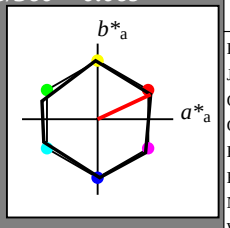
Input: Colorimetric Natural Reflective System CNS18

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

D65: hue R
LCH*Ma: 57 77 25
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



%Gamut
$u^*_{rel} = 100$
%Regularity
$g^*_{H,rel} = 59$
$g^*_{C,rel} = 100$

CNS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.15	32.71	77.4	25
J_{Ma}	56.7	−2.69	77.35	77.4	92
G_{Ma}	56.7	−73.6	23.92	77.4	162
$G50B_{Ma}$	56.7	−71.24	−30.23	77.4	203
B_{Ma}	56.7	2.7	−77.34	77.4	272
$B50R_{Ma}$	56.7	63.4	−44.38	77.4	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

***relative* Inform. Technology (IT)**
*olvi3** 1.0 1.0 1.0 (1.0)
*cmyn3** 0.0 0.0 0.0 (0.0)
*olvi4** 1.0 1.0 1.0 1.0
*cmyn4** 0.0 0.0 0.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 95.41 0.0 0.0
*LAB*LABa* 95.41 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)
*olvi4** 1.0 1.0 1.0 0.5
*cmyn4** 0.0 0.0 0.0 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 56.72 0.0 0.0
*LAB*LABa* 56.72 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 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (0.0)
*olvi4** 1.0 1.0 1.0 0.0
*cmyn4** 0.0 0.0 0.0 1.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 18.03 0.0 0.0
*LAB*LABa* 18.03 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

$n^* = 1,0$

***relative* Inform. Technology (IT)**
*olvi3** 1.0 0.5 0.5 (1.0)
*cmyn3** 0.0 0.5 0.5 (0.0)
*olvi4** 1.0 0.5 0.5 1.0
*cmyn4** 0.0 0.5 0.5 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 76.05 35.07 16.35
*LAB*LABa* 76.05 35.07 16.35
*LAB*TCHa* 75.0 38.69 25.0
relative* CIELAB *lab*
*lab*lab* 0.75 0.453 0.211
*lab*tch* 0.75 0.5 0.069
*lab*nch* 0.0 0.5 0.069
***relative* Natural Colour (NC)**
*lab*lrj* 0.75 0.5 −0.002
*lab*tce* 0.75 0.5 0.999
*lab*ncE* 0.0 0.5 b99r

***relative* Inform. Technology (IT)**
*olvi3** 0.5 0.0 0.0 (1.0)
*cmyn3** 0.5 1.0 1.0 (0.0)
*olvi4** 1.0 0.5 0.5 0.5
*cmyn4** 0.0 0.5 0.5 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 37.36 35.07 16.35
*LAB*LABa* 37.36 35.07 16.35
*LAB*TCHa* 25.01 38.69 25.0
relative* CIELAB *lab*
*lab*lab* 0.25 0.453 0.211
*lab*tch* 0.25 0.5 0.069
*lab*nch* 0.5 0.5 0.069
***relative* Natural Colour (NC)**
*lab*lrj* 0.25 0.5 −0.002
*lab*tce* 0.25 0.5 0.999
*lab*ncE* 0.5 0.5 b99r

***relative* Inform. Technology (IT)**
*olvi3** 1.0 0.0 0.0 (1.0)
*cmyn3** 0.0 1.0 1.0 (0.0)
*olvi4** 1.0 0.0 0.0 1.0
*cmyn4** 0.0 1.0 1.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 56.7 70.13 32.7
*LAB*LABa* 56.7 70.13 32.7
*LAB*TCHa* 50.0 77.38 25.0
relative* CIELAB *lab*
*lab*lab* 0.5 0.906 0.423
*lab*tch* 0.5 1.0 0.069
*lab*nch* 0.0 1.0 0.069
***relative* Natural Colour (NC)**
*lab*lrj* 0.5 1.0 −0.006
*lab*tce* 0.5 1.0 0.999
*lab*ncE* 0.0 1.0 b99r

$n^* = 0,00$

blackness *n**

0,25 0,50 $n^* = 0,50$ 0,75 1,00

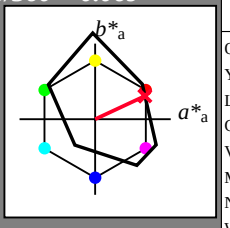
chromaticness *c**

Output: Colorimetric Printer Reflective System FRS06

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

D65: hue R
LCH*Ma: 33 73 25
olv*Ma: 1.0 0.0 0.2

triangle lightness *t**



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

FRS06; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	32.57	62.32	46.49	77.75	37
Y_{Ma}	82.73	−3.16	113.99	114.03	92
L_{Ma}	39.43	−61.79	45.84	76.95	143
C_{Ma}	47.86	−26.79	−34.24	43.49	232
V_{Ma}	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
R_{CIE}	39.92	59.8	31.05	67.38	27
J_{CIE}	81.26	−2.52	76.25	76.29	92
G_{CIE}	52.23	−41.56	17.14	44.96	158
B_{CIE}	30.57	2.63	−43.77	43.86	273

***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** 0.0 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (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* 6.26 −1.62 −1.73
*LAB*LABa* 6.26 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

$n^* = 1,0$

***relative* Inform. Technology (IT)**
*olvi3** 1.0 0.5 0.598 (1.0)
*cmyn3** 0.0 0.5 0.402 (0.0)
olvi3'* 0.996 0.519 0.497 (1.0)
cmyn3'* 0.004 0.481 0.503 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 62.46 32.27 11.42
*LAB*LABa* 62.46 32.95 15.36
*LAB*TCHa* 75.0 36.36 25.0
relative* CIELAB *lab*
*lab*lab* 0.656 0.453 0.211
*lab*tch* 0.75 0.5 0.069
*lab*nch* 0.0 0.5 0.069
***relative* Natural Colour (NC)**
*lab*lrj* 0.656 0.5 −0.016
*lab*tce* 0.75 0.5 0.995
*lab*ncE* 0.0 0.5 b97r

***relative* Inform. Technology (IT)**
*olvi3** 0.5 0.0 0.098 (1.0)
*cmyn3** 0.5 1.0 0.902 (0.0)
olvi3'* 0.54 0.056 0.11 (1.0)
cmyn3'* 0.46 0.944 0.89 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 19.6 31.55 13.12
*LAB*LABa* 19.6 32.95 15.37
*LAB*TCHa* 25.01 36.36 25.01
relative* CIELAB *lab*
*lab*lab* 0.156 0.453 0.211
*lab*tch* 0.25 0.5 0.069
*lab*nch* 0.5 0.5 0.069
***relative* Natural Colour (NC)**
*lab*lrj* 0.156 0.5 −0.016
*lab*tce* 0.25 0.5 0.995
*lab*ncE* 0.5 0.5 b97r

***relative* Inform. Technology (IT)**
*olvi3** 1.0 0.0 0.196 (1.0)
*cmyn3** 0.0 1.0 0.804 (0.0)
olvi3'* 1.0 0.0 0.163 (1.0)
cmyn3'* 0.0 1.0 0.837 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 32.95 64.73 27.95
*LAB*LABa* 32.95 65.91 30.74
*LAB*TCHa* 50.0 72.72 25.0
relative* CIELAB *lab*
*lab*lab* 0.311 0.906 0.423
*lab*tch* 0.5 1.0 0.069
*lab*nch* 0.0 1.0 0.069
***relative* Natural Colour (NC)**
*lab*lrj* 0.311 0.999 −0.033
*lab*tce* 0.5 1.0 0.995
*lab*ncE* 0.0 1.0 b97r

$n^* = 0,00$

blackness *n**

0,25 0,50 $n^* = 0,50$ 0,75 1,00

chromaticness *c**

VE310−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

BAM-test chart VE31; Colorimetric systems CNS18 & 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/VE31/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

BAM registration: 20060101-VE31/10L/L31E00FP.PS/.PDF BAM material: code=rha4ta
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ

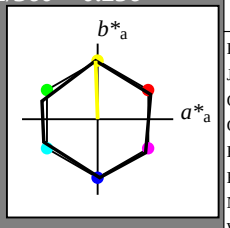
/VE31/ Form: 1/10, Serie: 1/1, Page: 1 Page: count: 1

Input: Colorimetric Natural Reflective System CNS18

for hue $h^* = lab^*h = 92/360 = 0.256$
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 57 77 92
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



%Gamut
$u^*_{rel} = 100$
%Regularity
$g^*_{H,rel} = 59$
$g^*_{C,rel} = 100$

CNS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.15	32.71	77.4	25
J_{Ma}	56.7	−2.69	77.35	77.4	92
G_{Ma}	56.7	−73.6	23.92	77.4	162
$G50B_{Ma}$	56.7	−71.24	−30.23	77.4	203
B_{Ma}	56.7	2.7	−77.34	77.4	272
$B50R_{Ma}$	56.7	63.4	−44.38	77.4	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

***relative* Inform. Technology (IT)**				
*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	95.41	0.0	0.0	
*LAB*LABa*	95.41	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)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	76.05	−1.34	38.67	
*LAB*LABa*	76.05	−1.34	38.67	
*LAB*TCHa*	75.0	38.69	92.0	
relative* CIELAB *lab				
*lab*lab*	0.75	−0.016	0.5	
*lab*tch*	0.75	0.5	0.256	
*lab*nch*	0.0	0.5	0.256	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.75	0.004	0.5	
*lab*tce*	0.75	0.5	0.249	
*lab*ncE*	0.0	0.5	r99j	

***relative* Inform. Technology (IT)**				
*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	56.7	−2.69	77.34	
*LAB*LABa*	56.7	−2.69	77.34	
*LAB*TCHa*	50.0	77.38	92.0	
relative* CIELAB *lab				
*lab*lab*	0.5	−0.034	0.999	
*lab*tch*	0.5	1.0	0.256	
*lab*nch*	0.0	1.0	0.256	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.5	0.007	1.0	
*lab*tce*	0.5	1.0	0.249	
*lab*ncE*	0.0	1.0	r99j	

***relative* Inform. Technology (IT)**				
*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5
***standard* and *adapted* CIELAB**				
*LAB*LAB*	56.72	0.0	0.0	
*LAB*LABa*	56.72	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)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5
***standard* and *adapted* CIELAB**				
*LAB*LAB*	37.36	−1.34	38.67	
*LAB*LABa*	37.36	−1.34	38.67	
*LAB*TCHa*	25.01	38.69	92.0	
relative* CIELAB *lab				
*lab*lab*	0.25	−0.016	0.5	
*lab*tch*	0.25	0.5	0.256	
*lab*nch*	0.5	0.5	0.256	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.25	0.004	0.5	
*lab*tce*	0.25	0.5	0.249	
*lab*ncE*	0.5	0.5	r99j	

***relative* Inform. Technology (IT)**				
*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	18.03	0.0	0.0	
*LAB*LABa*	18.03	0.0	0.0	
*LAB*TCHa*	0.01	0.01	–	
relative* CIELAB *lab				
*lab*lab*	0.0	0.0	0.0	
*lab*tch*	0.0	0.0	–	
*lab*nch*	1.0	0.0	–	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.0	0.0	0.0	
*lab*tce*	0.0	0.0	–	
*lab*ncE*	1.0	0.0	–	

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

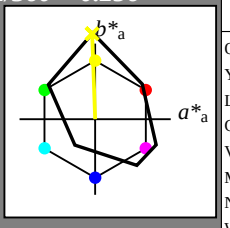
$n^* = 1{,}0$

Output: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 92/360 = 0.256$
*lab*tch* and *lab*nch*

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

triangle lightness *t**



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

FRS06; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	32.57	62.32	46.49	77.75	37
Y_{Ma}	82.73	−3.16	113.99	114.03	92
L_{Ma}	39.43	−61.79	45.84	76.95	143
C_{Ma}	47.86	−26.79	−34.24	43.49	232
V_{Ma}	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
R_{CIE}	39.92	59.8	31.05	67.38	27
J_{CIE}	81.26	−2.52	76.25	76.29	92
G_{CIE}	52.23	−41.56	17.14	44.96	158
B_{CIE}	30.57	2.63	−43.77	43.86	273

***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**	0.993	1.0	0.5	(1.0)
*cmyn3**	0.007	0.0	0.5	(0.0)
olvi3'*	1.0	0.947	0.43	(1.0)
cmyn3'*	0.0	0.053	0.57	(0.0)
***standard* and *adapted* CIELAB**				
*LAB*LAB*	87.06	−2.22	51.62	
*LAB*LABa*	87.06	−1.96	56.54	
*LAB*TCHa*	75.0	56.57	91.99	
relative* CIELAB *lab				
*lab*lab*	0.943	−0.016	0.5	
*lab*tch*	0.75	0.5	0.256	
*lab*nch*	0.0	0.5	0.256	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.943	0.0	0.5	
*lab*tce*	0.75	0.5	0.25	
*lab*ncE*	0.0	0.5	j00g	

***relative* Inform. Technology (IT)**				
*olvi3**	0.987	1.0	0.0	(1.0)
*cmyn3**	0.013	0.0	1.0	(0.0)
olvi3'*	0.983	0.996	0.001	(1.0)
cmyn3'*	0.017	0.004	0.999	(0.0)
***standard* and *adapted* CIELAB**				
*LAB*LAB*	82.16	−4.28	108.35	
*LAB*LABa*	82.16	−3.93	113.07	
*LAB*TCHa*	50.0	113.14	92.0	
relative* CIELAB *lab				
*lab*lab*	0.885	−0.034	0.999	
*lab*tch*	0.5	1.0	0.256	
*lab*nch*	0.0	1.0	0.256	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.885	−0.001	1.0	
*lab*tce*	0.5	1.0	0.25	
*lab*ncE*	0.0	1.0	j00g	

***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**	0.493	0.5	0.0	(1.0)
*cmyn3**	0.507	0.5	1.0	(0.0)
olvi3'*	0.589	0.484	0.002	(1.0)
cmyn3'*	0.411	0.516	0.998	(0.0)
***standard* and *adapted* CIELAB**				
*LAB*LAB*	44.2	−2.95	53.3	
*LAB*LABa*	44.2	−1.96	56.53	
*LAB*TCHa*	25.01	56.57	92.0	
relative* CIELAB *lab				
*lab*lab*	0.443	−0.016	0.5	
*lab*tch*	0.25	0.5	0.256	
*lab*nch*	0.5	0.5	0.256	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.443	0.0	0.5	
*lab*tce*	0.25	0.5	0.25	
*lab*ncE*	0.5	0.5	j00g	

***relative* Inform. Technology (IT)**				
*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(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*	6.26	−1.62	−1.73	
*LAB*LABa*	6.26	0.0	0.0	
*LAB*TCHa*	0.01	0.01	–	
relative* CIELAB *lab				
*lab*lab*	0.0	0.0	0.0	
*lab*tch*	0.0	0.0	–	
*lab*nch*	1.0	0.0	–	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.0	0.0	0.0	
*lab*tce*	0.0	0.0	–	
*lab*ncE*	1.0	0.0	–	

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

VE310−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

BAM-test chart VE31; Colorimetric systems CNS18 & 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/VE31/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

BAM registration: 20060101-VE31/10L/L31E01FP.PS/.PDF
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ
BAM material: code=rha4ta

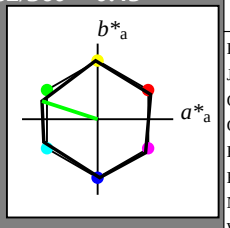
/VE31/ Form: 2/10, Serie: 1/1, Page: 2 Page: count: 1

Input: Colorimetric Natural Reflective System CNS18

for hue $h^* = lab^*h = 162/360 = 0.45$
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 57 77 162
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



%Gamut
$u^*_{rel} = 100$
%Regularity
$g^*_{H,rel} = 59$
$g^*_{C,rel} = 100$

CNS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.15	32.71	77.4	25
J_{Ma}	56.7	−2.69	77.35	77.4	92
G_{Ma}	56.7	−73.6	23.92	77.4	162
$G50B_{Ma}$	56.7	−71.24	−30.23	77.4	203
B_{Ma}	56.7	2.7	−77.34	77.4	272
$B50R_{Ma}$	56.7	63.4	−44.38	77.4	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

***relative* Inform. Technology (IT)**
*olvi3** 1.0 1.0 1.0 (1.0)
*cmyn3** 0.0 0.0 0.0 (0.0)
*olvi4** 1.0 1.0 1.0 1.0
*cmyn4** 0.0 0.0 0.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 95.41 0.0 0.0
*LAB*LABa* 95.41 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 0.5 (1.0)
*cmyn3** 0.0 0.0 0.5 (0.0)
*olvi4** 0.5 1.0 0.5 1.0
*cmyn4** 0.0 0.0 0.5 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 76.05 −36.79 11.96
*LAB*LABa* 76.05 −36.79 11.96
*LAB*TCHa* 75.0 38.69 162.0
relative* CIELAB *lab*
*lab*lab* 0.75 −0.474 0.154
*lab*tch* 0.75 0.5 0.45
*lab*nch* 0.0 0.5 0.45
***relative* Natural Colour (NC)**
*lab*lrj* 0.75 −0.499 0.003
*lab*tce* 0.75 0.5 0.499
*lab*ncE* 0.0 0.5 j99g

***relative* Inform. Technology (IT)**
*olvi3** 0.0 1.0 0.0 (1.0)
*cmyn3** 1.0 0.0 1.0 (0.0)
*olvi4** 0.0 1.0 0.0 1.0
*cmyn4** 1.0 0.0 1.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 56.7 −73.59 23.91
*LAB*LABa* 56.7 −73.59 23.91
*LAB*TCHa* 50.0 77.38 162.0
relative* CIELAB *lab*
*lab*lab* 0.5 −0.95 0.309
*lab*tch* 0.5 1.0 0.45
*lab*nch* 0.0 1.0 0.45
***relative* Natural Colour (NC)**
*lab*lrj* 0.5 −0.999 0.005
*lab*tce* 0.5 1.0 0.499
*lab*ncE* 0.0 1.0 j99g

***relative* Inform. Technology (IT)**
*olvi3** 0.5 0.5 0.5 (1.0)
*cmyn3** 0.5 0.5 0.5 (0.0)
*olvi4** 1.0 1.0 1.0 0.5
*cmyn4** 0.0 0.0 0.0 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 56.72 0.0 0.0
*LAB*LABa* 56.72 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 0.5 0.0 (1.0)
*cmyn3** 1.0 0.5 1.0 (0.0)
*olvi4** 0.5 1.0 0.5 0.5
*cmyn4** 0.5 0.0 0.5 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 37.36 −36.79 11.96
*LAB*LABa* 37.36 −36.79 11.96
*LAB*TCHa* 25.01 38.69 162.0
relative* CIELAB *lab*
*lab*lab* 0.25 −0.474 0.154
*lab*tch* 0.25 0.5 0.45
*lab*nch* 0.5 0.5 0.45
***relative* Natural Colour (NC)**
*lab*lrj* 0.25 −0.499 0.003
*lab*tce* 0.25 0.5 0.499
*lab*ncE* 0.5 0.5 j99g

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (0.0)
*olvi4** 1.0 1.0 1.0 0.0
*cmyn4** 0.0 0.0 0.0 1.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 18.03 0.0 0.0
*LAB*LABa* 18.03 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

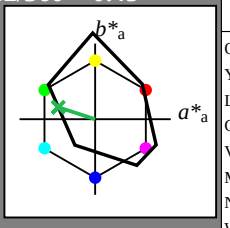
$n^* = 0{,}00$
blackness *n**
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00
chromaticness *c**
$n^* = 1{,}0$

Output: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 162/360 = 0.45$
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 43 51 162
olv*Ma: 0.0 1.0 0.37

triangle lightness *t**



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

FRS06; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	32.57	62.32	46.49	77.75	37
Y_{Ma}	82.73	−3.16	113.99	114.03	92
L_{Ma}	39.43	−61.79	45.84	76.95	143
C_{Ma}	47.86	−26.79	−34.24	43.49	232
V_{Ma}	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
R_{CIE}	39.92	59.8	31.05	67.38	27
J_{CIE}	81.26	−2.52	76.25	76.29	92
G_{CIE}	52.23	−41.56	17.14	44.96	158
B_{CIE}	30.57	2.63	−43.77	43.86	273

***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 0.687 (1.0)
*cmyn3** 0.5 0.0 0.313 (0.0)
olvi3'* 0.567 0.85 0.627 (1.0)
cmyn3'* 0.433 0.15 0.373 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 67.28 −24.92 3.77
*LAB*LABa* 67.28 −24.33 7.9
*LAB*TCHa* 75.0 25.59 162.01
relative* CIELAB *lab*
*lab*lab* 0.712 −0.474 0.154
*lab*tch* 0.75 0.5 0.45
*lab*nch* 0.0 0.5 0.45
***relative* Natural Colour (NC)**
*lab*lrj* 0.712 −0.498 −0.029
*lab*tce* 0.75 0.5 0.51
*lab*ncE* 0.0 0.5 g03b

***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 1.0 0.375 (1.0)
*cmyn3** 1.0 0.0 0.625 (0.0)
olvi3'* 0.135 0.724 0.305 (1.0)
cmyn3'* 0.865 0.276 0.695 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 42.59 −49.68 12.65
*LAB*LABa* 42.59 −48.66 15.82
*LAB*TCHa* 50.0 51.18 162.0
relative* CIELAB *lab*
*lab*lab* 0.424 −0.95 0.309
*lab*tch* 0.5 1.0 0.45
*lab*nch* 0.0 1.0 0.45
***relative* Natural Colour (NC)**
*lab*lrj* 0.424 −0.997 −0.059
*lab*tce* 0.5 1.0 0.51
*lab*ncE* 0.0 1.0 g03b

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.5 0.187 (1.0)
*cmyn3** 1.0 0.5 0.813 (0.0)
olvi3'* 0.112 0.364 0.181 (1.0)
cmyn3'* 0.888 0.636 0.819 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 24.42 −25.65 5.47
*LAB*LABa* 24.42 −24.33 7.91
*LAB*TCHa* 25.01 25.59 161.99
relative* CIELAB *lab*
*lab*lab* 0.212 −0.474 0.155
*lab*tch* 0.25 0.5 0.45
*lab*nch* 0.5 0.5 0.45
***relative* Natural Colour (NC)**
*lab*lrj* 0.212 −0.498 −0.029
*lab*tce* 0.25 0.5 0.51
*lab*ncE* 0.5 0.5 g03b

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (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* 6.26 −1.62 −1.73
*LAB*LABa* 6.26 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

$n^* = 0{,}00$
blackness *n**
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00
chromaticness *c**
$n^* = 1{,}0$

VE310−7, 3 step scales for constant CIELAB hue 162/360 = 0.45 (left)
3 step scales for constant CIELAB hue 162/360 = 0.45 (right)

BAM-test chart VE31; Colorimetric systems CNS18 & 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/VE31/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

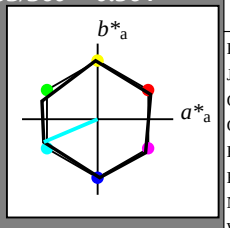
BAM registration: 20060101-VE31/10L/L31E02FP.PS/.PDF
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ
BAM material: code=rha4ta

/VE31/ Form: 3/10, Serie: 1/1, Page: 3 Page: count: 1

Input: Colorimetric Natural Reflective System CNS18
for hue *h = lab*h = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 57 77 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



CNS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.15	32.71	77.4	25
J_{Ma}	56.7	−2.69	77.35	77.4	92
G_{Ma}	56.7	−73.6	23.92	77.4	162
$G50B_{Ma}$	56.7	−71.24	−30.23	77.4	203
B_{Ma}	56.7	2.7	−77.34	77.4	272
$B50R_{Ma}$	56.7	63.4	−44.38	77.4	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 59
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**
*olvi3** 1.0 1.0 1.0 (1.0)
*cmyn3** 0.0 0.0 0.0 (0.0)
*olvi4** 1.0 1.0 1.0 1.0
*cmyn4** 0.0 0.0 0.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 95.41 0.0 0.0
*LAB*LABa* 95.41 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)
*olvi4** 0.5 1.0 1.0 1.0
*cmyn4** 0.5 0.0 0.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 76.05 −35.61 −15.11
*LAB*LABa* 76.05 −35.61 −15.11
*LAB*TCHa* 75.0 38.69 203.0
relative* CIELAB *lab*
*lab*lab* 0.75 −0.459 −0.194
*lab*tch* 0.75 0.5 0.564
*lab*nch* 0.0 0.5 0.564
***relative* Natural Colour (NC)**
*lab*lrj* 0.75 −0.416 −0.275
*lab*tce* 0.75 0.5 0.593
*lab*ncE* 0.0 0.5 g37b

***relative* Inform. Technology (IT)**
*olvi3** 0.0 1.0 1.0 (1.0)
*cmyn3** 1.0 0.0 0.0 (0.0)
*olvi4** 0.0 1.0 1.0 1.0
*cmyn4** 1.0 0.0 0.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 56.7 −71.22 −30.23
*LAB*LABa* 56.7 −71.22 −30.23
*LAB*TCHa* 50.0 77.38 203.0
relative* CIELAB *lab*
*lab*lab* 0.5 −0.919 −0.39
*lab*tch* 0.5 1.0 0.564
*lab*nch* 0.0 1.0 0.564
***relative* Natural Colour (NC)**
*lab*lrj* 0.5 −0.833 −0.551
*lab*tce* 0.5 1.0 0.593
*lab*ncE* 0.0 1.0 g37b

***relative* Inform. Technology (IT)**
*olvi3** 0.5 0.5 0.5 (1.0)
*cmyn3** 0.5 0.5 0.5 (0.0)
*olvi4** 1.0 1.0 1.0 0.5
*cmyn4** 0.0 0.0 0.0 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 56.72 0.0 0.0
*LAB*LABa* 56.72 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 0.5 0.5 (1.0)
*cmyn3** 1.0 0.5 0.5 (0.0)
*olvi4** 0.5 1.0 1.0 0.5
*cmyn4** 0.5 0.0 0.0 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 37.36 −35.61 −15.11
*LAB*LABa* 37.36 −35.61 −15.11
*LAB*TCHa* 25.01 38.69 203.0
relative* CIELAB *lab*
*lab*lab* 0.25 −0.459 −0.194
*lab*tch* 0.25 0.5 0.564
*lab*nch* 0.5 0.5 0.564
***relative* Natural Colour (NC)**
*lab*lrj* 0.25 −0.416 −0.275
*lab*tce* 0.25 0.5 0.593
*lab*ncE* 0.5 0.5 g37b

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (0.0)
*olvi4** 1.0 1.0 1.0 0.0
*cmyn4** 0.0 0.0 0.0 1.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 18.03 0.0 0.0
*LAB*LABa* 18.03 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

*n** = 1,0

*n** = 0,00

blackness *n**

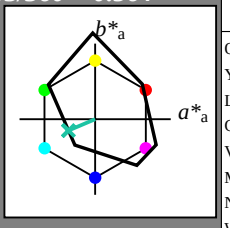
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Printer Reflective System FRS06
for hue *h = lab*h = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 46 38 203
olv*Ma: 0.0 1.0 0.76

triangle lightness *t**



FRS06; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	32.57	62.32	46.49	77.75	37
Y_{Ma}	82.73	−3.16	113.99	114.03	92
L_{Ma}	39.43	−61.79	45.84	76.95	143
C_{Ma}	47.86	−26.79	−34.24	43.49	232
V_{Ma}	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
R_{CIE}	39.92	59.8	31.05	67.38	27
J_{CIE}	81.26	−2.52	76.25	76.29	92
G_{CIE}	52.23	−41.56	17.14	44.96	158
B_{CIE}	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 0.88 (1.0)
*cmyn3** 0.5 0.0 0.12 (0.0)
olvi3'* 0.578 0.851 0.776 (1.0)
cmyn3'* 0.422 0.149 0.224 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 68.9 −18.17 −11.67
*LAB*LABa* 68.9 −17.6 −7.47
*LAB*TCHa* 75.0 19.13 203.02
relative* CIELAB *lab*
*lab*lab* 0.731 −0.459 −0.194
*lab*tch* 0.75 0.5 0.564
*lab*nch* 0.0 0.5 0.564
***relative* Natural Colour (NC)**
*lab*lrj* 0.731 −0.407 −0.288
*lab*tce* 0.75 0.5 0.598
*lab*ncE* 0.0 0.5 g39b

***relative* Inform. Technology (IT)**
*olvi3** 0.0 1.0 0.759 (1.0)
*cmyn3** 1.0 0.0 0.241 (0.0)
olvi3'* 0.113 0.763 0.639 (1.0)
cmyn3'* 0.887 0.237 0.361 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 45.83 −36.18 −18.24
*LAB*LABa* 45.83 −35.22 −14.95
*LAB*TCHa* 50.0 38.27 203.01
relative* CIELAB *lab*
*lab*lab* 0.462 −0.919 −0.39
*lab*tch* 0.5 1.0 0.564
*lab*nch* 0.0 1.0 0.564
***relative* Natural Colour (NC)**
*lab*lrj* 0.462 −0.815 −0.577
*lab*tce* 0.5 1.0 0.598
*lab*ncE* 0.0 1.0 g39b

***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 0.5 0.38 (1.0)
*cmyn3** 1.0 0.5 0.62 (0.0)
olvi3'* 0.114 0.373 0.321 (1.0)
cmyn3'* 0.886 0.627 0.679 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 26.04 −18.9 −9.98
*LAB*LABa* 26.04 −17.6 −7.46
*LAB*TCHa* 25.01 19.13 202.99
relative* CIELAB *lab*
*lab*lab* 0.231 −0.459 −0.194
*lab*tch* 0.25 0.5 0.564
*lab*nch* 0.5 0.5 0.564
***relative* Natural Colour (NC)**
*lab*lrj* 0.231 −0.407 −0.288
*lab*tce* 0.25 0.5 0.598
*lab*ncE* 0.5 0.5 g39b

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (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* 6.26 −1.62 −1.73
*LAB*LABa* 6.26 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

*n** = 1,0

*n** = 0,00

blackness *n**

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

chromaticness *c**

VE310−7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

BAM-test chart VE31; Colorimetric systems CNS18 & 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/VE31/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

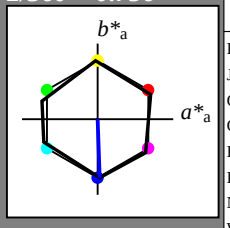
BAM registration: 20060101-VE31/10L/L31E03FP.PS/.PDF BAM material: code=rha4ta
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ

/VE31/ Form: 4/10, Serie: 1/1, Page: 4 Page: count: 1

Input: Colorimetric Natural Reflective System CNS18
for hue $h^* = lab^*h = 272/360 = 0.756$
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 77 272
olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 59
$g^*_{C,rel}$ = 100

CNS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.15	32.71	77.4	25
J_{Ma}	56.7	−2.69	77.35	77.4	92
G_{Ma}	56.7	−73.6	23.92	77.4	162
$G50B_{Ma}$	56.7	−71.24	−30.23	77.4	203
B_{Ma}	56.7	2.7	−77.34	77.4	272
$B50R_{Ma}$	56.7	63.4	−44.38	77.4	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

***relative* Inform. Technology (IT)**
*olvi3** 1.0 1.0 1.0 (1.0)
*cmyn3** 0.0 0.0 0.0 (0.0)
*olvi4** 1.0 1.0 1.0 1.0
*cmyn4** 0.0 0.0 0.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 95.41 0.0 0.0
*LAB*LABa* 95.41 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 1.0 (1.0)
*cmyn3** 0.5 0.5 0.0 (0.0)
*olvi4** 0.5 0.5 1.0 1.0
*cmyn4** 0.5 0.5 0.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 76.05 1.35 −38.66
*LAB*LABa* 76.05 1.35 −38.66
*LAB*TCHa* 75.0 38.69 272.0
relative* CIELAB *lab*
*lab*lab* 0.75 0.017 −0.499
*lab*tch* 0.75 0.5 0.756
*lab*nch* 0.0 0.5 0.756
***relative* Natural Colour (NC)**
*lab*lrj* 0.75 0.002 −0.499
*lab*tce* 0.75 0.5 0.751
*lab*ncE* 0.0 0.5 b00r

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.0 1.0 (1.0)
*cmyn3** 1.0 1.0 0.0 (0.0)
*olvi4** 0.0 0.0 1.0 1.0
*cmyn4** 1.0 1.0 0.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 56.7 2.7 −77.33
*LAB*LABa* 56.7 2.7 −77.33
*LAB*TCHa* 50.0 77.38 272.0
relative* CIELAB *lab*
*lab*lab* 0.5 0.035 −0.998
*lab*tch* 0.5 1.0 0.756
*lab*nch* 0.0 1.0 0.756
***relative* Natural Colour (NC)**
*lab*lrj* 0.5 0.004 −0.999
*lab*tce* 0.5 1.0 0.751
*lab*ncE* 0.0 1.0 b00r

***relative* Inform. Technology (IT)**
*olvi3** 0.5 0.5 0.5 (1.0)
*cmyn3** 0.5 0.5 0.5 (0.0)
*olvi4** 1.0 1.0 1.0 0.5
*cmyn4** 0.0 0.0 0.0 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 56.72 0.0 0.0
*LAB*LABa* 56.72 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 0.0 0.5 (1.0)
*cmyn3** 1.0 1.0 0.5 (0.0)
*olvi4** 0.5 0.5 1.0 0.5
*cmyn4** 0.5 0.5 0.0 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 37.36 1.35 −38.66
*LAB*LABa* 37.36 1.35 −38.66
*LAB*TCHa* 25.01 38.69 272.0
relative* CIELAB *lab*
*lab*lab* 0.25 0.017 −0.499
*lab*tch* 0.25 0.5 0.756
*lab*nch* 0.5 0.5 0.756
***relative* Natural Colour (NC)**
*lab*lrj* 0.25 0.002 −0.499
*lab*tce* 0.25 0.5 0.751
*lab*ncE* 0.5 0.5 b00r

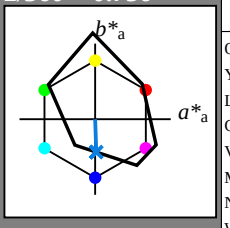
***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (0.0)
*olvi4** 1.0 1.0 1.0 0.0
*cmyn4** 0.0 0.0 0.0 1.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 18.03 0.0 0.0
*LAB*LABa* 18.03 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

$n^* = 0{,}00$
blackness n^*
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00
chromaticness c^*
$n^* = 1{,}0$

Output: Colorimetric Printer Reflective System FRS06
for hue $h^* = lab^*h = 272/360 = 0.756$
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 35 44 272
olv*Ma: 0.0 0.65 1.0

triangle lightness t^*



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

FRS06; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	32.57	62.32	46.49	77.75	37
Y_{Ma}	82.73	−3.16	113.99	114.03	92
L_{Ma}	39.43	−61.79	45.84	76.95	143
C_{Ma}	47.86	−26.79	−34.24	43.49	232
V_{Ma}	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
R_{CIE}	39.92	59.8	31.05	67.38	27
J_{CIE}	81.26	−2.52	76.25	76.29	92
G_{CIE}	52.23	−41.56	17.14	44.96	158
B_{CIE}	30.57	2.63	−43.77	43.86	273

***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 0.827 1.0 (1.0)
*cmyn3** 0.5 0.173 0.0 (0.0)
olvi3'* 0.61 0.708 0.863 (1.0)
cmyn3'* 0.39 0.292 0.137 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 63.4 0.09 −25.72
*LAB*LABa* 63.4 0.75 −21.74
*LAB*TCHa* 75.0 21.76 271.99
relative* CIELAB *lab*
*lab*lab* 0.667 0.017 −0.499
*lab*tch* 0.75 0.5 0.756
*lab*nch* 0.0 0.5 0.756
***relative* Natural Colour (NC)**
*lab*lrj* 0.667 −0.009 −0.499
*lab*tce* 0.75 0.5 0.747
*lab*ncE* 0.0 0.5 g98b

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.654 1.0 (1.0)
*cmyn3** 1.0 0.346 0.0 (0.0)
olvi3'* 0.049 0.496 0.876 (1.0)
cmyn3'* 0.951 0.504 0.124 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 34.83 0.37 −46.35
*LAB*LABa* 34.83 1.52 −43.49
*LAB*TCHa* 50.0 43.53 272.0
relative* CIELAB *lab*
*lab*lab* 0.333 0.035 −0.998
*lab*tch* 0.5 1.0 0.756
*lab*nch* 0.0 1.0 0.756
***relative* Natural Colour (NC)**
*lab*lrj* 0.333 −0.019 −0.999
*lab*tce* 0.5 1.0 0.747
*lab*ncE* 0.0 1.0 g98b

***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 0.327 0.5 (1.0)
*cmyn3** 1.0 0.673 0.5 (0.0)
olvi3'* 0.13 0.265 0.395 (1.0)
cmyn3'* 0.87 0.735 0.605 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 20.54 −0.62 −24.03
*LAB*LABa* 20.54 0.76 −21.74
*LAB*TCHa* 25.01 21.76 272.01
relative* CIELAB *lab*
*lab*lab* 0.167 0.018 −0.499
*lab*tch* 0.25 0.5 0.756
*lab*nch* 0.5 0.5 0.756
***relative* Natural Colour (NC)**
*lab*lrj* 0.167 −0.009 −0.499
*lab*tce* 0.25 0.5 0.747
*lab*ncE* 0.5 0.5 g98b

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (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* 6.26 −1.62 −1.73
*LAB*LABa* 6.26 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

$n^* = 0{,}00$
blackness n^*
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00
chromaticness c^*
$n^* = 1{,}0$

VE310−7, 3 step scales for constant CIELAB hue 272/360 = 0.756 (left)
3 step scales for constant CIELAB hue 272/360 = 0.756 (right)

BAM-test chart VE31; Colorimetric systems CNS18 & 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/VE31/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

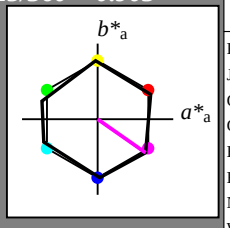
BAM registration: 20060101-VE31/10L/L31E04FP.PS/.PDF BAM material: code=rha4ta
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ
/VE31/ Form: 5/10, Serie: 1/1, Page: 5 Page: count: 1

Input: Colorimetric Natural Reflective System CNS18

for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 57 77 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 59
$g^*_{C,rel}$ = 100

CNS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.15	32.71	77.4	25
J_{Ma}	56.7	−2.69	77.35	77.4	92
G_{Ma}	56.7	−73.6	23.92	77.4	162
$G50B_{Ma}$	56.7	−71.24	−30.23	77.4	203
B_{Ma}	56.7	2.7	−77.34	77.4	272
$B50R_{Ma}$	56.7	63.4	−44.38	77.4	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

***relative* Inform. Technology (IT)**
*olvi3** 1.0 1.0 1.0 (1.0)
*cmyn3** 0.0 0.0 0.0 (0.0)
*olvi4** 1.0 1.0 1.0 1.0
*cmyn4** 0.0 0.0 0.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 95.41 0.0 0.0
*LAB*LABa* 95.41 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 0.5 1.0 (1.0)
*cmyn3** 0.0 0.5 0.0 (0.0)
*olvi4** 1.0 0.5 1.0 1.0
*cmyn4** 0.0 0.5 0.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 76.05 31.69 −22.18
*LAB*LABa* 76.05 31.69 −22.18
*LAB*TCHa* 75.0 38.69 325.0
relative* CIELAB *lab*
*lab*lab* 0.75 0.409 −0.286
*lab*tch* 0.75 0.5 0.903
*lab*nch* 0.0 0.5 0.903
***relative* Natural Colour (NC)**
*lab*lrj* 0.75 0.335 −0.37
*lab*tce* 0.75 0.5 0.867
*lab*ncE* 0.0 0.5 b46r

***relative* Inform. Technology (IT)**
*olvi3** 1.0 0.0 1.0 (1.0)
*cmyn3** 0.0 1.0 0.0 (0.0)
*olvi4** 1.0 0.0 1.0 1.0
*cmyn4** 0.0 1.0 0.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 56.7 63.39 −44.38
*LAB*LABa* 56.7 63.39 −44.38
*LAB*TCHa* 50.0 77.38 325.0
relative* CIELAB *lab*
*lab*lab* 0.5 0.819 −0.572
*lab*tch* 0.5 1.0 0.903
*lab*nch* 0.0 1.0 0.903
***relative* Natural Colour (NC)**
*lab*lrj* 0.5 0.671 −0.74
*lab*tce* 0.5 1.0 0.867
*lab*ncE* 0.0 1.0 b46r

***relative* Inform. Technology (IT)**
*olvi3** 0.5 0.5 0.5 (1.0)
*cmyn3** 0.5 0.5 0.5 (0.0)
*olvi4** 1.0 1.0 1.0 0.5
*cmyn4** 0.0 0.0 0.0 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 56.72 0.0 0.0
*LAB*LABa* 56.72 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 0.0 0.5 (1.0)
*cmyn3** 0.5 1.0 0.5 (0.0)
*olvi4** 1.0 0.5 1.0 0.5
*cmyn4** 0.0 0.5 0.0 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 37.36 31.69 −22.18
*LAB*LABa* 37.36 31.69 −22.18
*LAB*TCHa* 25.01 38.69 325.0
relative* CIELAB *lab*
*lab*lab* 0.25 0.409 −0.286
*lab*tch* 0.25 0.5 0.903
*lab*nch* 0.5 0.5 0.903
***relative* Natural Colour (NC)**
*lab*lrj* 0.25 0.335 −0.37
*lab*tce* 0.25 0.5 0.867
*lab*ncE* 0.5 0.5 b46r

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (0.0)
*olvi4** 1.0 1.0 1.0 0.0
*cmyn4** 0.0 0.0 0.0 1.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 18.03 0.0 0.0
*LAB*LABa* 18.03 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

*n** = 0,00 — **blackness *n****

0,25 — 0,50 — *n** = 0,50 — 0,75 — 1,00 — **chromaticness *c****

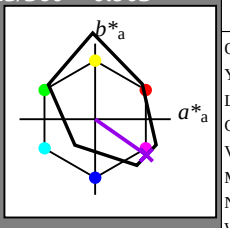
*n** = 1,0

Output: Colorimetric Printer Reflective System FRS06

for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 22 83 325
olv*Ma: 0.5 0.0 1.0

triangle lightness *t**



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

FRS06; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	32.57	62.32	46.49	77.75	37
Y_{Ma}	82.73	−3.16	113.99	114.03	92
L_{Ma}	39.43	−61.79	45.84	76.95	143
C_{Ma}	47.86	−26.79	−34.24	43.49	232
V_{Ma}	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
R_{CIE}	39.92	59.8	31.05	67.38	27
J_{CIE}	81.26	−2.52	76.25	76.29	92
G_{CIE}	52.23	−41.56	17.14	44.96	158
B_{CIE}	30.57	2.63	−43.77	43.86	273

***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** 0.749 0.5 1.0 (1.0)
*cmyn3** 0.251 0.5 0.0 (0.0)
olvi3'* 0.803 0.499 0.826 (1.0)
cmyn3'* 0.197 0.501 0.174 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 57.13 33.16 −27.48
*LAB*LABa* 57.13 33.93 −23.74
*LAB*TCHa* 75.0 41.42 325.0
relative* CIELAB *lab*
*lab*lab* 0.594 0.41 −0.286
*lab*tch* 0.75 0.5 0.903
*lab*nch* 0.0 0.5 0.903
***relative* Natural Colour (NC)**
*lab*lrj* 0.594 0.326 −0.378
*lab*tce* 0.75 0.5 0.863
*lab*ncE* 0.0 0.5 b45r

***relative* Inform. Technology (IT)**
*olvi3** 0.499 0.0 1.0 (1.0)
*cmyn3** 0.501 1.0 0.0 (0.0)
olvi3'* 0.592 0.0 0.915 (1.0)
cmyn3'* 0.408 1.0 0.085 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 22.3 66.49 −49.86
*LAB*LABa* 22.3 67.85 −47.5
*LAB*TCHa* 50.0 82.83 325.0
relative* CIELAB *lab*
*lab*lab* 0.187 0.819 −0.572
*lab*tch* 0.5 1.0 0.903
*lab*nch* 0.0 1.0 0.903
***relative* Natural Colour (NC)**
*lab*lrj* 0.187 0.652 −0.757
*lab*tce* 0.5 1.0 0.863
*lab*ncE* 0.0 1.0 b45r

***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** 0.249 0.0 0.5 (1.0)
*cmyn3** 0.751 1.0 0.5 (0.0)
olvi3'* 0.348 0.013 0.363 (1.0)
cmyn3'* 0.652 0.987 0.637 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 14.28 32.43 −25.79
*LAB*LABa* 14.28 33.92 −23.75
*LAB*TCHa* 25.01 41.42 325.0
relative* CIELAB *lab*
*lab*lab* 0.094 0.409 −0.286
*lab*tch* 0.25 0.5 0.903
*lab*nch* 0.5 0.5 0.903
***relative* Natural Colour (NC)**
*lab*lrj* 0.094 0.326 −0.378
*lab*tce* 0.25 0.5 0.863
*lab*ncE* 0.5 0.5 b45r

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (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* 6.26 −1.62 −1.73
*LAB*LABa* 6.26 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

*n** = 0,00 — **blackness *n****

0,25 — 0,50 — *n** = 0,50 — 0,75 — 1,00 — **chromaticness *c****

*n** = 1,0

VE310−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

BAM-test chart VE31; Colorimetric systems CNS18 & 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/VE31/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

BAM registration: 20060101-VE31/10L/L31E05FP.PS/.PDF BAM material: code=rha4ta
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ

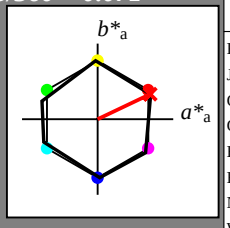
/VE31/ Form: 6/10, Serie: 1/1, Page: 6 Page: count: 1

Input: Colorimetric Natural Reflective System CNS18

for hue $h^* = lab^*h = 25/360 = 0.071$
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 57 77 25
olv*Ma: 1.0 0.01 0.0

triangle lightness t^*



%Gamut
$u^*_{rel} = 100$
%Regularity
$g^*_{H,rel} = 59$
$g^*_{C,rel} = 100$

CNS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.15	32.71	77.4	25
J_{Ma}	56.7	−2.69	77.35	77.4	92
G_{Ma}	56.7	−73.6	23.92	77.4	162
$G50B_{Ma}$	56.7	−71.24	−30.23	77.4	203
B_{Ma}	56.7	2.7	−77.34	77.4	272
$B50R_{Ma}$	56.7	63.4	−44.38	77.4	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

***relative* Inform. Technology (IT)**				
*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	95.41	0.0	0.0	
*LAB*LABa*	95.41	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	0.505	0.5	(1.0)
*cmyn3**	0.0	0.495	0.5	(0.0)
*olvi4**	1.0	0.505	0.5	1.0
*cmyn4**	0.0	0.495	0.5	0.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	76.05	34.74	16.55	
*LAB*LABa*	76.05	34.74	16.55	
*LAB*TCHa*	75.0	38.48	25.48	
relative* CIELAB *lab*				
*lab*lab*	0.75	0.451	0.215	
*lab*tch*	0.75	0.5	0.071	
*lab*nch*	0.0	0.5	0.071	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.75	0.5	0.0	
*lab*tce*	0.75	0.5	0.0	
*lab*ncE*	0.0	0.5	r00j	

***relative* Inform. Technology (IT)**				
*olvi3**	1.0	0.009	0.0	(1.0)
*cmyn3**	0.0	0.991	1.0	(0.0)
*olvi4**	1.0	0.009	0.0	1.0
*cmyn4**	0.0	0.991	1.0	0.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	56.7	69.48	33.1	
*LAB*LABa*	56.7	69.48	33.1	
*LAB*TCHa*	50.0	76.97	25.47	
relative* CIELAB *lab*				
*lab*lab*	0.5	0.903	0.43	
*lab*tch*	0.5	1.0	0.071	
*lab*nch*	0.0	1.0	0.071	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.5	1.0	0.0	
*lab*tce*	0.5	1.0	1.0	
*lab*ncE*	0.0	1.0	b99r	

***relative* Inform. Technology (IT)**				
*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5
***standard* and *adapted* CIELAB**				
*LAB*LAB*	56.72	0.0	0.0	
*LAB*LABa*	56.72	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	0.005	0.0	(1.0)
*cmyn3**	0.5	0.995	1.0	(0.0)
*olvi4**	1.0	0.505	0.5	0.5
*cmyn4**	0.0	0.495	0.5	0.5
***standard* and *adapted* CIELAB**				
*LAB*LAB*	37.36	34.75	16.55	
*LAB*LABa*	37.36	34.75	16.55	
*LAB*TCHa*	25.01	38.49	25.47	
relative* CIELAB *lab*				
*lab*lab*	0.25	0.451	0.215	
*lab*tch*	0.25	0.5	0.071	
*lab*nch*	0.5	0.5	0.071	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.25	0.5	0.0	
*lab*tce*	0.25	0.5	1.0	
*lab*ncE*	0.5	0.5	b99r	

***relative* Inform. Technology (IT)**				
*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	18.03	0.0	0.0	
*LAB*LABa*	18.03	0.0	0.0	
*LAB*TCHa*	0.01	0.01	–	
relative* CIELAB *lab*				
*lab*lab*	0.0	0.0	0.0	
*lab*tch*	0.0	0.0	–	
*lab*nch*	1.0	0.0	–	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.0	0.0	0.0	
*lab*tce*	0.0	0.0	–	
*lab*ncE*	1.0	0.0	–	

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

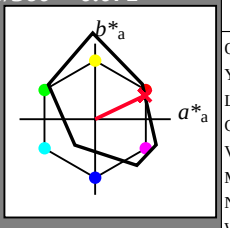
$n^* = 1{,}0$

Output: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 25/360 = 0.071$
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 33 73 25
olv*Ma: 1.0 0.0 0.19

triangle lightness t^*



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

FRS06; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	32.57	62.32	46.49	77.75	37
Y_{Ma}	82.73	−3.16	113.99	114.03	92
L_{Ma}	39.43	−61.79	45.84	76.95	143
C_{Ma}	47.86	−26.79	−34.24	43.49	232
V_{Ma}	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
R_{CIE}	39.92	59.8	31.05	67.38	27
J_{CIE}	81.26	−2.52	76.25	76.29	92
G_{CIE}	52.23	−41.56	17.14	44.96	158
B_{CIE}	30.57	2.63	−43.77	43.86	273

***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	0.5	0.594	(1.0)
*cmyn3**	0.0	0.5	0.406	(0.0)
olvi3'*	0.995	0.519	0.495	(1.0)
cmyn3'*	0.005	0.481	0.505	(0.0)
***standard* and *adapted* CIELAB**				
*LAB*LAB*	62.45	32.21	11.72	
*LAB*LABa*	62.45	32.88	15.67	
*LAB*TCHa*	75.0	36.43	25.48	
relative* CIELAB *lab*				
*lab*lab*	0.656	0.451	0.215	
*lab*tch*	0.75	0.5	0.071	
*lab*nch*	0.0	0.5	0.071	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.656	0.5	−0.013	
*lab*tce*	0.75	0.5	0.996	
*lab*ncE*	0.0	0.5	b98r	

***relative* Inform. Technology (IT)**				
*olvi3**	1.0	0.0	0.188	(1.0)
*cmyn3**	0.0	1.0	0.812	(0.0)
olvi3'*	1.0	0.0	0.159	(1.0)
cmyn3'*	0.0	1.0	0.841	(0.0)
***standard* and *adapted* CIELAB**				
*LAB*LAB*	32.94	64.59	28.56	
*LAB*LABa*	32.94	65.77	31.34	
*LAB*TCHa*	50.0	72.85	25.48	
relative* CIELAB *lab*				
*lab*lab*	0.311	0.903	0.43	
*lab*tch*	0.5	1.0	0.071	
*lab*nch*	0.0	1.0	0.071	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.311	0.999	−0.026	
*lab*tce*	0.5	1.0	0.996	
*lab*ncE*	0.0	1.0	b98r	

***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	0.0	0.094	(1.0)
*cmyn3**	0.5	1.0	0.906	(0.0)
olvi3'*	0.54	0.056	0.106	(1.0)
cmyn3'*	0.46	0.944	0.894	(0.0)
***standard* and *adapted* CIELAB**				
*LAB*LAB*	19.6	31.48	13.42	
*LAB*LABa*	19.6	32.88	15.68	
*LAB*TCHa*	25.01	36.43	25.49	
relative* CIELAB *lab*				
*lab*lab*	0.156	0.451	0.215	
*lab*tch*	0.25	0.5	0.071	
*lab*nch*	0.5	0.5	0.071	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.156	0.5	−0.012	
*lab*tce*	0.25	0.5	0.996	
*lab*ncE*	0.5	0.5	b98r	

***relative* Inform. Technology (IT)**				
*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(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*	6.26	−1.62	−1.73	
*LAB*LABa*	6.26	0.0	0.0	
*LAB*TCHa*	0.01	0.01	–	
relative* CIELAB *lab*				
*lab*lab*	0.0	0.0	0.0	
*lab*tch*	0.0	0.0	–	
*lab*nch*	1.0	0.0	–	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.0	0.0	0.0	
*lab*tce*	0.0	0.0	–	
*lab*ncE*	1.0	0.0	–	

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

$n^* = 1{,}0$

VE310−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

BAM-test chart VE31; Colorimetric systems CNS18 & 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/VE31/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

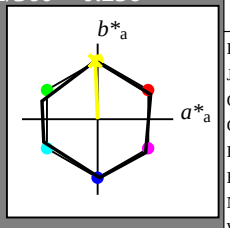
BAM registration: 20060101-VE31/10L/L31E06FP.PS/.PDF BAM material: code=rha4ta
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ

Input: Colorimetric Natural Reflective System CNS18

for hue $h^* = lab^*h = 92/360 = 0.256$
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 57 77 92
olv*Ma: 0.99 1.0 0.0

triangle lightness *t**



%Gamut
$u^*_{rel} = 100$
%Regularity
$g^*_{H,rel} = 59$
$g^*_{C,rel} = 100$

CNS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.15	32.71	77.4	25
J_{Ma}	56.7	−2.69	77.35	77.4	92
G_{Ma}	56.7	−73.6	23.92	77.4	162
$G50B_{Ma}$	56.7	−71.24	−30.23	77.4	203
B_{Ma}	56.7	2.7	−77.34	77.4	272
$B50R_{Ma}$	56.7	63.4	−44.38	77.4	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

***relative* Inform. Technology (IT)**
*olvi3** 1.0 1.0 1.0 (1.0)
*cmyn3** 0.0 0.0 0.0 (0.0)
*olvi4** 1.0 1.0 1.0 1.0
*cmyn4** 0.0 0.0 0.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 95.41 0.0 0.0
*LAB*LABa* 95.41 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** 0.997 1.0 0.5 (1.0)
*cmyn3** 0.003 0.0 0.5 (0.0)
*olvi4** 0.997 1.0 0.5 1.0
*cmyn4** 0.003 0.0 0.5 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 76.05 −1.54 38.52
*LAB*LABa* 76.05 −1.54 38.52
*LAB*TCHa* 75.0 38.55 92.3
relative* CIELAB *lab*
*lab*lab* 0.75 −0.019 0.499
*lab*tch* 0.75 0.5 0.256
*lab*nch* 0.0 0.5 0.256
***relative* Natural Colour (NC)**
*lab*lrj* 0.75 0.0 0.5
*lab*tce* 0.75 0.5 0.25
*lab*ncE* 0.0 0.5 r99j

***relative* Inform. Technology (IT)**
*olvi3** 0.994 1.0 0.0 (1.0)
*cmyn3** 0.006 0.0 1.0 (0.0)
*olvi4** 0.994 1.0 0.0 1.0
*cmyn4** 0.006 0.0 1.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 56.7 −3.09 77.03
*LAB*LABa* 56.7 −3.09 77.03
*LAB*TCHa* 50.0 77.1 92.31
relative* CIELAB *lab*
*lab*lab* 0.5 −0.039 0.999
*lab*tch* 0.5 1.0 0.256
*lab*nch* 0.0 1.0 0.256
***relative* Natural Colour (NC)**
*lab*lrj* 0.5 0.0 1.0
*lab*tce* 0.5 1.0 0.25
*lab*ncE* 0.0 1.0 r99j

***relative* Inform. Technology (IT)**
*olvi3** 0.5 0.5 0.5 (1.0)
*cmyn3** 0.5 0.5 0.5 (0.0)
*olvi4** 1.0 1.0 1.0 0.5
*cmyn4** 0.0 0.0 0.0 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 56.72 0.0 0.0
*LAB*LABa* 56.72 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** 0.497 0.5 0.0 (1.0)
*cmyn3** 0.503 0.5 1.0 (0.0)
*olvi4** 0.997 1.0 0.5 0.5
*cmyn4** 0.003 0.0 0.5 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 37.36 −1.55 38.51
*LAB*LABa* 37.36 −1.55 38.51
*LAB*TCHa* 25.01 38.55 92.31
relative* CIELAB *lab*
*lab*lab* 0.25 −0.019 0.499
*lab*tch* 0.25 0.5 0.256
*lab*nch* 0.5 0.5 0.256
***relative* Natural Colour (NC)**
*lab*lrj* 0.25 0.0 0.5
*lab*tce* 0.25 0.5 0.25
*lab*ncE* 0.5 0.5 r99j

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (0.0)
*olvi4** 1.0 1.0 1.0 0.0
*cmyn4** 0.0 0.0 0.0 1.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 18.03 0.0 0.0
*LAB*LABa* 18.03 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

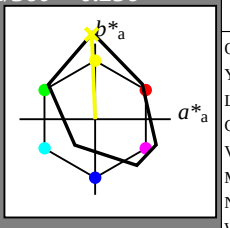
$n^* = 0{,}00$
blackness *n**
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00
chromaticness *c**
$n^* = 1{,}0$

Output: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 92/360 = 0.256$
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 82 112 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



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

FRS06; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	32.57	62.32	46.49	77.75	37
Y_{Ma}	82.73	−3.16	113.99	114.03	92
L_{Ma}	39.43	−61.79	45.84	76.95	143
C_{Ma}	47.86	−26.79	−34.24	43.49	232
V_{Ma}	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
R_{CIE}	39.92	59.8	31.05	67.38	27
J_{CIE}	81.26	−2.52	76.25	76.29	92
G_{CIE}	52.23	−41.56	17.14	44.96	158
B_{CIE}	30.57	2.63	−43.77	43.86	273

***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** 0.988 1.0 0.5 (1.0)
*cmyn3** 0.012 0.0 0.5 (0.0)
olvi3'* 1.0 0.946 0.431 (1.0)
cmyn3'* 0.0 0.054 0.569 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 86.84 −2.52 51.29
*LAB*LABa* 86.84 −2.25 56.19
*LAB*TCHa* 75.0 56.24 92.31
relative* CIELAB *lab*
*lab*lab* 0.94 −0.019 0.499
*lab*tch* 0.75 0.5 0.256
*lab*nch* 0.0 0.5 0.256
***relative* Natural Colour (NC)**
*lab*lrj* 0.94 −0.004 0.5
*lab*tce* 0.75 0.5 0.252
*lab*ncE* 0.0 0.5 j00g

***relative* Inform. Technology (IT)**
*olvi3** 0.977 1.0 0.0 (1.0)
*cmyn3** 0.023 0.0 1.0 (0.0)
olvi3'* 0.97 0.993 0.001 (1.0)
cmyn3'* 0.03 0.007 0.999 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 81.72 −4.88 107.68
*LAB*LABa* 81.72 −4.52 112.38
*LAB*TCHa* 50.0 112.47 92.31
relative* CIELAB *lab*
*lab*lab* 0.88 −0.039 0.999
*lab*tch* 0.5 1.0 0.256
*lab*nch* 0.0 1.0 0.256
***relative* Natural Colour (NC)**
*lab*lrj* 0.88 −0.009 1.0
*lab*tce* 0.5 1.0 0.252
*lab*ncE* 0.0 1.0 j00g

***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** 0.488 0.5 0.0 (1.0)
*cmyn3** 0.512 0.5 1.0 (0.0)
olvi3'* 0.585 0.483 0.002 (1.0)
cmyn3'* 0.415 0.517 0.998 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 43.99 −3.25 52.97
*LAB*LABa* 43.99 −2.26 56.19
*LAB*TCHa* 25.01 56.23 92.31
relative* CIELAB *lab*
*lab*lab* 0.44 −0.019 0.499
*lab*tch* 0.25 0.5 0.256
*lab*nch* 0.5 0.5 0.256
***relative* Natural Colour (NC)**
*lab*lrj* 0.44 −0.004 0.5
*lab*tce* 0.25 0.5 0.252
*lab*ncE* 0.5 0.5 j00g

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (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* 6.26 −1.62 −1.73
*LAB*LABa* 6.26 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

$n^* = 0{,}00$
blackness *n**
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00
chromaticness *c**
$n^* = 1{,}0$

VE310−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

BAM-test chart VE31; Colorimetric systems CNS18 & 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/VE31/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

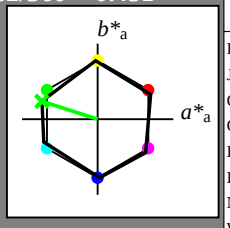
BAM registration: 20060101-VE31/10L/L31E07FP.PS/.PDF
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ
BAM material: code=rha4ta

Input: Colorimetric Natural Reflective System CNS18

for hue $h^* = lab^*h = 162/360 = 0.451$
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 57 77 162
olv*Ma: 0.0 1.0 0.01

triangle lightness *t**



%Gamut
$u^*_{rel} = 100$
%Regularity
$g^*_{H,rel} = 59$
$g^*_{C,rel} = 100$

CNS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.15	32.71	77.4	25
J_{Ma}	56.7	−2.69	77.35	77.4	92
G_{Ma}	56.7	−73.6	23.92	77.4	162
$G50B_{Ma}$	56.7	−71.24	−30.23	77.4	203
B_{Ma}	56.7	2.7	−77.34	77.4	272
$B50R_{Ma}$	56.7	63.4	−44.38	77.4	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

***relative* Inform. Technology (IT)**
*olvi3** 1.0 1.0 1.0 (1.0)
*cmyn3** 0.0 0.0 0.0 (0.0)
*olvi4** 1.0 1.0 1.0 1.0
*cmyn4** 0.0 0.0 0.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 95.41 0.0 0.0
*LAB*LABa* 95.41 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 0.503 (1.0)
*cmyn3** 0.5 0.0 0.497 (0.0)
*olvi4** 0.5 1.0 0.503 1.0
*cmyn4** 0.5 0.0 0.497 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 76.05 −36.78 11.8
*LAB*LABa* 76.05 −36.78 11.8
*LAB*TCHa* 75.0 38.64 162.22
relative* CIELAB *lab*
*lab*lab* 0.75 −0.475 0.153
*lab*tch* 0.75 0.5 0.451
*lab*nch* 0.0 0.5 0.451
***relative* Natural Colour (NC)**
*lab*lrj* 0.75 −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 1.0 0.006 (1.0)
*cmyn3** 1.0 0.0 0.994 (0.0)
*olvi4** 0.0 1.0 0.006 1.0
*cmyn4** 1.0 0.0 0.994 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 56.7 −73.57 23.6
*LAB*LABa* 56.7 −73.57 23.6
*LAB*TCHa* 50.0 77.27 162.22
relative* CIELAB *lab*
*lab*lab* 0.5 −0.951 0.305
*lab*tch* 0.5 1.0 0.451
*lab*nch* 0.0 1.0 0.451
***relative* Natural Colour (NC)**
*lab*lrj* 0.5 −0.999 0.0
*lab*tce* 0.5 1.0 0.5
*lab*ncE* 0.0 1.0 j99g

***relative* Inform. Technology (IT)**
*olvi3** 0.5 0.5 0.5 (1.0)
*cmyn3** 0.5 0.5 0.5 (0.0)
*olvi4** 1.0 1.0 1.0 0.5
*cmyn4** 0.0 0.0 0.0 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 56.72 0.0 0.0
*LAB*LABa* 56.72 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 0.5 0.003 (1.0)
*cmyn3** 1.0 0.5 0.997 (0.0)
*olvi4** 0.5 1.0 0.503 0.5
*cmyn4** 0.5 0.0 0.497 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 37.36 −36.78 11.8
*LAB*LABa* 37.36 −36.78 11.8
*LAB*TCHa* 25.01 38.64 162.22
relative* CIELAB *lab*
*lab*lab* 0.25 −0.475 0.153
*lab*tch* 0.25 0.5 0.451
*lab*nch* 0.5 0.5 0.451
***relative* Natural Colour (NC)**
*lab*lrj* 0.25 −0.499 0.0
*lab*tce* 0.25 0.5 0.5
*lab*ncE* 0.5 0.5 j99g

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (0.0)
*olvi4** 1.0 1.0 1.0 0.0
*cmyn4** 0.0 0.0 0.0 1.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 18.03 0.0 0.0
*LAB*LABa* 18.03 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

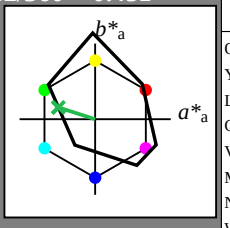
$n^* = 0{,}00$
blackness *n**
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00
chromaticness *c**
$n^* = 1{,}0$

Output: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 162/360 = 0.451$
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 43 51 162
olv*Ma: 0.0 1.0 0.38

triangle lightness *t**



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

FRS06; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	32.57	62.32	46.49	77.75	37
Y_{Ma}	82.73	−3.16	113.99	114.03	92
L_{Ma}	39.43	−61.79	45.84	76.95	143
C_{Ma}	47.86	−26.79	−34.24	43.49	232
V_{Ma}	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
R_{CIE}	39.92	59.8	31.05	67.38	27
J_{CIE}	81.26	−2.52	76.25	76.29	92
G_{CIE}	52.23	−41.56	17.14	44.96	158
B_{CIE}	30.57	2.63	−43.77	43.86	273

***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 0.689 (1.0)
*cmyn3** 0.5 0.0 0.311 (0.0)
olvi3'* 0.567 0.85 0.628 (1.0)
cmyn3'* 0.433 0.15 0.372 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 67.29 −24.87 3.65
*LAB*LABa* 67.29 −24.27 7.78
*LAB*TCHa* 75.0 25.5 162.23
relative* CIELAB *lab*
*lab*lab* 0.712 −0.475 0.153
*lab*tch* 0.75 0.5 0.451
*lab*nch* 0.0 0.5 0.451
***relative* Natural Colour (NC)**
*lab*lrj* 0.712 −0.498 −0.03
*lab*tce* 0.75 0.5 0.51
*lab*ncE* 0.0 0.5 g04b

***relative* Inform. Technology (IT)**
*olvi3** 0.0 1.0 0.378 (1.0)
*cmyn3** 1.0 0.0 0.622 (0.0)
olvi3'* 0.135 0.724 0.307 (1.0)
cmyn3'* 0.865 0.276 0.693 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 42.62 −49.57 12.41
*LAB*LABa* 42.62 −48.56 15.57
*LAB*TCHa* 50.0 51.0 162.22
relative* CIELAB *lab*
*lab*lab* 0.424 −0.951 0.305
*lab*tch* 0.5 1.0 0.451
*lab*nch* 0.0 1.0 0.451
***relative* Natural Colour (NC)**
*lab*lrj* 0.424 −0.997 −0.062
*lab*tce* 0.5 1.0 0.51
*lab*ncE* 0.0 1.0 g04b

***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 0.5 0.189 (1.0)
*cmyn3** 1.0 0.5 0.811 (0.0)
olvi3'* 0.112 0.364 0.182 (1.0)
cmyn3'* 0.888 0.636 0.818 (0.0)
***standard* and *adapted* CIELAB**
*LAB*LAB* 24.44 −25.6 5.34
*LAB*LABa* 24.44 −24.28 7.79
*LAB*TCHa* 25.01 25.5 162.21
relative* CIELAB *lab*
*lab*lab* 0.212 −0.475 0.153
*lab*tch* 0.25 0.5 0.451
*lab*nch* 0.5 0.5 0.451
***relative* Natural Colour (NC)**
*lab*lrj* 0.212 −0.498 −0.03
*lab*tce* 0.25 0.5 0.51
*lab*ncE* 0.5 0.5 g03b

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (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* 6.26 −1.62 −1.73
*LAB*LABa* 6.26 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

$n^* = 0{,}00$
blackness *n**
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00
chromaticness *c**
$n^* = 1{,}0$

VE310−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)
3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

BAM-test chart VE31; Colorimetric systems CNS18 & 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/VE31/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

BAM registration: 20060101-VE31/10L/L31E08FP.PS/.PDF
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ
BAM material: code=rha4ta

/VE31/ Form: 9/10, Serie: 1/1, Page: 9 Page: count: 1

www.ps.bam.de/VE31/10L/L31E09FP.PS/.PDF; olv* device (left) and rgb* linearized (right) output
F: Output Linearization (OL) data VE31/10L/L31E09FP.DAT in File (F)

See for similar files: http://www.ps.bam.de/VE31/
Technical information: http://www.ps.bam.de Version 2.1, io=1,1, CIEXYZ

BAM registration: 20060101-VE31/10L/L31E09FP.PS/.PDF BAM material: code=rha4ta
application for evaluation and measurement of printer or monitor systems, Yr=2.5, XYZ

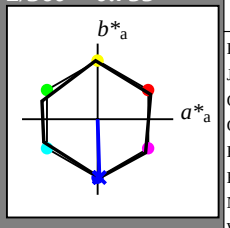
/VE31/ Form: 10/10,Serie: 1/1, Page: 10 Page: count: 1

Input: Colorimetric Natural Reflective System CNS18

for hue $h^* = lab^*h = 272/360 = 0.755$
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 57 77 272
olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut
$u^*_{rel} = 100$
%Regularity
$g^*_{H,rel} = 59$
$g^*_{C,rel} = 100$

CNS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.15	32.71	77.4	25
J_{Ma}	56.7	−2.69	77.35	77.4	92
G_{Ma}	56.7	−73.6	23.92	77.4	162
$G50B_{Ma}$	56.7	−71.24	−30.23	77.4	203
B_{Ma}	56.7	2.7	−77.34	77.4	272
$B50R_{Ma}$	56.7	63.4	−44.38	77.4	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

***relative* Inform. Technology (IT)**				
*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	95.41	0.0	0.0	
*LAB*LABa*	95.41	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)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5
***standard* and *adapted* CIELAB**				
*LAB*LAB*	56.72	0.0	0.0	
*LAB*LABa*	56.72	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	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	18.03	0.0	0.0	
*LAB*LABa*	18.03	0.0	0.0	
*LAB*TCHa*	0.01	0.01	–	
relative* CIELAB *lab*				
*lab*lab*	0.0	0.0	0.0	
*lab*tch*	0.0	0.0	–	
*lab*nch*	1.0	0.0	–	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.0	0.0	0.0	
*lab*tce*	0.0	0.0	–	
*lab*ncE*	1.0	0.0	–	

$n^* = 1,0$

***relative* Inform. Technology (IT)**				
*olvi3**	0.5	0.502	1.0	(1.0)
*cmyn3**	0.5	0.498	0.0	(0.0)
*olvi4**	0.5	0.503	1.0	1.0
*cmyn4**	0.5	0.497	0.0	0.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	76.05	1.17	−38.54	
*LAB*LABa*	76.05	1.17	−38.54	
*LAB*TCHa*	75.0	38.57	271.74	
relative* CIELAB *lab*				
*lab*lab*	0.75	0.015	−0.499	
*lab*tch*	0.75	0.5	0.755	
*lab*nch*	0.0	0.5	0.755	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.75	0.0	−0.499	
*lab*tce*	0.75	0.5	0.75	
*lab*ncE*	0.0	0.5	g99b	

***relative* Inform. Technology (IT)**				
*olvi3**	0.0	0.002	0.5	(1.0)
*cmyn3**	1.0	0.998	0.5	(0.0)
*olvi4**	0.5	0.502	1.0	0.5
*cmyn4**	0.5	0.498	0.0	0.5
***standard* and *adapted* CIELAB**				
*LAB*LAB*	37.36	1.18	−38.55	
*LAB*LABa*	37.36	1.18	−38.55	
*LAB*TCHa*	25.01	38.58	271.75	
relative* CIELAB *lab*				
*lab*lab*	0.25	0.015	−0.499	
*lab*tch*	0.25	0.5	0.755	
*lab*nch*	0.5	0.5	0.755	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.25	0.0	−0.499	
*lab*tce*	0.25	0.5	0.75	
*lab*ncE*	0.5	0.5	b00r	

***relative* Inform. Technology (IT)**				
*olvi3**	0.0	0.005	1.0	(1.0)
*cmyn3**	1.0	0.995	0.0	(0.0)
*olvi4**	0.0	0.005	1.0	1.0
*cmyn4**	1.0	0.995	0.0	0.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	56.7	2.35	−77.1	
*LAB*LABa*	56.7	2.35	−77.1	
*LAB*TCHa*	50.0	77.15	271.74	
relative* CIELAB *lab*				
*lab*lab*	0.5	0.03	−0.998	
*lab*tch*	0.5	1.0	0.755	
*lab*nch*	0.0	1.0	0.755	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.5	0.0	−0.999	
*lab*tce*	0.5	1.0	0.75	
*lab*ncE*	0.0	1.0	b00r	

$n^* = 0,00$

blackness n^*

0,25 0,50 $n^* = 0,50$ 0,75 1,00

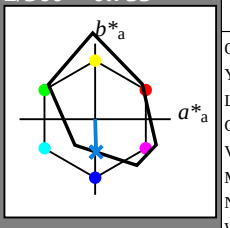
chromaticness c^*

Output: Colorimetric Printer Reflective System FRS06

for hue $h^* = lab^*h = 272/360 = 0.755$
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 35 43 272
olv*Ma: 0.0 0.66 1.0

triangle lightness t^*



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

FRS06; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	32.57	62.32	46.49	77.75	37
Y_{Ma}	82.73	−3.16	113.99	114.03	92
L_{Ma}	39.43	−61.79	45.84	76.95	143
C_{Ma}	47.86	−26.79	−34.24	43.49	232
V_{Ma}	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
R_{CIE}	39.92	59.8	31.05	67.38	27
J_{CIE}	81.26	−2.52	76.25	76.29	92
G_{CIE}	52.23	−41.56	17.14	44.96	158
B_{CIE}	30.57	2.63	−43.77	43.86	273

***relative* Inform. Technology (IT)**				
*olvi3**	0.5	0.828	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**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(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*	6.26	−1.62	−1.73	
*LAB*LABa*	6.26	0.0	0.0	
*LAB*TCHa*	0.01	0.01	–	
relative* CIELAB *lab*				
*lab*lab*	0.0	0.0	0.0	
*lab*tch*	0.0	0.0	–	
*lab*nch*	1.0	0.0	–	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.0	0.0	0.0	
*lab*tce*	0.0	0.0	–	
*lab*ncE*	1.0	0.0	–	

$n^* = 1,0$

***relative* Inform. Technology (IT)**				
*olvi3**	0.5	0.172	0.0	(0.0)
olvi3'*	0.609	0.709	0.863	(1.0)
cmyn3'*	0.391	0.291	0.137	(0.0)
***standard* and *adapted* CIELAB**				
*LAB*LAB*	63.44	0.0	−25.69	
*LAB*LABa*	63.44	0.65	−21.71	
*LAB*TCHa*	75.0	21.73	271.72	
relative* CIELAB *lab*				
*lab*lab*	0.667	0.015	−0.499	
*lab*tch*	0.75	0.5	0.755	
*lab*nch*	0.0	0.5	0.755	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.667	−0.011	−0.499	
*lab*tce*	0.75	0.5	0.746	
*lab*ncE*	0.0	0.5	g98b	

***relative* Inform. Technology (IT)**				
*olvi3**	0.0	0.328	0.5	(1.0)
*cmyn3**	1.0	0.672	0.5	(0.0)
olvi3'*	0.129	0.266	0.395	(1.0)
cmyn3'*	0.871	0.734	0.605	(0.0)
***standard* and *adapted* CIELAB**				
*LAB*LAB*	20.59	−0.72	−24.0	
*LAB*LABa*	20.59	0.66	−21.71	
*LAB*TCHa*	25.01	21.73	271.75	
relative* CIELAB *lab*				
*lab*lab*	0.167	0.015	−0.499	
*lab*tch*	0.25	0.5	0.755	
*lab*nch*	0.5	0.5	0.755	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.167	−0.01	−0.499	
*lab*tce*	0.25	0.5	0.746	
*lab*ncE*	0.5	0.5	g98b	

***relative* Inform. Technology (IT)**				
*olvi3**	0.0	0.657	1.0	(1.0)
*cmyn3**	1.0	0.343	0.0	(0.0)
olvi3'*	0.048	0.498	0.876	(1.0)
cmyn3'*	0.952	0.502	0.124	(0.0)
***standard* and *adapted* CIELAB**				
*LAB*LAB*	34.92	0.17	−46.28	
*LAB*LABa*	34.92	1.32	−43.42	
*LAB*TCHa*	50.0	43.45	271.73	
relative* CIELAB *lab*				
*lab*lab*	0.334	0.03	−0.998	
*lab*tch*	0.5	1.0	0.755	
*lab*nch*	0.0	1.0	0.755	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.334	−0.022	−0.999	
*lab*tce*	0.5	1.0	0.746	
*lab*ncE*	0.0	1.0	g98b	

$n^* = 0,00$

blackness n^*

0,25 0,50 $n^* = 0,50$ 0,75 1,00

chromaticness c^*

VE310−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

BAM-test chart VE31; Colorimetric systems CNS18 & FRS06
D65: 2 coordinate data of 3 step colour scales for 10 hues

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