



















**BAM registration: 20060101-QE10/10Q/Q10E09SP.PS/.PDF**

**BAM material: code=rha4ta**

**BAM application for evaluation and measurement of printer or monitor systems**

**QE10/ Form: 10/10 Serie: 1/1, Page: 10 Page: count: 10**

**Input: Colorimetric Offset Reflective System ORS18**  
for hue  $h^* = lab^*h = 263/360 = 0.731$   
 $lab^*tch$  and  $lab^*nch$

**D50: hue B**  
**LCH\*Ma: 42 47 263**  
**olv\*Ma: 0.0 0.52 1.0**  
**triangle lightness  $t^*$**

**ORS18; adapted (a) CIELAB data**

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	47.94	65.05	50.54	82.38	38
Y <sub>Ma</sub>	91.0	-4.72	90.58	90.7	93
L <sub>Ma</sub>	50.9	-63.18	34.98	72.22	151
M <sub>Ma</sub>	56.99	-39.34	-48.1	62.16	231
V <sub>Ma</sub>	25.72	30.89	-44.4	54.09	305
W <sub>Ma</sub>	49.99	75.76	-4.64	75.9	356
N <sub>Ma</sub>	18.09	0.0	0.0	0.0	0
R <sub>Ma</sub>	95.46	0.0	0.0	0.0	0
J <sub>CIE</sub>	41.88	61.66	30.69	68.88	26
G <sub>CIE</sub>	51.62	-41.32	9.74	42.46	167
B <sub>CIE</sub>	29.2	-5.79	-49.61	49.96	263

**%Gamut**  
 $u^*_{rel} = 94$   
**%Regularity**  
 $g^*_{h,rel} = 65$   
 $g^*_{c,rel} = 60$

**relative Inform. Technology (IT)**  
olv<sub>i3</sub>\* 1.0 1.0 1.0 (1.0)  
cmyn<sub>3</sub>\* 0.0 0.0 0.0 (0.0)  
olv<sub>i4</sub>\* 1.0 1.0 1.0 1.0  
cmyn<sub>4</sub>\* 0.0 0.0 0.0 standard and adapted CIELAB  
LAB\*LAB 95.46 -0.39 4.69  
LAB\*LABa 95.46 0.0 0.0  
LAB\*TCh<sub>a</sub> 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<sub>i3</sub>\* 0.5 0.5 0.5 (1.0)  
cmyn<sub>3</sub>\* 0.5 0.242 0.0 (0.0)  
olv<sub>i4</sub>\* 0.5 0.758 1.0 1.0  
cmyn<sub>4</sub>\* 0.5 0.242 0.0 standard and adapted CIELAB  
LAB\*LAB 68.67 -2.73 -20.23  
LAB\*LABa 68.67 -2.7 -23.15  
LAB\*TCh<sub>a</sub> 75.0 23.32 263.33

**relative CIELAB lab\***  
lab\*lab 0.654 -0.057 -0.496  
lab\*tch 0.75 0.5 0.731  
lab\*nch 0.0 0.5 0.731

**relative Natural Colour (NC)**  
lab\*lrj 0.654 0.0 -0.499  
lab\*tce 0.75 0.5 0.75  
lab\*nCE 0.0 0.5 g<sub>99b</sub>

**relative Inform. Technology (IT)**  
olv<sub>i3</sub>\* 0.0 0.517 1.0 (1.0)  
cmyn<sub>3</sub>\* 1.0 0.483 0.0 (0.0)  
olv<sub>i4</sub>\* 0.0 0.517 1.0 1.0  
cmyn<sub>4</sub>\* 1.0 0.483 0.0 standard and adapted CIELAB  
LAB\*LAB 41.88 -5.06 -45.18  
LAB\*LABa 41.88 -5.4 -46.3  
LAB\*TCh<sub>a</sub> 50.0 46.63 263.34

**relative CIELAB lab\***  
lab\*lab 0.308 -0.115 -0.992  
lab\*tch 0.5 1.0 0.731  
lab\*nch 0.0 1.0 0.731

**relative Natural Colour (NC)**  
lab\*lrj 0.308 0.0 -0.999  
lab\*tce 0.5 1.0 0.75  
lab\*nCE 0.0 1.0 g<sub>99b</sub>

**relative Inform. Technology (IT)**  
olv<sub>i3</sub>\* 0.0 0.154 -0.057 -0.496  
cmyn<sub>3</sub>\* 0.25 0.5 0.732  
olv<sub>i4</sub>\* 0.5 0.5 0.732  
cmyn<sub>4</sub>\* 0.5 0.5 0.732 standard and adapted CIELAB  
LAB\*LAB 18.1 0.67 -0.46  
LAB\*LABa 18.1 0.0 0.0  
LAB\*TCh<sub>a</sub> 0.01 0.01 -

**relative CIELAB lab\***  
lab\*lab 0.154 -0.057 -0.496  
lab\*tch 0.25 0.5 0.732  
lab\*nch 0.5 0.5 0.732

**relative Natural Colour (NC)**  
lab\*lrj 0.154 0.0 -0.499  
lab\*tce 0.25 0.5 0.75  
lab\*nCE 0.5 0.5 b<sub>00r</sub>

**n\* = 0,00**  
blackness  $n^*$

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

**n\* = 1,0**

**Output: Colorimetric Television Luminous System TLS00**  
for hue  $h^* = lab^*h = 264/360 = 0.733$   
 $lab^*tch$  and  $lab^*nch$

**D50: hue B**  
**LCH\*Ma: 61 54 264**  
**olv\*Ma: 0.0 0.59 1.0**  
**triangle lightness  $t^*$**

**TLS00; adapted (a) CIELAB data**

	$L^*=L_a^*$	$a^*_a$	$b^*_a$	$C^*_{ab,a}$	$h^*_{ab,a}$
O <sub>Ma</sub>	54.19	79.36	63.0	101.33	38
Y <sub>Ma</sub>	93.44	-14.18	82.59	83.8	100
L <sub>Ma</sub>	82.82	-83.73	70.41	109.41	140
M <sub>Ma</sub>	85.22	-55.9	-15.78	58.1	196
V <sub>Ma</sub>	25.61	67.05	-108.87	127.87	302
W <sub>Ma</sub>	58.76	91.18	-53.69	105.82	330
N <sub>Ma</sub>	0.01	0.0	0.0	0.0	0
R <sub>Ma</sub>	95.41	0.0	0.0	0.0	0
J <sub>CIE</sub>	41.88	62.0	31.82	69.69	27
G <sub>CIE</sub>	51.62	-41.11	11.52	42.7	164
B <sub>CIE</sub>	29.2	-5.27	-49.33	49.62	264

**%Gamut**  
 $u^*_{rel} = 156$   
**%Regularity**  
 $g^*_{h,rel} = 26$   
 $g^*_{c,rel} = 45$

**relative Inform. Technology (IT)**  
olv<sub>i3</sub>\* 1.0 1.0 1.0 (1.0)  
cmyn<sub>3</sub>\* 0.0 0.0 0.0 (0.0)  
olv<sub>i4</sub>\* 1.0 1.0 1.0 1.0  
cmyn<sub>4</sub>\* 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\*TCh<sub>a</sub> 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<sub>i3</sub>\* 0.5 0.796 1.0 (1.0)  
cmyn<sub>3</sub>\* 0.5 0.204 0.0 (0.0)  
olv<sub>i4</sub>\* 0.5 0.796 1.0 1.0  
cmyn<sub>4</sub>\* 0.5 0.204 0.0 standard and adapted CIELAB  
LAB\*LAB 78.15 -2.87 -26.86  
LAB\*LABa 78.15 -2.87 -26.86  
LAB\*TCh<sub>a</sub> 75.0 27.02 263.88

**relative CIELAB lab\***  
lab\*lab 0.819 -0.052 -0.496  
lab\*tch 0.75 0.5 0.733  
lab\*nch 0.0 0.5 0.733

**relative Natural Colour (NC)**  
lab\*lrj 0.819 0.0 -0.499  
lab\*tce 0.75 0.5 0.75  
lab\*nCE 0.0 0.5 g<sub>99b</sub>

**relative Inform. Technology (IT)**  
olv<sub>i3</sub>\* 0.5 0.5 0.5 (1.0)  
cmyn<sub>3</sub>\* 0.5 0.204 0.0 (0.0)  
olv<sub>i4</sub>\* 1.0 1.0 1.0 0.5  
cmyn<sub>4</sub>\* 0.0 0.0 0.5 standard and adapted CIELAB  
LAB\*LAB 47.72 0.0 0.0  
LAB\*LABa 47.72 0.0 0.0  
LAB\*TCh<sub>a</sub> 50.0 0.01 -

**relative CIELAB lab\***  
lab\*lab 0.308 -0.115 -0.992  
lab\*tch 0.5 1.0 0.731  
lab\*nch 0.0 1.0 0.731

**relative Natural Colour (NC)**  
lab\*lrj 0.308 0.0 -0.999  
lab\*tce 0.5 1.0 0.75  
lab\*nCE 0.0 1.0 g<sub>99b</sub>

**relative Inform. Technology (IT)**  
olv<sub>i3</sub>\* 0.0 0.296 0.5 (1.0)  
cmyn<sub>3</sub>\* 1.0 0.704 0.5 (0.0)  
olv<sub>i4</sub>\* 0.5 0.796 1.0 0.5  
cmyn<sub>4</sub>\* 0.5 0.204 0.0 0.5 standard and adapted CIELAB  
LAB\*LAB 60.9 -5.74 -53.74  
LAB\*LABa 60.9 -5.74 -53.74  
LAB\*TCh<sub>a</sub> 50.0 54.06 263.89

**relative CIELAB lab\***  
lab\*lab 0.638 -0.105 -0.993  
lab\*tch 0.5 1.0 0.733  
lab\*nch 0.0 1.0 0.733

**relative Natural Colour (NC)**  
lab\*lrj 0.638 0.0 -0.999  
lab\*tce 0.5 1.0 0.75  
lab\*nCE 0.0 1.0 g<sub>99b</sub>

**n\* = 0,00**  
blackness  $n^*$

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

**n\* = 1,0**

**QE100-7, 3 step scales for constant CIELAB hue 263/360 = 0.731 (left)**  
**BAM-test chart QE10; Colorimetric systems ORS18 & ORS18 D50: 2 coordinate data of 3 step colour scales for 10 hues**

**3 step scales for constant CIELAB hue 264/360 = 0.733 (right)**  
**input: cmy0\* setcmykcolor**  
**output: Startup (S) data dependend**