

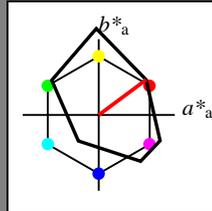
Input: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 37/360 = 0.102$

lab^*tch and lab^*nch

D65: hue O
 LCH*Ma: 33 78 37
 olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



FRS06; adapted (a) CIELAB data

	L^*	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	32.57	62.32	46.49	77.75	37
YMa	82.73	-3.16	113.99	114.03	92
LMa	39.43	-61.79	45.84	76.95	143
CMa	47.86	-26.79	-34.24	43.49	232
VMa	10.16	55.12	-61.03	82.24	312
M _{Ma}	34.5	80.68	-33.92	87.52	337
N _{Ma}	6.25	0.0	0.0	0.0	0
W _{Ma}	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	-2.52	76.25	76.29	92
GCIE	52.23	-41.56	17.14	44.96	158
BCIE	30.57	2.63	-43.77	43.86	273

%Gamut

$u^*_{rel} = 115$

%Regularity

$g^*_{H,rel} = 28$

$g^*_{C,rel} = 38$

relative Inform. Technology (IT)
 olv_{i3}* 1.0 1.0 1.0 (1.0)
 cmyn₃* 0.0 0.0 0.0 (0.0)
 olv_{i3}*' 1.0 1.0 1.0 (1.0)
 cmyn₃*' 0.0 0.0 0.0 (0.0)

standard and adapted CIELAB
 LAB*LAB 91.97 -0.17 -5.11
 LAB*LABa 91.97 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olv_{i3}* 0.5 0.5 0.5 (1.0)
 cmyn₃* 0.5 0.5 0.5 (0.0)
 olv_{i3}*' 0.546 0.52 0.498 (1.0)
 cmyn₃*' 0.454 0.48 0.502 (0.0)

standard and adapted CIELAB
 LAB*LAB 49.11 -0.89 -3.42
 LAB*LABa 49.11 0.0 0.0
 LAB*TCHa 50.0 0.01 -

relative CIELAB lab*
 lab*lab 0.5 0.0 0.0
 lab*tch 0.5 0.0 -
 lab*nch 0.5 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.5 0.0 0.0
 lab*tce 0.5 0.0 -
 lab*nce 0.5 0.0 -

relative Inform. Technology (IT)
 olv_{i3}* 1.0 1.0 1.0 (1.0)
 cmyn₃* 0.0 0.0 0.0 (0.0)
 olv_{i3}*' 1.0 0.0 0.0 (1.0)
 cmyn₃*' 0.0 1.0 1.0 (0.0)

standard and adapted CIELAB
 LAB*LAB 91.97 -0.17 -5.11
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relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

$n^* = 1.0$

relative Inform. Technology (IT)
 olv_{i3}* 1.0 0.5 0.5 (1.0)
 cmyn₃* 0.0 0.5 0.5 (0.0)
 olv_{i3}*' 0.991 0.522 0.433 (1.0)
 cmyn₃*' 0.009 0.478 0.567 (0.0)

standard and adapted CIELAB
 LAB*LAB 62.27 30.47 19.3
 LAB*LABa 62.27 31.16 23.24
 LAB*TCHa 75.0 38.87 36.72

relative CIELAB lab*
 lab*lab 0.653 0.401 0.299
 lab*tch 0.75 0.5 0.102
 lab*nch 0.0 0.5 0.102

relative Natural Colour (NC)
 lab*lrj 0.653 0.487 0.112
 lab*tce 0.75 0.5 0.036
 lab*nce 0.0 0.5 r14j

relative Inform. Technology (IT)
 olv_{i3}* 0.5 0.0 0.0 (1.0)
 cmyn₃* 0.5 1.0 1.0 (0.0)
 olv_{i3}*' 0.541 0.062 0.0 (1.0)
 cmyn₃*' 0.459 0.938 1.0 (0.0)

standard and adapted CIELAB
 LAB*LAB 19.42 29.75 20.99
 LAB*LABa 19.42 31.16 23.24
 LAB*TCHa 25.01 38.87 36.72

relative CIELAB lab*
 lab*lab 0.154 0.401 0.299
 lab*tch 0.25 0.5 0.102
 lab*nch 0.5 0.5 0.102

relative Natural Colour (NC)
 lab*lrj 0.154 0.487 0.112
 lab*tce 0.25 0.5 0.036
 lab*nce 0.5 0.5 r14j

$n^* = 0.50$

blackness n^*

chromaticness c^*

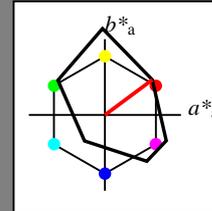
Output: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 37/360 = 0.102$

lab^*tch and lab^*nch

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 olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



FRS06; adapted (a) CIELAB data

	L^*	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
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LMa	39.43	-61.79	45.84	76.95	143
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VMa	10.16	55.12	-61.03	82.24	312
M _{Ma}	34.5	80.68	-33.92	87.52	337
N _{Ma}	6.25	0.0	0.0	0.0	0
W _{Ma}	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	-2.52	76.25	76.29	92
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%Gamut

$u^*_{rel} = 115$

%Regularity

$g^*_{H,rel} = 28$

$g^*_{C,rel} = 38$

relative Inform. Technology (IT)
 olv_{i3}* 1.0 1.0 1.0 (1.0)
 cmyn₃* 0.0 0.0 0.0 (0.0)
 olv_{i3}*' 1.0 1.0 1.0 (1.0)
 cmyn₃*' 0.0 0.0 0.0 (0.0)

standard and adapted CIELAB
 LAB*LAB 91.97 -0.17 -5.11
 LAB*LABa 91.97 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olv_{i3}* 0.5 0.5 0.5 (1.0)
 cmyn₃* 0.5 0.5 0.5 (0.0)
 olv_{i3}*' 0.546 0.52 0.498 (1.0)
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standard and adapted CIELAB
 LAB*LAB 49.11 -0.89 -3.42
 LAB*LABa 49.11 0.0 0.0
 LAB*TCHa 50.0 0.01 -

relative CIELAB lab*
 lab*lab 0.653 0.401 0.299
 lab*tch 0.75 0.5 0.102
 lab*nch 0.0 0.5 0.102

relative Natural Colour (NC)
 lab*lrj 0.653 0.487 0.112
 lab*tce 0.75 0.5 0.036
 lab*nce 0.0 0.5 r14j

relative Inform. Technology (IT)
 olv_{i3}* 1.0 0.5 0.5 (1.0)
 cmyn₃* 0.0 0.5 0.5 (0.0)
 olv_{i3}*' 0.991 0.522 0.433 (1.0)
 cmyn₃*' 0.009 0.478 0.567 (0.0)

standard and adapted CIELAB
 LAB*LAB 62.27 30.47 19.3
 LAB*LABa 62.27 31.16 23.24
 LAB*TCHa 75.0 38.87 36.72

relative CIELAB lab*
 lab*lab 0.653 0.401 0.299
 lab*tch 0.75 0.5 0.102
 lab*nch 0.0 0.5 0.102

relative Natural Colour (NC)
 lab*lrj 0.653 0.487 0.112
 lab*tce 0.75 0.5 0.036
 lab*nce 0.0 0.5 r14j

relative Inform. Technology (IT)
 olv_{i3}* 1.0 0.0 0.0 (1.0)
 cmyn₃* 0.0 1.0 1.0 (0.0)
 olv_{i3}*' 1.0 0.0 0.0 (1.0)
 cmyn₃*' 0.0 1.0 1.0 (0.0)

standard and adapted CIELAB
 LAB*LAB 32.57 61.13 43.71
 LAB*LABa 32.57 62.31 46.48
 LAB*TCHa 50.0 77.74 36.72

relative CIELAB lab*
 lab*lab 0.307 0.801 0.598
 lab*tch 0.5 1.0 0.102
 lab*nch 0.0 1.0 0.102

relative Natural Colour (NC)
 lab*lrj 0.307 0.974 0.224
 lab*tce 0.5 1.0 0.036
 lab*nce 0.0 1.0 r14j

$n^* = 0.00$

blackness n^*

chromaticness c^*

relative Inform. Technology (IT)
 olv_{i3}* 1.0 1.0 1.0 (1.0)
 cmyn₃* 0.0 0.0 0.0 (0.0)
 olv_{i3}*' 0.0 0.0 0.0 (1.0)
 cmyn₃*' 1.0 1.0 1.0 (0.0)

standard and adapted CIELAB
 LAB*LAB 91.97 -0.17 -5.11
 LAB*LABa 91.97 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

$n^* = 1.0$

3 step scales for constant CIELAB hue 37/360 = 0.102 (right)

BAM-test chart VE21; Colorimetric systems FRS06 & FRS06
 D65: 2 coordinate data of 3 step colour scales for 10 hues

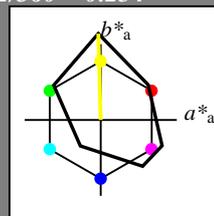
input: olv^* setrgbcolor
 output: olv^* (TRI9) setrgbcolor

Input: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 92/360 = 0.254$
 lab^*tch and lab^*nch

D65: hue Y
 LCH*Ma: 83 114 92
 olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



FRS06; adapted (a) CIELAB data

	L^*	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	32.57	62.32	46.49	77.75	37
YMa	82.73	-3.16	113.99	114.03	92
LMa	39.43	-61.79	45.84	76.95	143
CMa	47.86	-26.79	-34.24	43.49	232
VMa	10.16	55.12	-61.03	82.24	312
MMa	34.5	80.68	-33.92	87.52	337
NMa	6.25	0.0	0.0	0.0	0
WMa	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	-2.52	76.25	76.29	92
GCIE	52.23	-41.56	17.14	44.96	158
BCIE	30.57	2.63	-43.77	43.86	273

%Gamut

$u^*_{rel} = 115$

%Regularity

$g^*_{H,rel} = 28$

$g^*_{C,rel} = 38$

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	1.0	1.0	1.0	(1.0)
cmyn3**	0.0	0.0	0.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

olvi3*	1.0	1.0	0.5	(1.0)
cmyn3*	0.0	0.0	0.5	(0.0)
olvi3**	1.0	0.949	0.429	(1.0)
cmyn3**	0.0	0.051	0.571	(0.0)

standard and adapted CIELAB

LAB*LAB	87.34	-1.83	52.05
LAB*LABa	87.34	-1.58	56.98
LAB*TCHa	75.0	57.0	91.59

relative CIELAB lab*

lab*lab	0.946	-0.013	0.5
lab*tch	0.75	0.5	0.254
lab*nch	0.0	0.5	0.254

relative Natural Colour (NC)

lab*lrj	0.946	0.004	0.5
lab*tce	0.75	0.5	0.249
lab*nce	0.0	0.5	r99j

relative Inform. Technology (IT)

olvi3*	0.5	0.5	0.5	(1.0)
cmyn3*	0.5	0.5	0.5	(0.0)
olvi3**	0.546	0.52	0.498	(1.0)
cmyn3**	0.454	0.48	0.502	(0.0)

standard and adapted CIELAB

LAB*LAB	49.11	-0.89	-3.42
LAB*LABa	49.11	0.0	0.0
LAB*TCHa	50.0	0.01	-

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)

olvi3*	0.5	0.5	0.0	(1.0)
cmyn3*	0.5	0.5	1.0	(0.0)
olvi3**	0.595	0.486	0.002	(1.0)
cmyn3**	0.405	0.514	0.998	(0.0)

standard and adapted CIELAB

LAB*LAB	44.49	-2.56	53.74
LAB*LABa	44.49	-1.58	56.98
LAB*TCHa	25.01	57.0	91.59

relative CIELAB lab*

lab*lab	0.446	-0.013	0.5
lab*tch	0.25	0.5	0.254
lab*nch	0.5	0.5	0.254

relative Natural Colour (NC)

lab*lrj	0.446	0.004	0.5
lab*tce	0.25	0.5	0.249
lab*nce	0.5	0.5	r99j

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	1.0	0.0	0.0	(1.0)
cmyn3**	0.0	1.0	1.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

$n^* = 1.0$



chromaticness c^*

blackness n^*

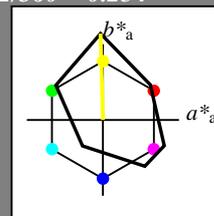
$n^* = 0.00$

Output: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 92/360 = 0.254$
 lab^*tch and lab^*nch

D65: hue Y
 LCH*Ma: 83 114 92
 olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



FRS06; adapted (a) CIELAB data

	L^*	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
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%Gamut

$u^*_{rel} = 115$

%Regularity

$g^*_{H,rel} = 28$

$g^*_{C,rel} = 38$

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	1.0	1.0	1.0	(1.0)
cmyn3**	0.0	0.0	0.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
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relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
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lab*lab	0.946	-0.013	0.5
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standard and adapted CIELAB

LAB*LAB	49.11	-0.89	-3.42
LAB*LABa	49.11	0.0	0.0
LAB*TCHa	50.0	0.01	-

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
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standard and adapted CIELAB

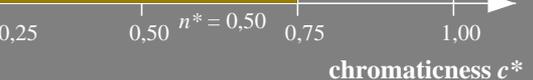
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LAB*LABa	44.49	-1.58	56.98
LAB*TCHa	25.01	57.0	91.59

relative CIELAB lab*

lab*lab	0.446	-0.013	0.5
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lab*nch	0.5	0.5	0.254

relative Natural Colour (NC)

lab*lrj	0.446	0.004	0.5
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lab*nce	0.5	0.5	r99j



chromaticness c^*

blackness n^*

$n^* = 0.00$

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	0.0	0.0	0.0	(1.0)
cmyn3**	1.0	1.0	1.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
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relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

$n^* = 1.0$

3 step scales for constant CIELAB hue 92/360 = 0.254 (right)

BAM-test chart VE21; Colorimetric systems FRS06 & FRS06
 D65: 2 coordinate data of 3 step colour scales for 10 hues

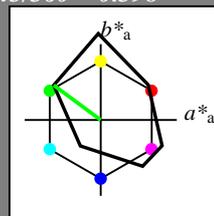
input: olv^* setrgbcolor
 output: olv^* (TRI9) setrgbcolor

Input: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 143/360 = 0.398$
 lab^*tch and lab^*nch

D65: hue L
 LCH*Ma: 39 77 143
 olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



FRS06; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	32.57	62.32	46.49	77.75	37
YMa	82.73	-3.16	113.99	114.03	92
LMa	39.43	-61.79	45.84	76.95	143
CMa	47.86	-26.79	-34.24	43.49	232
VMa	10.16	55.12	-61.03	82.24	312
MMa	34.5	80.68	-33.92	87.52	337
NMa	6.25	0.0	0.0	0.0	0
WMa	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	-2.52	76.25	76.29	92
GCIE	52.23	-41.56	17.14	44.96	158
BCIE	30.57	2.63	-43.77	43.86	273

%Gamut

$u^*_{rel} = 115$

%Regularity

$g^*_{H,rel} = 28$

$g^*_{C,rel} = 38$

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	1.0	1.0	1.0	(1.0)
cmyn3**	0.0	0.0	0.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

olvi3*	0.5	0.5	0.5	(1.0)
cmyn3*	0.5	0.5	0.5	(0.0)
olvi3**	0.546	0.52	0.498	(1.0)
cmyn3**	0.454	0.48	0.502	(0.0)

standard and adapted CIELAB

LAB*LAB	49.11	-0.89	-3.42
LAB*LABa	49.11	0.0	0.0
LAB*TCHa	50.0	0.01	-

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	1.0	0.0	0.0	(1.0)
cmyn3**	0.0	1.0	1.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

$n^* = 1.0$

relative Inform. Technology (IT)

olvi3*	0.5	1.0	0.5	(1.0)
cmyn3*	0.5	0.0	0.5	(0.0)
olvi3**	0.541	0.861	0.487	(1.0)
cmyn3**	0.459	0.139	0.513	(0.0)

standard and adapted CIELAB

LAB*LAB	65.7	-31.51	18.84
LAB*LABa	65.7	-30.88	22.91
LAB*TCHa	75.0	38.46	143.44

relative CIELAB lab*

lab*lab	0.693	-0.401	0.298
lab*tch	0.75	0.5	0.398
lab*nch	0.0	0.5	0.398

relative Natural Colour (NC)

lab*lrj	0.693	-0.471	0.166
lab*tce	0.75	0.5	0.446
lab*nce	0.0	0.5	0.398

relative Inform. Technology (IT)

olvi3*	0.0	0.5	0.0	(1.0)
cmyn3*	1.0	0.5	1.0	(0.0)
olvi3**	0.063	0.369	0.007	(1.0)
cmyn3**	0.937	0.631	0.993	(0.0)

standard and adapted CIELAB

LAB*LAB	22.85	-32.23	20.53
LAB*LABa	22.85	-30.88	22.91
LAB*TCHa	25.01	38.46	143.44

relative CIELAB lab*

lab*lab	0.194	-0.401	0.298
lab*tch	0.25	0.5	0.398
lab*nch	0.5	0.5	0.398

relative Natural Colour (NC)

lab*lrj	0.194	-0.471	0.166
lab*tce	0.25	0.5	0.446
lab*nce	0.5	0.5	0.398

$n^* = 0.50$

0.25

0.50

0.75

1.00

chromaticness c^*

blackness n^*

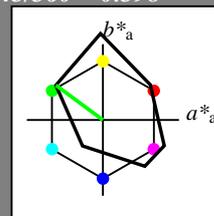
$n^* = 0.00$

Output: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 143/360 = 0.398$
 lab^*tch and lab^*nch

D65: hue L
 LCH*Ma: 39 77 143
 olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



FRS06; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	32.57	62.32	46.49	77.75	37
YMa	82.73	-3.16	113.99	114.03	92
LMa	39.43	-61.79	45.84	76.95	143
CMa	47.86	-26.79	-34.24	43.49	232
VMa	10.16	55.12	-61.03	82.24	312
MMa	34.5	80.68	-33.92	87.52	337
NMa	6.25	0.0	0.0	0.0	0
WMa	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	-2.52	76.25	76.29	92
GCIE	52.23	-41.56	17.14	44.96	158
BCIE	30.57	2.63	-43.77	43.86	273

%Gamut

$u^*_{rel} = 115$

%Regularity

$g^*_{H,rel} = 28$

$g^*_{C,rel} = 38$

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	1.0	1.0	1.0	(1.0)
cmyn3**	0.0	0.0	0.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

olvi3*	0.5	0.5	0.5	(1.0)
cmyn3*	0.5	0.5	0.5	(0.0)
olvi3**	0.546	0.52	0.498	(1.0)
cmyn3**	0.454	0.48	0.502	(0.0)

standard and adapted CIELAB

LAB*LAB	49.11	-0.89	-3.42
LAB*LABa	49.11	0.0	0.0
LAB*TCHa	50.0	0.01	-

relative CIELAB lab*

lab*lab	0.693	-0.401	0.298
lab*tch	0.75	0.5	0.398
lab*nch	0.0	0.5	0.398

relative Natural Colour (NC)

lab*lrj	0.693	-0.471	0.166
lab*tce	0.75	0.5	0.446
lab*nce	0.0	0.5	0.398

relative Inform. Technology (IT)

olvi3*	0.0	0.5	0.0	(1.0)
cmyn3*	1.0	0.5	1.0	(0.0)
olvi3**	0.063	0.369	0.007	(1.0)
cmyn3**	0.937	0.631	0.993	(0.0)

standard and adapted CIELAB

LAB*LAB	22.85	-32.23	20.53
LAB*LABa	22.85	-30.88	22.91
LAB*TCHa	25.01	38.46	143.44

relative CIELAB lab*

lab*lab	0.194	-0.401	0.298
lab*tch	0.25	0.5	0.398
lab*nch	0.5	0.5	0.398

relative Natural Colour (NC)

lab*lrj	0.194	-0.471	0.166
lab*tce	0.25	0.5	0.446
lab*nce	0.5	0.5	0.398

$n^* = 1.0$

0.25

0.50

0.75

1.00

chromaticness c^*

blackness n^*

$n^* = 0.00$

VE210-7, 3 step scales for constant CIELAB hue 143/360 = 0.398 (left)

3 step scales for constant CIELAB hue 143/360 = 0.398 (right)

BAM-test chart VE21; Colorimetric systems FRS06 & FRS06
 D65: 2 coordinate data of 3 step colour scales for 10 hues

input: olv^* setrgbcolor
 output: olv^* (TRI9) setrgbcolor

See for similar files: <http://www.ps.bam.de/VE21/>
 Technical information: <http://www.ps.bam.de>

Version 2.1, io=1,1, CIEXYZ

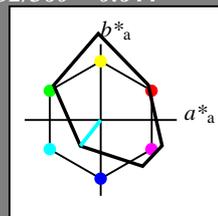
BAM registration: 20060101-VE21/10L/L21E02FP.PS/.PDF BAM material: code=rh4ta
 application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ
 VE21/ Form 3/10, Serie: 1/1, Page: 3 Page count: 1

Input: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 232/360 = 0.644$
 lab^*tch and lab^*nch

D65: hue C
 LCH*Ma: 48 43 232
 olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



FRS06; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	32.57	62.32	46.49	77.75	37
YMa	82.73	-3.16	113.99	114.03	92
LMa	39.43	-61.79	45.84	76.95	143
CMa	47.86	-26.79	-34.24	43.49	232
VMa	10.16	55.12	-61.03	82.24	312
MMa	34.5	80.68	-33.92	87.52	337
NMa	6.25	0.0	0.0	0.0	0
WMa	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	-2.52	76.25	76.29	92
GCIE	52.23	-41.56	17.14	44.96	158
BCIE	30.57	2.63	-43.77	43.86	273

%Gamut

$u^*_{rel} = 115$

%Regularity

$g^*_{H,rel} = 28$

$g^*_{C,rel} = 38$

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	1.0	1.0	1.0	(1.0)
cmyn3**	0.0	0.0	0.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

olvi3*	0.5	1.0	1.0	(1.0)
cmyn3*	0.5	0.0	0.0	(0.0)
olvi3**	0.578	0.855	0.891	(1.0)
cmyn3**	0.422	0.145	0.109	(0.0)

standard and adapted CIELAB

LAB*LAB	69.91	-13.94	-21.35
LAB*LABa	69.91	-13.39	-17.11
LAB*TCHa	75.0	21.74	231.95

relative CIELAB lab*

lab*lab	0.743	-0.307	-0.393
lab*tch	0.75	0.5	0.644
lab*nch	0.0	0.5	0.644

relative Natural Colour (NC)

lab*lrj	0.743	-0.266	-0.422
lab*tce	0.75	0.5	0.66
lab*nce	0.0	0.5	g64b

relative Inform. Technology (IT)

olvi3*	0.0	1.0	1.0	(1.0)
cmyn3*	1.0	0.0	0.0	(0.0)
olvi3**	0.0	0.999	1.0	(1.0)
cmyn3**	1.0	0.001	0.0	(0.0)

standard and adapted CIELAB

LAB*LAB	47.86	-27.71	-37.6
LAB*LABa	47.86	-26.79	-34.23
LAB*TCHa	50.0	43.48	231.95

relative CIELAB lab*

lab*lab	0.485	-0.615	-0.786
lab*tch	0.5	1.0	0.644
lab*nch	0.0	1.0	0.644

relative Natural Colour (NC)

lab*lrj	0.485	-0.532	-0.845
lab*tce	0.5	1.0	0.66
lab*nce	0.0	1.0	g64b

relative Inform. Technology (IT)

olvi3*	0.0	0.5	0.5	(1.0)
cmyn3*	1.0	0.5	0.5	(0.0)
olvi3**	0.081	0.388	0.436	(1.0)
cmyn3**	0.919	0.612	0.564	(0.0)

standard and adapted CIELAB

LAB*LAB	27.06	-14.67	-19.66
LAB*LABa	27.06	-13.39	-17.11
LAB*TCHa	25.01	21.74	231.95

relative CIELAB lab*

lab*lab	0.243	-0.307	-0.393
lab*tch	0.25	0.5	0.644
lab*nch	0.5	0.5	0.644

relative Natural Colour (NC)

lab*lrj	0.243	-0.266	-0.422
lab*tce	0.25	0.5	0.66
lab*nce	0.5	0.5	g64b

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	1.0	0.0	0.0	(1.0)
cmyn3**	0.0	1.0	1.0	(0.0)

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	1.0	0.0	0.0	(1.0)
cmyn3**	0.0	1.0	1.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

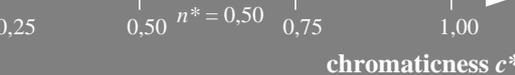
relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

$n^* = 1.0$



chromaticness c^*

blackness n^*

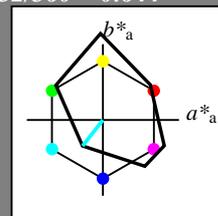
$n^* = 0.00$

Output: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 232/360 = 0.644$
 lab^*tch and lab^*nch

D65: hue C
 LCH*Ma: 48 43 232
 olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



FRS06; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	32.57	62.32	46.49	77.75	37
YMa	82.73	-3.16	113.99	114.03	92
LMa	39.43	-61.79	45.84	76.95	143
CMa	47.86	-26.79	-34.24	43.49	232
VMa	10.16	55.12	-61.03	82.24	312
MMa	34.5	80.68	-33.92	87.52	337
NMa	6.25	0.0	0.0	0.0	0
WMa	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	-2.52	76.25	76.29	92
GCIE	52.23	-41.56	17.14	44.96	158
BCIE	30.57	2.63	-43.77	43.86	273

%Gamut

$u^*_{rel} = 115$

%Regularity

$g^*_{H,rel} = 28$

$g^*_{C,rel} = 38$

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	1.0	1.0	1.0	(1.0)
cmyn3**	0.0	0.0	0.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

olvi3*	0.5	1.0	1.0	(1.0)
cmyn3*	0.5	0.0	0.0	(0.0)
olvi3**	0.578	0.855	0.891	(1.0)
cmyn3**	0.422	0.145	0.109	(0.0)

standard and adapted CIELAB

LAB*LAB	69.91	-13.94	-21.35
LAB*LABa	69.91	-13.39	-17.11
LAB*TCHa	75.0	21.74	231.95

relative CIELAB lab*

lab*lab	0.743	-0.307	-0.393
lab*tch	0.75	0.5	0.644
lab*nch	0.0	0.5	0.644

relative Natural Colour (NC)

lab*lrj	0.743	-0.266	-0.422
lab*tce	0.75	0.5	0.66
lab*nce	0.0	0.5	g64b

relative Inform. Technology (IT)

olvi3*	0.0	1.0	1.0	(1.0)
cmyn3*	1.0	0.0	0.0	(0.0)
olvi3**	0.0	0.999	1.0	(1.0)
cmyn3**	1.0	0.001	0.0	(0.0)

standard and adapted CIELAB

LAB*LAB	47.86	-27.71	-37.6
LAB*LABa	47.86	-26.79	-34.23
LAB*TCHa	50.0	43.48	231.95

relative CIELAB lab*

lab*lab	0.485	-0.615	-0.786
lab*tch	0.5	1.0	0.644
lab*nch	0.0	1.0	0.644

relative Natural Colour (NC)

lab*lrj	0.485	-0.532	-0.845
lab*tce	0.5	1.0	0.66
lab*nce	0.0	1.0	g64b

relative Inform. Technology (IT)

olvi3*	0.0	0.5	0.5	(1.0)
cmyn3*	1.0	0.5	0.5	(0.0)
olvi3**	0.081	0.388	0.436	(1.0)
cmyn3**	0.919	0.612	0.564	(0.0)

standard and adapted CIELAB

LAB*LAB	27.06	-14.67	-19.66
LAB*LABa	27.06	-13.39	-17.11
LAB*TCHa	25.01	21.74	231.95

relative CIELAB lab*

lab*lab	0.243	-0.307	-0.393
lab*tch	0.25	0.5	0.644
lab*nch	0.5	0.5	0.644

relative Natural Colour (NC)

lab*lrj	0.243	-0.266	-0.422
lab*tce	0.25	0.5	0.66
lab*nce	0.5	0.5	g64b

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	1.0	0.0	0.0	(1.0)
cmyn3**	0.0	1.0	1.0	(0.0)

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	1.0	0.0	0.0	(1.0)
cmyn3**	0.0	1.0	1.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

$n^* = 1.0$



chromaticness c^*

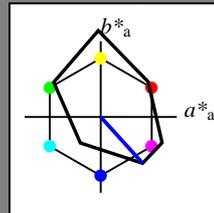
blackness n^*

$n^* = 0.00$

Input: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 312/360 = 0.867$
 lab^*tch and lab^*nch

D65: hue V
 LCH*Ma: 10 82 312
 olv*Ma: 0.0 0.0 1.0
 triangle lightness t^*



FRS06; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	32.57	62.32	46.49	77.75	37
YMa	82.73	-3.16	113.99	114.03	92
LMa	39.43	-61.79	45.84	76.95	143
CMa	47.86	-26.79	-34.24	43.49	232
VMa	10.16	55.12	-61.03	82.24	312
MMa	34.5	80.68	-33.92	87.52	337
NMa	6.25	0.0	0.0	0.0	0
WMa	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	-2.52	76.25	76.29	92
GCIE	52.23	-41.56	17.14	44.96	158
BCIE	30.57	2.63	-43.77	43.86	273

%Gamut
 $u^*_{rel} = 115$
 %Regularity
 $g^*_{H,rel} = 28$
 $g^*_{C,rel} = 38$

relative Inform. Technology (IT)
 olv3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olv3** 1.0 1.0 1.0 (1.0)
 cmyn3** 0.0 0.0 0.0 (0.0)

standard and adapted CIELAB
 LAB*LAB 91.97 -0.17 -5.11
 LAB*LABa 91.97 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olv3* 0.5 0.5 0.5 (1.0)
 cmyn3* 0.5 0.5 0.5 (0.0)
 olv3** 0.546 0.52 0.498 (1.0)
 cmyn3** 0.454 0.48 0.502 (0.0)

standard and adapted CIELAB
 LAB*LAB 49.11 -0.89 -3.42
 LAB*LABa 49.11 0.0 0.0
 LAB*TCHa 50.0 0.01 -

relative CIELAB lab*
 lab*lab 0.5 0.0 0.0
 lab*tch 0.5 0.0 -
 lab*nch 0.5 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.5 0.0 0.0
 lab*tce 0.5 0.0 -
 lab*nce 0.5 0.0 -

relative Inform. Technology (IT)
 olv3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olv3** 1.0 0.0 0.0 (1.0)
 cmyn3** 0.0 1.0 1.0 (0.0)

standard and adapted CIELAB
 LAB*LAB 91.97 -0.17 -5.11
 LAB*LABa 91.97 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

$n^* = 1.0$

relative Inform. Technology (IT)
 olv3* 0.5 0.5 1.0 (1.0)
 cmyn3* 0.5 0.5 0.0 (0.0)
 olv3** 0.657 0.467 0.829 (1.0)
 cmyn3** 0.343 0.533 0.171 (0.0)

standard and adapted CIELAB
 LAB*LAB 51.06 26.68 -34.0
 LAB*LABa 51.06 27.56 -30.5
 LAB*TCHa 75.0 41.11 312.09

relative CIELAB lab*
 lab*lab 0.523 0.335 -0.37
 lab*tch 0.75 0.5 0.867
 lab*nch 0.0 0.5 0.867

relative Natural Colour (NC)
 lab*lrj 0.523 0.254 -0.43
 lab*tce 0.75 0.5 0.835
 lab*nce 0.0 0.5 b33r

relative Inform. Technology (IT)
 olv3* 0.0 0.0 0.5 (1.0)
 cmyn3* 1.0 1.0 0.5 (0.0)
 olv3** 0.159 0.0 0.355 (1.0)
 cmyn3** 0.841 1.0 0.645 (0.0)

standard and adapted CIELAB
 LAB*LAB 8.21 25.96 -32.31
 LAB*LABa 8.21 27.56 -30.5
 LAB*TCHa 25.01 41.11 312.09

relative CIELAB lab*
 lab*lab 0.023 0.335 -0.37
 lab*tch 0.25 0.5 0.867
 lab*nch 0.5 0.5 0.867

relative Natural Colour (NC)
 lab*lrj 0.023 0.254 -0.43
 lab*tce 0.25 0.5 0.835
 lab*nce 0.5 0.5 b33r

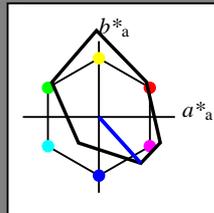
$n^* = 0.50$

blackness n^*
 chromaticness c^*

Output: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 312/360 = 0.867$
 lab^*tch and lab^*nch

D65: hue V
 LCH*Ma: 10 82 312
 olv*Ma: 0.0 0.0 1.0
 triangle lightness t^*



FRS06; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	32.57	62.32	46.49	77.75	37
YMa	82.73	-3.16	113.99	114.03	92
LMa	39.43	-61.79	45.84	76.95	143
CMa	47.86	-26.79	-34.24	43.49	232
VMa	10.16	55.12	-61.03	82.24	312
MMa	34.5	80.68	-33.92	87.52	337
NMa	6.25	0.0	0.0	0.0	0
WMa	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	-2.52	76.25	76.29	92
GCIE	52.23	-41.56	17.14	44.96	158
BCIE	30.57	2.63	-43.77	43.86	273

%Gamut
 $u^*_{rel} = 115$
 %Regularity
 $g^*_{H,rel} = 28$
 $g^*_{C,rel} = 38$

relative Inform. Technology (IT)
 olv3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olv3** 1.0 1.0 1.0 (1.0)
 cmyn3** 0.0 0.0 0.0 (0.0)

standard and adapted CIELAB
 LAB*LAB 91.97 -0.17 -5.11
 LAB*LABa 91.97 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olv3* 0.5 0.5 0.5 (1.0)
 cmyn3* 0.5 0.5 0.5 (0.0)
 olv3** 0.546 0.52 0.498 (1.0)
 cmyn3** 0.454 0.48 0.502 (0.0)

standard and adapted CIELAB
 LAB*LAB 49.11 -0.89 -3.42
 LAB*LABa 49.11 0.0 0.0
 LAB*TCHa 50.0 0.01 -

relative CIELAB lab*
 lab*lab 0.523 0.335 -0.37
 lab*tch 0.75 0.5 0.867
 lab*nch 0.0 0.5 0.867

relative Natural Colour (NC)
 lab*lrj 0.523 0.254 -0.43
 lab*tce 0.75 0.5 0.835
 lab*nce 0.0 0.5 b33r

relative Inform. Technology (IT)
 olv3* 0.5 0.5 1.0 (1.0)
 cmyn3* 0.5 0.5 0.0 (0.0)
 olv3** 0.657 0.467 0.829 (1.0)
 cmyn3** 0.343 0.533 0.171 (0.0)

standard and adapted CIELAB
 LAB*LAB 51.06 26.68 -34.0
 LAB*LABa 51.06 27.56 -30.5
 LAB*TCHa 75.0 41.11 312.09

relative CIELAB lab*
 lab*lab 0.523 0.335 -0.37
 lab*tch 0.75 0.5 0.867
 lab*nch 0.0 0.5 0.867

relative Natural Colour (NC)
 lab*lrj 0.523 0.254 -0.43
 lab*tce 0.75 0.5 0.835
 lab*nce 0.0 0.5 b33r

relative Inform. Technology (IT)
 olv3* 0.0 0.0 0.5 (1.0)
 cmyn3* 1.0 1.0 0.5 (0.0)
 olv3** 0.159 0.0 0.355 (1.0)
 cmyn3** 0.841 1.0 0.645 (0.0)

standard and adapted CIELAB
 LAB*LAB 8.21 25.96 -32.31
 LAB*LABa 8.21 27.56 -30.5
 LAB*TCHa 25.01 41.11 312.09

relative CIELAB lab*
 lab*lab 0.023 0.335 -0.37
 lab*tch 0.25 0.5 0.867
 lab*nch 0.5 0.5 0.867

relative Natural Colour (NC)
 lab*lrj 0.023 0.254 -0.43
 lab*tce 0.25 0.5 0.835
 lab*nce 0.5 0.5 b33r

$n^* = 0.50$

blackness n^*
 chromaticness c^*

relative Inform. Technology (IT)
 olv3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olv3** 0.0 0.0 0.0 (1.0)
 cmyn3** 1.0 1.0 1.0 (0.0)

standard and adapted CIELAB
 LAB*LAB 91.97 -0.17 -5.11
 LAB*LABa 91.97 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

$n^* = 1.0$

3 step scales for constant CIELAB hue 312/360 = 0.867 (right)

VE210-7, 3 step scales for constant CIELAB hue 312/360 = 0.867 (left)

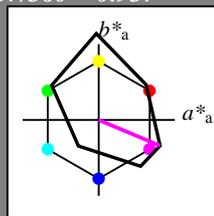
BAM-test chart VE21; Colorimetric systems FRS06 & FRS06
 D65: 2 coordinate data of 3 step colour scales for 10 hues

input: olv* setrgbcolor
 output: olv*' (TRI9) setrgbcolor

Input: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 337/360 = 0.937$
 lab^*tch and lab^*nch

D65: hue M
 LCH*Ma: 35 88 337
 olv*Ma: 1.0 0.0 1.0
 triangle lightness t^*



FRS06; adapted (a) CIELAB data

	L^*	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	32.57	62.32	46.49	77.75	37
YMa	82.73	-3.16	113.99	114.03	92
LMa	39.43	-61.79	45.84	76.95	143
CMa	47.86	-26.79	-34.24	43.49	232
VMa	10.16	55.12	-61.03	82.24	312
NMa	34.5	80.68	-33.92	87.52	337
NMa	6.25	0.0	0.0	0.0	0
WMa	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	-2.52	76.25	76.29	92
GCIE	52.23	-41.56	17.14	44.96	158
BCIE	30.57	2.63	-43.77	43.86	273

%Gamut
 $u^*_{rel} = 115$
 %Regularity
 $g^*_{H,rel} = 28$
 $g^*_{C,rel} = 38$

relative Inform. Technology (IT)
 olv3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olv3** 1.0 1.0 1.0 (1.0)
 cmyn3** 0.0 0.0 0.0 (0.0)

standard and adapted CIELAB
 LAB*LAB 91.97 -0.17 -5.11
 LAB*LABa 91.97 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olv3* 0.5 0.5 0.5 (1.0)
 cmyn3* 0.5 0.5 0.5 (0.0)
 olv3** 0.546 0.52 0.498 (1.0)
 cmyn3** 0.454 0.48 0.502 (0.0)

standard and adapted CIELAB
 LAB*LAB 49.11 -0.89 -3.42
 LAB*LABa 49.11 0.0 0.0
 LAB*TCHa 50.0 0.01 -

relative CIELAB lab*
 lab*lab 0.5 0.0 0.0
 lab*tch 0.5 0.0 -
 lab*nch 0.5 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.5 0.0 0.0
 lab*tce 0.5 0.0 -
 lab*nce 0.5 0.0 -

relative Inform. Technology (IT)
 olv3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olv3** 1.0 0.0 0.0 (1.0)
 cmyn3** 0.0 1.0 1.0 (0.0)

standard and adapted CIELAB
 LAB*LAB 91.97 -0.17 -5.11
 LAB*LABa 91.97 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

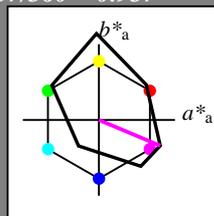
relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

$n^* = 1.0$

Output: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 337/360 = 0.937$
 lab^*tch and lab^*nch

D65: hue M
 LCH*Ma: 35 88 337
 olv*Ma: 1.0 0.0 1.0
 triangle lightness t^*



FRS06; adapted (a) CIELAB data

	L^*	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	32.57	62.32	46.49	77.75	37
YMa	82.73	-3.16	113.99	114.03	92
LMa	39.43	-61.79	45.84	76.95	143
CMa	47.86	-26.79	-34.24	43.49	232
VMa	10.16	55.12	-61.03	82.24	312
NMa	34.5	80.68	-33.92	87.52	337
NMa	6.25	0.0	0.0	0.0	0
WMa	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	-2.52	76.25	76.29	92
GCIE	52.23	-41.56	17.14	44.96	158
BCIE	30.57	2.63	-43.77	43.86	273

%Gamut
 $u^*_{rel} = 115$
 %Regularity
 $g^*_{H,rel} = 28$
 $g^*_{C,rel} = 38$

relative Inform. Technology (IT)
 olv3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olv3** 1.0 1.0 1.0 (1.0)
 cmyn3** 0.0 0.0 0.0 (0.0)

standard and adapted CIELAB
 LAB*LAB 91.97 -0.17 -5.11
 LAB*LABa 91.97 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olv3* 0.5 0.5 0.5 (1.0)
 cmyn3* 0.5 0.5 0.5 (0.0)
 olv3** 0.546 0.52 0.498 (1.0)
 cmyn3** 0.454 0.48 0.502 (0.0)

standard and adapted CIELAB
 LAB*LAB 49.11 -0.89 -3.42
 LAB*LABa 49.11 0.0 0.0
 LAB*TCHa 50.0 0.01 -

relative CIELAB lab*
 lab*lab 0.5 0.0 0.0
 lab*tch 0.5 0.0 -
 lab*nch 0.5 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.5 0.0 0.0
 lab*tce 0.5 0.0 -
 lab*nce 0.5 0.0 -

relative Inform. Technology (IT)
 olv3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olv3** 0.0 0.0 0.0 (1.0)
 cmyn3** 1.0 1.0 1.0 (0.0)

standard and adapted CIELAB
 LAB*LAB 91.97 -0.17 -5.11
 LAB*LABa 91.97 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

$n^* = 1.0$

relative Inform. Technology (IT)
 olv3* 1.0 0.5 1.0 (1.0)
 cmyn3* 0.0 0.5 0.0 (0.0)
 olv3** 0.961 0.52 0.821 (1.0)
 cmyn3** 0.039 0.48 0.179 (0.0)

standard and adapted CIELAB
 LAB*LAB 63.23 39.67 -20.93
 LAB*LABa 63.23 40.33 -16.95
 LAB*TCHa 75.0 43.75 337.19

relative CIELAB lab*
 lab*lab 0.665 0.461 -0.193
 lab*tch 0.75 0.5 0.937
 lab*nch 0.0 0.5 0.937

relative Natural Colour (NC)
 lab*lrj 0.665 0.385 -0.318
 lab*tce 0.75 0.5 0.89
 lab*nce 0.0 0.5 0.89

relative Inform. Technology (IT)
 olv3* 0.5 0.0 0.5 (1.0)
 cmyn3* 0.5 1.0 0.5 (0.0)
 olv3** 0.508 0.062 0.375 (1.0)
 cmyn3** 0.492 0.938 0.625 (0.0)

standard and adapted CIELAB
 LAB*LAB 20.38 38.94 -19.24
 LAB*LABa 20.38 40.33 -16.95
 LAB*TCHa 25.01 43.75 337.19

relative CIELAB lab*
 lab*lab 0.165 0.461 -0.193
 lab*tch 0.25 0.5 0.937
 lab*nch 0.5 0.5 0.937

relative Natural Colour (NC)
 lab*lrj 0.165 0.385 -0.318
 lab*tce 0.25 0.5 0.89
 lab*nce 0.5 0.5 0.89

relative Inform. Technology (IT)
 olv3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olv3** 1.0 0.0 0.0 (1.0)
 cmyn3** 0.0 1.0 1.0 (0.0)

standard and adapted CIELAB
 LAB*LAB 91.97 -0.17 -5.11
 LAB*LABa 91.97 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olv3* 1.0 0.0 1.0 (1.0)
 cmyn3* 0.0 1.0 0.0 (0.0)
 olv3** 1.0 0.0 0.999 (1.0)
 cmyn3** 0.0 1.0 0.001 (0.0)

standard and adapted CIELAB
 LAB*LAB 34.5 79.51 -36.75
 LAB*LABa 34.5 80.67 -33.91
 LAB*TCHa 50.0 87.51 337.19

relative CIELAB lab*
 lab*lab 0.33 0.922 -0.387
 lab*tch 0.5 1.0 0.937
 lab*nch 0.0 1.0 0.937

relative Natural Colour (NC)
 lab*lrj 0.33 0.77 -0.637
 lab*tce 0.5 1.0 0.89
 lab*nce 0.0 1.0 0.89

$n^* = 0.00$

blackness n^*

chromaticness c^*

$n^* = 0.50$

chromaticness c^*

$n^* = 1.00$

chromaticness c^*

relative Inform. Technology (IT)
 olv3* 1.0 0.5 1.0 (1.0)
 cmyn3* 0.0 0.5 0.0 (0.0)
 olv3** 0.961 0.52 0.821 (1.0)
 cmyn3** 0.039 0.48 0.179 (0.0)

standard and adapted CIELAB
 LAB*LAB 63.23 39.67 -20.93
 LAB*LABa 63.23 40.33 -16.95
 LAB*TCHa 75.0 43.75 337.19

relative CIELAB lab*
 lab*lab 0.665 0.461 -0.193
 lab*tch 0.75 0.5 0.937
 lab*nch 0.0 0.5 0.937

relative Natural Colour (NC)
 lab*lrj 0.665 0.385 -0.318
 lab*tce 0.75 0.5 0.89
 lab*nce 0.0 0.5 0.89

relative Inform. Technology (IT)
 olv3* 0.5 0.0 0.5 (1.0)
 cmyn3* 0.5 1.0 0.5 (0.0)
 olv3** 0.508 0.062 0.375 (1.0)
 cmyn3** 0.492 0.938 0.625 (0.0)

standard and adapted CIELAB
 LAB*LAB 20.38 38.94 -19.24
 LAB*LABa 20.38 40.33 -16.95
 LAB*TCHa 25.01 43.75 337.19

relative CIELAB lab*
 lab*lab 0.165 0.461 -0.193
 lab*tch 0.25 0.5 0.937
 lab*nch 0.5 0.5 0.937

relative Natural Colour (NC)
 lab*lrj 0.165 0.385 -0.318
 lab*tce 0.25 0.5 0.89
 lab*nce 0.5 0.5 0.89

relative Inform. Technology (IT)
 olv3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olv3** 1.0 0.0 0.0 (1.0)
 cmyn3** 0.0 1.0 1.0 (0.0)

standard and adapted CIELAB
 LAB*LAB 91.97 -0.17 -5.11
 LAB*LABa 91.97 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olv3* 1.0 0.5 1.0 (1.0)
 cmyn3* 0.0 0.5 0.0 (0.0)
 olv3** 0.961 0.52 0.821 (1.0)
 cmyn3** 0.039 0.48 0.179 (0.0)

standard and adapted CIELAB
 LAB*LAB 63.23 39.67 -20.93
 LAB*LABa 63.23 40.33 -16.95
 LAB*TCHa 75.0 43.75 337.19

relative CIELAB lab*
 lab*lab 0.665 0.461 -0.193
 lab*tch 0.75 0.5 0.937
 lab*nch 0.0 0.5 0.937

relative Natural Colour (NC)
 lab*lrj 0.665 0.385 -0.318
 lab*tce 0.75 0.5 0.89
 lab*nce 0.0 0.5 0.89

relative Inform. Technology (IT)
 olv3* 1.0 0.0 1.0 (1.0)
 cmyn3* 0.0 1.0 0.0 (0.0)
 olv3** 1.0 0.0 0.999 (1.0)
 cmyn3** 0.0 1.0 0.001 (0.0)

standard and adapted CIELAB
 LAB*LAB 34.5 79.51 -36.75
 LAB*LABa 34.5 80.67 -33.91
 LAB*TCHa 50.0 87.51 337.19

relative CIELAB lab*
 lab*lab 0.33 0.922 -0.387
 lab*tch 0.5 1.0 0.937
 lab*nch 0.0 1.0 0.937

relative Natural Colour (NC)
 lab*lrj 0.33 0.77 -0.637
 lab*tce 0.5 1.0 0.89
 lab*nce 0.0 1.0 0.89

relative Inform. Technology (IT)
 olv3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olv3** 1.0 0.0 0.0 (1.0)
 cmyn3** 0.0 1.0 1.0 (0.0)

standard and adapted CIELAB
 LAB*LAB 91.97 -0.17 -5.11
 LAB*LABa 91.97 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

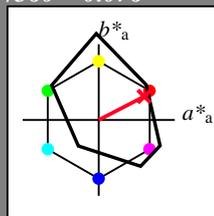
relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

Input: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 27/360 = 0.076$
 lab^*tch and lab^*nch

D65: hue R
 LCH*Ma: 33 73 27
 olv*Ma: 1.0 0.0 0.16

triangle lightness t^*



FRS06; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	32.57	62.32	46.49	77.75	37
YMa	82.73	-3.16	113.99	114.03	92
LMa	39.43	-61.79	45.84	76.95	143
CMa	47.86	-26.79	-34.24	43.49	232
VMa	10.16	55.12	-61.03	82.24	312
NMa	34.5	80.68	-33.92	87.52	337
Ma	6.25	0.0	0.0	0.0	0
WMa	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	-2.52	76.25	76.29	92
GCIE	52.23	-41.56	17.14	44.96	158
BCIE	30.57	2.63	-43.77	43.86	273

%Gamut

$u^*_{rel} = 115$

%Regularity

$g^*_{H,rel} = 28$

$g^*_{C,rel} = 38$

relative Inform. Technology (IT)

olv $i3^*$	1.0	1.0	1.0	(1.0)
cmyn 3^*	0.0	0.0	0.0	(0.0)
olv $i3^*$	1.0	1.0	1.0	(1.0)
cmyn 3^*	0.0	0.0	0.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

olv $i3^*$	0.5	0.5	0.5	(1.0)
cmyn 3^*	0.5	0.5	0.5	(0.0)
olv $i3^*$	0.546	0.52	0.498	(1.0)
cmyn 3^*	0.454	0.48	0.502	(0.0)

standard and adapted CIELAB

LAB*LAB	49.11	-0.89	-3.42
LAB*LABa	49.11	0.0	0.0
LAB*TCHa	50.0	0.01	-

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)

olv $i3^*$	1.0	1.0	1.0	(1.0)
cmyn 3^*	0.0	0.0	0.0	(0.0)
olv $i3^*$	1.0	0.0	0.0	(1.0)
cmyn 3^*	0.0	1.0	1.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

$n^* = 1.0$

relative Inform. Technology (IT)

olv $i3^*$	1.0	0.5	0.579	(1.0)
cmyn 3^*	0.0	0.5	0.421	(0.0)
olv $i3^*$	0.995	0.52	0.485	(1.0)
cmyn 3^*	0.005	0.48	0.515	(0.0)

standard and adapted CIELAB

LAB*LAB	62.42	31.92	12.98
LAB*LABa	62.42	32.6	16.92
LAB*TCHa	75.0	36.73	27.44

relative CIELAB lab*

lab*lab	0.655	0.444	0.23
lab*tch	0.75	0.5	0.076
lab*nch	0.0	0.5	0.076

relative Natural Colour (NC)

lab*lrj	0.655	0.5	0.0
lab*tce	0.75	0.5	1.0
lab*nce	0.0	0.5	b99r

relative Inform. Technology (IT)

olv $i3^*$	0.5	0.0	0.079	(1.0)
cmyn 3^*	0.5	1.0	0.921	(0.0)
olv $i3^*$	0.54	0.057	0.088	(1.0)
cmyn 3^*	0.46	0.943	0.912	(0.0)

standard and adapted CIELAB

LAB*LAB	19.57	31.19	14.68
LAB*LABa	19.57	32.6	16.93
LAB*TCHa	25.01	36.73	27.45

relative CIELAB lab*

lab*lab	0.155	0.444	0.23
lab*tch	0.25	0.5	0.076
lab*nch	0.5	0.5	0.076

relative Natural Colour (NC)

lab*lrj	0.155	0.5	0.0
lab*tce	0.25	0.5	0.0
lab*nce	0.5	0.5	r00j

$n^* = 0.50$

relative Inform. Technology (IT)

olv $i3^*$	1.0	0.0	0.157	(1.0)
cmyn 3^*	0.0	1.0	0.843	(0.0)
olv $i3^*$	1.0	0.0	0.144	(1.0)
cmyn 3^*	0.0	1.0	0.856	(0.0)

standard and adapted CIELAB

LAB*LAB	32.88	64.01	31.07
LAB*LABa	32.88	65.19	33.85
LAB*TCHa	50.0	73.46	27.44

relative CIELAB lab*

lab*lab	0.311	0.887	0.461
lab*tch	0.5	1.0	0.076
lab*nch	0.0	1.0	0.076

relative Natural Colour (NC)

lab*lrj	0.311	1.0	0.0
lab*tce	0.5	1.0	0.0
lab*nce	0.0	1.0	r00j

$n^* = 0.00$

blackness n^*

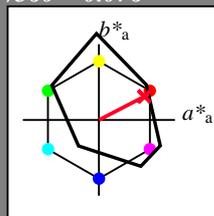
chromaticness c^*

Output: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 27/360 = 0.076$
 lab^*tch and lab^*nch

D65: hue R
 LCH*Ma: 33 73 27
 olv*Ma: 1.0 0.0 0.16

triangle lightness t^*



FRS06; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	32.57	62.32	46.49	77.75	37
YMa	82.73	-3.16	113.99	114.03	92
LMa	39.43	-61.79	45.84	76.95	143
CMa	47.86	-26.79	-34.24	43.49	232
VMa	10.16	55.12	-61.03	82.24	312
NMa	34.5	80.68	-33.92	87.52	337
Ma	6.25	0.0	0.0	0.0	0
WMa	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	-2.52	76.25	76.29	92
GCIE	52.23	-41.56	17.14	44.96	158
BCIE	30.57	2.63	-43.77	43.86	273

%Gamut

$u^*_{rel} = 115$

%Regularity

$g^*_{H,rel} = 28$

$g^*_{C,rel} = 38$

relative Inform. Technology (IT)

olv $i3^*$	1.0	1.0	1.0	(1.0)
cmyn 3^*	0.0	0.0	0.0	(0.0)
olv $i3^*$	1.0	1.0	1.0	(1.0)
cmyn 3^*	0.0	0.0	0.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

olv $i3^*$	0.5	0.5	0.5	(1.0)
cmyn 3^*	0.5	0.5	0.5	(0.0)
olv $i3^*$	0.546	0.52	0.498	(1.0)
cmyn 3^*	0.454	0.48	0.502	(0.0)

standard and adapted CIELAB

LAB*LAB	49.11	-0.89	-3.42
LAB*LABa	49.11	0.0	0.0
LAB*TCHa	50.0	0.01	-

relative CIELAB lab*

lab*lab	0.655	0.444	0.23
lab*tch	0.75	0.5	0.076
lab*nch	0.0	0.5	0.076

relative Natural Colour (NC)

lab*lrj	0.655	0.5	0.0
lab*tce	0.75	0.5	1.0
lab*nce	0.0	0.5	b99r

relative Inform. Technology (IT)

olv $i3^*$	1.0	1.0	1.0	(1.0)
cmyn 3^*	0.0	0.0	0.0	(0.0)
olv $i3^*$	1.0	0.0	0.0	(1.0)
cmyn 3^*	0.0	1.0	1.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

$n^* = 1.0$

blackness n^*

chromaticness c^*

VE210-7, 3 step scales for constant CIELAB hue 27/360 = 0.076 (left)

3 step scales for constant CIELAB hue 27/360 = 0.076 (right)

BAM-test chart VE21; Colorimetric systems FRS06 & FRS06
 D65: 2 coordinate data of 3 step colour scales for 10 hues

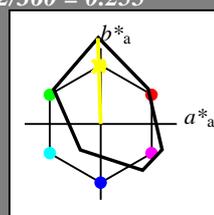
input: olv* setrgbcolor
 output: olv*' (TRI9) setrgbcolor

Input: Colorimetric Printer Reflective System FRS06

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

D65: hue J
 LCH*Ma: 82 113 92
 olv*Ma: 0.99 1.0 0.0

triangle lightness t^*



FRS06; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	32.57	62.32	46.49	77.75	37
YMa	82.73	-3.16	113.99	114.03	92
LMa	39.43	-61.79	45.84	76.95	143
CMa	47.86	-26.79	-34.24	43.49	232
VMa	10.16	55.12	-61.03	82.24	312
MMa	34.5	80.68	-33.92	87.52	337
NMa	6.25	0.0	0.0	0.0	0
WMa	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	-2.52	76.25	76.29	92
GCIE	52.23	-41.56	17.14	44.96	158
BCIE	30.57	2.63	-43.77	43.86	273

%Gamut
 $u^*_{rel} = 115$
 %Regularity
 $g^*_{H,rel} = 28$
 $g^*_{C,rel} = 38$

relative Inform. Technology (IT)
 $olvi3^* \ 1.0 \ 1.0 \ 1.0 \ (1.0)$
 $cmyn3^* \ 0.0 \ 0.0 \ 0.0 \ (0.0)$
 $olvi3^* \ 1.0 \ 1.0 \ 1.0 \ (1.0)$
 $cmyn3^* \ 0.0 \ 0.0 \ 0.0 \ (0.0)$

standard and adapted CIELAB
 $LAB^*LAB \ 91.97 \ -0.17 \ -5.11$
 $LAB^*LABa \ 91.97 \ 0.0 \ 0.0$
 $LAB^*TCHa \ 99.99 \ 0.01 \ -$

relative CIELAB lab*
 $lab^*lab \ 1.0 \ 0.0 \ 0.0$
 $lab^*tch \ 1.0 \ 0.0 \ -$
 $lab^*nch \ 0.0 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj \ 1.0 \ 0.0 \ 0.0$
 $lab^*tce \ 1.0 \ 0.0 \ -$
 $lab^*nce \ 0.0 \ 0.0 \ -$

relative Inform. Technology (IT)
 $olvi3^* \ 0.995 \ 1.0 \ 0.5 \ (1.0)$
 $cmyn3^* \ 0.005 \ 0.0 \ 0.5 \ (0.0)$
 $olvi3^* \ 1.0 \ 0.948 \ 0.43 \ (1.0)$
 $cmyn3^* \ 0.0 \ 0.052 \ 0.57 \ (0.0)$

standard and adapted CIELAB
 $LAB^*LAB \ 87.13 \ -2.12 \ 51.73$
 $LAB^*LABa \ 87.13 \ -1.86 \ 56.65$
 $LAB^*TCHa \ 75.0 \ 56.68 \ 91.89$

relative CIELAB lab*
 $lab^*lab \ 0.944 \ -0.016 \ 0.5$
 $lab^*tch \ 0.75 \ 0.5 \ 0.255$
 $lab^*nch \ 0.0 \ 0.5 \ 0.255$

relative Natural Colour (NC)
 $lab^*lrj \ 0.944 \ 0.0 \ 0.5$
 $lab^*tce \ 0.75 \ 0.5 \ 0.25$
 $lab^*nce \ 0.0 \ 0.5 \ r99j$

relative Inform. Technology (IT)
 $olvi3^* \ 0.5 \ 0.5 \ 0.5 \ (1.0)$
 $cmyn3^* \ 0.5 \ 0.5 \ 0.5 \ (0.0)$
 $olvi3^* \ 0.546 \ 0.52 \ 0.498 \ (1.0)$
 $cmyn3^* \ 0.454 \ 0.48 \ 0.502 \ (0.0)$

standard and adapted CIELAB
 $LAB^*LAB \ 49.11 \ -0.89 \ -3.42$
 $LAB^*LABa \ 49.11 \ 0.0 \ 0.0$
 $LAB^*TCHa \ 50.0 \ 0.01 \ -$

relative CIELAB lab*
 $lab^*lab \ 0.5 \ 0.0 \ 0.0$
 $lab^*tch \ 0.5 \ 0.0 \ -$
 $lab^*nch \ 0.5 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj \ 0.5 \ 0.0 \ 0.0$
 $lab^*tce \ 0.5 \ 0.0 \ -$
 $lab^*nce \ 0.5 \ 0.0 \ -$

relative Inform. Technology (IT)
 $olvi3^* \ 0.495 \ 0.5 \ 0.0 \ (1.0)$
 $cmyn3^* \ 0.505 \ 0.5 \ 1.0 \ (0.0)$
 $olvi3^* \ 0.591 \ 0.485 \ 0.002 \ (1.0)$
 $cmyn3^* \ 0.409 \ 0.515 \ 0.998 \ (0.0)$

standard and adapted CIELAB
 $LAB^*LAB \ 44.28 \ -2.86 \ 53.41$
 $LAB^*LABa \ 44.28 \ -1.87 \ 56.64$
 $LAB^*TCHa \ 25.01 \ 56.67 \ 91.9$

relative CIELAB lab*
 $lab^*lab \ 0.444 \ -0.016 \ 0.5$
 $lab^*tch \ 0.25 \ 0.5 \ 0.255$
 $lab^*nch \ 0.5 \ 0.5 \ 0.255$

relative Natural Colour (NC)
 $lab^*lrj \ 0.444 \ 0.0 \ 0.5$
 $lab^*tce \ 0.25 \ 0.5 \ 0.25$
 $lab^*nce \ 0.5 \ 0.5 \ 100g$

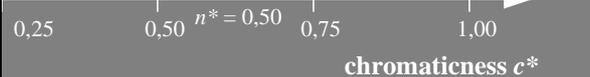
relative Inform. Technology (IT)
 $olvi3^* \ 1.0 \ 1.0 \ 1.0 \ (1.0)$
 $cmyn3^* \ 0.0 \ 0.0 \ 0.0 \ (0.0)$
 $olvi3^* \ 1.0 \ 0.0 \ 0.0 \ (1.0)$
 $cmyn3^* \ 0.0 \ 1.0 \ 1.0 \ (0.0)$

standard and adapted CIELAB
 $LAB^*LAB \ 91.97 \ -0.17 \ -5.11$
 $LAB^*LABa \ 91.97 \ 0.0 \ 0.0$
 $LAB^*TCHa \ 99.99 \ 0.01 \ -$

relative CIELAB lab*
 $lab^*lab \ 1.0 \ 0.0 \ 0.0$
 $lab^*tch \ 1.0 \ 0.0 \ -$
 $lab^*nch \ 0.0 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj \ 1.0 \ 0.0 \ 0.0$
 $lab^*tce \ 1.0 \ 0.0 \ -$
 $lab^*nce \ 0.0 \ 0.0 \ -$

$n^* = 1.0$



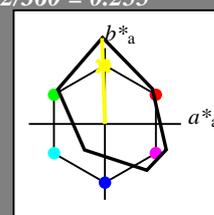
chromaticness c^*

Output: Colorimetric Printer Reflective System FRS06

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

D65: hue J
 LCH*Ma: 82 113 92
 olv*Ma: 0.99 1.0 0.0

triangle lightness t^*



FRS06; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	32.57	62.32	46.49	77.75	37
YMa	82.73	-3.16	113.99	114.03	92
LMa	39.43	-61.79	45.84	76.95	143
CMa	47.86	-26.79	-34.24	43.49	232
VMa	10.16	55.12	-61.03	82.24	312
MMa	34.5	80.68	-33.92	87.52	337
NMa	6.25	0.0	0.0	0.0	0
WMa	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	-2.52	76.25	76.29	92
GCIE	52.23	-41.56	17.14	44.96	158
BCIE	30.57	2.63	-43.77	43.86	273

%Gamut
 $u^*_{rel} = 115$
 %Regularity
 $g^*_{H,rel} = 28$
 $g^*_{C,rel} = 38$

relative Inform. Technology (IT)
 $olvi3^* \ 1.0 \ 1.0 \ 1.0 \ (1.0)$
 $cmyn3^* \ 0.0 \ 0.0 \ 0.0 \ (0.0)$
 $olvi3^* \ 1.0 \ 1.0 \ 1.0 \ (1.0)$
 $cmyn3^* \ 0.0 \ 0.0 \ 0.0 \ (0.0)$

standard and adapted CIELAB
 $LAB^*LAB \ 91.97 \ -0.17 \ -5.11$
 $LAB^*LABa \ 91.97 \ 0.0 \ 0.0$
 $LAB^*TCHa \ 99.99 \ 0.01 \ -$

relative CIELAB lab*
 $lab^*lab \ 1.0 \ 0.0 \ 0.0$
 $lab^*tch \ 1.0 \ 0.0 \ -$
 $lab^*nch \ 0.0 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj \ 1.0 \ 0.0 \ 0.0$
 $lab^*tce \ 1.0 \ 0.0 \ -$
 $lab^*nce \ 0.0 \ 0.0 \ -$

relative Inform. Technology (IT)
 $olvi3^* \ 0.995 \ 1.0 \ 0.5 \ (1.0)$
 $cmyn3^* \ 0.005 \ 0.0 \ 0.5 \ (0.0)$
 $olvi3^* \ 1.0 \ 0.948 \ 0.43 \ (1.0)$
 $cmyn3^* \ 0.0 \ 0.052 \ 0.57 \ (0.0)$

standard and adapted CIELAB
 $LAB^*LAB \ 87.13 \ -2.12 \ 51.73$
 $LAB^*LABa \ 87.13 \ -1.86 \ 56.65$
 $LAB^*TCHa \ 75.0 \ 56.68 \ 91.89$

relative CIELAB lab*
 $lab^*lab \ 0.944 \ -0.016 \ 0.5$
 $lab^*tch \ 0.75 \ 0.5 \ 0.255$
 $lab^*nch \ 0.0 \ 0.5 \ 0.255$

relative Natural Colour (NC)
 $lab^*lrj \ 0.944 \ 0.0 \ 0.5$
 $lab^*tce \ 0.75 \ 0.5 \ 0.25$
 $lab^*nce \ 0.0 \ 0.5 \ r99j$

relative Inform. Technology (IT)
 $olvi3^* \ 0.5 \ 0.5 \ 0.5 \ (1.0)$
 $cmyn3^* \ 0.5 \ 0.5 \ 0.5 \ (0.0)$
 $olvi3^* \ 0.546 \ 0.52 \ 0.498 \ (1.0)$
 $cmyn3^* \ 0.454 \ 0.48 \ 0.502 \ (0.0)$

standard and adapted CIELAB
 $LAB^*LAB \ 49.11 \ -0.89 \ -3.42$
 $LAB^*LABa \ 49.11 \ 0.0 \ 0.0$
 $LAB^*TCHa \ 50.0 \ 0.01 \ -$

relative CIELAB lab*
 $lab^*lab \ 0.5 \ 0.0 \ 0.0$
 $lab^*tch \ 0.5 \ 0.0 \ -$
 $lab^*nch \ 0.5 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj \ 0.5 \ 0.0 \ 0.0$
 $lab^*tce \ 0.5 \ 0.0 \ -$
 $lab^*nce \ 0.5 \ 0.0 \ -$

relative Inform. Technology (IT)
 $olvi3^* \ 0.495 \ 0.5 \ 0.0 \ (1.0)$
 $cmyn3^* \ 0.505 \ 0.5 \ 1.0 \ (0.0)$
 $olvi3^* \ 0.591 \ 0.485 \ 0.002 \ (1.0)$
 $cmyn3^* \ 0.409 \ 0.515 \ 0.998 \ (0.0)$

standard and adapted CIELAB
 $LAB^*LAB \ 44.28 \ -2.86 \ 53.41$
 $LAB^*LABa \ 44.28 \ -1.87 \ 56.64$
 $LAB^*TCHa \ 25.01 \ 56.67 \ 91.9$

relative CIELAB lab*
 $lab^*lab \ 0.444 \ -0.016 \ 0.5$
 $lab^*tch \ 0.25 \ 0.5 \ 0.255$
 $lab^*nch \ 0.5 \ 0.5 \ 0.255$

relative Natural Colour (NC)
 $lab^*lrj \ 0.444 \ 0.0 \ 0.5$
 $lab^*tce \ 0.25 \ 0.5 \ 0.25$
 $lab^*nce \ 0.5 \ 0.5 \ 100g$

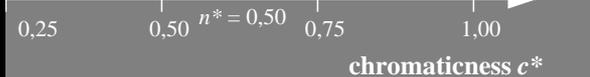
relative Inform. Technology (IT)
 $olvi3^* \ 1.0 \ 1.0 \ 1.0 \ (1.0)$
 $cmyn3^* \ 0.0 \ 0.0 \ 0.0 \ (0.0)$
 $olvi3^* \ 0.0 \ 0.0 \ 0.0 \ (1.0)$
 $cmyn3^* \ 1.0 \ 1.0 \ 1.0 \ (0.0)$

standard and adapted CIELAB
 $LAB^*LAB \ 91.97 \ -0.17 \ -5.11$
 $LAB^*LABa \ 91.97 \ 0.0 \ 0.0$
 $LAB^*TCHa \ 99.99 \ 0.01 \ -$

relative CIELAB lab*
 $lab^*lab \ 1.0 \ 0.0 \ 0.0$
 $lab^*tch \ 1.0 \ 0.0 \ -$
 $lab^*nch \ 0.0 \ 0.0 \ -$

relative Natural Colour (NC)
 $lab^*lrj \ 1.0 \ 0.0 \ 0.0$
 $lab^*tce \ 1.0 \ 0.0 \ -$
 $lab^*nce \ 0.0 \ 0.0 \ -$

$n^* = 1.0$



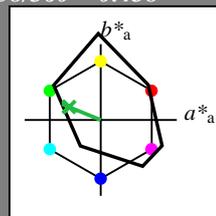
chromaticness c^*

Input: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 158/360 = 0.438$
 lab^*tch and lab^*nch

D65: hue G
 LCH*Ma: 42 55 158
 olv*Ma: 0.0 1.0 0.31

triangle lightness t^*



FRS06; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	32.57	62.32	46.49	77.75	37
YMa	82.73	-3.16	113.99	114.03	92
LMa	39.43	-61.79	45.84	76.95	143
CMa	47.86	-26.79	-34.24	43.49	232
VMa	10.16	55.12	-61.03	82.24	312
MMa	34.5	80.68	-33.92	87.52	337
NMa	6.25	0.0	0.0	0.0	0
WMa	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	-2.52	76.25	76.29	92
GCIE	52.23	-41.56	17.14	44.96	158
BCIE	30.57	2.63	-43.77	43.86	273

%Gamut

$u^*_{rel} = 115$

%Regularity

$g^*_{H,rel} = 28$

$g^*_{C,rel} = 38$

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	1.0	1.0	1.0	(1.0)
cmyn3**	0.0	0.0	0.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

olvi3*	0.5	0.5	0.5	(1.0)
cmyn3*	0.5	0.5	0.5	(0.0)
olvi3**	0.546	0.52	0.498	(1.0)
cmyn3**	0.454	0.48	0.502	(0.0)

standard and adapted CIELAB

LAB*LAB	49.11	-0.89	-3.42
LAB*LABa	49.11	0.0	0.0
LAB*TCHa	50.0	0.01	-

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	1.0	0.0	0.0	(1.0)
cmyn3**	0.0	1.0	1.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

$n^* = 1.0$

relative Inform. Technology (IT)

olvi3*	0.5	1.0	0.655	(1.0)
cmyn3*	0.5	0.0	0.345	(0.0)
olvi3**	0.563	0.852	0.603	(1.0)
cmyn3**	0.437	0.148	0.397	(0.0)

standard and adapted CIELAB

LAB*LAB	67.0	-26.06	6.38
LAB*LABa	67.0	-25.46	10.5
LAB*TCHa	75.0	27.55	157.59

relative CIELAB lab*

lab*lab	0.709	-0.461	0.191
lab*tch	0.75	0.5	0.438
lab*nch	0.0	0.5	0.438

relative Natural Colour (NC)

lab*lrj	0.709	-0.499	0.0
lab*tce	0.75	0.5	0.5
lab*nce	0.0	0.5	g00b

relative Inform. Technology (IT)

olvi3*	0.0	0.5	0.155	(1.0)
cmyn3*	1.0	0.5	0.845	(0.0)
olvi3**	0.108	0.363	0.161	(1.0)
cmyn3**	0.892	0.637	0.839	(0.0)

standard and adapted CIELAB

LAB*LAB	24.15	-26.79	8.07
LAB*LABa	24.15	-25.46	10.51
LAB*TCHa	25.01	27.56	157.58

relative CIELAB lab*

lab*lab	0.209	-0.461	0.191
lab*tch	0.25	0.5	0.438
lab*nch	0.5	0.5	0.438

relative Natural Colour (NC)

lab*lrj	0.209	-0.499	0.0
lab*tce	0.25	0.5	0.5
lab*nce	0.5	0.5	199g

$n^* = 0.50$

chromaticness c^*

0.25 0.50 0.75 1.00

relative Inform. Technology (IT)

olvi3*	0.0	1.0	0.31	(1.0)
cmyn3*	1.0	0.0	0.69	(0.0)
olvi3**	0.13	0.728	0.253	(1.0)
cmyn3**	0.87	0.272	0.747	(0.0)

standard and adapted CIELAB

LAB*LAB	42.04	-51.96	17.87
LAB*LABa	42.04	-50.93	21.01
LAB*TCHa	50.0	55.11	157.59

relative CIELAB lab*

lab*lab	0.418	-0.923	0.381
lab*tch	0.5	1.0	0.438
lab*nch	0.0	1.0	0.438

relative Natural Colour (NC)

lab*lrj	0.418	-0.999	0.0
lab*tce	0.5	1.0	0.5
lab*nce	0.0	1.0	199g

$n^* = 0.00$

blackness n^*

0.25 0.50 0.75 1.00

chromaticness c^*

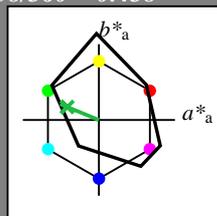
0.25 0.50 0.75 1.00

Output: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 158/360 = 0.438$
 lab^*tch and lab^*nch

D65: hue G
 LCH*Ma: 42 55 158
 olv*Ma: 0.0 1.0 0.31

triangle lightness t^*



FRS06; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	32.57	62.32	46.49	77.75	37
YMa	82.73	-3.16	113.99	114.03	92
LMa	39.43	-61.79	45.84	76.95	143
CMa	47.86	-26.79	-34.24	43.49	232
VMa	10.16	55.12	-61.03	82.24	312
MMa	34.5	80.68	-33.92	87.52	337
NMa	6.25	0.0	0.0	0.0	0
WMa	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	-2.52	76.25	76.29	92
GCIE	52.23	-41.56	17.14	44.96	158
BCIE	30.57	2.63	-43.77	43.86	273

%Gamut

$u^*_{rel} = 115$

%Regularity

$g^*_{H,rel} = 28$

$g^*_{C,rel} = 38$

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	1.0	1.0	1.0	(1.0)
cmyn3**	0.0	0.0	0.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

olvi3*	0.5	0.5	0.5	(1.0)
cmyn3*	0.5	0.5	0.5	(0.0)
olvi3**	0.546	0.52	0.498	(1.0)
cmyn3**	0.454	0.48	0.502	(0.0)

standard and adapted CIELAB

LAB*LAB	49.11	-0.89	-3.42
LAB*LABa	49.11	0.0	0.0
LAB*TCHa	50.0	0.01	-

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)

olvi3*	0.5	1.0	0.655	(1.0)
cmyn3*	0.5	0.0	0.345	(0.0)
olvi3**	0.563	0.852	0.603	(1.0)
cmyn3**	0.437	0.148	0.397	(0.0)

standard and adapted CIELAB

LAB*LAB	67.0	-26.06	6.38
LAB*LABa	67.0	-25.46	10.5
LAB*TCHa	75.0	27.55	157.59

relative CIELAB lab*

lab*lab	0.709	-0.461	0.191
lab*tch	0.75	0.5	0.438
lab*nch	0.0	0.5	0.438

relative Natural Colour (NC)

lab*lrj	0.709	-0.499	0.0
lab*tce	0.75	0.5	0.5
lab*nce	0.0	0.5	g00b

relative Inform. Technology (IT)

olvi3*	0.0	0.5	0.155	(1.0)
cmyn3*	1.0	0.5	0.845	(0.0)
olvi3**	0.108	0.363	0.161	(1.0)
cmyn3**	0.892	0.637	0.839	(0.0)

standard and adapted CIELAB

LAB*LAB	24.15	-26.79	8.07
LAB*LABa	24.15	-25.46	10.51
LAB*TCHa	25.01	27.56	157.58

relative CIELAB lab*

lab*lab	0.209	-0.461	0.191
lab*tch	0.25	0.5	0.438
lab*nch	0.5	0.5	0.438

relative Natural Colour (NC)

lab*lrj	0.209	-0.499	0.0
lab*tce	0.25	0.5	0.5
lab*nce	0.5	0.5	199g

$n^* = 0.50$

chromaticness c^*

0.25 0.50 0.75 1.00

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	0.0	0.0	0.0	(1.0)
cmyn3**	1.0	1.0	1.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

$n^* = 1.0$

3 step scales for constant CIELAB hue 158/360 = 0.438 (right)

BAM-test chart VE21; Colorimetric systems FRS06 & FRS06
 D65: 2 coordinate data of 3 step colour scales for 10 hues

input: olv^* setrgbcolor
 output: olv^* (TRI9) setrgbcolor

0.25 0.50 0.75 1.00

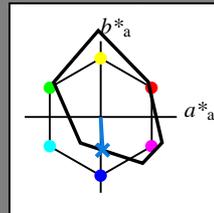
0.25 0.50 0.75 1.00

Input: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 273/360 = 0.76$
 lab^*tch and lab^*nch

D65: hue B
 LCH*Ma: 34 44 273
 olv*Ma: 0.0 0.64 1.0

triangle lightness t^*



FRS06; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	32.57	62.32	46.49	77.75	37
YMa	82.73	-3.16	113.99	114.03	92
LMa	39.43	-61.79	45.84	76.95	143
CMa	47.86	-26.79	-34.24	43.49	232
VMa	10.16	55.12	-61.03	82.24	312
MMa	34.5	80.68	-33.92	87.52	337
NMa	6.25	0.0	0.0	0.0	0
WMa	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	-2.52	76.25	76.29	92
GCIE	52.23	-41.56	17.14	44.96	158
BCIE	30.57	2.63	-43.77	43.86	273

%Gamut

$u^*_{rel} = 115$

%Regularity

$g^*_{H,rel} = 28$

$g^*_{C,rel} = 38$

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	1.0	1.0	1.0	(1.0)
cmyn3**	0.0	0.0	0.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

olvi3*	0.5	0.82	1.0	(1.0)
cmyn3*	0.5	0.18	0.0	(0.0)
olvi3**	0.611	0.702	0.862	(1.0)
cmyn3**	0.389	0.298	0.138	(0.0)

standard and adapted CIELAB

LAB*LAB	63.14	0.64	-25.89
LAB*LABa	63.14	1.31	-21.92
LAB*TCHa	75.0	21.97	273.42

relative CIELAB lab*

lab*lab	0.664	0.03	-0.498
lab*tch	0.75	0.5	0.76
lab*nch	0.0	0.5	0.76

relative Natural Colour (NC)

lab*lrj	0.664	0.0	-0.499
lab*tce	0.75	0.5	0.75
lab*nce	0.0	0.5	g99b

relative Inform. Technology (IT)

olvi3*	0.5	0.5	0.5	(1.0)
cmyn3*	0.5	0.5	0.5	(0.0)
olvi3**	0.546	0.52	0.498	(1.0)
cmyn3**	0.454	0.48	0.502	(0.0)

standard and adapted CIELAB

LAB*LAB	49.11	-0.89	-3.42
LAB*LABa	49.11	0.0	0.0
LAB*TCHa	50.0	0.01	-

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)

olvi3*	0.0	0.32	0.5	(1.0)
cmyn3*	1.0	0.68	0.5	(0.0)
olvi3**	0.131	0.261	0.394	(1.0)
cmyn3**	0.869	0.739	0.606	(0.0)

standard and adapted CIELAB

LAB*LAB	20.29	-0.06	-24.21
LAB*LABa	20.29	1.32	-21.92
LAB*TCHa	25.01	21.97	273.44

relative CIELAB lab*

lab*lab	0.164	0.03	-0.498
lab*tch	0.25	0.5	0.76
lab*nch	0.5	0.5	0.76

relative Natural Colour (NC)

lab*lrj	0.164	0.0	-0.499
lab*tce	0.25	0.5	0.75
lab*nce	0.5	0.5	600r

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	1.0	0.0	0.0	(1.0)
cmyn3**	0.0	1.0	1.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

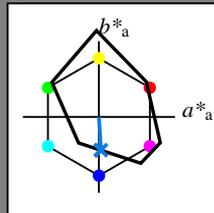
$n^* = 1.0$

Output: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 273/360 = 0.76$
 lab^*tch and lab^*nch

D65: hue B
 LCH*Ma: 34 44 273
 olv*Ma: 0.0 0.64 1.0

triangle lightness t^*



FRS06; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	32.57	62.32	46.49	77.75	37
YMa	82.73	-3.16	113.99	114.03	92
LMa	39.43	-61.79	45.84	76.95	143
CMa	47.86	-26.79	-34.24	43.49	232
VMa	10.16	55.12	-61.03	82.24	312
MMa	34.5	80.68	-33.92	87.52	337
NMa	6.25	0.0	0.0	0.0	0
WMa	91.97	0.0	0.0	0.0	0
RCIE	39.92	59.8	31.05	67.38	27
JCIE	81.26	-2.52	76.25	76.29	92
GCIE	52.23	-41.56	17.14	44.96	158
BCIE	30.57	2.63	-43.77	43.86	273

%Gamut

$u^*_{rel} = 115$

%Regularity

$g^*_{H,rel} = 28$

$g^*_{C,rel} = 38$

relative Inform. Technology (IT)

olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi3**	1.0	1.0	1.0	(1.0)
cmyn3**	0.0	0.0	0.0	(0.0)

standard and adapted CIELAB

LAB*LAB	91.97	-0.17	-5.11
LAB*LABa	91.97	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

olvi3*	0.5	0.82	1.0	(1.0)
cmyn3*	0.5	0.18	0.0	(0.0)
olvi3**	0.611	0.702	0.862	(1.0)
cmyn3**	0.389	0.298	0.138	(0.0)

standard and adapted CIELAB

LAB*LAB	63.14	0.64	-25.89
LAB*LABa	63.14	1.31	-21.92
LAB*TCHa	75.0	21.97	273.42

relative CIELAB lab*

lab*lab	0.664	0.03	-0.498
lab*tch	0.75	0.5	0.76
lab*nch	0.0	0.5	0.76

relative Natural Colour (NC)

lab*lrj	0.664	0.0	-0.499
lab*tce	0.75	0.5	0.75
lab*nce	0.0	0.5	g99b

relative Inform. Technology (IT)

olvi3*	0.5	0.5	0.5	(1.0)
cmyn3*	0.5	0.5	0.5	(0.0)
olvi3**	0.546	0.52	0.498	(1.0)
cmyn3**	0.454	0.48	0.502	(0.0)

standard and adapted CIELAB

LAB*LAB	49.11	-0.89	-3.42
LAB*LABa	49.11	0.0	0.0
LAB*TCHa	50.0	0.01	-

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)

olvi3*	0.0	0.32	0.5	(1.0)
cmyn3*	1.0	0.68	0.5	(0.0)
olvi3**	0.131	0.261	0.394	(1.0)
cmyn3**	0.869	0.739	0.606	(0.0)

standard and adapted CIELAB

LAB*LAB	20.29	-0.06	-24.21
LAB*LABa	20.29	1.32	-21.92
LAB*TCHa	25.01	21.97	273.44

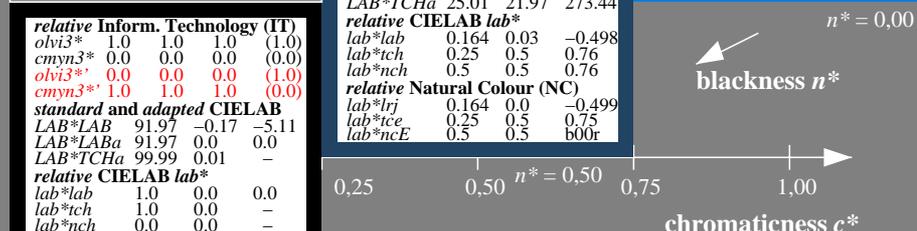
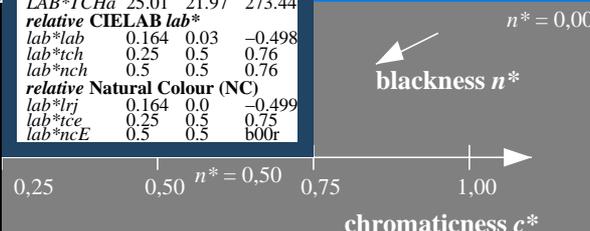
relative CIELAB lab*

lab*lab	0.164	0.03	-0.498
lab*tch	0.25	0.5	0.76
lab*nch	0.5	0.5	0.76

relative Natural Colour (NC)

lab*lrj	0.164	0.0	-0.499
lab*tce	0.25	0.5	0.75
lab*nce	0.5	0.5	600r

$n^* = 0.00$



VE210-7, 3 step scales for constant CIELAB hue 273/360 = 0.76 (left)

3 step scales for constant CIELAB hue 273/360 = 0.76 (right)

BAM-test chart VE21; Colorimetric systems FRS06 & FRS06
 D65: 2 coordinate data of 3 step colour scales for 10 hues

input: olv^* setrgbcolor
 output: olv^* (TRI9) setrgbcolor



See for similar files: <http://www.ps.bam.de/VE21/>
 Technical information: <http://www.ps.bam.de>
 Version 2.1, io=1,1, CIEXYZ