

**Colorimetric "Adapted data (b)": Television Luminous System TLS00b for CIE lightness  $L^*=00$  of black and for illuminant D65**

| System TLS00b          | Color i           | $r^*_{a,d}$ | $g^*_{a,d}$ | $b^*_{a,d}$ | $L^*_{re,d}$ | $\Delta L^*_{re,d}$ | $L^*_{it,d}$ | $\Delta L^*_{it,d}$ | $w_d$ | $X_{b,d}$         | $Y_{b,d}$         | $Z_{b,d}$         | $x_{b,d}$ | $y_{b,d}$ | $Y_{b,d}/88.59$ |
|------------------------|-------------------|-------------|-------------|-------------|--------------|---------------------|--------------|---------------------|-------|-------------------|-------------------|-------------------|-----------|-----------|-----------------|
|                        | 01,0 <sub>d</sub> | 0.0         | 0.0         | 0.0         | 0.01         | 11.92               | 0.01         | 11.93               | 0.0   | 0.0(=0.0+0.0)     | 0.0(=0.0+0.0)     | 0.0(=0.0+0.0)     | 0.3118    | 0.3281    | 0.0             |
| <b>D65 reflection:</b> | 02,1 <sub>d</sub> | 0.125       | 0.125       | 0.125       | 11.93        | 11.92               | 11.94        | 11.93               | 0.125 | 1.33(=1.33+0.0)   | 1.4(=1.39+0.0)    | 1.52(=1.52+0.0)   | 0.3127    | 0.329     | 0.0158          |
| $Y_N = 0.0$            | 03,2 <sub>d</sub> | 0.25        | 0.25        | 0.25        | 23.85        | 11.92               | 23.86        | 11.93               | 0.25  | 3.85(=3.85+0.0)   | 4.05(=4.05+0.0)   | 4.41(=4.41+0.0)   | 0.3127    | 0.329     | 0.0458          |
| $L^*_N = 0.0$          | 04,3 <sub>d</sub> | 0.375       | 0.375       | 0.375       | 35.78        | 11.93               | 35.79        | 11.92               | 0.375 | 8.45(=8.45+0.0)   | 8.89(=8.89+0.0)   | 9.68(=9.68+0.0)   | 0.3127    | 0.329     | 0.1004          |
|                        | 05,4 <sub>d</sub> | 0.5         | 0.5         | 0.5         | 47.7         | 11.92               | 47.71        | 11.92               | 0.5   | 15.74(=15.74+0.0) | 16.56(=16.56+0.0) | 18.03(=18.03+0.0) | 0.3127    | 0.329     | 0.1869          |
|                        | 06,5 <sub>d</sub> | 0.625       | 0.625       | 0.625       | 59.63        | 11.93               | 59.64        | 11.92               | 0.625 | 26.34(=26.34+0.0) | 27.71(=27.71+0.0) | 30.18(=30.17+0.0) | 0.3127    | 0.329     | 0.3128          |
|                        | 07,6 <sub>d</sub> | 0.75        | 0.75        | 0.75        | 71.55        | 11.92               | 71.56        | 11.93               | 0.75  | 40.86(=40.86+0.0) | 42.99(=42.99+0.0) | 46.81(=46.81+0.0) | 0.3127    | 0.329     | 0.4853          |
|                        | 08,7 <sub>d</sub> | 0.875       | 0.875       | 0.875       | 83.48        | 11.93               | 83.49        | 11.92               | 0.875 | 59.94(=59.94+0.0) | 63.07(=63.07+0.0) | 68.67(=68.67+0.0) | 0.3127    | 0.329     | 0.7119          |
|                        | 09,8 <sub>d</sub> | 1.0         | 1.0         | 1.0         | 95.41        | 11.93               | 95.41        | 11.93               | 1.0   | 84.2(=84.2+0.0)   | 88.59(=88.59+0.0) | 96.46(=96.46+0.0) | 0.3127    | 0.329     | 1.0             |
|                        | 10,N <sub>d</sub> | 0.0         | 0.0         | 0.0         | 0.01         |                     | 0.01         |                     |       | 0.0(=0.0+0.0)     | 0.0(=0.0+0.0)     | 0.0(=0.0+0.0)     | 0.3118    | 0.3281    | 0.0             |
|                        | 11,W <sub>d</sub> | 1.0         | 1.0         | 1.0         | 95.41        | 95.4                | 95.41        | 95.4                |       | 84.2(=84.2+0.0)   | 88.59(=88.59+0.0) | 96.46(=96.46+0.0) | 0.3127    | 0.329     | 1.0             |

**Calculated colorimetric data (b): Television Luminous Systems TLS18b for CIE lightness  $L^*=18$  of black and for illuminant D65**

|                        | Color i           | $r^*_{a,d}$ | $g^*_{a,d}$ | $b^*_{a,d}$ | $L^*_{re,d}$ | $\Delta L^*_{re,d}$ | $L^*_{it,d}$ | $\Delta L^*_{it,d}$ | $w_d$ | $X_{a,d}$         | $Y_{a,d}$          | $Z_{a,d}$          | $x_{a,d}$ | $y_{a,d}$ | $Y_{a,d}/88.59$ |
|------------------------|-------------------|-------------|-------------|-------------|--------------|---------------------|--------------|---------------------|-------|-------------------|--------------------|--------------------|-----------|-----------|-----------------|
|                        | 01,0 <sub>d</sub> | 0.0         | 0.0         | 0.0         | 18.01        |                     | 18.01        |                     | 0.0   | 2.4(=0.0+2.4)     | 2.52(=0.0+2.52)    | 2.74(=0.0+2.74)    | 0.3127    | 0.329     | 0.0285          |
| <b>D65 reflection:</b> | 02,1 <sub>d</sub> | 0.125       | 0.125       | 0.125       | 23.26        | 5.24                | 27.69        | 9.67                | 0.068 | 3.68(=1.29+2.4)   | 3.88(=1.36+2.52)   | 4.22(=1.48+2.74)   | 0.3127    | 0.329     | 0.0438          |
| $Y_N = 2.52$           | 03,2 <sub>d</sub> | 0.25        | 0.25        | 0.25        | 30.54        | 7.28                | 37.36        | 9.67                | 0.162 | 6.14(=3.74+2.4)   | 6.46(=3.94+2.52)   | 7.03(=4.29+2.74)   | 0.3127    | 0.329     | 0.0729          |
| $L^*_N = 18.01$        | 04,3 <sub>d</sub> | 0.375       | 0.375       | 0.375       | 39.85        | 9.31                | 47.04        | 9.67                | 0.282 | 10.61(=8.21+2.4)  | 11.16(=8.64+2.52)  | 12.15(=9.41+2.74)  | 0.3127    | 0.329     | 0.126           |
|                        | 05,4 <sub>d</sub> | 0.5         | 0.5         | 0.5         | 50.23        | 10.37               | 56.71        | 9.67                | 0.416 | 17.69(=15.29+2.4) | 18.61(=16.09+2.52) | 20.26(=17.52+2.74) | 0.3127    | 0.329     | 0.21            |
|                        | 06,5 <sub>d</sub> | 0.625       | 0.625       | 0.625       | 61.17        | 10.95               | 66.39        | 9.67                | 0.558 | 27.99(=25.59+2.4) | 29.45(=26.93+2.52) | 32.06(=29.32+2.74) | 0.3127    | 0.329     | 0.3324          |
|                        | 07,6 <sub>d</sub> | 0.75        | 0.75        | 0.75        | 72.42        | 11.25               | 76.06        | 9.67                | 0.703 | 42.09(=39.7+2.4)  | 44.29(=41.77+2.52) | 48.22(=45.48+2.74) | 0.3127    | 0.329     | 0.4999          |
|                        | 08,7 <sub>d</sub> | 0.875       | 0.875       | 0.875       | 83.86        | 11.44               | 85.74        | 9.67                | 0.851 | 60.63(=58.24+2.4) | 63.8(=61.28+2.52)  | 69.46(=66.72+2.74) | 0.3127    | 0.329     | 0.7201          |
|                        | 09,8 <sub>d</sub> | 1.0         | 1.0         | 1.0         | 95.41        | 11.55               | 95.41        | 9.67                | 1.0   | 84.2(=81.8+2.4)   | 88.59(=86.07+2.52) | 96.46(=93.72+2.74) | 0.3127    | 0.329     | 1.0             |
|                        | 10,N <sub>d</sub> | 0.0         | 0.0         | 0.0         | 18.01        |                     | 18.01        |                     |       | 2.4(=0.0+2.4)     | 2.52(=0.0+2.52)    | 2.74(=0.0+2.74)    | 0.3127    | 0.329     | 0.0285          |
|                        | 11,W <sub>d</sub> | 1.0         | 1.0         | 1.0         | 95.41        | 77.4                | 95.41        | 77.4                |       | 84.2(=81.8+2.4)   | 88.59(=86.07+2.52) | 96.46(=93.72+2.74) | 0.3127    | 0.329     | 1.0             |

**Calculated colorimetric data (b): Television Luminous Systems TLS70b for CIE lightness  $L^*=70$  of black and for illuminant D65**

|                        | Color i           | $r^*_{a,d}$ | $g^*_{a,d}$ | $b^*_{a,d}$ | $L^*_{re,d}$ | $\Delta L^*_{re,d}$ | $L^*_{it,d}$ | $\Delta L^*_{it,d}$ | $w_d$ | $X_{a,d}$           | $Y_{a,d}$           | $Z_{a,d}$          | $x_{a,d}$ | $y_{a,d}$ | $Y_{a,d}/88.59$ |
|------------------------|-------------------|-------------|-------------|-------------|--------------|---------------------|--------------|---------------------|-------|---------------------|---------------------|--------------------|-----------|-----------|-----------------|
|                        | 01,0 <sub>d</sub> | 0.0         | 0.0         | 0.0         | 69.7         |                     | 69.7         |                     | 0.0   | 38.32(=0.0+38.32)   | 40.32(=0.0+40.32)   | 43.9(=0.0+43.9)    | 0.3127    | 0.329     | 0.4551          |
| <b>D65 reflection:</b> | 02,1 <sub>d</sub> | 0.125       | 0.125       | 0.125       | 70.23        | 0.54                | 72.91        | 3.21                | 0.021 | 39.04(=0.72+38.32)  | 41.08(=0.76+40.32)  | 44.73(=0.83+43.9)  | 0.3127    | 0.329     | 0.4637          |
| $Y_N = 40.32$          | 03,2 <sub>d</sub> | 0.25        | 0.25        | 0.25        | 71.23        | 1.0                 | 76.13        | 3.21                | 0.06  | 40.42(=2.1+38.32)   | 42.53(=2.21+40.32)  | 46.31(=2.41+43.9)  | 0.3127    | 0.329     | 0.4801          |
| $L^*_N = 69.7$         | 04,3 <sub>d</sub> | 0.375       | 0.375       | 0.375       | 73.0         | 1.77                | 79.34        | 3.21                | 0.128 | 42.93(=4.61+38.32)  | 45.17(=4.85+40.32)  | 49.18(=5.28+43.9)  | 0.3127    | 0.329     | 0.5098          |
|                        | 05,4 <sub>d</sub> | 0.5         | 0.5         | 0.5         | 75.66        | 2.66                | 82.55        | 3.21                | 0.232 | 46.9(=8.58+38.32)   | 49.34(=9.02+40.32)  | 53.72(=9.82+43.9)  | 0.3127    | 0.329     | 0.557           |
|                        | 06,5 <sub>d</sub> | 0.625       | 0.625       | 0.625       | 79.28        | 3.62                | 85.77        | 3.21                | 0.373 | 52.67(=14.35+38.32) | 55.42(=15.1+40.32)  | 60.34(=16.44+43.9) | 0.3127    | 0.329     | 0.6256          |
|                        | 07,6 <sub>d</sub> | 0.75        | 0.75        | 0.75        | 83.83        | 4.55                | 88.98        | 3.21                | 0.55  | 60.58(=22.26+38.32) | 63.75(=23.43+40.32) | 69.41(=25.51+43.9) | 0.3127    | 0.329     | 0.7195          |
|                        | 08,7 <sub>d</sub> | 0.875       | 0.875       | 0.875       | 89.25        | 5.41                | 92.2         | 3.21                | 0.76  | 70.98(=32.66+38.32) | 74.69(=34.37+40.32) | 81.32(=37.42+43.9) | 0.3127    | 0.329     | 0.843           |
|                        | 09,8 <sub>d</sub> | 1.0         | 1.0         | 1.0         | 95.41        | 6.16                | 95.41        | 3.21                | 1.0   | 84.2(=45.88+38.32)  | 88.59(=48.27+40.32) | 96.46(=52.56+43.9) | 0.3127    | 0.329     | 1.0             |
|                        | 10,N <sub>d</sub> | 0.0         | 0.0         | 0.0         | 69.7         |                     | 69.7         |                     |       | 38.32(=0.0+38.32)   | 40.32(=0.0+40.32)   | 43.9(=0.0+43.9)    | 0.3127    | 0.329     | 0.4551          |
|                        | 11,W <sub>d</sub> | 1.0         | 1.0         | 1.0         | 95.41        | 25.71               | 95.41        | 25.71               |       | 84.2(=45.88+38.32)  | 88.59(=48.27+40.32) | 96.46(=52.56+43.9) | 0.3127    | 0.329     | 1.0             |

CEI80-7N00

Test chart CEI8; 9 grey steps and NW<sub>d</sub> for TLS00, TLS00a & TLS00b  
 Calculation of CIE-colour data for sRGB display for 3 reflections

input: *rgb*  
 output: *->rgb<sub>dd</sub>*