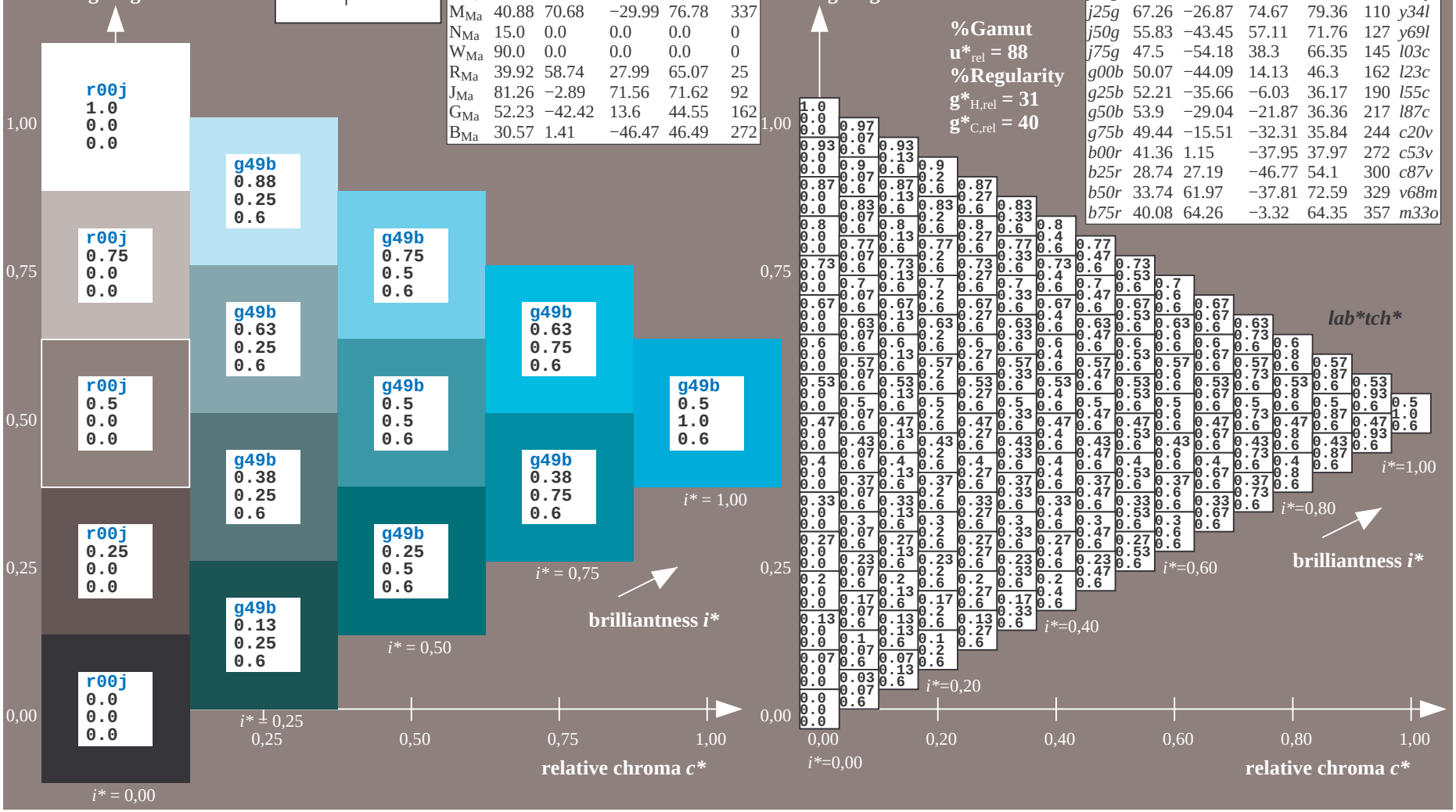
	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

Data for maximum colour (Ma):
$LAB^*LAB^*_{Ma}$: 54 −29 −22
$LAB^*LCH^*_{Ma}$: 54 36 216
$lab^*rgb^*_{Ma}$: 0.0 1.0 1.0
$lab^*olv^*_{Ma}$: 0.0 1.0 0.88
triangle lightness t^*

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

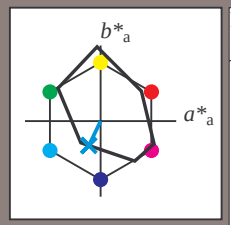
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



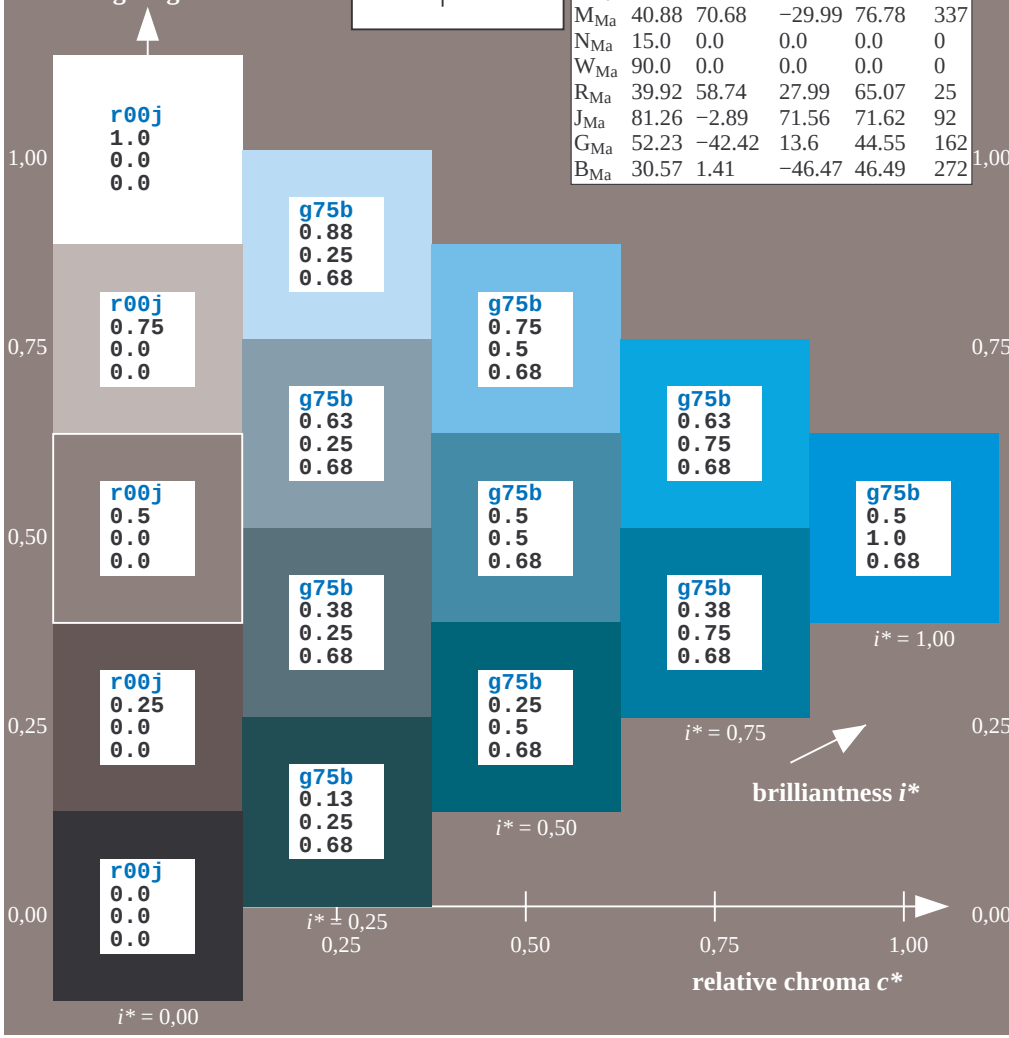
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.679$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *g75b* u^*_d = *c20v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

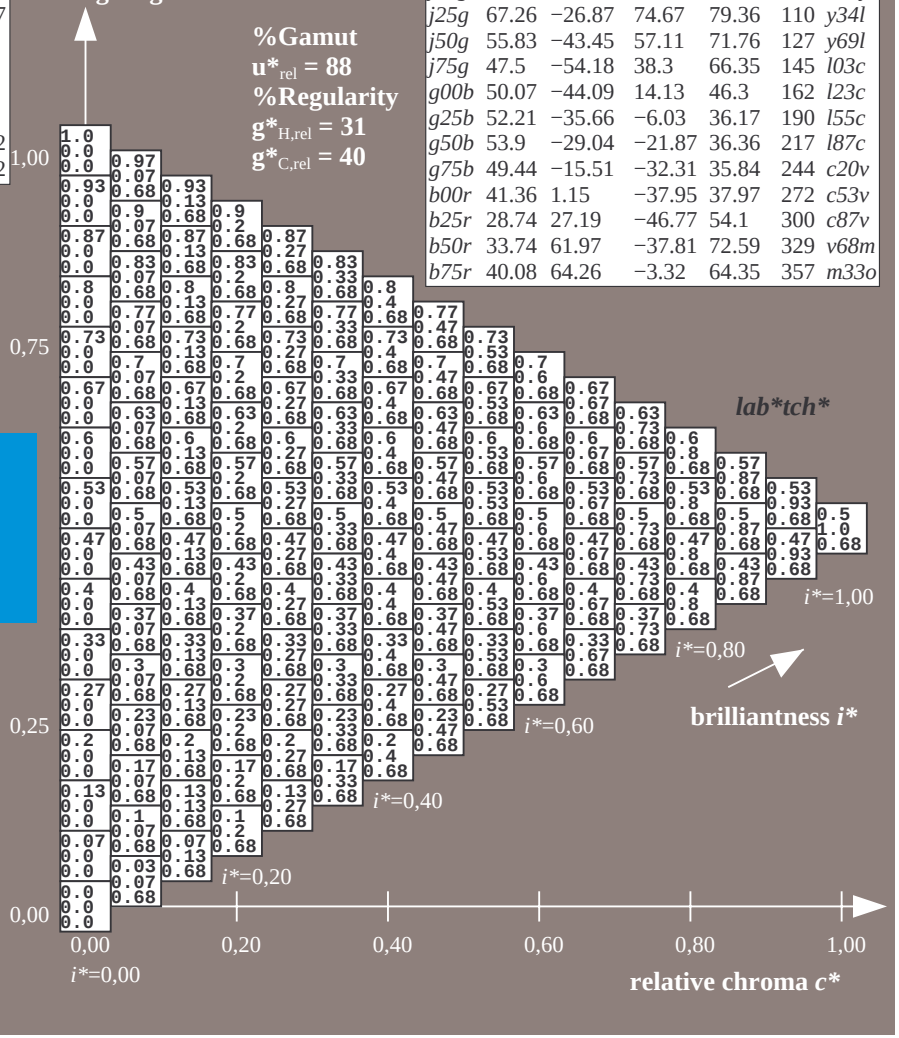


Data for maximum colour (Ma):
$LAB^*LAB^*_{Ma}$: 49 −16 −32
$LAB^*LCH^*_{Ma}$: 49 36 244
$lab^*rgb^*_{Ma}$: 0.0 0.5 1.0
$lab^*olv^*_{Ma}$: 0.0 0.8 1.0
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



u^*_e = *g75b*
*lab*tch**

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

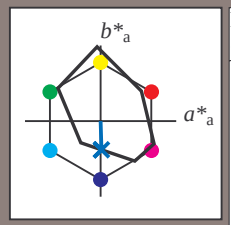
$u^*_e = b00r$ lab^*tch^*

data for any colour:
*lab*tch** and *lab*icu**

Hue texts:
$u^*_e = b00r$ $u^*_d = c53v$

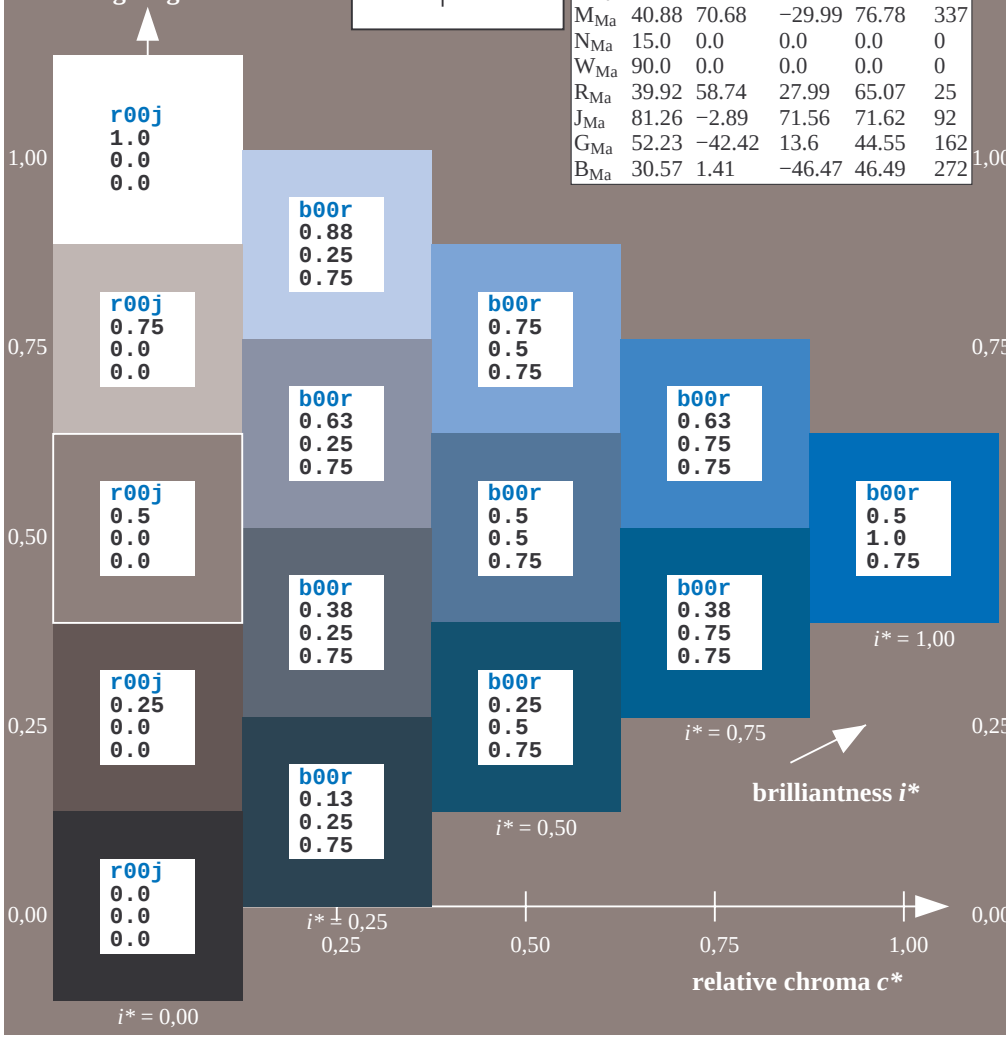
contrast reduction factor:
$c_R = 0.9$

triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272



Data for maximum colour (Ma):

$LAB^*LAB^*_{Ma}$: 41 1 −38

$LAB^*LCH^*_{Ma}$: 41 38 271

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

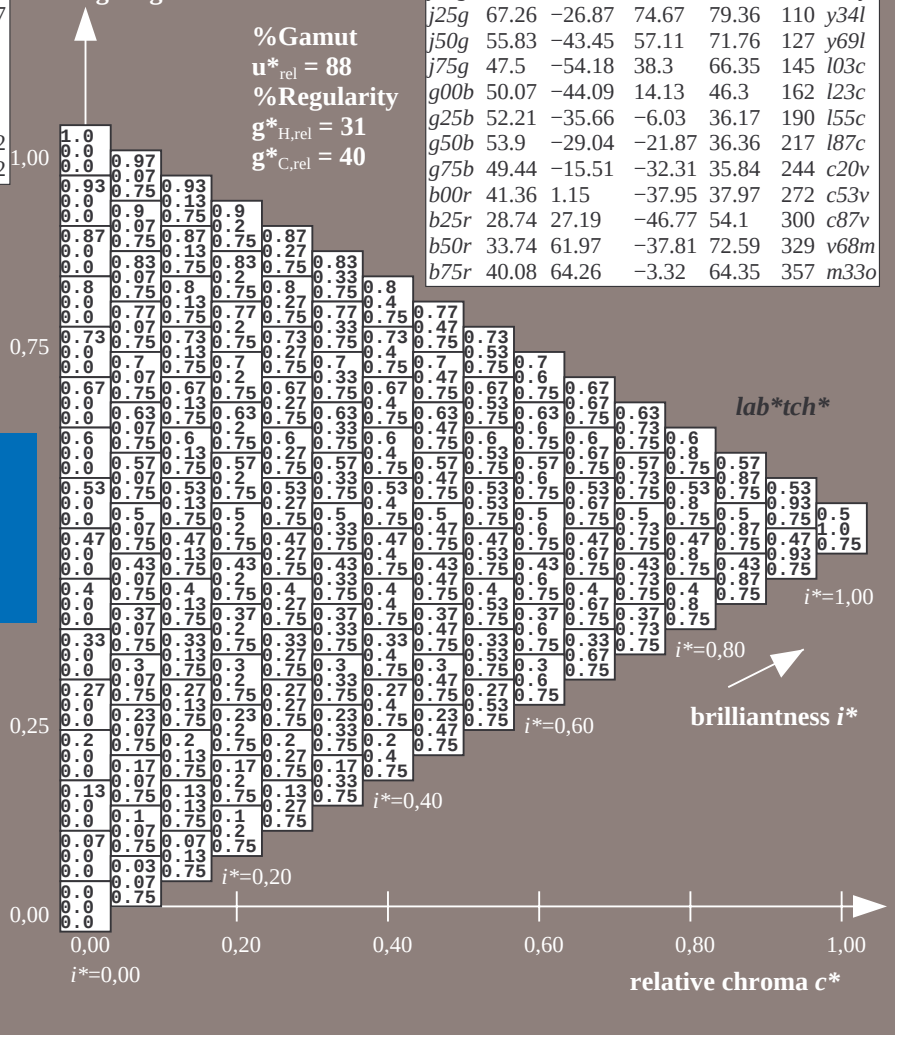
$lab^*olv^*_{Ma}$: 0.0 0.47 1.0

triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

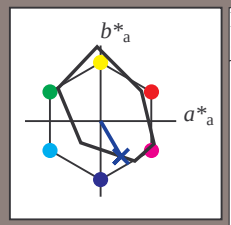
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

$u^*_e = b25r$
lab^*tch^*

data for any colour:
lab^*tch^* **and** lab^*icu^*
Hue texts:
$u^*_e = b25r$ $u^*_d = c87v$
contrast reduction factor:
$c_R = 0.9$
triangle lightness t^*



FRS15_90a; adapted (a) CIELAB data

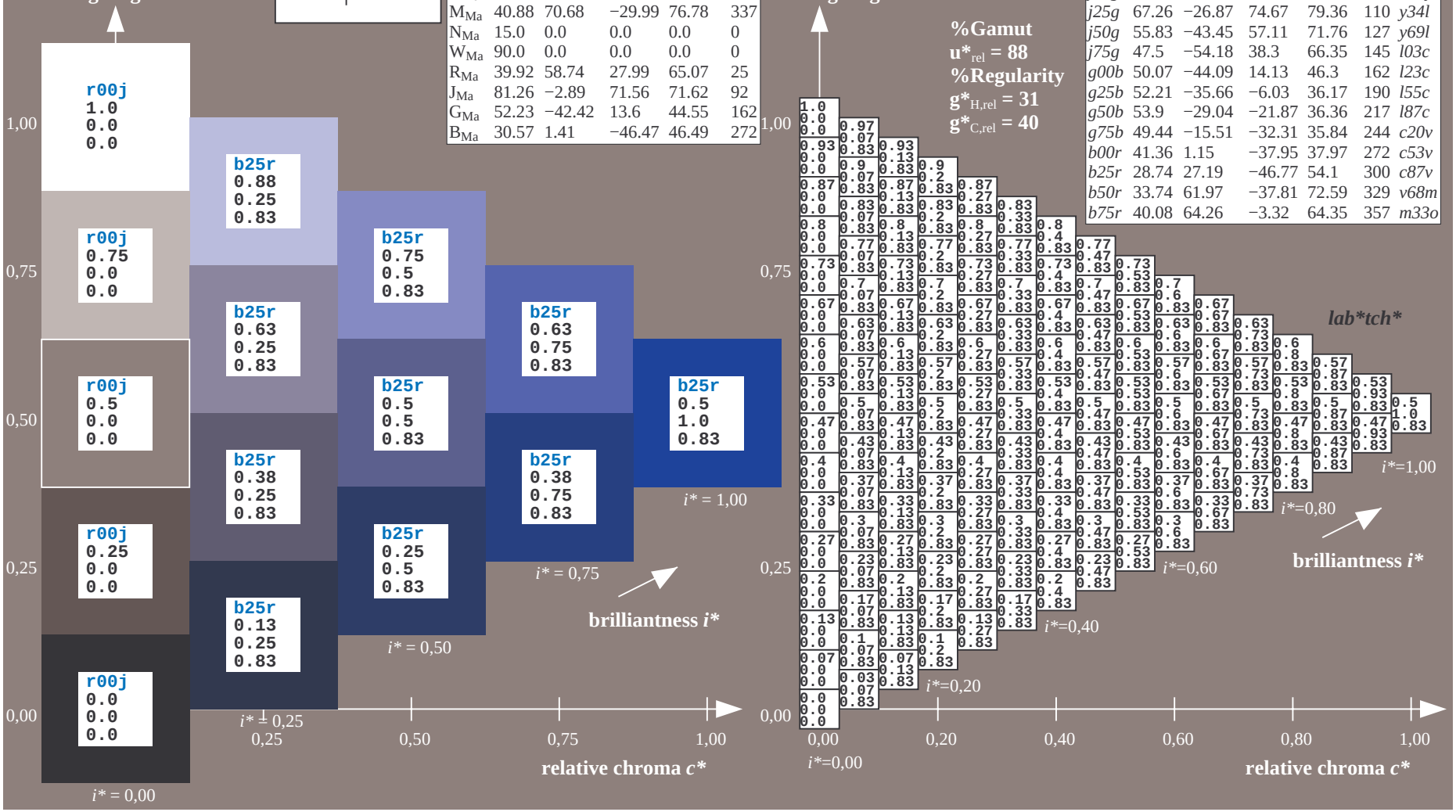
	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

Data for maximum colour (Ma):
$LAB^*LAB^*_{Ma}$: 29 27 −47
$LAB^*LCH^*_{Ma}$: 29 54 300
$lab^*rgb^*_{Ma}$: 0.5 0.0 1.0
$lab^*olv^*_{Ma}$: 0.0 0.12 1.0
triangle lightness t^*

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

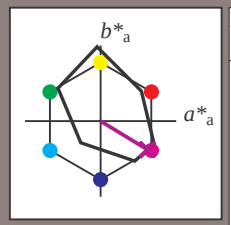
FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25		*m81o*
r25j	42.41	49.1	44.5	66.26	42		*o10y*
r50j	52.78	35.22	58.37	68.17	59		*o40y*
r75j	64.82	19.12	74.47	76.89	76		*o69y*
j00g	82.06	−3.94	97.52	97.6	92		*o98y*
j25g	67.26	−26.87	74.67	79.36	110		*y34l*
j50g	55.83	−43.45	57.11	71.76	127		*y69l*
j75g	47.5	−54.18	38.3	66.35	145		*l03c*
g00b	50.07	−44.09	14.13	46.3	162		*l23c*
g25b	52.21	−35.66	−6.03	36.17	190		*l55c*
g50b	53.9	−29.04	−21.87	36.36	217		*l87c*
g75b	49.44	−15.51	−32.31	35.84	244		*c20v*
b00r	41.36	1.15	−37.95	37.97	272		*c53v*
b25r	28.74	27.19	−46.77	54.1	300		*c87v*
b50r	33.74	61.97	−37.81	72.59	329		*v68m*
b75r	40.08	64.26	−3.32	64.35	357		*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.913$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *b50r* u^*_d = *v68m*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

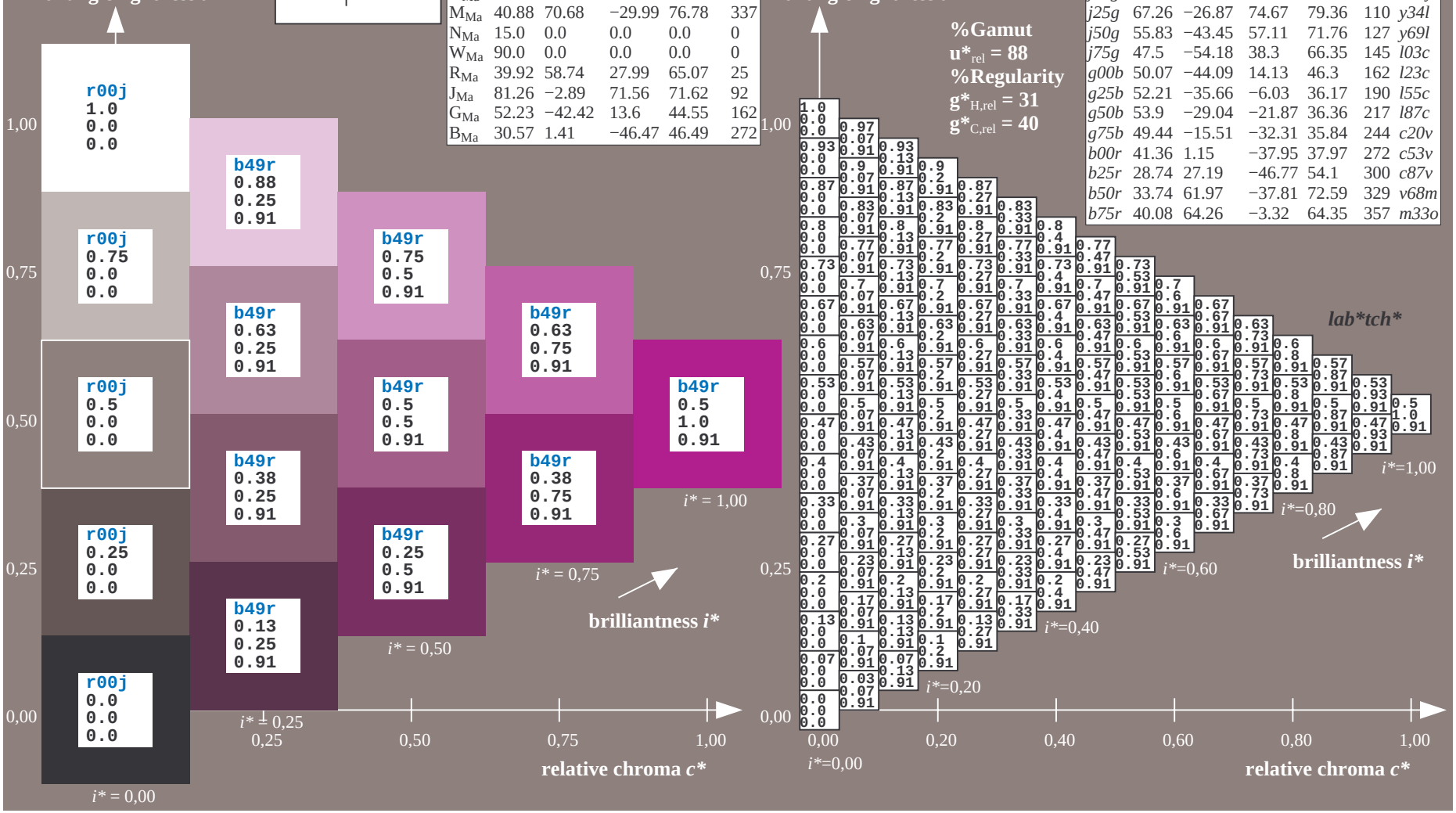
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 34 62 −38
LAB*LCH*$_{Ma}$: 34 73 328
lab*rgb*$_{Ma}$: 1.0 0.0 1.0
lab*olv*$_{Ma}$: 0.68 0.0 1.0
triangle lightness *t**

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

u^*_e = *b50r*
*lab*tch**

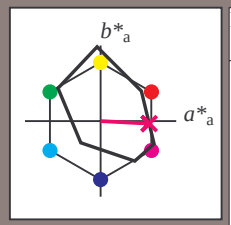
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.992$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *b75r* u^*_d = *m33o*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

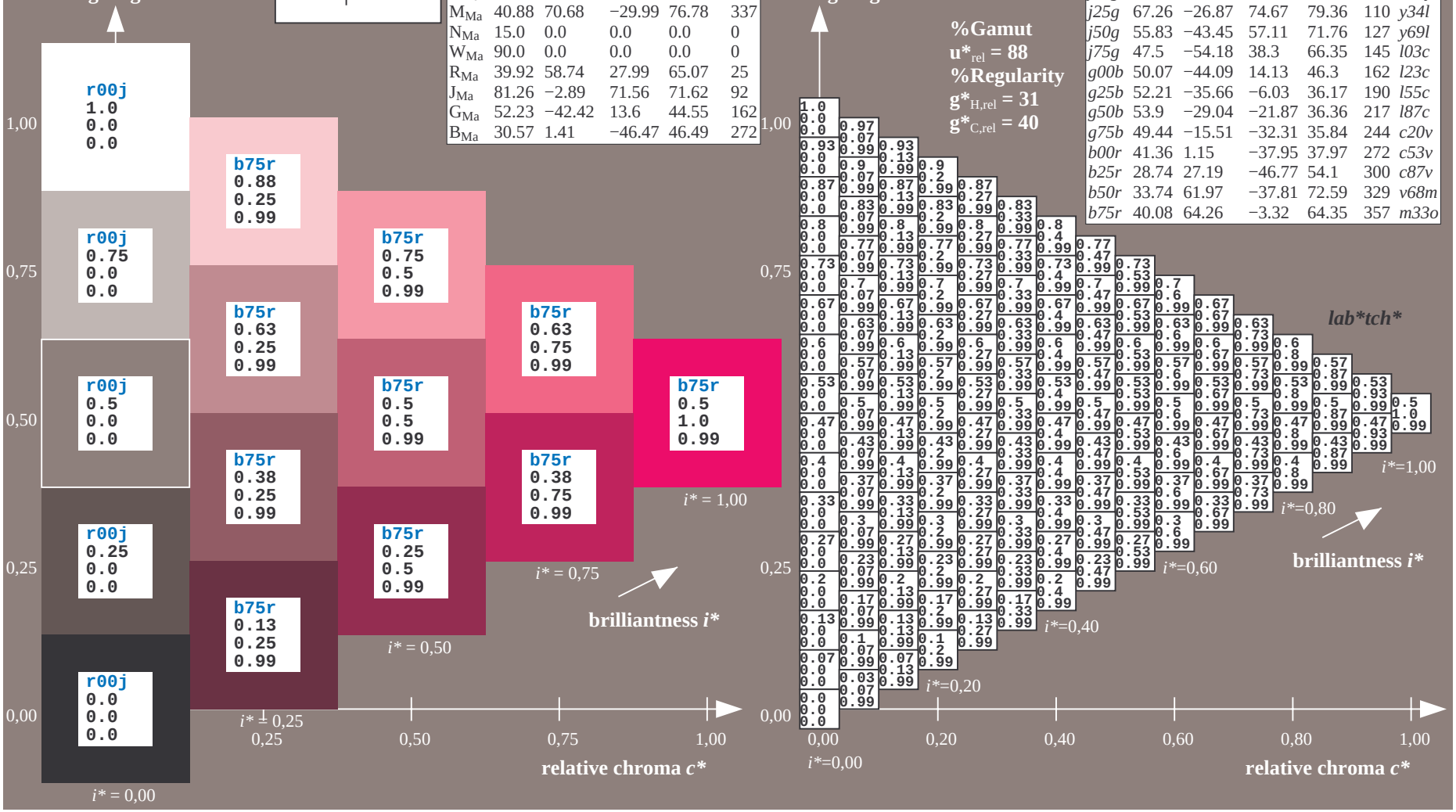
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 40 64 −3**
***LAB*LCH*Ma*: 40 64 357**
***lab*rgb*Ma*: 1.0 0.0 0.5**
***lab*olv*Ma*: 1.0 0.0 0.66**
triangle lightness *t**

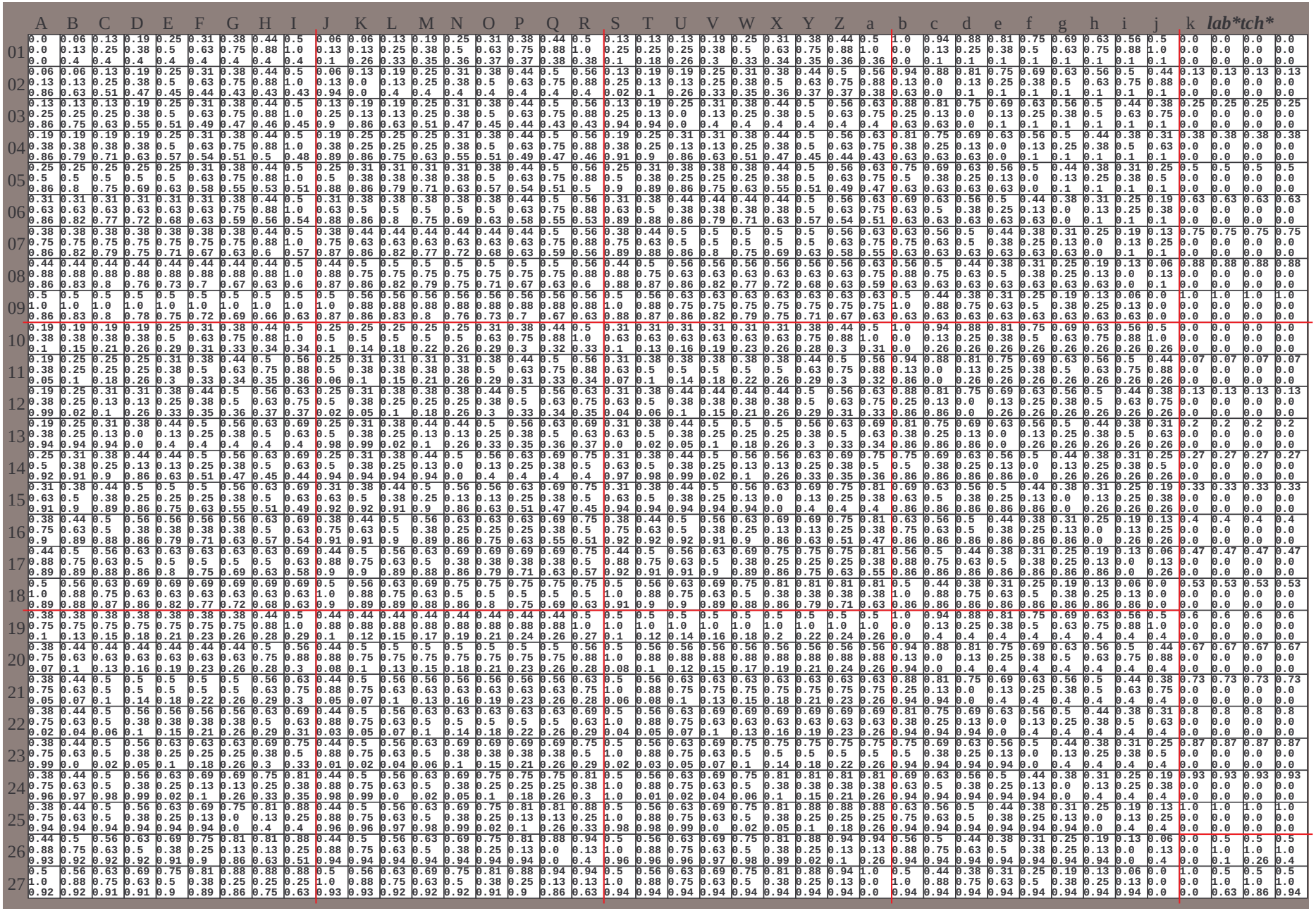
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

u^*_e = *b75r*
*lab*tch**

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*

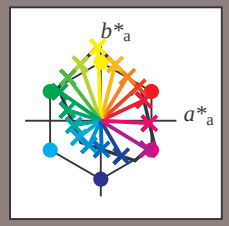



A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k
lab*tch*
01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27

Input and output:
Colorimetric Printer Reflective System FRS15_90a
data for any colour:
***u**e* and number *no.* = 00 .. 15**
elementary hue text:
u**e* = 16 hues *r00j, r25j, ..., b75r
contrast reduction factor:
c_R = 0.9

FRS15_90a; adapted (a) CIELAB data

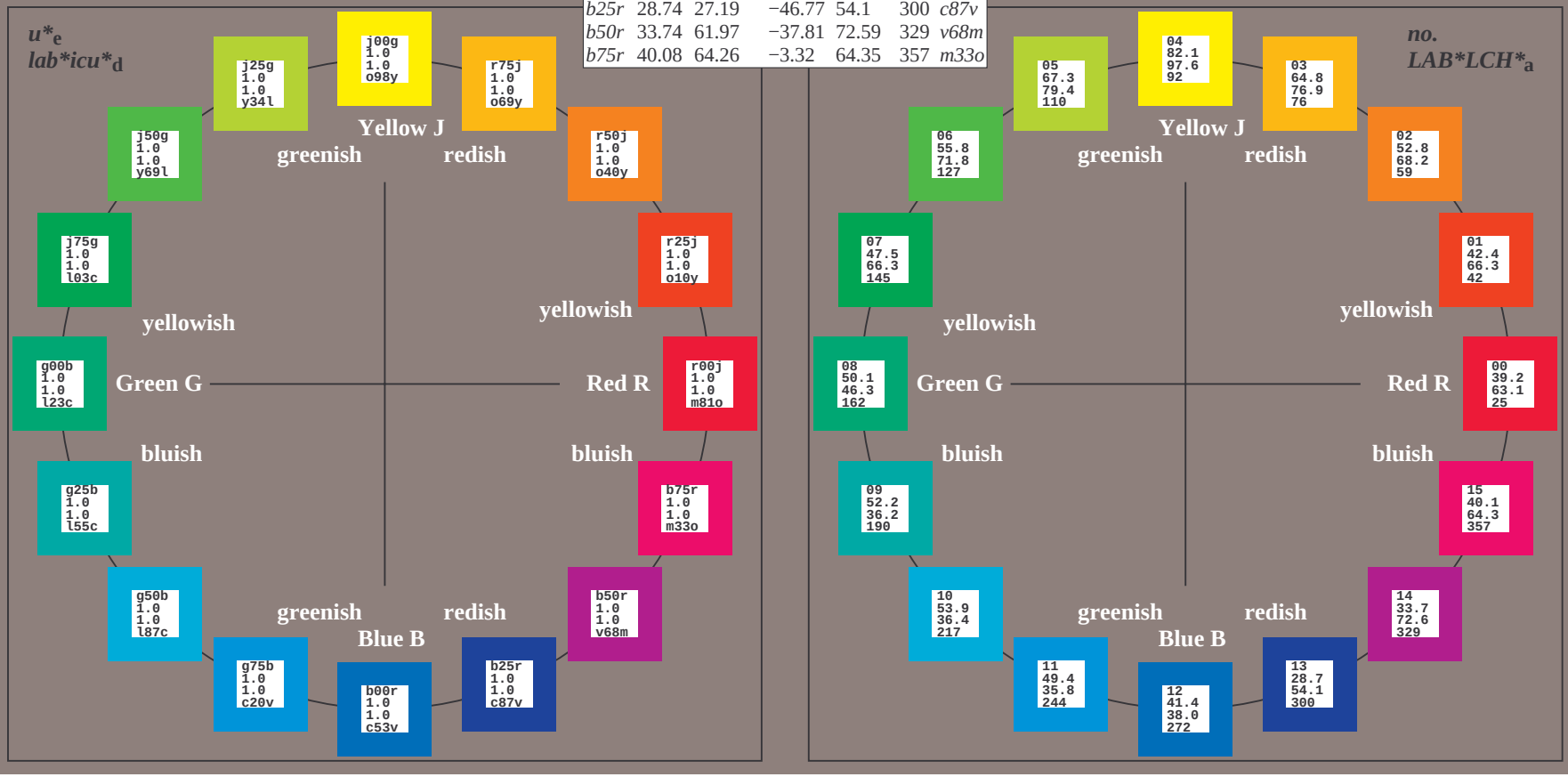
*u**e	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a	*u**d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



%Gamut
u*rel = 88
%Regularity
g*H,rel = 31
g*C,rel = 40

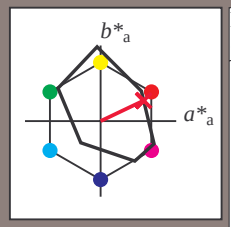
FRS15_90a; adapted (a) CIELAB data

Name	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	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	−2.89	71.56	71.62	92
G_{CIE}	52.23	−42.42	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.47	46.49	272



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *r00j* u^*_d = *m81o*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

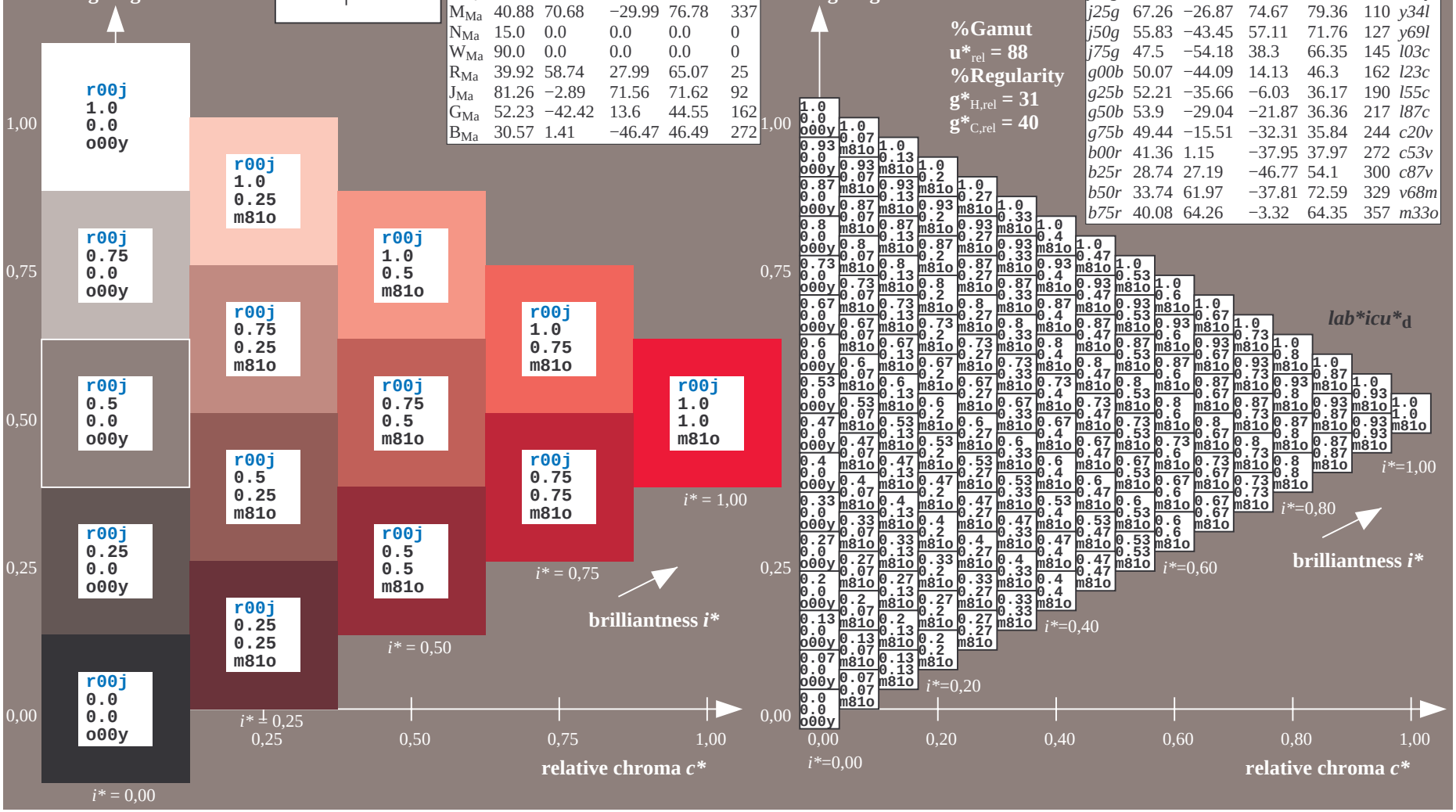
	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 39 57 27
LAB*LCH*$_{Ma}$: 39 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

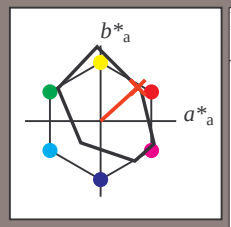
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.117$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *r25j* u^*_d = *o10y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

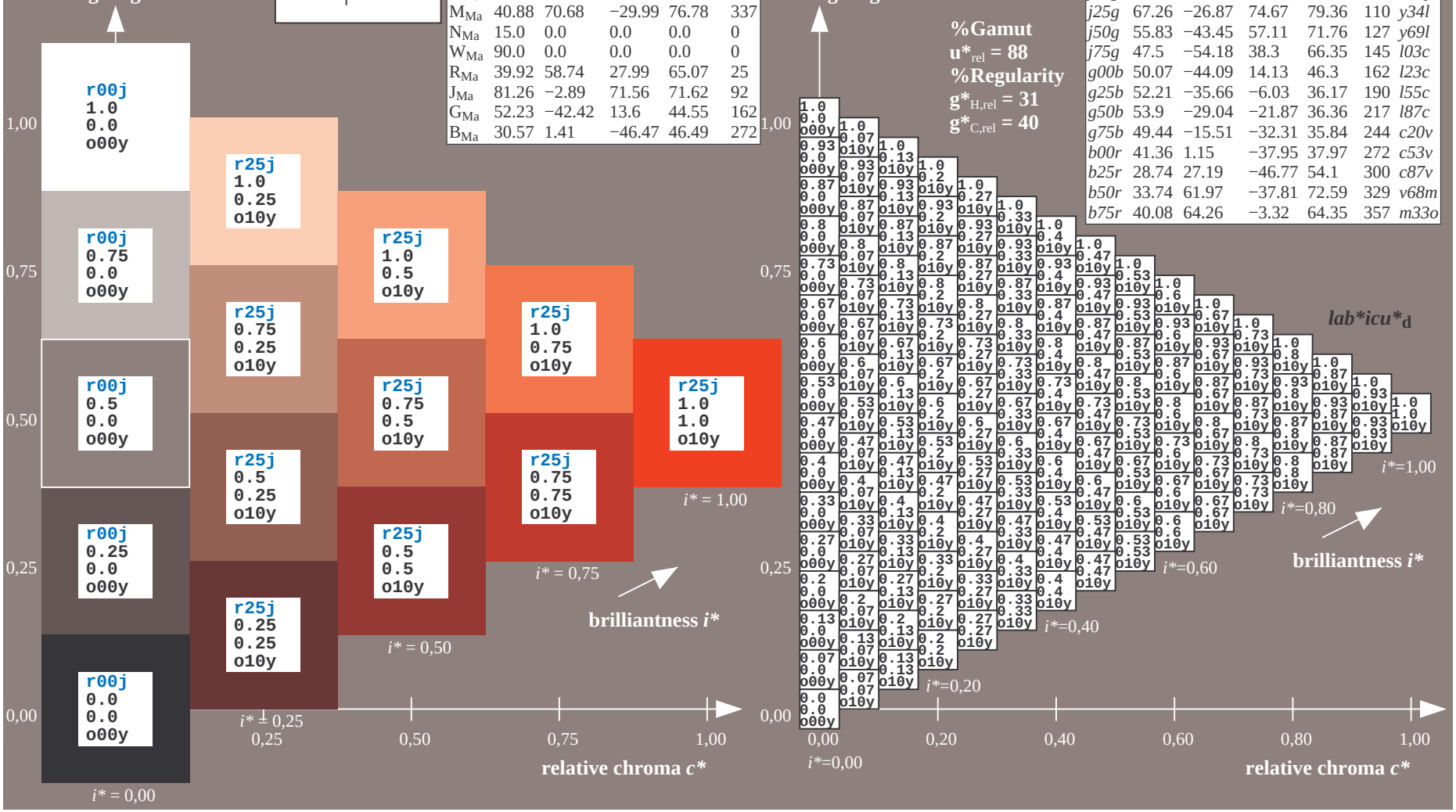
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 42 49 44**
***LAB*LCH*Ma*: 42 66 42**
***lab*rgb*Ma*: 1.0 0.25 0.0**
***lab*olv*Ma*: 1.0 0.1 0.0**
triangle lightness *t**

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

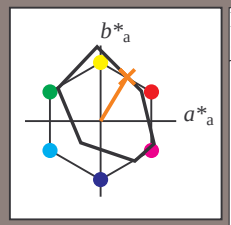
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *r50j* u^*_d = *o40y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

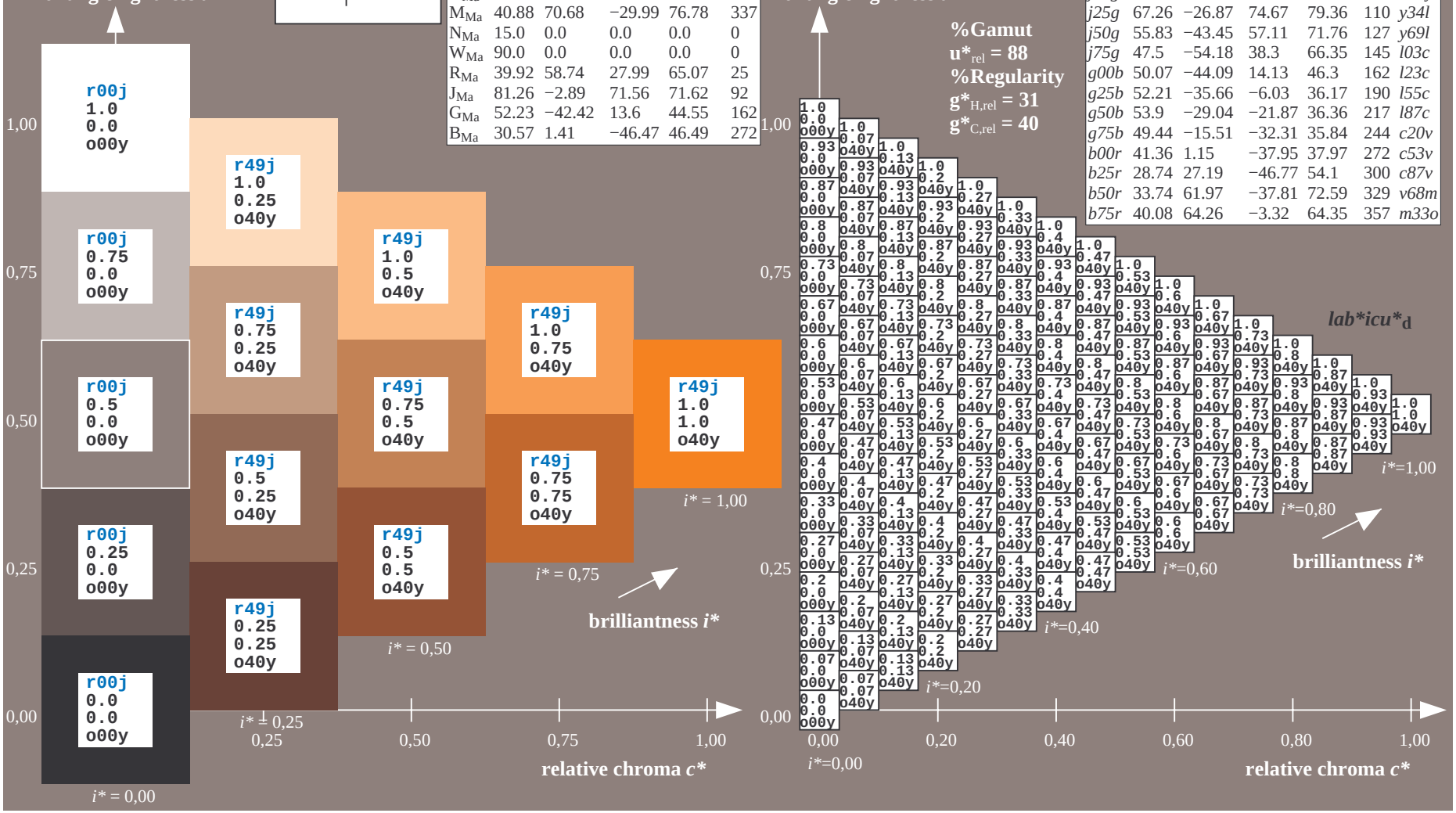
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB**Ma**: 53 35 58
LAB*LCH**Ma**: 53 68 58
lab*rgb**Ma**: 1.0 0.5 0.0
lab*olv**Ma**: 1.0 0.4 0.0
triangle lightness *t**

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

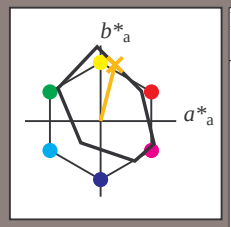
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *r75j* u^*_d = *o69y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

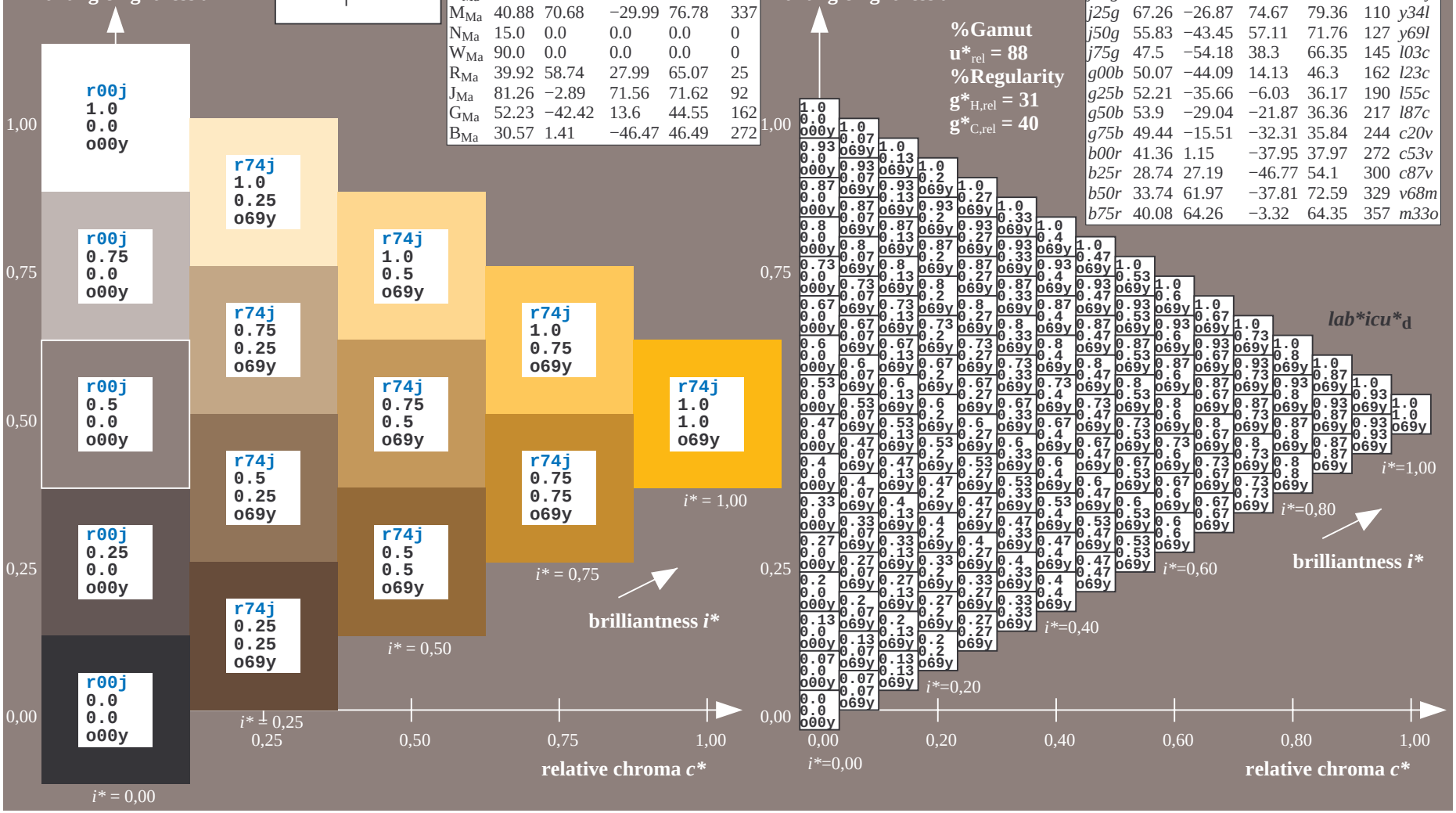
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 65 19 74
LAB*LCH*$_{Ma}$: 65 77 75
lab*rgb*$_{Ma}$: 1.0 0.75 0.0
lab*olv*$_{Ma}$: 1.0 0.7 0.0
triangle lightness *t**

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

u^*_e = *r75j*
lab*icu*$_d$

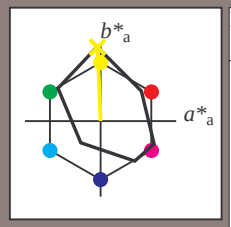
FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*	
r25j	42.41	49.1	44.5	66.26	42	*o10y*	
r50j	52.78	35.22	58.37	68.17	59	*o40y*	
r75j	64.82	19.12	74.47	76.89	76	*o69y*	
j00g	82.06	−3.94	97.52	97.6	92	*o98y*	
j25g	67.26	−26.87	74.67	79.36	110	*y34l*	
j50g	55.83	−43.45	57.11	71.76	127	*y69l*	
j75g	47.5	−54.18	38.3	66.35	145	*l03c*	
g00b	50.07	−44.09	14.13	46.3	162	*l23c*	
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*	
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*	
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*	
b00r	41.36	1.15	−37.95	37.97	272	*c53v*	
b25r	28.74	27.19	−46.77	54.1	300	*c87v*	
b50r	33.74	61.97	−37.81	72.59	329	*v68m*	
b75r	40.08	64.26	−3.32	64.35	357	*m33o*	



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.256$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j00g* u^*_d = *o98y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

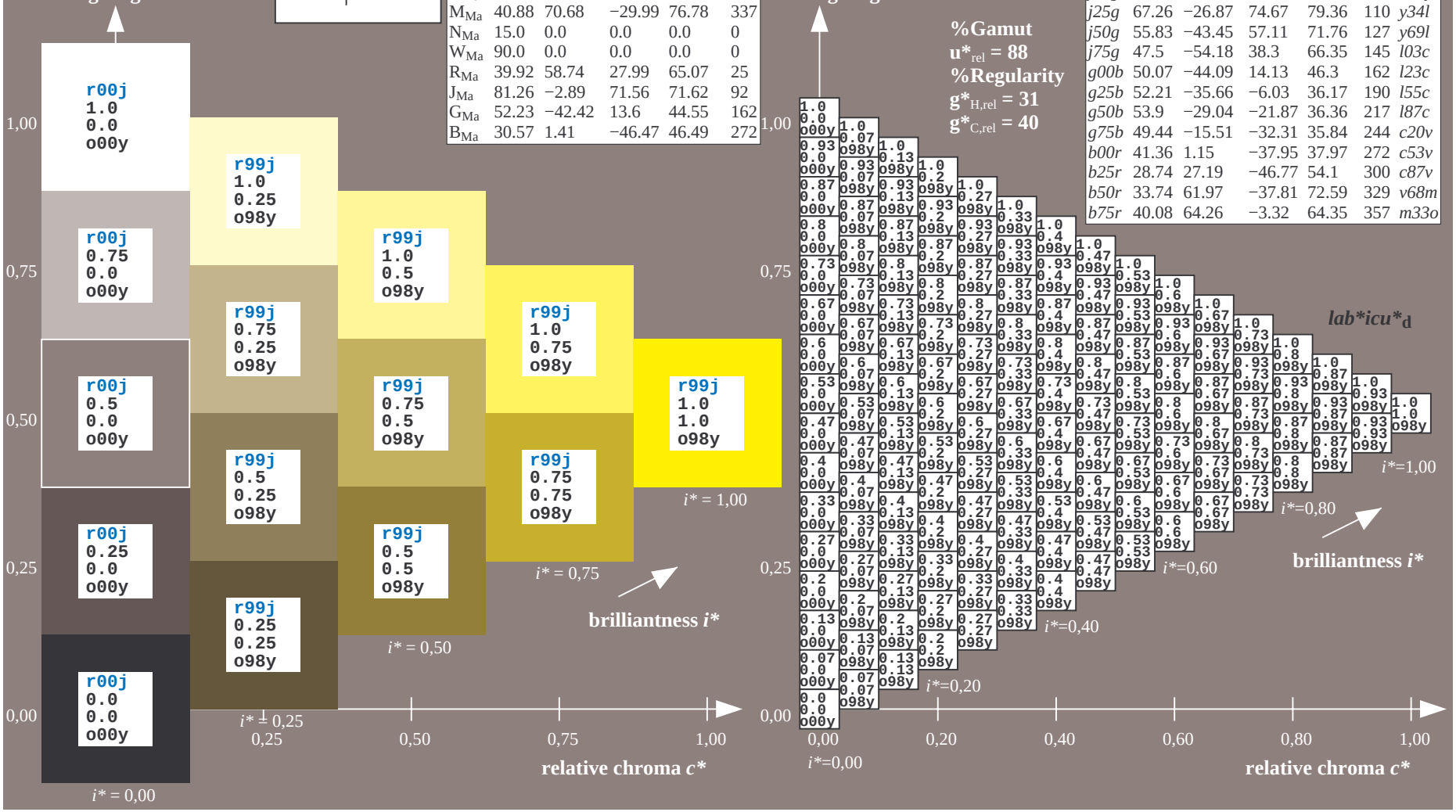
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 82 −4 98
LAB*LCH*$_{Ma}$: 82 98 92
lab*rgb*$_{Ma}$: 1.0 1.0 0.0
lab*olv*$_{Ma}$: 1.0 0.99 0.0
triangle lightness *t**

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

u^*_e = *j00g*
lab*icu*$_d$

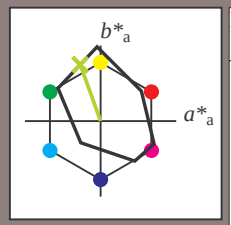
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j25g* u^*_d = *y34l*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

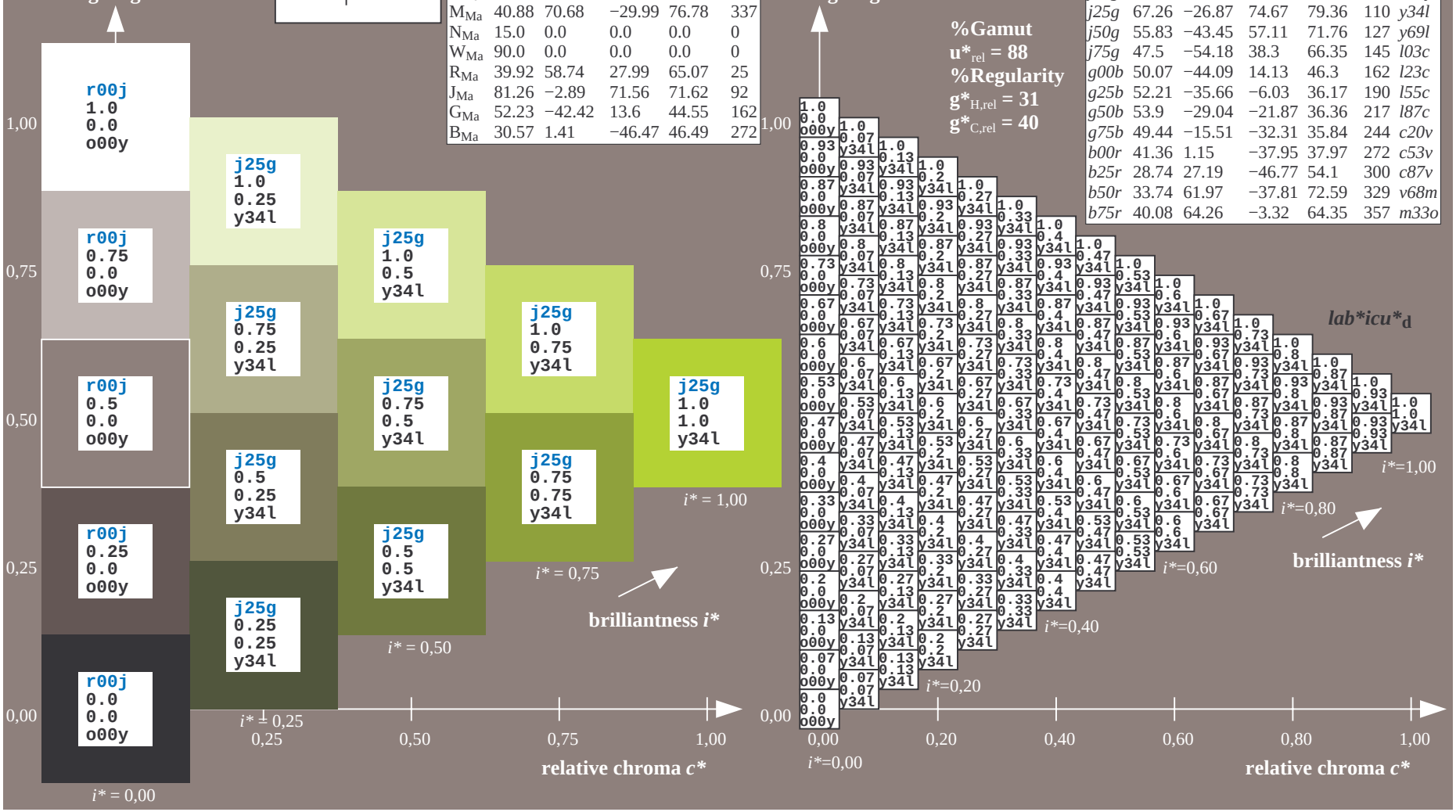
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 67 −27 75
LAB*LCH*$_{Ma}$: 67 79 109
lab*rgb*$_{Ma}$: 0.75 1.0 0.0
lab*olv*$_{Ma}$: 0.66 1.0 0.0
triangle lightness *t**

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

u^*_e = *j25g*
lab*icu*$_d$

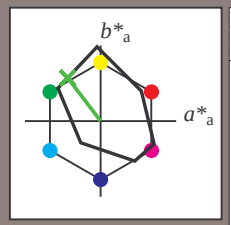
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.354$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j50g* u^*_d = *y69l*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

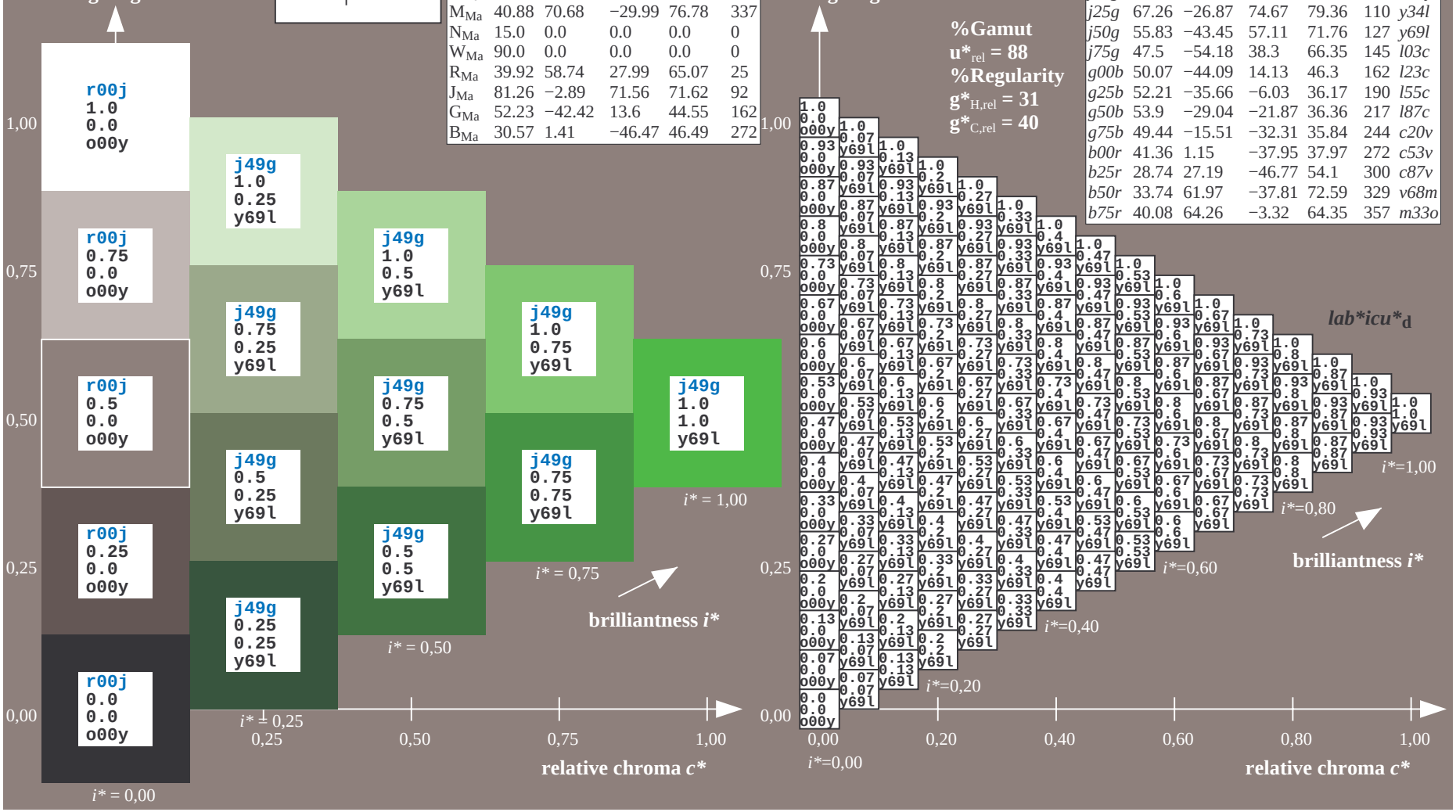
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 56 −43 57
LAB*LCH*$_{Ma}$: 56 72 127
lab*rgb*$_{Ma}$: 0.5 1.0 0.0
lab*olv*$_{Ma}$: 0.3 1.0 0.0
triangle lightness *t**

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

u^*_e = *j50g*
lab*icu*$_d$

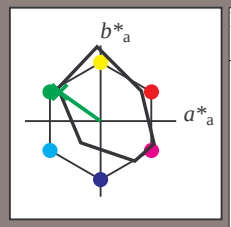
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j75g* u^*_d = *l03c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

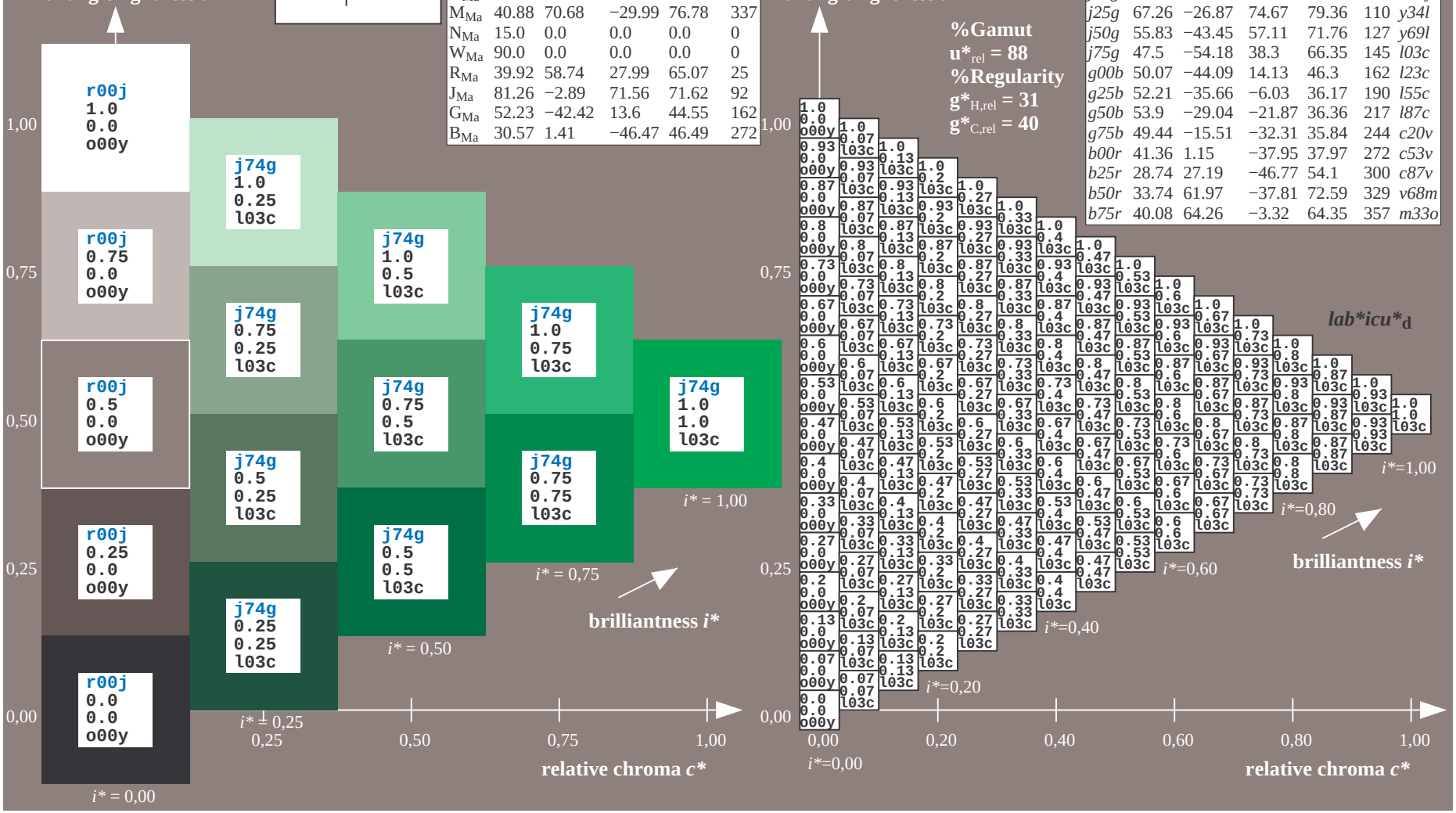
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 48 −54 38
LAB*LCH*$_{Ma}$: 48 66 144
lab*rgb*$_{Ma}$: 0.25 1.0 0.0
lab*olv*$_{Ma}$: 0.0 1.0 0.03
triangle lightness *t**

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

u^*_e = *j75g*
lab*icu*$_d$

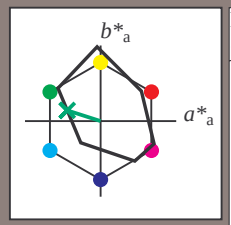
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *g00b* u^*_d = *l23c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

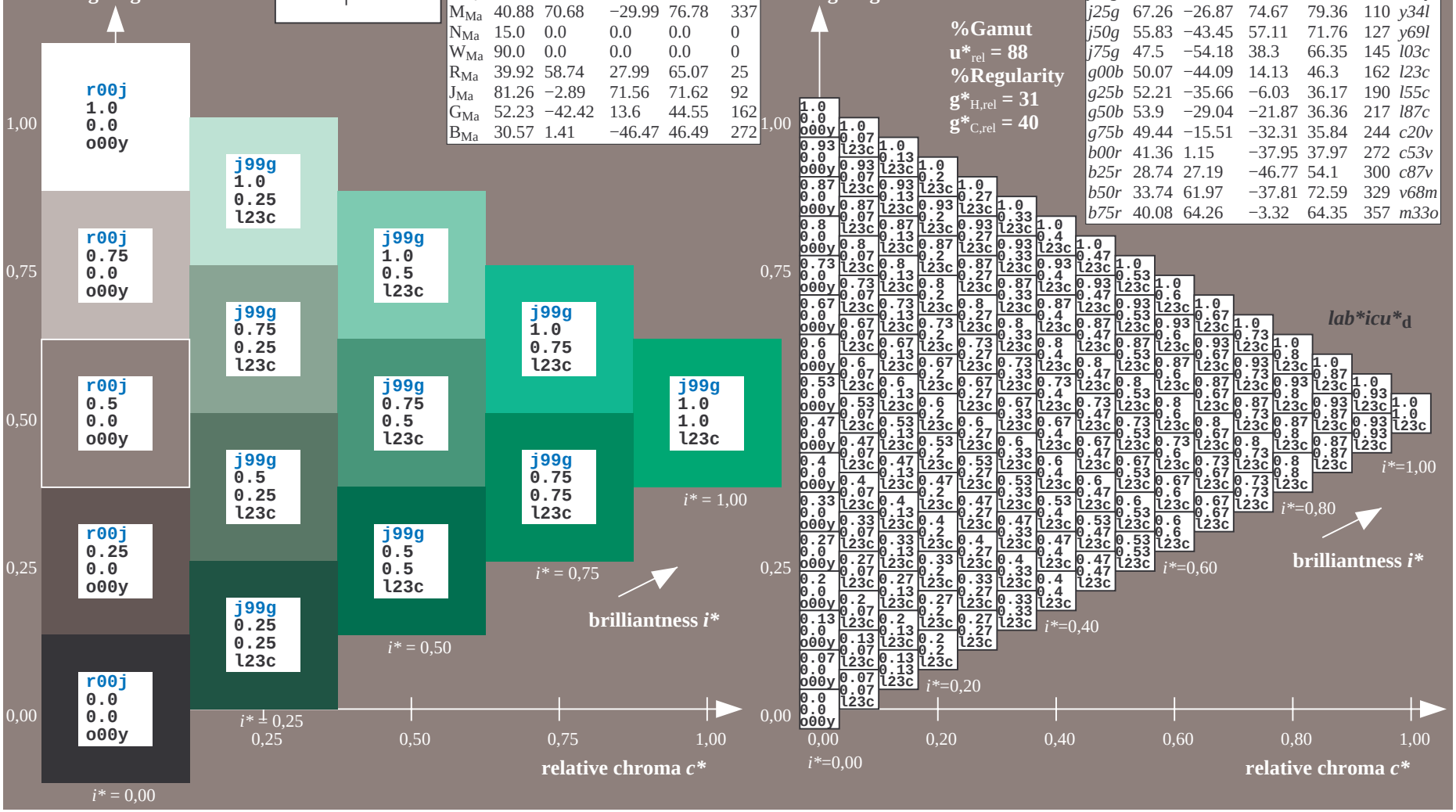
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 50 −44 14
LAB*LCH*$_{Ma}$: 50 46 162
lab*rgb*$_{Ma}$: 0.0 1.0 0.0
lab*olv*$_{Ma}$: 0.0 1.0 0.23
triangle lightness *t**

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

u^*_e = *g00b*
*lab*icu**$_d$

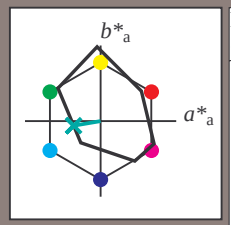
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *g25b* u^*_d = *l55c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

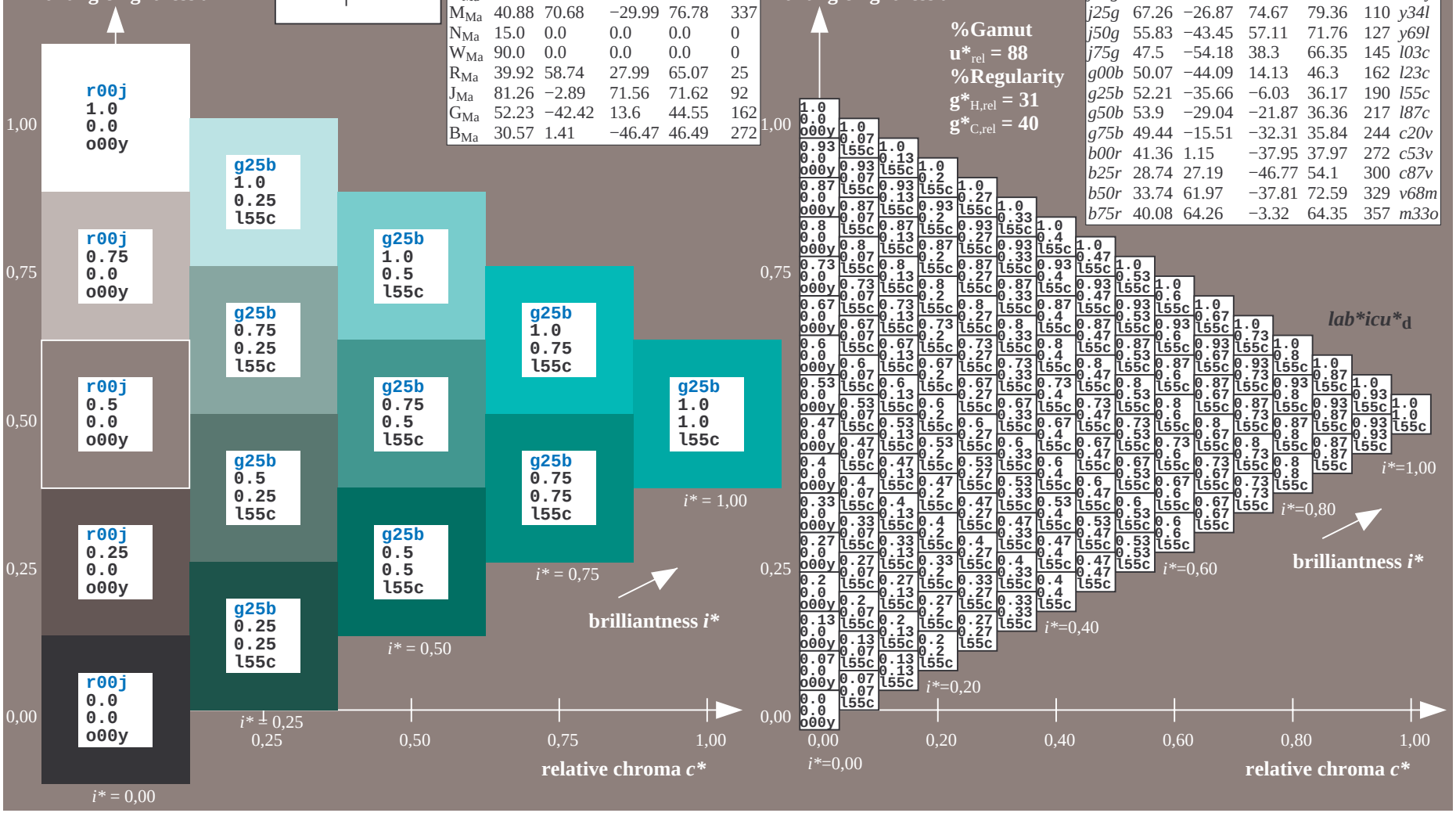
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 52 −36 −6
LAB*LCH*$_{Ma}$: 52 36 189
lab*rgb*$_{Ma}$: 0.0 1.0 0.5
lab*olv*$_{Ma}$: 0.0 1.0 0.55
triangle lightness *t**

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

u^*_e = *g25b*
lab*icu*$_d$

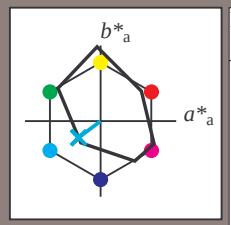
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
$u^*_e = g50b$ $u^*_d = l87c$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

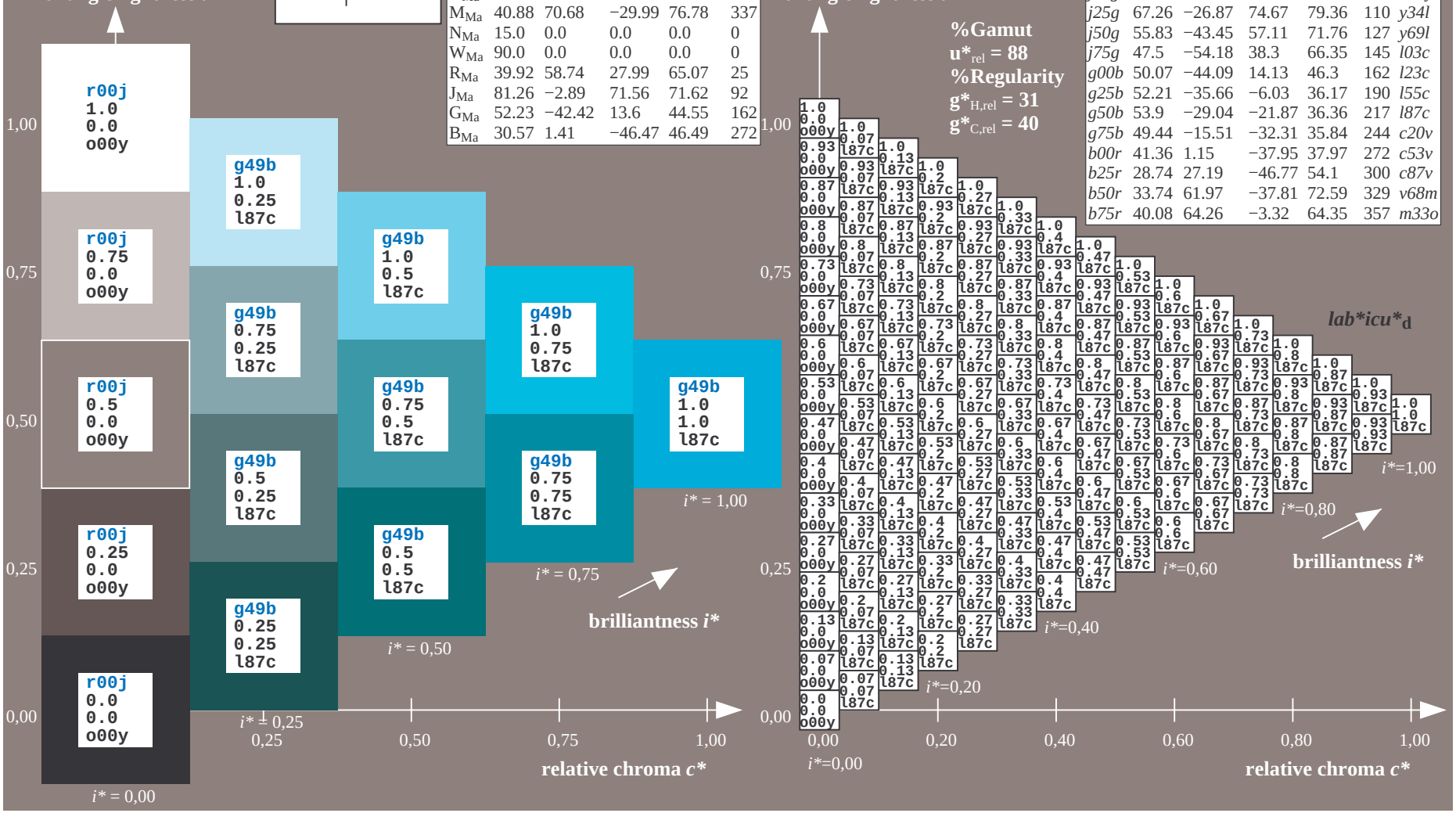
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 54 −29 −22
LAB*LCH*$_{Ma}$: 54 36 216
lab*rgb*$_{Ma}$: 0.0 1.0 1.0
lab*olv*$_{Ma}$: 0.0 1.0 0.88
triangle lightness *t**

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

$u^*_e = g50b$
lab*icu*$_d$

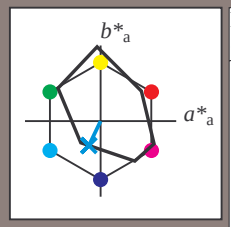
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.679$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *g75b* u^*_d = *c20v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

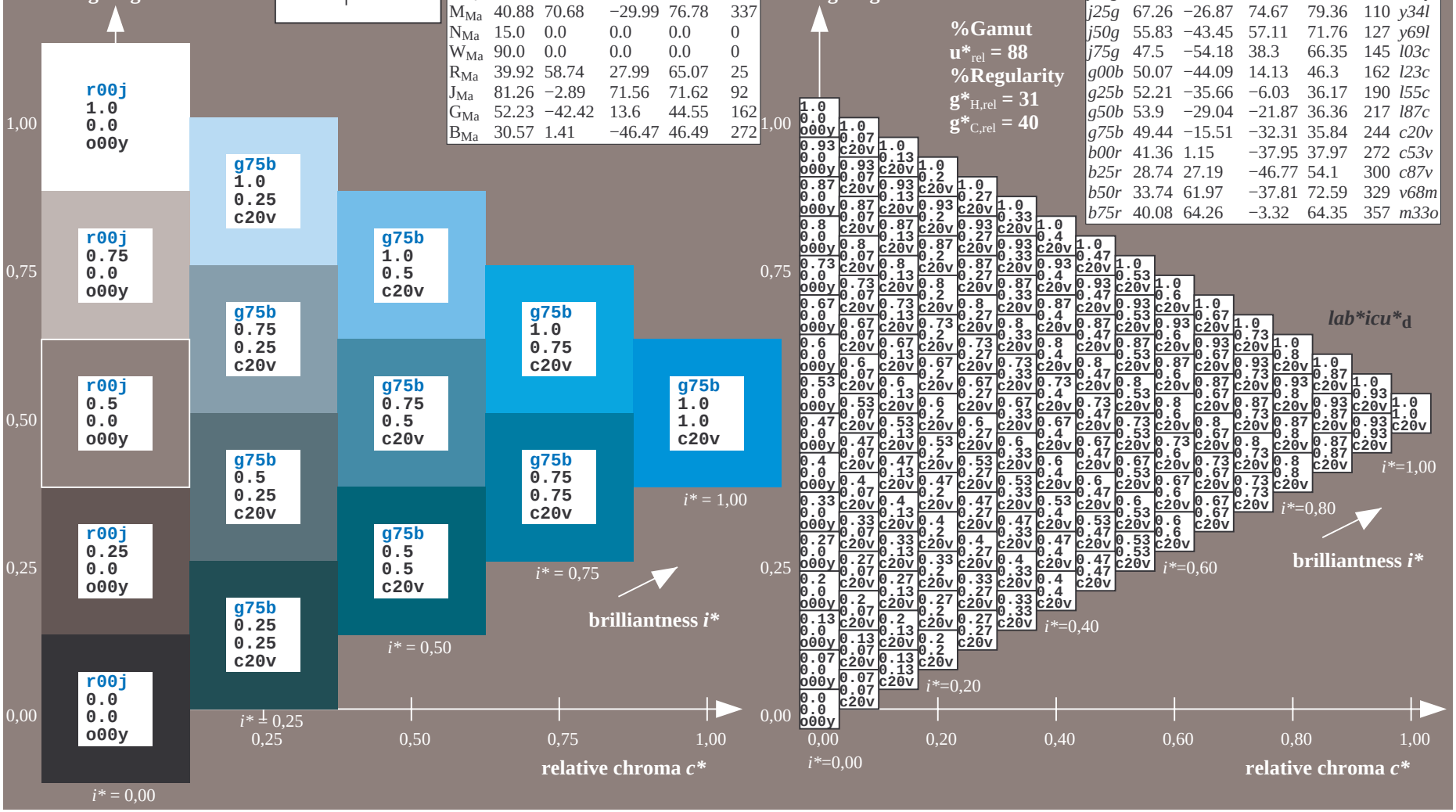
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 49 −16 −32**
***LAB*LCH*Ma*: 49 36 244**
***lab*rgb*Ma*: 0.0 0.5 1.0**
***lab*olv*Ma*: 0.0 0.8 1.0**
triangle lightness *t**

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

u^*_e = *g75b*
*lab*icu**$_d$

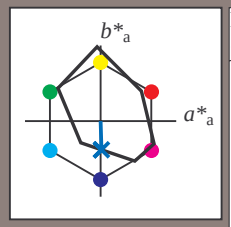
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *b00r* u^*_d = *c53v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

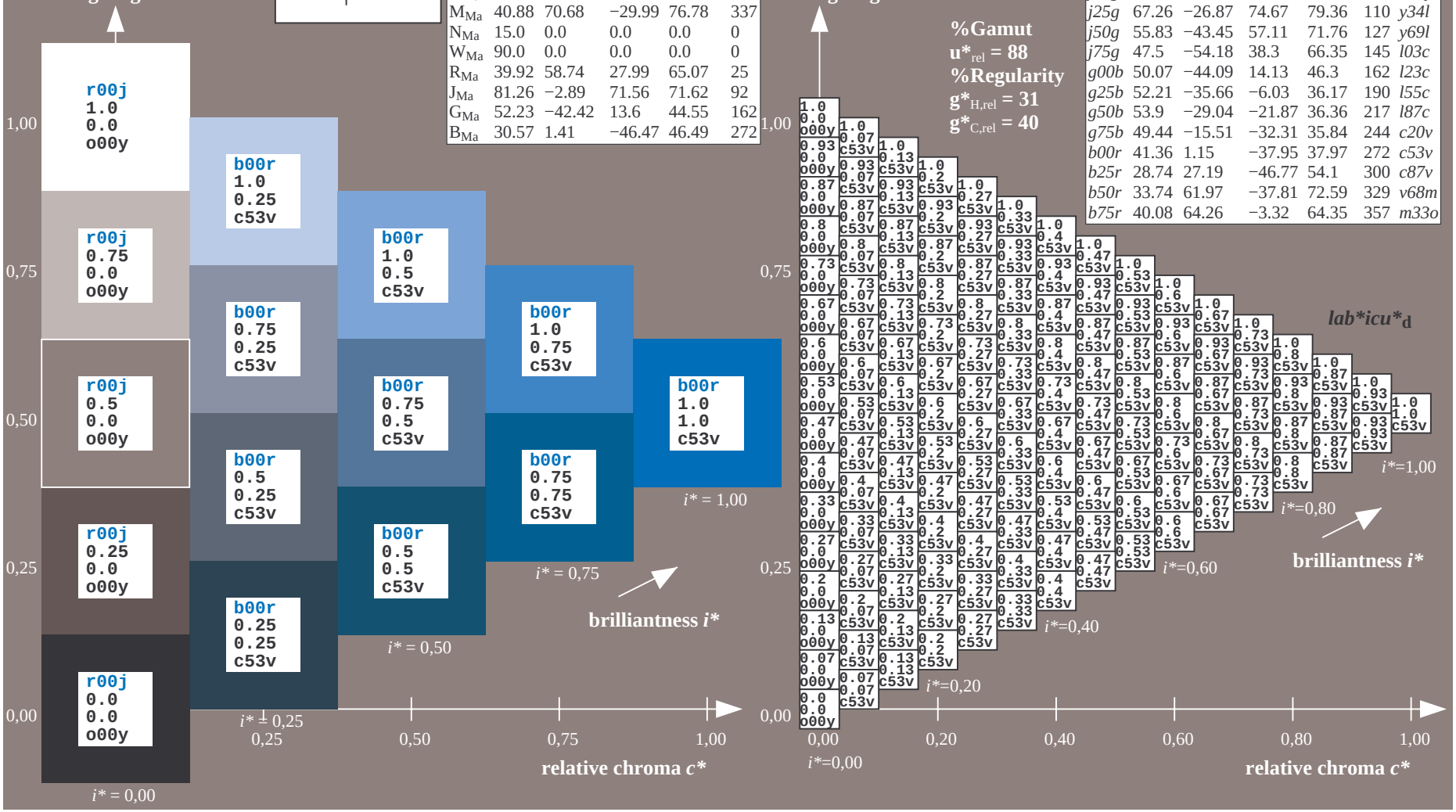
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 41 1 −38
LAB*LCH*$_{Ma}$: 41 38 271
lab*rgb*$_{Ma}$: 0.0 0.0 1.0
lab*olv*$_{Ma}$: 0.0 0.47 1.0
triangle lightness *t**

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

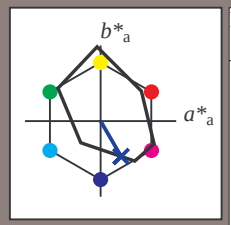
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *b25r* u^*_d = *c87v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36
Y_{Ma}	82.58	−4.64	98.22	98.33	93
L_{Ma}	46.95	−56.34	43.46	71.15	142
C_{Ma}	54.62	−26.2	−28.68	38.85	228
V_{Ma}	20.01	45.2	−52.87	69.56	311
M_{Ma}	40.88	70.68	−29.99	76.78	337
N_{Ma}	15.0	0.0	0.0	0.0	0
W_{Ma}	90.0	0.0	0.0	0.0	0
R_{Ma}	39.92	58.74	27.99	65.07	25
J_{Ma}	81.26	−2.89	71.56	71.62	92
G_{Ma}	52.23	−42.42	13.6	44.55	162
B_{Ma}	30.57	1.41	−46.47	46.49	272

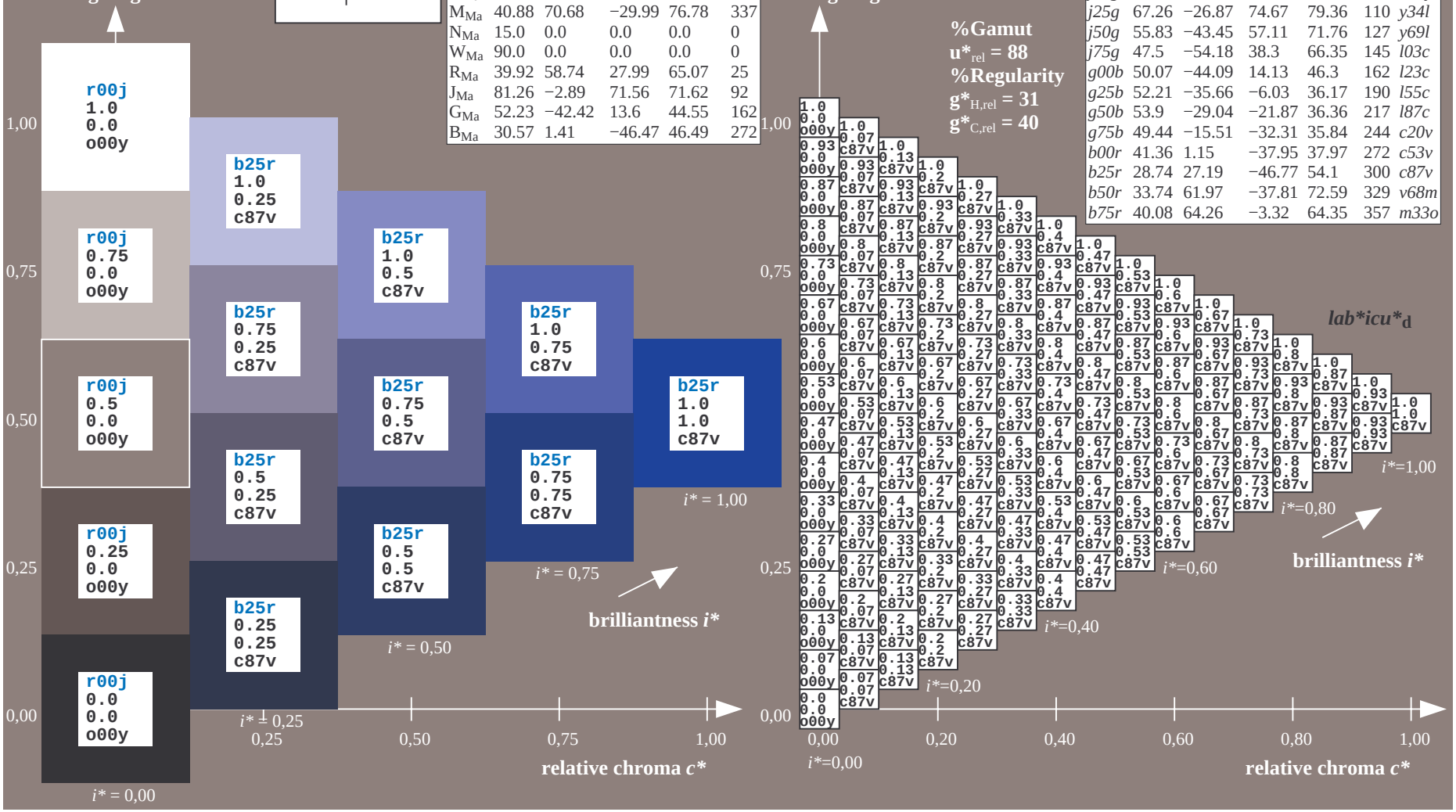
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 29 27 −47
LAB*LCH*$_{Ma}$: 29 54 300
lab*rgb*$_{Ma}$: 0.5 0.0 1.0
lab*olv*$_{Ma}$: 0.0 0.12 1.0
triangle lightness *t**

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

u^*_e = *b25r*
lab*icu*$_d$

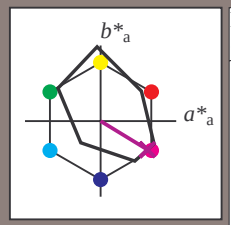
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.913$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *b50r* u^*_d = *v68m*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

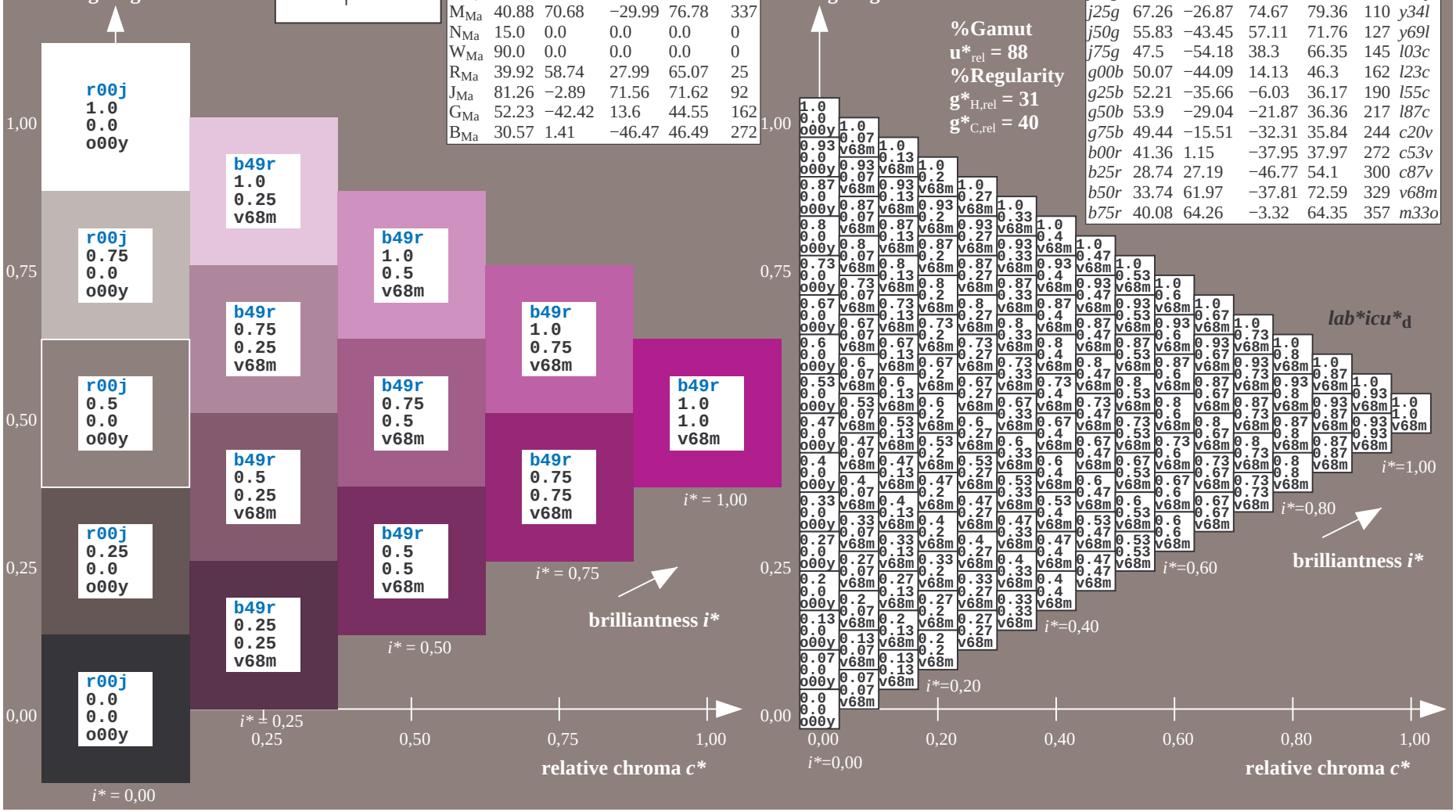
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 34 62 −38
LAB*LCH*$_{Ma}$: 34 73 328
lab*rgb*$_{Ma}$: 1.0 0.0 1.0
lab*olv*$_{Ma}$: 0.68 0.0 1.0
triangle lightness *t**

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

u^*_e = *b50r*
lab*icu*$_d$

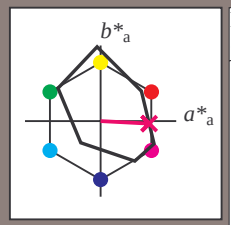
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.992$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *b75r* u^*_d = *m33o*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	38.8	53.92	39.68	66.95	36	
Y_{Ma}	82.58	−4.64	98.22	98.33	93	
L_{Ma}	46.95	−56.34	43.46	71.15	142	
C_{Ma}	54.62	−26.2	−28.68	38.85	228	
V_{Ma}	20.01	45.2	−52.87	69.56	311	
M_{Ma}	40.88	70.68	−29.99	76.78	337	
N_{Ma}	15.0	0.0	0.0	0.0	0	
W_{Ma}	90.0	0.0	0.0	0.0	0	
R_{Ma}	39.92	58.74	27.99	65.07	25	
J_{Ma}	81.26	−2.89	71.56	71.62	92	
G_{Ma}	52.23	−42.42	13.6	44.55	162	
B_{Ma}	30.57	1.41	−46.47	46.49	272	

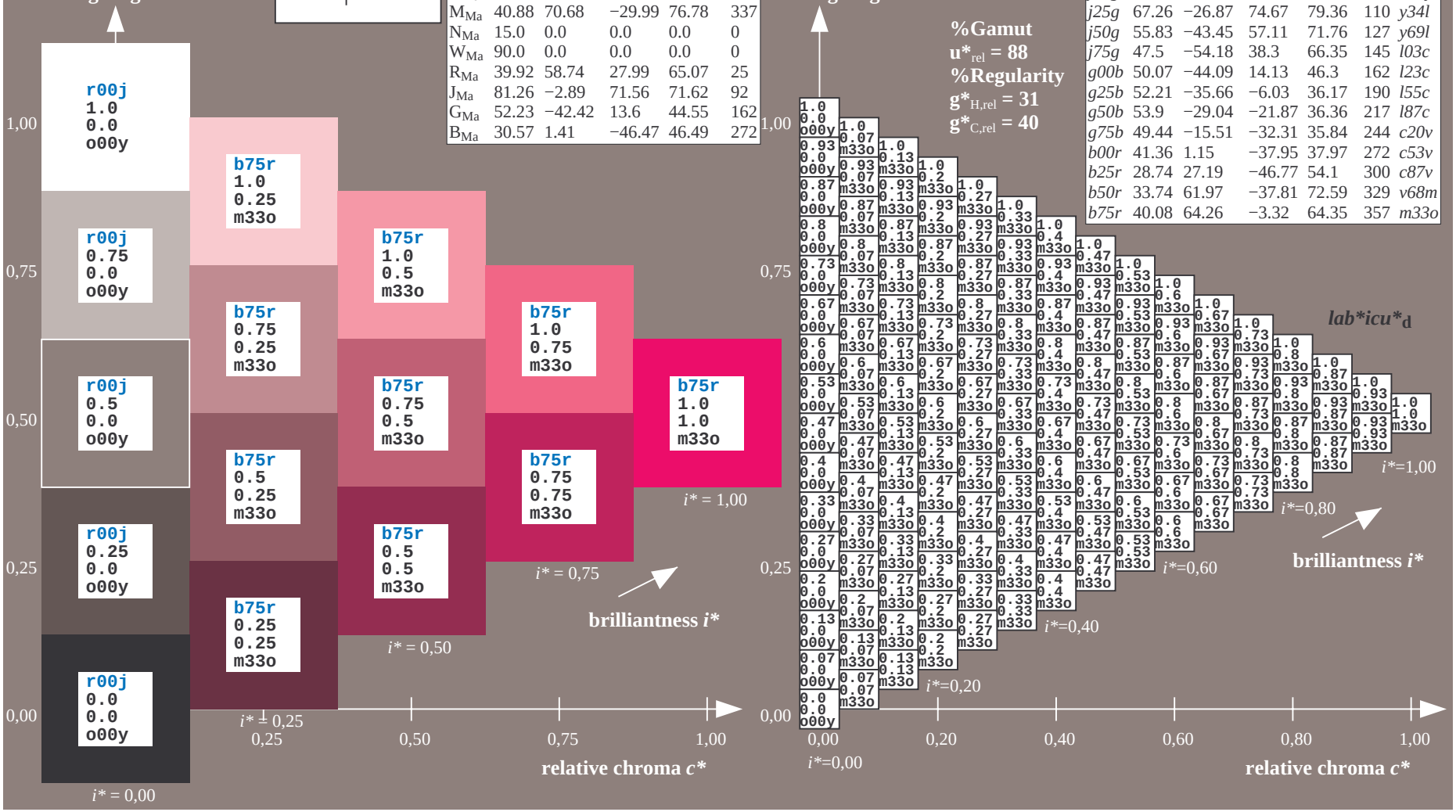
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 40 64 −3
LAB*LCH*$_{Ma}$: 40 64 357
lab*rgb*$_{Ma}$: 1.0 0.0 0.5
lab*olv*$_{Ma}$: 1.0 0.0 0.66
triangle lightness *t**

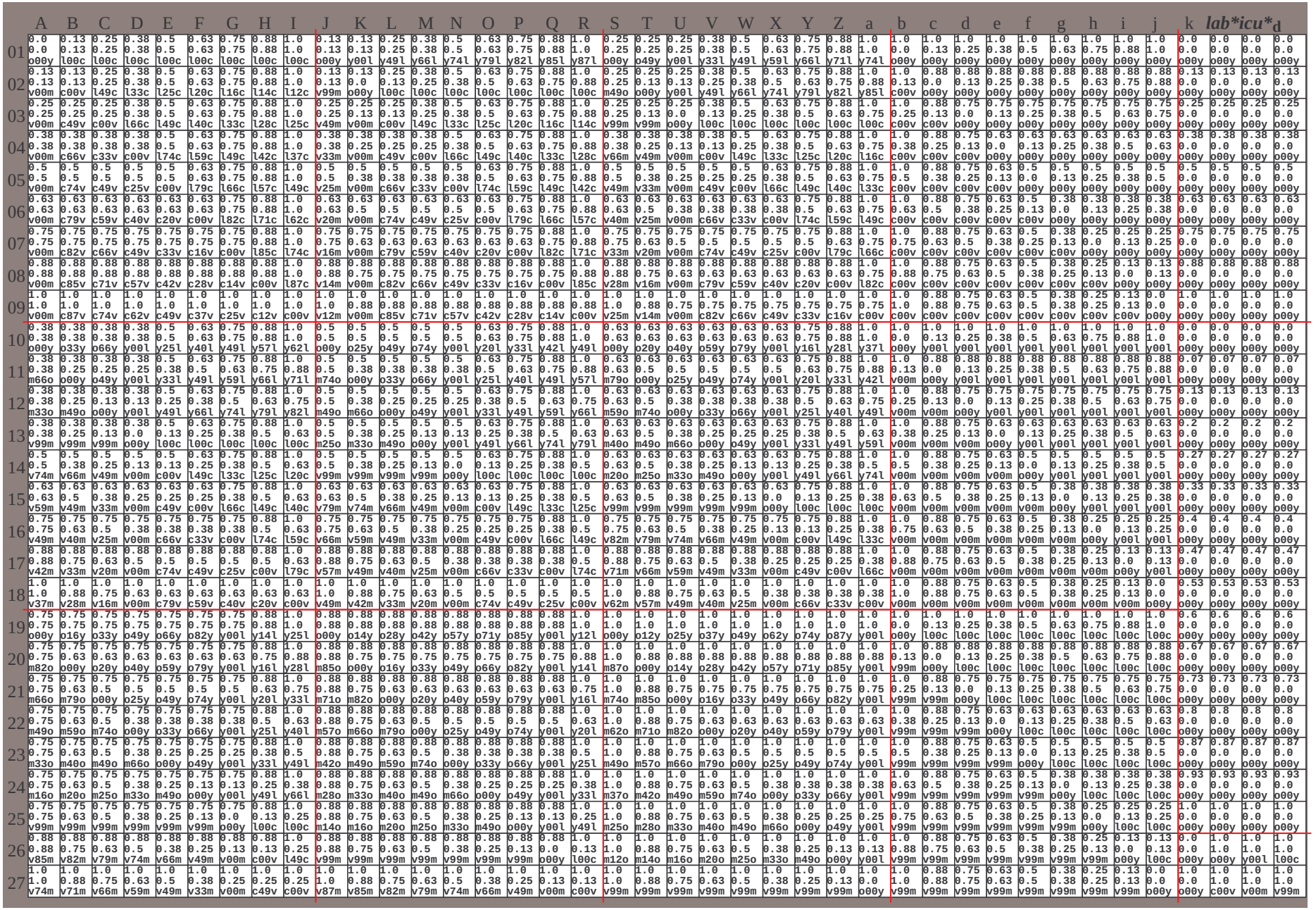
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

u^*_e = *b75r*
lab*icu*$_d$

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*

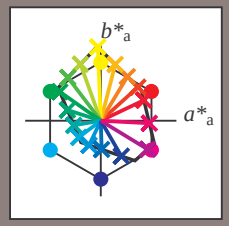



A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k lab*icu*d
01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27

Input and output:
Colorimetric Printer Reflective System FRS15_90a
data for any colour:
***u**e and number *no.* = 00 .. 15**
elementary hue text:
u**e = 16 hues *r00j, r25j, ..., b75r
contrast reduction factor:
c_R = 0.9

FRS15_90a; adapted (a) CIELAB data

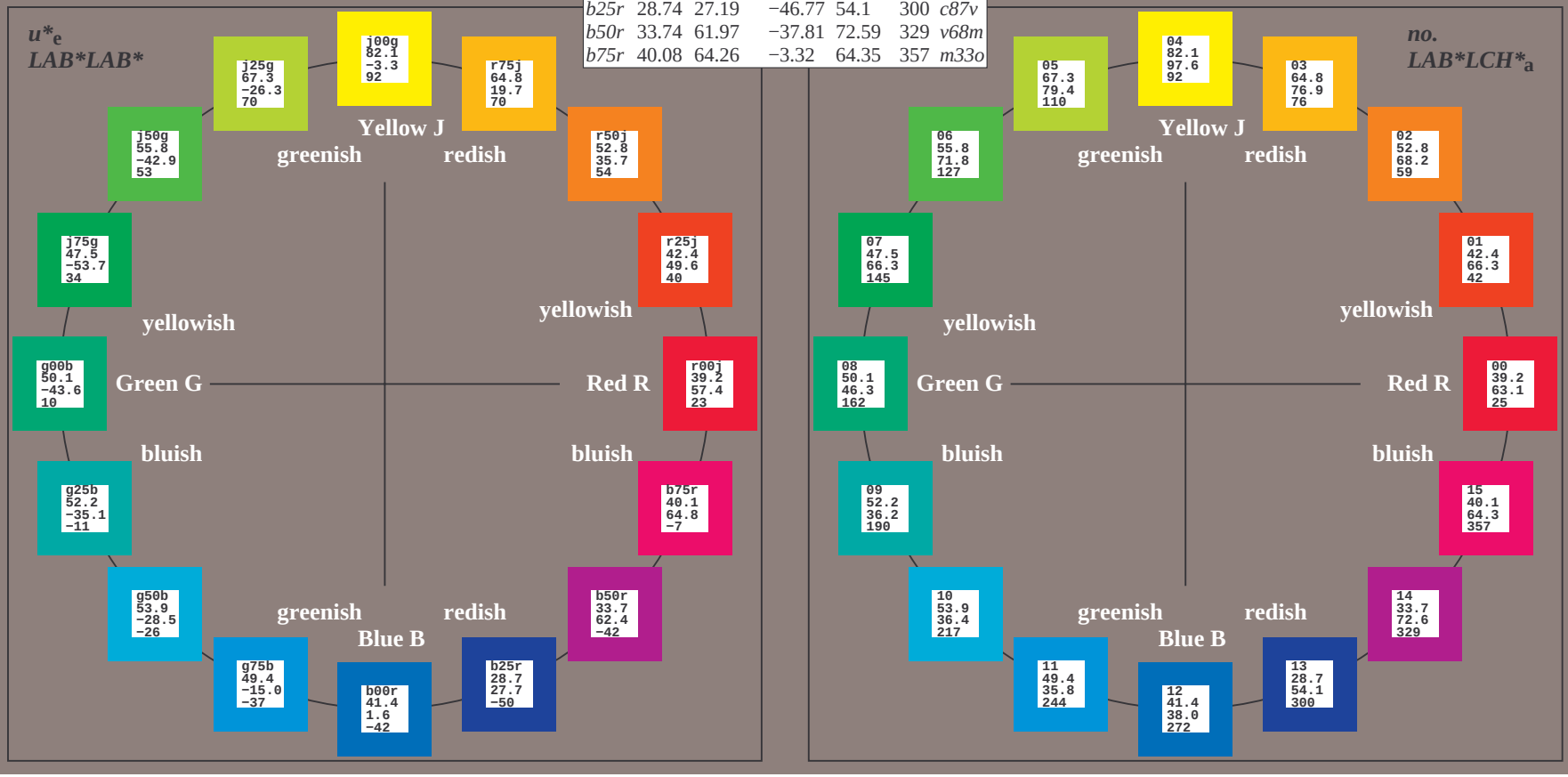
*u*e*	*L*=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*	*u*d*
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



%Gamut
u*rel = 88
%Regularity
g*H,rel = 31
g*C,rel = 40

FRS15_90; CIELAB data

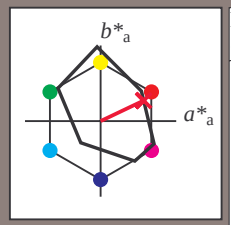
Name	*L*=L**	*a**	*b**	*C*ab*	*h*ab*
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.89	71.56	71.62	92
G_{CIE}	52.23	−42.42	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.47	46.49	272



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

$u^*_e = r00j$
*LAB*LAB**

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = r00j$ $u^*_d = m81o$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90; CIELAB data

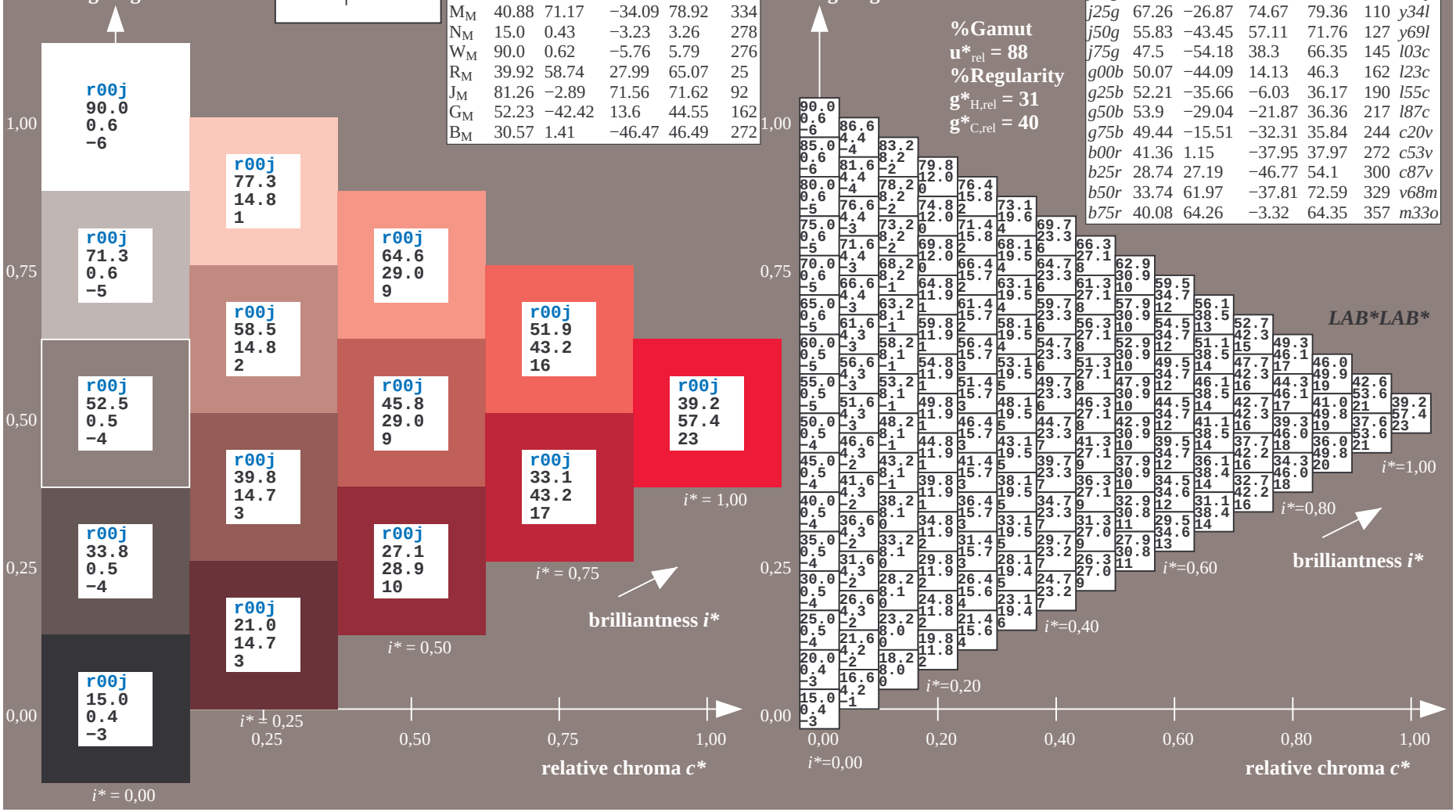
	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M		38.8	54.41	35.65	65.05	33
Y_M		82.58	−4.04	92.72	92.8	92
L_M		46.95	−55.83	39.15	68.19	145
C_M		54.62	−25.67	−33.25	42.01	232
V_M		20.01	45.64	−56.27	72.45	309
M_M		40.88	71.17	−34.09	78.92	334
N_M		15.0	0.43	−3.23	3.26	278
W_M		90.0	0.62	−5.76	5.79	276
R_M		39.92	58.74	27.99	65.07	25
J_M		81.26	−2.89	71.56	71.62	92
G_M		52.23	−42.42	13.6	44.55	162
B_M		30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 39 57 27
LAB*LCH*$_{Ma}$: 39 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

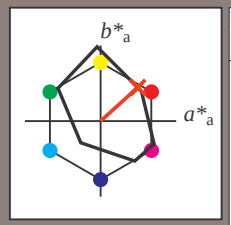
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.117$

$u^*_e = r25j$
*LAB*LAB**

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = r25j$ $u^*_d = o10y$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90; CIELAB data

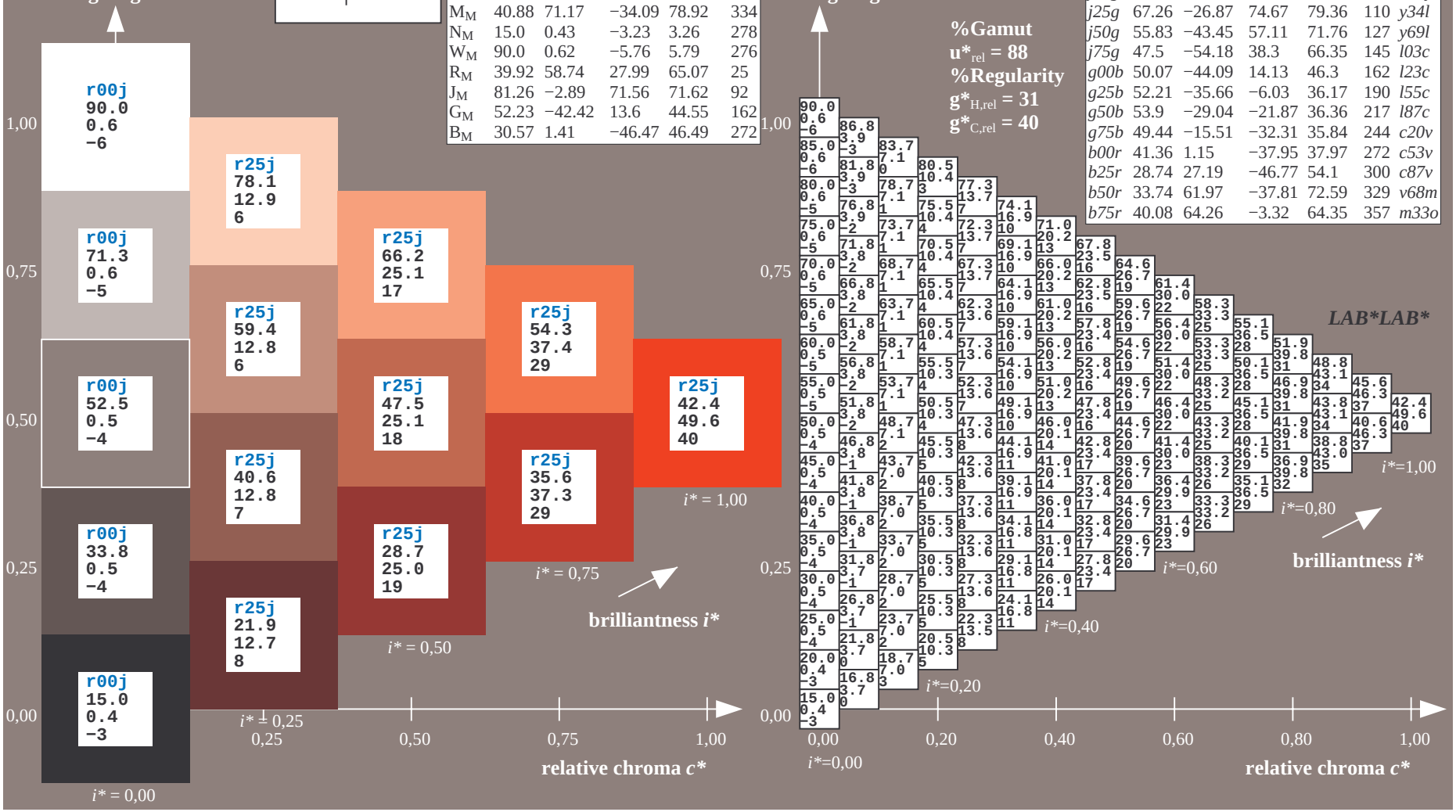
	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	

Data for maximum colour (Ma):
LAB*LAB**Ma: 42 49 44
LAB*LCH**Ma: 42 66 42
lab*rgb**Ma: 1.0 0.25 0.0
lab*olv**Ma: 1.0 0.1 0.0
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

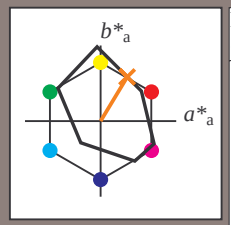
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

$u^*_e = r50j$
*LAB*LAB**

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = r50j$ $u^*_d = o40y$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90; CIELAB data

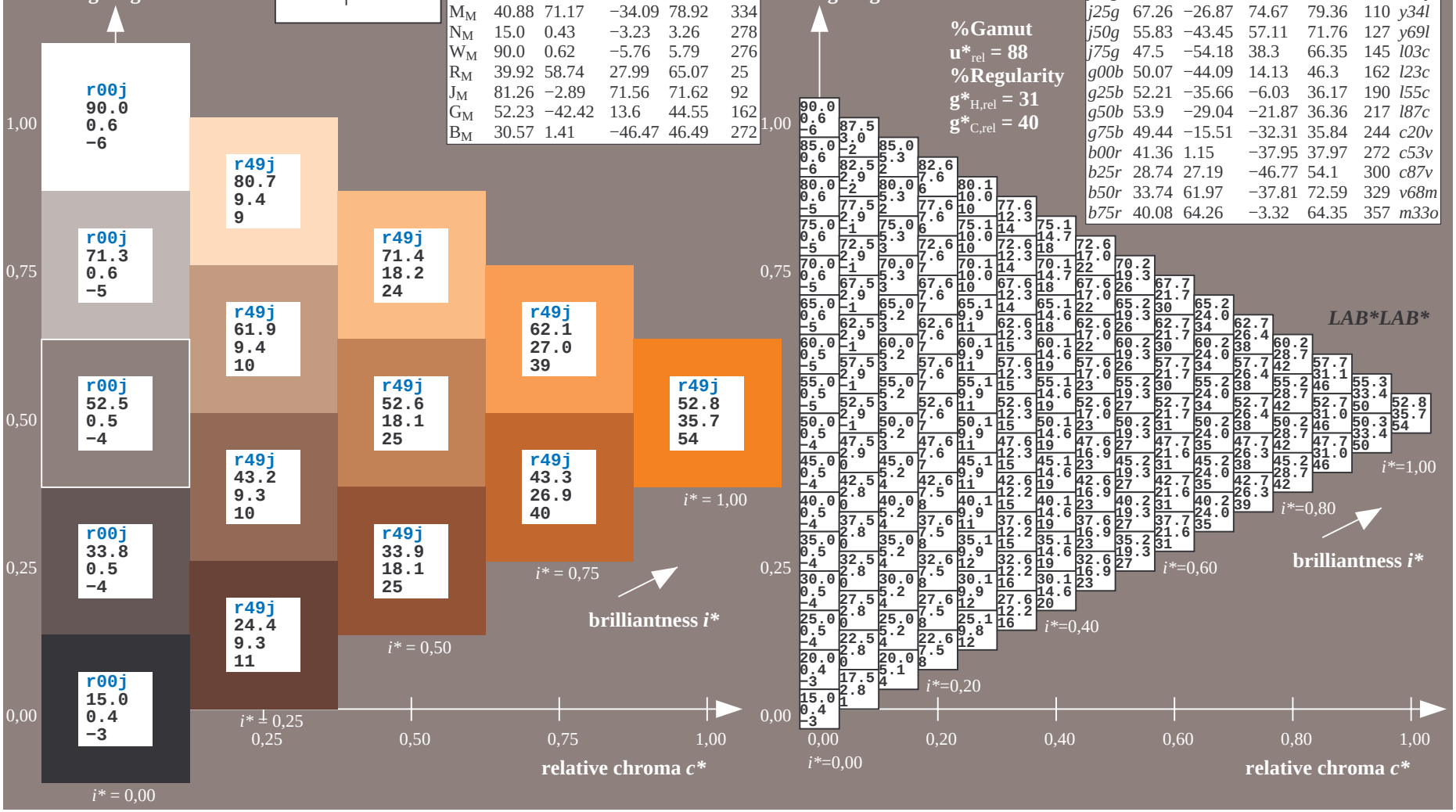
	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M		38.8	54.41	35.65	65.05	33
Y_M		82.58	−4.04	92.72	92.8	92
L_M		46.95	−55.83	39.15	68.19	145
C_M		54.62	−25.67	−33.25	42.01	232
V_M		20.01	45.64	−56.27	72.45	309
M_M		40.88	71.17	−34.09	78.92	334
N_M		15.0	0.43	−3.23	3.26	278
W_M		90.0	0.62	−5.76	5.79	276
R_M		39.92	58.74	27.99	65.07	25
J_M		81.26	−2.89	71.56	71.62	92
G_M		52.23	−42.42	13.6	44.55	162
B_M		30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 53 35 58**
***LAB*LCH*Ma*: 53 68 58**
***lab*rgb*Ma*: 1.0 0.5 0.0**
***lab*olv*Ma*: 1.0 0.4 0.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

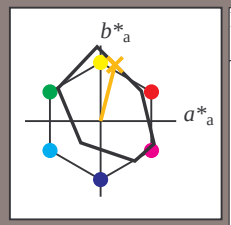
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

$u^*_e = r75j$
*LAB*LAB**

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = r75j$ $u^*_d = o69y$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90; CIELAB data

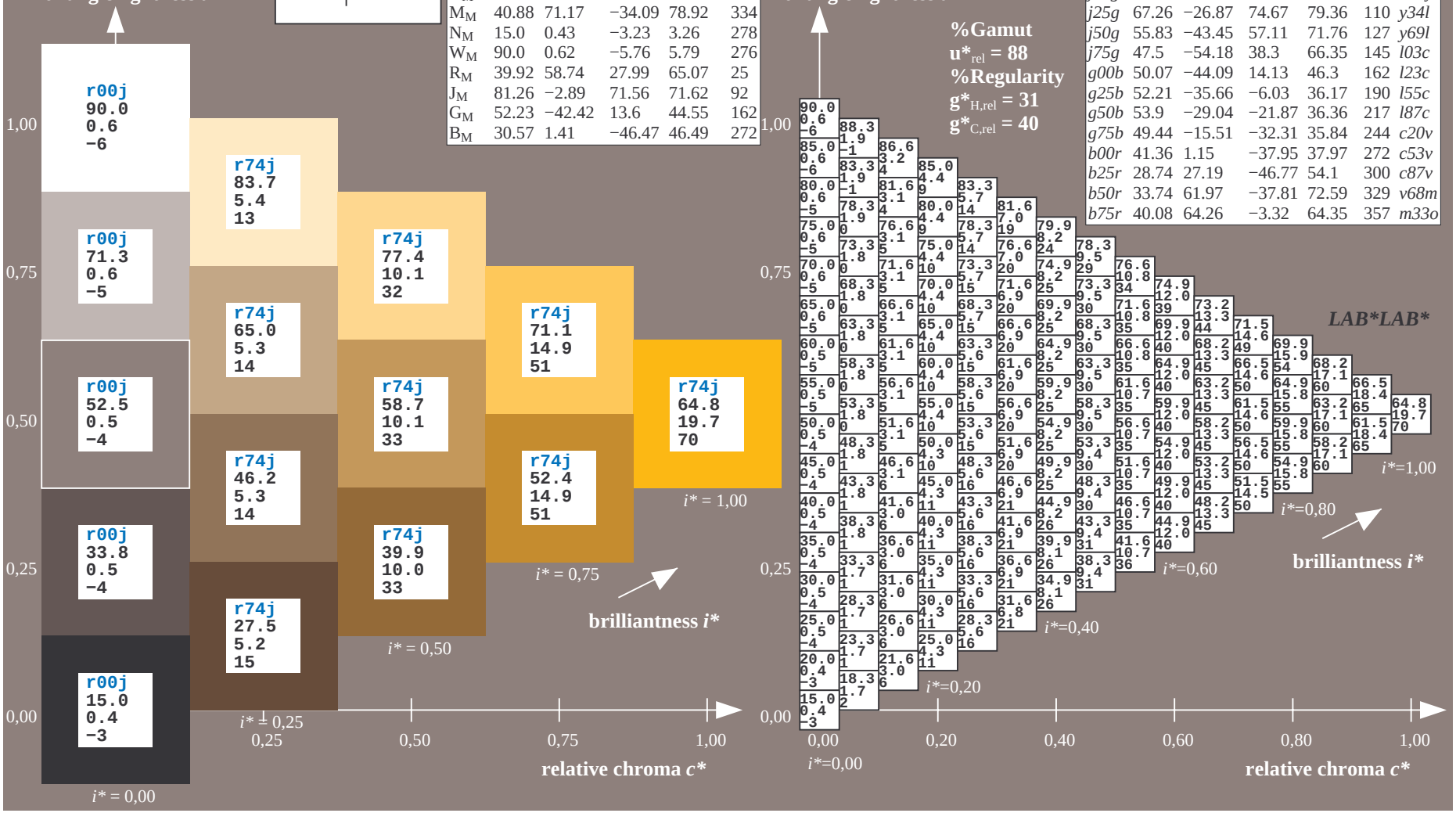
u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_M	39.92	58.74	27.99	65.07	25
J_M	81.26	−2.89	71.56	71.62	92
G_M	52.23	−42.42	13.6	44.55	162
B_M	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 65 19 74**
***LAB*LCH*Ma*: 65 77 75**
***lab*rgb*Ma*: 1.0 0.75 0.0**
***lab*olv*Ma*: 1.0 0.7 0.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

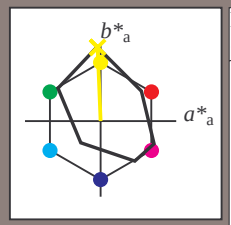
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.256$

$u^*_e = j00g$
*LAB*LAB**

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = j00g$ $u^*_d = o98y$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90; CIELAB data

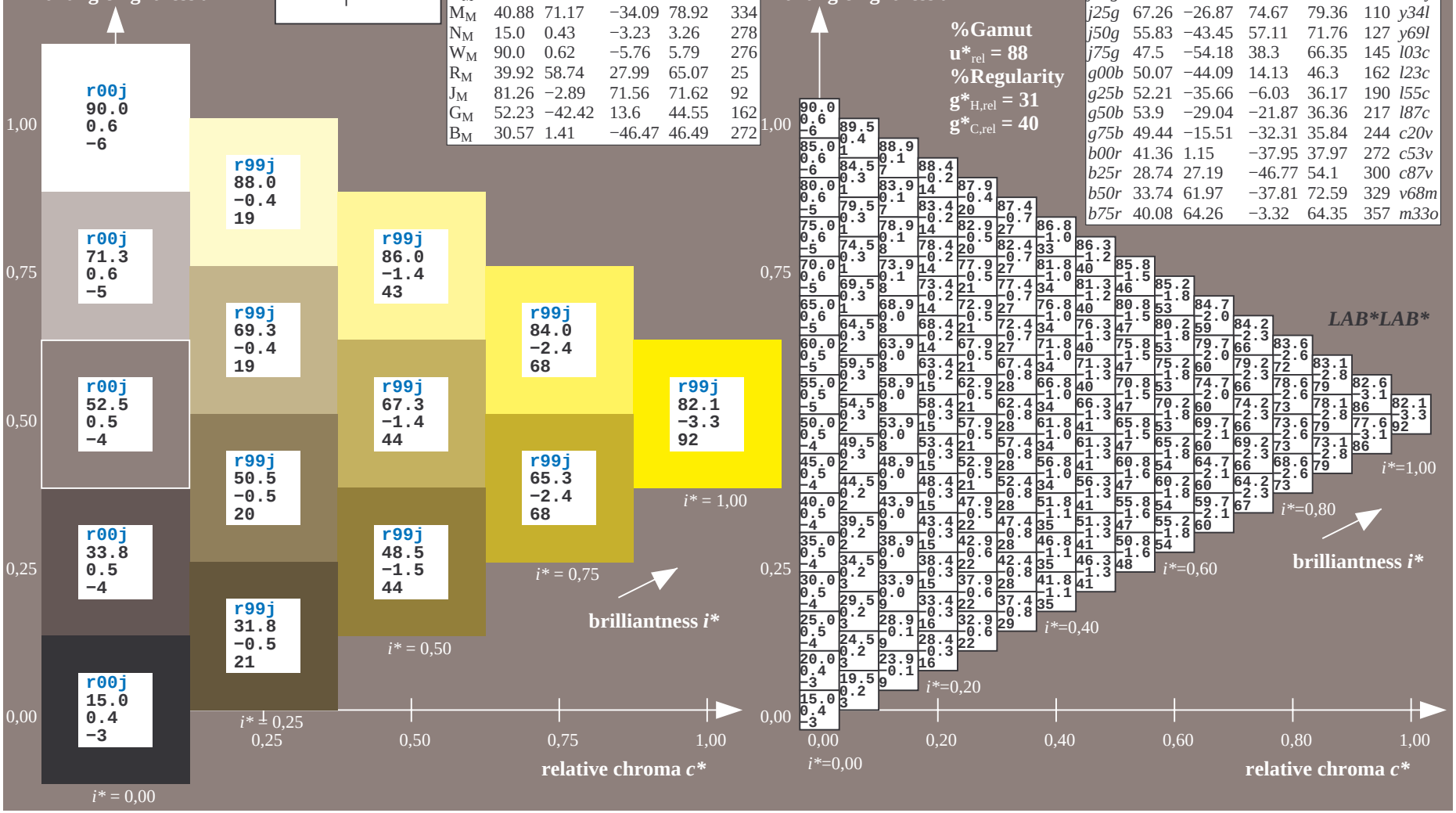
	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 82 −4 98**
***LAB*LCH*Ma*: 82 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

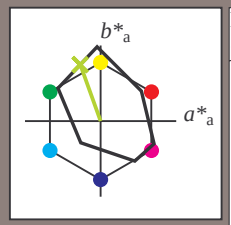
	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*	
r25j	42.41	49.1	44.5	66.26	42	*o10y*	
r50j	52.78	35.22	58.37	68.17	59	*o40y*	
r75j	64.82	19.12	74.47	76.89	76	*o69y*	
j00g	82.06	−3.94	97.52	97.6	92	*o98y*	
j25g	67.26	−26.87	74.67	79.36	110	*y34l*	
j50g	55.83	−43.45	57.11	71.76	127	*y69l*	
j75g	47.5	−54.18	38.3	66.35	145	*l03c*	
g00b	50.07	−44.09	14.13	46.3	162	*l23c*	
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*	
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*	
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*	
b00r	41.36	1.15	−37.95	37.97	272	*c53v*	
b25r	28.74	27.19	−46.77	54.1	300	*c87v*	
b50r	33.74	61.97	−37.81	72.59	329	*v68m*	
b75r	40.08	64.26	−3.32	64.35	357	*m33o*	



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

$u^*_e = j25g$ *LAB*LAB**

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
$u^*_e = j25g$ $u^*_d = y34l$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90; CIELAB data

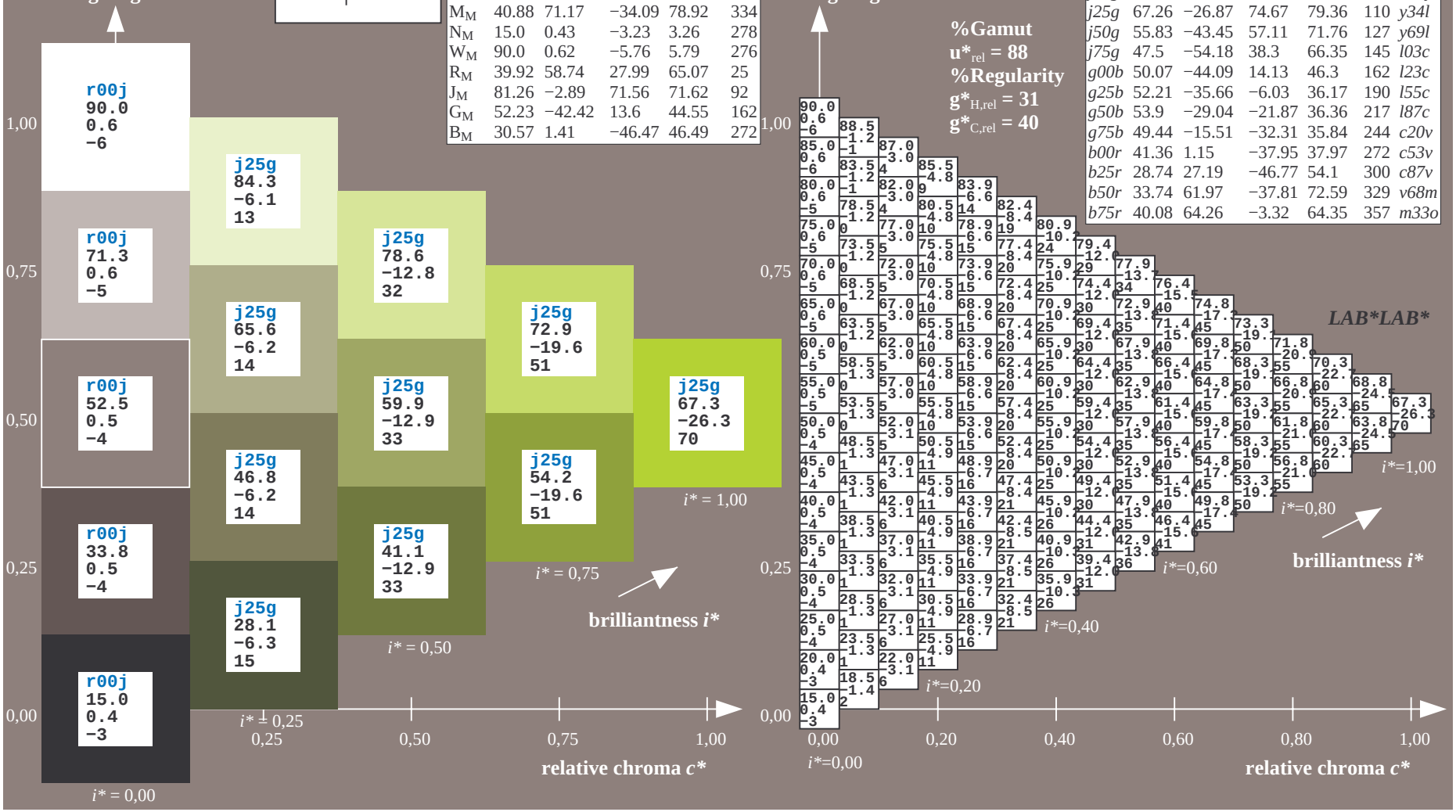
u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_M	39.92	58.74	27.99	65.07	25
J_M	81.26	−2.89	71.56	71.62	92
G_M	52.23	−42.42	13.6	44.55	162
B_M	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 67 −27 75**
***LAB*LCH*Ma*: 67 79 109**
***lab*rgb*Ma*: 0.75 1.0 0.0**
***lab*olv*Ma*: 0.66 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

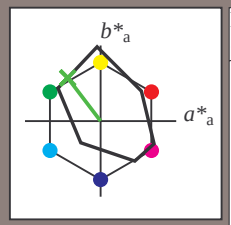
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.354$

$u^*_e = j50g$ *LAB*LAB**

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = j50g$ $u^*_d = y69l$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90; CIELAB data

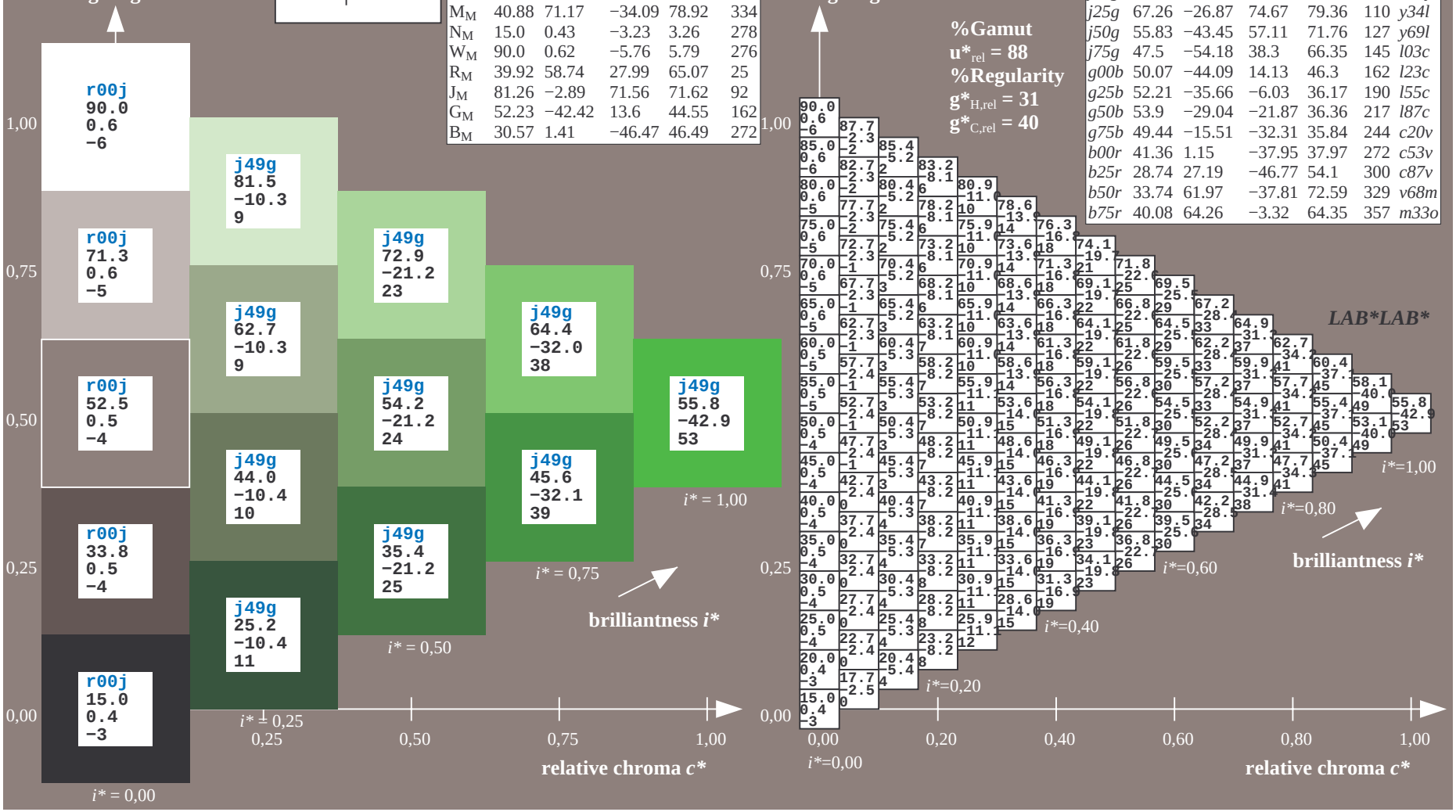
u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_M	39.92	58.74	27.99	65.07	25
J_M	81.26	−2.89	71.56	71.62	92
G_M	52.23	−42.42	13.6	44.55	162
B_M	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 56 −43 57
LAB*LCH*$_{Ma}$: 56 72 127
lab*rgb*$_{Ma}$: 0.5 1.0 0.0
lab*olv*$_{Ma}$: 0.3 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

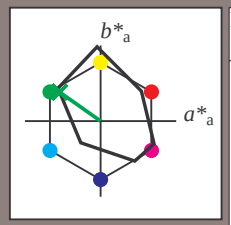
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

$u^*_e = j75g$
*LAB*LAB**

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = j75g$ $u^*_d = l03c$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90; CIELAB data

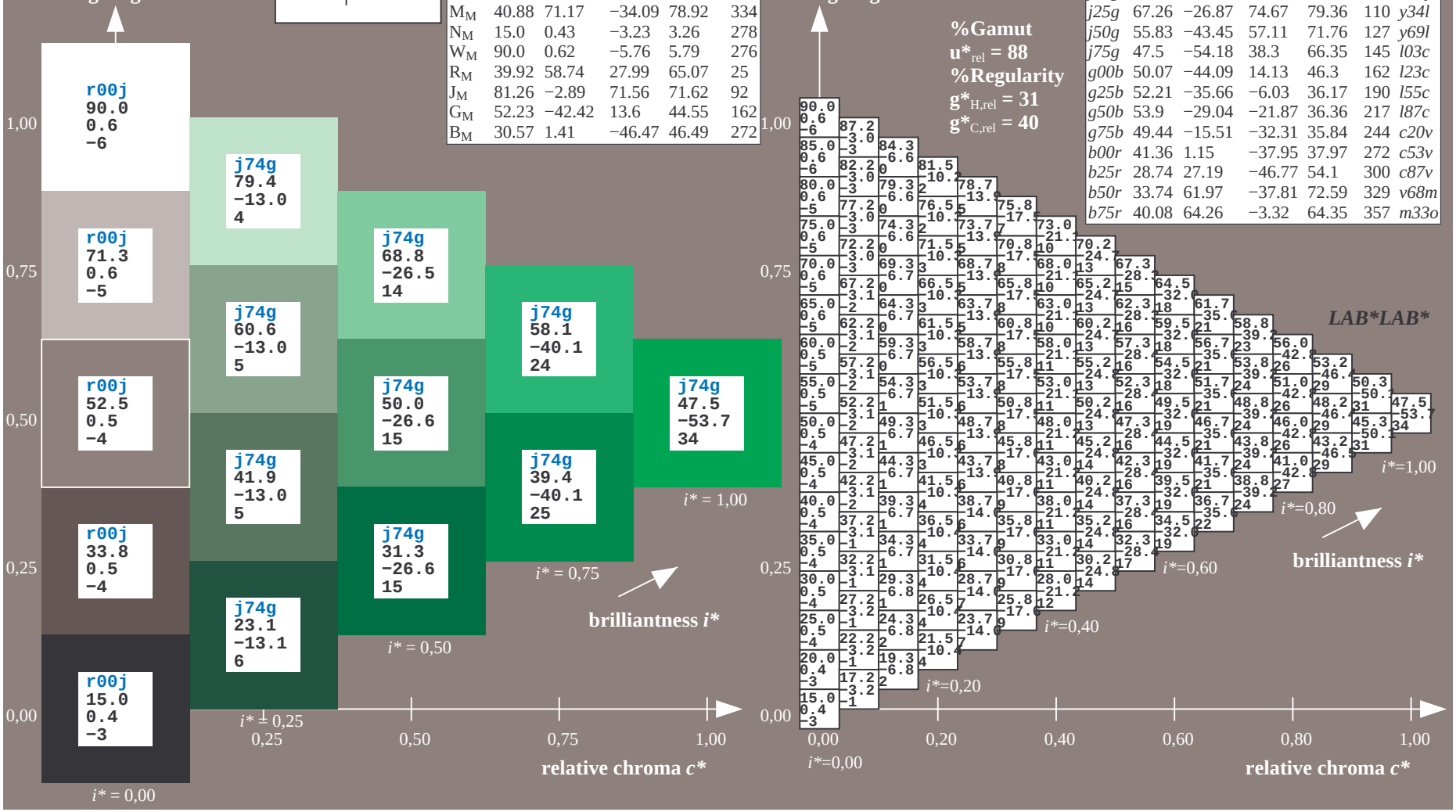
	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 48 −54 38
LAB*LCH*$_{Ma}$: 48 66 144
lab*rgb*$_{Ma}$: 0.25 1.0 0.0
lab*olv*$_{Ma}$: 0.0 1.0 0.03
triangle lightness *t**

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

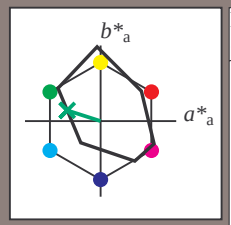
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *g00b* u^*_d = *l23c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90; CIELAB data

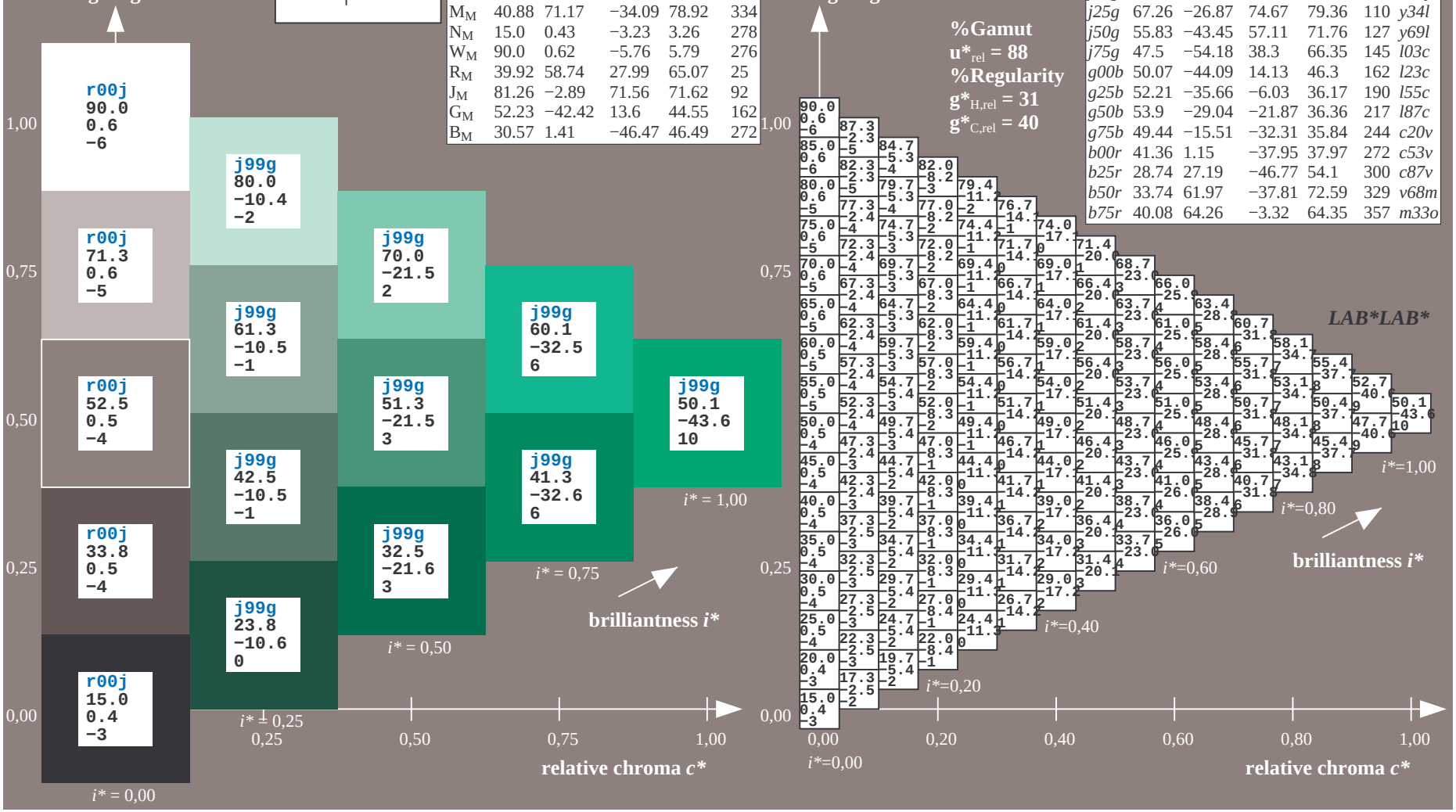
	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_M	39.92	58.74	27.99	65.07	25
J_M	81.26	−2.89	71.56	71.62	92
G_M	52.23	−42.42	13.6	44.55	162
B_M	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 50 −44 14**
***LAB*LCH*Ma*: 50 46 162**
***lab*rgb*Ma*: 0.0 1.0 0.0**
***lab*olv*Ma*: 0.0 1.0 0.23**
triangle lightness *t**

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

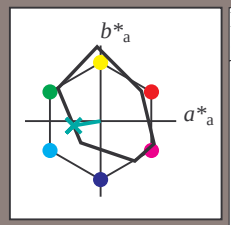
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *g25b* u^*_d = *l55c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	

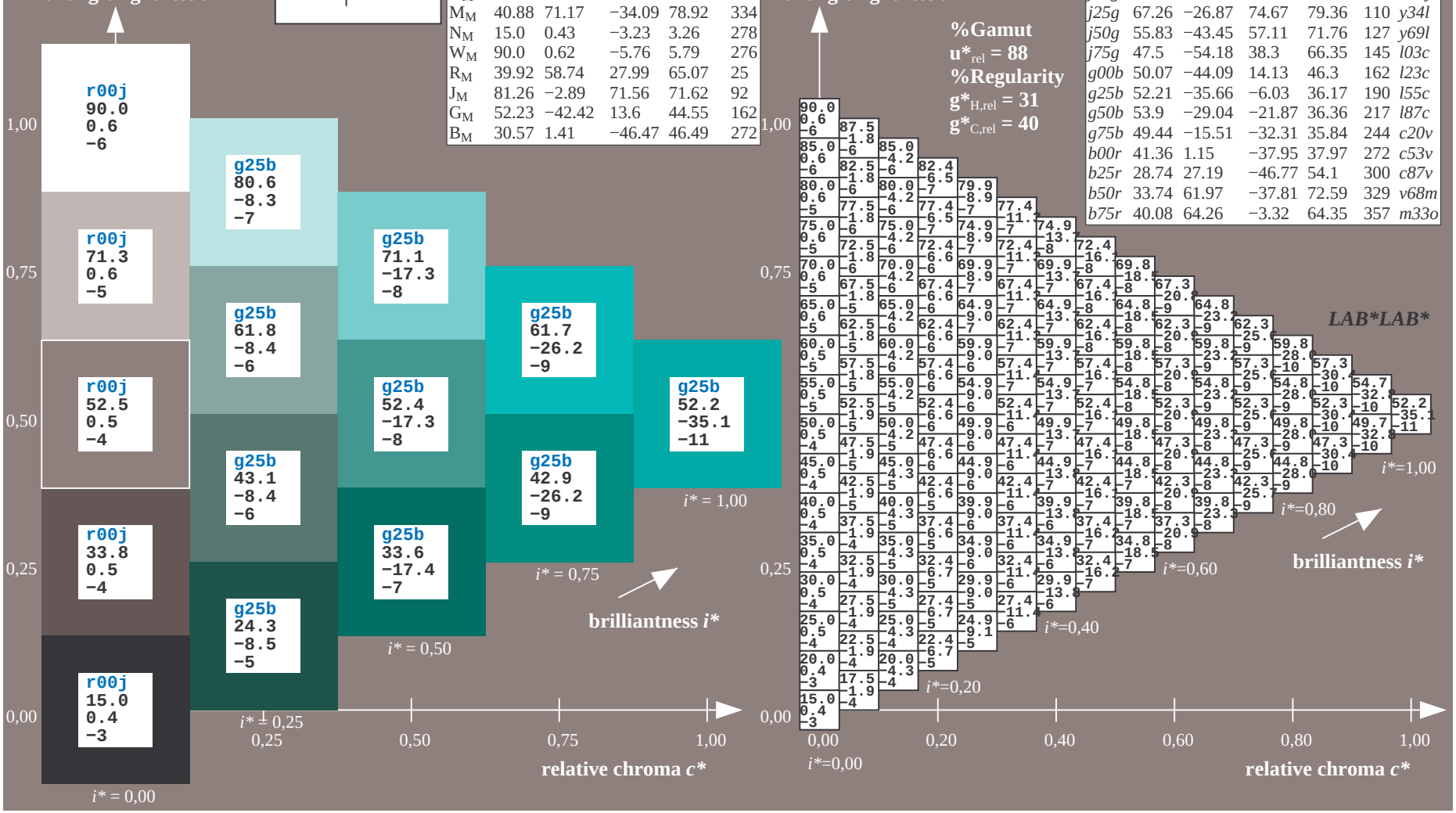
Data for maximum colour (Ma):
*LAB*LAB**$_{Ma}$: 52 −36 −6
*LAB*LCH**$_{Ma}$: 52 36 189
*lab*rgb**$_{Ma}$: 0.0 1.0 0.5
*lab*olv**$_{Ma}$: 0.0 1.0 0.55
triangle lightness *t**

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

u^*_e = *g25b*
*LAB*LAB**

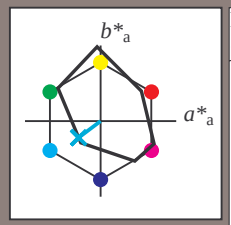
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



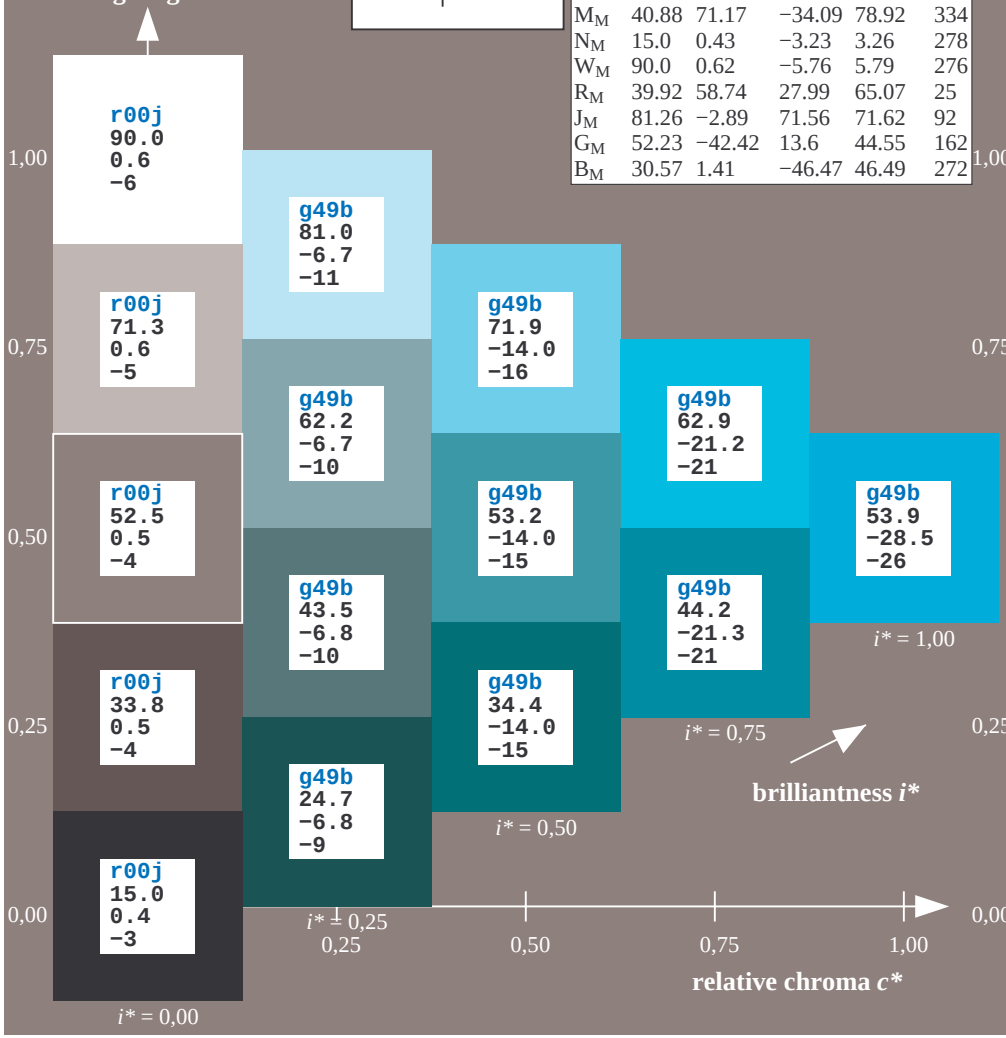
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.603$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *g50b* u^*_d = *l87c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	

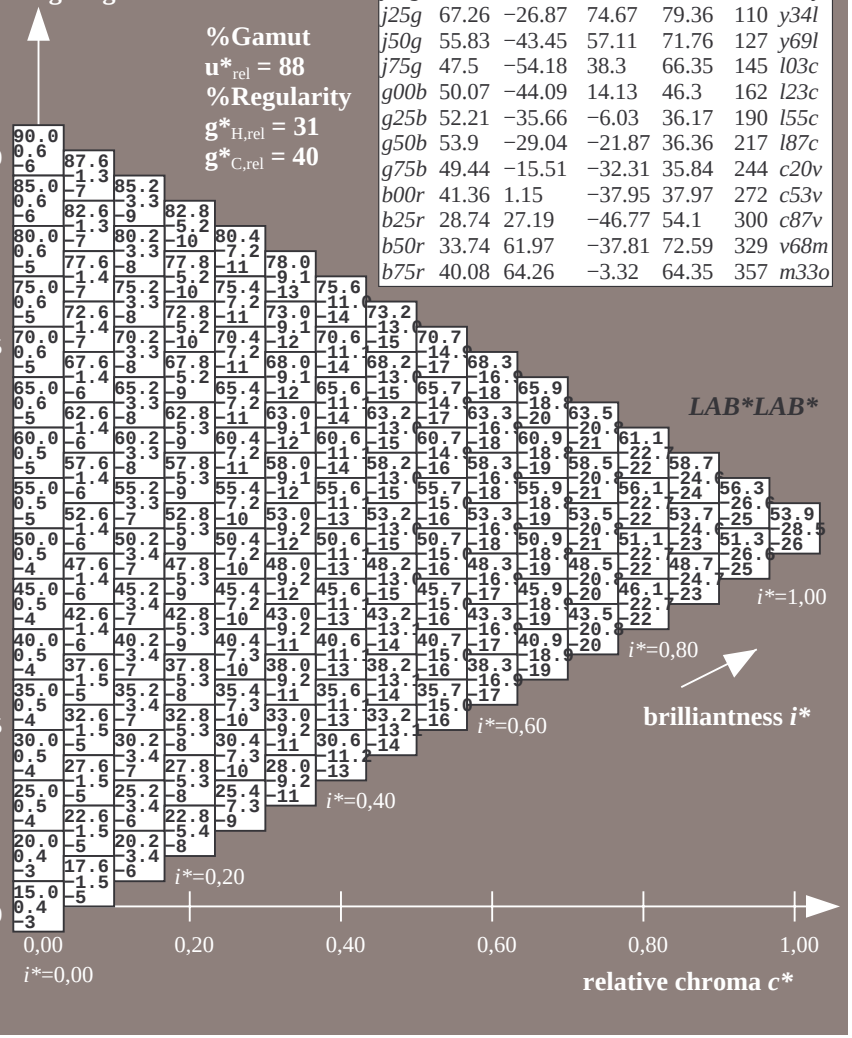


Data for maximum colour (Ma):
$LAB^*LAB^*_{Ma}$: 54 −29 −22
$LAB^*LCH^*_{Ma}$: 54 36 216
$lab^*rgb^*_{Ma}$: 0.0 1.0 1.0
$lab^*olv^*_{Ma}$: 0.0 1.0 0.88
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

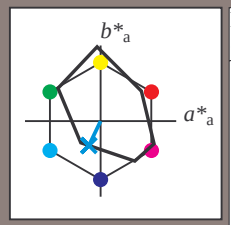
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.679$

$u^*_e = g75b$
*LAB*LAB**

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = g75b$ $u^*_d = c20v$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90; CIELAB data

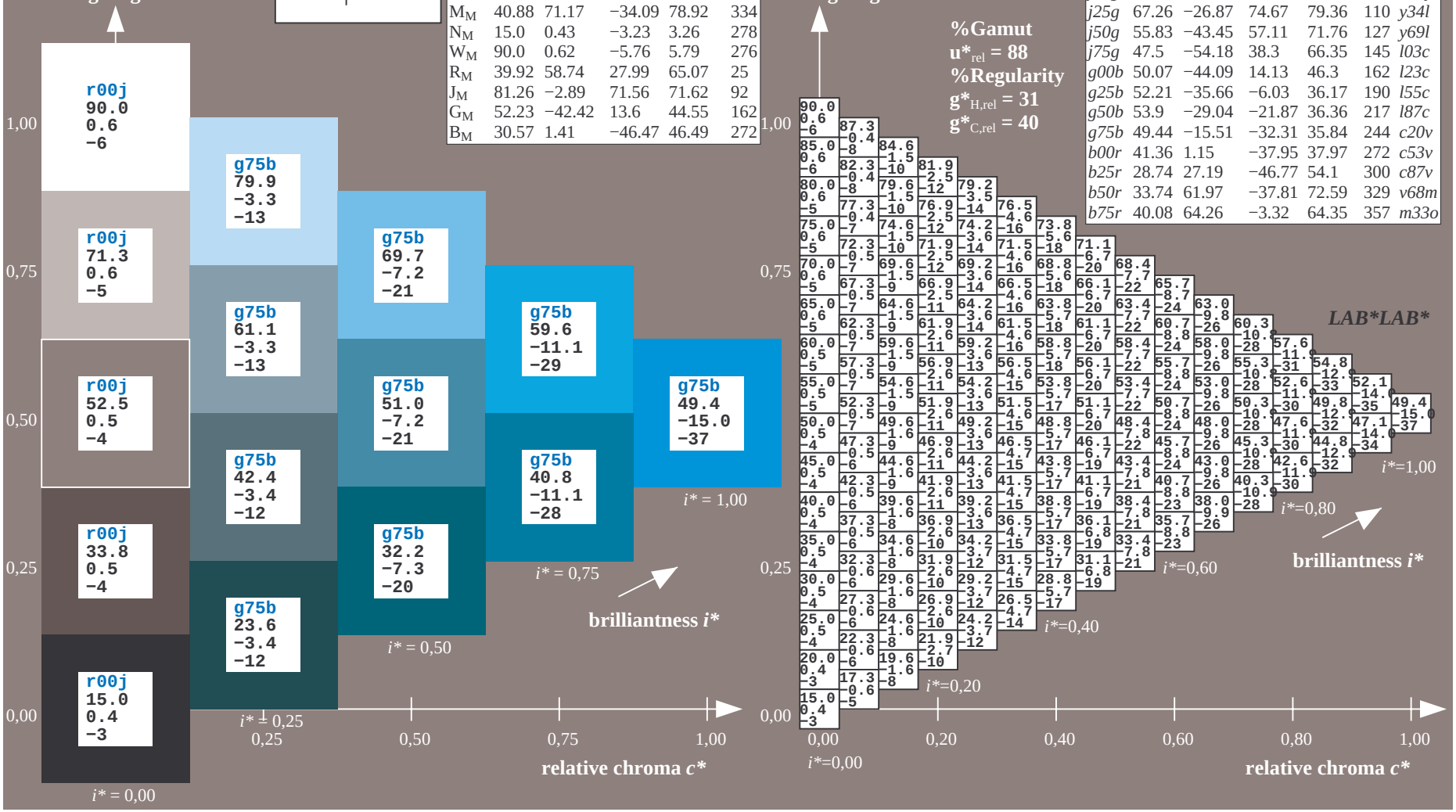
u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_M	39.92	58.74	27.99	65.07	25
J_M	81.26	−2.89	71.56	71.62	92
G_M	52.23	−42.42	13.6	44.55	162
B_M	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 49 −16 −32**
***LAB*LCH*Ma*: 49 36 244**
***lab*rgb*Ma*: 0.0 0.5 1.0**
***lab*olv*Ma*: 0.0 0.8 1.0**
triangle lightness *t**

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

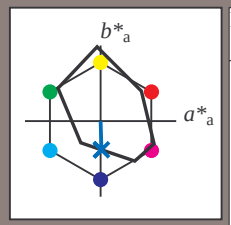
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



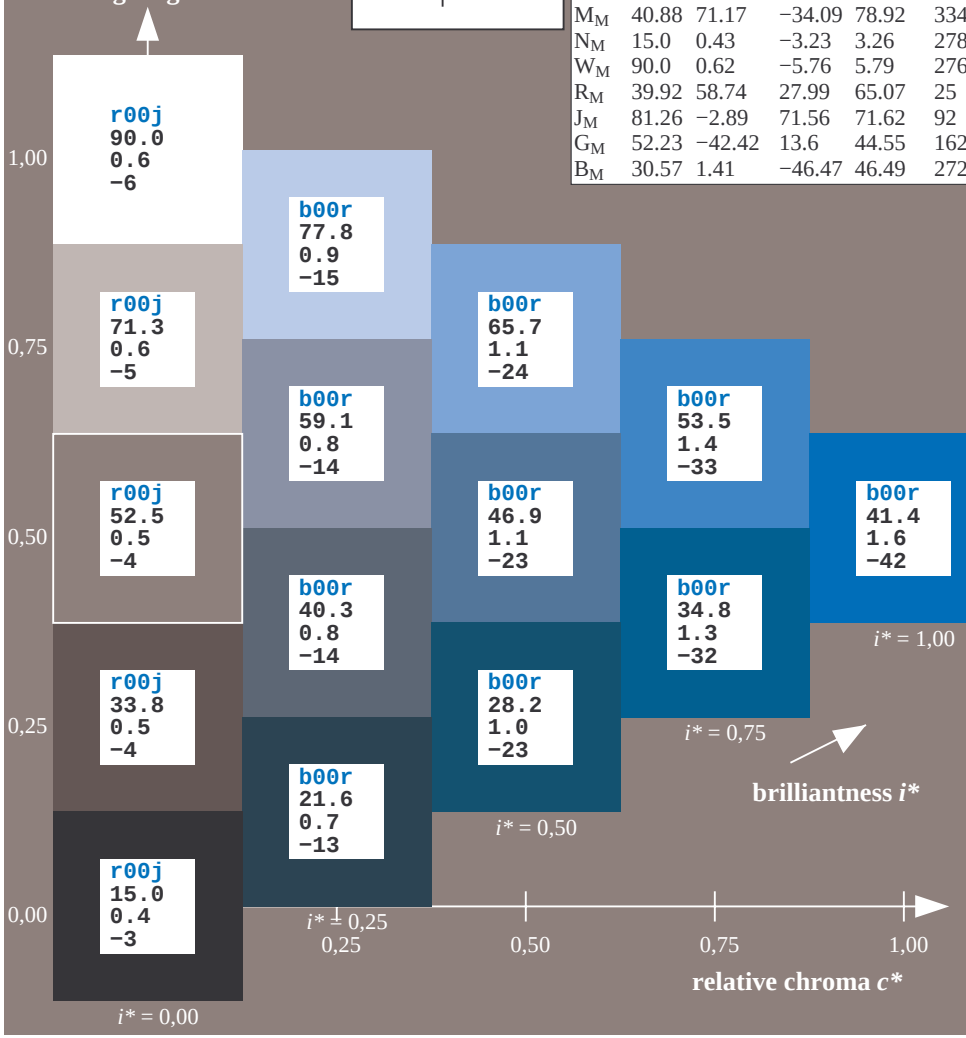
Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.755$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *b00r* u^*_d = *c53v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	



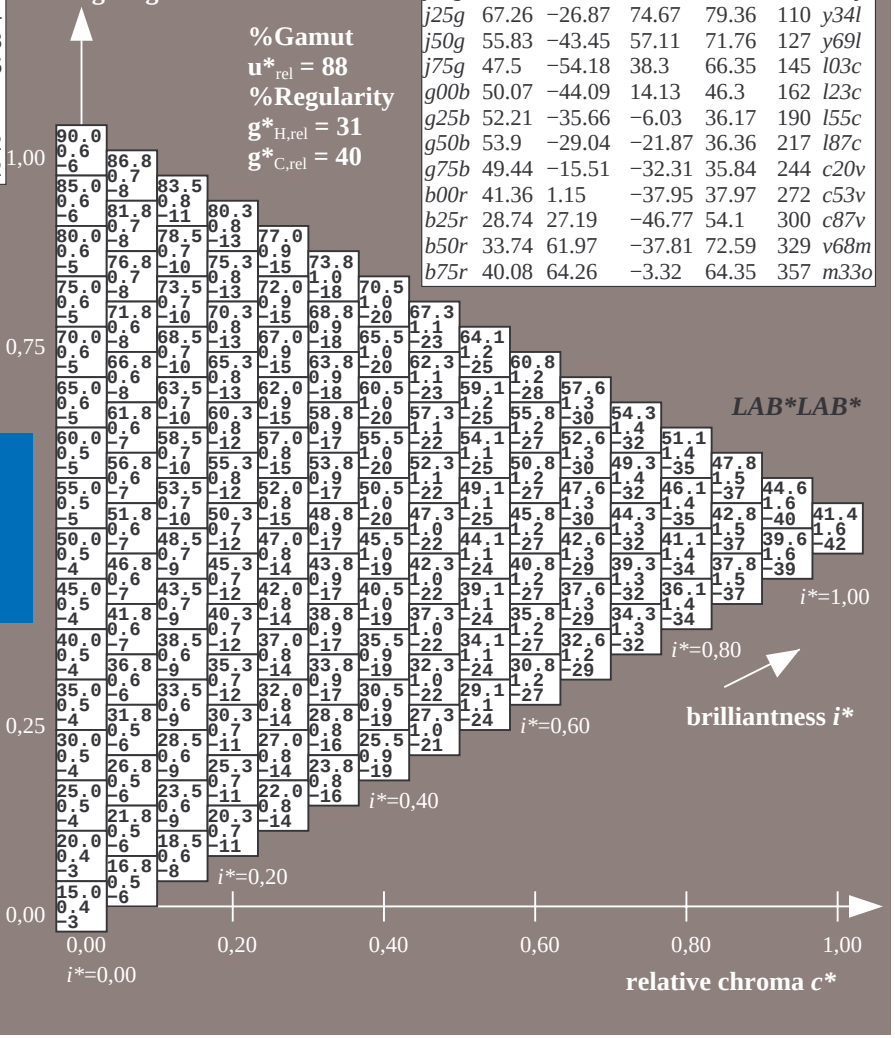
u^*_e = *b00r*
LAB*LAB*

Data for maximum colour (Ma):
***LAB*LAB**Ma: 41 1 −38**
***LAB*LCH**Ma: 41 38 271**
***lab*rgb**Ma: 0.0 0.0 1.0**
***lab*olv**Ma: 0.0 0.47 1.0**
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

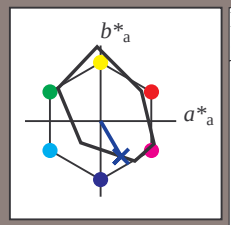
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

$u^*_e = b25r$
*LAB*LAB**

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = b25r$ $u^*_d = c87v$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90; CIELAB data

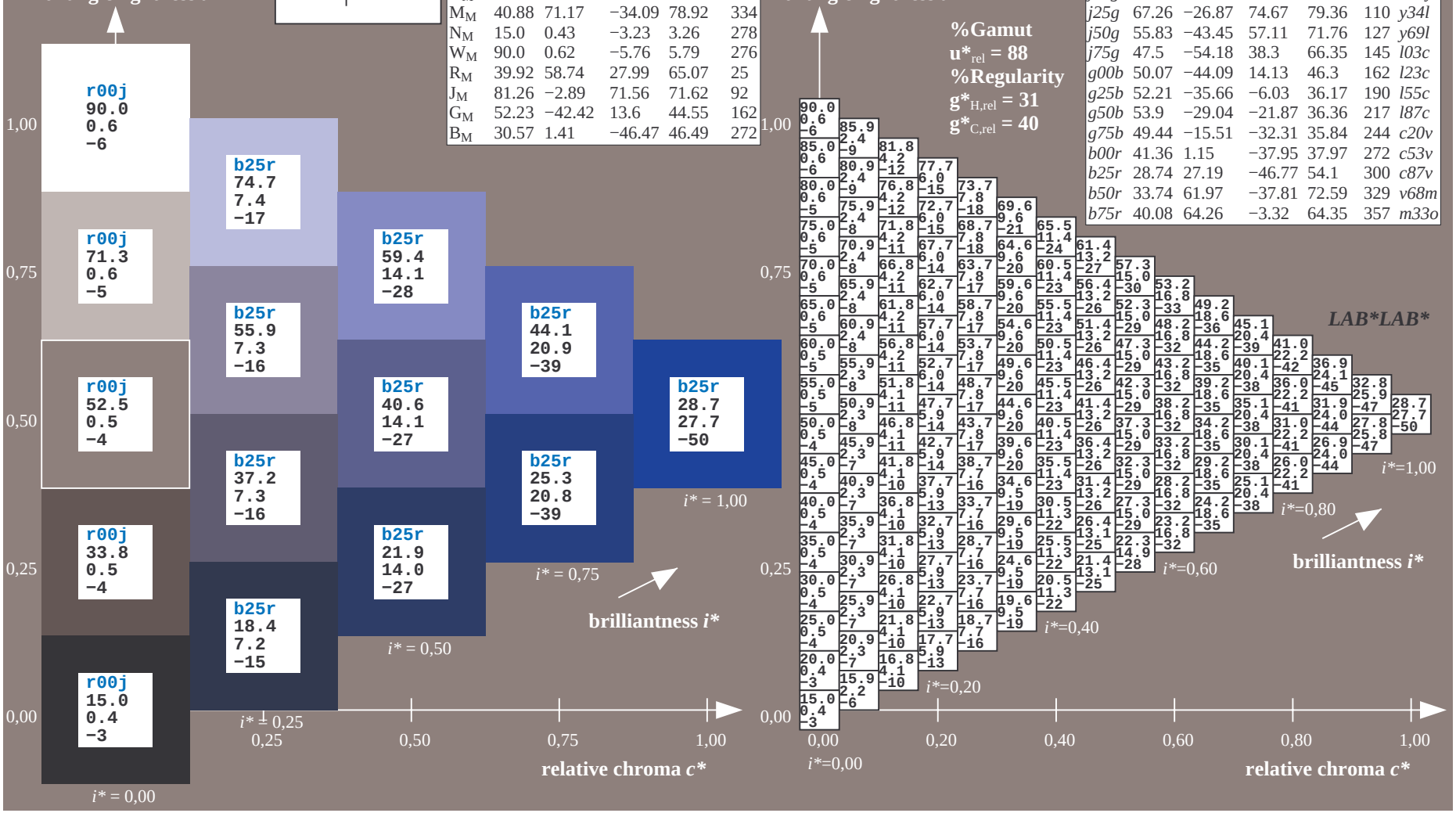
u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_M	39.92	58.74	27.99	65.07	25
J_M	81.26	−2.89	71.56	71.62	92
G_M	52.23	−42.42	13.6	44.55	162
B_M	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
*LAB*LAB**$_{Ma}$: 29 27 −47
*LAB*LCH**$_{Ma}$: 29 54 300
*lab*rgb**$_{Ma}$: 0.5 0.0 1.0
*lab*olv**$_{Ma}$: 0.0 0.12 1.0
triangle lightness *t**

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

FRS15_90a; adapted (a) CIELAB data

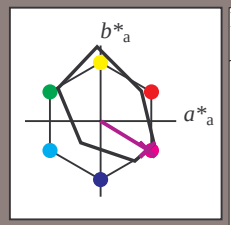
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.913$

$u^*_e = b50r$ *LAB*LAB**

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
$u^*_e = b50r$ $u^*_d = v68m$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90; CIELAB data

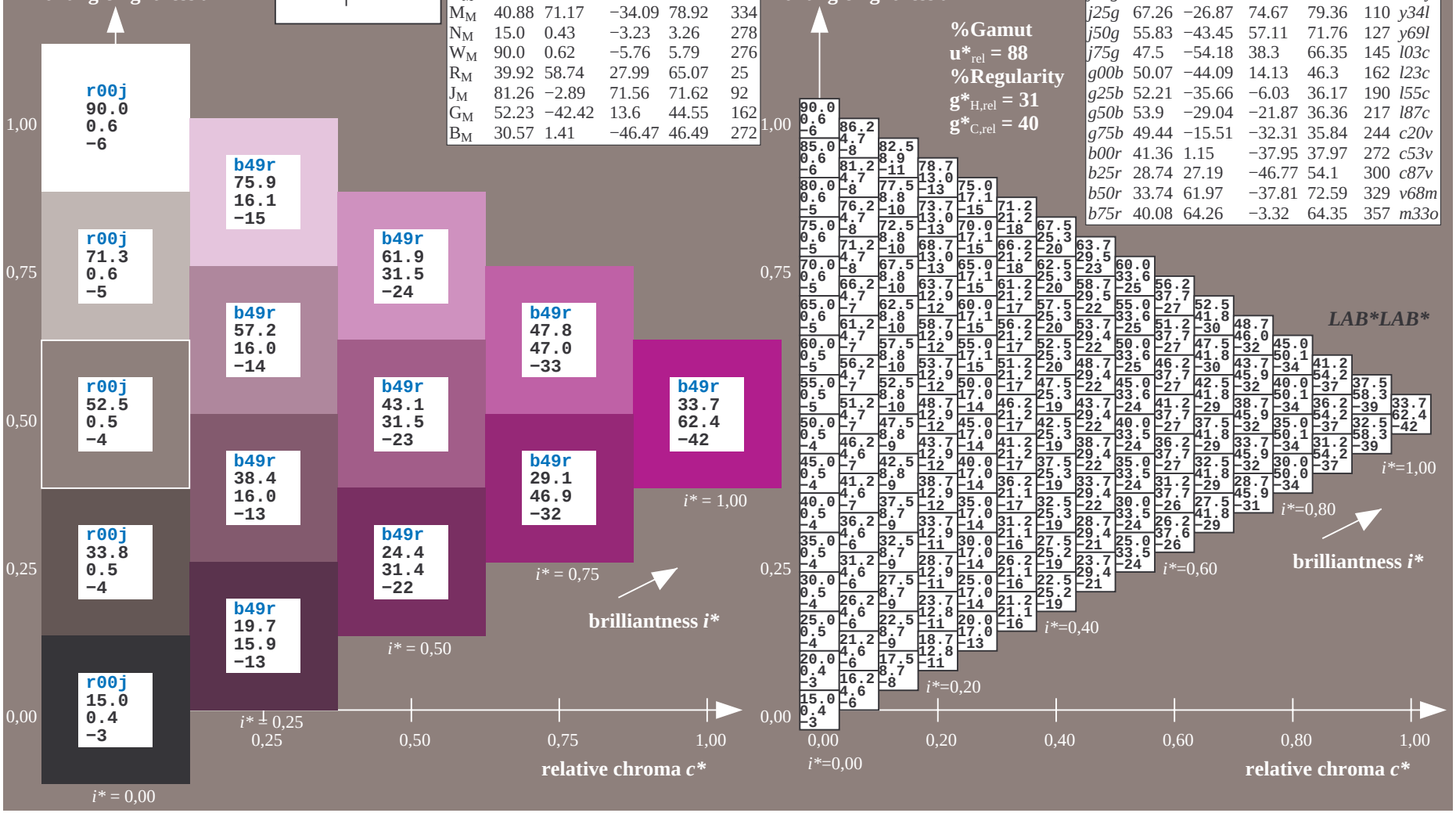
u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_M	39.92	58.74	27.99	65.07	25
J_M	81.26	−2.89	71.56	71.62	92
G_M	52.23	−42.42	13.6	44.55	162
B_M	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 34 62 −38
LAB*LCH*$_{Ma}$: 34 73 328
lab*rgb*$_{Ma}$: 1.0 0.0 1.0
lab*olv*$_{Ma}$: 0.68 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

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.992$

$u^*_e = b75r$

*LAB*LAB**

data for any colour:

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

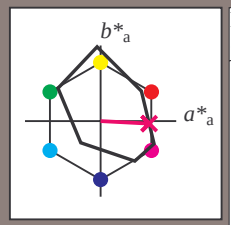
Hue texts:

$u^*_e = b75r$ $u^*_d = m33o$

contrast reduction factor:

$c_R = 0.9$

triangle lightness *t**



FRS15_90; CIELAB data

u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_M	39.92	58.74	27.99	65.07	25
J_M	81.26	−2.89	71.56	71.62	92
G_M	52.23	−42.42	13.6	44.55	162
B_M	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):

***LAB*LAB*Ma*: 40 64 −3**

***LAB*LCH*Ma*: 40 64 357**

***lab*rgb*Ma*: 1.0 0.0 0.5**

***lab*olv*Ma*: 1.0 0.0 0.66**

triangle lightness *t**

%Gamut

$u^*_{rel} = 88$

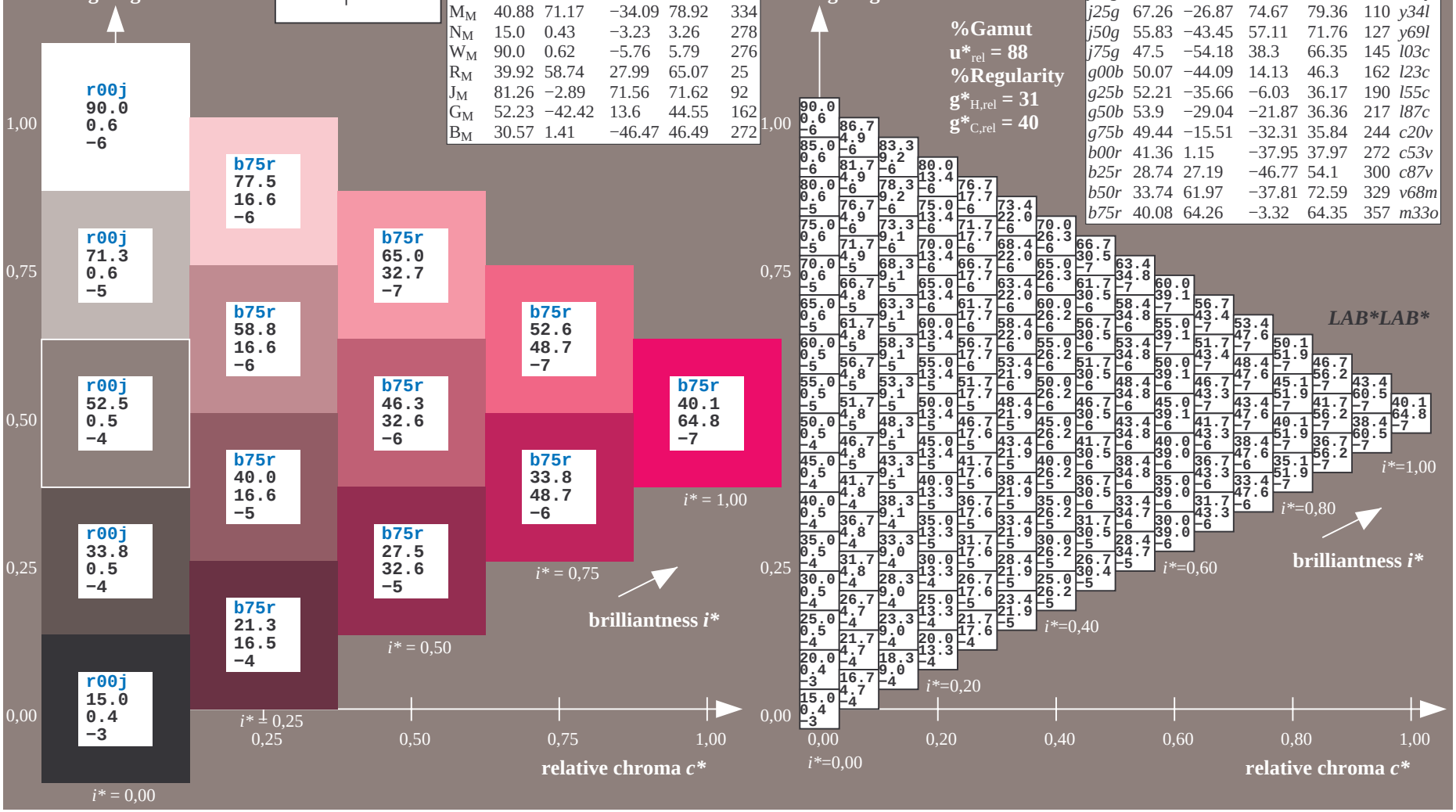
%Regularity

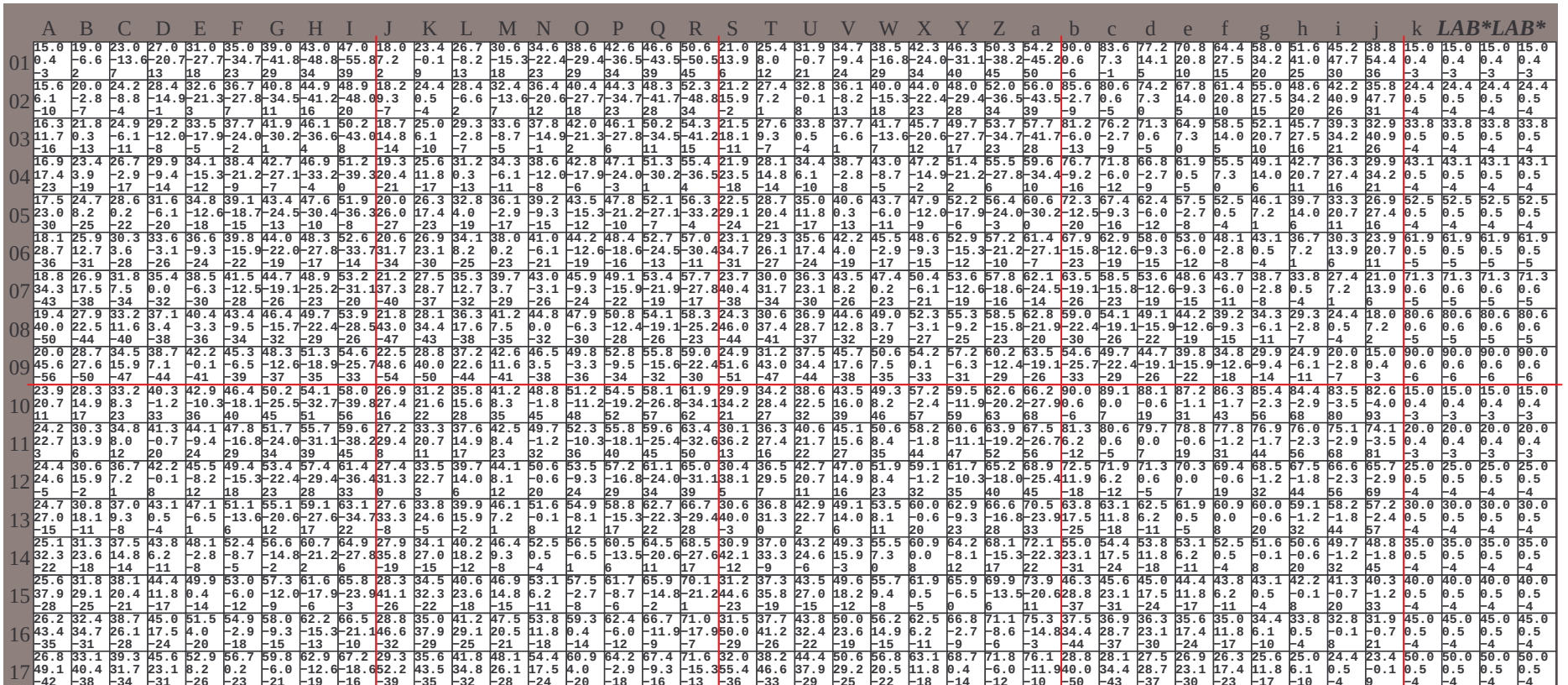
$g^*_{H,rel} = 31$

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

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*

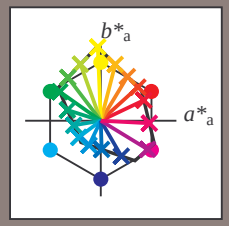



A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k LAB*LAB*
01 15.0 19.0 23.0 27.0 31.0 35.0 39.0 43.0 47.0 18.0 23.4 26.7 30.6 34.6 38.6 42.6 46.6 50.6 21.0 25.4 31.9 34.7 38.5 42.3 46.3 50.3 54.2 90.0 83.6 77.2 70.8 64.4 58.0 51.6 45.2 38.8 15.0 15.0 15.0 15.0
02 15.6 20.0 24.2 28.4 32.6 36.7 40.8 44.9 48.9 18.2 24.4 28.4 32.4 36.4 40.4 44.3 48.3 52.3 21.2 27.4 32.8 36.1 40.0 44.0 48.0 52.0 56.0 85.6 80.6 74.2 67.8 61.4 55.0 48.6 42.2 35.8 24.4 24.4 24.4 24.4
03 16.3 21.8 24.9 29.2 33.5 37.7 41.9 46.1 50.2 18.7 25.0 29.3 33.6 37.8 42.0 46.1 50.2 54.3 21.5 27.6 33.8 37.7 41.7 45.7 49.7 53.7 57.7 81.2 76.2 71.3 64.9 58.5 52.1 45.7 39.3 32.9 33.8 33.8 33.8 33.8
04 16.9 23.4 26.7 29.9 34.1 38.4 42.7 46.9 51.2 19.3 25.6 31.2 34.3 38.6 42.8 47.1 51.3 55.4 21.9 28.1 34.4 38.7 43.0 47.2 51.4 55.5 59.6 76.7 71.8 66.8 61.9 55.5 49.1 42.7 36.3 29.9 43.1 43.1 43.1 43.1
05 17.5 24.7 28.6 31.6 34.8 39.1 43.4 47.6 51.9 20.0 26.3 32.8 36.1 39.2 43.5 47.8 52.1 56.3 22.5 28.7 35.0 40.6 43.7 47.9 52.2 56.4 60.6 72.3 67.4 62.4 57.5 52.5 46.1 39.7 33.3 26.9 52.5 52.5 52.5 52.5
06 18.1 25.9 30.3 33.6 36.6 39.8 44.0 48.3 52.6 20.6 26.9 34.1 38.0 41.0 44.2 48.4 52.7 57.0 23.1 29.3 35.6 42.2 45.5 48.6 52.9 57.2 61.4 67.9 62.9 58.0 53.0 48.1 43.1 36.7 30.3 23.9 61.9 61.9 61.9 61.9
07 18.8 26.9 31.8 35.4 38.5 41.5 44.7 48.9 53.2 21.2 27.5 35.3 39.7 43.0 45.9 49.1 53.4 57.7 23.7 30.0 36.3 43.5 47.4 50.4 53.6 57.8 62.1 63.5 58.5 53.6 48.6 43.7 38.7 33.8 27.4 21.0 71.3 71.3 71.3 71.3
08 19.4 27.9 33.2 37.1 40.4 43.4 46.4 49.7 53.9 21.8 28.1 36.3 41.2 44.8 47.9 50.8 54.1 58.3 24.3 30.6 36.9 44.6 49.0 52.3 55.3 58.5 62.8 59.0 54.1 49.1 44.2 39.2 34.3 29.3 24.4 18.0 80.6 80.6 80.6 80.6
09 20.0 28.7 34.5 38.7 42.2 45.3 48.3 51.3 54.6 22.5 28.8 37.2 42.6 46.5 49.8 52.8 55.8 59.0 24.9 31.2 37.5 45.7 50.6 54.2 57.2 60.2 63.5 54.6 49.7 44.7 39.8 34.8 29.9 24.9 20.0 15.0 90.0 90.0 90.0 90.0
10 23.9 28.3 33.2 40.3 42.9 46.4 50.2 54.1 58.0 26.9 31.2 35.8 41.2 48.8 51.2 54.5 58.1 61.9 29.9 34.2 38.6 43.5 49.3 57.2 59.5 62.6 66.2 90.0 89.1 88.1 87.2 86.3 85.4 84.4 83.5 82.6 15.0 15.0 15.0 15.0
11 24.2 30.3 34.8 41.3 44.1 47.8 51.7 55.7 59.6 27.2 33.3 37.6 42.5 49.7 52.3 55.8 59.6 63.4 30.1 36.3 40.6 45.1 50.6 58.2 60.6 63.9 67.5 81.3 80.6 79.7 78.8 77.8 76.9 76.0 75.1 74.1 20.0 20.0 20.0 20.0
12 24.4 30.6 36.7 42.2 45.5 49.4 53.4 57.4 61.4 27.4 33.5 39.7 44.1 50.6 53.5 57.2 61.1 65.0 30.4 36.5 42.7 47.0 51.9 59.1 61.7 65.2 68.9 72.5 71.9 71.3 70.3 69.4 68.5 67.5 66.6 65.7 25.0 25.0 25.0 25.0
13 24.7 30.8 37.0 43.1 47.1 51.1 55.1 59.1 63.1 27.6 33.8 39.9 46.1 51.6 54.9 58.8 62.7 66.7 30.6 36.8 42.9 49.1 53.5 60.0 62.9 66.6 70.5 63.8 63.1 62.5 61.9 60.9 60.0 59.1 58.2 57.2 30.0 30.0 30.0 30.0
14 25.1 31.3 37.5 43.8 48.1 52.4 56.6 60.7 64.9 27.9 34.1 40.2 46.4 52.5 56.5 60.5 64.5 68.5 30.9 37.0 43.2 49.3 55.5 60.9 64.2 68.1 72.1 55.0 54.4 53.8 53.1 52.5 51.6 50.6 49.7 48.8 35.0 35.0 35.0 35.0
15 25.6 31.8 38.1 44.4 49.9 53.0 57.3 61.6 65.8 28.3 34.5 40.6 46.9 53.1 57.5 61.7 65.9 70.1 31.2 37.3 43.5 49.6 55.7 61.9 65.9 69.9 73.9 46.3 45.6 45.0 44.4 43.8 43.1 42.2 41.3 40.3 40.0 40.0 40.0 40.0
16 26.2 32.4 38.7 45.0 51.5 54.9 58.0 62.2 66.5 28.8 35.0 41.2 47.5 53.8 59.3 62.4 66.7 71.0 31.5 37.7 43.8 50.0 56.2 62.5 66.8 71.1 75.3 37.5 36.9 36.3 35.6 35.0 34.4 33.8 32.8 31.9 45.0 45.0 45.0 45.0
17 26.8 33.1 39.3 45.6 52.9 56.7 59.8 62.9 67.2 29.3 35.6 41.8 48.1 54.4 60.9 64.2 67.4 71.6 32.0 38.2 44.4 50.6 56.8 63.1 68.7 71.8 76.1 28.8 28.1 27.5 26.9 26.3 25.6 25.0 24.4 23.4 50.0 50.0 50.0 50.0
18 27.4 33.7 40.0 46.3 54.0 58.4 61.7 64.7 67.9 29.9 36.2 42.4 48.7 55.0 62.2 66.1 69.1 72.3 32.5 38.7 44.9 51.2 57.5 63.8 70.3 73.6 76.7 20.0 19.4 18.8 18.1 17.5 16.9 16.3 15.6 15.0 55.0 55.0 55.0 55.0
19 32.9 37.2 41.5 46.2 51.3 57.6 65.7 67.9 70.9 35.8 40.2 44.5 49.0 53.8 59.3 65.9 74.1 76.2 38.8 43.1 47.5 51.9 56.5 61.6 67.4 74.2 82.6 90.0 84.6 79.2 73.9 68.5 63.1 57.7 52.3 47.0 60.0 60.0 60.0 60.0
20 33.1 39.3 43.6 48.0 52.9 58.7 66.6 68.9 72.0 36.1 42.2 46.6 50.9 55.5 60.7 67.0 75.1 77.2 39.1 45.2 49.5 53.9 58.4 63.2 68.7 75.2 83.5 83.9 80.6 75.2 69.9 64.5 59.1 53.7 48.3 43.0 65.0 65.0 65.0 65.0
21 33.3 39.5 45.7 50.0 54.5 59.9 67.5 69.9 73.2 36.3 42.5 48.6 53.0 57.4 62.2 68.1 76.0 78.3 39.3 45.5 51.6 55.9 60.3 64.9 70.1 76.3 84.4 77.7 74.5 71.3 65.9 60.5 55.1 49.7 44.3 39.0 70.0 70.0 70.0 70.0
22 33.6 39.7 45.9 52.1 56.4 61.3 68.5 71.1 74.5 36.6 42.7 48.9 55.0 59.4 63.9 69.3 76.9 79.3 39.5 45.7 51.9 58.0 62.3 66.7 71.6 77.5 85.4 71.6 68.3 65.1 61.9 56.5 51.1 45.7 40.4 35.0 75.0 75.0 75.0 75.0
23 33.8 40.0 46.1 52.3 58.5 62.9 69.4 72.2 76.0 36.8 43.0 49.1 55.3 61.4 65.8 70.7 77.8 80.4 39.8 45.9 52.1 58.3 64.4 68.7 73.3 78.7 86.3 65.4 62.2 59.0 55.7 52.5 47.1 41.7 36.4 31.0 80.0 80.0 80.0 80.0
24 34.1 40.2 46.4 52.5 58.7 64.9 70.3 73.6 77.5 37.0 43.2 49.3 55.5 61.7 67.8 72.3 78.8 81.6 40.0 46.2 52.3 58.5 64.7 70.8 75.1 80.0 87.2 59.3 56.1 52.8 49.6 46.4 43.1 37.7 32.4 27.0 85.0 85.0 85.0 85.0
25 34.4 40.5 46.7 52.8 59.0 65.1 71.3 75.2 79.2 37.3 43.5 49.6 55.8 61.9 68.1 74.2 79.7 83.0 40.3 46.4 52.6 58.7 64.9 71.0 77.2 81.6 88.1 53.2 49.9 46.7 43.5 40.2 37.0 33.8 28.4 23.0 90.0 90.0 90.0 90.0
26 34.7 40.9 47.1 53.2 59.4 65.6 71.9 76.2 80.5 37.6 43.8 49.9 56.1 62.2 68.3 74.5 80.6 84.6 40.5 46.7 52.8 59.0 65.1 71.3 77.4 83.6 89.1 47.0 43.8 40.5 37.3 34.1 30.8 27.6 24.4 19.0 15.0 38.8 82.6 47.0
27 35.2 41.4 47.5 53.7 60.0 66.2 72.5 78.1 81.2 38.0 44.1 50.3 56.4 62.6 68.8 75.0 81.3 85.6 40.9 47.0 53.2 59.3 65.4 71.6 77.7 83.9 90.0 40.9 37.6 34.4 31.2 27.9 24.7 21.5 18.2 15.0 90.0 54.6 20.0 40.9
64.2 55.4 46.7 37.9 29.2 20.5 11.9 0.4 67.6 58.8 50.0 41.2 32.4 23.6 14.9 6.2 -2.7 71.2 62.4 53.5 44.7 35.9 27.1 18.3 9.4 0.6 71.2 62.3 53.5 44.6 35.8 27.0 18.1 9.3 0.4 0.6 -25.7 45.6 71.2
-40 -37 -33 -29 -26 -22 -18 -15 -13 -37 -34 -30 -27 -23 -19 -16 -12 -9 -34 -31 -27 -23 -20 -16 -13 -9 -6 -34 -30 -26 -23 -19 -15 -11 -7 -4 2 -3 -6 -33 -56 -34

Input and output:
Colorimetric Printer Reflective System FRS15_90a
data for any colour:
***u**e and number *no.* = 00 .. 15**
elementary hue text:
u**e = 16 hues *r00j, r25j, ..., b75r
contrast reduction factor:
c_R = 0.9

FRS15_90a; adapted (a) CIELAB data

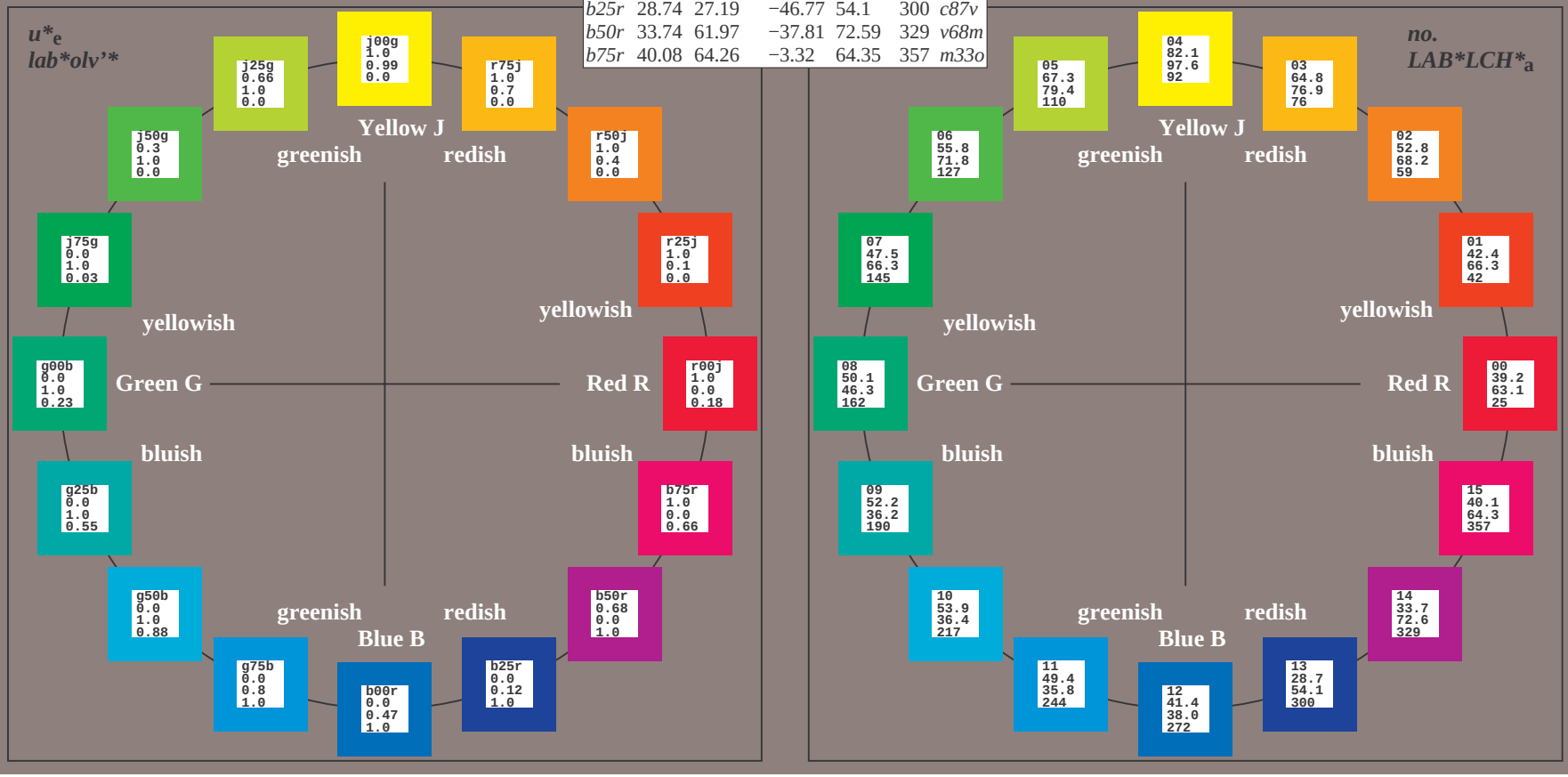
*u*e*	*L*=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*	*u*d*
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

FRS15_90a; CIELAB data

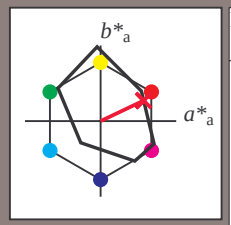
Name	*L*=L**	*a**	*b**	*C*ab*	*h*ab*
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.89	71.56	71.62	92
G_{CIE}	52.23	−42.42	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.47	46.49	272



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

$u^*_e = r00j$
$lab^*olv'^*$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = r00j$ $u^*_d = m81o$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

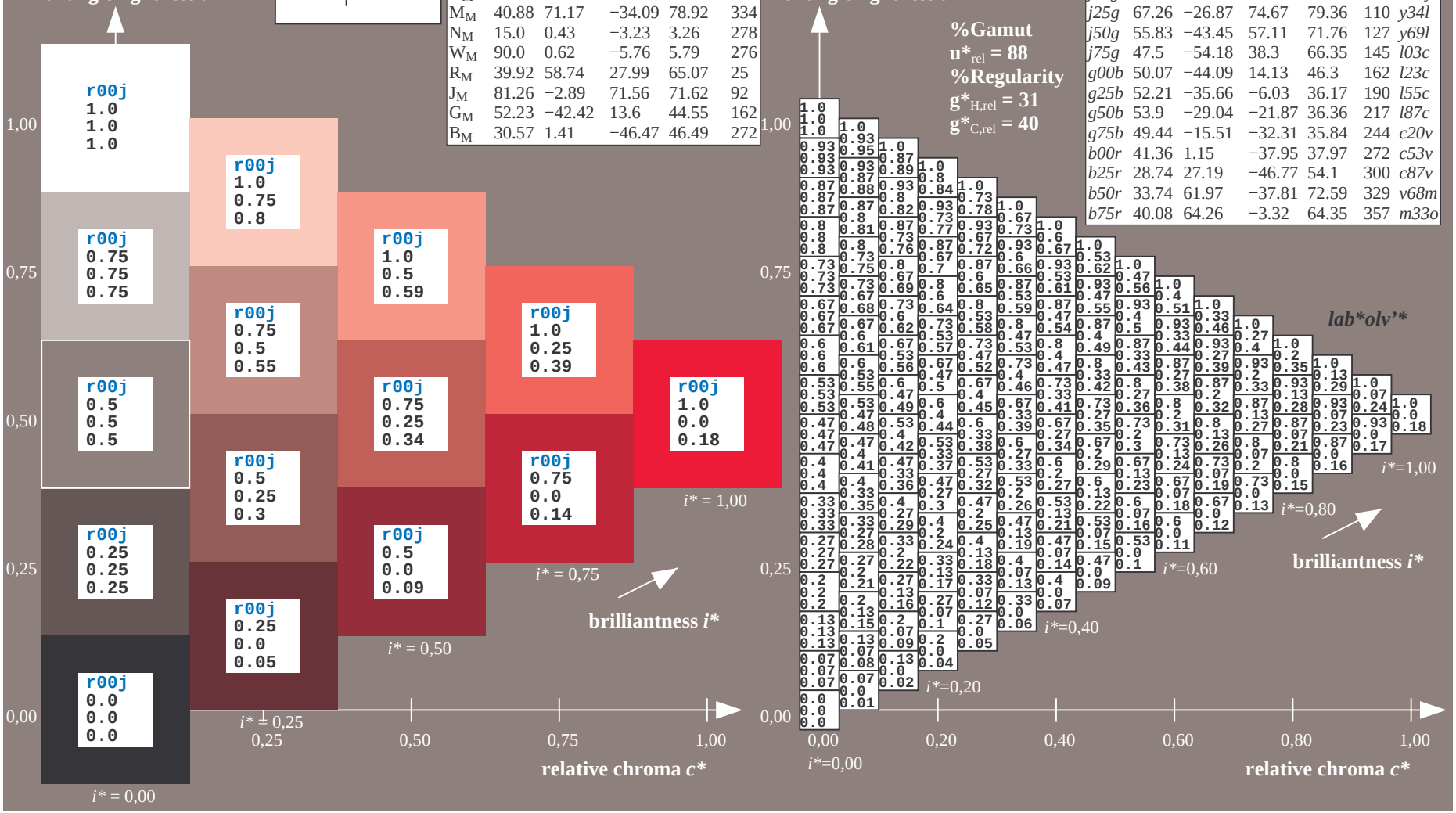
	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	

Data for maximum colour (Ma):
$LAB^*LAB^*_{Ma}$: 39 57 27
$LAB^*LCH^*_{Ma}$: 39 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

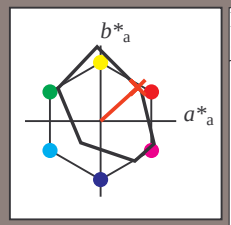
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*

%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 $h^* = lab^*h^* = h_{ab}/360 = 0.117$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *r25j* u^*_d = *o10y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_M	39.92	58.74	27.99	65.07	25
J_M	81.26	−2.89	71.56	71.62	92
G_M	52.23	−42.42	13.6	44.55	162
B_M	30.57	1.41	−46.47	46.49	272

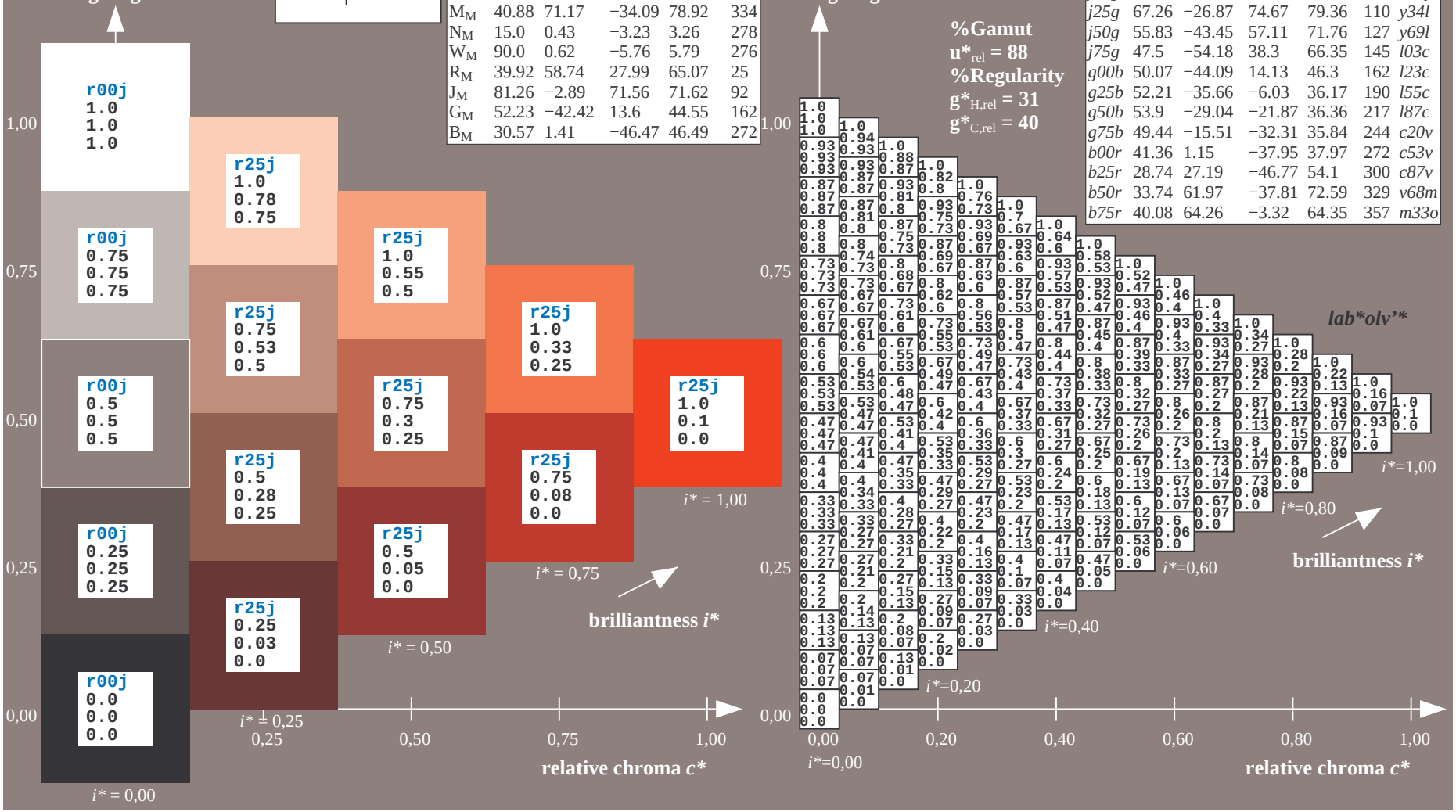
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 42 49 44
LAB*LCH*$_{Ma}$: 42 66 42
lab*rgb*$_{Ma}$: 1.0 0.25 0.0
lab*olv*$_{Ma}$: 1.0 0.1 0.0
triangle lightness *t**

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

u^*_e = *r25j*
lab*olv'*

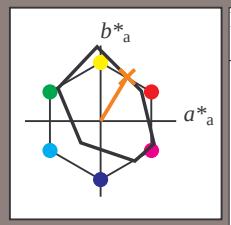
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *r50j* u^*_d = *o40y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M		38.8	54.41	35.65	65.05	33
Y_M		82.58	−4.04	92.72	92.8	92
L_M		46.95	−55.83	39.15	68.19	145
C_M		54.62	−25.67	−33.25	42.01	232
V_M		20.01	45.64	−56.27	72.45	309
M_M		40.88	71.17	−34.09	78.92	334
N_M		15.0	0.43	−3.23	3.26	278
W_M		90.0	0.62	−5.76	5.79	276
R_M		39.92	58.74	27.99	65.07	25
J_M		81.26	−2.89	71.56	71.62	92
G_M		52.23	−42.42	13.6	44.55	162
B_M		30.57	1.41	−46.47	46.49	272

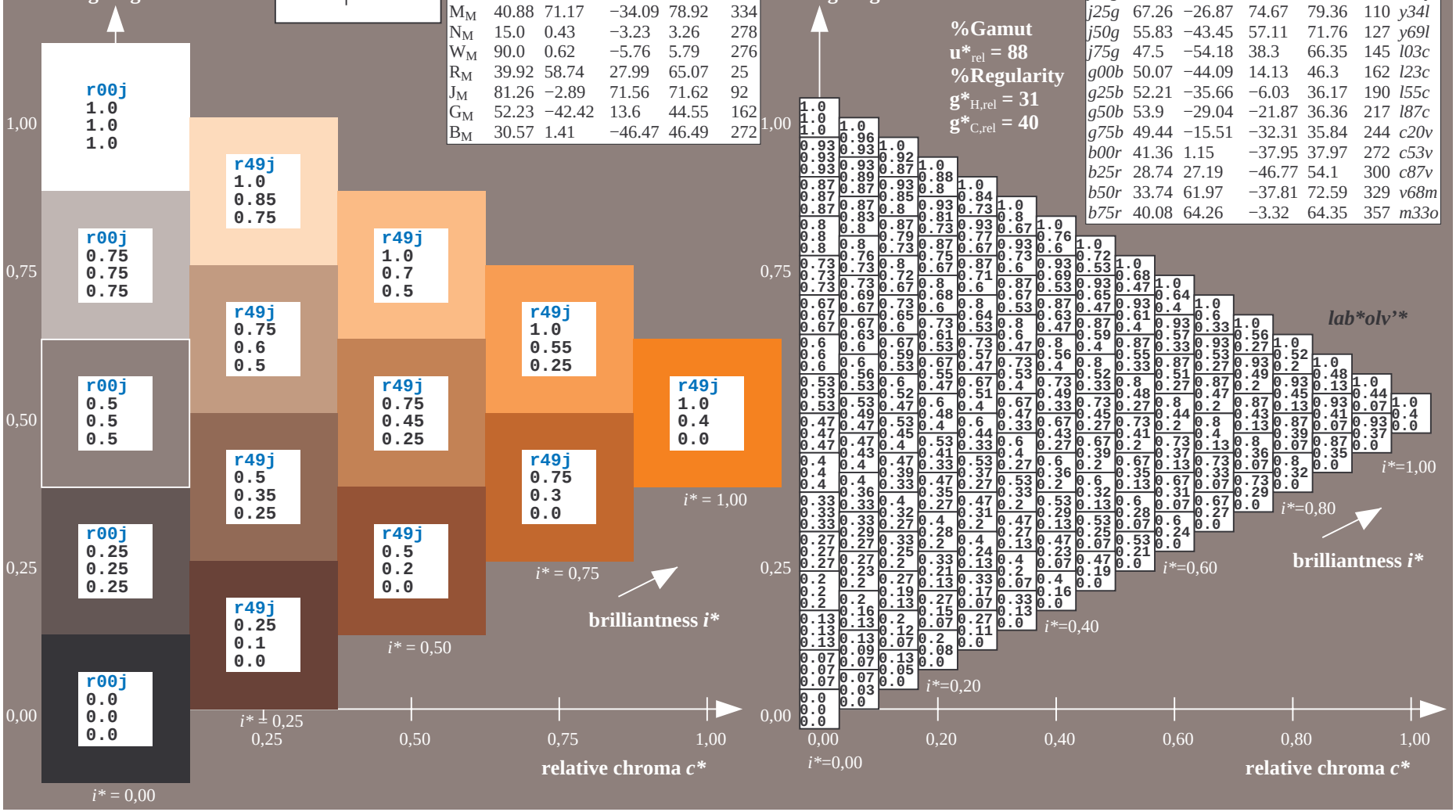
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 53 35 58**
***LAB*LCH*Ma*: 53 68 58**
***lab*rgb*Ma*: 1.0 0.5 0.0**
***lab*olv*Ma*: 1.0 0.4 0.0**
triangle lightness *t**

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

u^*_e = *r50j*
lab*olv'*

FRS15_90a; adapted (a) CIELAB data

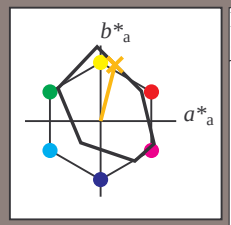
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

$u^*_e = r75j$
$lab^*olv'^*$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = r75j$ $u^*_d = o69y$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

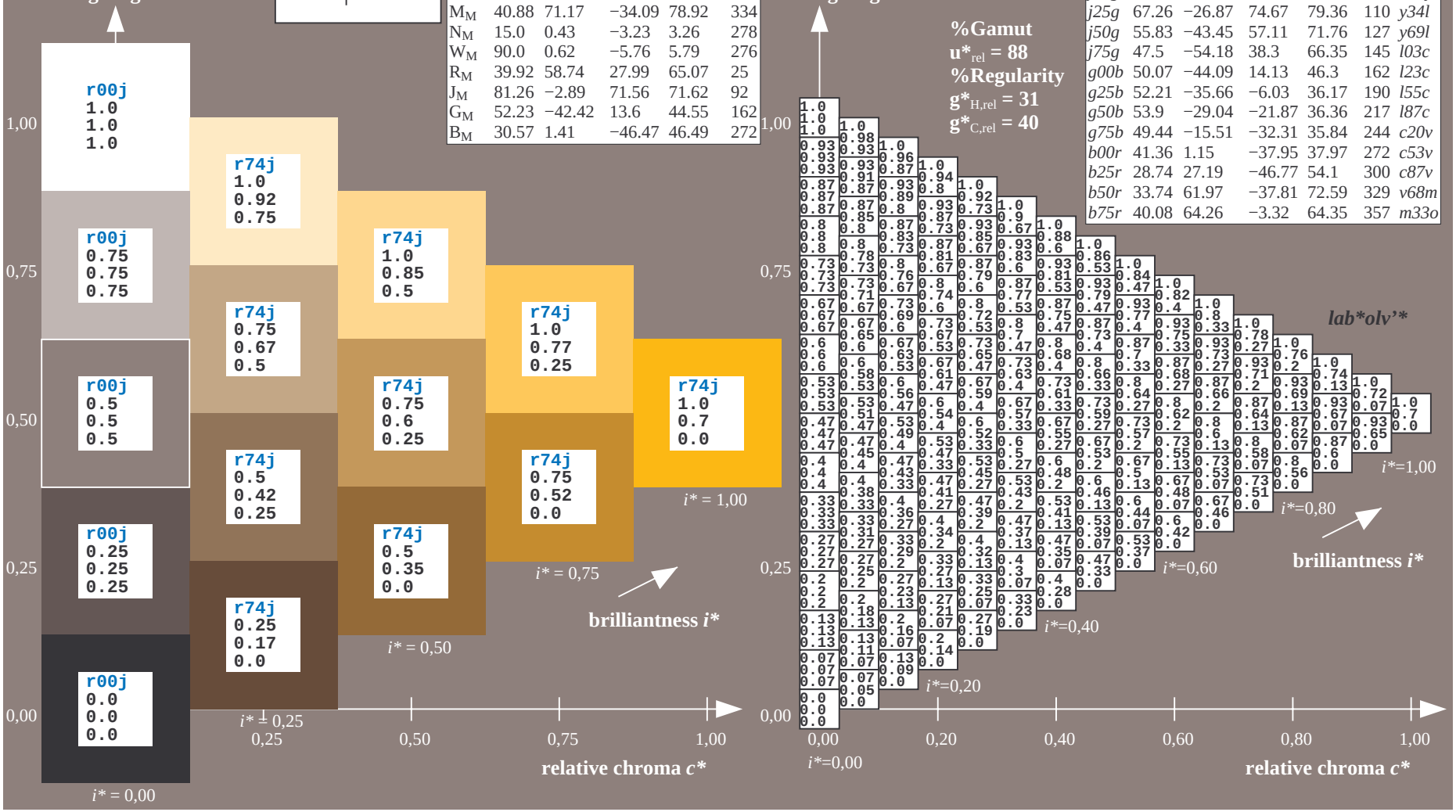
	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M		38.8	54.41	35.65	65.05	33
Y_M		82.58	−4.04	92.72	92.8	92
L_M		46.95	−55.83	39.15	68.19	145
C_M		54.62	−25.67	−33.25	42.01	232
V_M		20.01	45.64	−56.27	72.45	309
M_M		40.88	71.17	−34.09	78.92	334
N_M		15.0	0.43	−3.23	3.26	278
W_M		90.0	0.62	−5.76	5.79	276
R_M		39.92	58.74	27.99	65.07	25
J_M		81.26	−2.89	71.56	71.62	92
G_M		52.23	−42.42	13.6	44.55	162
B_M		30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 65 19 74**
***LAB*LCH*Ma*: 65 77 75**
***lab*rgb*Ma*: 1.0 0.75 0.0**
***lab*olv*Ma*: 1.0 0.7 0.0**
triangle lightness *t**

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

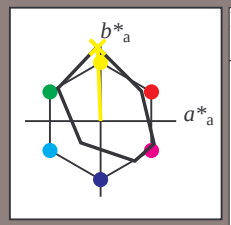
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.256$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j00g* u^*_d = *o98y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	

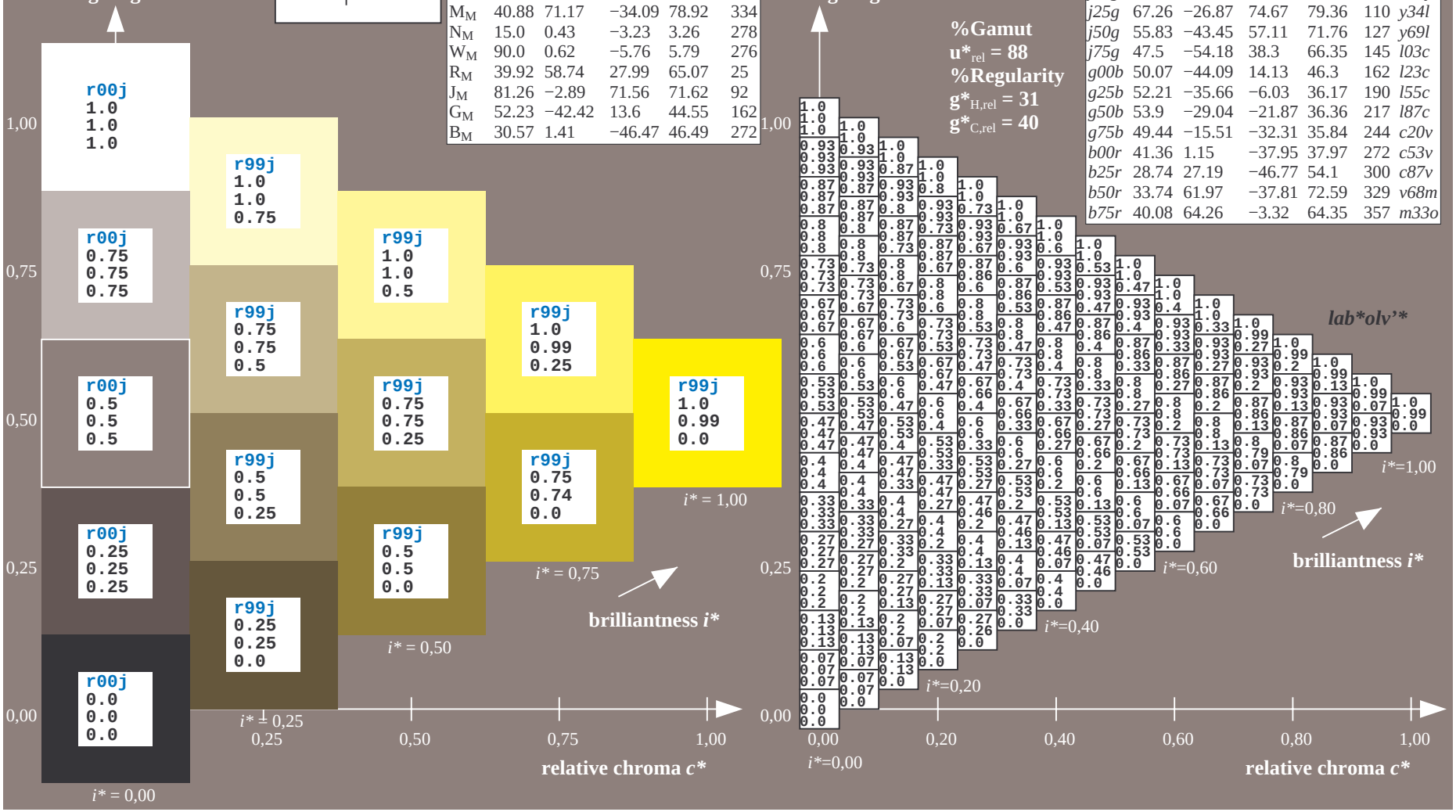
Data for maximum colour (Ma):
*LAB*LAB**$_{Ma}$: 82 −4 98
*LAB*LCH**$_{Ma}$: 82 98 92
*lab*rgb**$_{Ma}$: 1.0 1.0 0.0
*lab*olv**$_{Ma}$: 1.0 0.99 0.0
triangle lightness *t**

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

u^*_e = *j00g*
*lab*olv'**

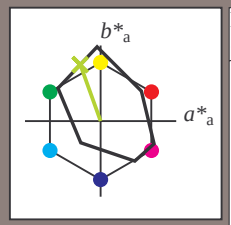
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *j25g* u^*_d = *y34l*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	

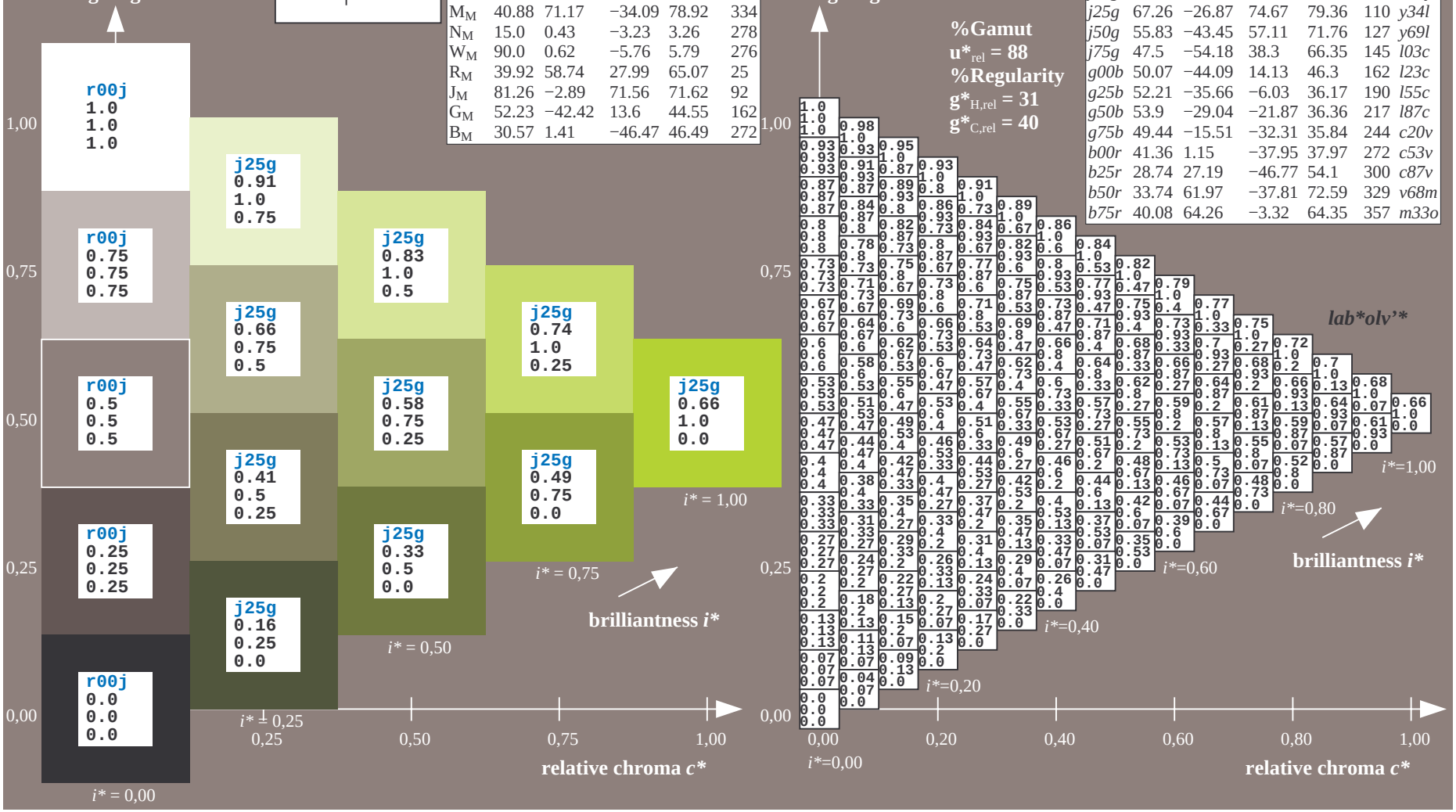
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 67 −27 75**
***LAB*LCH*Ma*: 67 79 109**
***lab*rgb*Ma*: 0.75 1.0 0.0**
***lab*olv*Ma*: 0.66 1.0 0.0**
triangle lightness *t**

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

u^*_e = *j25g*
lab*olv'*

FRS15_90a; adapted (a) CIELAB data

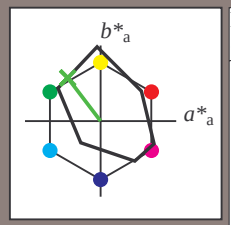
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.354$

$u^*_e = j50g$
$lab^*olv'^*$

data for any colour:
lab^*tch^* **and** lab^*icu^*
Hue texts:
$u^*_e = j50g \quad u^*_d = y69l$
contrast reduction factor:
$c_R = 0.9$
triangle lightness t^*



FRS15_90a; CIELAB data

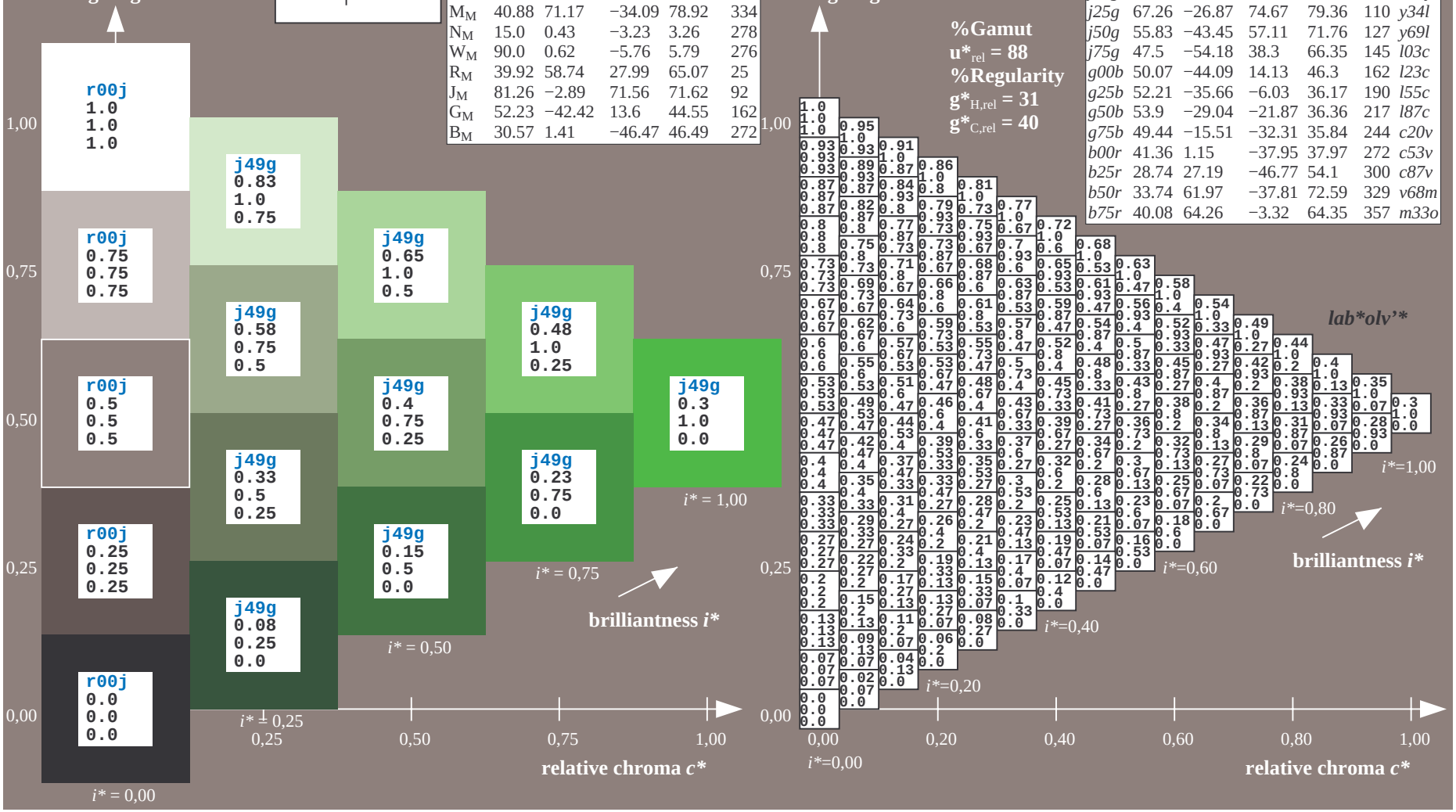
	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M		38.8	54.41	35.65	65.05	33
Y_M		82.58	−4.04	92.72	92.8	92
L_M		46.95	−55.83	39.15	68.19	145
C_M		54.62	−25.67	−33.25	42.01	232
V_M		20.01	45.64	−56.27	72.45	309
M_M		40.88	71.17	−34.09	78.92	334
N_M		15.0	0.43	−3.23	3.26	278
W_M		90.0	0.62	−5.76	5.79	276
R_M		39.92	58.74	27.99	65.07	25
J_M		81.26	−2.89	71.56	71.62	92
G_M		52.23	−42.42	13.6	44.55	162
B_M		30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
$LAB^*LAB^*_{Ma}$: 56 −43 57
$LAB^*LCH^*_{Ma}$: 56 72 127
$lab^*rgb^*_{Ma}$: 0.5 1.0 0.0
$lab^*olv^*_{Ma}$: 0.3 1.0 0.0
triangle lightness t^*

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

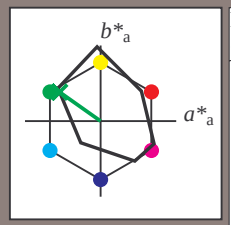
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *j75g* u^*_d = *l03c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M		38.8	54.41	35.65	65.05	33
Y_M		82.58	−4.04	92.72	92.8	92
L_M		46.95	−55.83	39.15	68.19	145
C_M		54.62	−25.67	−33.25	42.01	232
V_M		20.01	45.64	−56.27	72.45	309
M_M		40.88	71.17	−34.09	78.92	334
N_M		15.0	0.43	−3.23	3.26	278
W_M		90.0	0.62	−5.76	5.79	276
R_M		39.92	58.74	27.99	65.07	25
J_M		81.26	−2.89	71.56	71.62	92
G_M		52.23	−42.42	13.6	44.55	162
B_M		30.57	1.41	−46.47	46.49	272

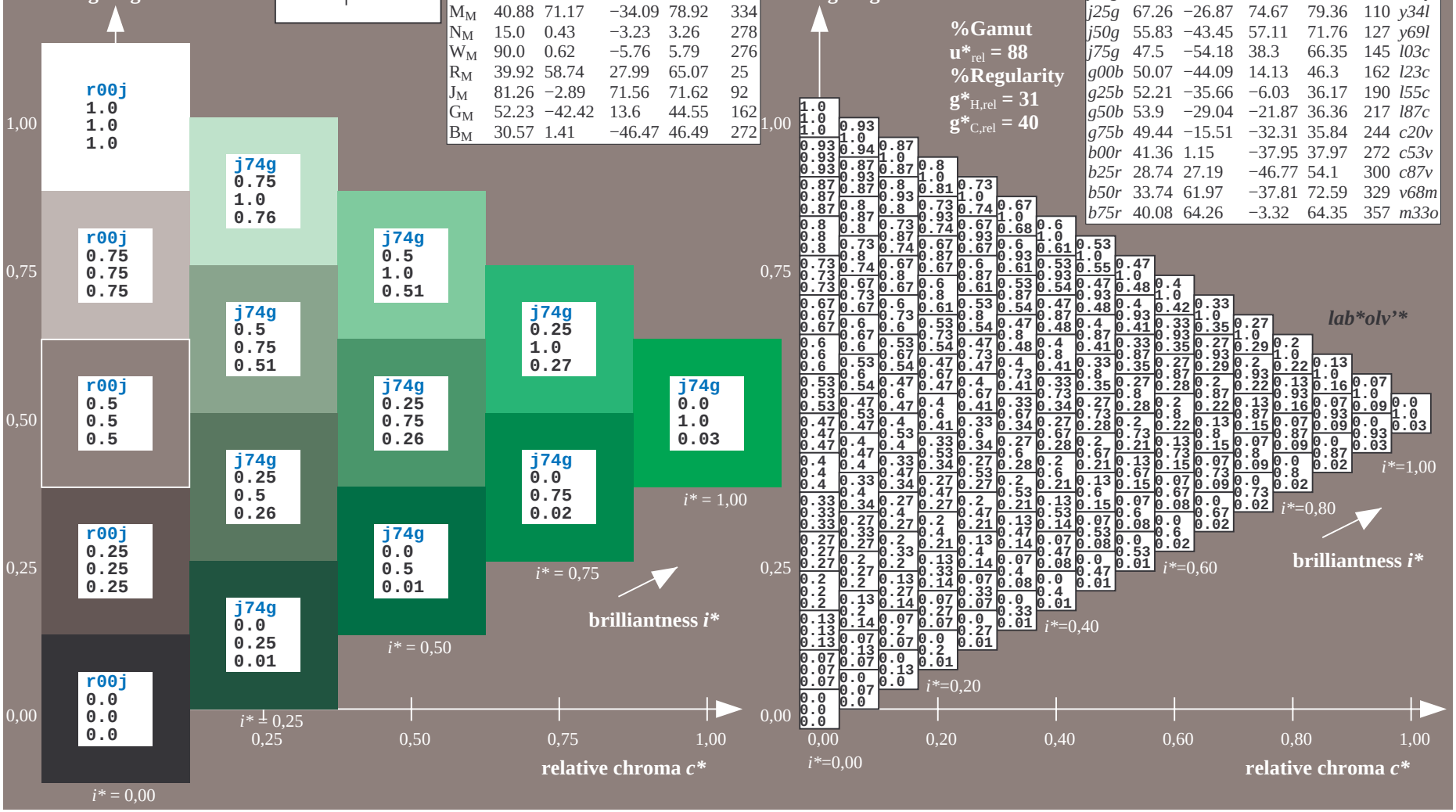
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 48 −54 38**
***LAB*LCH*Ma*: 48 66 144**
***lab*rgb*Ma*: 0.25 1.0 0.0**
***lab*olv*Ma*: 0.0 1.0 0.03**
triangle lightness *t**

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

u^*_e = *j75g*
lab*olv'*

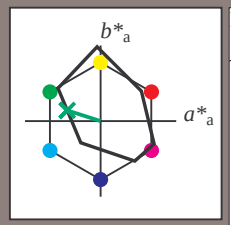
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *g00b* u^*_d = *l23c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M		38.8	54.41	35.65	65.05	33
Y_M		82.58	−4.04	92.72	92.8	92
L_M		46.95	−55.83	39.15	68.19	145
C_M		54.62	−25.67	−33.25	42.01	232
V_M		20.01	45.64	−56.27	72.45	309
M_M		40.88	71.17	−34.09	78.92	334
N_M		15.0	0.43	−3.23	3.26	278
W_M		90.0	0.62	−5.76	5.79	276
R_M		39.92	58.74	27.99	65.07	25
J_M		81.26	−2.89	71.56	71.62	92
G_M		52.23	−42.42	13.6	44.55	162
B_M		30.57	1.41	−46.47	46.49	272

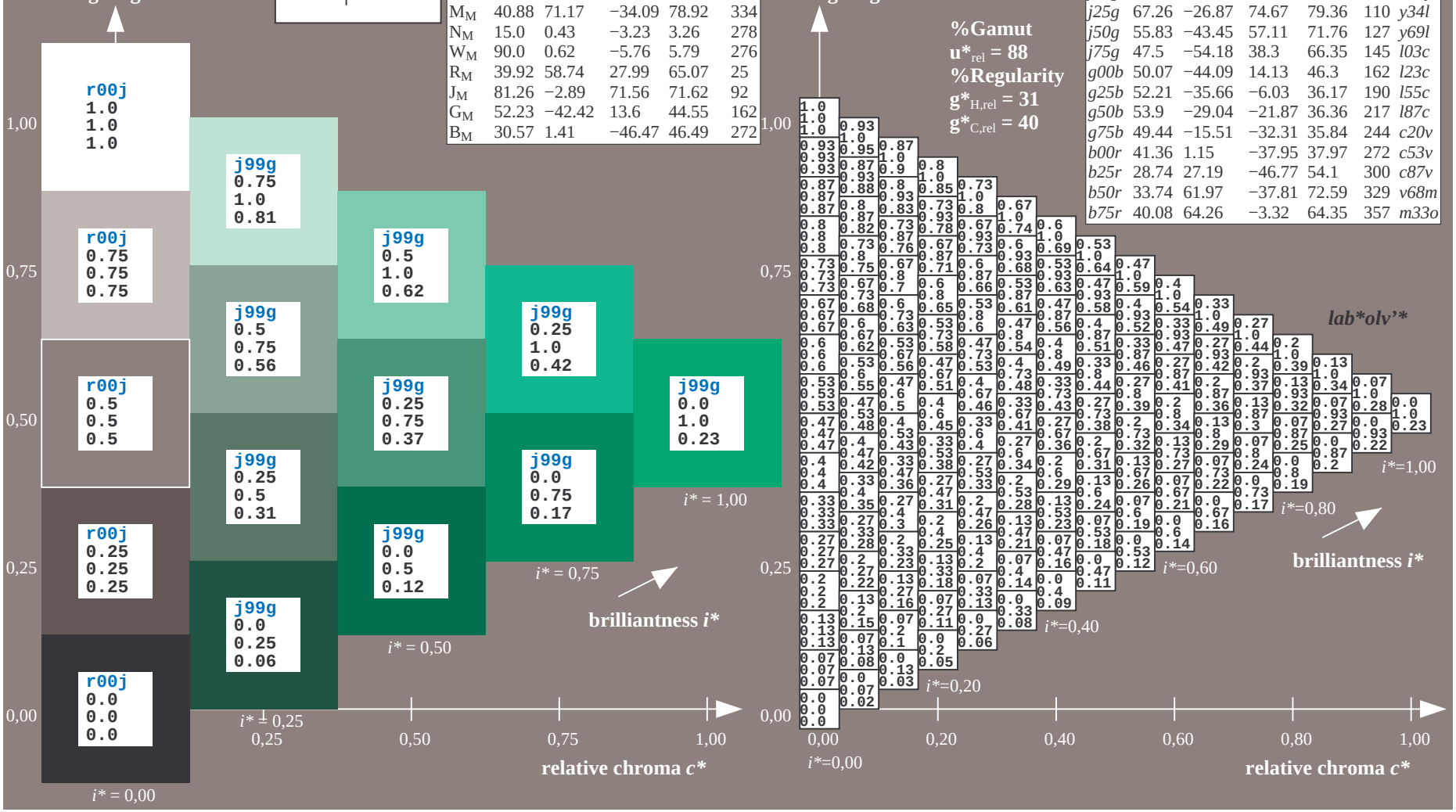
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 50 −44 14**
***LAB*LCH*Ma*: 50 46 162**
***lab*rgb*Ma*: 0.0 1.0 0.0**
***lab*olv*Ma*: 0.0 1.0 0.23**
triangle lightness *t**

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

u^*_e = *g00b*
lab*olv'*

FRS15_90a; adapted (a) CIELAB data

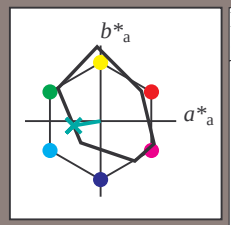
	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*	
r25j	42.41	49.1	44.5	66.26	42	*o10y*	
r50j	52.78	35.22	58.37	68.17	59	*o40y*	
r75j	64.82	19.12	74.47	76.89	76	*o69y*	
j00g	82.06	−3.94	97.52	97.6	92	*o98y*	
j25g	67.26	−26.87	74.67	79.36	110	*y34l*	
j50g	55.83	−43.45	57.11	71.76	127	*y69l*	
j75g	47.5	−54.18	38.3	66.35	145	*l03c*	
g00b	50.07	−44.09	14.13	46.3	162	*l23c*	
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*	
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*	
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*	
b00r	41.36	1.15	−37.95	37.97	272	*c53v*	
b25r	28.74	27.19	−46.77	54.1	300	*c87v*	
b50r	33.74	61.97	−37.81	72.59	329	*v68m*	
b75r	40.08	64.26	−3.32	64.35	357	*m33o*	



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

$u^*_e = g25b$
$lab^*olv'^*$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = g25b$ $u^*_d = l55c$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

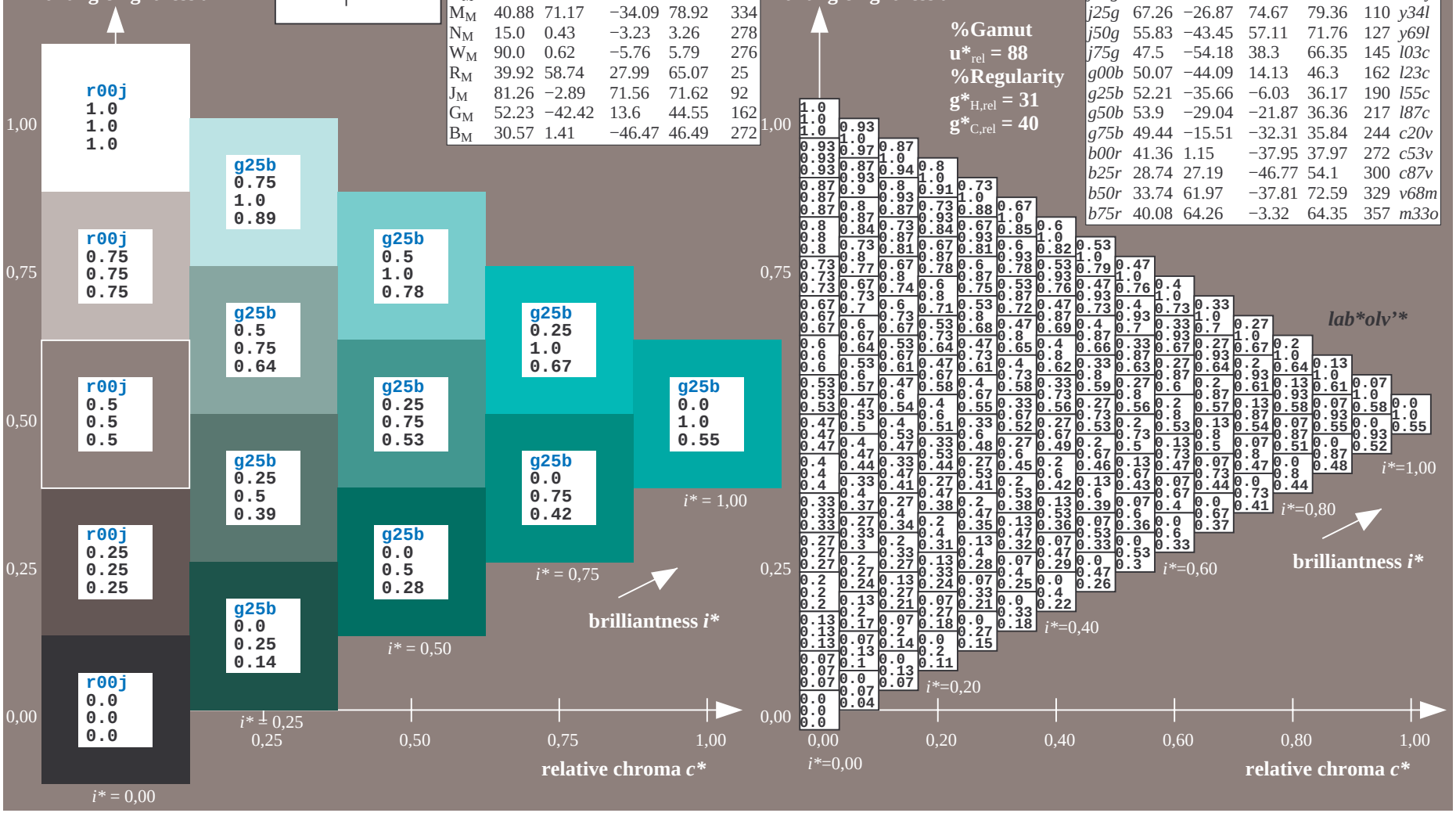
	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M		38.8	54.41	35.65	65.05	33
Y_M		82.58	−4.04	92.72	92.8	92
L_M		46.95	−55.83	39.15	68.19	145
C_M		54.62	−25.67	−33.25	42.01	232
V_M		20.01	45.64	−56.27	72.45	309
M_M		40.88	71.17	−34.09	78.92	334
N_M		15.0	0.43	−3.23	3.26	278
W_M		90.0	0.62	−5.76	5.79	276
R_M		39.92	58.74	27.99	65.07	25
J_M		81.26	−2.89	71.56	71.62	92
G_M		52.23	−42.42	13.6	44.55	162
B_M		30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
$LAB^*LAB^*_{Ma}$: 52 −36 −6
$LAB^*LCH^*_{Ma}$: 52 36 189
$lab^*rgb^*_{Ma}$: 0.0 1.0 0.5
$lab^*olv^*_{Ma}$: 0.0 1.0 0.55
triangle lightness *t**

FRS15_90a; adapted (a) CIELAB data

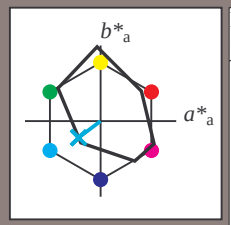
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*

%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 $h^* = lab^*h^* = h_{ab}/360 = 0.603$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *g50b* u^*_d = *l87c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M		38.8	54.41	35.65	65.05	33
Y_M		82.58	−4.04	92.72	92.8	92
L_M		46.95	−55.83	39.15	68.19	145
C_M		54.62	−25.67	−33.25	42.01	232
V_M		20.01	45.64	−56.27	72.45	309
M_M		40.88	71.17	−34.09	78.92	334
N_M		15.0	0.43	−3.23	3.26	278
W_M		90.0	0.62	−5.76	5.79	276
R_M		39.92	58.74	27.99	65.07	25
J_M		81.26	−2.89	71.56	71.62	92
G_M		52.23	−42.42	13.6	44.55	162
B_M		30.57	1.41	−46.47	46.49	272

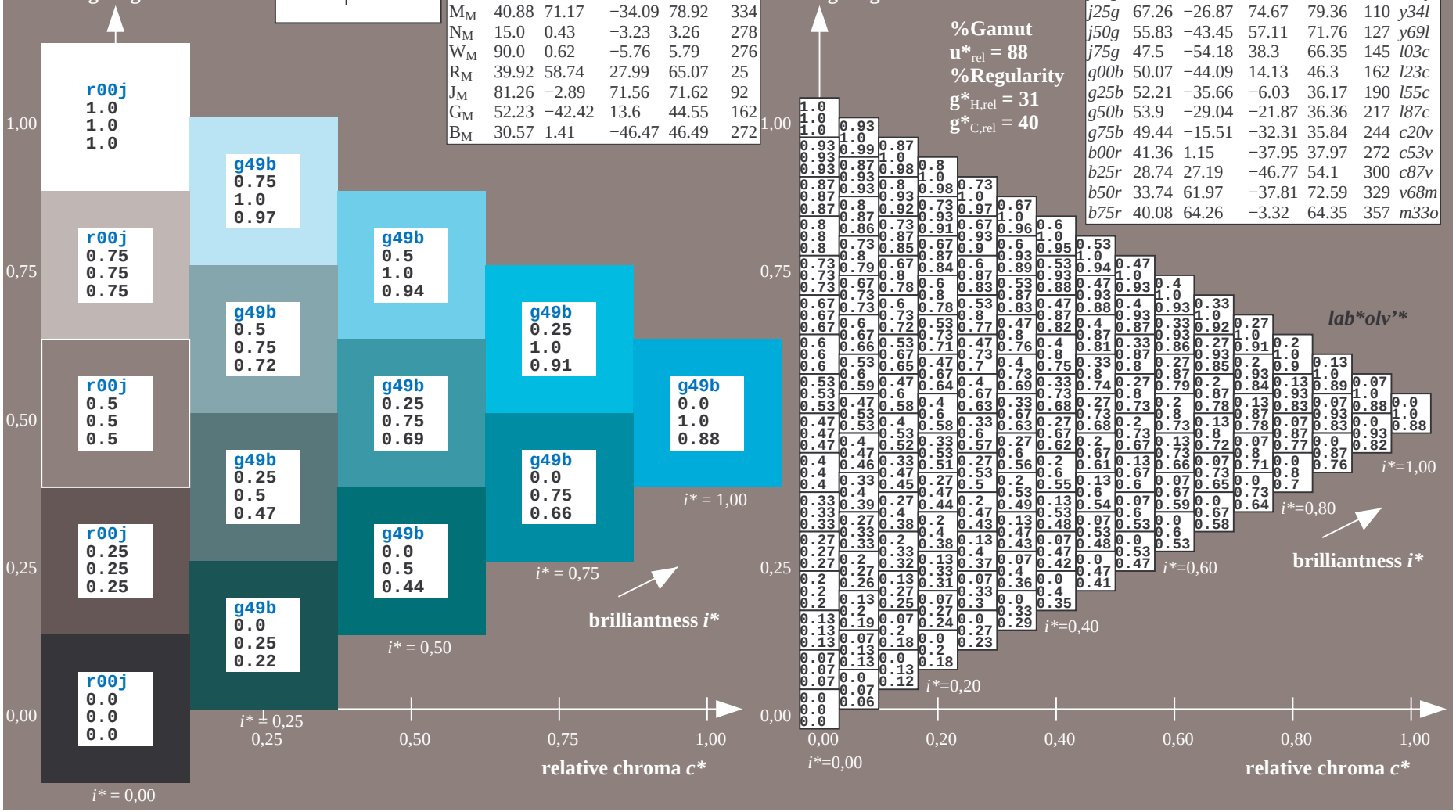
Data for maximum colour (Ma):
*LAB*LAB**$_{Ma}$: 54 −29 −22
*LAB*LCH**$_{Ma}$: 54 36 216
*lab*rgb**$_{Ma}$: 0.0 1.0 1.0
*lab*olv**$_{Ma}$: 0.0 1.0 0.88
triangle lightness *t**

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

u^*_e = *g50b*
*lab*olv'**

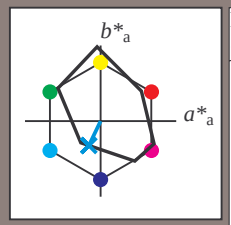
FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*	
r25j	42.41	49.1	44.5	66.26	42	*o10y*	
r50j	52.78	35.22	58.37	68.17	59	*o40y*	
r75j	64.82	19.12	74.47	76.89	76	*o69y*	
j00g	82.06	−3.94	97.52	97.6	92	*o98y*	
j25g	67.26	−26.87	74.67	79.36	110	*y34l*	
j50g	55.83	−43.45	57.11	71.76	127	*y69l*	
j75g	47.5	−54.18	38.3	66.35	145	*l03c*	
g00b	50.07	−44.09	14.13	46.3	162	*l23c*	
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*	
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*	
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*	
b00r	41.36	1.15	−37.95	37.97	272	*c53v*	
b25r	28.74	27.19	−46.77	54.1	300	*c87v*	
b50r	33.74	61.97	−37.81	72.59	329	*v68m*	
b75r	40.08	64.26	−3.32	64.35	357	*m33o*	



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.679$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *g75b* u^*_d = *c20v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M		38.8	54.41	35.65	65.05	33
Y_M		82.58	−4.04	92.72	92.8	92
L_M		46.95	−55.83	39.15	68.19	145
C_M		54.62	−25.67	−33.25	42.01	232
V_M		20.01	45.64	−56.27	72.45	309
M_M		40.88	71.17	−34.09	78.92	334
N_M		15.0	0.43	−3.23	3.26	278
W_M		90.0	0.62	−5.76	5.79	276
R_M		39.92	58.74	27.99	65.07	25
J_M		81.26	−2.89	71.56	71.62	92
G_M		52.23	−42.42	13.6	44.55	162
B_M		30.57	1.41	−46.47	46.49	272

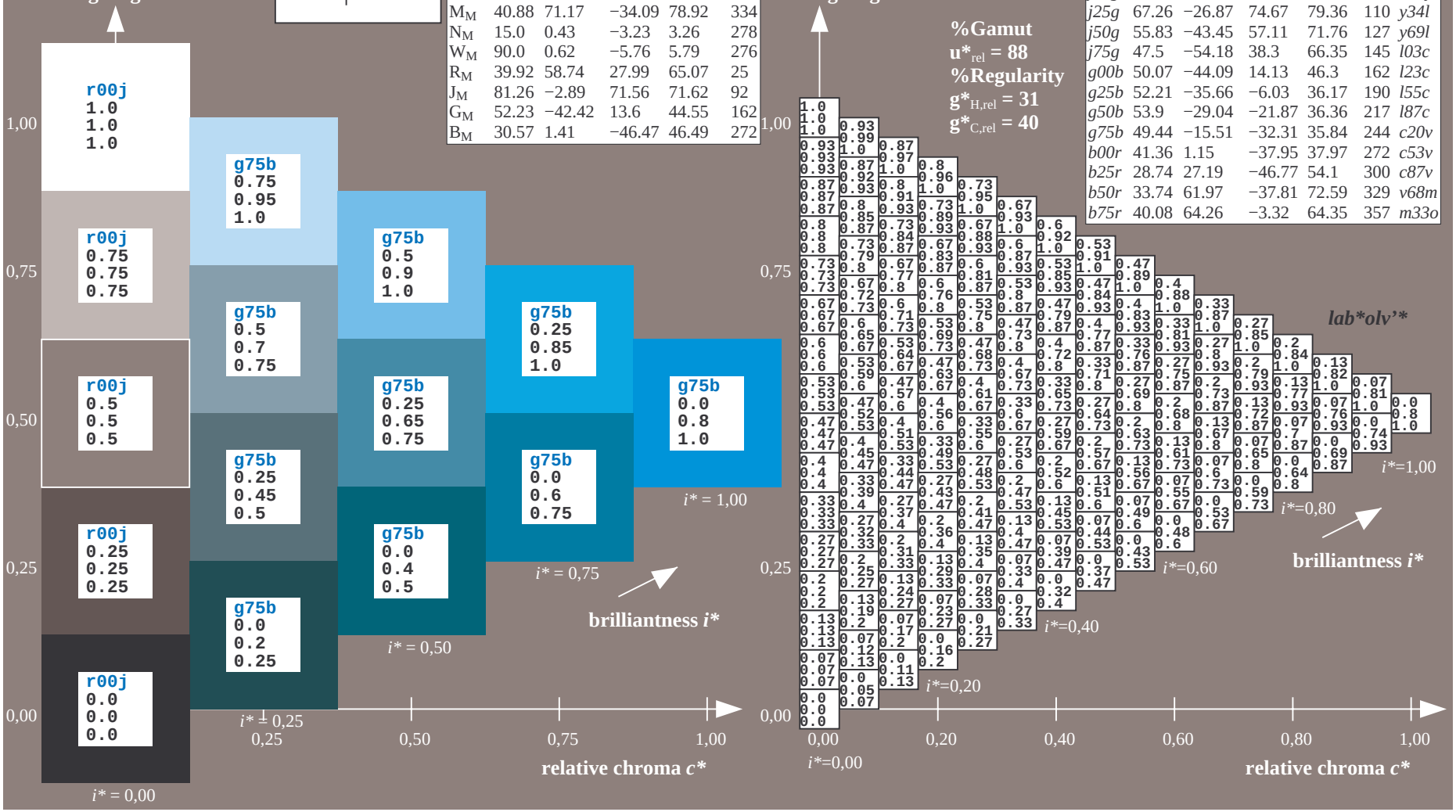
Data for maximum colour (Ma):
*LAB*LAB**$_{Ma}$: 49 −16 −32
*LAB*LCH**$_{Ma}$: 49 36 244
*lab*rgb**$_{Ma}$: 0.0 0.5 1.0
*lab*olv**$_{Ma}$: 0.0 0.8 1.0
triangle lightness *t**

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

u^*_e = *g75b*
*lab*olv'**

FRS15_90a; adapted (a) CIELAB data

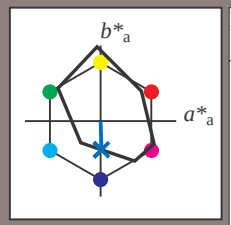
	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j		39.18	56.94	27.13	63.07	25	*m81o*
r25j		42.41	49.1	44.5	66.26	42	*o10y*
r50j		52.78	35.22	58.37	68.17	59	*o40y*
r75j		64.82	19.12	74.47	76.89	76	*o69y*
j00g		82.06	−3.94	97.52	97.6	92	*o98y*
j25g		67.26	−26.87	74.67	79.36	110	*y34l*
j50g		55.83	−43.45	57.11	71.76	127	*y69l*
j75g		47.5	−54.18	38.3	66.35	145	*l03c*
g00b		50.07	−44.09	14.13	46.3	162	*l23c*
g25b		52.21	−35.66	−6.03	36.17	190	*l55c*
g50b		53.9	−29.04	−21.87	36.36	217	*l87c*
g75b		49.44	−15.51	−32.31	35.84	244	*c20v*
b00r		41.36	1.15	−37.95	37.97	272	*c53v*
b25r		28.74	27.19	−46.77	54.1	300	*c87v*
b50r		33.74	61.97	−37.81	72.59	329	*v68m*
b75r		40.08	64.26	−3.32	64.35	357	*m33o*



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

$u^*_e = b00r$
$lab^*olv'^*$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = b00r$ $u^*_d = c53v$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

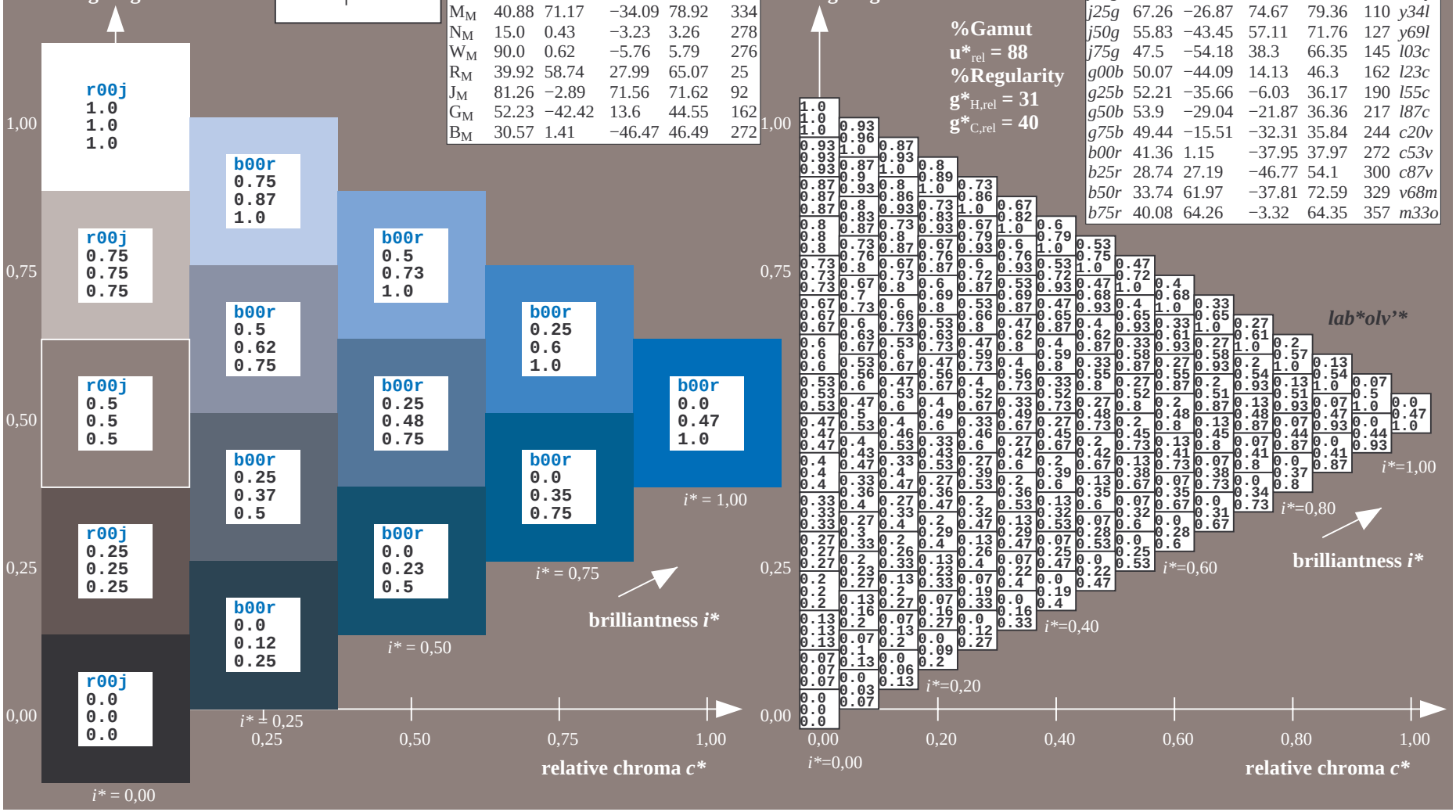
	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	

Data for maximum colour (Ma):
$LAB^*LAB^*_{Ma}$: 41 1 −38
$LAB^*LCH^*_{Ma}$: 41 38 271
$lab^*rgb^*_{Ma}$: 0.0 0.0 1.0
$lab^*olv^*_{Ma}$: 0.0 0.47 1.0
triangle lightness *t**

FRS15_90a; adapted (a) CIELAB data

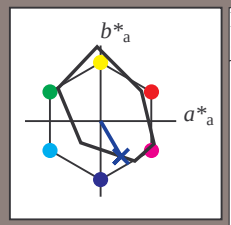
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*

%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 $h^* = lab^*h^* = h_{ab}/360 = 0.834$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *b25r* u^*_d = *c87v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	

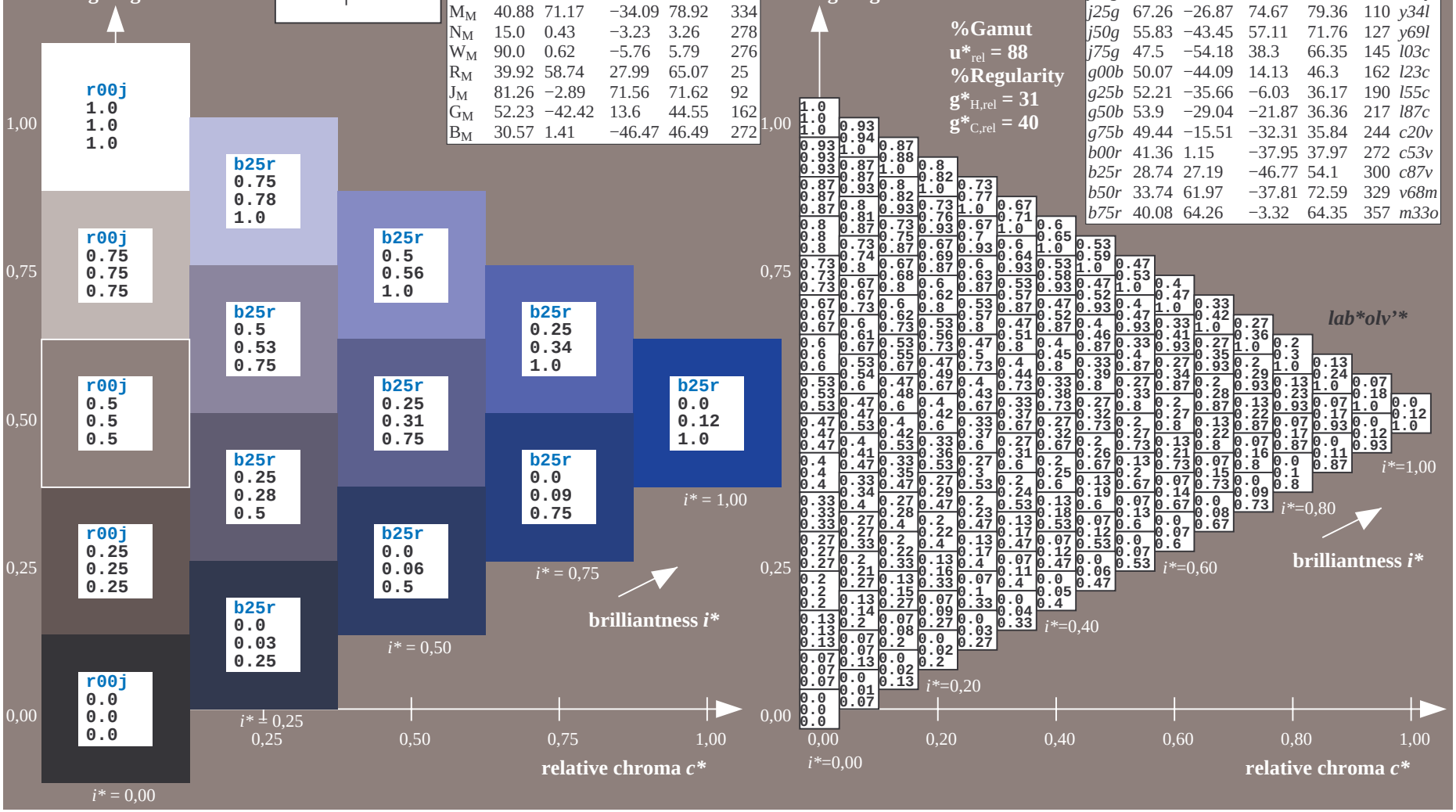
Data for maximum colour (Ma):
LAB*LAB**Ma: 29 27 −47
LAB*LCH**Ma: 29 54 300
lab*rgb**Ma: 0.5 0.0 1.0
lab*olv**Ma: 0.0 0.12 1.0
triangle lightness *t**

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

u^*_e = *b25r*
lab*olv'*

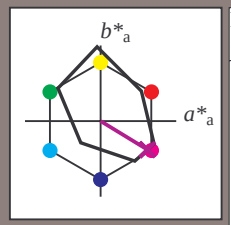
FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25		*m81o*
r25j	42.41	49.1	44.5	66.26	42		*o10y*
r50j	52.78	35.22	58.37	68.17	59		*o40y*
r75j	64.82	19.12	74.47	76.89	76		*o69y*
j00g	82.06	−3.94	97.52	97.6	92		*o98y*
j25g	67.26	−26.87	74.67	79.36	110		*y34l*
j50g	55.83	−43.45	57.11	71.76	127		*y69l*
j75g	47.5	−54.18	38.3	66.35	145		*l03c*
g00b	50.07	−44.09	14.13	46.3	162		*l23c*
g25b	52.21	−35.66	−6.03	36.17	190		*l55c*
g50b	53.9	−29.04	−21.87	36.36	217		*l87c*
g75b	49.44	−15.51	−32.31	35.84	244		*c20v*
b00r	41.36	1.15	−37.95	37.97	272		*c53v*
b25r	28.74	27.19	−46.77	54.1	300		*c87v*
b50r	33.74	61.97	−37.81	72.59	329		*v68m*
b75r	40.08	64.26	−3.32	64.35	357		*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.913$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *b50r* u^*_d = *v68m*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

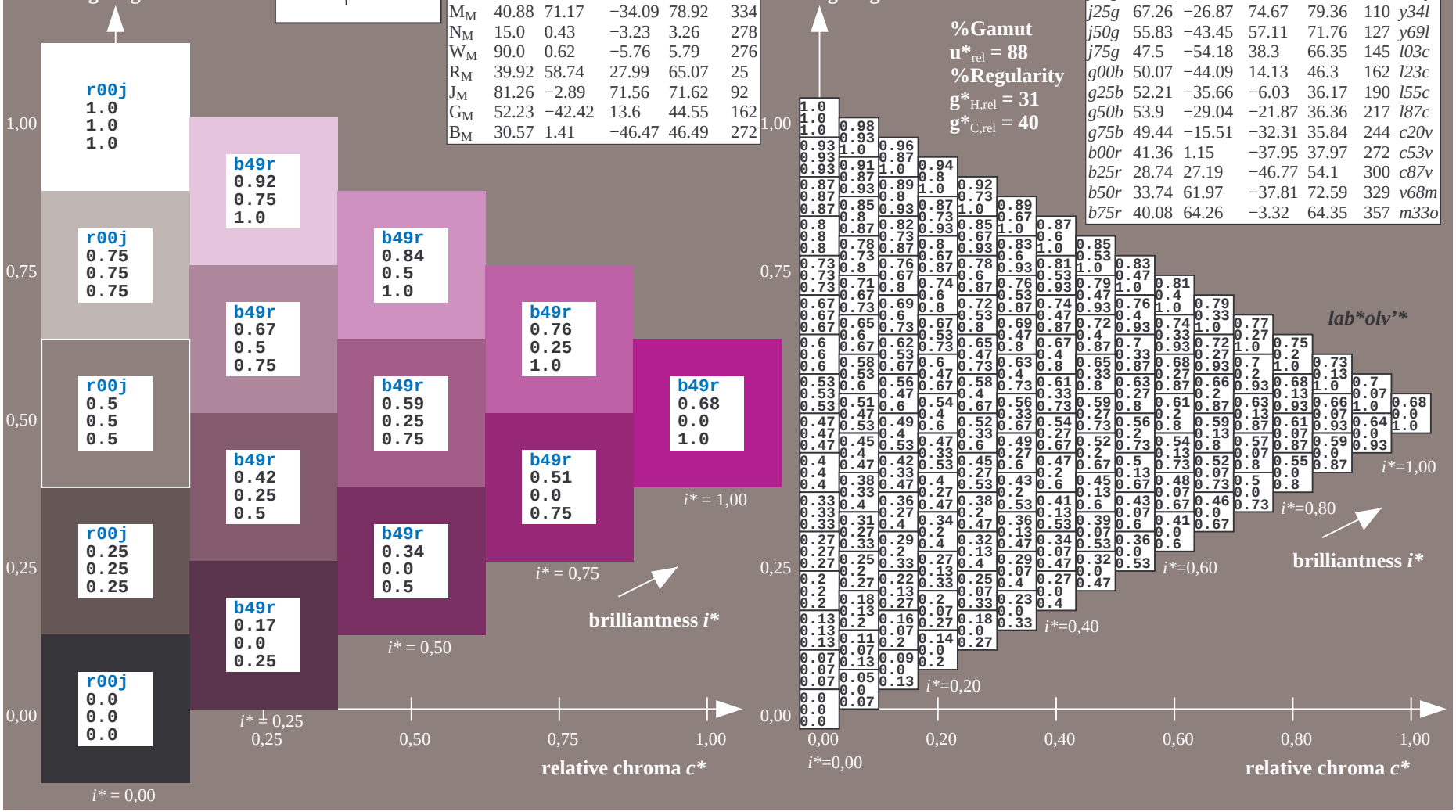
	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 34 62 −38**
***LAB*LCH*Ma*: 34 73 328**
***lab*rgb*Ma*: 1.0 0.0 1.0**
***lab*olv*Ma*: 0.68 0.0 1.0**
triangle lightness *t**

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

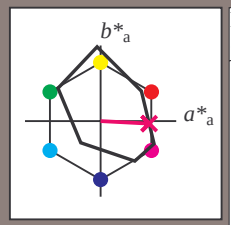
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.992$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *b75r* u^*_d = *m33o*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	

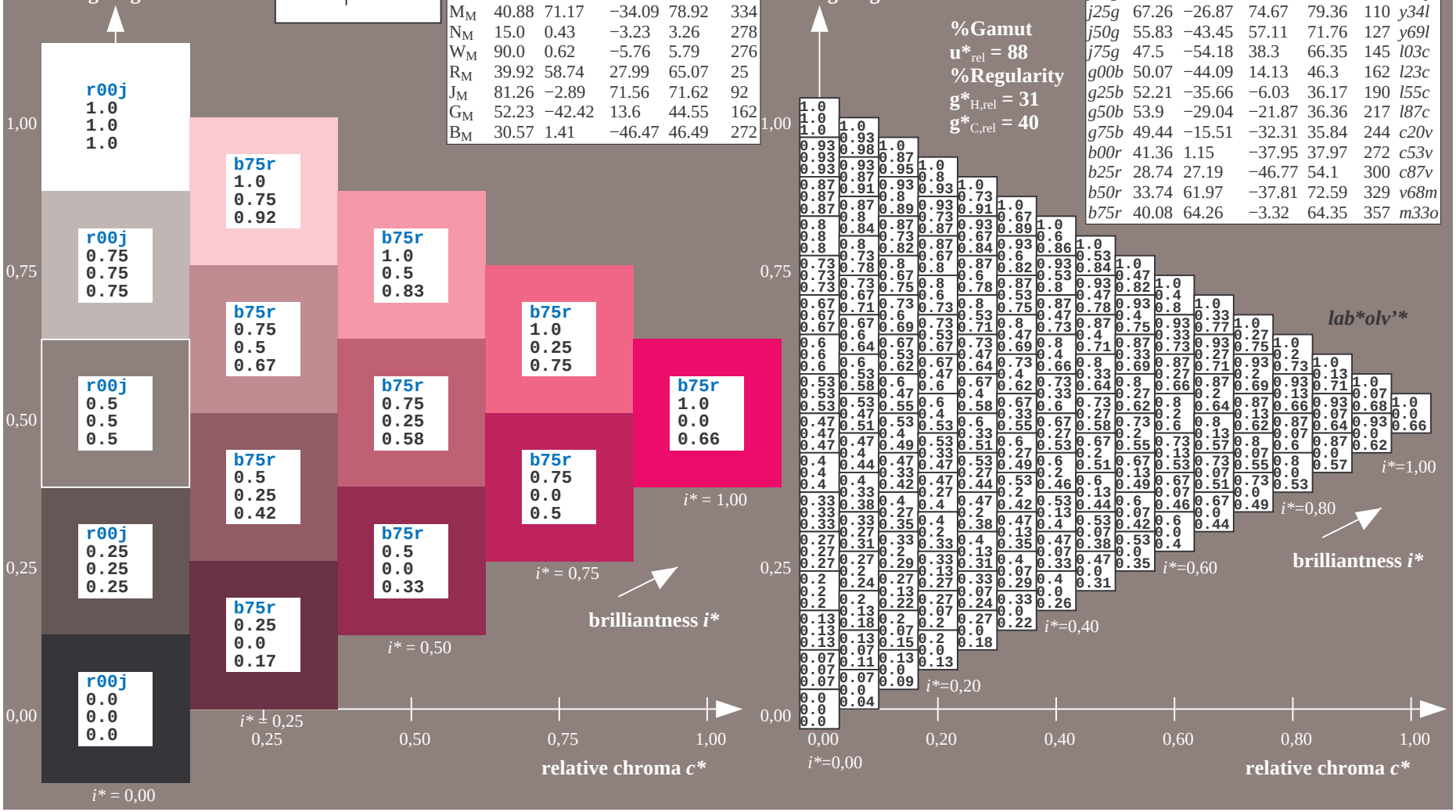
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 40 64 −3**
***LAB*LCH*Ma*: 40 64 357**
***lab*rgb*Ma*: 1.0 0.0 0.5**
***lab*olv*Ma*: 1.0 0.0 0.66**
triangle lightness *t**

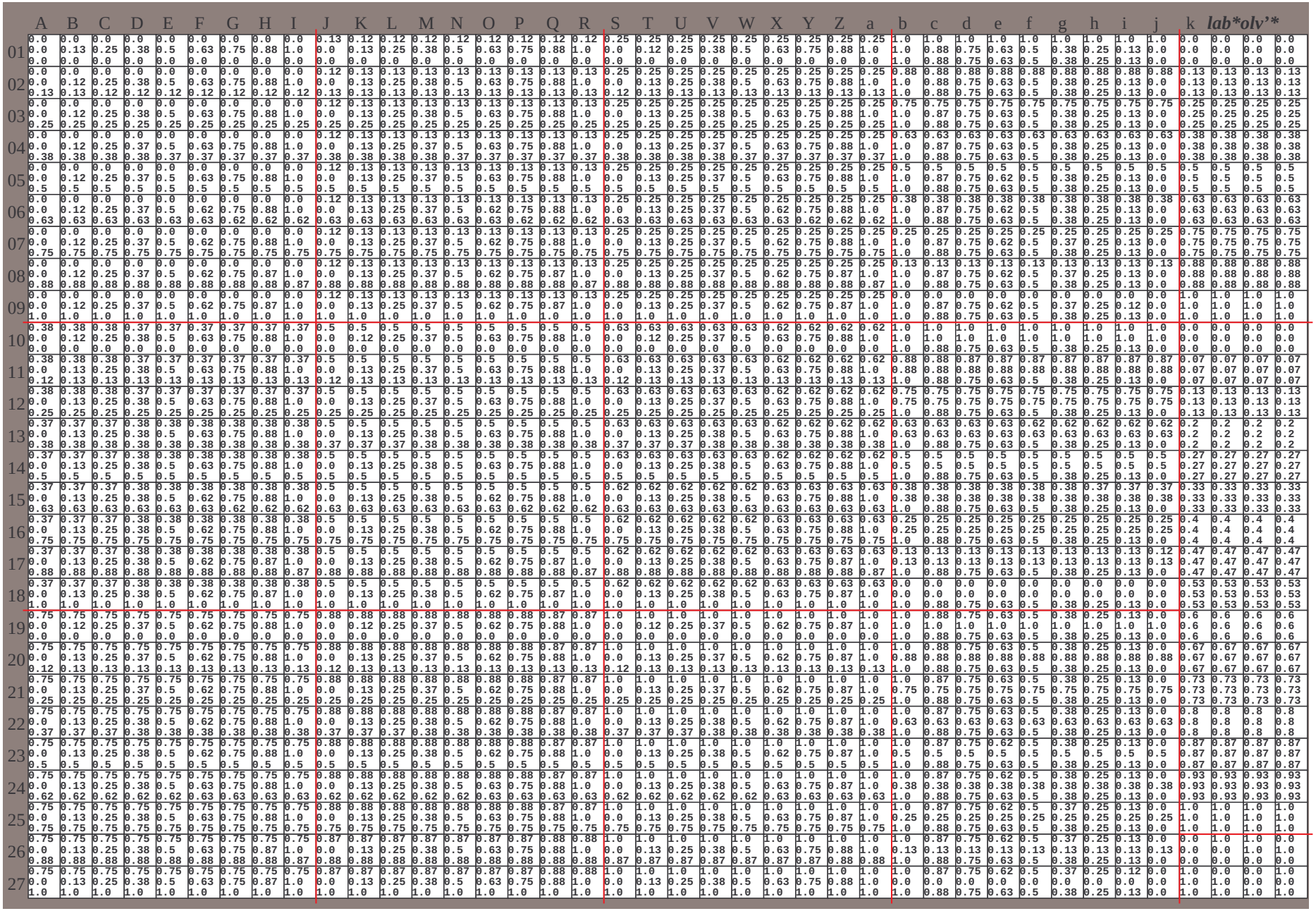
%Gamut
u^*_{rel} = 88
%Regularity
$g^*_{H,rel}$ = 31
$g^*_{C,rel}$ = 40

u^*_e = *b75r*
lab*olv'*

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*

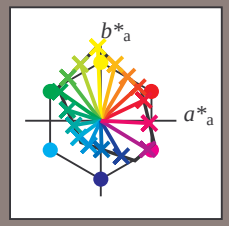



A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k
lab*olv'*
01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27

Input and output:
Colorimetric Printer Reflective System FRS15_90a
data for any colour:
u^*_e and number *no.* = 00 .. 15
elementary hue text:
u^*_e = 16 hues *r00j, r25j, ..., b75r*
contrast reduction factor:
c_R = 0.9

FRS15_90a; adapted (a) CIELAB data

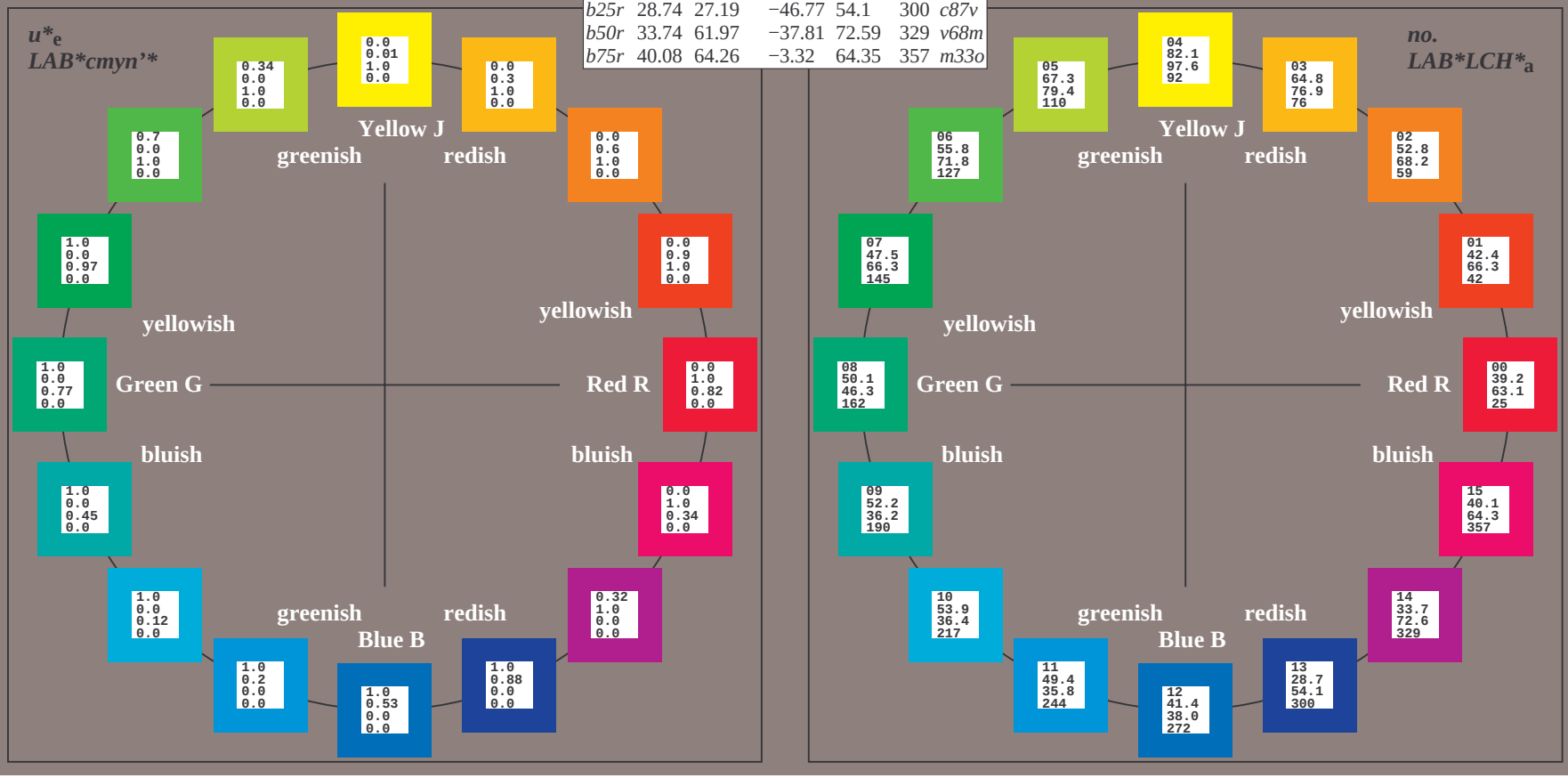
u^*_e	$L^*{=}L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

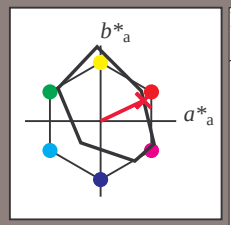
FRS15_90a; CIELAB data

Name	$L^*{=}L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.89	71.56	71.62	92
G_{CIE}	52.23	−42.42	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.47	46.49	272



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *r00j* u^*_d = *m81o*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	

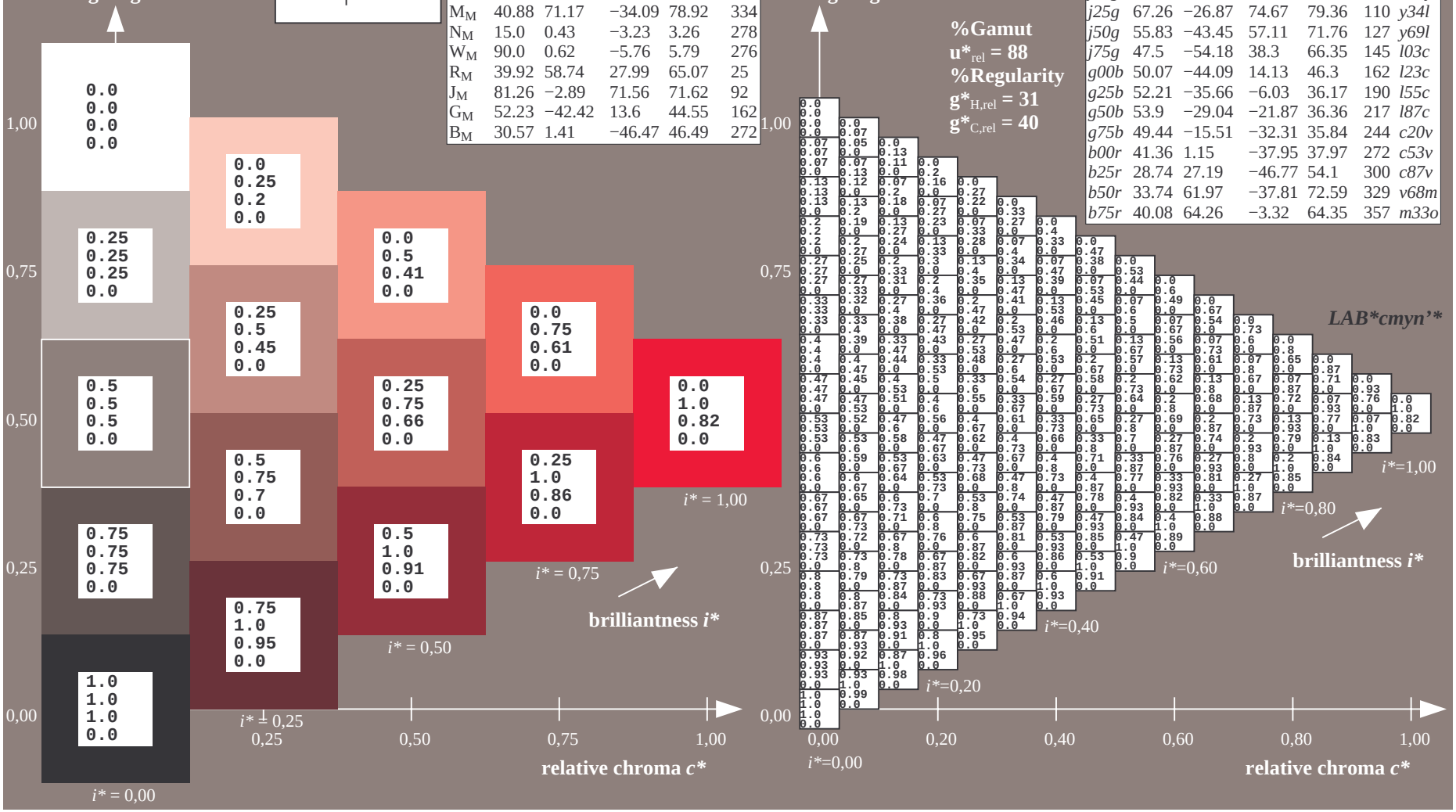
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 39 57 27**
***LAB*LCH*Ma*: 39 63 25**
***lab*rgb*Ma*: 1.0 0.0 0.0**
***lab*olv*Ma*: 1.0 0.0 0.18**
triangle lightness *t**

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

u^*_e = *r00j*
LAB*cmyn'*

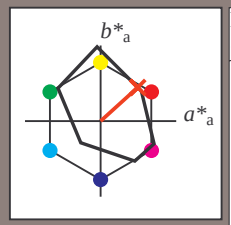
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.117$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *r25j* u^*_d = *o10y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_M	39.92	58.74	27.99	65.07	25
J_M	81.26	−2.89	71.56	71.62	92
G_M	52.23	−42.42	13.6	44.55	162
B_M	30.57	1.41	−46.47	46.49	272

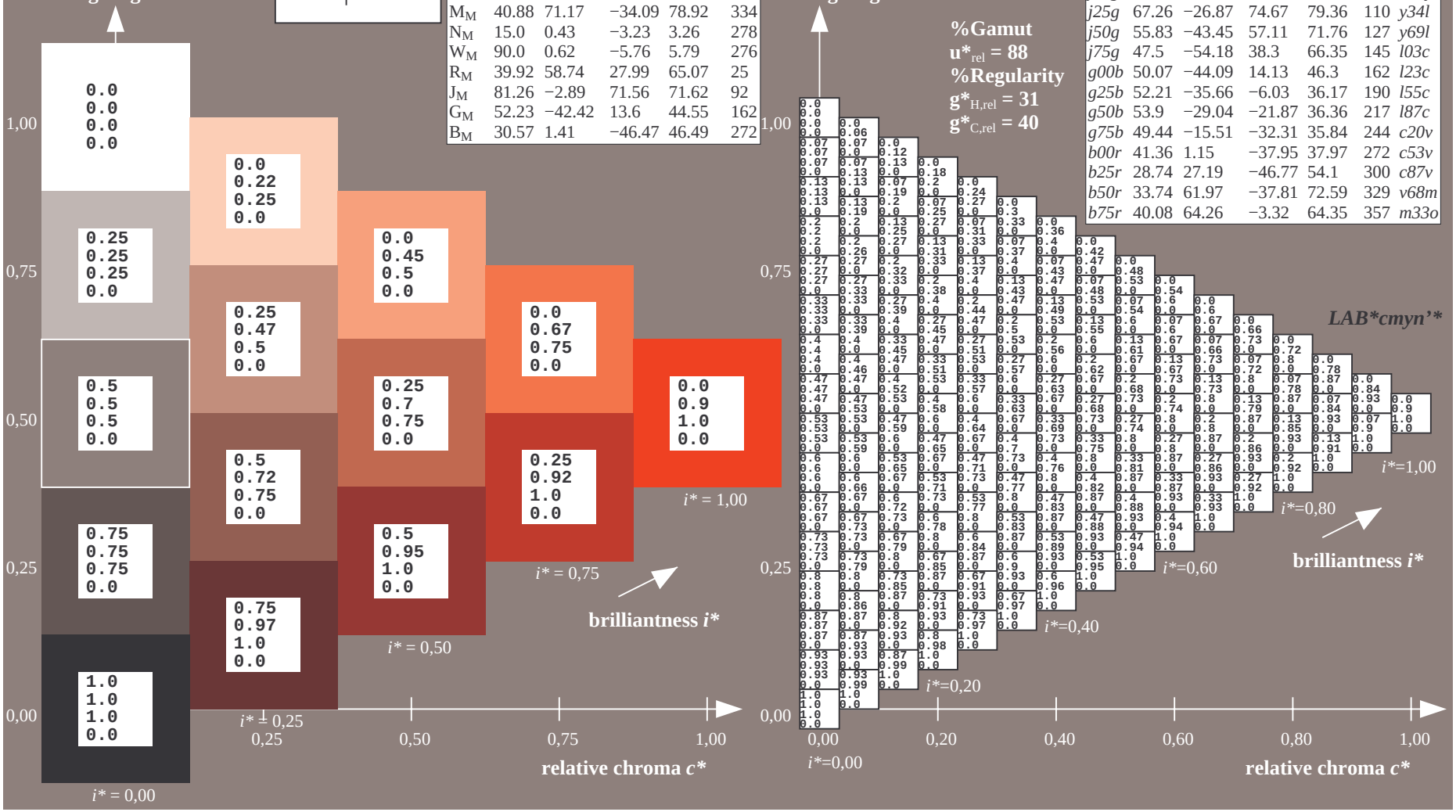
Data for maximum colour (Ma):
LAB*LAB**Ma**: 42 49 44
LAB*LCH**Ma**: 42 66 42
lab*rgb**Ma**: 1.0 0.25 0.0
lab*olv**Ma**: 1.0 0.1 0.0
triangle lightness *t**

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

u^*_e = *r25j*
LAB*cmyn'*

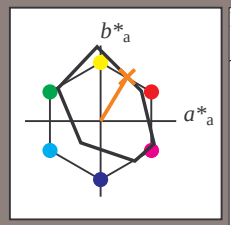
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *r50j* u^*_d = *o40y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_M	39.92	58.74	27.99	65.07	25
J_M	81.26	−2.89	71.56	71.62	92
G_M	52.23	−42.42	13.6	44.55	162
B_M	30.57	1.41	−46.47	46.49	272

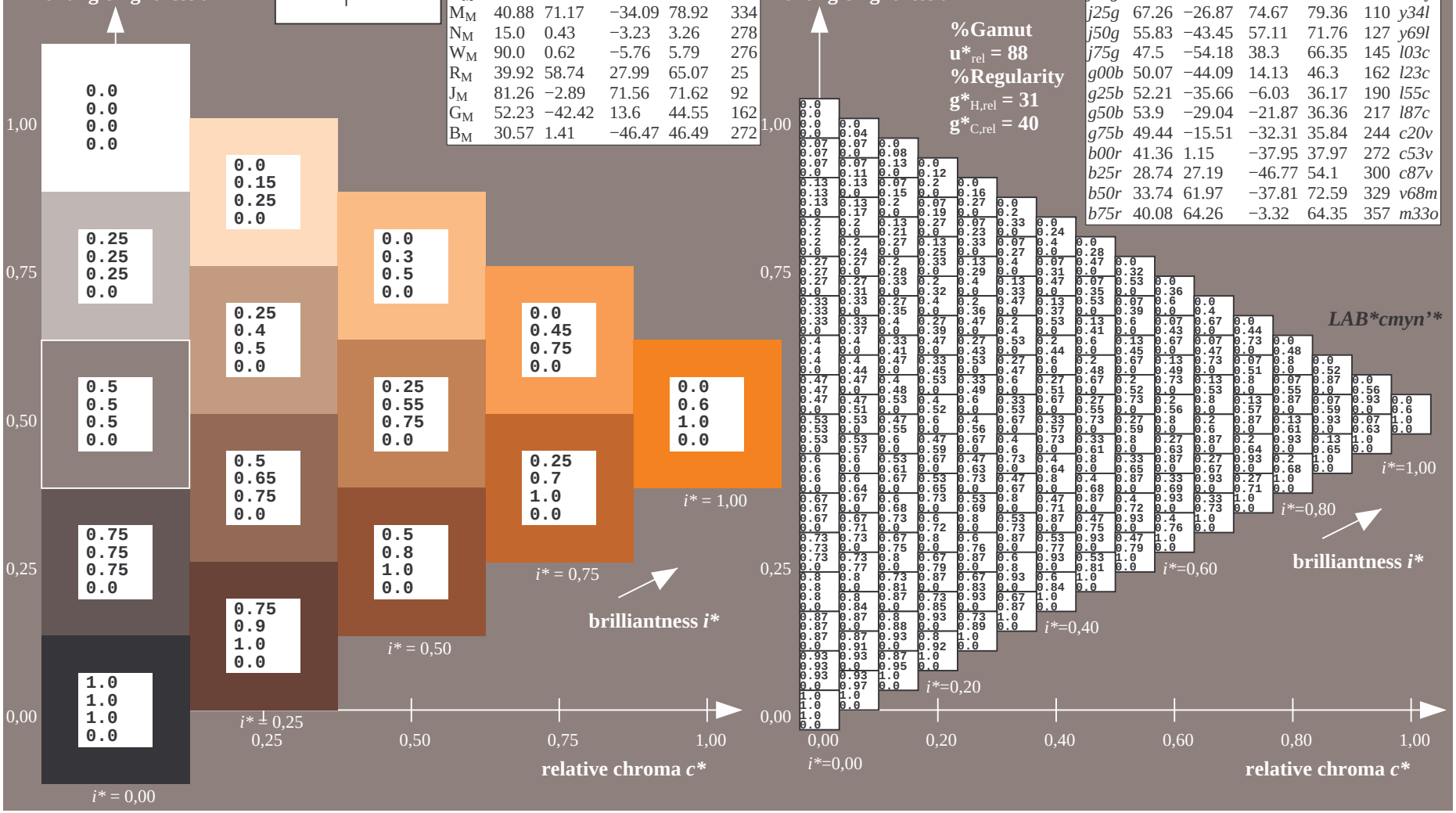
Data for maximum colour (Ma):
LAB*LAB**Ma**: 53 35 58
LAB*LCH**Ma**: 53 68 58
lab*rgb**Ma**: 1.0 0.5 0.0
lab*olv**Ma**: 1.0 0.4 0.0
triangle lightness *t**

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

u^*_e = *r50j*
LAB*cmyn'*

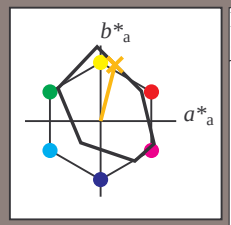
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *r75j* u^*_d = *o69y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_M	39.92	58.74	27.99	65.07	25
J_M	81.26	−2.89	71.56	71.62	92
G_M	52.23	−42.42	13.6	44.55	162
B_M	30.57	1.41	−46.47	46.49	272

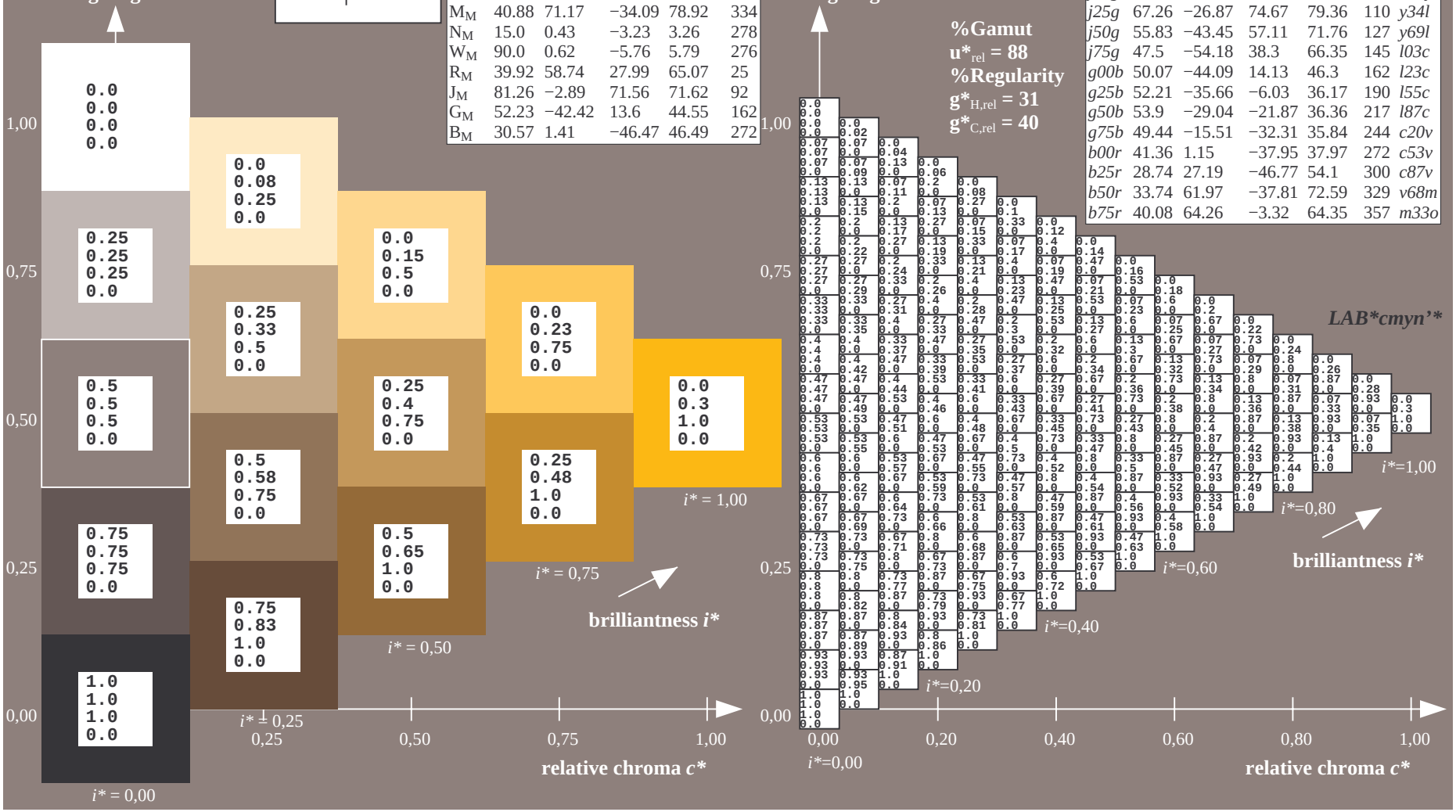
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 65 19 74**
***LAB*LCH*Ma*: 65 77 75**
***lab*rgb*Ma*: 1.0 0.75 0.0**
***lab*olv*Ma*: 1.0 0.7 0.0**
triangle lightness *t**

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

u^*_e = *r75j*
LAB*cmyn'*

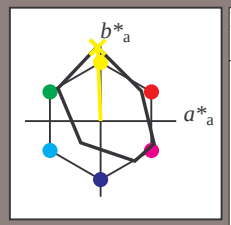
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.256$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j00g* u^*_d = *o98y*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	

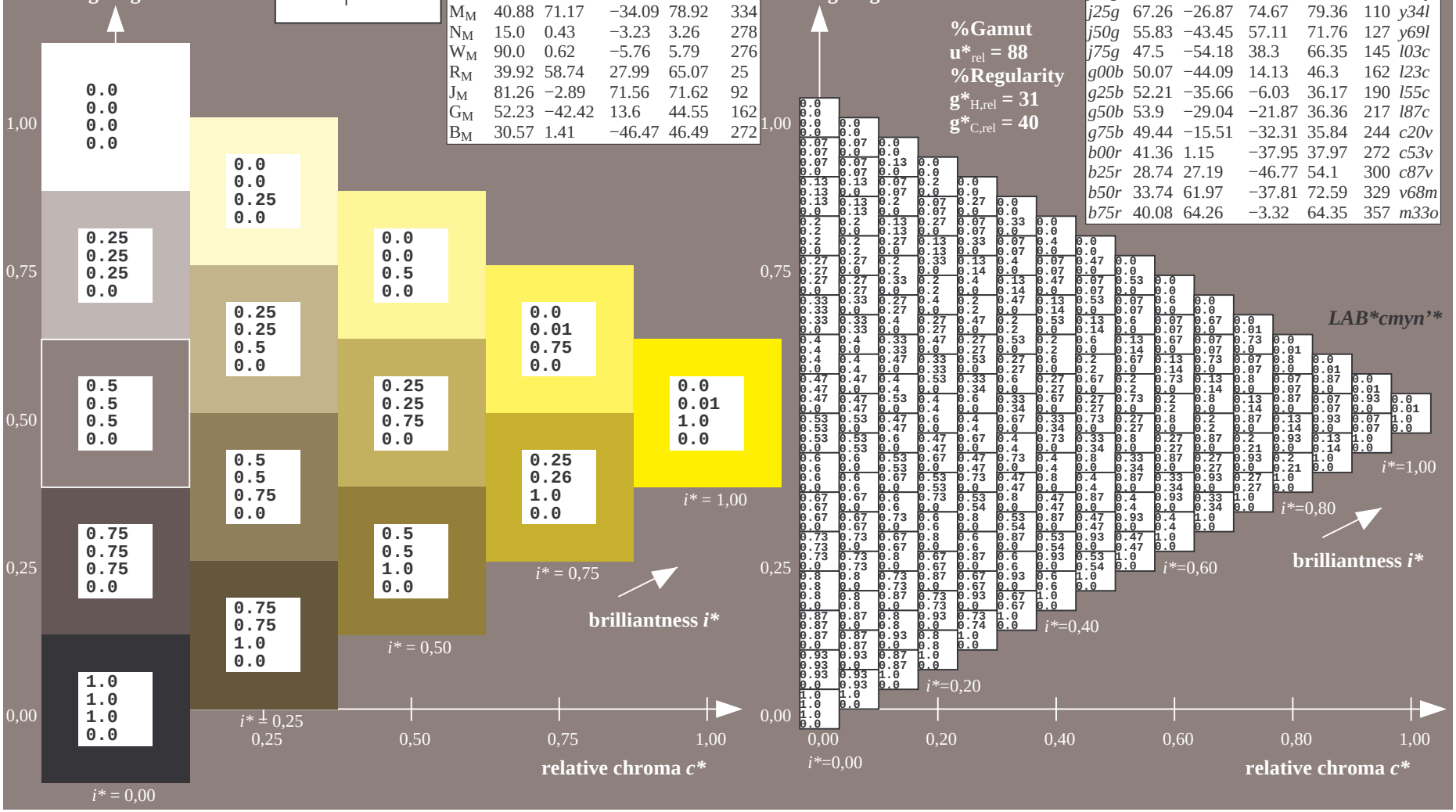
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 82 −4 98**
***LAB*LCH*Ma*: 82 98 92**
***lab*rgb*Ma*: 1.0 1.0 0.0**
***lab*olv*Ma*: 1.0 0.99 0.0**
triangle lightness *t**

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

u^*_e = *j00g*
LAB*cmyn'*

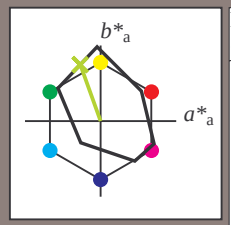
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j25g* u^*_d = *y34l*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

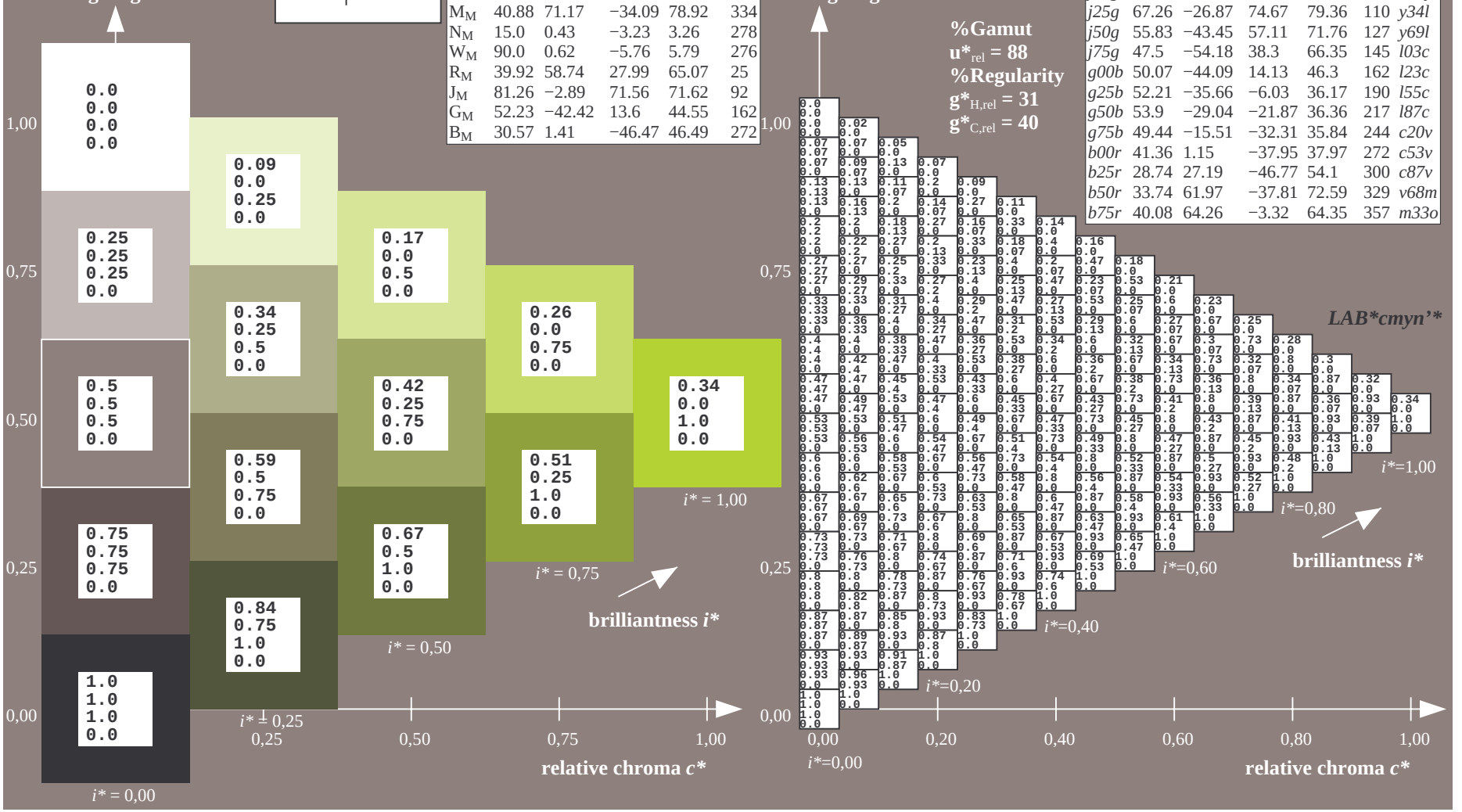
u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_M	39.92	58.74	27.99	65.07	25
J_M	81.26	−2.89	71.56	71.62	92
G_M	52.23	−42.42	13.6	44.55	162
B_M	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
LAB*LAB**Ma: 67 −27 75
LAB*LCH**Ma: 67 79 109
lab*rgb**Ma: 0.75 1.0 0.0
lab*olv**Ma: 0.66 1.0 0.0
triangle lightness *t**

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

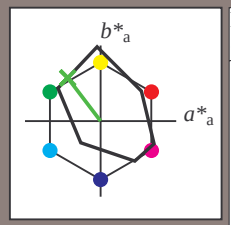
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.354$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *j50g* u^*_d = *y69l*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M		38.8	54.41	35.65	65.05	33
Y_M		82.58	−4.04	92.72	92.8	92
L_M		46.95	−55.83	39.15	68.19	145
C_M		54.62	−25.67	−33.25	42.01	232
V_M		20.01	45.64	−56.27	72.45	309
M_M		40.88	71.17	−34.09	78.92	334
N_M		15.0	0.43	−3.23	3.26	278
W_M		90.0	0.62	−5.76	5.79	276
R_M		39.92	58.74	27.99	65.07	25
J_M		81.26	−2.89	71.56	71.62	92
G_M		52.23	−42.42	13.6	44.55	162
B_M		30.57	1.41	−46.47	46.49	272

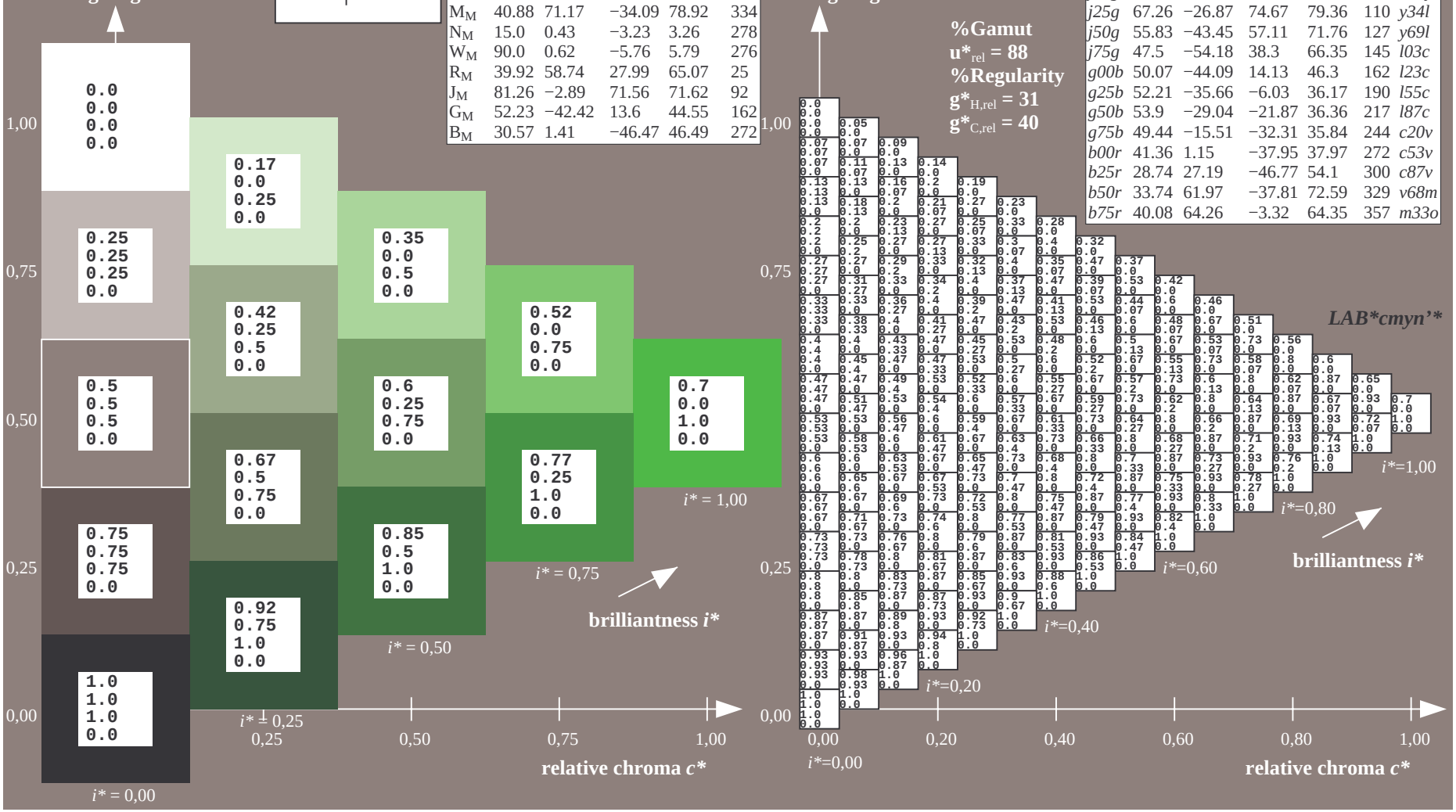
Data for maximum colour (Ma):
LAB*LAB**Ma**: 56 −43 57
LAB*LCH**Ma**: 56 72 127
lab*rgb**Ma**: 0.5 1.0 0.0
lab*olv**Ma**: 0.3 1.0 0.0
triangle lightness *t**

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

u^*_e = *j50g*
LAB*cmyn'*

FRS15_90a; adapted (a) CIELAB data

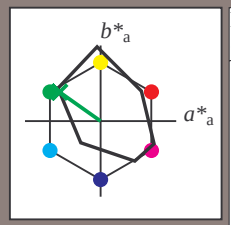
u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

$u^*_e = j75g$
$LAB^*cmyn'^*$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
$u^*_e = j75g$ $u^*_d = l03c$
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

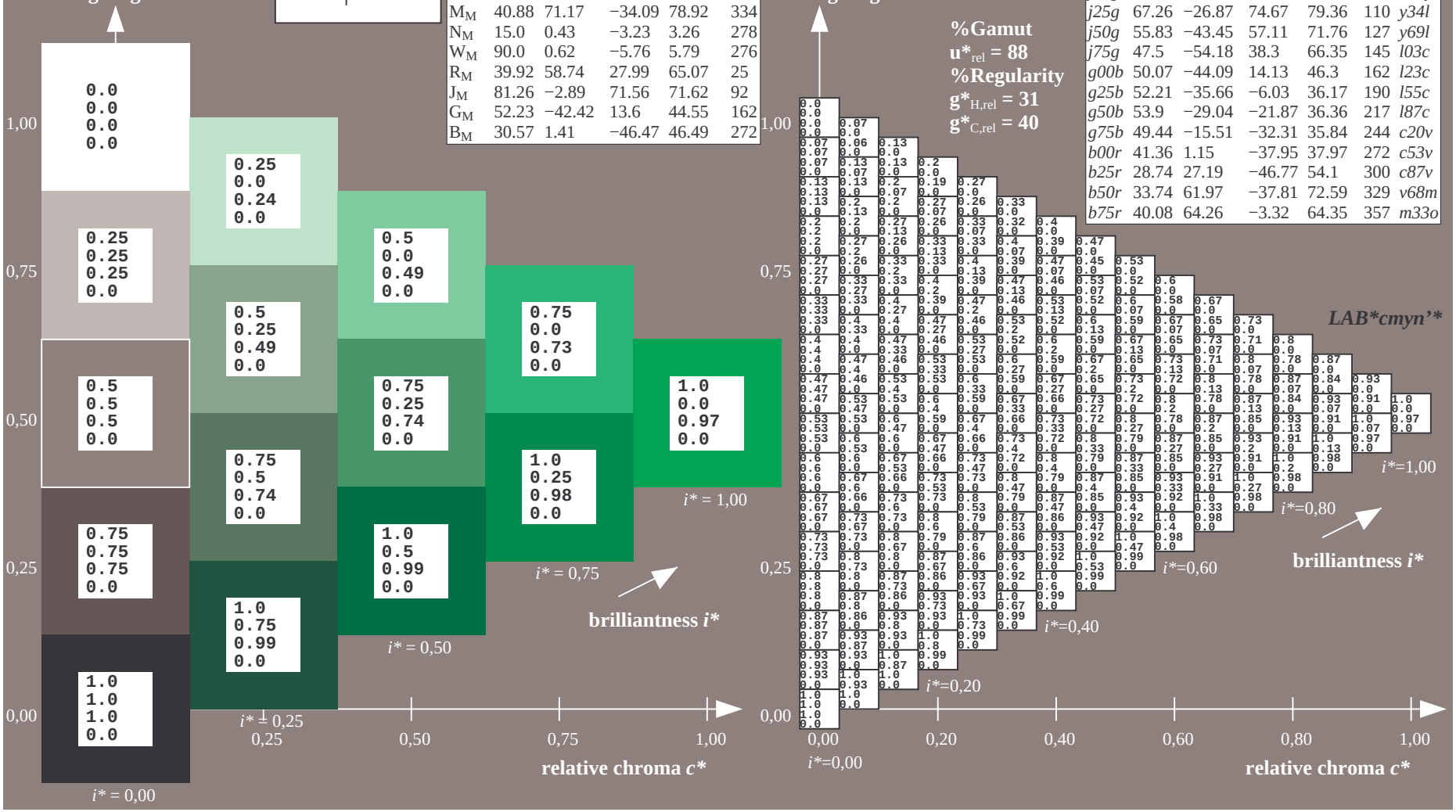
u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_M	39.92	58.74	27.99	65.07	25
J_M	81.26	−2.89	71.56	71.62	92
G_M	52.23	−42.42	13.6	44.55	162
B_M	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):
***LAB*LAB*Ma*: 48 −54 38**
***LAB*LCH*Ma*: 48 66 144**
***lab*rgb*Ma*: 0.25 1.0 0.0**
***lab*olv*Ma*: 0.0 1.0 0.03**
triangle lightness *t**

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

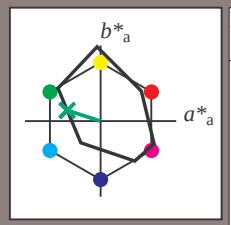
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *g00b* u^*_d = *l23c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	

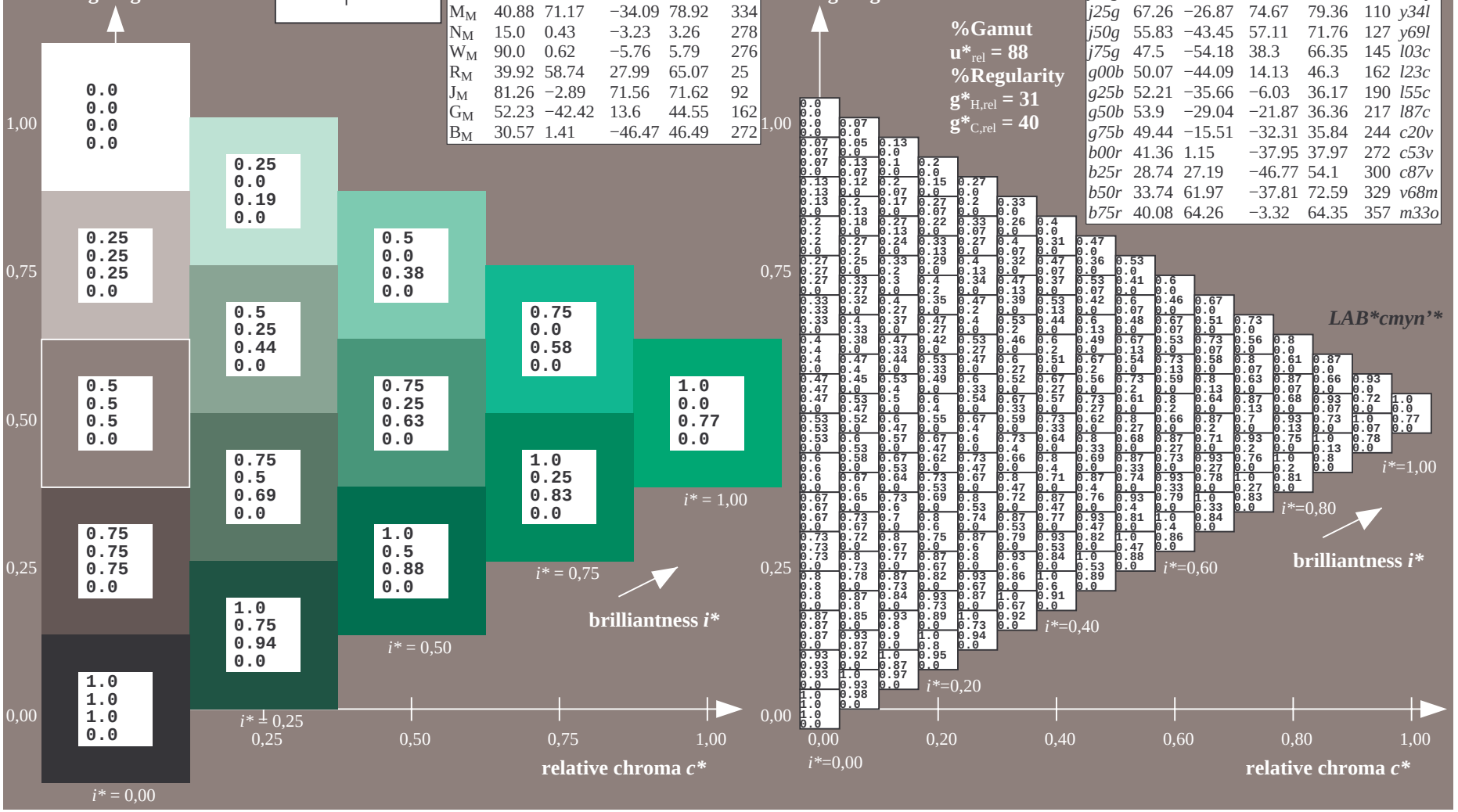
Data for maximum colour (Ma):
LAB*LAB**Ma: 50 −44 14
LAB*LCH**Ma: 50 46 162
lab*rgb**Ma: 0.0 1.0 0.0
lab*olv**Ma: 0.0 1.0 0.23
triangle lightness *t**

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

u^*_e = *g00b*
LAB*cmyn'*

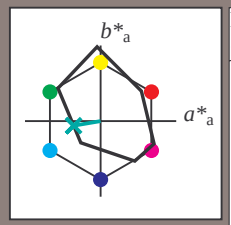
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *g25b* u^*_d = *l55c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	

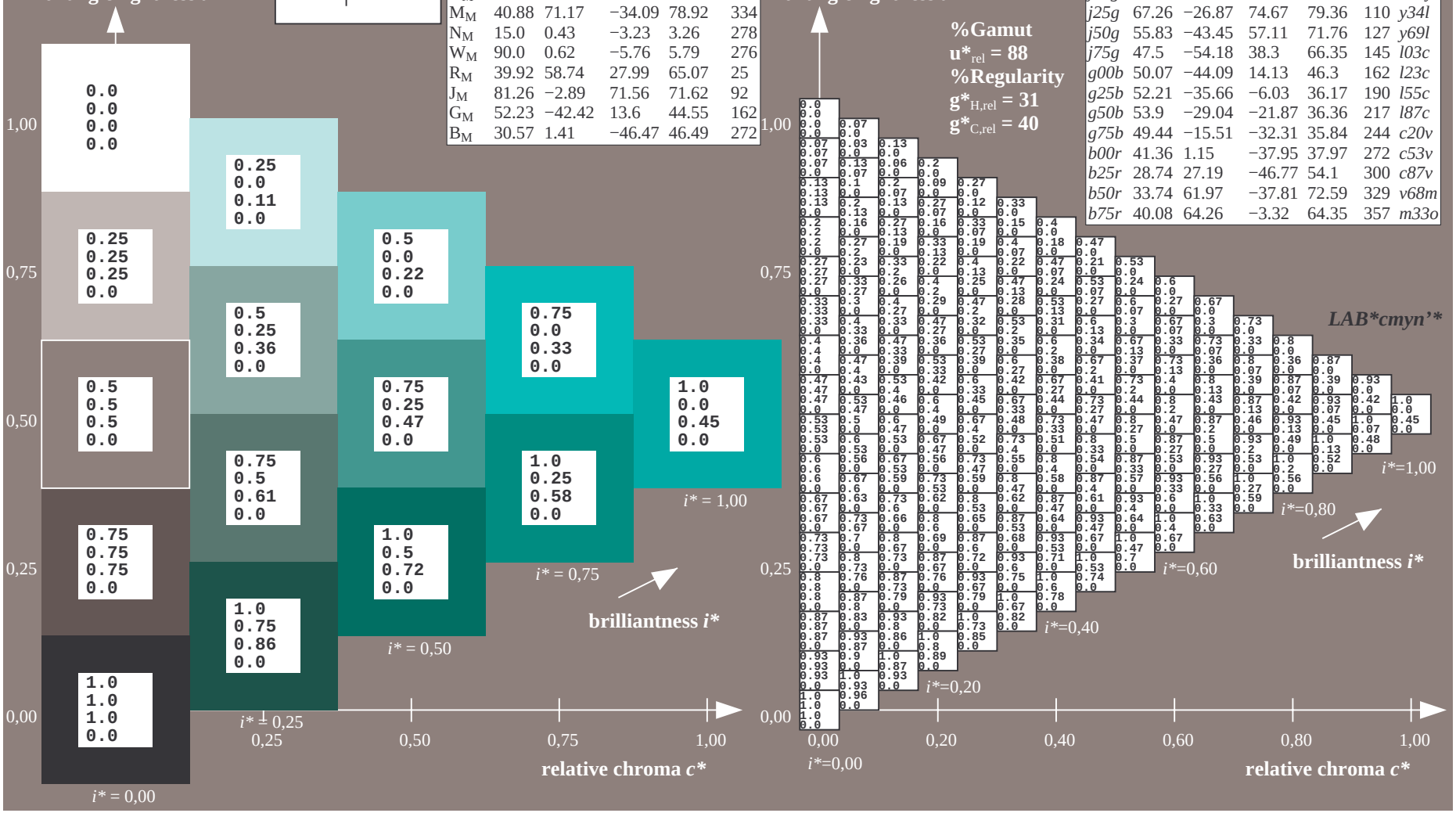
Data for maximum colour (Ma):
***LAB*LAB*Ma*: 52 −36 −6**
***LAB*LCH*Ma*: 52 36 189**
***lab*rgb*Ma*: 0.0 1.0 0.5**
***lab*olv*Ma*: 0.0 1.0 0.55**
triangle lightness *t**

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

u^*_e = *g25b*
LAB*cmyn'*

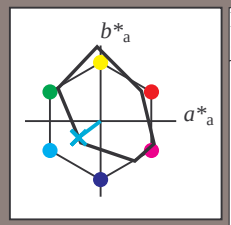
FRS15_90a; adapted (a) CIELAB data

	u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*	
r25j	42.41	49.1	44.5	66.26	42	*o10y*	
r50j	52.78	35.22	58.37	68.17	59	*o40y*	
r75j	64.82	19.12	74.47	76.89	76	*o69y*	
j00g	82.06	−3.94	97.52	97.6	92	*o98y*	
j25g	67.26	−26.87	74.67	79.36	110	*y34l*	
j50g	55.83	−43.45	57.11	71.76	127	*y69l*	
j75g	47.5	−54.18	38.3	66.35	145	*l03c*	
g00b	50.07	−44.09	14.13	46.3	162	*l23c*	
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*	
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*	
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*	
b00r	41.36	1.15	−37.95	37.97	272	*c53v*	
b25r	28.74	27.19	−46.77	54.1	300	*c87v*	
b50r	33.74	61.97	−37.81	72.59	329	*v68m*	
b75r	40.08	64.26	−3.32	64.35	357	*m33o*	



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *g50b* u^*_d = *l87c*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	

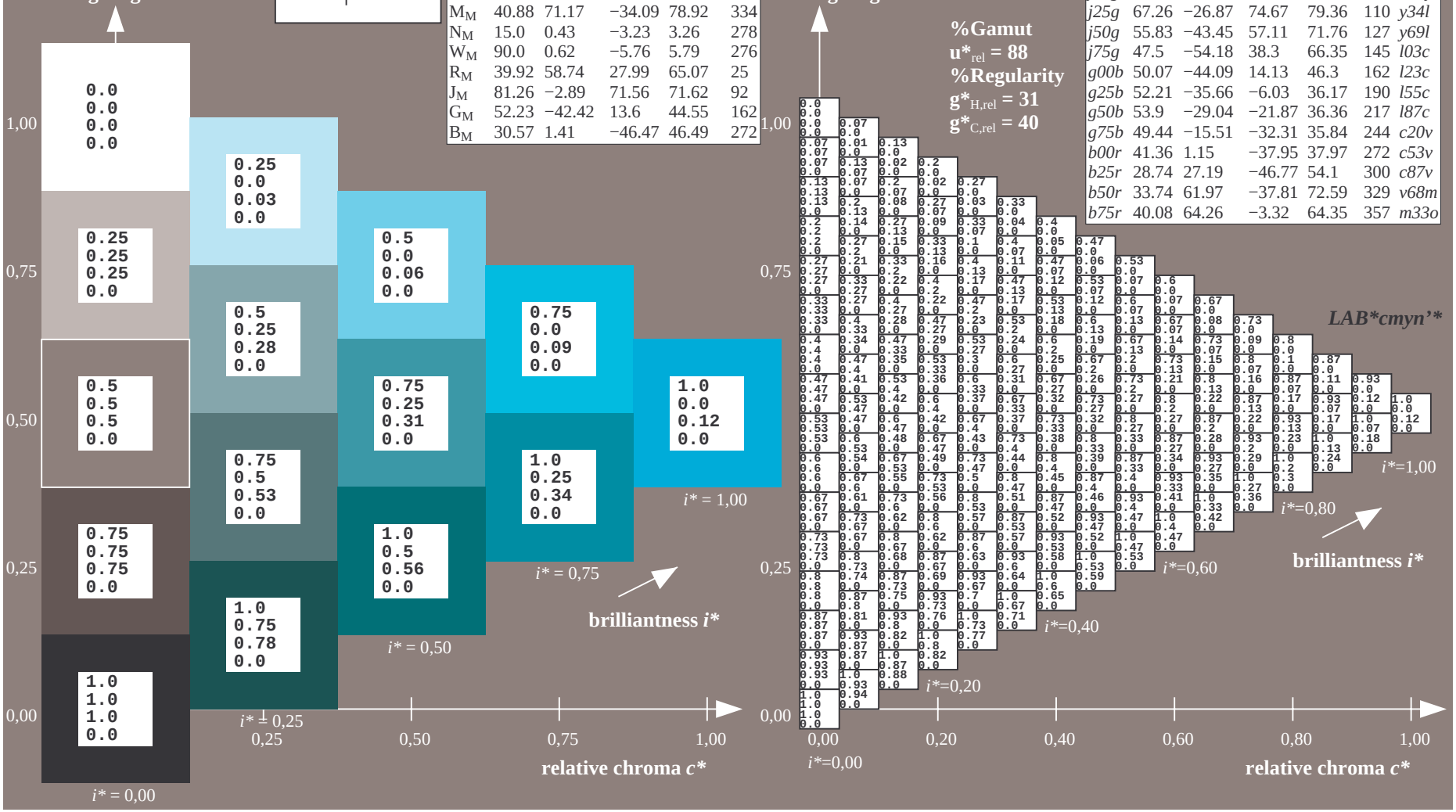
Data for maximum colour (Ma):
LAB*LAB**Ma**: 54 −29 −22
LAB*LCH**Ma**: 54 36 216
lab*rgb**Ma**: 0.0 1.0 1.0
lab*olv**Ma**: 0.0 1.0 0.88
triangle lightness *t**

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

u^*_e = *g50b*
LAB*cmyn'*

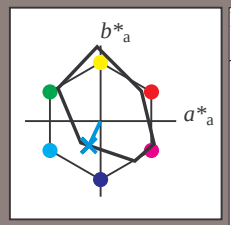
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.679$

data for any colour:
*lab*tch** **and** *lab*icu**
Hue texts:
u^*_e = *g75b* u^*_d = *c20v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	

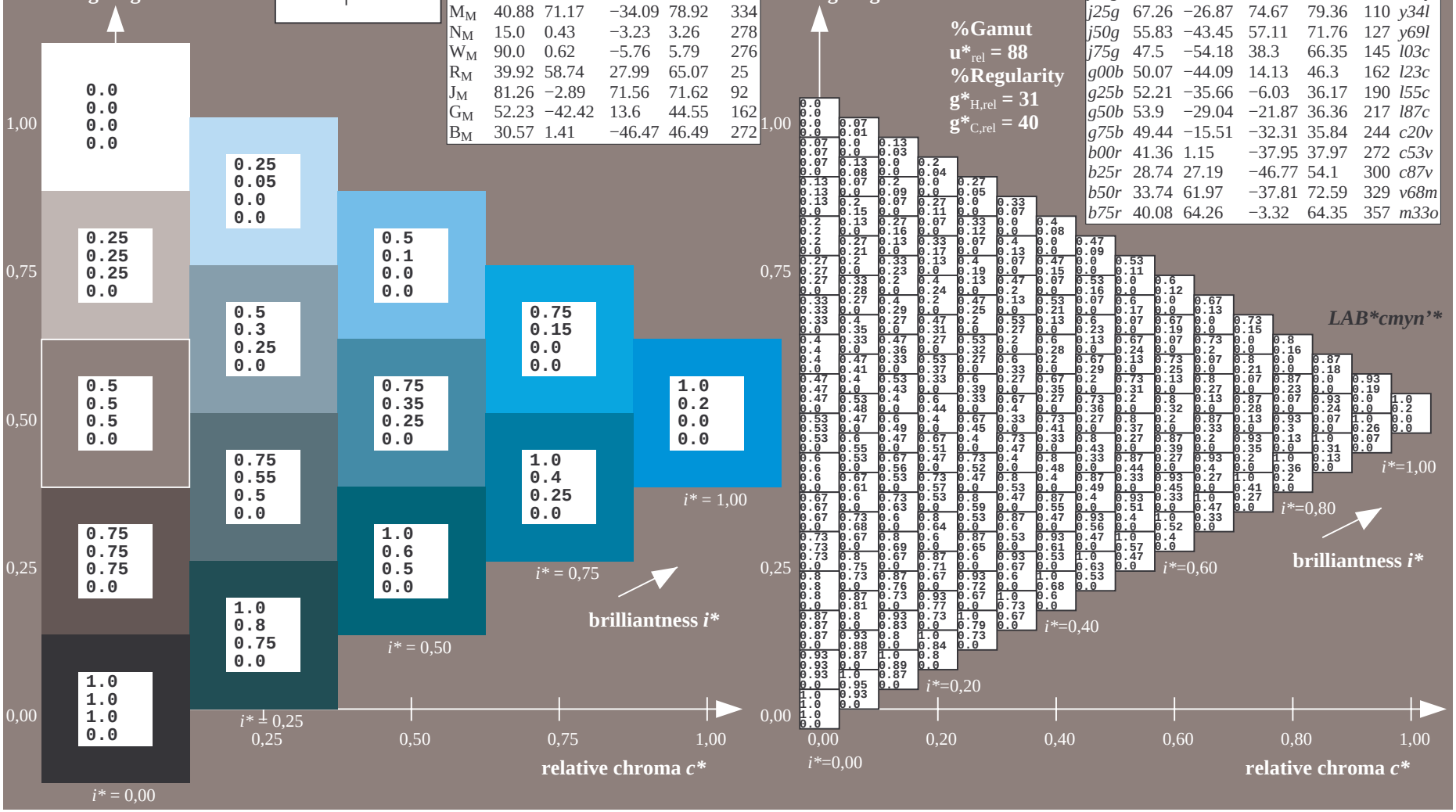
Data for maximum colour (Ma):
LAB*LAB*$_{Ma}$: 49 −16 −32
LAB*LCH*$_{Ma}$: 49 36 244
lab*rgb*$_{Ma}$: 0.0 0.5 1.0
lab*olv*$_{Ma}$: 0.0 0.8 1.0
triangle lightness *t**

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

u^*_e = *g75b*
LAB*cmyn'*

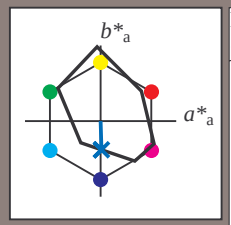
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *b00r* u^*_d = *c53v*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_M	39.92	58.74	27.99	65.07	25
J_M	81.26	−2.89	71.56	71.62	92
G_M	52.23	−42.42	13.6	44.55	162
B_M	30.57	1.41	−46.47	46.49	272

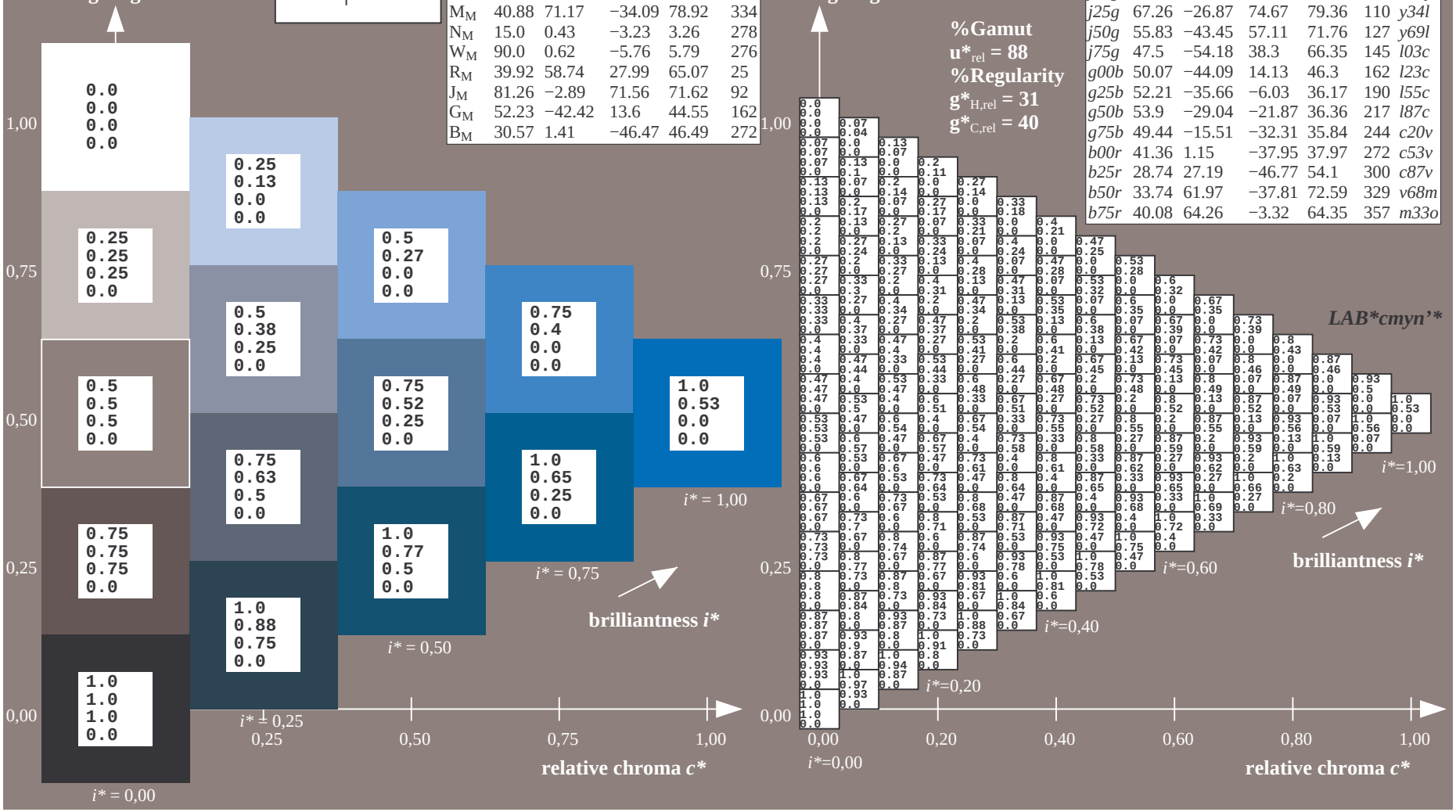
Data for maximum colour (Ma):
LAB*LAB**Ma: 41 1 −38
LAB*LCH**Ma: 41 38 271
lab*rgb**Ma: 0.0 0.0 1.0
lab*olv**Ma: 0.0 0.47 1.0
triangle lightness *t**

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

u^*_e = *b00r*
LAB*cmyn'*

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



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

$u^*_e = b25r$

*LAB*cmyn'**

data for any colour:

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

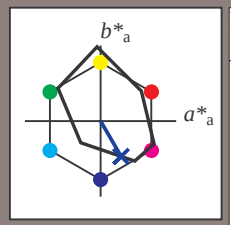
Hue texts:

$u^*_e = b25r$ $u^*_d = c87v$

contrast reduction factor:

$c_R = 0.9$

triangle lightness *t**



FRS15_90a; CIELAB data

u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_M	39.92	58.74	27.99	65.07	25
J_M	81.26	−2.89	71.56	71.62	92
G_M	52.23	−42.42	13.6	44.55	162
B_M	30.57	1.41	−46.47	46.49	272

Data for maximum colour (Ma):

***LAB*LAB*Ma*: 29 27 −47**

***LAB*LCH*Ma*: 29 54 300**

***lab*rgb*Ma*: 0.5 0.0 1.0**

***lab*olv*Ma*: 0.0 0.12 1.0**

triangle lightness *t**

%Gamut

$u^*_{rel} = 88$

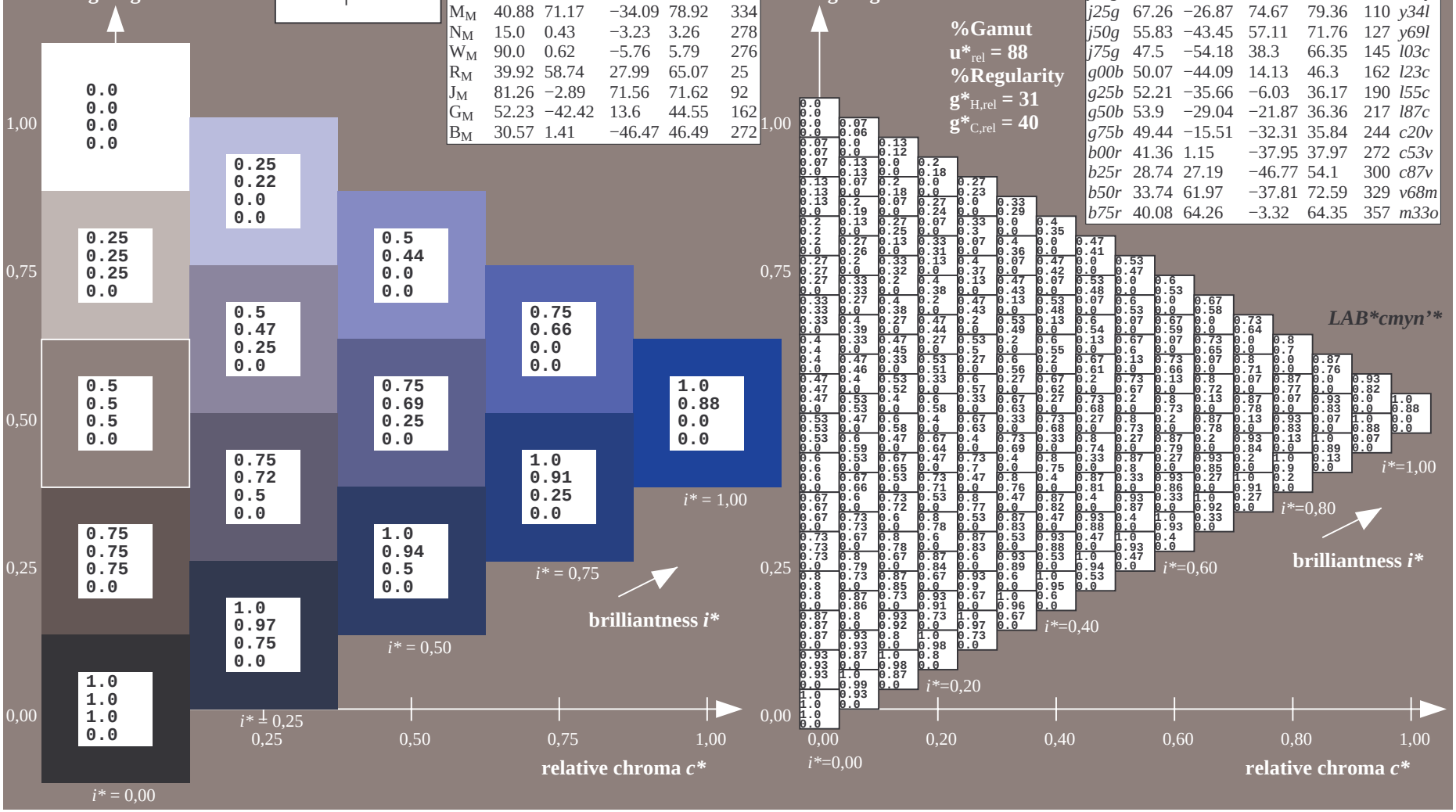
%Regularity

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

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

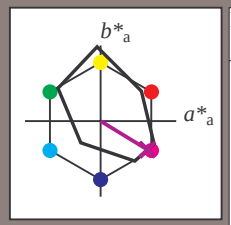
FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.913$

data for any colour:
*lab*tch** and *lab*icu**
Hue texts:
u^*_e = *b50r* u^*_d = *v68m*
contrast reduction factor:
$c_R = 0.9$
triangle lightness *t**



FRS15_90a; CIELAB data

u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33
Y_M	82.58	−4.04	92.72	92.8	92
L_M	46.95	−55.83	39.15	68.19	145
C_M	54.62	−25.67	−33.25	42.01	232
V_M	20.01	45.64	−56.27	72.45	309
M_M	40.88	71.17	−34.09	78.92	334
N_M	15.0	0.43	−3.23	3.26	278
W_M	90.0	0.62	−5.76	5.79	276
R_M	39.92	58.74	27.99	65.07	25
J_M	81.26	−2.89	71.56	71.62	92
G_M	52.23	−42.42	13.6	44.55	162
B_M	30.57	1.41	−46.47	46.49	272

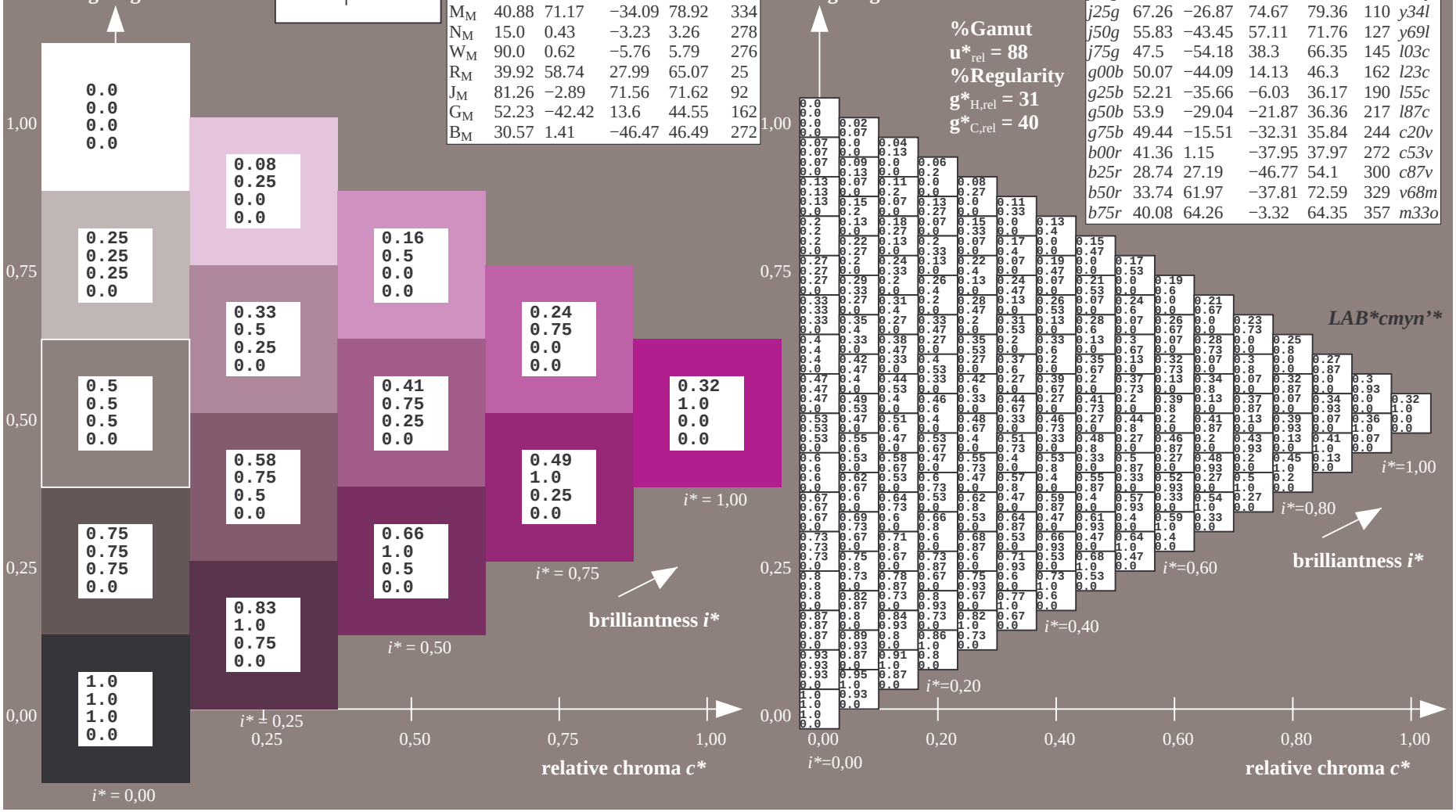
Data for maximum colour (Ma):
LAB*LAB**Ma: 34 62 −38
LAB*LCH**Ma: 34 73 328
lab*rgb**Ma: 1.0 0.0 1.0
lab*olv**Ma: 0.68 0.0 1.0
triangle lightness *t**

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

u^*_e = *b50r*
LAB*cmyn'*

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*



Input and output: Colorimetric Printer Reflective System FRS15_90a for relative CIELAB hue $h^* = lab^*h^* = h_{ab}/360 = 0.992$

$u^*_e = b75r$

*LAB*cmyn'**

data for any colour:

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

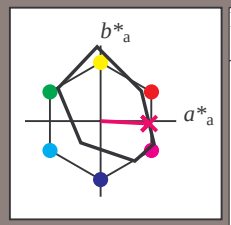
Hue texts:

$u^*_e = b75r$ $u^*_d = m33o$

contrast reduction factor:

$c_R = 0.9$

triangle lightness *t**



FRS15_90a; CIELAB data

	u^*_e	$L^*=L^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
O_M	38.8	54.41	35.65	65.05	33	
Y_M	82.58	−4.04	92.72	92.8	92	
L_M	46.95	−55.83	39.15	68.19	145	
C_M	54.62	−25.67	−33.25	42.01	232	
V_M	20.01	45.64	−56.27	72.45	309	
M_M	40.88	71.17	−34.09	78.92	334	
N_M	15.0	0.43	−3.23	3.26	278	
W_M	90.0	0.62	−5.76	5.79	276	
R_M	39.92	58.74	27.99	65.07	25	
J_M	81.26	−2.89	71.56	71.62	92	
G_M	52.23	−42.42	13.6	44.55	162	
B_M	30.57	1.41	−46.47	46.49	272	

Data for maximum colour (Ma):

***LAB*LAB*Ma*: 40 64 −3**

***LAB*LCH*Ma*: 40 64 357**

***lab*rgb*Ma*: 1.0 0.0 0.5**

***lab*olv*Ma*: 1.0 0.0 0.66**

triangle lightness *t**

%Gamut

$u^*_{rel} = 88$

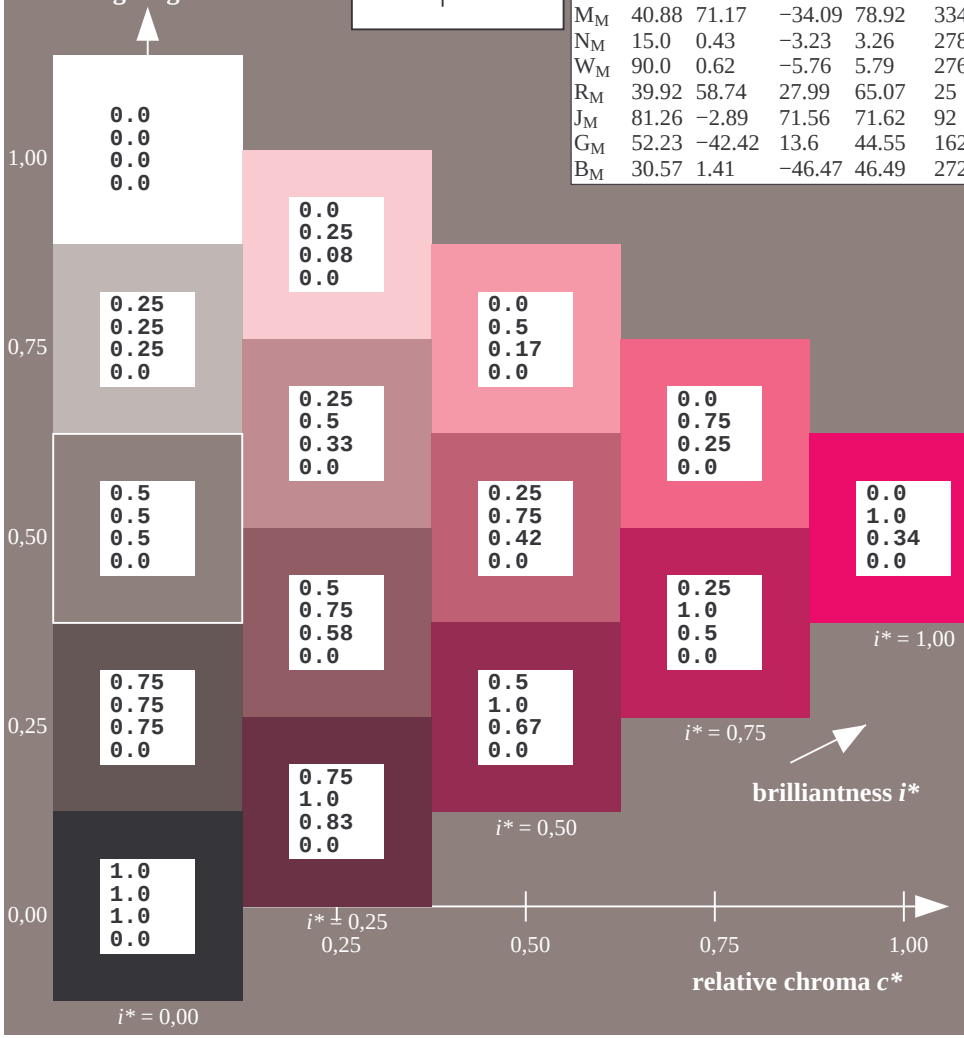
%Regularity

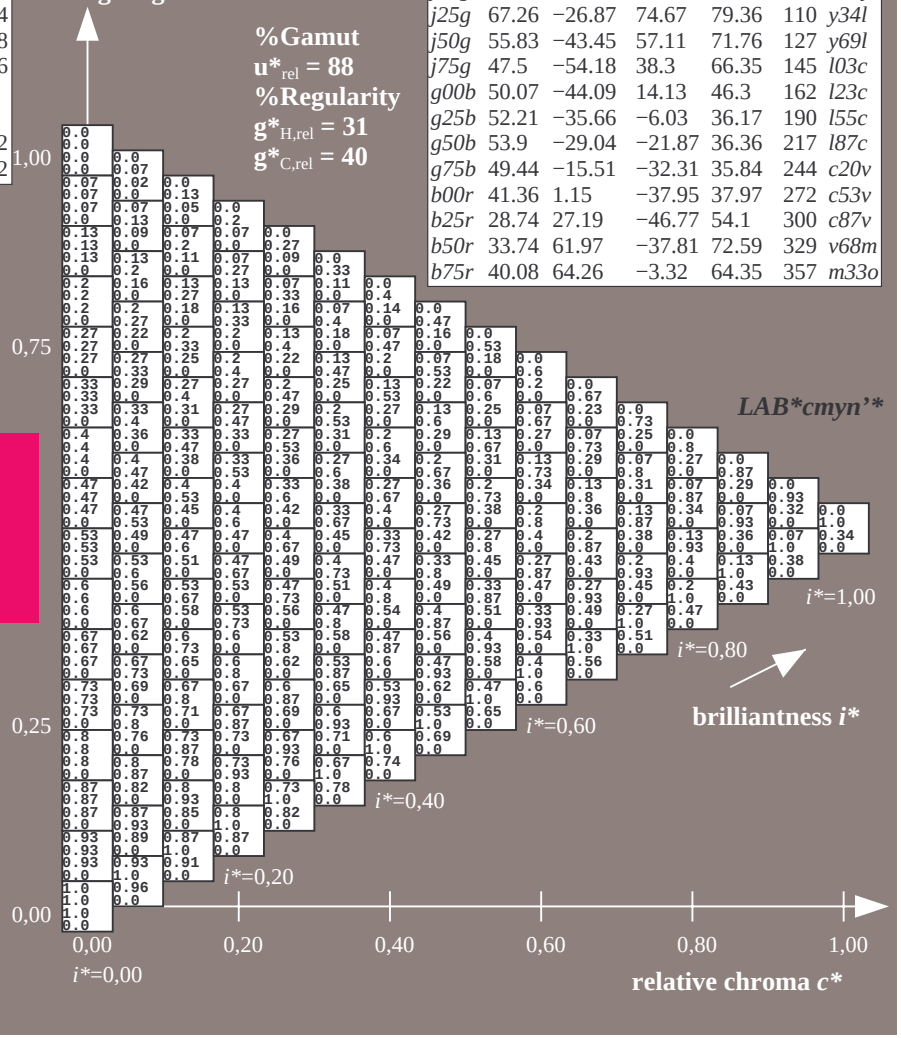
$g^*_{H,rel} = 31$

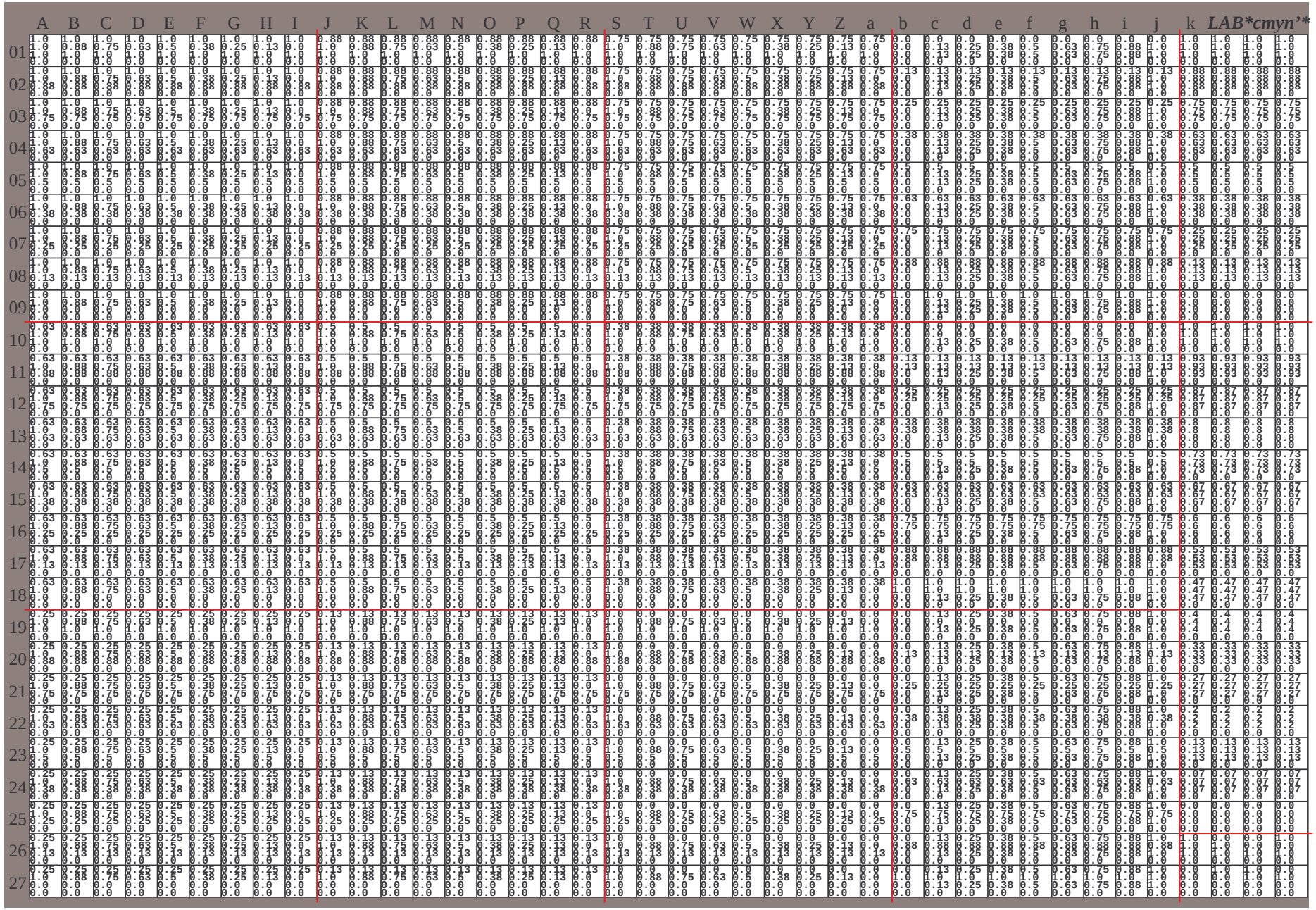
$g^*_{C,rel} = 40$

FRS15_90a; adapted (a) CIELAB data

u^*_e	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	u^*_d
r00j	39.18	56.94	27.13	63.07	25	*m81o*
r25j	42.41	49.1	44.5	66.26	42	*o10y*
r50j	52.78	35.22	58.37	68.17	59	*o40y*
r75j	64.82	19.12	74.47	76.89	76	*o69y*
j00g	82.06	−3.94	97.52	97.6	92	*o98y*
j25g	67.26	−26.87	74.67	79.36	110	*y34l*
j50g	55.83	−43.45	57.11	71.76	127	*y69l*
j75g	47.5	−54.18	38.3	66.35	145	*l03c*
g00b	50.07	−44.09	14.13	46.3	162	*l23c*
g25b	52.21	−35.66	−6.03	36.17	190	*l55c*
g50b	53.9	−29.04	−21.87	36.36	217	*l87c*
g75b	49.44	−15.51	−32.31	35.84	244	*c20v*
b00r	41.36	1.15	−37.95	37.97	272	*c53v*
b25r	28.74	27.19	−46.77	54.1	300	*c87v*
b50r	33.74	61.97	−37.81	72.59	329	*v68m*
b75r	40.08	64.26	−3.32	64.35	357	*m33o*






A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k
LAB*cmyn'*
01
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