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| Ostwald optimal colours (o), maximum (m) C <sub>AB</sub> for D50, Y <sub>N</sub> =0, Y <sub>W</sub> =100, Y <sub>m</sub> =520_770 |                                 |       |       |       |        |        |        |                 |                                 |                                 |      |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------|-------|-------|--------|--------|--------|-----------------|---------------------------------|---------------------------------|------|--|--|
| i <sub>1</sub> , λ <sub>1</sub>                                                                                                   | i <sub>2</sub> , λ <sub>2</sub> | X     | Y     | Z     | x      | y      | z      | h <sub>xy</sub> | i <sub>d</sub> , λ <sub>d</sub> | i <sub>c</sub> , λ <sub>c</sub> | Code |  |  |
| 1 405                                                                                                                             | 32 564                          | 29.26 | 53.83 | 73.48 | 0.1869 | 0.3438 | 0.4692 | 185.2           | 17 486                          | 38 592                          | Cm   |  |  |
| 7 435                                                                                                                             | 33 565                          | 26.01 | 53.61 | 57.83 | 0.1892 | 0.39   | 0.4207 | 168.6           | 18 490                          | 46 631                          |      |  |  |
| 10 450                                                                                                                            | 33 566                          | 23.26 | 54.16 | 39.66 | 0.1986 | 0.4625 | 0.3387 | 144.6           | 19 497                          | -1 497c                         |      |  |  |
| 12 460                                                                                                                            | 33 567                          | 22.04 | 54.86 | 27.4  | 0.2113 | 0.5259 | 0.2626 | 128.7           | 21 506                          | -1 506c                         |      |  |  |
| 13 465                                                                                                                            | 33 568                          | 22.01 | 55.56 | 22.12 | 0.2208 | 0.5572 | 0.2218 | 122.1           | 22 512                          | -1 512c                         |      |  |  |
| 14 470                                                                                                                            | 34 570                          | 22.15 | 56.11 | 17.7  | 0.2308 | 0.5846 | 0.1844 | 116.9           | 23 519                          | -1 519c                         | Gm   |  |  |
| 15 475                                                                                                                            | 34 573                          | 23.92 | 58.04 | 14.12 | 0.2489 | 0.604  | 0.1469 | 111.4           | 25 527                          | -1 527c                         |      |  |  |
| 15 480                                                                                                                            | 35 578                          | 27.41 | 61.49 | 14.13 | 0.266  | 0.5968 | 0.1371 | 108.4           | 26 532                          | -1 532c                         |      |  |  |
| 17 485                                                                                                                            | 37 587                          | 33.99 | 66.01 | 9.3   | 0.3109 | 0.6039 | 0.0851 | 98.0            | 28 544                          | -1 544c                         |      |  |  |
| 18 490                                                                                                                            | 44 620                          | 59.95 | 79.56 | 7.75  | 0.407  | 0.5402 | 0.0526 | 71.3            | 32 561                          | -1 561c                         |      |  |  |
| 19 495                                                                                                                            | -1 495c                         | 75.28 | 84.51 | 6.54  | 0.4525 | 0.5081 | 0.0393 | 54.4            | 33 568                          | 12 463                          | max  |  |  |
| 20 500                                                                                                                            | -1 500c                         | 75.26 | 83.07 | 5.58  | 0.4591 | 0.5067 | 0.034  | 52.5            | 33 569                          | 13 466                          |      |  |  |
| 22 510                                                                                                                            | -1 510c                         | 75.16 | 79.06 | 4.31  | 0.4741 | 0.4986 | 0.0272 | 47.4            | 34 571                          | 14 471                          |      |  |  |
| 23 520                                                                                                                            | -1 519c                         | 74.98 | 76.43 | 3.93  | 0.4826 | 0.492  | 0.0253 | 44.2            | 34 572                          | 14 473                          | Ym   |  |  |
| 25 530                                                                                                                            | -1 529c                         | 74.05 | 69.95 | 3.45  | 0.5021 | 0.4743 | 0.0234 | 36.4            | 35 575                          | 15 477                          |      |  |  |
| 27 540                                                                                                                            | -1 539c                         | 72.16 | 62.35 | 3.2   | 0.524  | 0.4527 | 0.0232 | 27.8            | 35 579                          | 16 480                          |      |  |  |
| 28 545                                                                                                                            | -1 544c                         | 70.81 | 58.33 | 3.13  | 0.5353 | 0.4409 | 0.0236 | 23.4            | 36 581                          | 16 481                          |      |  |  |
| 29 550                                                                                                                            | -1 549c                         | 69.15 | 54.19 | 3.08  | 0.5469 | 0.4286 | 0.0244 | 19.1            | 36 583                          | 16 483                          |      |  |  |
| 30 555                                                                                                                            | -1 554c                         | 67.17 | 50.01 | 3.05  | 0.5586 | 0.4159 | 0.0254 | 15.0            | 37 585                          | 16 484                          |      |  |  |
| 32 560                                                                                                                            | -1 560c                         | 62.28 | 41.85 | 3.02  | 0.5812 | 0.3905 | 0.0281 | 7.7             | 38 590                          | 17 486                          |      |  |  |
| 32 564                                                                                                                            | 1 405                           | 67.15 | 46.16 | 9.01  | 0.5489 | 0.3773 | 0.0736 | 5.2             | 38 592                          | 17 486                          | Rm   |  |  |
| 33 565                                                                                                                            | 7 435                           | 70.4  | 46.38 | 24.66 | 0.4977 | 0.3279 | 0.1743 | 348.6           | 46 631                          | 18 490                          |      |  |  |
| 33 566                                                                                                                            | 10 450                          | 73.15 | 45.83 | 42.83 | 0.452  | 0.2832 | 0.2646 | 324.7           | -1 497c                         | 19 497                          |      |  |  |
| 33 567                                                                                                                            | 12 460                          | 74.37 | 45.13 | 55.09 | 0.4259 | 0.2585 | 0.3155 | 308.7           | -1 506c                         | 21 506                          |      |  |  |
| 33 568                                                                                                                            | 13 465                          | 74.4  | 44.43 | 60.37 | 0.4151 | 0.2479 | 0.3368 | 302.1           | -1 512c                         | 22 512                          |      |  |  |
| 34 570                                                                                                                            | 14 470                          | 74.26 | 43.88 | 64.78 | 0.4059 | 0.2398 | 0.3541 | 296.9           | -1 519c                         | 23 519                          | Mm   |  |  |
| 34 573                                                                                                                            | 15 475                          | 72.5  | 41.95 | 68.37 | 0.3965 | 0.2294 | 0.3739 | 291.5           | -1 527c                         | 25 527                          |      |  |  |
| 35 578                                                                                                                            | 15 480                          | 69.0  | 38.5  | 68.36 | 0.3923 | 0.2189 | 0.3887 | 288.5           | -1 532c                         | 26 532                          |      |  |  |
| 37 587                                                                                                                            | 17 485                          | 62.42 | 33.98 | 73.19 | 0.368  | 0.2003 | 0.4315 | 278.0           | -1 544c                         | 28 544                          |      |  |  |
| 44 620                                                                                                                            | 18 490                          | 36.46 | 20.43 | 74.74 | 0.277  | 0.1552 | 0.5677 | 251.3           | -1 561c                         | 32 561                          |      |  |  |
| -1 495c                                                                                                                           | 19 495                          | 21.14 | 15.48 | 75.95 | 0.1877 | 0.1375 | 0.6746 | 234.4           | 12 463                          | 33 568                          | min  |  |  |
| -1 500c                                                                                                                           | 20 500                          | 21.15 | 16.92 | 76.91 | 0.1839 | 0.1471 | 0.6688 | 232.5           | 13 466                          | 33 569                          |      |  |  |
| -1 510c                                                                                                                           | 22 510                          | 21.25 | 20.93 | 78.18 | 0.1765 | 0.1739 | 0.6494 | 227.5           | 14 471                          | 34 571                          |      |  |  |
| -1 519c                                                                                                                           | 23 520                          | 21.44 | 23.56 | 78.56 | 0.1735 | 0.1907 | 0.6357 | 224.2           | 14 473                          | 34 572                          | Bm   |  |  |
| -1 529c                                                                                                                           | 25 530                          | 22.36 | 30.04 | 79.04 | 0.1701 | 0.2285 | 0.6013 | 216.5           | 15 477                          | 35 575                          |      |  |  |
| -1 539c                                                                                                                           | 27 540                          | 24.25 | 37.64 | 79.29 | 0.1717 | 0.2666 | 0.5615 | 207.8           | 16 480                          | 35 579                          |      |  |  |
| -1 544c                                                                                                                           | 28 545                          | 25.6  | 41.66 | 79.36 | 0.1746 | 0.2841 | 0.5412 | 203.5           | 16 481                          | 36 581                          |      |  |  |
| -1 549c                                                                                                                           | 29 550                          | 27.26 | 45.8  | 79.41 | 0.1788 | 0.3004 | 0.5207 | 199.2           | 16 483                          | 36 583                          |      |  |  |
| -1 554c                                                                                                                           | 30 555                          | 29.24 | 49.98 | 79.44 | 0.1843 | 0.315  | 0.5006 | 195.0           | 16 484                          | 37 585                          |      |  |  |
| -1 560c                                                                                                                           | 32 560                          | 34.13 | 58.14 | 79.47 | 0.1987 | 0.3385 | 0.4627 | 187.7           | 17 486                          | 38 590                          |      |  |  |
| W0 380                                                                                                                            | 770                             | 96.42 | 100.0 | 82.49 | 0.3457 | 0.3585 | 0.2957 | 0.0             |                                 |                                 |      |  |  |
| N0 380                                                                                                                            | 770                             | 3.85  | 4.0   | 3.29  | 0.3457 | 0.3585 | 0.2957 | 0.0             |                                 |                                 |      |  |  |

CEW70-7N

TUB-test chart CEW7; Hue circle of the Ostwald optimal colours with Y values, Y<sub>N</sub>=0,0, Y<sub>W</sub>=100  
Data: XYZ and YABC<sub>AB</sub>h<sub>AB</sub> as table with different wavelength, D50-02

1-000100-F0

| Ostwald optimal colours (o), maximum (m) C <sub>AB</sub> for D50, Y <sub>N</sub> =0, Y <sub>W</sub> =100, Y <sub>m</sub> =520_770 |                                 |       |        |        |                 |        |         |                 |                                 |                                 |      |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------|--------|--------|-----------------|--------|---------|-----------------|---------------------------------|---------------------------------|------|--|--|
| i <sub>1</sub> , λ <sub>1</sub>                                                                                                   | i <sub>2</sub> , λ <sub>2</sub> | Y     | A      | B      | C <sub>AB</sub> | a      | b       | h <sub>xy</sub> | i <sub>d</sub> , λ <sub>d</sub> | i <sub>c</sub> , λ <sub>c</sub> | Code |  |  |
| 1 405                                                                                                                             | 32 564                          | 53.83 | -56.59 | -29.05 | 63.62           | 0.5434 | -0.5457 | 207.1           | 17 486                          | 38 592                          | Cm   |  |  |
| 7 435                                                                                                                             | 33 565                          | 53.61 | -64.17 | -13.59 | 65.6            | 0.4851 | -0.4313 | 191.9           | 18 490                          | 46 631                          |      |  |  |
| 10 450                                                                                                                            | 33 566                          | 54.16 | -72.38 | 5.01   | 72.56           | 0.4294 | -0.2928 | 176.0           | 19 497                          | -1 497c                         |      |  |  |
| 12 460                                                                                                                            | 33 567                          | 54.86 | -77.11 | 17.85  | 79.14           | 0.4017 | -0.1997 | 166.9           | 21 506                          | -1 506c                         |      |  |  |
| 13 465                                                                                                                            | 33 568                          | 55.56 | -78.87 | 23.7   | 82.35           | 0.3961 | -0.1592 | 163.2           | 22 512                          | -1 512c                         |      |  |  |
| 14 470                                                                                                                            | 34 570                          | 56.11 | -79.85 | 28.57  | 84.81           | 0.3947 | -0.1261 | 160.3           | 23 519                          | -1 519c                         | Gm   |  |  |
| 15 475                                                                                                                            | 34 573                          | 58.04 | -80.09 | 33.75  | 86.91           | 0.412  | -0.0973 | 157.1           | 25 527                          | -1 527c                         |      |  |  |
| 15 480                                                                                                                            | 35 578                          | 61.49 | -79.68 | 36.59  | 87.68           | 0.4456 | -0.0919 | 155.3           | 26 532                          | -1 532c                         |      |  |  |
| 17 485                                                                                                                            | 37 587                          | 66.01 | -74.12 | 45.14  | 86.79           | 0.5148 | -0.0563 | 148.6           | 28 544                          | -1 544c                         |      |  |  |
| 18 490                                                                                                                            | 44 620                          | 79.56 | -41.87 | 57.86  | 71.42           | 0.7534 | -0.0389 | 125.8           | 32 561                          | -1 561c                         |      |  |  |
| 19 495                                                                                                                            | -1 495c                         | 84.51 | -15.51 | 63.16  | 65.04           | 0.8905 | -0.0309 | 103.7           | 33 568                          | 12 463                          | max  |  |  |
| 20 500                                                                                                                            | -1 500c                         | 83.07 | -12.07 | 62.93  | 64.08           | 0.9058 | -0.0268 | 100.8           | 33 569                          | 13 466                          |      |  |  |
| 22 510                                                                                                                            | -1 510c                         | 79.06 | -2.65  | 60.89  | 60.94           | 0.9505 | -0.0218 | 92.4            | 34 571                          | 14 471                          |      |  |  |
| 23 520                                                                                                                            | -1 519c                         | 76.43 | 3.22   | 59.1   | 59.18           | 0.9808 | -0.0205 | 86.8            | 34 572                          | 14 473                          | Ym   |  |  |
| 25 530                                                                                                                            | -1 529c                         | 69.95 | 16.52  | 54.23  | 56.7            | 1.0584 | -0.0197 | 73.0            | 35 575                          | 15 477                          |      |  |  |
| 27 540                                                                                                                            | -1 539c                         | 62.35 | 30.11  | 48.22  | 56.85           | 1.1571 | -0.0205 | 58.0            | 35 579                          | 16 480                          |      |  |  |
| 28 545                                                                                                                            | -1 544c                         | 58.33 | 36.43  | 44.97  | 57.87           | 1.2137 | -0.0214 | 50.9            | 36 581                          | 16 481                          |      |  |  |
| 29 550                                                                                                                            | -1 549c                         | 54.19 | 42.24  | 41.6   | 59.29           | 1.2758 | -0.0227 | 44.5            | 36 583                          | 16 483                          |      |  |  |
| 30 555                                                                                                                            | -1 554c                         | 50.01 | 47.36  | 38.19  | 60.84           | 1.3427 | -0.0244 | 38.8            | 37 585                          | 16 484                          |      |  |  |
| 32 560                                                                                                                            | -1 560c                         | 41.85 | 54.81  | 31.49  | 63.21           | 1.4878 | -0.0288 | 29.8            | 38 590                          | 17 486                          |      |  |  |
| 32 564                                                                                                                            | 1 405                           | 46.16 | 56.59  | 29.05  | 63.62           | 1.4543 | -0.078  | 27.1            | 38 592                          | 17 486                          | Rm   |  |  |
| 33 565                                                                                                                            | 7 435                           | 46.38 | 64.17  | 13.59  | 65.59           | 1.5173 | -0.2126 | 11.9            | 46 631                          | 18 490                          |      |  |  |
| 33 566                                                                                                                            | 10 450                          | 45.83 | 72.37  | -5.01  | 72.55           | 1.5956 | -0.3736 | 356.0           | -1 497c                         | 19 497                          |      |  |  |
| 33 567                                                                                                                            | 12 460                          | 45.13 | 77.09  | -17.84 | 79.13           | 1.6471 | -0.488  | 346.9           | -1 506c                         | 21 506                          |      |  |  |
| 33 568                                                                                                                            | 13 465                          | 44.43 | 78.85  | -23.7  | 82.33           | 1.6737 | -0.5432 | 343.2           | -1 512c                         | 22 512                          |      |  |  |
| 34 570                                                                                                                            | 14 470                          | 43.88 | 79.83  | -28.57 | 84.79           | 1.6917 | -0.5903 | 340.3           | -1 519c                         | 23 519                          | Mm   |  |  |
| 34 573                                                                                                                            | 15 475                          | 41.95 | 80.07  | -33.74 | 86.89           | 1.7274 | -0.6516 | 337.1           | -1 527c                         | 25 527                          |      |  |  |
| 35 578                                                                                                                            | 15 480                          | 38.5  | 79.66  | -36.57 | 87.65           | 1.7916 | -0.7099 | 335.3           | -1 532c                         | 26 532                          |      |  |  |
| 37 587                                                                                                                            | 17 485                          | 33.98 | 74.1   | -45.12 | 86.76           | 1.8361 | -0.861  | 328.6           | -1 544c                         | 28 544                          |      |  |  |
| 44 620                                                                                                                            | 18 490                          | 20.43 | 41.86  | -57.83 | 71.39           | 1.7832 | -1.4618 | 305.8           | -1 561c                         | 32 561                          |      |  |  |
| -1 495c                                                                                                                           | 19 495                          | 15.48 | 15.5   | -63.13 | 65.0            | 1.3645 | -1.9609 | 283.7           | 12 463                          | 33 568                          | min  |  |  |
| -1 500c                                                                                                                           | 20 500                          | 16.92 | 12.07  | -62.9  | 64.04           | 1.2492 | -1.8165 | 280.8           | 13 466                          | 33 569                          |      |  |  |
| -1 510c                                                                                                                           | 22 510                          | 20.93 | 2.64   | -60.86 | 60.92           | 1.0145 | -1.4926 | 272.4           | 14 471                          | 34 571                          |      |  |  |
| -1 519c                                                                                                                           | 23 520                          | 23.56 | -3.22  | -59.08 | 59.17           | 0.9092 | -1.3327 | 266.8           | 14 473                          | 34 572                          | Bm   |  |  |
| -1 529c                                                                                                                           | 25 530                          | 30.04 | -16.51 | -54.22 | 56.68           | 0.744  | -1.0518 | 253.0           | 15 477                          | 35 575                          |      |  |  |
| -1 539c                                                                                                                           | 27 540                          | 37.64 | -30.11 | -48.21 | 56.84           | 0.644  | -0.8422 | 238.0           | 16 480                          | 35 579                          |      |  |  |
| -1 544c                                                                                                                           | 28 545                          | 41.66 | -36.42 | -44.97 | 57.87           | 0.6142 | -0.7615 | 230.9           | 16 481                          | 36 581                          |      |  |  |
| -1 549c                                                                                                                           | 29 550                          | 45.8  | -42.24 | -41.6  | 59.29           | 0.595  | -0.6931 | 224.5           | 16 483                          | 36 583                          |      |  |  |
| -1 554c                                                                                                                           | 30 555                          | 49.98 | -47.36 | -38.19 | 60.84           | 0.5849 | -0.6355 | 218.8           | 16 484                          | 37 585                          |      |  |  |
| -1 560c                                                                                                                           | 32 560                          | 58.14 | -54.81 | -31.49 | 63.21           | 0.5869 | -0.5465 | 209.8           | 17 486                          | 38 590                          |      |  |  |
| W0 380                                                                                                                            | 770                             | 100.0 | 0.0    | 0.0    | 0.0             | 0.9639 | -0.3298 | 0.0             | B <sub>c</sub> =1,000           |                                 |      |  |  |
| N0 380                                                                                                                            | 770                             | 4.0   | 0.0    | 0.0    | 0.0             | 0.9639 | -0.3298 | 0.0             | x <sub>c</sub> =0,000           |                                 |      |  |  |

CEW71-7N

TUB registration: 20201101-CEW7/CEW7L0NP.PDF /.PS  
application for evaluation and measurement of display or print output

TUB material: code=rha4ta