

**Colorimetric "Standard data": Television Luminous System TLS18 for CIE lightness  $L^*_N=18$  of black for illuminant D65**

**System TLS18**

**sRGB system**

**D65 reflection:**

$Y_N = 2.52$

$L^*_N = 18.01$

| Color | r=ol <sup>*1</sup> | g=ol <sup>*2</sup> | b=ol <sup>*3</sup> | L*    | a*     | b*     | C <sub>ab</sub> | h <sub>ab</sub> | X=XYZ <sub>1</sub> | Y=XYZ <sub>2</sub> | Z=XYZ <sub>3</sub> | x      | y      | Y/88.59 |
|-------|--------------------|--------------------|--------------------|-------|--------|--------|-----------------|-----------------|--------------------|--------------------|--------------------|--------|--------|---------|
| O (R) | 1.0                | 0.0                | 0.0                | 52.76 | 71.63  | 49.88  | 87.29           | 35              | 37.89              | 20.83              | 4.41               | 0.6003 | 0.3299 | 0.2351  |
| Y     | 1.0                | 1.0                | 0.0                | 92.74 | -20.03 | 84.97  | 87.3            | 103             | 68.67              | 82.37              | 14.66              | 0.4144 | 0.4971 | 0.9298  |
| L (G) | 0.0                | 1.0                | 0.0                | 84.0  | -78.99 | 73.94  | 108.2           | 137             | 33.17              | 64.07              | 13.0               | 0.3009 | 0.5812 | 0.7231  |
| C     | 0.0                | 1.0                | 1.0                | 87.14 | -44.42 | -13.12 | 46.33           | 196             | 48.71              | 70.29              | 94.77              | 0.2279 | 0.3288 | 0.7934  |
| V (B) | 0.0                | 0.0                | 1.0                | 31.9  | 24.46  | -37.38 | 44.68           | 303             | 9.36               | 7.04               | 23.5               | 0.2346 | 0.1764 | 0.0795  |
| M     | 1.0                | 0.0                | 1.0                | 59.01 | 89.33  | -19.43 | 91.42           | 348             | 53.42              | 27.04              | 44.81              | 0.4265 | 0.2158 | 0.3052  |
| N     | 0.0                | 0.0                | 0.0                | 18.01 | 0.0    | 0.0    | 0.01            | 0               | 2.4                | 2.52               | 2.74               | 0.3127 | 0.329  | 0.0284  |
| W     | 1.0                | 1.0                | 1.0                | 95.41 | 0.0    | 0.0    | 0.01            | 0               | 84.2               | 88.59              | 96.46              | 0.3127 | 0.329  | 1.0     |
| N0    | 0.0                | 0.0                | 0.0                | 18.01 | 0.0    | 0.0    | 0.01            | 0               | 2.4                | 2.52               | 2.74               | 0.3127 | 0.329  | 0.0284  |
| W1    | 1.0                | 1.0                | 1.0                | 95.41 | 0.0    | 0.0    | 0.01            | 0               | 84.2               | 88.59              | 96.46              | 0.3127 | 0.329  | 1.0     |

**Colorimetric "Adapted data (a)": Television Luminous System TLS18a for CIE lightness  $L^*_N=18$  of black for illuminant D65**

**System TLS18a**

**sRGB system**

**D65 reflection:**

$Y_N = 2.52$

$L^*_N = 18.01$

| Color | r=ol <sup>*1</sup> | g=ol <sup>*2</sup> | b=ol <sup>*3</sup> | L <sup>*</sup> <sub>a</sub> | a <sup>*</sup> <sub>a</sub> | b <sup>*</sup> <sub>a</sub> | C <sub>ab,a</sub> | h <sub>ab,a</sub> | X <sub>a</sub> =XYZ <sub>1a</sub> | Y <sub>a</sub> =XYZ <sub>2a</sub> | Z <sub>a</sub> =XYZ <sub>3a</sub> | x <sub>a</sub> | y <sub>a</sub> | Y <sub>a</sub> /88.59 |
|-------|--------------------|--------------------|--------------------|-----------------------------|-----------------------------|-----------------------------|-------------------|-------------------|-----------------------------------|-----------------------------------|-----------------------------------|----------------|----------------|-----------------------|
| O (R) | 1.0                | 0.0                | 0.0                | 52.76                       | 71.63                       | 49.88                       | 87.29             | 35                | 37.89                             | 20.83                             | 4.41                              | 0.6003         | 0.3299         | 0.2351                |
| Y     | 1.0                | 1.0                | 0.0                | 92.74                       | -20.03                      | 84.97                       | 87.3              | 103               | 68.67                             | 82.37                             | 14.66                             | 0.4144         | 0.4971         | 0.9298                |
| L (G) | 0.0                | 1.0                | 0.0                | 84.0                        | -78.99                      | 73.94                       | 108.2             | 137               | 33.17                             | 64.07                             | 13.0                              | 0.3009         | 0.5812         | 0.7231                |
| C     | 0.0                | 1.0                | 1.0                | 87.14                       | -44.42                      | -13.12                      | 46.33             | 196               | 48.71                             | 70.29                             | 94.77                             | 0.2279         | 0.3288         | 0.7934                |
| V (B) | 0.0                | 0.0                | 1.0                | 31.9                        | 24.46                       | -37.38                      | 44.68             | 303               | 9.36                              | 7.04                              | 23.5                              | 0.2346         | 0.1764         | 0.0795                |
| M     | 1.0                | 0.0                | 1.0                | 59.01                       | 89.33                       | -19.43                      | 91.42             | 348               | 53.42                             | 27.04                             | 44.81                             | 0.4265         | 0.2158         | 0.3052                |
| N     | 0.0                | 0.0                | 0.0                | 18.01                       | 0.0                         | 0.0                         | 0.01              | 0                 | 2.4                               | 2.52                              | 2.74                              | 0.3127         | 0.329          | 0.0284                |
| W     | 1.0                | 1.0                | 1.0                | 95.41                       | 0.0                         | 0.0                         | 0.01              | 0                 | 84.2                              | 88.59                             | 96.46                             | 0.3127         | 0.329          | 1.0                   |
| N0    | 0.0                | 0.0                | 0.0                | 18.01                       | 0.0                         | 0.0                         | 0.01              | 0                 | 2.4                               | 2.52                              | 2.74                              | 0.3127         | 0.329          | 0.0284                |
| W1    | 1.0                | 1.0                | 1.0                | 95.41                       | 0.0                         | 0.0                         | 0.01              | 0                 | 84.2                              | 88.59                             | 96.46                             | 0.3127         | 0.329          | 1.0                   |

**Colorimetric "Adapted data (a0)": Television Luminous System TLS00a0 for CIE lightness  $L^*_N=00$  of black for illuminant D65**

**System TLS00a0**

**sRGB system**

**D65 reflection:**

$Y_N = 0.0$

$L^*_N = 0.0$

$k = 88.59 / (88.59 - 2.52)$   
 $= 1.029$

| Color | r=ol <sup>*1</sup> | g=ol <sup>*2</sup> | b=ol <sup>*3</sup> | L <sup>*</sup> <sub>a0</sub> | a <sup>*</sup> <sub>a0</sub> | b <sup>*</sup> <sub>a0</sub> | C <sub>ab,a0</sub> | h <sub>ab,a0</sub> | X <sub>a0</sub> =XYZ <sub>1a0</sub> | Y <sub>a0</sub> =XYZ <sub>2a0</sub> | Z <sub>a0</sub> =XYZ <sub>3a0</sub> | x <sub>a0</sub> | y <sub>a0</sub> | Y <sub>a0</sub> /88.59 |
|-------|--------------------|--------------------|--------------------|------------------------------|------------------------------|------------------------------|--------------------|--------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------|-----------------|------------------------|
| O (R) | 1.0                | 0.0                | 0.0                | 50.5                         | 76.92                        | 64.55                        | 100.42             | 40                 | 36.54=k(37.89-2.4)                  | 18.84=k(20.83-2.52)                 | 1.71=k(4.41-2.74)                   | 0.64            | 0.33            | 0.2127                 |
| Y     | 1.0                | 1.0                | 0.0                | 92.66                        | -20.68                       | 90.75                        | 93.08              | 103                | 68.22=k(68.67-2.4)                  | 82.19=k(82.37-2.52)                 | 12.27=k(14.66-2.74)                 | 0.4193          | 0.5053          | 0.9278                 |
| L (G) | 0.0                | 1.0                | 0.0                | 83.62                        | -82.74                       | 79.9                         | 115.03             | 136                | 31.68=k(33.17-2.4)                  | 63.35=k(64.07-2.52)                 | 10.55=k(13.0-2.74)                  | 0.3             | 0.6             | 0.715                  |
| C     | 0.0                | 1.0                | 1.0                | 86.88                        | -46.15                       | -13.54                       | 48.11              | 196                | 47.67=k(48.71-2.4)                  | 69.76=k(70.29-2.52)                 | 94.72=k(94.77-2.74)                 | 0.2247          | 0.3288          | 0.7874                 |
| V (B) | 0.0                | 0.0                | 1.0                | 25.72                        | 31.45                        | -44.28                       | 54.32              | 305                | 7.17=k(9.36-2.4)                    | 4.65=k(7.04-2.52)                   | 21.37=k(23.5-2.74)                  | 0.2161          | 0.1402          | 0.0525                 |
| M     | 1.0                | 0.0                | 1.0                | 57.3                         | 94.35                        | -20.68                       | 96.59              | 348                | 52.52=k(53.42-2.4)                  | 25.24=k(27.04-2.52)                 | 43.3=k(44.81-2.74)                  | 0.4339          | 0.2085          | 0.2849                 |
| N     | 0.0                | 0.0                | 0.0                | 0.0                          | 0.0                          | 0.0                          | 0.01               | 358                | 0.0=k(2.4-2.4)                      | 0.0=k(2.52-2.52)                    | 0.0=k(2.74-2.74)                    | 0.0             | 0.0             | 0.0                    |
| W     | 1.0                | 1.0                | 1.0                | 95.41                        | 0.0                          | 0.0                          | 0.01               | 0                  | 84.2=k(84.2-2.4)                    | 88.59=k(88.59-2.52)                 | 96.46=k(96.46-2.74)                 | 0.3127          | 0.329           | 1.0                    |
| N0    | 0.0                | 0.0                | 0.0                | 0.0                          | 0.0                          | 0.0                          | 0.01               | 358                | 0.0=k(2.4-2.4)                      | 0.0=k(2.52-2.52)                    | 0.0=k(2.74-2.74)                    | 0.0             | 0.0             | 0.0                    |
| W1    | 1.0                | 1.0                | 1.0                | 95.41                        | 0.0                          | 0.0                          | 0.01               | 0                  | 84.2=k(84.2-2.4)                    | 88.59=k(88.59-2.52)                 | 96.46=k(96.46-2.74)                 | 0.3127          | 0.329           | 1.0                    |