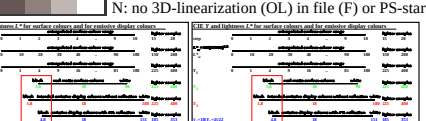
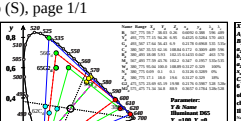
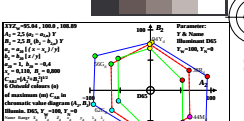






LABJND colour difference formula of CIE 230:2019
Modifications with normalization to Y_n of surround

$$dY = A_1 + A_2 Y \qquad \begin{matrix} \text{error} \\ 0{,}0044 \end{matrix} \quad A_1 = 0{,}0170,\ A_2 = 0{,}0058 \quad [1d]$$

$$= A_1 + A_{2n}(Y/Y_n) \qquad A_1 = 0{,}0170,\ A_{2n} = 0{,}1004 \cdot A_2 Y_n \quad [2d]$$

$$dY = A_1 + A_2 Y^{A_3} \qquad \begin{matrix} \text{error} \\ 0{,}0019 \end{matrix} \quad A_1 = 0{,}0258,\ A_2 = 0{,}0036,\ A_3 = 1{,}087 \quad [3]$$

$$= A_1 + A_{2n}(Y/Y_n)^{A_3} \qquad A_1 = 0{,}0258,\ A_{2n} = 0{,}0823,\ A_3 = 1{,}087 \quad [4]$$

$$dY = A_1 [1 + A_2 Y] \qquad \begin{matrix} \text{error} \\ 0{,}0044 \end{matrix} \quad A_1 = 0{,}0170,\ A_2 = 0{,}3343 \quad [5]$$

$$= A_1 [1 + A_{2n}(Y/Y_n)] \qquad A_1 = 0{,}0170,\ A_{2n} = 5{,}931 = A_2 Y_n \quad [6]$$

$$dY = A_1 [1 + A_2 Y]^{A_3} \qquad \begin{matrix} \text{error} \\ 0{,}0018 \end{matrix} \quad A_1 = 0{,}0251,\ A_2 = 0{,}1566,\ A_3 = 1{,}107 \quad [7]$$

$$= A_1 [1 + A_{2n}(Y/Y_n)]^{A_3} \qquad A_1 = 0{,}0251,\ A_{2n} = 2{,}778,\ A_3 = 1{,}107 \quad [8]$$

$$\frac{1}{A_1} \int \frac{dY}{1 + A_2 Y} = \frac{1}{A_1 A_2} \ln |1 + A_2 Y| = F^*(Y) \qquad (A_3 = 1) \quad [5i]$$

DEQ20--3N

LABJND colour difference formula of CIE 230:2019
Modifications with normalization to Y_n of surround

$$dY = A_1 + A_2 Y \qquad \begin{matrix} \text{error} \\ 0{,}0044 \end{matrix} \quad A_1 = 0{,}0170,\ A_2 = 0{,}0058 \quad [1d]$$

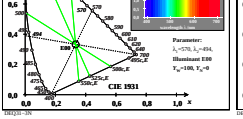
$$= A_1 + A_{2n}(Y/Y_n) \qquad A_1 = 0{,}0170,\ A_{2n} = 0{,}1004 \cdot A_2 Y_n \quad [2d]$$

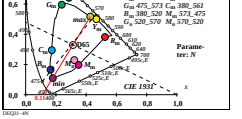
$$\int \frac{dY}{A_1 + A_2 Y} = \frac{1}{A_2} \ln |A_1 + A_2 Y| = F^*(Y) \qquad (A_3 = 1) \quad [1i]$$

$$dY = A_1 [1 + A_2 Y] \qquad \begin{matrix} \text{error} \\ 0{,}0044 \end{matrix} \quad A_1 = 0{,}0170,\ A_2 = 0{,}3343 \quad [5d]$$

$$= A_1 [1 + A_{2n}(Y/Y_n)] \qquad A_1 = 0{,}0170,\ A_{2n} = 5{,}931 = A_2 Y_n \quad [6d]$$

$$\frac{1}{A_1} \int \frac{dY}{1 + A_2 Y} = \frac{1}{A_1 A_2} \ln |1 + A_2 Y| = F^*(Y) \qquad (A_3 = 1) \quad [5i]$$





LABJND colour difference formula of CIE 230:2019
Modifications with normalization to Y_n of surround

$$dY = A_1 + A_2 Y^{A_3} \qquad \begin{matrix} \text{error} \\ 0{,}0019 \end{matrix} \quad A_1 = 0{,}0258,\ A_2 = 0{,}0036,\ A_3 = 1{,}087 \quad [3d]$$

$$= A_1 + A_{2n}(Y/Y_n)^{A_3} \qquad A_1 = 0{,}0258,\ A_{2n} = 0{,}0826,\ A_3 = 1{,}087 \quad [4d]$$

$$\int \frac{dY}{A_1 + A_2 Y^{A_3}} = A_1 Y + \frac{A_2 [Y^{(A_3+1)}]}{A_3 + 1} = F^*(Y) \quad (A_3 \neq 1) \quad [3i]$$

$$dY = A_1 [1 + A_2 Y]^{A_3} \qquad \begin{matrix} \text{error} \\ 0{,}0018 \end{matrix} \quad A_1 = 0{,}0251,\ A_2 = 0{,}1566,\ A_3 = 1{,}107 \quad [7d]$$

$$= A_1 [1 + A_{2n}(Y/Y_n)]^{A_3} \qquad A_1 = 0{,}0251,\ A_{2n} = 2{,}778,\ A_3 = 1{,}107 \quad [8d]$$

$$\int \frac{dY}{[1 + A_2 Y]^{A_3}} = \frac{1}{A_1} \frac{[1 + A_2 Y]^{(A_3+1)}}{A_2 (A_3 + 1)} = F^*(Y) \quad (A_3 \neq 1) \quad [7i]$$

DEQ20--5N

LABJND colour difference formula of CIE 230:2019
Modifications with normalization to Y_n of surround

$$dY = A_1 + A_2 Y^{A_3} \qquad \begin{matrix} \text{error} \\ 0{,}0019 \end{matrix} \quad A_1 = 0{,}0258,\ A_2 = 0{,}0036,\ A_3 = 1{,}087 \quad [3d]$$

$$= A_1 + A_{2n}(Y/Y_n)^{A_3} \qquad A_1 = 0{,}0258,\ A_{2n} = 0{,}0823,\ A_3 = 1{,}087 \quad [4d]$$

$$\int \frac{dY}{A_1 + A_{2n} Y_n^{A_3}} = A_1 Y + \frac{A_{2n} [Y^{(A_3+1)}]}{A_3 + 1} = F^*(Y_n) \quad (A_3 \neq 1) \quad [4i]$$

$$dY = A_1 [1 + A_2 Y]^{A_3} \qquad \begin{matrix} \text{error} \\ 0{,}0018 \end{matrix} \quad A_1 = 0{,}0251,\ A_2 = 0{,}1566,\ A_3 = 1{,}107 \quad [7d]$$

$$= A_1 [1 + A_{2n}(Y/Y_n)]^{A_3} \qquad A_1 = 0{,}0251,\ A_{2n} = 2{,}778,\ A_3 = 1{,}107 \quad [8d]$$

$$\frac{1}{A_1} \int \frac{dY}{[1 + A_{2n} Y_n]^{A_3}} = \frac{1}{A_1} \frac{[1 + A_{2n} Y_n]^{(A_3+1)}}{A_{2n} (A_3 + 1)} = F^*(Y_n) \quad (A_3 \neq 1) \quad [8i]$$

DEQ20--6N