

sRGB data  $rgb^*$ , XYZyz, and  $Lab^*C_{ab}$  in the CIELAB-colour space

| Tristimulus values of black and white: $Y_N=0.0$ , $Y_W=88.6$ |             |         |         |                                  |       |       |       |        |          |          |         |
|---------------------------------------------------------------|-------------|---------|---------|----------------------------------|-------|-------|-------|--------|----------|----------|---------|
|                                                               | CHEXYZ data |         |         | Lab <sup>*</sup> $C_{ab}^*$ data |       |       |       |        |          |          |         |
|                                                               | $rgb^*$     | $X_N$   | $Y_N$   | $Z_N$                            | $X_W$ | $Y_W$ | $Z_W$ | $L^*$  | $a^*$    | $b^*$    |         |
| $N_0$                                                         | 1.00        | 35.44   | 18.84   | 1.71                             | 0.56  | 0.40  | 0.00  | 39.12  | -0.05    | 64.57    | 100.41  |
| $N_1$                                                         | 1.00        | 70.89   | 36.78   | 11.05                            | 0.419 | 0.559 | 0.00  | 59.13  | -21.56   | 54.92    | 95.02   |
| $N_2$                                                         | 1.00        | 106.34  | 73.17   | 22.10                            | 0.279 | 0.374 | 0.00  | 69.14  | -43.12   | 51.83    | 90.02   |
| $N_3$                                                         | 1.00        | 151.79  | 109.56  | 33.15                            | 0.222 | 0.303 | 0.00  | 79.15  | -64.68   | -14.13   | 85.11   |
| $N_4$                                                         | 1.00        | 198.24  | 166.84  | 49.72                            | 0.186 | 0.250 | 0.00  | 89.16  | -86.23   | -35.37   | 80.12   |
| $N_5$                                                         | 1.00        | 244.69  | 235.26  | 71.88                            | 0.161 | 0.219 | 0.00  | 99.17  | -107.86  | -56.81   | 75.13   |
| $N_6$                                                         | 1.00        | 291.14  | 303.68  | 98.04                            | 0.142 | 0.200 | 0.00  | 109.18 | -129.40  | -78.35   | 70.14   |
| $N_7$                                                         | 1.00        | 337.59  | 372.12  | 124.20                           | 0.128 | 0.187 | 0.00  | 119.19 | -150.94  | -100.00  | 65.15   |
| $N_8$                                                         | 1.00        | 384.04  | 440.56  | 150.36                           | 0.119 | 0.178 | 0.00  | 129.20 | -172.48  | -121.54  | 60.16   |
| $N_9$                                                         | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{10}$                                                      | 1.00        | 430.49  | 509.00  | 176.52                           | 0.111 | 0.171 | 0.00  | 139.21 | -194.02  | -143.08  | 55.17   |
| $N_{11}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.332 | 0.00  | 0.01   | -0.00    | 0.00     | 0.00    |
| $N_{12}$                                                      | 1.00        | 476.94  | 587.44  | 202.68                           | 0.104 | 0.164 | 0.00  | 149.22 | -215.56  | -164.62  | 50.18   |
| $N_{13}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{14}$                                                      | 1.00        | 523.39  | 665.88  | 228.84                           | 0.100 | 0.160 | 0.00  | 159.23 | -237.10  | -186.16  | 45.19   |
| $N_{15}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{16}$                                                      | 1.00        | 569.84  | 744.32  | 255.00                           | 0.096 | 0.156 | 0.00  | 169.24 | -258.64  | -207.70  | 40.20   |
| $N_{17}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{18}$                                                      | 1.00        | 616.29  | 822.76  | 281.16                           | 0.093 | 0.153 | 0.00  | 179.25 | -280.18  | -229.24  | 35.21   |
| $N_{19}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{20}$                                                      | 1.00        | 662.74  | 901.20  | 307.32                           | 0.091 | 0.151 | 0.00  | 189.26 | -301.72  | -250.78  | 30.22   |
| $N_{21}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.332 | 0.00  | 0.01   | -0.00    | 0.00     | 0.00    |
| $N_{22}$                                                      | 1.00        | 709.19  | 979.64  | 333.48                           | 0.089 | 0.149 | 0.00  | 199.27 | -323.26  | -272.32  | 25.23   |
| $N_{23}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{24}$                                                      | 1.00        | 755.64  | 1058.08 | 359.64                           | 0.087 | 0.147 | 0.00  | 209.28 | -344.80  | -293.86  | 20.24   |
| $N_{25}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{26}$                                                      | 1.00        | 802.09  | 1136.52 | 385.80                           | 0.086 | 0.146 | 0.00  | 219.29 | -366.34  | -315.40  | 15.25   |
| $N_{27}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{28}$                                                      | 1.00        | 848.54  | 1214.96 | 411.96                           | 0.085 | 0.145 | 0.00  | 229.30 | -387.88  | -336.94  | 10.26   |
| $N_{29}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{30}$                                                      | 1.00        | 894.99  | 1293.40 | 438.12                           | 0.084 | 0.144 | 0.00  | 239.31 | -409.42  | -358.48  | 5.27    |
| $N_{31}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{32}$                                                      | 1.00        | 941.44  | 1371.84 | 464.28                           | 0.083 | 0.143 | 0.00  | 249.32 | -430.96  | -380.02  | 0.28    |
| $N_{33}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{34}$                                                      | 1.00        | 987.89  | 1450.28 | 490.44                           | 0.082 | 0.142 | 0.00  | 259.33 | -452.50  | -401.56  | -4.71   |
| $N_{35}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{36}$                                                      | 1.00        | 1034.34 | 1528.72 | 516.60                           | 0.081 | 0.141 | 0.00  | 269.34 | -474.04  | -423.10  | -9.72   |
| $N_{37}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{38}$                                                      | 1.00        | 1080.79 | 1607.16 | 542.76                           | 0.080 | 0.140 | 0.00  | 279.35 | -495.58  | -444.64  | -14.73  |
| $N_{39}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{40}$                                                      | 1.00        | 1127.24 | 1685.60 | 568.92                           | 0.079 | 0.139 | 0.00  | 289.36 | -517.12  | -466.18  | -19.74  |
| $N_{41}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{42}$                                                      | 1.00        | 1173.69 | 1764.04 | 595.08                           | 0.078 | 0.138 | 0.00  | 299.37 | -538.66  | -487.72  | -24.75  |
| $N_{43}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{44}$                                                      | 1.00        | 1220.14 | 1842.48 | 621.24                           | 0.077 | 0.137 | 0.00  | 309.38 | -560.20  | -509.26  | -29.76  |
| $N_{45}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{46}$                                                      | 1.00        | 1266.59 | 1920.92 | 647.40                           | 0.076 | 0.136 | 0.00  | 319.39 | -581.74  | -530.80  | -34.77  |
| $N_{47}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{48}$                                                      | 1.00        | 1313.04 | 1999.36 | 673.56                           | 0.075 | 0.135 | 0.00  | 329.40 | -603.28  | -552.34  | -39.78  |
| $N_{49}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{50}$                                                      | 1.00        | 1359.49 | 2077.80 | 699.72                           | 0.074 | 0.134 | 0.00  | 339.41 | -624.82  | -573.88  | -44.79  |
| $N_{51}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{52}$                                                      | 1.00        | 1405.94 | 2156.24 | 725.88                           | 0.073 | 0.133 | 0.00  | 349.42 | -646.36  | -595.42  | -49.80  |
| $N_{53}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{54}$                                                      | 1.00        | 1452.39 | 2234.68 | 752.04                           | 0.072 | 0.132 | 0.00  | 359.43 | -667.90  | -616.96  | -54.81  |
| $N_{55}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{56}$                                                      | 1.00        | 1498.84 | 2313.12 | 778.20                           | 0.071 | 0.131 | 0.00  | 369.44 | -689.44  | -638.50  | -59.82  |
| $N_{57}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{58}$                                                      | 1.00        | 1545.29 | 2391.56 | 804.36                           | 0.070 | 0.130 | 0.00  | 379.45 | -710.98  | -660.04  | -64.83  |
| $N_{59}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{60}$                                                      | 1.00        | 1591.74 | 2470.00 | 830.52                           | 0.069 | 0.129 | 0.00  | 389.46 | -732.52  | -681.58  | -69.84  |
| $N_{61}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{62}$                                                      | 1.00        | 1638.19 | 2548.44 | 856.68                           | 0.068 | 0.128 | 0.00  | 399.47 | -754.06  | -703.12  | -74.85  |
| $N_{63}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{64}$                                                      | 1.00        | 1684.64 | 2626.88 | 882.84                           | 0.067 | 0.127 | 0.00  | 409.48 | -775.60  | -724.66  | -79.86  |
| $N_{65}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{66}$                                                      | 1.00        | 1731.09 | 2705.32 | 909.00                           | 0.066 | 0.126 | 0.00  | 419.49 | -797.14  | -746.20  | -84.87  |
| $N_{67}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{68}$                                                      | 1.00        | 1777.54 | 2783.76 | 935.16                           | 0.065 | 0.125 | 0.00  | 429.50 | -818.68  | -767.74  | -89.88  |
| $N_{69}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{70}$                                                      | 1.00        | 1823.99 | 2862.20 | 961.32                           | 0.064 | 0.124 | 0.00  | 439.51 | -840.22  | -789.28  | -94.89  |
| $N_{71}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{72}$                                                      | 1.00        | 1870.44 | 2940.64 | 987.48                           | 0.063 | 0.123 | 0.00  | 449.52 | -861.76  | -810.82  | -99.90  |
| $N_{73}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{74}$                                                      | 1.00        | 1916.89 | 3019.08 | 1013.64                          | 0.062 | 0.122 | 0.00  | 459.53 | -883.30  | -832.36  | -104.91 |
| $N_{75}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{76}$                                                      | 1.00        | 1963.34 | 3097.52 | 1039.80                          | 0.061 | 0.121 | 0.00  | 469.54 | -904.84  | -853.90  | -109.92 |
| $N_{77}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{78}$                                                      | 1.00        | 2009.79 | 3175.96 | 1065.96                          | 0.060 | 0.120 | 0.00  | 479.55 | -926.38  | -875.44  | -114.93 |
| $N_{79}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{80}$                                                      | 1.00        | 2056.24 | 3254.40 | 1092.12                          | 0.059 | 0.119 | 0.00  | 489.56 | -947.92  | -896.98  | -119.94 |
| $N_{81}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{82}$                                                      | 1.00        | 2102.69 | 3332.84 | 1118.28                          | 0.058 | 0.118 | 0.00  | 499.57 | -969.46  | -918.52  | -124.95 |
| $N_{83}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{84}$                                                      | 1.00        | 2149.14 | 3411.28 | 1144.44                          | 0.057 | 0.117 | 0.00  | 509.58 | -991.00  | -940.06  | -129.96 |
| $N_{85}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{86}$                                                      | 1.00        | 2195.59 | 3489.72 | 1170.60                          | 0.056 | 0.116 | 0.00  | 519.59 | -1012.54 | -961.60  | -134.97 |
| $N_{87}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{88}$                                                      | 1.00        | 2242.04 | 3568.16 | 1196.76                          | 0.055 | 0.115 | 0.00  | 529.60 | -1034.08 | -983.14  | -139.98 |
| $N_{89}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{90}$                                                      | 1.00        | 2288.49 | 3646.60 | 1222.92                          | 0.054 | 0.114 | 0.00  | 539.61 | -1055.62 | -1004.68 | -144.99 |
| $N_{91}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{92}$                                                      | 1.00        | 2334.94 | 3725.04 | 1249.08                          | 0.053 | 0.113 | 0.00  | 549.62 | -1077.16 | -1026.22 | -149.00 |
| $N_{93}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.02   | 0.02     | 0.01     | 0.02    |
| $N_{94}$                                                      | 1.00        | 2381.39 | 3803.48 | 1275.24                          | 0.052 | 0.112 | 0.00  | 559.63 | -1098.70 | -1047.76 | -154.01 |
| $N_{95}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  | 0.09   | 0.02     | 0.01     | 0.02    |
| $N_{96}$                                                      | 1.00        | 2427.84 | 3881.92 | 1301.40                          | 0.051 | 0.111 | 0.00  | 569.64 | -1120.24 | -1069.30 | -159.02 |
| $N_{97}$                                                      | 0.00        | 0.01    | 0.01    | 0.01                             | 0.333 | 0.333 | 0.00  |        |          |          |         |