

# Colour-difference data sets and performance (STRESS values)

| Data set                         | Calculations with data for grey surrounds (D65, P40) and $0,1 < Y < 190$ |      |      |       |                           |            |       |      |        |
|----------------------------------|--------------------------------------------------------------------------|------|------|-------|---------------------------|------------|-------|------|--------|
|                                  | Difference $\Delta E^*_{\text{CIELAB}}$                                  |      |      |       | Colour difference formula |            |       |      |        |
| all $\Delta E^*$                 | Pairs                                                                    | Min  | Mean | Max   | CIELAB                    | CIE DE2000 | CIE94 | CMC  | LABJND |
| Witt                             | 418                                                                      | 0.11 | 1.86 | 10.62 | 51.7                      | 33.7       | 31.7  | 39.6 | 55.2   |
| RIT-DuPont                       | 312                                                                      | 0.77 | 1.43 | 4.4   | 33.4                      | 20.5       | 20.3  | 31.8 | 38.3   |
| Leeds                            | 307                                                                      | 0.39 | 1.63 | 4.73  | 40.1                      | 21.5       | 30.5  | 28.4 | 45.1   |
| BFD.01                           | 2776                                                                     | 0.03 | 3.0  | 18.18 | 42.4                      | 31.1       | 33.8  | 32.8 | 53.0   |
| Richter                          | 330                                                                      | 0.05 | 0.9  | 4.85  | 61.0                      | 52.6       | 47.8  | 50.1 | 30.2   |
| Kittelmann                       | 392                                                                      | 0.09 | 0.41 | 2.09  | 57.2                      | 50.4       | 49.9  | 57.5 | 48.7   |
| $\Delta E^*_{\text{CIELAB}} < 2$ | Pairs                                                                    | Min  | Mean | Max   | CIELAB                    | CIE DE2000 | CIE94 | CMC  | LABJND |
| Witt                             | 274                                                                      | 0.11 | 1.07 | 1.99  | 45.4                      | 30.0       | 30.5  | 36.2 | 57.2   |
| RIT-DuPont                       | 280                                                                      | 0.61 | 0.99 | 1.96  | 21.7                      | 19.1       | 19.1  | 32.8 | 37.0   |
| Leeds                            | 232                                                                      | 0.39 | 1.34 | 1.99  | 34.0                      | 18.7       | 29.8  | 28.8 | 46.5   |
| BFD.01                           | 1152                                                                     | 0.03 | 1.06 | 1.99  | 38.0                      | 30.2       | 33.9  | 35.9 | 56.8   |
| Richter                          | 305                                                                      | 0.05 | 0.74 | 1.89  | 49.2                      | 54.3       | 49.0  | 51.4 | 30.2   |
| Kittelmann                       | 391                                                                      | 0.09 | 0.41 | 1.76  | 55.9                      | 50.5       | 50.0  | 57.6 | 48.7   |
| $\Delta E^*_{\text{DE2000}} < 2$ | Pairs                                                                    | Min  | Mean | Max   | CIELAB                    | CIE DE2000 | CIE94 | CMC  | LABJND |
| Witt                             | 382                                                                      | 0.11 | 1.66 | 5.72  | 50.8                      | 33.8       | 32.2  | 40.0 | 54.1   |
| RIT-DuPont                       | 312                                                                      | 0.77 | 1.43 | 4.4   | 33.4                      | 20.5       | 20.3  | 31.8 | 38.3   |
| Leeds                            | 300                                                                      | 0.39 | 1.58 | 3.67  | 39.3                      | 19.6       | 30.7  | 27.9 | 45.7   |
| BFD.01                           | 1823                                                                     | 0.03 | 1.81 | 7.84  | 43.1                      | 28.1       | 31.5  | 32.3 | 52.1   |
| Richter                          | 330                                                                      | 0.05 | 0.9  | 4.85  | 61.0                      | 52.6       | 47.8  | 50.1 | 30.2   |
| Kittelmann                       | 392                                                                      | 0.09 | 0.41 | 2.09  | 57.2                      | 50.4       | 49.9  | 57.5 | 48.7   |