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**TLS00 Reflection colorimetry, System WCGa, L\*ABJND-L\*ABCh, Y<sub>Nn</sub> = 0.0, L\*<sub>Nn</sub> = 0.0, Y<sub>2a</sub> = 18.0**

| Colour          | r    | g    | b    | L*    | C     | h   | A      | B      | X     | Y     | Z      | x      | y      |
|-----------------|------|------|------|-------|-------|-----|--------|--------|-------|-------|--------|--------|--------|
| R <sub>d</sub>  | 1.0  | 0.0  | 0.0  | 47.29 | 37.75 | 19  | 35.68  | 12.32  | 29.0  | 16.24 | 4.27   | 0.5858 | 0.328  |
| Y <sub>d</sub>  | 1.0  | 0.0  | 0.0  | 88.29 | 66.56 | 102 | -14.06 | 65.06  | 63.71 | 72.66 | 8.28   | 0.4405 | 0.5023 |
| G <sub>d</sub>  | 0.0  | 1.0  | 0.0  | 51.89 | 29.87 | 158 | -27.66 | 11.25  | 8.54  | 20.05 | 9.59   | 0.2236 | 0.5253 |
| C <sub>d</sub>  | 0.0  | 0.0  | 1.0  | 58.29 | 40.55 | 246 | -16.37 | -37.08 | 18.74 | 26.27 | 68.99  | 0.1244 | 0.2304 |
| B <sub>d</sub>  | 0.0  | 0.0  | 1.0  | 25.31 | 17.05 | 287 | 5.08   | -16.27 | 6.23  | 4.52  | 22.65  | 0.1865 | 0.1353 |
| M <sub>d</sub>  | 1.0  | 0.0  | 1.0  | 48.2  | 43.18 | 354 | 42.98  | -4.19  | 32.45 | 16.95 | 23.04  | 0.448  | 0.234  |
| N <sub>0d</sub> | 0.0  | 0.0  | 0.0  | 0.18  | 0.0   | 0   | 0.0    | 0.0    | 0.02  | 0.02  | 0.02   | 0.3328 | 0.3328 |
| W <sub>0d</sub> | 1.0  | 1.0  | 1.0  | 95.4  | 0.02  | 0   | -0.01  | 0.0    | 84.17 | 88.56 | 96.44  | 0.3127 | 0.329  |
| N1 <sub>d</sub> | 0.0  | 0.0  | 0.0  | 0.18  | 0.0   | 0   | 0.0    | 0.0    | 0.02  | 0.02  | 0.02   | 0.3328 | 0.3328 |
| W1 <sub>d</sub> | 1.13 | 1.13 | 1.13 | 99.98 | 0.01  | 0   | 0.0    | 0.0    | 95.0  | 99.95 | 108.85 | 0.3127 | 0.329  |
| Z1 <sub>d</sub> | 0.18 | 0.18 | 0.18 | 49.5  | 0.0   | 0   | 0.0    | 0.0    | 17.11 | 18.0  | 19.6   | 0.3127 | 0.329  |

**TLS06 Reflection colorimetry, System WCGa, L\*ABJND-L\*ABCh, Y<sub>Nn</sub> = 0.63, L\*<sub>Nn</sub> = 5.69, Y<sub>2a</sub> = 18.0**

| Colour          | r    | g    | b    | L*    | C     | h   | A      | B      | X     | Y     | Z      | x      | y      |
|-----------------|------|------|------|-------|-------|-----|--------|--------|-------|-------|--------|--------|--------|
| R <sub>d</sub>  | 1.0  | 0.0  | 0.0  | 47.37 | 36.49 | 19  | 34.49  | 11.91  | 28.61 | 16.3  | 4.78   | 0.5757 | 0.328  |
| Y <sub>d</sub>  | 1.0  | 0.0  | 0.0  | 87.41 | 64.35 | 102 | -13.6  | 62.89  | 62.16 | 70.84 | 8.66   | 0.4388 | 0.5001 |
| G <sub>d</sub>  | 0.0  | 1.0  | 0.0  | 51.82 | 28.88 | 158 | -26.74 | 10.87  | 8.82  | 19.98 | 9.92   | 0.2278 | 0.516  |
| C <sub>d</sub>  | 0.0  | 0.0  | 1.0  | 58.03 | 39.19 | 246 | -15.82 | -35.84 | 18.68 | 25.99 | 67.34  | 0.1668 | 0.232  |
| B <sub>d</sub>  | 0.0  | 0.0  | 1.0  | 26.64 | 16.49 | 287 | 4.91   | -15.73 | 6.59  | 4.97  | 22.55  | 0.1932 | 0.1456 |
| M <sub>d</sub>  | 1.0  | 0.0  | 1.0  | 48.24 | 41.74 | 354 | 41.54  | -4.05  | 31.94 | 16.99 | 22.92  | 0.4445 | 0.2364 |
| N <sub>0d</sub> | 0.0  | 0.0  | 0.0  | 0.59  | 0.0   | 0   | 0.0    | 0.0    | 0.59  | 0.62  | 0.68   | 0.3128 | 0.3282 |
| W <sub>0d</sub> | 1.0  | 1.0  | 1.0  | 94.4  | 0.03  | 0   | -0.01  | 0.02   | 81.94 | 86.21 | 93.87  | 0.3127 | 0.329  |
| N1 <sub>d</sub> | 0.0  | 0.0  | 0.0  | 0.59  | 0.0   | 0   | 0.0    | 0.0    | 0.59  | 0.62  | 0.68   | 0.3128 | 0.3282 |
| W1 <sub>d</sub> | 1.13 | 1.13 | 1.13 | 98.92 | 0.02  | 0   | 0.0    | 0.02   | 92.41 | 97.23 | 105.86 | 0.3127 | 0.329  |
| Z1 <sub>d</sub> | 0.18 | 0.18 | 0.18 | 49.5  | 0.0   | 0   | 0.0    | 0.0    | 17.11 | 18.0  | 19.6   | 0.3127 | 0.329  |

**TLS11 Reflection colorimetry, System WCGa, L\*ABJND-L\*ABCh, Y<sub>Nn</sub> = 1.26, L\*<sub>Nn</sub> = 11.0, Y<sub>2a</sub> = 18.0**

| Colour          | r    | g    | b    | L*    | C     | h   | A      | B      | X     | Y     | Z      | x      | y      |
|-----------------|------|------|------|-------|-------|-----|--------|--------|-------|-------|--------|--------|--------|
| R <sub>d</sub>  | 1.0  | 0.0  | 0.0  | 47.44 | 35.3  | 19  | 33.36  | 11.52  | 28.23 | 16.36 | 5.26   | 0.5663 | 0.3281 |
| Y <sub>d</sub>  | 1.0  | 0.0  | 0.0  | 86.56 | 62.25 | 102 | -13.16 | 60.84  | 60.68 | 69.11 | 9.01   | 0.4372 | 0.4979 |
| G <sub>d</sub>  | 0.0  | 1.0  | 0.0  | 51.74 | 27.93 | 158 | -25.87 | 10.52  | 9.09  | 19.92 | 10.23  | 0.2317 | 0.5075 |
| C <sub>d</sub>  | 0.0  | 0.0  | 1.0  | 57.78 | 37.92 | 246 | -15.3  | -34.68 | 18.63 | 25.73 | 65.79  | 0.1692 | 0.2336 |
| B <sub>d</sub>  | 0.0  | 0.0  | 1.0  | 27.83 | 15.95 | 287 | 4.76   | -15.21 | 6.93  | 5.39  | 22.45  | 0.1994 | 0.1551 |
| M <sub>d</sub>  | 1.0  | 0.0  | 1.0  | 48.28 | 40.38 | 354 | 40.18  | -3.92  | 31.45 | 17.02 | 22.82  | 0.4412 | 0.2387 |
| N <sub>0d</sub> | 0.0  | 0.0  | 0.0  | 0.146 | 0.01  | 0   | 0.01   | 0.0    | 1.13  | 1.19  | 1.29   | 0.3134 | 0.329  |
| W <sub>0d</sub> | 1.0  | 1.0  | 1.0  | 93.44 | 0.03  | 0   | -0.02  | 0.0    | 79.83 | 83.98 | 91.46  | 0.3127 | 0.329  |
| N1 <sub>d</sub> | 0.0  | 0.0  | 0.0  | 0.146 | 0.01  | 0   | 0.01   | 0.0    | 1.13  | 1.19  | 1.29   | 0.3134 | 0.329  |
| W1 <sub>d</sub> | 1.13 | 1.13 | 1.13 | 97.89 | 0.03  | 0   | -0.01  | 0.0    | 89.94 | 94.64 | 103.07 | 0.3127 | 0.329  |
| Z1 <sub>d</sub> | 0.18 | 0.18 | 0.18 | 49.5  | 0.0   | 0   | 0.0    | 0.0    | 17.11 | 18.0  | 19.6   | 0.3127 | 0.329  |

**TLS18 Reflection colorimetry, System WCGa, L\*ABJND-L\*ABCh, Y<sub>Nn</sub> = 2.52, L\*<sub>Nn</sub> = 18.01, Y<sub>2a</sub> = 18.0**

| Colour          | r    | g    | b    | L*    | C     | h   | A      | B      | X     | Y     | Z     | x      | y      |
|-----------------|------|------|------|-------|-------|-----|--------|--------|-------|-------|-------|--------|--------|
| R <sub>d</sub>  | 1.0  | 0.0  | 0.0  | 47.57 | 33.13 | 19  | 31.31  | 10.82  | 27.55 | 16.46 | 6.14  | 0.5493 | 0.3282 |
| Y <sub>d</sub>  | 1.0  | 0.0  | 0.0  | 84.98 | 58.43 | 102 | -12.36 | 57.1   | 58.0  | 65.97 | 9.66  | 0.434  | 0.4937 |
| G <sub>d</sub>  | 0.0  | 1.0  | 0.0  | 51.61 | 26.21 | 158 | -24.27 | 9.87   | 9.59  | 19.8  | 10.81 | 0.2385 | 0.4926 |
| C <sub>d</sub>  | 0.0  | 0.0  | 1.0  | 57.32 | 35.59 | 246 | -14.36 | -32.55 | 18.54 | 25.25 | 62.96 | 0.1737 | 0.2366 |
| B <sub>d</sub>  | 0.0  | 0.0  | 1.0  | 29.83 | 14.97 | 287 | 4.47   | -14.28 | 7.56  | 6.17  | 22.28 | 0.21   | 0.1713 |
| M <sub>d</sub>  | 1.0  | 0.0  | 1.0  | 48.36 | 37.89 | 354 | 37.71  | -3.68  | 30.57 | 17.08 | 22.62 | 0.4351 | 0.2431 |
| N <sub>0d</sub> | 0.0  | 0.0  | 0.0  | 0.166 | 0.01  | 0   | 0.01   | 0.0    | 2.11  | 2.22  | 2.41  | 0.3133 | 0.329  |
| W <sub>0d</sub> | 1.0  | 1.0  | 1.0  | 91.65 | 0.05  | 0   | -0.04  | 0.0    | 75.96 | 79.93 | 87.05 | 0.3127 | 0.329  |
| N1 <sub>d</sub> | 0.0  | 0.0  | 0.0  | 0.166 | 0.01  | 0   | 0.01   | 0.0    | 2.11  | 2.22  | 2.41  | 0.3133 | 0.329  |
| W1 <sub>d</sub> | 1.13 | 1.13 | 1.13 | 95.97 | 0.05  | 0   | -0.03  | 0.0    | 85.46 | 89.93 | 97.95 | 0.3127 | 0.329  |
| Z1 <sub>d</sub> | 0.18 | 0.18 | 0.18 | 49.5  | 0.0   | 0   | 0.0    | 0.0    | 17.11 | 18.0  | 19.6  | 0.3127 | 0.329  |

**TLS27 Reflection colorimetry, System WCGa, L\*ABJND-L\*ABCh, Y<sub>Nn</sub> = 5.04, L\*<sub>Nn</sub> = 26.85, Y<sub>2a</sub> = 18.0**

| Colour          | r    | g    | b    | L*    | C     | h   | A      | B      | X     | Y     | Z     | x      | y      |
|-----------------|------|------|------|-------|-------|-----|--------|--------|-------|-------|-------|--------|--------|
| R <sub>d</sub>  | 1.0  | 0.0  | 0.0  | 47.78 | 29.51 | 19  | 27.89  | 9.63   | 26.41 | 16.62 | 7.62  | 0.5214 | 0.3282 |
| Y <sub>d</sub>  | 1.0  | 0.0  | 0.0  | 82.23 | 52.03 | 102 | -10.98 | 59.86  | 53.54 | 60.73 | 10.75 | 0.4203 | 0.4857 |
| G <sub>d</sub>  | 0.0  | 1.0  | 0.0  | 51.38 | 23.35 | 158 | -21.62 | 8.79   | 10.41 | 19.6  | 11.77 | 0.2491 | 0.4692 |
| C <sub>d</sub>  | 0.0  | 0.0  | 1.0  | 56.55 | 31.69 | 246 | -12.79 | -28.98 | 18.38 | 24.68 | 58.21 | 0.1819 | 0.2421 |
| B <sub>d</sub>  | 0.0  | 0.0  | 1.0  | 32.83 | 13.33 | 287 | 39.57  | -12.72 | 8.6   | 7.46  | 21.98 | 0.2261 | 0.1961 |
| M <sub>d</sub>  | 1.0  | 0.0  | 1.0  | 48.49 | 33.76 | 354 | 33.6   | -3.28  | 29.1  | 17.18 | 22.29 | 0.4424 | 0.2505 |
| N <sub>0d</sub> | 0.0  | 0.0  | 0.0  | 0.249 | 0.0   | 0   | 0.0    | 0.0    | 3.75  | 3.95  | 4.3   | 0.3127 | 0.329  |
| W <sub>0d</sub> | 1.0  | 1.0  | 1.0  | 88.52 | 0.01  | 0   | 0.0    | 0.01   | 69.53 | 73.16 | 79.66 | 0.3127 | 0.329  |
| N1 <sub>d</sub> | 0.0  | 0.0  | 0.0  | 0.249 | 0.0   | 0   | 0.0    | 0.0    | 3.75  | 3.95  | 4.3   | 0.3127 | 0.329  |
| W1 <sub>d</sub> | 1.13 | 1.13 | 1.13 | 92.6  | 0.01  | 0   | 0.0    | 0.0    | 78.0  | 82.06 | 89.36 | 0.3127 | 0.329  |
| Z1 <sub>d</sub> | 0.18 | 0.18 | 0.18 | 49.5  | 0.0   | 0   | 0.0    | 0.0    | 17.11 | 18.0  | 19.6  | 0.3127 | 0.329  |

**TLS38 Reflection colorimetry, System WCGa, L\*ABJND-L\*ABCh, Y<sub>Nn</sub> = 10.08, L\*<sub>Nn</sub> = 37.99, Y<sub>2a</sub> = 18.0**

| Colour          | r    | g    | b    | L*     | C     | h   | A      | B      | X     | Y     | Z     | x      | y      |
|-----------------|------|------|------|--------|-------|-----|--------|--------|-------|-------|-------|--------|--------|
| R <sub>d</sub>  | 1.0  | 0.0  | 0.0  | 48.1   | 24.95 | 18  | 23.67  | 7.9    | 25.04 | 16.87 | 9.77  | 0.4845 | 0.3265 |
| Y <sub>d</sub>  | 1.0  | 0.0  | 0.0  | 77.91  | 42.15 | 98  | -9.95  | 41.73  | 47.17 | 53.06 | 12.34 | 0.4241 | 0.4672 |
| G <sub>d</sub>  | 0.0  | 1.0  | 0.0  | 51.05  | 19.68 | 159 | -18.33 | 7.21   | 11.4  | 19.31 | 13.18 | 0.2596 | 0.4401 |
| C <sub>d</sub>  | 0.0  | 0.0  | 1.0  | 55.38  | 25.96 | 246 | -10.39 | -23.78 | 18.2  | 23.3  | 51.28 | 0.1961 | 0.2512 |
| B <sub>d</sub>  | 0.0  | 0.0  | 1.0  | 36.65  | 10.75 | 284 | 25.54  | -10.43 | 9.86  | 9.35  | 21.56 | 0.2418 | 0.2294 |
| M <sub>d</sub>  | 1.0  | 0.0  | 1.0  | 48.67  | 28.77 | 355 | 28.57  | -2.69  | 27.33 | 17.33 | 21.81 | 0.4121 | 0.2607 |
| N <sub>0d</sub> | 0.0  | 0.0  | 0.0  | 0.3056 | 1.12  | 180 | -1.11  | 0.0    | 5.72  | 6.47  | 7.04  | 0.2975 | 0.3363 |
| W <sub>0d</sub> | 1.0  | 1.0  | 1.0  | 83.58  | 4.4   | 0   | 4.4    | 0.01   | 61.8  | 63.26 | 68.88 | 0.3187 | 0.3262 |
| N1 <sub>d</sub> | 0.0  | 0.0  | 0.0  | 0.3056 | 1.12  | 180 | -1.11  | 0.0    | 5.72  | 6.47  | 7.04  | 0.2975 | 0.3363 |
| W1 <sub>d</sub> | 1.13 | 1.13 | 1.13 | 87.27  | 5.12  | 0   | 5.12   | 0.0    | 69.02 | 70.56 | 76.84 | 0.3189 | 0.326  |
| Z1 <sub>d</sub> | 0.18 | 0.18 | 0.18 | 49.5   | 0.0   | 0   | 0.0    | 0.0    | 17.11 | 18.0  | 19.6  | 0.3127 | 0.329  |

**TLS52 Reflection colorimetry, System WCGa, L\*ABJND-L\*ABCh, Y<sub>Nn</sub> = 20.16, L\*<sub>Nn</sub> = 52.02, Y<sub>2a</sub> = 18.0**

| Colour          | r    | g    | b    | L*     | C     | h   | A      | B     | X     | Y     | Z     | x      | y      |
|-----------------|------|------|------|--------|-------|-----|--------|-------|-------|-------|-------|--------|--------|
| R <sub>d</sub>  | 1.0  | 0.0  | 0.0  | 48.47  | 17.82 | 19  | 16.84  | 5.82  | 22.72 | 17.17 | 12.36 | 0.4348 | 0.3286 |
| Y <sub>d</sub>  | 1.0  | 0.0  | 0.0  | 72.09  | 31.42 | 102 | -6.63  | 30.71 | 39.11 | 43.8  | 14.26 | 0.4025 | 0.4508 |
| G <sub>d</sub>  | 0.0  | 1.0  | 0.0  | 50.65  | 14.1  | 158 | -13.05 | 5.31  | 13.06 | 18.97 | 14.87 | 0.2785 | 0.4044 |
| C <sub>d</sub>  | 0.0  | 0.0  | 1.0  | 53.92  | 19.14 | 246 | -7.72  | -17.5 | 17.88 | 21.9  | 42.91 | 0.2162 | 0.2648 |
| B <sub>d</sub>  | 0.0  | 0.0  | 1.0  | 40.63  | 8.05  | 287 | 2.4    | -7.67 | 11.97 | 11.64 | 21.04 | 0.2681 | 0.2606 |
| M <sub>d</sub>  | 1.0  | 0.0  | 1.0  | 48.89  | 20.38 | 354 | 20.28  | -1.97 | 24.35 | 17.5  | 21.22 | 0.386  | 0.2775 |
| N <sub>0d</sub> | 0.0  | 0.0  | 0.0  | 0.3696 | 0.0   | 0   | 0.0    | 0.0   | 4.94  | 9.51  | 10.36 | 0.3127 | 0.329  |
| W <sub>0d</sub> | 1.0  | 1.0  | 1.0  | 76.86  | 0.0   | 0   | 0.0    | 0.0   | 80.76 | 51.3  | 55.87 | 0.3127 | 0.329  |
| N1 <sub>d</sub> | 0.0  | 0.0  | 0.0  | 0.3696 | 0.0   | 0   | 0.0    | 0.0   | 9.04  | 9.51  | 10.36 | 0.3127 | 0.329  |
| W1 <sub>d</sub> | 1.13 | 1.13 | 1.13 | 80.0   | 0.01  | 0   | 0.01   | 0.0   | 53.88 | 56.68 | 61.73 | 0.3127 | 0.329  |
| Z1 <sub>d</sub> | 0.18 | 0.18 | 0.18 | 49.5   | 0.0   | 0   | 0.0    | 0.0   | 17.11 | 18.0  | 19.6  | 0.3127 | 0.329  |

| TlS70 Reflection colorimetry, System WCGa, L*ABJND-L*ABCh, Y <sub>Nn</sub> = 40.32, L* <sub>Nn</sub> = 69.7, Y <sub>2a</sub> = 18.0 |      |      |      |       |       |     |       |        |       |       |       |        |        |
|-------------------------------------------------------------------------------------------------------------------------------------|------|------|------|-------|-------|-----|-------|--------|-------|-------|-------|--------|--------|
| Colour                                                                                                                              | r    | g    | b    | L*    | C     | h   | A     | B      | X     | Y     | Z     | x      | y      |
| R <sub>d</sub>                                                                                                                      | 1.0  | 0.0  | 0.0  | 48.83 | 11.66 | 19  | 11.02 | 3.81   | 20.78 | 17.46 | 14.87 | 0.3913 | 0.3287 |
| Y <sub>d</sub>                                                                                                                      | 1.0  | 0.0  | 0.0  | 65.65 | 20.56 | 102 | -4.33 | 20.09  | 31.5  | 34.88 | 16.1  | 0.3819 | 0.2829 |
| G <sub>d</sub>                                                                                                                      | 0.0  | 1.0  | 0.0  | 50.25 | 9.23  | 158 | -8.54 | 34.7   | 14.46 | 18.63 | 16.51 | 0.2915 | 0.3756 |
| C <sub>d</sub>                                                                                                                      | 0.0  | 1.0  | 1.0  | 52.46 | 12.52 | 246 | -5.05 | -11.45 | 17.61 | 20.55 | 34.86 | 0.2412 | 0.2815 |
| B <sub>d</sub>                                                                                                                      | 0.0  | 0.0  | 1.0  | 44.0  | 5.27  | 287 | 15.17 | -5.02  | 13.85 | 18.4  | 20.54 | 0.2857 | 0.2875 |
| N <sub>d</sub>                                                                                                                      | 0.0  | 0.0  | 1.0  | 49.19 | 13.34 | 354 | 15.27 | -1.29  | 21.65 | 16.88 | 23.66 | 0.2672 | 0.2855 |
| W <sub>d</sub>                                                                                                                      | 0.0  | 0.0  | 0.0  | 41.92 | 0     | 0   | 0     | 0      | 17.83 | 12.45 | 35.55 | 0.3127 | 0.3299 |
| W0 <sub>d</sub>                                                                                                                     | 1.0  | 1.0  | 1.0  | 69.32 | 0     | 0   | 0     | 0      | 37.82 | 39.79 | 43.33 | 0.3127 | 0.329  |
| N1 <sub>d</sub>                                                                                                                     | 0.0  | 0.0  | 0.0  | 41.92 | 0     | 0   | 0     | 0      | 18.12 | 14.25 | 13.55 | 0.3127 | 0.329  |
| W1 <sub>d</sub>                                                                                                                     | 1.0  | 1.0  | 1.13 | 71.76 | 0.01  | 0   | 0     | 0      | 41.17 | 43.31 | 47.17 | 0.3127 | 0.329  |
| Z1 <sub>d</sub>                                                                                                                     | 0.18 | 0.18 | 0.18 | 49.5  | 0     | 0   | 0     | 0      | 17.11 | 18.0  | 19.6  | 0.3127 | 0.329  |