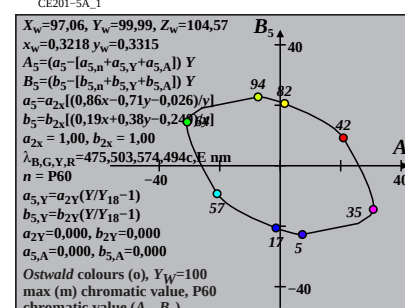
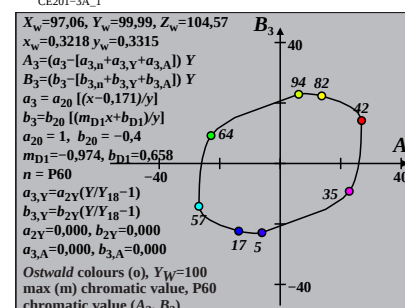
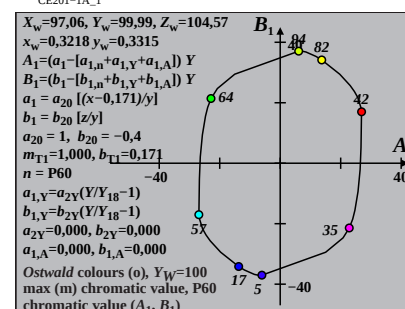
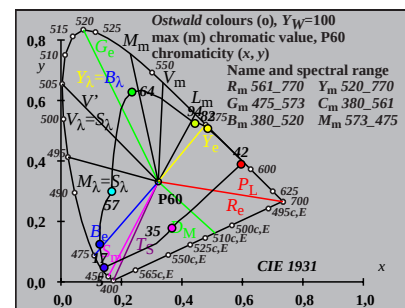


Ostwald optimal colours (o) of maximum (m)  $C_{AB}$  for P60,  $Y_w=100$ ,  $Y_m=520\_770$

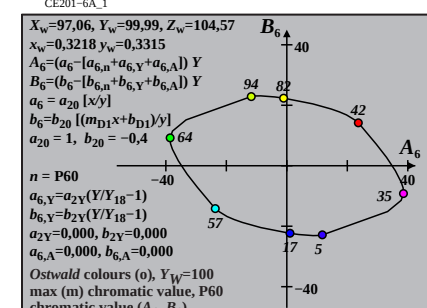
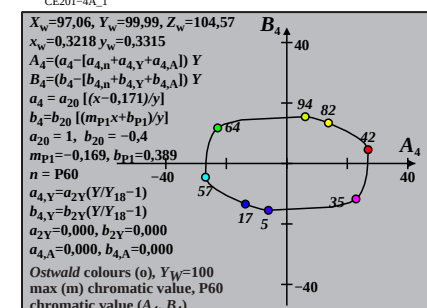
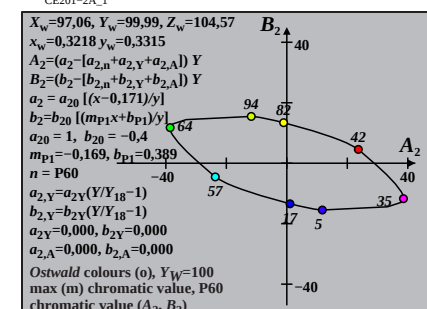
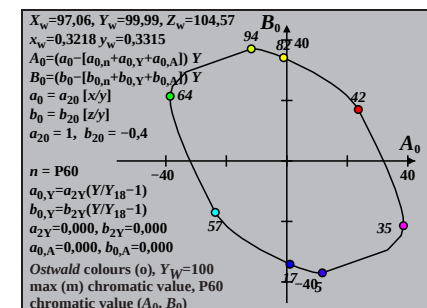
| $i_1, \lambda_1$ | $i_2, \lambda_2$ | Y     | A      | B      | $C_{AB}$ | a      | b       | $h_{AB}$ | $i_d, \lambda_d$ | $i_c, \lambda_c$ | Code |
|------------------|------------------|-------|--------|--------|----------|--------|---------|----------|------------------|------------------|------|
| 0 405            | 32 563           | 57.75 | -23.52 | -17.29 | 29.19    | 0.5634 | -0.7177 | 216.3    | 16 483           | 38 590           | Cm   |
| 6 435            | 32 563           | 58.29 | -28.0  | -8.43  | 29.24    | 0.4903 | -0.5629 | 196.7    | 17 487           | 44 621           |      |
| 10 450           | 33 565           | 58.9  | -34.37 | 5.49   | 34.81    | 0.3871 | -0.325  | 170.9    | 19 497           | -1 497c          |      |
| 11 460           | 33 566           | 60.12 | -35.87 | 9.37   | 37.07    | 0.374  | -0.2624 | 165.3    | 20 502           | -1 502c          |      |
| 13 465           | 33 568           | 60.68 | -37.82 | 15.56  | 40.9     | 0.3474 | -0.1618 | 157.6    | 22 513           | -1 513c          |      |
| 14 470           | 34 570           | 62.18 | -38.45 | 18.5   | 42.67    | 0.3521 | -0.1207 | 154.3    | 24 521           | -1 521c          |      |
| 15 475           | 34 574           | 64.7  | -38.6  | 21.39  | 44.13    | 0.374  | -0.0875 | 151.0    | 25 529           | -1 529c          | Gm   |
| 15 480           | 36 580           | 69.95 | -38.16 | 23.59  | 44.86    | 0.4251 | -0.081  | 148.2    | 27 535           | -1 535c          |      |
| 17 485           | 39 595           | 78.0  | -33.31 | 29.44  | 44.46    | 0.5435 | -0.0407 | 138.5    | 29 549           | -1 549c          |      |
| 18 490           | -1 490c          | 94.22 | -11.76 | 37.03  | 38.86    | 0.8458 | -0.0251 | 107.6    | 33 566           | 11 459           | max  |
| 19 495           | -1 495c          | 92.78 | -10.41 | 37.05  | 38.49    | 0.8584 | -0.0188 | 105.6    | 33 567           | 12 461           |      |
| 20 500           | -1 500c          | 90.97 | -8.67  | 36.78  | 37.78    | 0.8753 | -0.0139 | 103.2    | 33 568           | 12 464           |      |
| 22 510           | -1 510c          | 85.98 | -3.96  | 35.32  | 35.54    | 0.9246 | -0.0074 | 96.3     | 34 570           | 13 469           |      |
| 24 520           | -1 520c          | 79.07 | 2.1    | 32.75  | 32.82    | 0.9972 | -0.004  | 86.3     | 34 572           | 14 473           | Ym   |
| 25 530           | -1 529c          | 75.03 | 5.34   | 31.16  | 31.61    | 1.0419 | -0.0029 | 80.2     | 34 574           | 15 475           |      |
| 27 540           | -1 539c          | 66.2  | 11.72  | 27.58  | 29.97    | 1.1478 | -0.0016 | 66.9     | 35 578           | 15 478           |      |
| 29 545           | -1 545c          | 56.82 | 17.37  | 23.71  | 29.39    | 1.2763 | -0.0009 | 53.7     | 36 582           | 16 480           |      |
| 29 550           | -1 549c          | 56.82 | 17.37  | 23.71  | 29.39    | 1.2763 | -0.0009 | 53.7     | 36 582           | 16 480           |      |
| 30 555           | -1 554c          | 52.07 | 19.73  | 21.74  | 29.36    | 1.3495 | -0.0007 | 47.7     | 36 584           | 16 481           |      |
| 32 560           | -1 560c          | 42.7  | 23.2   | 17.84  | 29.27    | 1.5141 | -0.0005 | 37.5     | 37 589           | 16 483           |      |
| 32 563           | 0 405            | 42.24 | 23.52  | 17.29  | 29.19    | 1.5274 | -0.0089 | 36.3     | 38 590           | 16 483           | Rm   |
| 32 563           | 6 435            | 41.7  | 28.0   | 8.43   | 29.24    | 1.642  | -0.216  | 16.7     | 44 621           | 17 487           |      |
| 33 565           | 10 450           | 41.09 | 34.37  | -5.49  | 34.81    | 1.8072 | -0.5519 | 350.9    | -1 497c          | 19 497           |      |
| 33 566           | 11 460           | 39.87 | 35.87  | -9.37  | 37.07    | 1.8703 | -0.6532 | 345.3    | -1 502c          | 20 502           |      |
| 33 568           | 13 465           | 39.31 | 37.82  | -15.56 | 40.9     | 1.9328 | -0.8142 | 337.6    | -1 513c          | 22 513           |      |
| 34 570           | 14 470           | 37.81 | 38.45  | -18.5  | 42.67    | 1.9876 | -0.9074 | 334.3    | -1 521c          | 24 521           |      |
| 34 574           | 15 475           | 35.29 | 38.6   | -21.39 | 44.13    | 2.0643 | -1.0244 | 331.0    | -1 529c          | 25 529           | Mm   |
| 36 580           | 15 480           | 30.04 | 38.16  | -23.59 | 44.86    | 2.2411 | -1.2035 | 328.2    | -1 535c          | 27 535           |      |
| 39 595           | 17 485           | 21.99 | 33.31  | -29.44 | 44.46    | 2.4851 | -1.7567 | 318.5    | -1 549c          | 29 549           |      |
| -1 490c          | 18 490           | 5.77  | 11.76  | -37.03 | 38.86    | 3.0068 | -6.8297 | 287.6    | 11 459           | 33 566           | min  |
| -1 495c          | 19 495           | 7.21  | 10.41  | -37.05 | 38.49    | 2.413  | -5.5515 | 285.6    | 12 461           | 33 567           |      |
| -1 500c          | 20 500           | 9.02  | 8.67   | -36.78 | 37.78    | 1.9318 | -4.493  | 283.2    | 12 464           | 33 568           |      |
| -1 510c          | 22 510           | 14.01 | 3.96   | -35.32 | 35.54    | 1.2533 | -2.9397 | 276.3    | 13 469           | 34 570           |      |
| -1 520c          | 24 520           | 20.92 | -2.1   | -32.75 | 32.82    | 0.8702 | -1.9835 | 266.3    | 14 473           | 34 572           | Bm   |
| -1 529c          | 25 530           | 24.96 | -5.34  | -31.16 | 31.61    | 0.7564 | -1.6667 | 260.2    | 15 475           | 34 574           |      |
| -1 539c          | 27 540           | 33.79 | -11.72 | -27.58 | 29.97    | 0.6237 | -1.2346 | 246.9    | 15 478           | 35 578           |      |
| -1 545c          | 29 545           | 43.17 | -17.37 | -23.71 | 29.39    | 0.5683 | -0.9676 | 233.7    | 16 480           | 36 582           |      |
| -1 549c          | 29 550           | 43.17 | -17.37 | -23.71 | 29.39    | 0.5683 | -0.9676 | 233.7    | 16 480           | 36 582           |      |
| -1 554c          | 30 555           | 47.92 | -19.73 | -21.74 | 29.36    | 0.559  | -0.872  | 227.7    | 16 481           | 36 584           |      |
| -1 560c          | 32 560           | 57.29 | -23.2  | -17.84 | 29.27    | 0.5655 | -0.7297 | 217.5    | 16 483           | 37 589           |      |
| 380              | 770              | 99.99 | 0.0    | 0.0    | 0.01     | 0.9706 | -0.4182 | 0.0      |                  |                  |      |

TUB-test chart CE20; CIE (x, y) and chromatic values ( $A_i, B_i$ )  
Ostwald optimal colours for illuminant P60; diagram for illuminant P60,  $Y_w=100$

input: w/rgb/cmyk -> rgb



CE201-1A\_1



CE201-2A\_1

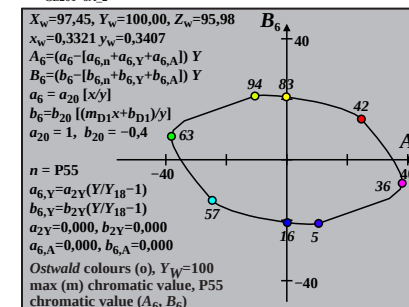
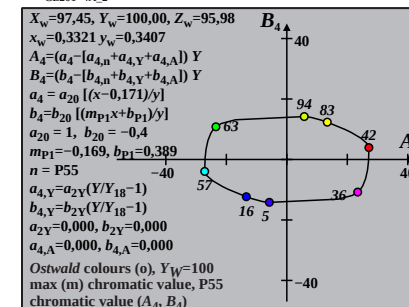
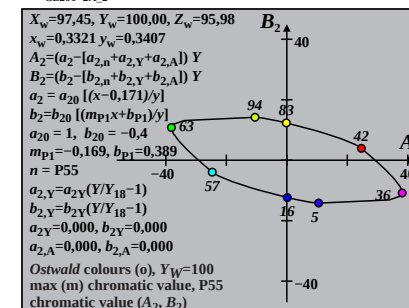
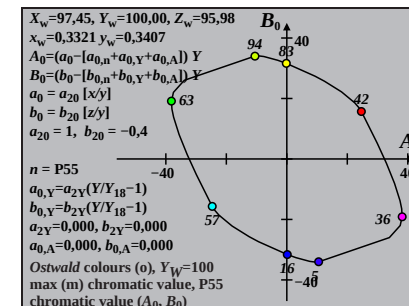
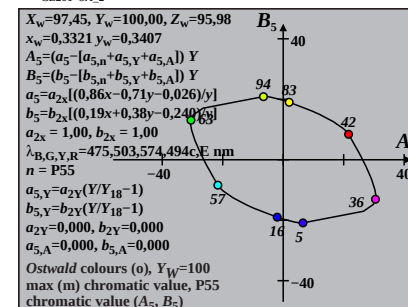
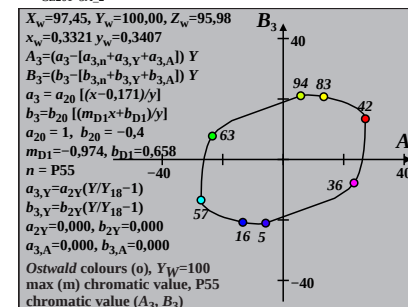
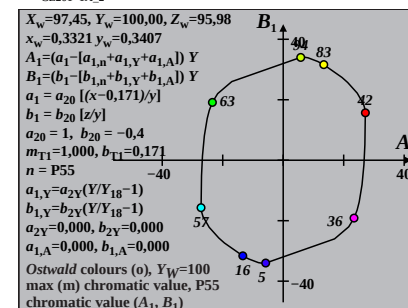
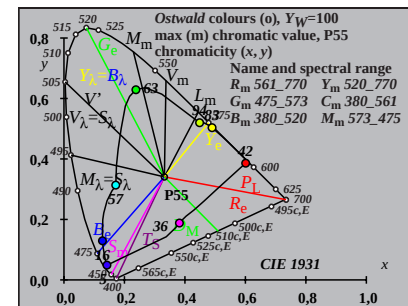
# Ostwald optimal colours (o) of maximum (m) C<sub>AB</sub> for P55, Y<sub>w</sub>=100, Y<sub>m</sub>=520\_770

| 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>AB</sub> | i <sub>d</sub> , λ <sub>d</sub> | i <sub>c</sub> , λ <sub>c</sub> | Code |
|---------------------------------|---------------------------------|-------|--------|--------|-----------------|--------|---------|-----------------|---------------------------------|---------------------------------|------|
| 1 405                           | 32 564                          | 57.57 | -24.66 | -15.7  | 29.23           | 0.5462 | -0.6566 | 212.4           | 16 484                          | 38 591                          | Cm   |
| 6 435                           | 32 564                          | 58.07 | -28.52 | -8.08  | 29.64           | 0.4834 | -0.523  | 195.8           | 17 488                          | 43 619                          |      |
| 9 450                           | 33 565                          | 58.81 | -32.95 | 1.46   | 32.98           | 0.4142 | -0.359  | 177.4           | 18 494                          | -1 494c                         |      |
| 11 460                          | 33 567                          | 59.73 | -35.62 | 8.09   | 36.53           | 0.3781 | -0.2484 | 167.1           | 20 502                          | -1 502c                         |      |
| 13 465                          | 33 568                          | 60.24 | -37.43 | 13.82  | 39.9            | 0.3531 | -0.1544 | 159.7           | 22 513                          | -1 513c                         |      |
| 14 470                          | 34 570                          | 61.59 | -37.99 | 16.5   | 41.42           | 0.3577 | -0.1159 | 156.5           | 24 521                          | -1 521c                         |      |
| 15 475                          | 34 574                          | 63.89 | -38.13 | 19.11  | 42.65           | 0.3777 | -0.0847 | 153.3           | 25 529                          | -1 529c                         | Gm   |
| 16 480                          | 36 580                          | 67.97 | -37.49 | 22.02  | 43.48           | 0.423  | -0.0599 | 149.5           | 27 537                          | -1 537c                         |      |
| 17 485                          | 38 592                          | 75.72 | -33.9  | 26.01  | 42.73           | 0.5267 | -0.0404 | 142.5           | 29 547                          | -1 547c                         |      |
| 17 490                          | -1 489c                         | 95.68 | -11.52 | 33.67  | 35.58           | 0.8541 | -0.032  | 108.8           | 33 566                          | 11 456                          | max  |
| 19 495                          | -1 495c                         | 93.2  | -9.25  | 34.08  | 35.31           | 0.8752 | -0.0182 | 105.1           | 33 567                          | 12 462                          |      |
| 19 500                          | -1 499c                         | 93.2  | -9.25  | 34.08  | 35.31           | 0.8752 | -0.0182 | 105.1           | 33 567                          | 12 462                          |      |
| 21 510                          | -1 509c                         | 89.29 | -5.49  | 33.39  | 33.84           | 0.913  | -0.0099 | 99.3            | 33 569                          | 13 467                          |      |
| 24 520                          | -1 520c                         | 79.9  | 2.93   | 30.36  | 30.5            | 1.0112 | -0.0039 | 84.4            | 34 573                          | 14 474                          | Ym   |
| 26 530                          | -1 530c                         | 71.7  | 9.33   | 27.37  | 28.92           | 1.1047 | -0.0021 | 71.1            | 35 576                          | 15 477                          |      |
| 27 540                          | -1 539c                         | 67.24 | 12.44  | 25.71  | 28.56           | 1.1597 | -0.0015 | 64.1            | 35 578                          | 15 479                          |      |
| 28 545                          | -1 544c                         | 62.63 | 15.39  | 23.97  | 28.48           | 1.2203 | -0.0011 | 57.2            | 36 580                          | 16 480                          |      |
| 30 550                          | -1 550c                         | 53.19 | 20.46  | 20.38  | 28.88           | 1.3592 | -0.0007 | 44.8            | 37 585                          | 16 482                          |      |
| 30 555                          | -1 554c                         | 53.19 | 20.46  | 20.38  | 28.88           | 1.3592 | -0.0007 | 44.8            | 37 585                          | 16 482                          |      |
| 32 560                          | -1 560c                         | 43.79 | 23.98  | 16.79  | 29.27           | 1.5222 | -0.0005 | 34.9            | 38 590                          | 16 484                          |      |
| 32 564                          | 1 405                           | 42.42 | 24.66  | 15.7   | 29.23           | 1.5559 | -0.0137 | 32.4            | 38 591                          | 16 484                          | Rm   |
| 32 564                          | 6 435                           | 41.92 | 28.52  | 8.08   | 29.64           | 1.6549 | -0.1911 | 15.8            | 43 619                          | 17 488                          |      |
| 33 565                          | 9 450                           | 41.18 | 32.95  | -1.46  | 32.98           | 1.7746 | -0.4194 | 357.4           | -1 494c                         | 18 494                          |      |
| 33 567                          | 11 460                          | 40.26 | 35.62  | -8.09  | 36.53           | 1.8593 | -0.5849 | 347.1           | -1 502c                         | 20 502                          |      |
| 33 568                          | 13 465                          | 39.75 | 37.43  | -13.82 | 39.9            | 1.9162 | -0.7316 | 339.7           | -1 513c                         | 22 513                          |      |
| 34 570                          | 14 470                          | 38.4  | 37.99  | -16.5  | 41.42           | 1.9637 | -0.8135 | 336.5           | -1 521c                         | 24 521                          |      |
| 34 574                          | 15 475                          | 36.1  | 38.13  | -19.11 | 42.65           | 2.0305 | -0.9133 | 333.3           | -1 529c                         | 25 529                          | Mm   |
| 36 580                          | 16 480                          | 32.02 | 37.49  | -22.02 | 43.48           | 2.1454 | -1.0716 | 329.5           | -1 537c                         | 27 537                          |      |
| 38 592                          | 17 485                          | 24.27 | 33.9   | -26.01 | 42.73           | 2.3714 | -1.4554 | 322.5           | -1 547c                         | 29 547                          |      |
| -1 489c                         | 17 490                          | 4.31  | 11.52  | -33.66 | 35.58           | 3.6461 | -8.1914 | 288.8           | 11 456                          | 33 566                          | min  |
| -1 495c                         | 19 495                          | 6.79  | 9.25   | -34.08 | 35.31           | 2.3366 | -5.399  | 285.1           | 12 462                          | 33 567                          |      |
| -1 499c                         | 19 500                          | 6.79  | 9.25   | -34.08 | 35.31           | 2.3366 | -5.399  | 285.1           | 12 462                          | 33 567                          |      |
| -1 509c                         | 21 510                          | 10.7  | 5.49   | -33.39 | 33.84           | 1.488  | -3.5045 | 279.3           | 13 467                          | 33 569                          |      |
| -1 520c                         | 24 520                          | 20.09 | -2.93  | -30.36 | 30.5            | 0.8286 | -1.8947 | 264.4           | 14 474                          | 34 573                          | Bm   |
| -1 530c                         | 26 530                          | 28.29 | -9.33  | -27.37 | 28.92           | 0.6447 | -1.3514 | 251.1           | 15 477                          | 35 576                          |      |
| -1 539c                         | 27 540                          | 32.75 | -12.44 | -25.71 | 28.56           | 0.5945 | -1.1688 | 244.1           | 15 479                          | 35 578                          |      |
| -1 544c                         | 28 545                          | 37.36 | -15.39 | -23.97 | 28.48           | 0.5626 | -1.0254 | 237.2           | 16 480                          | 36 580                          |      |
| -1 550c                         | 30 550                          | 46.8  | -20.46 | -20.38 | 28.88           | 0.5374 | -0.8193 | 224.8           | 16 482                          | 37 585                          |      |
| -1 554c                         | 30 555                          | 46.8  | -20.46 | -20.38 | 28.88           | 0.5374 | -0.8193 | 224.8           | 16 482                          | 37 585                          |      |
| -1 560c                         | 32 560                          | 56.2  | -23.98 | -16.79 | 29.27           | 0.5478 | -0.6826 | 214.9           | 16 484                          | 38 590                          |      |
| 380                             | 770                             | 100.0 | 0.0    | 0.0    | 0.01            | 0.9745 | -0.3839 | 0.0             |                                 |                                 |      |

TUB-test chart CE20; CIE (x, y) and chromatic values (A<sub>i</sub>, B<sub>i</sub>)

Ostwald optimal colours for illuminant P55; diagram for illuminant P55, Y<sub>w</sub>=100

input: w/rgb/cmyk -> rgb



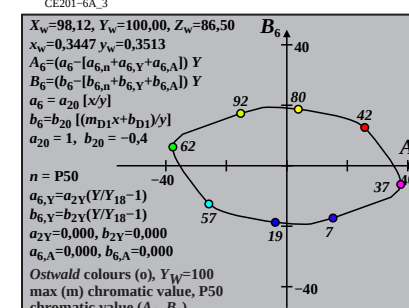
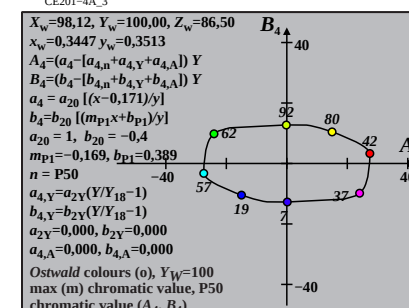
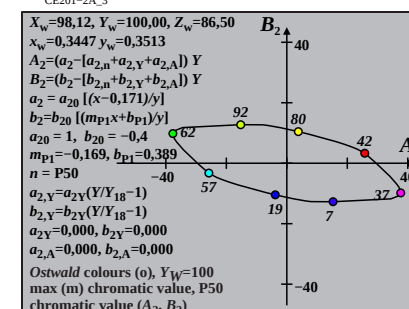
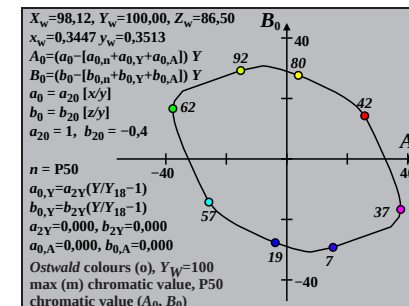
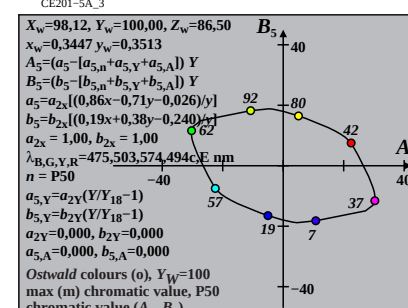
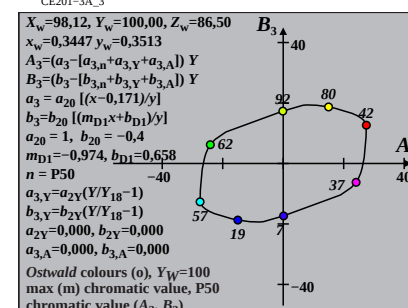
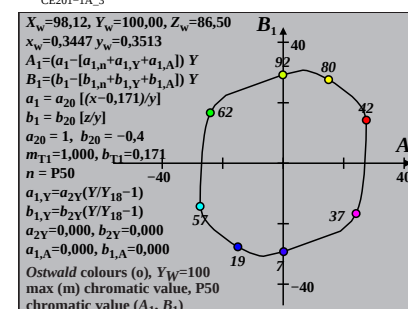
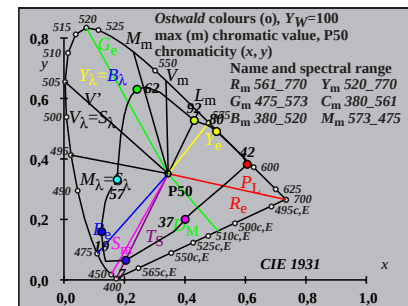
TUB registration: 20170801-CE20/CE20L0NA.TXT /PS  
application for measurement of offset print output

TUB material: code=rha4ta

see similar files: <http://farbe.li.tu-berlin.de/CE20/CE20.HTM>  
technical information: <http://farbe.li.tu-berlin.de> or <http://130.149.60.45/~farbmetrik>

| Ostwald optimal colours (o) of maximum (m) C <sub>AB</sub> for P50, 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>AB</sub> | i <sub>d</sub> , λ <sub>d</sub> | i <sub>c</sub> , λ <sub>c</sub> | Code |  |  |
| 0 405                                                                                                            | 33 565                          | 57.35 | -25.68 | -14.48 | 29.48           | 0.5334 | -0.5984 | 209.4           | 17 485                          | 38 592                          | Cm   |  |  |
| 7 435                                                                                                            | 33 565                          | 57.7  | -30.32 | -5.07  | 30.74           | 0.4557 | -0.434  | 189.5           | 18 490                          | -1 490c                         |      |  |  |
| 9 450                                                                                                            | 33 566                          | 58.44 | -33.0  | 0.79   | 33.01           | 0.4165 | -0.3324 | 178.6           | 19 495                          | -1 495c                         |      |  |  |
| 11 460                                                                                                           | 33 568                          | 59.26 | -35.41 | 6.74   | 36.05           | 0.3836 | -0.2321 | 169.2           | 20 502                          | -1 502c                         |      |  |  |
| 12 465                                                                                                           | 33 569                          | 60.07 | -36.47 | 9.69   | 37.73           | 0.3741 | -0.1846 | 165.1           | 21 507                          | -1 507c                         |      |  |  |
| 14 470                                                                                                           | 34 571                          | 60.91 | -37.52 | 14.35  | 40.18           | 0.365  | -0.1103 | 159.0           | 24 520                          | -1 520c                         |      |  |  |
| 15 475                                                                                                           | 34 574                          | 62.96 | -37.66 | 16.66  | 41.19           | 0.383  | -0.0812 | 156.1           | 25 528                          | -1 528c                         | Gm   |  |  |
| 16 480                                                                                                           | 35 579                          | 66.58 | -37.12 | 19.16  | 41.77           | 0.4237 | -0.0581 | 152.6           | 27 536                          | -1 536c                         |      |  |  |
| 16 485                                                                                                           | 37 589                          | 74.17 | -35.04 | 21.79  | 41.26           | 0.5088 | -0.0522 | 148.1           | 28 544                          | -1 544c                         |      |  |  |
| 17 490                                                                                                           | 47 636                          | 92.98 | -15.25 | 29.24  | 32.98           | 0.8171 | -0.0314 | 117.5           | 33 565                          | -1 565c                         | max  |  |  |
| 19 495                                                                                                           | -1 495c                         | 93.68 | -7.99  | 30.77  | 31.8            | 0.8958 | -0.0174 | 104.5           | 33 568                          | 12 462                          |      |  |  |
| 20 500                                                                                                           | -1 500c                         | 92.03 | -6.39  | 30.64  | 31.3            | 0.9117 | -0.013  | 101.7           | 33 569                          | 13 465                          |      |  |  |
| 21 510                                                                                                           | -1 509c                         | 89.95 | -4.38  | 30.26  | 30.58           | 0.9325 | -0.0095 | 98.2            | 34 570                          | 13 468                          |      |  |  |
| 24 520                                                                                                           | -1 520c                         | 80.88 | 3.82   | 27.67  | 27.93           | 1.0284 | -0.0038 | 82.1            | 34 574                          | 14 474                          | Ym   |  |  |
| 26 530                                                                                                           | -1 530c                         | 72.86 | 10.12  | 25.05  | 27.02           | 1.1202 | -0.0021 | 67.9            | 35 577                          | 15 478                          |      |  |  |
| 28 540                                                                                                           | -1 540c                         | 63.92 | 16.16  | 22.04  | 27.33           | 1.234  | -0.0011 | 53.7            | 36 581                          | 16 481                          |      |  |  |
| 28 545                                                                                                           | -1 544c                         | 63.92 | 16.16  | 22.04  | 27.33           | 1.234  | -0.0011 | 53.7            | 36 581                          | 16 481                          |      |  |  |
| 30 550                                                                                                           | -1 550c                         | 54.53 | 21.26  | 18.82  | 28.4            | 1.3711 | -0.0007 | 41.5            | 37 585                          | 16 483                          |      |  |  |
| 30 555                                                                                                           | -1 554c                         | 54.53 | 21.26  | 18.82  | 28.4            | 1.3711 | -0.0007 | 41.5            | 37 585                          | 16 483                          |      |  |  |
| 32 560                                                                                                           | -1 560c                         | 45.11 | 24.85  | 15.58  | 29.33           | 1.5321 | -0.0005 | 32.0            | 38 590                          | 17 485                          |      |  |  |
| 33 565                                                                                                           | 0 405                           | 42.64 | 25.68  | 14.48  | 29.48           | 1.5834 | -0.0064 | 29.4            | 38 592                          | 17 485                          | Rm   |  |  |
| 33 565                                                                                                           | 7 435                           | 42.29 | 30.32  | 5.07   | 30.74           | 1.6982 | -0.2258 | 9.5             | -1 490c                         | 18 490                          |      |  |  |
| 33 566                                                                                                           | 9 450                           | 41.55 | 33.0   | -0.79  | 33.01           | 1.7753 | -0.365  | 358.6           | -1 495c                         | 19 495                          |      |  |  |
| 33 568                                                                                                           | 11 460                          | 40.73 | 35.41  | -6.74  | 36.05           | 1.8508 | -0.5116 | 349.2           | -1 502c                         | 20 502                          |      |  |  |
| 33 569                                                                                                           | 12 465                          | 39.92 | 36.47  | -9.69  | 37.73           | 1.8946 | -0.5887 | 345.1           | -1 507c                         | 21 507                          |      |  |  |
| 34 571                                                                                                           | 14 470                          | 39.08 | 37.52  | -14.35 | 40.18           | 1.9413 | -0.7132 | 339.0           | -1 520c                         | 24 520                          |      |  |  |
| 34 574                                                                                                           | 15 475                          | 37.03 | 37.66  | -16.66 | 41.19           | 1.9983 | -0.7961 | 336.1           | -1 528c                         | 25 528                          | Mm   |  |  |
| 35 579                                                                                                           | 16 480                          | 33.41 | 37.12  | -19.16 | 41.77           | 2.0921 | -0.9196 | 332.6           | -1 536c                         | 27 536                          |      |  |  |
| 37 589                                                                                                           | 16 485                          | 25.82 | 35.04  | -21.79 | 41.26           | 2.3383 | -1.1899 | 328.1           | -1 544c                         | 28 544                          |      |  |  |
| 47 636                                                                                                           | 17 490                          | 7.01  | 15.25  | -29.24 | 32.98           | 3.1554 | -4.513  | 297.5           | -1 565c                         | 33 565                          | min  |  |  |
| -1 495c                                                                                                          | 19 495                          | 6.31  | 7.99   | -30.77 | 31.8            | 2.248  | -5.2216 | 284.5           | 12 462                          | 33 568                          |      |  |  |
| -1 500c                                                                                                          | 20 500                          | 7.96  | 6.39   | -30.64 | 31.3            | 1.7834 | -4.1927 | 281.7           | 13 465                          | 33 569                          |      |  |  |
| -1 509c                                                                                                          | 21 510                          | 10.04 | 4.38   | -30.26 | 30.57           | 1.4175 | -3.3598 | 278.2           | 13 468                          | 34 570                          |      |  |  |
| -1 520c                                                                                                          | 24 520                          | 19.11 | -3.82  | -27.67 | 27.93           | 0.7812 | -1.7933 | 262.1           | 14 474                          | 34 574                          | Bm   |  |  |
| -1 530c                                                                                                          | 26 530                          | 27.13 | -10.13 | -25.05 | 27.02           | 0.6078 | -1.2695 | 247.9           | 15 478                          | 35 577                          |      |  |  |
| -1 540c                                                                                                          | 28 540                          | 36.07 | -16.16 | -22.04 | 27.33           | 0.5332 | -0.9569 | 233.7           | 16 481                          | 36 581                          |      |  |  |
| -1 544c                                                                                                          | 28 545                          | 36.07 | -16.16 | -22.04 | 27.33           | 0.5332 | -0.9569 | 233.7           | 16 481                          | 36 581                          |      |  |  |
| -1 550c                                                                                                          | 30 550                          | 45.46 | -21.26 | -18.82 | 28.4            | 0.5135 | -0.7601 | 221.5           | 16 483                          | 37 585                          |      |  |  |
| -1 554c                                                                                                          | 30 555                          | 45.46 | -21.26 | -18.82 | 28.4            | 0.5135 | -0.7601 | 221.5           | 16 483                          | 37 585                          |      |  |  |
| -1 560c                                                                                                          | 32 560                          | 54.88 | -24.85 | -15.58 | 29.33           | 0.5283 | -0.6299 | 212.0           | 17 485                          | 38 590                          |      |  |  |
| 380                                                                                                              | 770                             | 100.0 | 0.0    | 0.0    | 0.01            | 0.9812 | -0.346  | 0.0             |                                 |                                 |      |  |  |

TUB-test chart CE20; CIE (x, y) and chromatic values (A<sub>i</sub>, B<sub>i</sub>)  
Ostwald optimal colours for illuminant P50; diagram for illuminant P50, Y<sub>w</sub>=100



TUB registration: 20170801-CE20/CE20L0NA.TXT /PS  
application for measurement of offset print output

TUB material: code=rha4ta

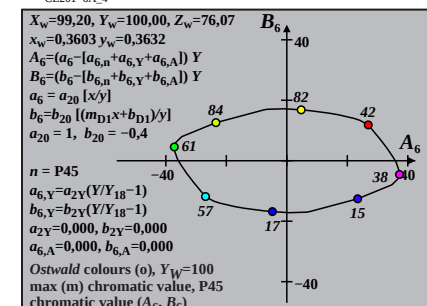
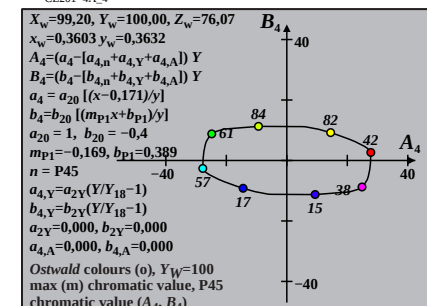
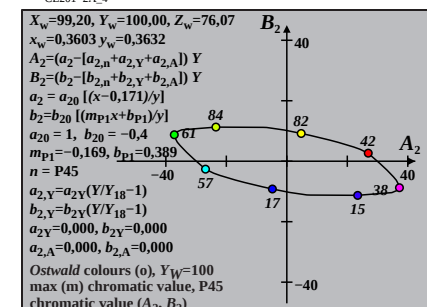
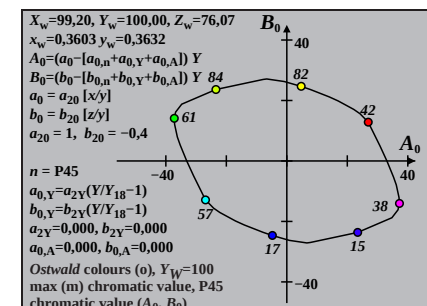
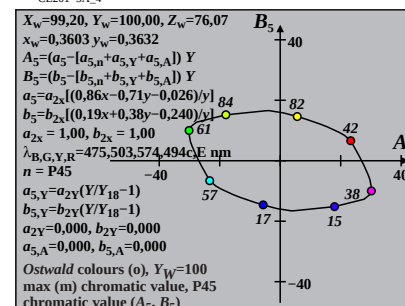
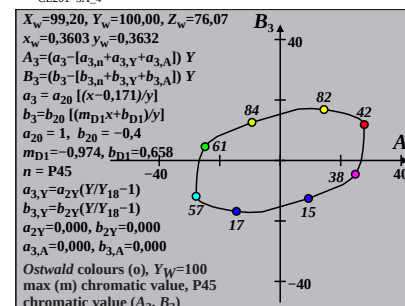
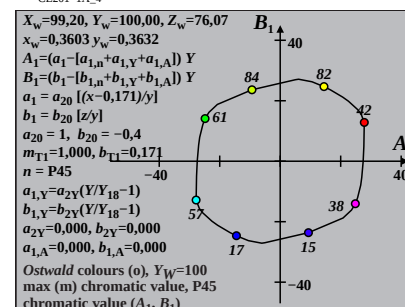
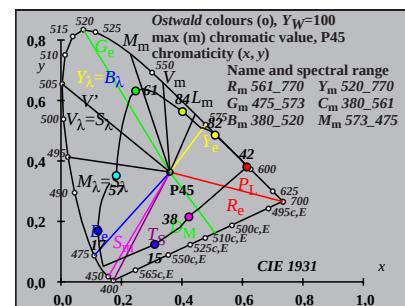
input: w/rgb/cmyk -> rgb

see similar files: <http://farbe.li.tu-berlin.de/CE20/CE20L0NA.TXT>  
technical information: <http://farbe.li.tu-berlin.de> or <http://130.149.60.45/~farbmetrik>

| Ostwald optimal colours (o) of maximum (m) C <sub>AB</sub> for P45, 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>AB</sub> | i <sub>d</sub> , λ <sub>d</sub> | i <sub>c</sub> , λ <sub>c</sub> | Code |  |  |
| 1 405                                                                                                            | 33 566                          | 57.01 | -26.99 | -12.67 | 29.82           | 0.5185 | -0.5266 | 205.1           | 17 487                          | 38 593                          | Cm   |  |  |
| 7 435                                                                                                            | 33 567                          | 57.33 | -30.82 | -4.93  | 31.21           | 0.4544 | -0.3902 | 189.0           | 18 491                          | -1 491c                         |      |  |  |
| 10 450                                                                                                           | 33 568                          | 57.83 | -34.16 | 2.58   | 34.26           | 0.4012 | -0.2595 | 175.6           | 19 498                          | -1 498c                         |      |  |  |
| 12 460                                                                                                           | 33 569                          | 58.45 | -36.04 | 7.63   | 36.84           | 0.3754 | -0.1736 | 168.0           | 21 507                          | -1 507c                         |      |  |  |
| 13 465                                                                                                           | 34 570                          | 59.09 | -36.73 | 9.96   | 38.06           | 0.3704 | -0.1357 | 164.8           | 22 512                          | -1 512c                         |      |  |  |
| 13 470                                                                                                           | 34 571                          | 60.51 | -36.83 | 10.39  | 38.27           | 0.3832 | -0.1325 | 164.2           | 22 514                          | -1 514c                         |      |  |  |
| 15 475                                                                                                           | 34 574                          | 61.91 | -37.23 | 14.07  | 39.8            | 0.3905 | -0.077  | 159.2           | 25 528                          | -1 528c                         | Gm   |  |  |
| 15 480                                                                                                           | 35 578                          | 65.64 | -37.07 | 15.2   | 40.07           | 0.4272 | -0.0726 | 157.7           | 26 532                          | -1 532c                         |      |  |  |
| 17 485                                                                                                           | 37 587                          | 70.76 | -34.75 | 18.78  | 39.5            | 0.501  | -0.0388 | 151.6           | 28 544                          | -1 544c                         |      |  |  |
| 17 490                                                                                                           | 42 611                          | 85.47 | -24.31 | 23.24  | 33.64           | 0.7075 | -0.0322 | 136.2           | 31 559                          | -1 559c                         | max  |  |  |
| 19 495                                                                                                           | -1 495c                         | 94.24 | -6.63  | 27.11  | 27.91           | 0.9216 | -0.0165 | 103.7           | 33 569                          | 12 463                          |      |  |  |
| 20 500                                                                                                           | -1 500c                         | 92.68 | -5.1   | 27.05  | 27.53           | 0.9369 | -0.0124 | 100.6           | 34 570                          | 13 466                          |      |  |  |
| 22 510                                                                                                           | -1 510c                         | 88.3  | -0.86  | 26.27  | 26.28           | 0.9822 | -0.0067 | 91.8            | 34 572                          | 14 471                          |      |  |  |
| 24 520                                                                                                           | -1 520c                         | 82.03 | 4.75   | 24.65  | 25.11           | 1.05   | -0.0037 | 79.0            | 34 574                          | 15 475                          | Ym   |  |  |
| 26 530                                                                                                           | -1 530c                         | 74.25 | 10.96  | 22.44  | 24.97           | 1.1396 | -0.002  | 63.9            | 35 578                          | 15 479                          |      |  |  |
| 27 540                                                                                                           | -1 539c                         | 69.96 | 14.03  | 21.18  | 25.41           | 1.1926 | -0.0015 | 56.4            | 35 579                          | 16 480                          |      |  |  |
| 29 545                                                                                                           | -1 545c                         | 60.86 | 19.69  | 18.46  | 27.0            | 1.3156 | -0.0008 | 43.1            | 36 583                          | 16 483                          |      |  |  |
| 29 550                                                                                                           | -1 549c                         | 60.86 | 19.69  | 18.46  | 27.0            | 1.3156 | -0.0008 | 43.1            | 36 583                          | 16 483                          |      |  |  |
| 30 555                                                                                                           | -1 554c                         | 56.17 | 22.13  | 17.05  | 27.93           | 1.386  | -0.0007 | 37.6            | 37 585                          | 16 484                          |      |  |  |
| 31 560                                                                                                           | -1 559c                         | 51.44 | 24.19  | 15.62  | 28.8            | 1.4623 | -0.0006 | 32.8            | 37 588                          | 17 485                          |      |  |  |
| 33 566                                                                                                           | 1 405                           | 42.98 | 26.99  | 12.67  | 29.82           | 1.6201 | -0.0092 | 25.1            | 38 593                          | 17 487                          | Rm   |  |  |
| 33 567                                                                                                           | 7 435                           | 42.66 | 30.82  | 4.93   | 31.21           | 1.7146 | -0.1887 | 9.0             | -1 491c                         | 18 491                          |      |  |  |
| 33 568                                                                                                           | 10 450                          | 42.16 | 34.16  | -2.58  | 34.26           | 1.8023 | -0.3656 | 355.6           | -1 498c                         | 19 498                          |      |  |  |
| 33 569                                                                                                           | 12 460                          | 41.54 | 36.04  | -7.63  | 36.84           | 1.8597 | -0.488  | 348.0           | -1 507c                         | 21 507                          |      |  |  |
| 34 570                                                                                                           | 13 465                          | 40.9  | 36.73  | -9.96  | 38.06           | 1.8901 | -0.5478 | 344.8           | -1 512c                         | 22 512                          |      |  |  |
| 34 571                                                                                                           | 13 470                          | 39.48 | 36.83  | -10.39 | 38.27           | 1.9249 | -0.5674 | 344.2           | -1 514c                         | 22 514                          |      |  |  |
| 34 574                                                                                                           | 15 475                          | 38.08 | 37.23  | -14.07 | 39.8            | 1.9697 | -0.6737 | 339.2           | -1 528c                         | 25 528                          | Mm   |  |  |
| 35 578                                                                                                           | 15 480                          | 34.35 | 37.07  | -15.2  | 40.07           | 2.0712 | -0.7468 | 337.7           | -1 532c                         | 26 532                          |      |  |  |
| 37 587                                                                                                           | 17 485                          | 29.23 | 34.75  | -18.78 | 39.5            | 2.1808 | -0.9467 | 331.6           | -1 544c                         | 28 544                          |      |  |  |
| 42 611                                                                                                           | 17 490                          | 14.52 | 24.31  | -23.24 | 33.64           | 2.6657 | -1.9043 | 316.2           | -1 559c                         | 31 559                          | min  |  |  |
| -1 495c                                                                                                          | 19 495                          | 5.75  | 6.63   | -27.11 | 27.91           | 2.1442 | -5.0134 | 283.7           | 12 463                          | 33 569                          |      |  |  |
| -1 500c                                                                                                          | 20 500                          | 7.31  | 5.1    | -27.05 | 27.53           | 1.6906 | -4.0043 | 280.6           | 13 466                          | 34 570                          |      |  |  |
| -1 510c                                                                                                          | 22 510                          | 11.69 | 0.86   | -26.27 | 26.28           | 1.066  | -2.55   | 271.8           | 14 471                          | 34 572                          |      |  |  |
| -1 520c                                                                                                          | 24 520                          | 17.96 | -4.75  | -24.65 | 25.11           | 0.7271 | -1.6768 | 259.0           | 15 475                          | 34 574                          | Bm   |  |  |
| -1 530c                                                                                                          | 26 530                          | 25.74 | -10.96 | -22.44 | 24.97           | 0.5661 | -1.1761 | 243.9           | 15 479                          | 35 578                          |      |  |  |
| -1 539c                                                                                                          | 27 540                          | 30.03 | -14.03 | -21.18 | 25.41           | 0.5247 | -1.0095 | 236.4           | 16 480                          | 35 579                          |      |  |  |
| -1 545c                                                                                                          | 29 545                          | 39.13 | -19.69 | -18.46 | 27.0            | 0.4886 | -0.7762 | 223.1           | 16 483                          | 36 583                          |      |  |  |
| -1 549c                                                                                                          | 29 550                          | 39.13 | -19.69 | -18.46 | 27.0            | 0.4886 | -0.7762 | 223.1           | 16 483                          | 36 583                          |      |  |  |
| -1 554c                                                                                                          | 30 555                          | 43.82 | -22.13 | -17.05 | 27.93           | 0.487  | -0.6934 | 217.6           | 16 484                          | 37 585                          |      |  |  |
| -1 559c                                                                                                          | 31 560                          | 48.55 | -24.19 | -15.62 | 28.8            | 0.4936 | -0.6261 | 212.8           | 17 485                          | 37 588                          |      |  |  |
| 380                                                                                                              | 770                             | 100.0 | 0.0    | 0.0    | 0.01            | 0.992  | -0.3042 | 0.0             |                                 |                                 |      |  |  |

TUB-test chart CE20; CIE (x, y) and chromatic values (A<sub>i</sub>, B<sub>i</sub>)  
Ostwald optimal colours for illuminant P45; diagram for illuminant P45, Y<sub>w</sub>=100

input: w/rgb/cmyk -> rgb

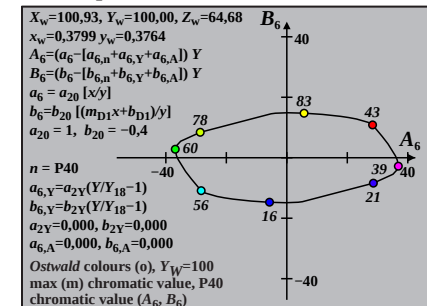
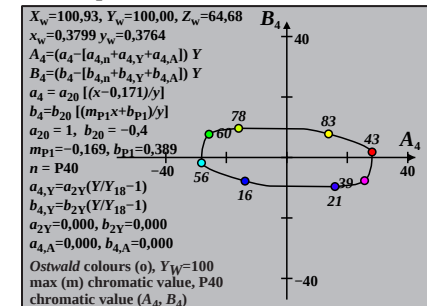
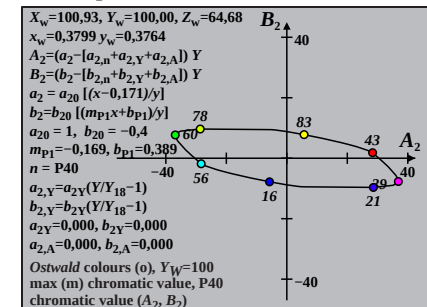
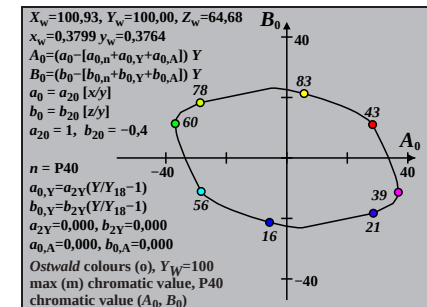
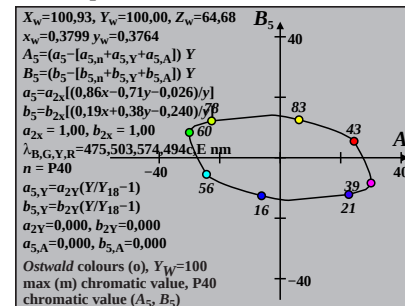
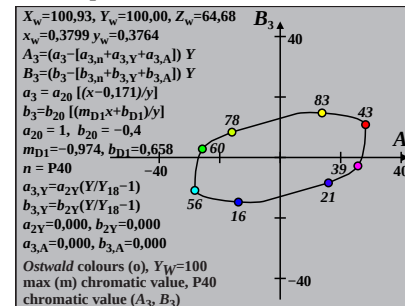
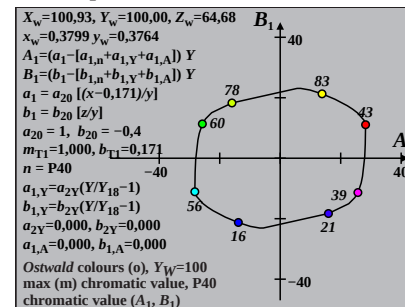
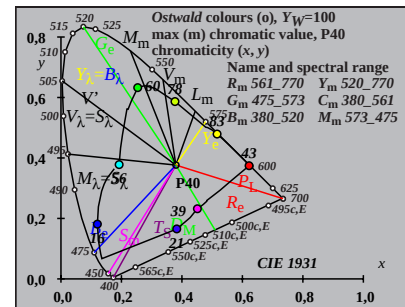


Ostwald optimal colours (o) of maximum (m)  $C_{AB}$  for P40,  $Y_w=100$ ,  $Y_m=520\text{--}770$

| $i_1, \lambda_1$ | $i_2, \lambda_2$ | Y     | A      | B      | $C_{AB}$ | a      | b       | $h_{AB}$ | $i_d, \lambda_d$ | $i_c, \lambda_c$ | Code |
|------------------|------------------|-------|--------|--------|----------|--------|---------|----------|------------------|------------------|------|
| 0 405            | 33 568           | 56.58 | -28.34 | -11.06 | 30.43    | 0.5083 | -0.4542 | 201.3    | 17 488           | 38 594           | Cm   |
| 7 435            | 33 568           | 56.85 | -31.51 | -4.68  | 31.86    | 0.455  | -0.3411 | 188.4    | 18 493           | 54 674           |      |
| 10 450           | 33 569           | 57.27 | -34.31 | 1.59   | 34.35    | 0.4101 | -0.2309 | 177.3    | 19 499           | -1 499c          |      |
| 12 460           | 34 570           | 57.79 | -35.88 | 5.88   | 36.36    | 0.3884 | -0.1569 | 170.6    | 21 507           | -1 507c          |      |
| 13 465           | 34 571           | 58.31 | -36.41 | 7.87   | 37.25    | 0.3848 | -0.1237 | 167.7    | 22 512           | -1 512c          |      |
| 14 470           | 34 572           | 59.17 | -36.74 | 9.67   | 37.99    | 0.3884 | -0.0953 | 165.2    | 23 519           | -1 519c          |      |
| 14 475           | 34 574           | 61.12 | -36.91 | 10.17  | 38.29    | 0.4054 | -0.0923 | 164.5    | 24 522           | -1 522c Gm       |      |
| 15 480           | 35 578           | 63.82 | -36.76 | 12.15  | 38.72    | 0.4332 | -0.0682 | 161.6    | 26 531           | -1 531c          |      |
| 17 485           | 37 585           | 68.02 | -35.1  | 15.05  | 38.19    | 0.4932 | -0.0374 | 156.7    | 28 543           | -1 543c          |      |
| 17 490           | 40 600           | 79.03 | -29.45 | 17.89  | 34.46    | 0.6366 | -0.0323 | 148.7    | 30 554           | -1 554c max      |      |
| 19 495           | -1 495c          | 94.87 | -5.18  | 23.08  | 23.65    | 0.9546 | -0.0154 | 102.6    | 34 571           | 12 464           |      |
| 20 500           | -1 500c          | 93.44 | -3.75  | 23.09  | 23.39    | 0.9691 | -0.0116 | 99.2     | 34 571           | 13 467           |      |
| 21 510           | -1 509c          | 91.62 | -1.93  | 22.91  | 22.99    | 0.9882 | -0.0086 | 94.8     | 34 572           | 13 469           |      |
| 24 520           | -1 520c          | 83.41 | 5.7    | 21.28  | 22.03    | 1.0777 | -0.0035 | 74.9     | 35 575           | 15 476           | Ym   |
| 26 530           | -1 530c          | 75.94 | 11.79  | 19.5   | 22.79    | 1.1646 | -0.0019 | 58.8     | 35 578           | 16 480           |      |
| 27 540           | -1 539c          | 71.77 | 14.84  | 18.46  | 23.69    | 1.2161 | -0.0014 | 51.1     | 36 580           | 16 481           |      |
| 29 545           | -1 545c          | 62.86 | 20.55  | 16.21  | 26.17    | 1.3362 | -0.0008 | 38.2     | 36 584           | 16 484           |      |
| 29 550           | -1 549c          | 62.86 | 20.55  | 16.21  | 26.17    | 1.3362 | -0.0008 | 38.2     | 36 584           | 16 484           |      |
| 31 555           | -1 555c          | 53.5  | 25.17  | 13.81  | 28.71    | 1.4798 | -0.0005 | 28.7     | 37 588           | 17 486           |      |
| 32 560           | -1 560c          | 48.79 | 26.89  | 12.59  | 29.7     | 1.5605 | -0.0005 | 25.1     | 38 591           | 17 487           |      |
| 33 568           | 0 405            | 43.41 | 28.34  | 11.06  | 30.43    | 1.6623 | -0.0039 | 21.3     | 38 594           | 17 488           | Rm   |
| 33 568           | 7 435            | 43.14 | 31.51  | 4.68   | 31.86    | 1.7398 | -0.1501 | 8.4      | 54 674           | 18 493           |      |
| 33 569           | 10 450           | 42.72 | 34.31  | -1.59  | 34.35    | 1.8125 | -0.2959 | 357.3    | -1 499c          | 19 499           |      |
| 34 570           | 12 460           | 42.2  | 35.88  | -5.88  | 36.36    | 1.8594 | -0.3982 | 350.6    | -1 507c          | 21 507           |      |
| 34 571           | 13 465           | 41.68 | 36.41  | -7.87  | 37.25    | 1.8827 | -0.4476 | 347.7    | -1 512c          | 22 512           |      |
| 34 572           | 14 470           | 40.82 | 36.73  | -9.67  | 37.99    | 1.9092 | -0.4956 | 345.2    | -1 519c          | 23 519           |      |
| 34 574           | 14 475           | 38.87 | 36.91  | -10.17 | 38.29    | 1.9588 | -0.5204 | 344.5    | -1 522c          | 24 522           | Mm   |
| 35 578           | 15 480           | 36.17 | 36.76  | -12.15 | 38.72    | 2.0255 | -0.5948 | 341.6    | -1 531c          | 26 531           |      |
| 37 585           | 17 485           | 31.97 | 35.1   | -15.05 | 38.19    | 2.107  | -0.7294 | 336.7    | -1 543c          | 28 543           |      |
| 40 600           | 17 490           | 20.96 | 29.44  | -17.89 | 34.46    | 2.414  | -1.1123 | 328.7    | -1 554c          | 30 554           | min  |
| -1 495c          | 19 495           | 5.12  | 5.18   | -23.08 | 23.65    | 2.0215 | -4.7666 | 282.6    | 12 464           | 34 571           |      |
| -1 500c          | 20 500           | 6.55  | 3.75   | -23.09 | 23.39    | 1.5816 | -3.7821 | 279.2    | 13 467           | 34 571           |      |
| -1 509c          | 21 510           | 8.37  | 1.93   | -22.91 | 22.99    | 1.2401 | -2.9941 | 274.8    | 13 469           | 34 572           |      |
| -1 520c          | 24 520           | 16.58 | -5.7   | -21.28 | 22.03    | 0.665  | -1.5424 | 254.9    | 15 476           | 35 575           | Bm   |
| -1 530c          | 26 530           | 24.05 | -11.79 | -19.5  | 22.79    | 0.5189 | -1.0695 | 238.8    | 16 480           | 35 578           |      |
| -1 539c          | 27 540           | 28.22 | -14.84 | -18.46 | 23.69    | 0.4831 | -0.9131 | 231.1    | 16 481           | 36 580           |      |
| -1 545c          | 29 545           | 37.13 | -20.55 | -16.21 | 26.17    | 0.4558 | -0.6953 | 218.2    | 16 484           | 36 584           |      |
| -1 549c          | 29 550           | 37.13 | -20.55 | -16.21 | 26.17    | 0.4558 | -0.6953 | 218.2    | 16 484           | 36 584           |      |
| -1 555c          | 31 555           | 46.49 | -25.17 | -13.81 | 28.71    | 0.4677 | -0.5558 | 208.7    | 17 486           | 37 588           |      |
| -1 560c          | 32 560           | 51.2  | -26.89 | -12.59 | 29.7     | 0.484  | -0.5047 | 205.1    | 17 487           | 38 591           |      |
| 380              | 770              | 100.0 | 0.0    | 0.0    | 0.01     | 1.0093 | -0.2587 | 0.0      |                  |                  |      |

TUB-test chart CE20; CIE (x, y) and chromatic values ( $A_i, B_i$ )

Ostwald optimal colours for illuminant P40; diagram for illuminant P40,  $Y_w=100$



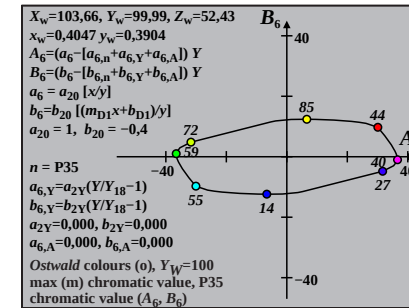
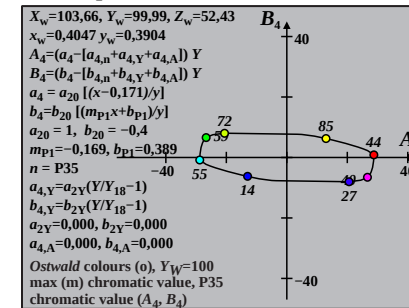
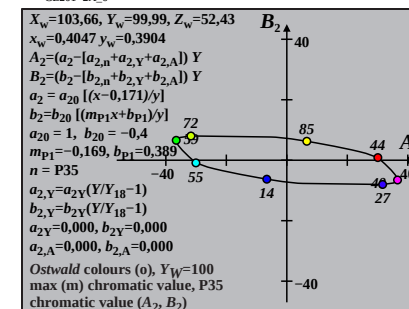
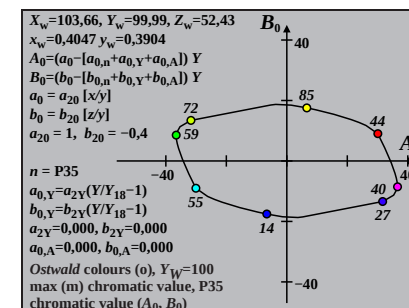
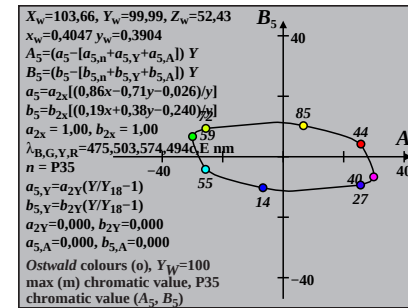
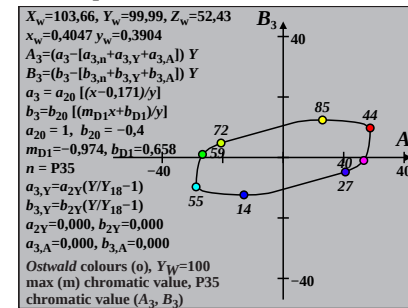
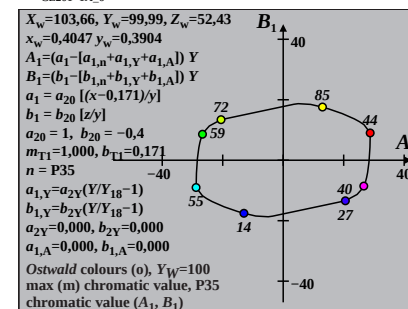
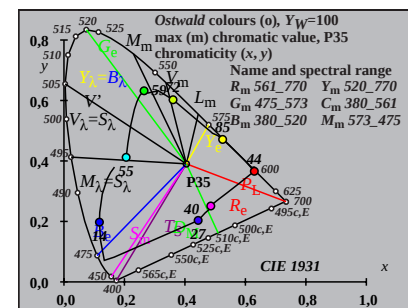
input: w/rgb/cmyk -> rgb

Ostwald optimal colours (o) of maximum (m)  $C_{AB}$  for P35,  $Y_w=100$ ,  $Y_m=520\_770$

| $i_1, \lambda_1$ | $i_2, \lambda_2$ | Y     | A      | B      | $C_{AB}$ | a      | b       | $h_{AB}$ | $i_d, \lambda_d$ | $i_c, \lambda_c$ | Code |
|------------------|------------------|-------|--------|--------|----------|--------|---------|----------|------------------|------------------|------|
| 1 405            | 34 570           | 55.96 | -30.07 | -9.01  | 31.4     | 0.4992 | -0.3708 | 196.6    | 18 490           | 39 596           | Cm   |
| 7 435            | 34 570           | 56.18 | -32.38 | -4.3   | 32.67    | 0.4602 | -0.2864 | 187.5    | 18 494           | 48 640           |      |
| 9 450            | 34 571           | 56.61 | -33.86 | -1.03  | 33.87    | 0.4385 | -0.2279 | 181.7    | 19 498           | -1 498c          |      |
| 12 460           | 34 572           | 56.91 | -35.78 | 4.12   | 36.01    | 0.408  | -0.1372 | 173.4    | 21 507           | -1 507c          |      |
| 12 465           | 34 572           | 57.56 | -35.85 | 4.25   | 36.1     | 0.4137 | -0.1357 | 173.2    | 21 508           | -1 508c          |      |
| 14 470           | 34 573           | 58.03 | -36.52 | 7.21   | 37.23    | 0.4073 | -0.0853 | 168.8    | 23 519           | -1 519c          |      |
| 14 475           | 35 575           | 59.59 | -36.63 | 7.54   | 37.4     | 0.422  | -0.0831 | 168.3    | 24 520           | -1 520c Gm       |      |
| 15 480           | 35 578           | 61.75 | -36.55 | 9.09   | 37.66    | 0.4447 | -0.0625 | 166.0    | 25 529           | -1 529c          |      |
| 17 485           | 36 583           | 64.96 | -35.31 | 11.32  | 37.08    | 0.493  | -0.0354 | 162.2    | 28 542           | -1 542c          |      |
| 18 490           | 38 593           | 72.36 | -31.72 | 13.4   | 34.44    | 0.5983 | -0.0244 | 157.0    | 30 552           | -1 552c max      |      |
| 19 495           | 52 661           | 94.66 | -5.29  | 18.5   | 19.24    | 0.9807 | -0.0142 | 105.9    | 34 572           | 12 460           |      |
| 20 500           | -1 500c          | 94.32 | -2.35  | 18.77  | 18.92    | 1.0116 | -0.0106 | 97.1     | 34 573           | 13 468           |      |
| 22 510           | -1 510c          | 90.59 | 1.41   | 18.46  | 18.51    | 1.0522 | -0.0059 | 85.6     | 34 574           | 14 473           |      |
| 23 520           | -1 519c          | 88.05 | 3.86   | 18.07  | 18.48    | 1.0805 | -0.0044 | 77.9     | 35 576           | 15 475           | Ym   |
| 26 530           | -1 530c          | 78.01 | 12.55  | 16.21  | 20.5     | 1.1975 | -0.0018 | 52.2     | 35 579           | 16 481           |      |
| 27 540           | -1 539c          | 74.02 | 15.58  | 15.42  | 21.92    | 1.2472 | -0.0014 | 44.6     | 36 581           | 16 483           |      |
| 29 545           | -1 545c          | 65.37 | 21.35  | 13.65  | 25.35    | 1.3634 | -0.0008 | 32.5     | 37 585           | 17 486           |      |
| 29 550           | -1 549c          | 65.37 | 21.35  | 13.65  | 25.35    | 1.3634 | -0.0008 | 32.5     | 37 585           | 17 486           |      |
| 31 555           | -1 555c          | 56.13 | 26.17  | 11.74  | 28.68    | 1.5029 | -0.0005 | 24.1     | 37 589           | 17 488           |      |
| 32 560           | -1 560c          | 51.42 | 28.01  | 10.75  | 30.01    | 1.5815 | -0.0005 | 21.0     | 38 591           | 17 489           |      |
| 34 570           | 1 405            | 44.03 | 30.07  | 9.01   | 31.4     | 1.7198 | -0.0049 | 16.6     | 39 596           | 18 490           | Rm   |
| 34 570           | 7 435            | 43.81 | 32.38  | 4.3    | 32.67    | 1.7758 | -0.1114 | 7.5      | 48 640           | 18 494           |      |
| 34 571           | 9 450            | 43.38 | 33.86  | 1.03   | 33.87    | 1.8172 | -0.1859 | 1.7      | -1 498c          | 19 498           |      |
| 34 572           | 12 460           | 43.08 | 35.78  | -4.12  | 36.01    | 1.8672 | -0.3054 | 353.4    | -1 507c          | 21 507           |      |
| 34 572           | 12 465           | 42.43 | 35.85  | -4.25  | 36.1     | 1.8816 | -0.31   | 353.2    | -1 508c          | 21 508           |      |
| 34 573           | 14 470           | 41.96 | 36.52  | -7.21  | 37.23    | 1.907  | -0.3817 | 348.8    | -1 519c          | 23 519           |      |
| 35 575           | 14 475           | 40.4  | 36.63  | -7.54  | 37.4     | 1.9433 | -0.3965 | 348.3    | -1 520c          | 24 520           | Mm   |
| 35 578           | 15 480           | 38.24 | 36.55  | -9.09  | 37.66    | 1.9923 | -0.4474 | 346.0    | -1 529c          | 25 529           |      |
| 36 583           | 17 485           | 35.03 | 35.31  | -11.32 | 37.08    | 2.0447 | -0.5329 | 342.2    | -1 542c          | 28 542           |      |
| 38 593           | 18 490           | 27.63 | 31.72  | -13.4  | 34.44    | 2.1847 | -0.695  | 337.0    | -1 552c          | 30 552           | min  |
| 52 661           | 19 495           | 5.33  | 5.29   | -18.5  | 19.24    | 2.0285 | -3.679  | 285.9    | 12 460           | 34 572           |      |
| -1 500c          | 20 500           | 5.67  | 2.35   | -18.77 | 18.92    | 1.4523 | -3.5177 | 277.1    | 13 468           | 34 573           |      |
| -1 510c          | 22 510           | 9.4   | -1.41  | -18.46 | 18.51    | 0.8862 | -2.1722 | 265.6    | 14 473           | 34 574           |      |
| -1 519c          | 23 520           | 11.94 | -3.86  | -18.07 | 18.48    | 0.7129 | -1.7231 | 257.9    | 15 475           | 35 576           | Bm   |
| -1 530c          | 26 530           | 21.98 | -12.55 | -16.21 | 20.5     | 0.4655 | -0.9474 | 232.2    | 16 481           | 35 579           |      |
| -1 539c          | 27 540           | 25.97 | -15.58 | -15.42 | 21.92    | 0.4365 | -0.8034 | 224.6    | 16 483           | 36 581           |      |
| -1 545c          | 29 545           | 34.62 | -21.35 | -13.65 | 25.35    | 0.4198 | -0.604  | 212.5    | 17 486           | 37 585           |      |
| -1 549c          | 29 550           | 34.62 | -21.35 | -13.65 | 25.35    | 0.4198 | -0.604  | 212.5    | 17 486           | 37 585           |      |
| -1 555c          | 31 555           | 43.86 | -26.17 | -11.74 | 28.68    | 0.4399 | -0.4774 | 204.1    | 17 488           | 37 589           |      |
| -1 560c          | 32 560           | 48.57 | -28.01 | -10.75 | 30.01    | 0.4598 | -0.4312 | 201.0    | 17 489           | 38 591           |      |
| 380              | 770              | 99.99 | 0.0    | 0.0    | 0.01     | 1.0366 | -0.2097 | 0.0      |                  |                  |      |

TUB-test chart CE20; CIE (x, y) and chromatic values ( $A_i, B_i$ )  
Ostwald optimal colours for illuminant P35; diagram for illuminant P35,  $Y_w=100$

input: w/rgb/cmyk -> rgb

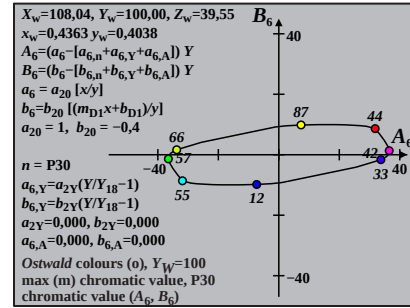
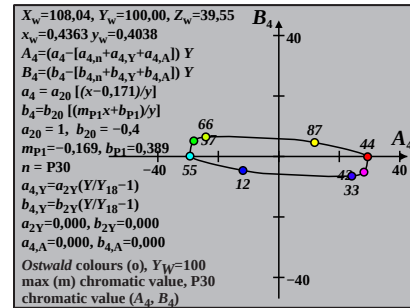
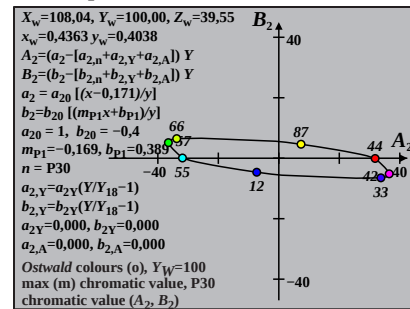
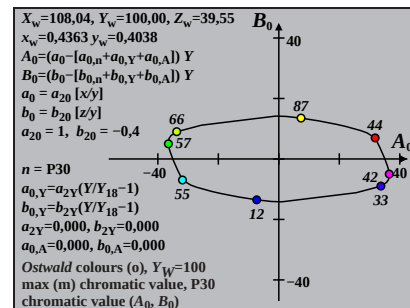
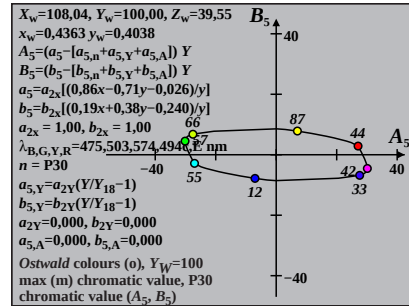
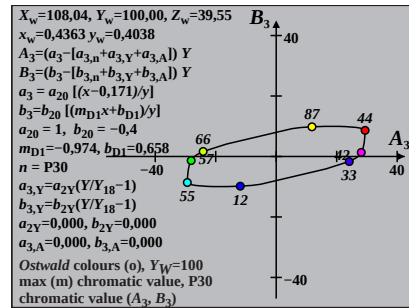
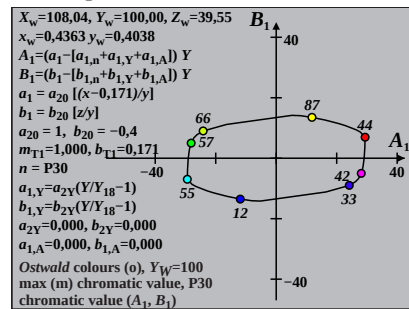
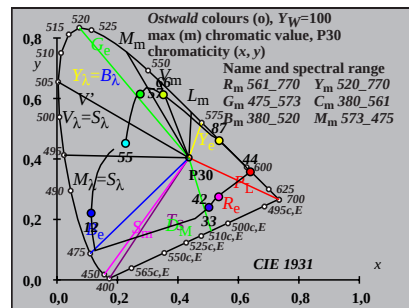


Ostwald optimal colours (o) of maximum (m)  $C_{AB}$  for P30,  $Y_w=100$ ,  $Y_m=520\_770$

| $i_1, \lambda_1$ | $i_2, \lambda_2$ | Y     | A      | B      | $C_{AB}$ | a      | b       | $h_{AB}$ | $i_d, \lambda_d$ | $i_c, \lambda_c$ | Code |
|------------------|------------------|-------|--------|--------|----------|--------|---------|----------|------------------|------------------|------|
| 0 405            | 34 573           | 55.03 | -31.81 | -7.03  | 32.58    | 0.5023 | -0.2859 | 192.4    | 18 493           | 39 598           | Cm   |
| 6 435            | 34 573           | 55.24 | -32.96 | -4.74  | 33.3     | 0.4836 | -0.2441 | 188.1    | 19 495           | 42 612           |      |
| 10 450           | 34 573           | 55.46 | -35.01 | -0.17  | 35.01    | 0.4491 | -0.1613 | 180.2    | 20 502           | -1 502c          |      |
| 12 460           | 34 574           | 55.76 | -35.95 | 2.44   | 36.04    | 0.4356 | -0.1143 | 176.1    | 21 508           | -1 508c          |      |
| 13 465           | 34 574           | 56.07 | -36.31 | 3.68   | 36.5     | 0.4327 | -0.0924 | 174.2    | 22 512           | -1 512c          |      |
| 14 470           | 35 575           | 56.58 | -36.48 | 4.81   | 36.8     | 0.4356 | -0.0731 | 172.4    | 23 518           | -1 518c          |      |
| 15 475           | 35 576           | 57.45 | -36.47 | 5.82   | 36.93    | 0.4455 | -0.0568 | 170.9    | 25 525           | -1 525c          | Gm   |
| 16 480           | 35 579           | 58.97 | -36.29 | 6.77   | 36.92    | 0.4649 | -0.0433 | 169.4    | 26 533           | -1 533c          |      |
| 17 485           | 36 582           | 61.63 | -35.63 | 7.75   | 36.46    | 0.5022 | -0.0323 | 167.7    | 28 540           | -1 540c          |      |
| 18 490           | 37 589           | 66.7  | -33.76 | 9.0    | 34.94    | 0.5741 | -0.0232 | 165.0    | 29 549           | -1 549c          | max  |
| 19 495           | 41 606           | 78.16 | -25.57 | 11.16  | 27.9     | 0.7532 | -0.0153 | 156.4    | 32 561           | -1 561c          |      |
| 20 500           | -1 500c          | 95.33 | -1.01  | 14.17  | 14.21    | 1.0697 | -0.0095 | 94.0     | 35 575           | 13 469           |      |
| 21 510           | -1 509c          | 93.9  | 0.52   | 14.18  | 14.18    | 1.0859 | -0.0071 | 87.8     | 35 576           | 14 472           |      |
| 24 520           | -1 520c          | 87.11 | 7.32   | 13.5   | 15.36    | 1.1644 | -0.0031 | 61.5     | 35 578           | 15 479           | Ym   |
| 25 530           | -1 529c          | 84.03 | 10.13  | 13.09  | 16.56    | 1.201  | -0.0023 | 52.2     | 36 580           | 16 481           |      |
| 28 540           | -1 540c          | 72.83 | 19.08  | 11.44  | 22.25    | 1.3424 | -0.001  | 30.9     | 36 584           | 17 486           |      |
| 29 545           | -1 545c          | 68.59 | 21.96  | 10.79  | 24.47    | 1.4006 | -0.0008 | 26.1     | 37 586           | 17 488           |      |
| 30 550           | -1 550c          | 64.15 | 24.65  | 10.1   | 26.64    | 1.4646 | -0.0006 | 22.2     | 37 588           | 17 489           |      |
| 31 555           | -1 555c          | 59.57 | 27.05  | 9.39   | 28.64    | 1.5345 | -0.0005 | 19.1     | 38 590           | 18 490           |      |
| 32 560           | -1 560c          | 54.9  | 29.09  | 8.65   | 30.35    | 1.6102 | -0.0005 | 16.5     | 38 592           | 18 491           |      |
| 34 573           | 0 405            | 44.96 | 31.81  | 7.03   | 32.58    | 1.788  | -0.0018 | 12.4     | 39 598           | 18 493           | Rm   |
| 34 573           | 6 435            | 44.75 | 32.96  | 4.74   | 33.3     | 1.8169 | -0.0521 | 8.1      | 42 612           | 19 495           |      |
| 34 573           | 10 450           | 44.53 | 35.01  | 0.17   | 35.01    | 1.8664 | -0.1543 | 0.2      | -1 502c          | 20 502           |      |
| 34 574           | 12 460           | 44.23 | 35.95  | -2.44  | 36.04    | 1.8933 | -0.2135 | 356.1    | -1 508c          | 21 508           |      |
| 34 574           | 13 465           | 43.92 | 36.31  | -3.68  | 36.5     | 1.9073 | -0.2421 | 354.2    | -1 512c          | 22 512           |      |
| 35 575           | 14 470           | 43.41 | 36.48  | -4.81  | 36.8     | 1.9207 | -0.269  | 352.4    | -1 518c          | 23 518           |      |
| 35 576           | 15 475           | 42.54 | 36.47  | -5.82  | 36.93    | 1.9376 | -0.295  | 350.9    | -1 525c          | 25 525           | Mm   |
| 35 579           | 16 480           | 41.02 | 36.29  | -6.77  | 36.92    | 1.9652 | -0.3232 | 349.4    | -1 533c          | 26 533           |      |
| 36 582           | 17 485           | 38.36 | 35.63  | -7.75  | 36.46    | 2.0093 | -0.3603 | 347.7    | -1 540c          | 28 540           |      |
| 37 589           | 18 490           | 33.29 | 33.76  | -9.0   | 34.94    | 2.0944 | -0.4285 | 345.0    | -1 549c          | 29 549           | min  |
| 41 606           | 19 495           | 21.83 | 25.57  | -11.16 | 27.9     | 2.2514 | -0.6696 | 336.4    | -1 561c          | 32 561           |      |
| -1 500c          | 20 500           | 4.66  | 1.01   | -14.17 | 14.21    | 1.2977 | -3.1997 | 274.0    | 13 469           | 35 575           |      |
| -1 509c          | 21 510           | 6.09  | -0.52  | -14.17 | 14.18    | 0.9945 | -2.4829 | 267.8    | 14 472           | 35 576           |      |
| -1 520c          | 24 520           | 12.88 | -7.32  | -13.5  | 15.36    | 0.5121 | -1.2063 | 241.5    | 15 479           | 35 578           | Bm   |
| -1 529c          | 25 530           | 15.96 | -10.13 | -13.09 | 16.56    | 0.4455 | -0.9783 | 232.2    | 16 481           | 36 580           |      |
| -1 540c          | 28 540           | 27.16 | -19.08 | -11.44 | 22.25    | 0.3777 | -0.5797 | 210.9    | 17 486           | 36 584           |      |
| -1 545c          | 29 545           | 31.4  | -21.96 | -10.79 | 24.47    | 0.381  | -0.5019 | 206.1    | 17 488           | 37 586           |      |
| -1 550c          | 30 550           | 35.84 | -24.65 | -10.1  | 26.64    | 0.3925 | -0.4402 | 202.2    | 17 489           | 37 588           |      |
| -1 555c          | 31 555           | 40.42 | -27.05 | -9.39  | 28.64    | 0.411  | -0.3905 | 199.1    | 18 490           | 38 590           |      |
| -1 560c          | 32 560           | 45.09 | -29.09 | -8.65  | 30.35    | 0.4353 | -0.3501 | 196.5    | 18 491           | 38 592           |      |
| 380              | 770              | 100.0 | 0.0    | 0.0    | 0.01     | 1.0804 | -0.1582 | 0.0      |                  |                  |      |

TUB-test chart CE20; CIE (x, y) and chromatic values ( $A_i, B_i$ )  
Ostwald optimal colours for illuminant P30; diagram for illuminant P30,  $Y_w=100$

input: w/rgb/cmyk -> rgb



TUB registration: 20170801-CE20/CE20L0NA.TXT /PS  
application for measurement of offset print output

TUB material: code=rha4ta

Ostwald optimal colours (o) of maximum (m)  $C_{AB}$  for P25,  $Y_w=100$ ,  $Y_m=520\_770$

| $i_1, \lambda_1$ | $i_2, \lambda_2$ | Y     | A      | B     | $C_{AB}$ | a      | b       | $h_{AB}$ | $i_d, \lambda_d$ | $i_c, \lambda_c$ | Code |
|------------------|------------------|-------|--------|-------|----------|--------|---------|----------|------------------|------------------|------|
| 1 405            | 35 576           | 53.61 | -33.81 | -4.85 | 34.16    | 0.5211 | -0.1969 | 188.1    | 19 497           | 40 601           | Cm   |
| 6 435            | 35 576           | 53.74 | -34.44 | -3.59 | 34.63    | 0.5109 | -0.1731 | 185.9    | 19 499           | 42 611           |      |
| 10 450           | 35 577           | 53.9  | -35.69 | -0.73 | 35.7     | 0.4895 | -0.12   | 181.1    | 20 504           | -1 504c          |      |
| 11 460           | 35 577           | 54.19 | -36.03 | 0.14  | 36.03    | 0.4869 | -0.1036 | 179.7    | 21 506           | -1 506c          |      |
| 13 465           | 35 577           | 54.3  | -36.51 | 1.84  | 36.56    | 0.4794 | -0.0723 | 177.1    | 22 513           | -1 513c          |      |
| 14 470           | 35 578           | 54.64 | -36.64 | 2.61  | 36.73    | 0.4812 | -0.0584 | 175.9    | 23 518           | -1 518c          |      |
| 15 475           | 35 579           | 55.22 | -36.67 | 3.31  | 36.82    | 0.4877 | -0.0464 | 174.8    | 24 524           | -1 524c Gm       |      |
| 16 480           | 36 580           | 56.22 | -36.54 | 3.93  | 36.75    | 0.5018 | -0.0363 | 173.8    | 26 531           | -1 531c          |      |
| 17 485           | 36 582           | 57.93 | -36.1  | 4.54  | 36.38    | 0.5287 | -0.0279 | 172.8    | 27 539           | -1 539c          |      |
| 18 490           | 37 586           | 61.06 | -35.15 | 5.21  | 35.54    | 0.5761 | -0.0209 | 171.5    | 29 546           | -1 546c max      |      |
| 18 495           | 38 594           | 67.89 | -33.1  | 5.94  | 33.63    | 0.6642 | -0.0188 | 169.8    | 30 553           | -1 553c          |      |
| 20 500           | 44 620           | 83.78 | -17.46 | 8.13  | 19.26    | 0.9433 | -0.0092 | 155.0    | 34 570           | -1 570c          |      |
| 21 510           | -1 509c          | 95.32 | 1.47   | 9.55  | 9.66     | 1.1673 | -0.0061 | 81.2     | 35 578           | 14 474           | Ym   |
| 24 520           | -1 520c          | 89.58 | 7.62   | 9.28  | 12.01    | 1.2369 | -0.0027 | 50.5     | 36 581           | 16 481           |      |
| 25 530           | -1 529c          | 86.89 | 10.27  | 9.06  | 13.69    | 1.27   | -0.0021 | 41.4     | 36 582           | 16 484           |      |
| 28 540           | -1 540c          | 76.78 | 19.07  | 8.09  | 20.71    | 1.4002 | -0.0009 | 22.9     | 37 586           | 17 489           |      |
| 28 545           | -1 544c          | 76.78 | 19.07  | 8.09  | 20.71    | 1.4002 | -0.0009 | 22.9     | 37 586           | 17 489           |      |
| 29 550           | -1 549c          | 72.82 | 22.03  | 7.69  | 23.34    | 1.4544 | -0.0007 | 19.2     | 37 588           | 18 491           |      |
| 30 555           | -1 554c          | 68.62 | 24.88  | 7.25  | 25.91    | 1.5143 | -0.0006 | 16.2     | 37 589           | 18 492           |      |
| 32 560           | -1 560c          | 59.65 | 29.81  | 6.31  | 30.48    | 1.6517 | -0.0004 | 11.9     | 38 594           | 18 494           |      |
| 35 576           | 1 405            | 46.38 | 33.81  | 4.85  | 34.16    | 1.8808 | -0.0016 | 8.1      | 40 601           | 19 497           | Rm   |
| 35 576           | 6 435            | 46.25 | 34.44  | 3.59  | 34.63    | 1.8965 | -0.0287 | 5.9      | 42 611           | 19 499           |      |
| 35 577           | 10 450           | 46.09 | 35.69  | 0.73  | 35.7     | 1.9261 | -0.0903 | 1.1      | -1 504c          | 20 504           |      |
| 35 577           | 11 460           | 45.8  | 36.03  | -0.14 | 36.03    | 1.9385 | -0.1095 | 359.7    | -1 506c          | 21 506           |      |
| 35 577           | 13 465           | 45.69 | 36.51  | -1.84 | 36.56    | 1.9509 | -0.1468 | 357.1    | -1 513c          | 22 513           |      |
| 35 578           | 14 470           | 45.35 | 36.64  | -2.61 | 36.73    | 1.9597 | -0.1641 | 355.9    | -1 518c          | 23 518           |      |
| 35 579           | 15 475           | 44.77 | 36.67  | -3.31 | 36.82    | 1.9709 | -0.1803 | 354.8    | -1 524c          | 24 524           | Mm   |
| 36 580           | 16 480           | 43.77 | 36.54  | -3.93 | 36.75    | 1.9864 | -0.1963 | 353.8    | -1 531c          | 26 531           |      |
| 36 582           | 17 485           | 42.06 | 36.1   | -4.54 | 36.38    | 2.01   | -0.2143 | 352.8    | -1 539c          | 27 539           |      |
| 37 586           | 18 490           | 38.93 | 35.15  | -5.21 | 35.54    | 2.0548 | -0.2404 | 351.5    | -1 546c          | 29 546           | min  |
| 38 594           | 18 495           | 32.1  | 33.1   | -5.94 | 33.63    | 2.1829 | -0.2913 | 349.8    | -1 553c          | 30 553           |      |
| 44 620           | 20 500           | 16.21 | 17.46  | -8.13 | 19.26    | 2.2285 | -0.6081 | 335.0    | -1 570c          | 34 570           |      |
| -1 509c          | 21 510           | 4.67  | -1.47  | -9.55 | 9.66     | 0.8364 | -2.1496 | 261.2    | 14 474           | 35 578           |      |
| -1 520c          | 24 520           | 10.41 | -7.62  | -9.28 | 12.01    | 0.4193 | -0.9977 | 230.5    | 16 481           | 36 581           | Bm   |
| -1 529c          | 25 530           | 13.1  | -10.27 | -9.06 | 13.69    | 0.3675 | -0.7979 | 221.4    | 16 484           | 36 582           |      |
| -1 540c          | 28 540           | 23.21 | -19.07 | -8.09 | 20.71    | 0.3302 | -0.4551 | 202.9    | 17 489           | 37 586           |      |
| -1 544c          | 28 545           | 23.21 | -19.07 | -8.09 | 20.71    | 0.3302 | -0.4551 | 202.9    | 17 489           | 37 586           |      |
| -1 549c          | 29 550           | 27.17 | -22.03 | -7.69 | 23.34    | 0.3407 | -0.3894 | 199.2    | 18 491           | 37 588           |      |
| -1 554c          | 30 555           | 31.37 | -24.88 | -7.25 | 25.91    | 0.3586 | -0.3377 | 196.2    | 18 492           | 37 589           |      |
| -1 560c          | 32 560           | 40.34 | -29.81 | -6.31 | 30.48    | 0.4127 | -0.2629 | 191.9    | 18 494           | 38 594           |      |
| 380              | 770              | 100.0 | 0.0    | 0.0   | 0.01     | 1.1518 | -0.1063 | 0.0      |                  |                  |      |

TUB-test chart CE20; CIE (x, y) and chromatic values ( $A_i, B_i$ )

Ostwald optimal colours for illuminant P25; diagram for illuminant P25,  $Y_w=100$

input: w/rgb/cmyk -> rgb

