

**Performance (STRESS values) for small colour difference data (SCD)**

| data set                                            | Calculations with data for grey surrounds (D65) and 0.1 < Y < 190 |               |                         |       |       |                                            |                             |                           |                            |                                |                             |
|-----------------------------------------------------|-------------------------------------------------------------------|---------------|-------------------------|-------|-------|--------------------------------------------|-----------------------------|---------------------------|----------------------------|--------------------------------|-----------------------------|
|                                                     | Difference ΔE* <sub>CIELAB</sub>                                  |               |                         |       |       | Colour difference formula and STRESS value |                             |                           |                            |                                |                             |
|                                                     | Name                                                              | Pairs         | ΔE* <sub>ab</sub> range | min   | max   | mean                                       | CIELAB<br>ΔE* <sub>ab</sub> | CMC<br>ΔE* <sub>CMs</sub> | CIE94<br>ΔE* <sub>94</sub> | CIEDE2000<br>ΔE* <sub>00</sub> | LABJND<br>ΔE* <sub>85</sub> |
| WI_0418<br>RD_0312<br>LE_0307<br>BF_2776<br>SS_0446 | 418                                                               | 0.0 to <99.0  | 0.11                    | 10.62 | 1.86  | 51.7                                       | 35.2                        | 31.6                      | 30.1                       | 55.1                           |                             |
|                                                     | 312                                                               | 0.0 to <99.0  | 0.77                    | 4.4   | 1.43  | 33.4                                       | 27.2                        | 20.3                      | 19.5                       | 38.3                           |                             |
|                                                     | 307                                                               | 0.0 to <99.0  | 0.39                    | 4.73  | 1.63  | 40.0                                       | 24.6                        | 30.4                      | 19.2                       | 45.1                           |                             |
|                                                     | 2776                                                              | 0.0 to <99.0  | 0.03                    | 18.2  | 3.0   | 42.4                                       | 30.8                        | 33.7                      | 29.5                       | 52.9                           |                             |
|                                                     | 446                                                               | 0.0 to <99.0  | 0.17                    | 7.97  | 3.03  | 42.1                                       | 31.3                        | 28.7                      | 29.3                       | 45.8                           |                             |
| WI_0418<br>RD_0312<br>LE_0307<br>BF_2776<br>SS_0446 | 400                                                               | 0.0 to <5.0   | 0.11                    | 4.94  | 1.67  | 50.6                                       | 36.0                        | 32.4                      | 30.7                       | 55.9                           |                             |
|                                                     | 312                                                               | 0.0 to <5.0   | 0.77                    | 4.4   | 1.43  | 33.4                                       | 27.2                        | 20.3                      | 19.5                       | 38.3                           |                             |
|                                                     | 307                                                               | 0.0 to <5.0   | 0.39                    | 4.73  | 1.63  | 40.0                                       | 24.6                        | 30.4                      | 19.2                       | 45.1                           |                             |
|                                                     | 2325                                                              | 0.0 to <5.0   | 0.03                    | 4.99  | 2.14  | 40.0                                       | 28.8                        | 33.3                      | 27.7                       | 55.0                           |                             |
|                                                     | 385                                                               | 0.0 to <5.0   | 0.17                    | 4.96  | 2.57  | 38.9                                       | 31.2                        | 28.6                      | 28.2                       | 47.2                           |                             |
| WI_0418<br>RD_0312<br>LE_0307<br>BF_2776<br>SS_0446 | 18                                                                | 5.0 to <99.0  | 5.03                    | 10.62 | 6.15  | 21.8                                       | 25.4                        | 23.2                      | 22.1                       | 47.4                           |                             |
|                                                     | 0                                                                 |               |                         |       |       |                                            |                             |                           |                            |                                |                             |
|                                                     | 0                                                                 |               |                         |       |       |                                            |                             |                           |                            |                                |                             |
|                                                     | 451                                                               | 5.0 to <99.0  | 5.0                     | 18.2  | 7.43  | 37.4                                       | 31.1                        | 31.8                      | 29.8                       | 49.4                           |                             |
|                                                     | 61                                                                | 5.0 to <99.0  | 5.0                     | 7.97  | 5.93  | 33.2                                       | 19.9                        | 16.7                      | 17.4                       | 36.7                           |                             |
| WI_0418<br>RD_0312<br>LE_0307<br>BF_2776<br>SS_0446 | 17                                                                | 5.0 to <10.0  | 5.03                    | 8.75  | 5.89  | 21.8                                       | 26.5                        | 24.5                      | 23.1                       | 49.3                           |                             |
|                                                     | 0                                                                 |               |                         |       |       |                                            |                             |                           |                            |                                |                             |
|                                                     | 0                                                                 |               |                         |       |       |                                            |                             |                           |                            |                                |                             |
|                                                     | 389                                                               | 5.0 to <10.0  | 5.0                     | 9.91  | 6.65  | 35.4                                       | 30.3                        | 32.4                      | 28.9                       | 51.1                           |                             |
|                                                     | 61                                                                | 5.0 to <10.0  | 5.0                     | 7.97  | 5.93  | 33.2                                       | 19.9                        | 16.7                      | 17.4                       | 36.7                           |                             |
| WI_0418<br>RD_0312<br>LE_0307<br>BF_2776<br>SS_0446 | 1                                                                 | 10.0 to <20.0 | 10.62                   | 10.62 | 10.62 | 0.1                                        | 0.1                         | 0.1                       | 0.1                        | 0.1                            |                             |
|                                                     | 0                                                                 |               |                         |       |       |                                            |                             |                           |                            |                                |                             |
|                                                     | 0                                                                 |               |                         |       |       |                                            |                             |                           |                            |                                |                             |
|                                                     | 62                                                                | 10.0 to <20.0 | 10.05                   | 18.2  | 12.35 | 32.4                                       | 30.3                        | 27.3                      | 29.0                       | 41.7                           |                             |
|                                                     | 0                                                                 |               |                         |       |       |                                            |                             |                           |                            |                                |                             |
| WI_0418<br>RD_0312<br>LE_0307<br>BF_2776<br>SS_0446 | 0                                                                 |               |                         |       |       |                                            |                             |                           |                            |                                |                             |
|                                                     | 0                                                                 |               |                         |       |       |                                            |                             |                           |                            |                                |                             |
|                                                     | 0                                                                 |               |                         |       |       |                                            |                             |                           |                            |                                |                             |
|                                                     | 0                                                                 |               |                         |       |       |                                            |                             |                           |                            |                                |                             |
|                                                     | 0                                                                 |               |                         |       |       |                                            |                             |                           |                            |                                |                             |
| WI_0418<br>RD_0312<br>LE_0307<br>BF_2776<br>SS_0446 | 0                                                                 |               |                         |       |       |                                            |                             |                           |                            |                                |                             |
|                                                     | 0                                                                 |               |                         |       |       |                                            |                             |                           |                            |                                |                             |
|                                                     | 0                                                                 |               |                         |       |       |                                            |                             |                           |                            |                                |                             |
|                                                     | 0                                                                 |               |                         |       |       |                                            |                             |                           |                            |                                |                             |
|                                                     | 0                                                                 |               |                         |       |       |                                            |                             |                           |                            |                                |                             |

Data sets: WI=WITT, RD=RIT\_DUPONT, LE=LEEDS, BF=BFD\_ALL, SS=BIGG\_SSG

TUB-test chart WE58; Colour differences and formulae

SCD datasets: WI, RD, LE, BF, SS,  $\Delta E^*$  ranges of CIELAB, all colours of 418

input: w/rgb/cmyk -> (w/rgb/cmyk)