## 8 Device (d) colours $r$ gb ${ }_{\mathrm{d}}^{\mathrm{s}}=0{ }^{2} \boldsymbol{v}^{*}$ in CIELAB: OYLCVM and NW



Hexagon-triangle system based on device (d) colours: $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{d}}^{*}=\boldsymbol{o l} \boldsymbol{v}^{*}$ with linear relations between $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{d}}^{\boldsymbol{*}}$ and $\boldsymbol{L C H}{ }^{*}$ * 5 equal (compare linear relations between $r g b_{\mathrm{sRGB}}$ and $L^{*}$ )

Equations $r g b_{d}^{*}-L C H^{*}$ in both directions have been published, see: Richter, CIE-Proceedings, Beijing, 2008, Volume 3 und DIN 33872-1 Three equations (tables) are needed for office applications:
$\boldsymbol{r} \boldsymbol{g} \boldsymbol{b}_{\mathrm{d}}-\boldsymbol{L} \boldsymbol{C} \boldsymbol{H}^{*}, \quad$ for a 9 x 9 x 9 grid of equally spaced $r \boldsymbol{r g} b_{\mathrm{d}}$-input data $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{d}}^{*}-\boldsymbol{L C H} \boldsymbol{H}^{*} \quad$ a 9 x 9 x 9 grid of equally spaced data $\boldsymbol{r g} b_{\mathrm{d}}^{*}$ and $L C H^{*}$ $r \boldsymbol{g} \boldsymbol{\prime}_{\mathrm{d}}-\boldsymbol{L C H}{ }^{*}$ Device output linearisation by $r \boldsymbol{r g} b_{d}->r g b^{\prime *}$


Hexagon-triangle system based on device (d) colours: $\boldsymbol{r} \boldsymbol{g} \boldsymbol{b}_{\mathrm{d}}^{*}=\boldsymbol{o l} \boldsymbol{v}^{*}$ with linear relations between $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{d}}^{\boldsymbol{*}}$ and $\boldsymbol{L C H}{ }^{*}$
(compare linear relations between $r g b_{\mathrm{sRGB}}$ and $L^{*}$ )
Equations $r g b_{\mathrm{d}}^{*}-L C H^{*}$ in both directions have been published, see: Richter, CIE-Proceedings, Beijing, 2008, Volume 3 und DIN 33872-1 Three equations (tables) are needed for office applications: $\boldsymbol{r} \boldsymbol{g} \boldsymbol{b}_{\mathrm{d}}-\boldsymbol{L} \boldsymbol{C} \boldsymbol{H}^{*}, \quad$ for a 9 x 9 x 9 grid of equally spaced $r \boldsymbol{r g} b_{\mathrm{d}}$-input data $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{d}}{ }^{-} \boldsymbol{L C H}^{*} \quad$ a 9 x 9 x 9 grid of equally spaced data $r g b_{d}^{*}$ and $L C H^{*}$ $\boldsymbol{r g b} \boldsymbol{\prime}_{\mathrm{d}}^{*}-$ LCH $^{*}$ Device output linearisation by $\boldsymbol{r g} b_{d}->\boldsymbol{r g} \boldsymbol{b}^{\prime *}{ }_{d}$


Hexagon-triangle system based on device (d) colours: $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{d}}^{\boldsymbol{*}=\boldsymbol{l}} \boldsymbol{v}^{*}$ with linear relations between $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{d}}^{\boldsymbol{*}}-\boldsymbol{L C H} \boldsymbol{H}^{*}$, and $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{h}}^{*}-\boldsymbol{L C H}{ }^{*}$ (compare linear relations between $r g b_{\mathrm{sRGB}}$ and $L^{*}$ )
Equations $r g b_{\mathrm{d}}^{*}-L C H^{*}$ in both directions have been published, see: Richter, CIE-Proceedings, Beijing, 2008, Volume 3 und DIN 33872-1 Three equations (tables) are needed for office applications: $\boldsymbol{r} \boldsymbol{g} \boldsymbol{b}_{\mathrm{d}}-\boldsymbol{L} \boldsymbol{C} \boldsymbol{H}^{*}, \quad$ for a 9 x 9 x 9 grid of equally spaced $r \boldsymbol{r g} b_{\mathrm{d}}$-input data $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{h}}^{*}-\boldsymbol{L C H} \boldsymbol{H}^{*}$ a 9 x 9 x 9 grid of equally spaced data $\boldsymbol{r g} b_{\mathrm{h}}^{*}$ and $L C H^{*}$ $\boldsymbol{r g} \boldsymbol{b}^{\prime}{ }_{\mathrm{h}}-$ LCH $^{*}$ Device output linearisation by $\boldsymbol{r g} b_{\mathrm{d}} \rightarrow \mathrm{rgb}_{\mathrm{h}}$

6 Elementary (e) colours $r g b_{\mathrm{d}}^{*}=r g b^{*}$ in CIELAB: RJGB and $N W$ Hexagon-triangle system based on device (d) colours: $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{d}}^{*}=\boldsymbol{o l} \boldsymbol{v}^{*}$ with linear relations between $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{d}}^{\boldsymbol{*}}-\boldsymbol{L C H} \boldsymbol{H}^{*}$, and $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{h}}^{\boldsymbol{*}-\boldsymbol{L C H}}{ }^{*}$ $L^{*} 5$ equal (compare linear relations between $r g b_{\mathrm{sRGB}}$ and $L^{*}$ ) Equations $r g b_{\mathrm{d}}^{*}-L C H^{*}$ in both directions have been published, see: Richter, CIE-Proceedings, Beijing, 2008, Volume 3 und DIN 33872-1 Three equations (tables) are needed for office applications: $\boldsymbol{r} \boldsymbol{g} \boldsymbol{b}_{\mathrm{d}}-\boldsymbol{L} \boldsymbol{C} \boldsymbol{H}^{*}, \quad$ for a 9 x 9 x 9 grid of equally spaced $r \boldsymbol{r g} b_{\mathrm{d}}$-input data $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{h}}^{*}-\boldsymbol{L C H} \boldsymbol{H}^{*} \quad$ a 9 x 9 x 9 grid of equally spaced data $r g b_{\mathrm{h}}^{*}$ and $L C H^{*}$ $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{h}}^{\prime}-$ LCH $^{*}$ Device output linearisation by $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{d}}->$ rgb ${ }_{\mathrm{h}}^{*}$


## 8 Device (d) colours rgb ${ }_{\mathrm{d}}^{*}=o l v^{*}$ in CIELAB: OYLCVM and $N W$

Hexagon-triangle system based on device (d) colours: $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{d}}^{*}=\boldsymbol{o l} \boldsymbol{\nu}^{*}$ with linear relations between $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{d}}^{\boldsymbol{*}}$ and $\boldsymbol{L C H} \boldsymbol{H}^{*}$

(compare linear relations between $r g b_{\mathrm{sRGB}}$ and $L$
Equations $\mathrm{rgb}_{\mathrm{d}}^{*}-\mathrm{LCH}^{*}$ in both directions have been published, see: Richter, CIE-Proceedings, Beijing, 2008, Volume 3 und DIN 33872-1 Three equations (tables) are needed for office applications:
$\boldsymbol{r g} \boldsymbol{b}_{\mathrm{d}}-\boldsymbol{L} \boldsymbol{C \boldsymbol { H } ^ { * }}$, output a 9 x 9 x 9 grid of equally spaced $r g b_{\mathrm{d}}$-input data $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{d}}^{*}-\boldsymbol{L C H} \boldsymbol{H}^{*}$ a 9 x 9 x 9 grid of equally spaced data $r g b_{d}^{*}$ and $L C H^{*}$ $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{d}}-$ LCH $^{*}$ Device output linearisation by $\boldsymbol{r g} b_{d}->\boldsymbol{r g} b^{*}{ }_{d}$

## 8 Device (d) colours $\boldsymbol{r g b} \boldsymbol{b}_{\mathrm{d}}^{\boldsymbol{d}}=\boldsymbol{o l} \boldsymbol{\nu}^{*}$ in CIELAB: OYLCVM and $\boldsymbol{N W}$ <br> Hexagon-triangle system based on device (d) colours: $\boldsymbol{c y m} \boldsymbol{d}_{\mathrm{d}}^{*}=1-\boldsymbol{r g} \boldsymbol{b}_{\mathrm{d}}^{*}$

 cmy ${ }^{*}{ }_{d}-$ LCH $^{*}$ Device output linearisation by cmy ${ }_{d}->$ cmy ${ }^{*}{ }_{d}$


Hexagon-triangle system based on device (d) colours: $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{d}}^{*}=\boldsymbol{o l} \boldsymbol{\nu}^{*}$ with linear relations between $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{d}}^{\boldsymbol{*}}-\boldsymbol{L C H} \boldsymbol{H}^{*}$, and $\boldsymbol{r g} \boldsymbol{b}_{\mathrm{e}}^{*}-\boldsymbol{L C H} \boldsymbol{H}^{*}$

TUB-test chart KE28; 6 device and 4 elementary colours
Relation between CIELAB data and colour data $r g b$ and $r g b^{*}$
(0)

