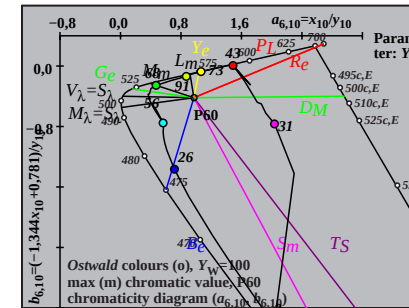
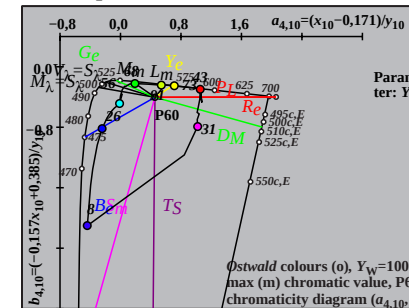
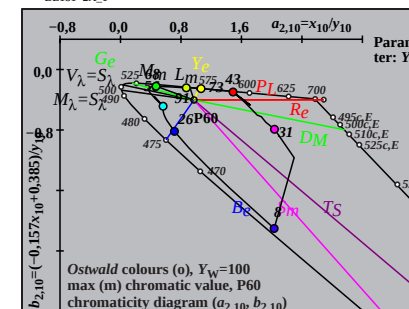
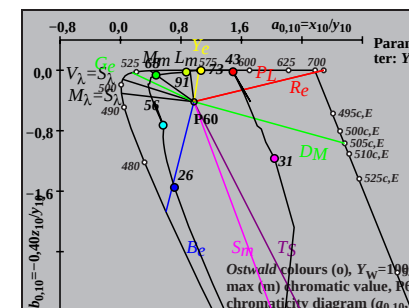
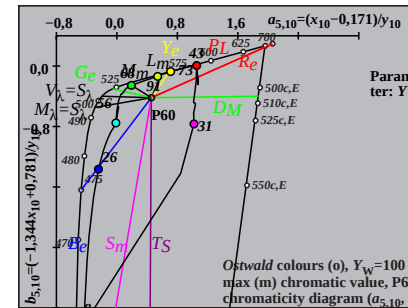
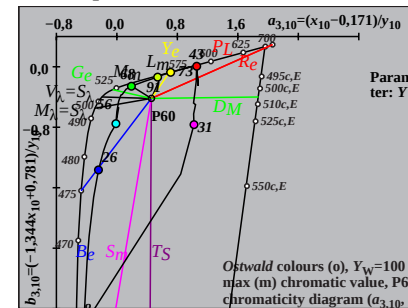
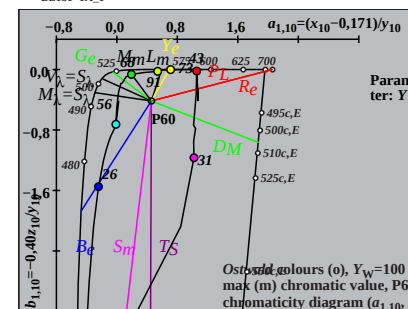
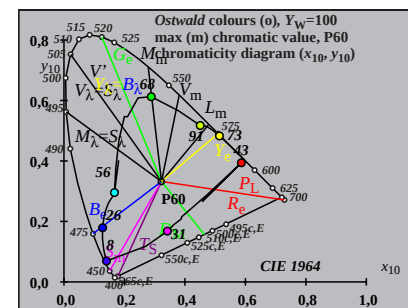


Ostwald optimal colours (o) of maximum (m)  $C_{AB,10}$  for P60,  $Y_{w,10}=100$ ,  $Y_m=520\_770$

| $i_1, \lambda_1$ | $i_2, \lambda_2$ | $X_{10}$ | $Y_{10}$ | $Z_{10}$ | $x_{10}$ | $y_{10}$ | $z_{10}$ | $h_{xy,10}$ | $i_d, \lambda_d$ | $i_c, \lambda_c$ | Code |
|------------------|------------------|----------|----------|----------|----------|----------|----------|-------------|------------------|------------------|------|
| 1 405            | 31 557           | 31.66    | 56.06    | 101.81   | 0.167    | 0.2957   | 0.5371   | 193.1       | 15 477           | 37 587           | Cm   |
| 7 435            | 31 559           | 25.96    | 56.56    | 69.22    | 0.171    | 0.3727   | 0.4561   | 164.9       | 16 483           | -1 483c          |      |
| 9 450            | 32 561           | 23.69    | 57.37    | 51.31    | 0.1789   | 0.4333   | 0.3876   | 144.7       | 17 489           | -1 489c          |      |
| 12 460           | 32 563           | 21.22    | 58.05    | 26.89    | 0.1999   | 0.5468   | 0.2532   | 119.6       | 21 505           | -1 505c          |      |
| 13 465           | 33 566           | 22.19    | 59.57    | 20.38    | 0.2172   | 0.5831   | 0.1995   | 112.7       | 22 514           | -1 514c          |      |
| 14 470           | 34 571           | 25.2     | 62.58    | 15.06    | 0.245    | 0.6084   | 0.1464   | 105.6       | 24 524           | -1 524c          |      |
| 14 475           | 36 580           | 32.58    | 69.18    | 15.06    | 0.2788   | 0.5921   | 0.1289   | 99.4        | 26 531           | -1 531c          | Gm   |
| 15 480           | 41 605           | 54.91    | 82.76    | 10.97    | 0.3694   | 0.5567   | 0.0738   | 78.1        | 30 550           | -1 550c          |      |
| 16 485           | -1 484c          | 79.72    | 92.83    | 7.93     | 0.4417   | 0.5143   | 0.0439   | 56.7        | 32 561           | 10 453           |      |
| 18 490           | -1 490c          | 79.54    | 89.72    | 4.07     | 0.4588   | 0.5176   | 0.0234   | 53.6        | 32 563           | 11 458           | max  |
| 19 495           | -1 495c          | 79.52    | 87.78    | 2.89     | 0.4672   | 0.5157   | 0.0169   | 51.7        | 32 564           | 12 461           |      |
| 20 500           | -1 500c          | 79.48    | 85.54    | 2.04     | 0.4757   | 0.512    | 0.0122   | 49.5        | 33 565           | 12 463           |      |
| 21 510           | -1 509c          | 79.36    | 82.98    | 1.42     | 0.4845   | 0.5066   | 0.0087   | 47.0        | 33 566           | 12 464           |      |
| 24 520           | -1 520c          | 78.04    | 73.29    | 0.43     | 0.5142   | 0.4828   | 0.0028   | 38.1        | 34 571           | 13 469           | Ym   |
| 26 530           | -1 530c          | 75.93    | 65.52    | 0.16     | 0.5361   | 0.4626   | 0.0011   | 31.4        | 34 574           | 14 472           |      |
| 28 540           | -1 540c          | 72.61    | 57.09    | 0.03     | 0.5596   | 0.44     | 0.0003   | 24.4        | 35 578           | 14 474           |      |
| 29 545           | -1 545c          | 70.47    | 52.78    | 0.01     | 0.5717   | 0.4281   | 0.0001   | 21.0        | 36 581           | 15 475           |      |
| 30 550           | -1 550c          | 67.98    | 48.45    | 0.0      | 0.5838   | 0.4161   | 0.0      | 17.8        | 36 583           | 15 476           |      |
| 31 555           | -1 555c          | 65.12    | 44.14    | 0.0      | 0.596    | 0.4039   | 0.0      | 14.7        | 37 586           | 15 476           |      |
| 31 560           | 8 442            | 73.81    | 45.29    | 42.89    | 0.4556   | 0.2795   | 0.2647   | 338.4       | -1 485c          | 17 485           |      |
| 31 557           | 1 405            | 65.42    | 43.93    | 2.2      | 0.5864   | 0.3937   | 0.0197   | 13.1        | 37 587           | 15 477           | Rm   |
| 31 559           | 7 435            | 71.13    | 43.43    | 34.79    | 0.4762   | 0.2908   | 0.2329   | 344.9       | -1 483c          | 16 483           |      |
| 32 561           | 9 450            | 73.4     | 42.62    | 52.69    | 0.435    | 0.2526   | 0.3123   | 324.8       | -1 489c          | 17 489           |      |
| 32 563           | 12 460           | 75.87    | 41.94    | 77.12    | 0.3891   | 0.2151   | 0.3956   | 299.7       | -1 505c          | 21 505           |      |
| 33 566           | 13 465           | 74.9     | 40.42    | 83.62    | 0.3764   | 0.2031   | 0.4203   | 292.7       | -1 514c          | 22 514           |      |
| 34 571           | 14 470           | 71.89    | 37.41    | 88.95    | 0.3626   | 0.1887   | 0.4486   | 285.6       | -1 524c          | 24 524           |      |
| 36 580           | 14 475           | 64.51    | 30.81    | 88.95    | 0.35     | 0.1672   | 0.4826   | 279.5       | -1 531c          | 26 531           | Mm   |
| 41 605           | 15 480           | 42.17    | 17.23    | 93.03    | 0.2766   | 0.113    | 0.6103   | 258.2       | -1 550c          | 30 550           |      |
| -1 484c          | 16 485           | 17.36    | 7.16     | 96.08    | 0.144    | 0.0593   | 0.7965   | 236.8       | 10 453           | 32 561           | min  |
| -1 490c          | 18 490           | 17.54    | 10.27    | 99.94    | 0.1373   | 0.0804   | 0.7822   | 233.6       | 11 458           | 32 563           |      |
| -1 495c          | 19 495           | 17.56    | 12.21    | 101.12   | 0.1342   | 0.0932   | 0.7725   | 231.7       | 12 461           | 32 564           |      |
| -1 500c          | 20 500           | 17.61    | 14.45    | 101.97   | 0.1313   | 0.1078   | 0.7607   | 229.5       | 12 463           | 33 565           |      |
| -1 509c          | 21 510           | 17.73    | 17.01    | 102.58   | 0.1291   | 0.1239   | 0.7469   | 227.1       | 12 464           | 33 566           |      |
| -1 520c          | 24 520           | 19.04    | 26.7     | 103.57   | 0.1275   | 0.1788   | 0.6936   | 218.1       | 13 469           | 34 571           | Bm   |
| -1 530c          | 26 530           | 21.15    | 34.47    | 103.85   | 0.1326   | 0.2161   | 0.6511   | 211.4       | 14 472           | 34 574           |      |
| -1 540c          | 28 540           | 24.47    | 42.9     | 103.97   | 0.1428   | 0.2503   | 0.6067   | 204.4       | 14 474           | 35 578           |      |
| -1 545c          | 29 545           | 26.62    | 47.21    | 104.0    | 0.1496   | 0.2655   | 0.5848   | 201.0       | 15 475           | 36 581           |      |
| -1 550c          | 30 550           | 29.11    | 51.54    | 104.01   | 0.1576   | 0.2791   | 0.5632   | 197.8       | 15 476           | 36 583           |      |
| -1 555c          | 31 555           | 31.96    | 55.85    | 104.01   | 0.1666   | 0.2911   | 0.5422   | 194.7       | 15 476           | 37 586           |      |
| 8 442            | 31 560           | 23.27    | 54.7     | 61.12    | 0.1673   | 0.3932   | 0.4393   | 158.4       | 17 485           | -1 485c          |      |
| 380              | 770              | 97.09    | 99.99    | 104.01   | 0.3224   | 0.3321   | 0.3454   | 0.0         |                  |                  |      |

TUB-test chart BE18; CIE ( $x_{10}, y_{10}$ ) and chromaticities ( $a_{i,10}, b_{i,10}$ ) input: w/rgb/cmyk -> rgb  
Ostwald optimal colours for illuminant P60; diagram for illuminant P60,  $Y_{w,10}=100$



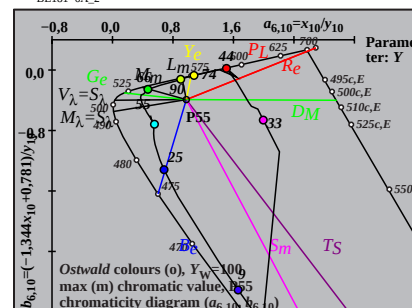
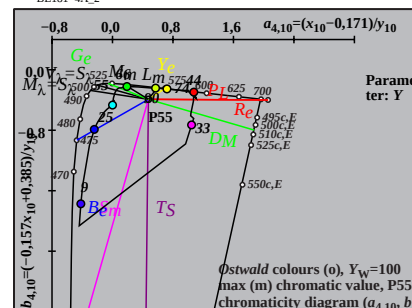
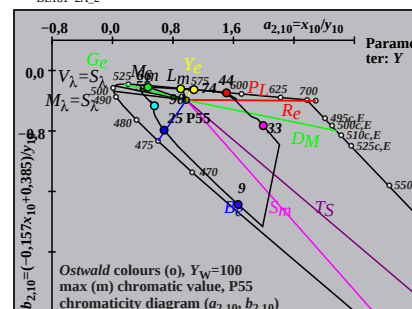
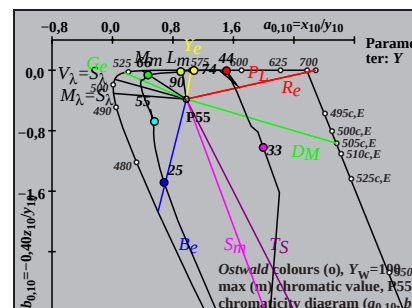
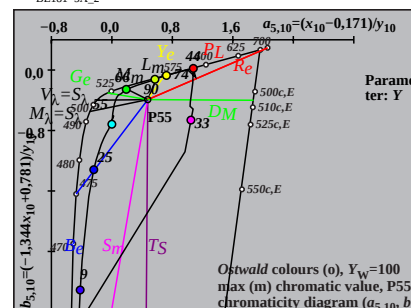
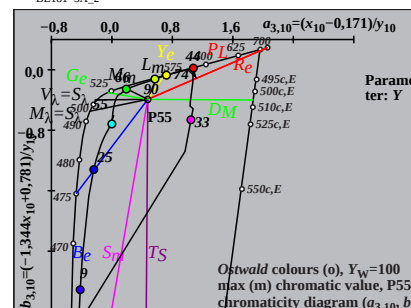
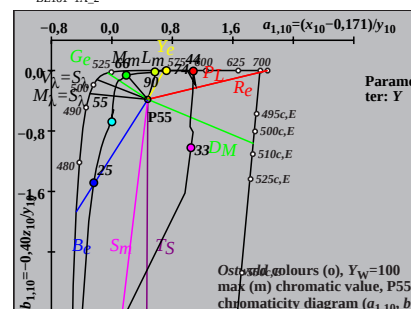
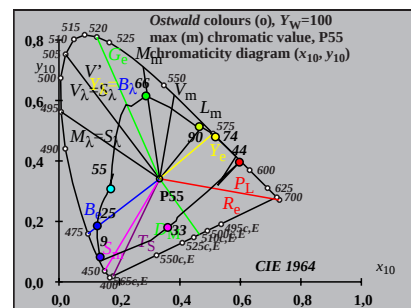
TUB registration: 20170801-BE18/BE18L0NP.PDF /.PS  
application for measurement of offset print output

TUB material: code=rha4ta

Ostwald optimal colours (o) of maximum (m)  $C_{AB,10}$  for P55,  $Y_{w,10}=100$ ,  $Y_m=520_{,770}$

| $i_1, \lambda_1$ | $i_2, \lambda_2$ | $X_{10}$ | $Y_{10}$ | $Z_{10}$ | $x_{10}$ | $y_{10}$ | $z_{10}$ | $h_{xy,10}$ | $i_d, \lambda_d$ | $i_c, \lambda_c$ | Code |
|------------------|------------------|----------|----------|----------|----------|----------|----------|-------------|------------------|------------------|------|
| 0 405            | 31 558           | 31.06    | 55.84    | 94.72    | 0.171    | 0.3074   | 0.5215   | 191.7       | 15 477           | 37 587           | Cm   |
| 7 435            | 32 560           | 25.74    | 56.27    | 64.4     | 0.1758   | 0.3843   | 0.4398   | 164.6       | 16 484           | -1 484c          |      |
| 10 450           | 32 561           | 22.24    | 56.6     | 39.99    | 0.1871   | 0.4763   | 0.3365   | 137.1       | 18 493           | -1 493c          |      |
| 12 460           | 32 564           | 21.43    | 57.63    | 25.44    | 0.205    | 0.5514   | 0.2434   | 121.2       | 21 505           | -1 505c          |      |
| 12 465           | 33 566           | 23.3     | 59.72    | 25.44    | 0.2147   | 0.5506   | 0.2346   | 119.4       | 21 507           | -1 507c          |      |
| 14 470           | 34 571           | 25.08    | 61.75    | 14.37    | 0.2478   | 0.6101   | 0.142    | 107.5       | 24 523           | -1 523c          |      |
| 15 475           | 35 579           | 31.23    | 66.7     | 10.51    | 0.2879   | 0.615    | 0.0969   | 99.3        | 26 533           | -1 533c          | Gm   |
| 16 480           | 39 599           | 49.72    | 78.29    | 7.63     | 0.3665   | 0.5771   | 0.0562   | 81.9        | 29 548           | -1 548c          |      |
| 16 485           | -1 484c          | 81.8     | 93.33    | 7.63     | 0.4475   | 0.5106   | 0.0417   | 55.9        | 32 562           | 10 454           |      |
| 17 490           | -1 489c          | 81.68    | 91.95    | 5.5      | 0.4559   | 0.5133   | 0.0307   | 54.4        | 32 563           | 11 456           | max  |
| 19 495           | -1 495c          | 81.61    | 88.5     | 2.81     | 0.4719   | 0.5117   | 0.0162   | 50.8        | 33 565           | 12 461           |      |
| 20 500           | -1 500c          | 81.57    | 86.34    | 1.99     | 0.4801   | 0.5081   | 0.0117   | 48.6        | 33 566           | 12 463           |      |
| 22 510           | -1 510c          | 81.22    | 81.02    | 0.97     | 0.4976   | 0.4964   | 0.0059   | 43.3        | 33 568           | 13 467           |      |
| 24 520           | -1 520c          | 80.17    | 74.38    | 0.43     | 0.5172   | 0.4799   | 0.0028   | 36.9        | 34 571           | 14 470           | Ym   |
| 25 530           | -1 529c          | 79.27    | 70.66    | 0.27     | 0.5277   | 0.4704   | 0.0018   | 33.5        | 34 573           | 14 471           |      |
| 27 540           | -1 539c          | 76.6     | 62.6     | 0.08     | 0.5499   | 0.4494   | 0.0006   | 26.5        | 35 577           | 14 474           |      |
| 28 545           | -1 544c          | 74.79    | 58.35    | 0.03     | 0.5615   | 0.4381   | 0.0002   | 23.0        | 35 579           | 15 475           |      |
| 29 550           | -1 549c          | 72.65    | 54.04    | 0.01     | 0.5733   | 0.4265   | 0.0001   | 19.5        | 36 581           | 15 475           |      |
| 31 555           | -1 555c          | 67.28    | 45.37    | 0.0      | 0.5972   | 0.4027   | 0.0      | 13.1        | 37 586           | 15 477           |      |
| 32 560           | 6 430            | 68.25    | 41.55    | 20.22    | 0.5249   | 0.3195   | 0.1555   | 353.6       | 45 629           | 16 482           |      |
| 31 558           | 0 405            | 66.59    | 44.15    | 0.83     | 0.5968   | 0.3957   | 0.0074   | 11.7        | 37 587           | 15 477           | Rm   |
| 32 560           | 7 435            | 71.91    | 43.72    | 31.14    | 0.4899   | 0.2979   | 0.2121   | 344.6       | -1 484c          | 16 484           |      |
| 32 561           | 10 450           | 75.41    | 43.39    | 55.56    | 0.4324   | 0.2488   | 0.3186   | 317.1       | -1 493c          | 18 493           |      |
| 32 564           | 12 460           | 76.22    | 42.36    | 70.1     | 0.4039   | 0.2245   | 0.3715   | 301.3       | -1 505c          | 21 505           |      |
| 33 566           | 12 465           | 74.35    | 40.27    | 70.1     | 0.4025   | 0.218    | 0.3794   | 299.4       | -1 507c          | 21 507           |      |
| 34 571           | 14 470           | 72.56    | 38.24    | 81.17    | 0.3779   | 0.1992   | 0.4228   | 287.6       | -1 523c          | 24 523           |      |
| 35 579           | 15 475           | 66.42    | 33.29    | 85.03    | 0.3595   | 0.1802   | 0.4602   | 279.3       | -1 533c          | 26 533           | Mm   |
| 39 599           | 16 480           | 47.93    | 21.7     | 87.92    | 0.3042   | 0.1377   | 0.558    | 261.9       | -1 548c          | 29 548           |      |
| -1 484c          | 16 485           | 15.84    | 6.66     | 87.92    | 0.1435   | 0.0603   | 0.7961   | 235.9       | 10 454           | 32 562           |      |
| -1 489c          | 17 490           | 15.97    | 8.04     | 90.05    | 0.14     | 0.0705   | 0.7894   | 234.5       | 11 456           | 32 563           | min  |
| -1 495c          | 19 495           | 16.03    | 11.49    | 92.73    | 0.1333   | 0.0955   | 0.771    | 230.8       | 12 461           | 33 565           |      |
| -1 500c          | 20 500           | 16.07    | 13.65    | 93.56    | 0.1304   | 0.1107   | 0.7588   | 228.6       | 12 463           | 33 566           |      |
| -1 510c          | 22 510           | 16.43    | 18.97    | 94.57    | 0.1264   | 0.1459   | 0.7276   | 223.3       | 13 467           | 33 568           |      |
| -1 520c          | 24 520           | 17.48    | 25.61    | 95.11    | 0.1264   | 0.1853   | 0.6881   | 217.0       | 14 470           | 34 571           | Bm   |
| -1 529c          | 25 530           | 18.38    | 29.33    | 95.28    | 0.1285   | 0.2051   | 0.6663   | 213.6       | 14 471           | 34 573           |      |
| -1 539c          | 27 540           | 21.05    | 37.39    | 95.46    | 0.1367   | 0.2429   | 0.6202   | 206.5       | 14 474           | 35 577           |      |
| -1 544c          | 28 545           | 22.86    | 41.64    | 95.51    | 0.1428   | 0.2602   | 0.5968   | 203.0       | 15 475           | 35 579           |      |
| -1 549c          | 29 550           | 25.0     | 45.95    | 95.54    | 0.1501   | 0.276    | 0.5738   | 199.5       | 15 475           | 36 581           |      |
| -1 555c          | 31 555           | 30.37    | 54.62    | 95.55    | 0.1682   | 0.3025   | 0.5292   | 193.1       | 15 477           | 37 586           |      |
| 6 430            | 32 560           | 29.4     | 58.44    | 75.32    | 0.1801   | 0.3581   | 0.4616   | 173.6       | 16 482           | 45 629           |      |
| 380              | 770              | 97.65    | 100.0    | 95.55    | 0.333    | 0.341    | 0.3258   | 0.0         |                  |                  |      |

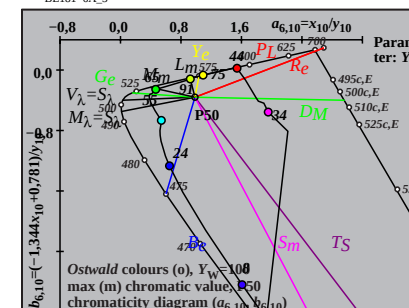
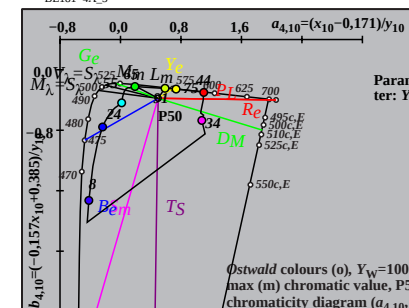
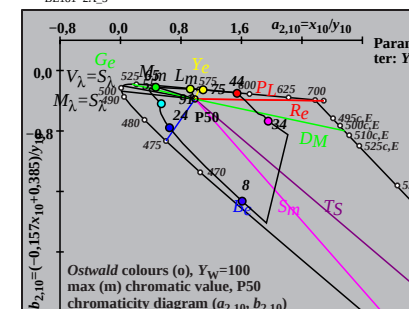
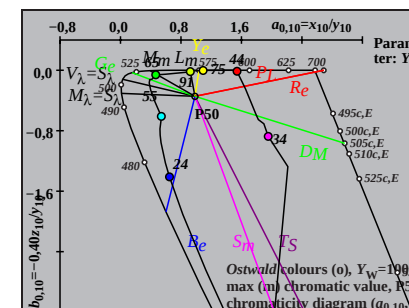
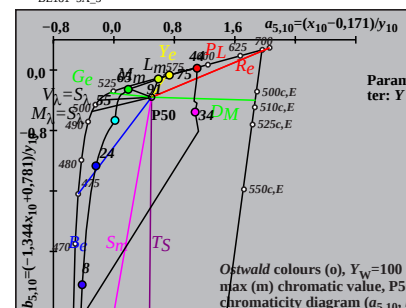
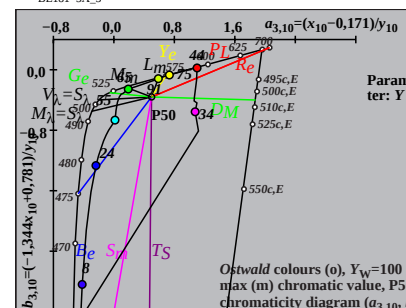
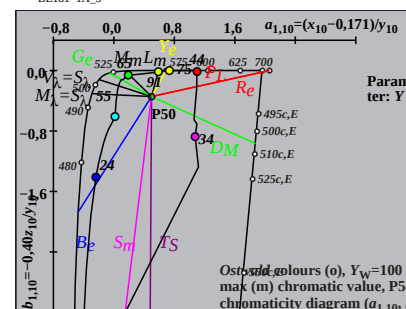
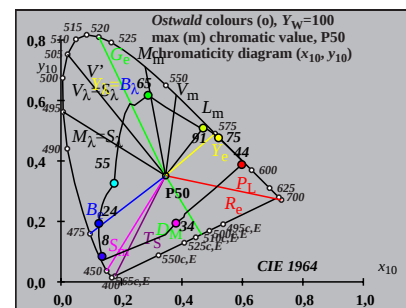
TUB-test chart BE18; CIE ( $x_{10}, y_{10}$ ) and chromaticities ( $a_{i,10}, b_{i,10}$ ) input: w/rgb/cmyk -> rgb  
Ostwald optimal colours for illuminant P55; diagram for illuminant P55,  $Y_{w,10}=100$



Ostwald optimal colours (o) of maximum (m)  $C_{AB,10}$  for P50,  $Y_{w,10}=100$ ,  $Y_m=520_{-770}$

| $i_1, \lambda_1$ | $i_2, \lambda_2$ | $X_{10}$ | $Y_{10}$ | $Z_{10}$ | $x_{10}$ | $y_{10}$ | $z_{10}$ | $h_{xy,10}$ | $i_d, \lambda_d$ | $i_c, \lambda_c$ | Code |
|------------------|------------------|----------|----------|----------|----------|----------|----------|-------------|------------------|------------------|------|
| 1 405            | 32 560           | 29.94    | 55.5     | 84.55    | 0.1761   | 0.3264   | 0.4973   | 188.3       | 15 479           | 37 589           | Cm   |
| 7 435            | 32 561           | 25.58    | 55.89    | 58.96    | 0.1821   | 0.3979   | 0.4198   | 164.0       | 17 485           | -1 485c          |      |
| 9 450            | 32 562           | 23.78    | 56.57    | 44.32    | 0.1907   | 0.4537   | 0.3554   | 146.5       | 18 490           | -1 490c          |      |
| 12 460           | 33 565           | 21.71    | 57.12    | 23.77    | 0.2115   | 0.5567   | 0.2317   | 123.1       | 21 505           | -1 505c          |      |
| 13 465           | 33 567           | 22.57    | 58.35    | 18.18    | 0.2277   | 0.5887   | 0.1834   | 116.4       | 22 513           | -1 513c          |      |
| 14 470           | 34 571           | 25.02    | 60.79    | 13.56    | 0.2518   | 0.6117   | 0.1364   | 109.8       | 24 523           | -1 523c          |      |
| 14 475           | 35 578           | 30.83    | 66.09    | 13.56    | 0.279    | 0.5981   | 0.1227   | 105.1       | 25 529           | -1 529c          | Gm   |
| 16 480           | 38 593           | 45.35    | 74.98    | 7.26     | 0.3553   | 0.5876   | 0.0569   | 87.7        | 29 546           | -1 546c          |      |
| 17 485           | -1 485c          | 84.22    | 92.59    | 5.26     | 0.4625   | 0.5085   | 0.0289   | 53.4        | 32 564           | 11 457           |      |
| 18 490           | -1 490c          | 84.18    | 91.09    | 3.79     | 0.4701   | 0.5086   | 0.0211   | 51.7        | 33 565           | 11 459           | max  |
| 18 495           | -1 494c          | 84.18    | 91.09    | 3.79     | 0.4701   | 0.5086   | 0.0211   | 51.7        | 33 565           | 11 459           |      |
| 20 500           | -1 500c          | 84.12    | 87.25    | 1.93     | 0.4853   | 0.5034   | 0.0111   | 47.4        | 33 566           | 12 464           |      |
| 22 510           | -1 510c          | 83.78    | 82.13    | 0.95     | 0.502    | 0.4922   | 0.0057   | 42.0        | 33 569           | 13 467           |      |
| 24 520           | -1 520c          | 82.75    | 75.67    | 0.42     | 0.5209   | 0.4763   | 0.0026   | 35.5        | 34 572           | 14 470           | Ym   |
| 26 530           | -1 530c          | 80.71    | 68.14    | 0.16     | 0.5416   | 0.4573   | 0.001    | 28.4        | 35 575           | 14 473           |      |
| 28 540           | -1 540c          | 77.44    | 59.85    | 0.03     | 0.5638   | 0.4358   | 0.0002   | 21.2        | 35 579           | 15 475           |      |
| 29 545           | -1 545c          | 75.3     | 55.55    | 0.01     | 0.5753   | 0.4244   | 0.0001   | 17.7        | 36 581           | 15 476           |      |
| 30 550           | -1 550c          | 72.81    | 51.21    | 0.0      | 0.587    | 0.4129   | 0.0      | 14.3        | 36 584           | 15 477           |      |
| 31 555           | -1 555c          | 69.92    | 46.85    | 0.0      | 0.5987   | 0.4012   | 0.0      | 11.1        | 37 586           | 15 478           |      |
| 32 560           | -1 560c          | 66.64    | 42.52    | 0.0      | 0.6104   | 0.3895   | 0.0      | 8.2         | 37 589           | 15 479           |      |
| 32 560           | 1 405            | 68.56    | 44.49    | 1.62     | 0.5978   | 0.388    | 0.0141   | 8.2         | 37 589           | 15 479           | Rm   |
| 32 561           | 7 435            | 72.92    | 44.1     | 27.2     | 0.5055   | 0.3057   | 0.1886   | 344.0       | -1 485c          | 17 485           |      |
| 32 562           | 9 450            | 74.72    | 43.42    | 41.84    | 0.467    | 0.2714   | 0.2615   | 326.5       | -1 490c          | 18 490           |      |
| 33 565           | 12 460           | 76.79    | 42.87    | 62.39    | 0.4218   | 0.2354   | 0.3426   | 303.2       | -1 505c          | 21 505           |      |
| 33 567           | 13 465           | 75.94    | 41.64    | 67.98    | 0.4092   | 0.2244   | 0.3663   | 296.5       | -1 513c          | 22 513           |      |
| 34 571           | 14 470           | 73.48    | 39.2     | 72.61    | 0.3965   | 0.2115   | 0.3918   | 289.9       | -1 523c          | 24 523           |      |
| 35 578           | 14 475           | 67.67    | 33.9     | 72.61    | 0.3885   | 0.1946   | 0.4168   | 285.2       | -1 529c          | 25 529           | Mm   |
| 38 593           | 16 480           | 53.16    | 25.01    | 78.9     | 0.3384   | 0.1592   | 0.5023   | 267.7       | -1 546c          | 29 546           |      |
| -1 485c          | 17 485           | 14.28    | 7.4      | 80.9     | 0.1392   | 0.0721   | 0.7886   | 233.4       | 11 457           | 32 564           |      |
| -1 490c          | 18 490           | 14.33    | 8.9      | 82.37    | 0.1356   | 0.0843   | 0.7799   | 231.7       | 11 459           | 33 565           | min  |
| -1 494c          | 18 495           | 14.33    | 8.9      | 82.37    | 0.1356   | 0.0843   | 0.7799   | 231.7       | 11 459           | 33 565           |      |
| -1 500c          | 20 500           | 14.38    | 12.74    | 84.23    | 0.1291   | 0.1144   | 0.7563   | 227.5       | 12 464           | 33 566           |      |
| -1 510c          | 22 510           | 14.73    | 17.86    | 85.21    | 0.125    | 0.1516   | 0.7233   | 222.1       | 13 467           | 33 569           |      |
| -1 520c          | 24 520           | 15.75    | 24.32    | 85.74    | 0.1252   | 0.1933   | 0.6814   | 215.5       | 14 470           | 34 572           | Bm   |
| -1 530c          | 26 530           | 17.79    | 31.85    | 86.01    | 0.1311   | 0.2347   | 0.634    | 208.4       | 14 473           | 35 575           |      |
| -1 540c          | 28 540           | 21.06    | 40.14    | 86.13    | 0.1429   | 0.2724   | 0.5845   | 201.2       | 15 475           | 35 579           |      |
| -1 545c          | 29 545           | 23.2     | 44.44    | 86.15    | 0.1508   | 0.2889   | 0.5601   | 197.7       | 15 476           | 36 581           |      |
| -1 550c          | 30 550           | 25.7     | 48.78    | 86.16    | 0.1599   | 0.3036   | 0.5363   | 194.3       | 15 477           | 36 584           |      |
| -1 555c          | 31 555           | 28.58    | 53.14    | 86.17    | 0.1702   | 0.3165   | 0.5132   | 191.1       | 15 478           | 37 586           |      |
| -1 560c          | 32 560           | 31.86    | 57.47    | 86.17    | 0.1815   | 0.3274   | 0.4909   | 188.2       | 15 479           | 37 589           |      |
| 380              | 770              | 98.51    | 99.99    | 86.17    | 0.346    | 0.3512   | 0.3026   | 0.0         |                  |                  |      |

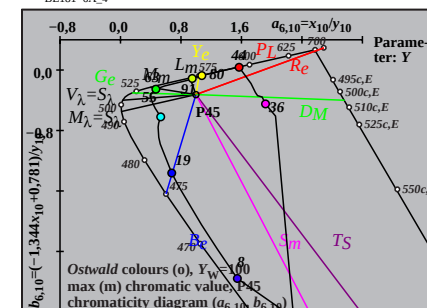
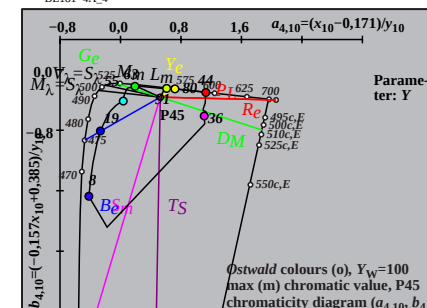
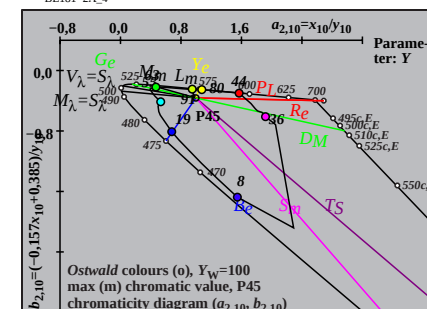
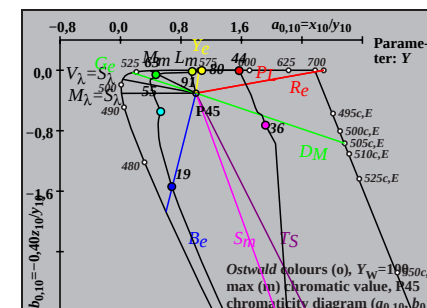
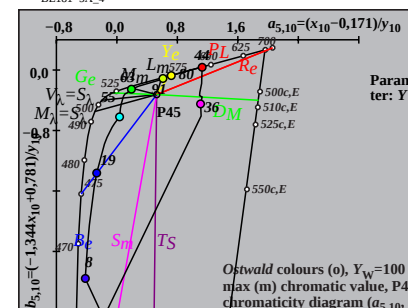
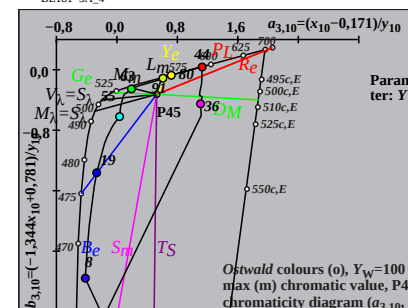
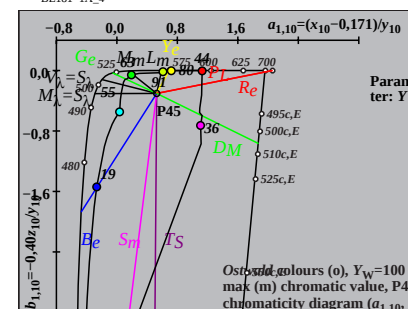
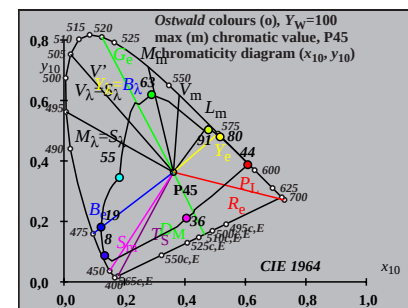
TUB-test chart BE18; CIE ( $x_{10}, y_{10}$ ) and chromaticities ( $a_{i,10}, b_{i,10}$ ) input: w/rgb/cmyk -> rgb  
Ostwald optimal colours for illuminant P50; diagram for illuminant P50,  $Y_{w,10}=100$



Ostwald optimal colours (o) of maximum (m)  $C_{AB,10}$  for P45,  $Y_{w,10}=100$ ,  $Y_m=520\_770$ 

| i <sub>1</sub> | λ <sub>1</sub> | i <sub>2</sub> | λ <sub>2</sub> | X <sub>10</sub> | Y <sub>10</sub> | Z <sub>10</sub> | x <sub>10</sub> | y <sub>10</sub> | z <sub>10</sub> | h <sub>xy,10</sub> | i <sub>d</sub> | λ <sub>d</sub> | i <sub>c</sub> | λ <sub>c</sub> | Code |
|----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------------|----------------|----------------|----------------|----------------|------|
| 1              | 405            | 32             | 561            | 29.13           | 55.06           | 74.49           | 0.1835          | 0.3469          | 0.4694          | 185.0              | 16             | 480            | 38             | 590            | Cm   |
| 7              | 435            | 32             | 562            | 25.46           | 55.42           | 52.8            | 0.1904          | 0.4145          | 0.3949          | 163.2              | 17             | 486            | −1             | 486c           |      |
| 10             | 450            | 32             | 564            | 22.73           | 55.71           | 33.64           | 0.2028          | 0.497           | 0.3001          | 139.8              | 18             | 494            | −1             | 494c           |      |
| 11             | 460            | 33             | 566            | 23.1            | 56.99           | 27.5            | 0.2147          | 0.5296          | 0.2556          | 131.4              | 19             | 499            | −1             | 499c           |      |
| 13             | 465            | 33             | 568            | 22.89           | 57.58           | 16.79           | 0.2353          | 0.5919          | 0.1726          | 118.9              | 22             | 513            | −1             | 513c           |      |
| 13             | 470            | 34             | 571            | 25.63           | 60.41           | 16.79           | 0.2492          | 0.5874          | 0.1632          | 116.6              | 23             | 516            | −1             | 516c           |      |
| 15             | 475            | 35             | 577            | 29.66           | 63.43           | 9.31            | 0.2896          | 0.6193          | 0.0909          | 105.7              | 26             | 532            | −1             | 532c           | Gm   |
| 15             | 480            | 37             | 589            | 41.71           | 72.59           | 9.31            | 0.3374          | 0.5871          | 0.0753          | 96.2               | 28             | 542            | −1             | 542c           |      |
| 17             | 485            | 51             | 659            | 85.51           | 92.6            | 4.98            | 0.467           | 0.5057          | 0.0272          | 53.6               | 32             | 564            | 10             | 454            |      |
| 18             | 490            | −1             | 490c           | 87.32           | 91.92           | 3.61            | 0.4775          | 0.5027          | 0.0197          | 50.4               | 33             | 566            | 12             | 460            | max  |
| 19             | 495            | −1             | 495c           | 87.3            | 90.26           | 2.6             | 0.4845          | 0.5009          | 0.0144          | 48.4               | 33             | 566            | 12             | 462            |      |
| 20             | 500            | −1             | 500c           | 87.26           | 88.3            | 1.85            | 0.4918          | 0.4976          | 0.0104          | 46.0               | 33             | 567            | 12             | 464            |      |
| 22             | 510            | −1             | 510c           | 86.94           | 83.42           | 0.92            | 0.5075          | 0.487           | 0.0054          | 40.4               | 34             | 570            | 13             | 468            |      |
| 23             | 520            | −1             | 519c           | 86.55           | 80.46           | 0.63            | 0.5162          | 0.4799          | 0.0037          | 37.2               | 34             | 571            | 14             | 470            | Ym   |
| 25             | 530            | −1             | 529c           | 85.09           | 73.64           | 0.26            | 0.5351          | 0.4631          | 0.0016          | 30.0               | 34             | 574            | 14             | 473            |      |
| 27             | 540            | −1             | 539c           | 82.5            | 65.84           | 0.08            | 0.5558          | 0.4435          | 0.0005          | 22.6               | 35             | 578            | 15             | 475            |      |
| 29             | 545            | −1             | 545c           | 78.6            | 57.39           | 0.01            | 0.5779          | 0.4219          | 0.0             | 15.3               | 36             | 582            | 15             | 477            |      |
| 29             | 550            | −1             | 549c           | 78.6            | 57.39           | 0.01            | 0.5779          | 0.4219          | 0.0             | 15.3               | 36             | 582            | 15             | 477            |      |
| 30             | 555            | −1             | 554c           | 76.1            | 53.06           | 0.0             | 0.5891          | 0.4107          | 0.0             | 11.9               | 36             | 584            | 15             | 478            |      |
| 32             | 560            | −1             | 560c           | 69.9            | 44.31           | 0.0             | 0.612           | 0.3879          | 0.0             | 5.7                | 38             | 590            | 16             | 480            |      |
| 32             | 561            | 1              | 405            | 70.66           | 44.93           | 1.31            | 0.6044          | 0.3843          | 0.0112          | 5.0                | 38             | 590            | 16             | 480            | Rm   |
| 32             | 562            | 7              | 435            | 74.33           | 44.57           | 22.99           | 0.5238          | 0.314           | 0.162           | 343.2              | −1             | 486c           | 17             | 486            |      |
| 32             | 564            | 10             | 450            | 77.06           | 44.28           | 42.16           | 0.4713          | 0.2708          | 0.2578          | 319.9              | −1             | 494c           | 18             | 494            |      |
| 33             | 566            | 11             | 460            | 76.69           | 43.0            | 48.3            | 0.4565          | 0.2559          | 0.2875          | 311.4              | −1             | 499c           | 19             | 499            |      |
| 33             | 568            | 13             | 465            | 76.9            | 42.41           | 59.01           | 0.4312          | 0.2378          | 0.3309          | 298.9              | −1             | 513c           | 22             | 513            |      |
| 34             | 571            | 13             | 470            | 74.16           | 39.58           | 59.01           | 0.4292          | 0.2291          | 0.3415          | 296.7              | −1             | 516c           | 23             | 516            |      |
| 35             | 577            | 15             | 475            | 70.13           | 36.56           | 66.48           | 0.4049          | 0.2111          | 0.3838          | 285.8              | −1             | 532c           | 26             | 532            | Mm   |
| 37             | 589            | 15             | 480            | 58.08           | 27.4            | 66.48           | 0.3821          | 0.1803          | 0.4374          | 276.3              | −1             | 542c           | 28             | 542            |      |
| 51             | 659            | 17             | 485            | 14.29           | 7.39            | 70.82           | 0.1544          | 0.0799          | 0.7656          | 233.7              | 10             | 454            | 32             | 564            |      |
| −1             | 490c           | 18             | 490            | 12.48           | 8.07            | 72.19           | 0.1345          | 0.087           | 0.7783          | 230.4              | 12             | 460            | 33             | 566            | min  |
| −1             | 495c           | 19             | 495            | 12.49           | 9.73            | 73.2            | 0.1309          | 0.102           | 0.767           | 228.4              | 12             | 462            | 33             | 566            |      |
| −1             | 500c           | 20             | 500            | 12.53           | 11.69           | 73.95           | 0.1276          | 0.1191          | 0.7532          | 226.1              | 12             | 464            | 33             | 567            |      |
| −1             | 510c           | 22             | 510            | 12.86           | 16.57           | 74.88           | 0.1233          | 0.1588          | 0.7178          | 220.5              | 13             | 468            | 34             | 570            |      |
| −1             | 519c           | 23             | 520            | 13.24           | 19.53           | 75.17           | 0.1227          | 0.1809          | 0.6963          | 217.2              | 14             | 470            | 34             | 571            | Bm   |
| −1             | 529c           | 25             | 530            | 14.7            | 26.35           | 75.54           | 0.1261          | 0.226           | 0.6478          | 210.1              | 14             | 473            | 34             | 574            |      |
| −1             | 539c           | 27             | 540            | 17.29           | 34.15           | 75.72           | 0.1359          | 0.2685          | 0.5954          | 202.6              | 15             | 475            | 35             | 578            |      |
| −1             | 545c           | 29             | 545            | 21.19           | 42.6            | 75.79           | 0.1518          | 0.3051          | 0.5429          | 195.3              | 15             | 477            | 36             | 582            |      |
| −1             | 549c           | 29             | 550            | 21.19           | 42.6            | 75.79           | 0.1518          | 0.3051          | 0.5429          | 195.3              | 15             | 477            | 36             | 582            |      |
| −1             | 554c           | 30             | 555            | 23.69           | 46.93           | 75.8            | 0.1618          | 0.3205          | 0.5176          | 191.9              | 15             | 478            | 36             | 584            |      |
| −1             | 560c           | 32             | 560            | 29.9            | 55.68           | 75.8            | 0.1852          | 0.345           | 0.4696          | 185.7              | 16             | 480            | 38             | 590            |      |
| 380            | 770            | 99.8           | 100.0          | 75.8            | 0.3621          | 0.3628          | 0.275           | 0.0             |                 |                    |                |                |                |                |      |

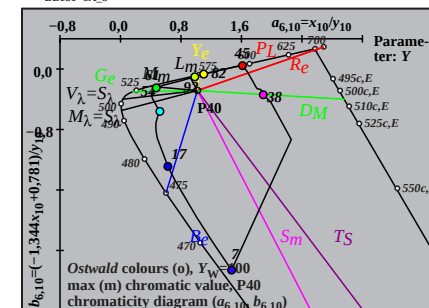
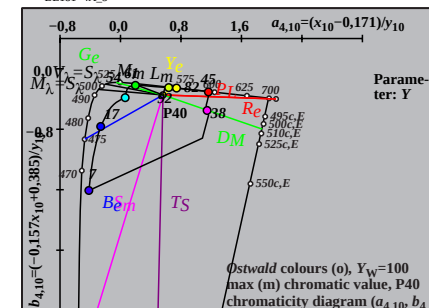
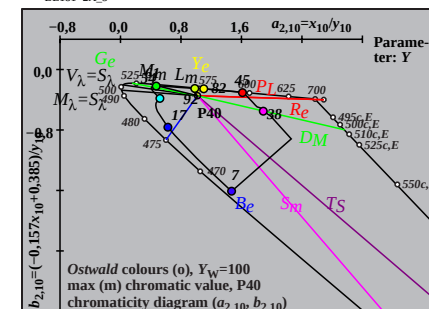
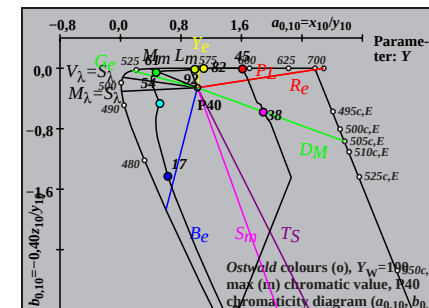
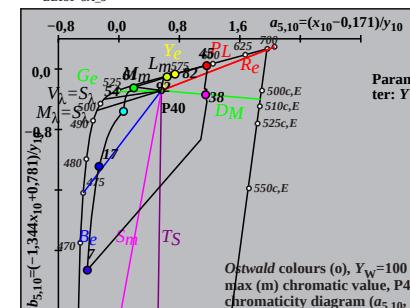
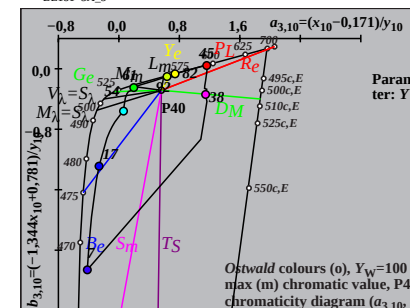
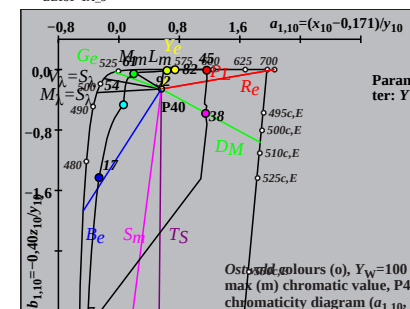
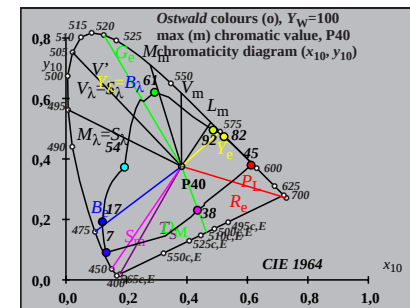
TUB-test chart BE18; CIE ( $x_{10}, y_{10}$ ) and chromaticities ( $a_{i,10}, b_{i,10}$ ) input: w/rgb/cmyk  $\rightarrow$  rgb  
Ostwald optimal colours for illuminant P45; diagram for illuminant P45,  $Y_{w,10}=100$



Ostwald optimal colours (o) of maximum (m)  $C_{AB,10}$  for P40,  $Y_{w,10}=100$ ,  $Y_m=520\_770$ 

| $i_1, \lambda_1$ | $i_2, \lambda_2$ | $X_{10}$ | $Y_{10}$ | $Z_{10}$ | $x_{10}$ | $y_{10}$ | $z_{10}$ | $h_{xy,10}$ | $i_d, \lambda_d$ | $i_c, \lambda_c$ | Code |
|------------------|------------------|----------|----------|----------|----------|----------|----------|-------------|------------------|------------------|------|
| 0 405            | 32 563           | 28.47    | 54.51    | 64.02    | 0.1937   | 0.3708   | 0.4354   | 181.4       | 16 481           | 38 591           | Cm   |
| 7 435            | 32 564           | 25.4     | 54.82    | 45.87    | 0.2014   | 0.4347   | 0.3638   | 161.8       | 17 487           | -1 487c          |      |
| 10 450           | 33 565           | 23.18    | 55.07    | 29.74    | 0.2146   | 0.5099   | 0.2753   | 141.2       | 19 495           | -1 495c          |      |
| 12 460           | 33 567           | 22.73    | 55.74    | 19.55    | 0.2319   | 0.5686   | 0.1994   | 127.9       | 21 505           | -1 505c          |      |
| 12 465           | 33 568           | 24.04    | 57.17    | 19.55    | 0.2386   | 0.5673   | 0.194    | 126.8       | 21 506           | -1 506c          |      |
| 14 470           | 34 571           | 25.22    | 58.4     | 11.45    | 0.2652   | 0.6142   | 0.1204   | 116.0       | 24 521           | -1 521c          |      |
| 15 475           | 35 576           | 29.04    | 61.5     | 8.53     | 0.2931   | 0.6206   | 0.0861   | 109.9       | 26 531           | -1 531c          | Gm   |
| 16 480           | 37 585           | 38.18    | 67.98    | 6.3      | 0.3394   | 0.6044   | 0.056    | 100.5       | 28 542           | -1 542c          |      |
| 17 485           | 42 611           | 65.29    | 82.81    | 4.63     | 0.4274   | 0.5421   | 0.0303   | 74.7        | 31 558           | -1 558c          |      |
| 17 490           | -1 489c          | 91.31    | 94.15    | 4.63     | 0.4803   | 0.4952   | 0.0243   | 50.6        | 33 566           | 11 458           | max  |
| 19 495           | -1 495c          | 91.26    | 91.34    | 2.45     | 0.4931   | 0.4935   | 0.0132   | 46.7        | 33 568           | 12 463           |      |
| 20 500           | -1 500c          | 91.22    | 89.52    | 1.76     | 0.4998   | 0.4905   | 0.0096   | 44.3        | 33 569           | 13 465           |      |
| 22 510           | -1 510c          | 90.92    | 84.94    | 0.88     | 0.5143   | 0.4805   | 0.005    | 38.4        | 34 571           | 13 469           |      |
| 23 520           | -1 519c          | 90.55    | 82.13    | 0.61     | 0.5225   | 0.4739   | 0.0035   | 35.0        | 34 572           | 14 471           | Ym   |
| 25 530           | -1 529c          | 89.15    | 75.59    | 0.25     | 0.5403   | 0.4581   | 0.0015   | 27.5        | 35 575           | 14 474           |      |
| 28 540           | -1 540c          | 84.88    | 63.89    | 0.03     | 0.5703   | 0.4293   | 0.0002   | 15.9        | 36 581           | 15 477           |      |
| 28 545           | -1 544c          | 84.88    | 63.89    | 0.03     | 0.5703   | 0.4293   | 0.0002   | 15.9        | 36 581           | 15 477           |      |
| 30 550           | -1 550c          | 80.29    | 55.35    | 0.0      | 0.5919   | 0.408    | 0.0      | 8.7         | 37 585           | 15 479           |      |
| 31 555           | -1 555c          | 77.38    | 50.95    | 0.0      | 0.6029   | 0.397    | 0.0      | 5.5         | 37 587           | 16 480           |      |
| 31 560           | -1 559c          | 77.38    | 50.95    | 0.0      | 0.6029   | 0.397    | 0.0      | 5.5         | 37 587           | 16 480           |      |
| 32 563           | 0 405            | 73.27    | 45.48    | 0.42     | 0.6147   | 0.3816   | 0.0035   | 1.4         | 38 591           | 16 481           | Rm   |
| 32 564           | 7 435            | 76.34    | 45.17    | 18.57    | 0.5449   | 0.3224   | 0.1325   | 341.9       | -1 487c          | 17 487           |      |
| 33 565           | 10 450           | 78.56    | 44.92    | 34.7     | 0.4966   | 0.2839   | 0.2193   | 321.3       | -1 495c          | 19 495           |      |
| 33 567           | 12 460           | 79.01    | 44.25    | 44.88    | 0.4698   | 0.2631   | 0.2669   | 307.9       | -1 505c          | 21 505           |      |
| 33 568           | 12 465           | 77.7     | 42.82    | 44.88    | 0.4697   | 0.2589   | 0.2713   | 306.8       | -1 506c          | 21 506           |      |
| 34 571           | 14 470           | 76.52    | 41.59    | 52.99    | 0.4472   | 0.243    | 0.3097   | 296.1       | -1 521c          | 24 521           |      |
| 35 576           | 15 475           | 72.7     | 38.49    | 55.9     | 0.435    | 0.2303   | 0.3345   | 290.0       | -1 531c          | 26 531           | Mm   |
| 37 585           | 16 480           | 63.56    | 32.01    | 58.13    | 0.4135   | 0.2082   | 0.3782   | 280.6       | -1 542c          | 28 542           |      |
| 42 611           | 17 485           | 36.45    | 17.18    | 59.81    | 0.3213   | 0.1514   | 0.5272   | 254.8       | -1 558c          | 31 558           |      |
| -1 489c          | 17 490           | 10.43    | 5.84     | 59.81    | 0.1371   | 0.0767   | 0.786    | 230.6       | 11 458           | 33 566           | min  |
| -1 495c          | 19 495           | 10.48    | 8.65     | 61.99    | 0.1292   | 0.1066   | 0.764    | 226.7       | 12 463           | 33 568           |      |
| -1 500c          | 20 500           | 10.52    | 10.47    | 62.68    | 0.1257   | 0.1251   | 0.7491   | 224.3       | 13 465           | 33 569           |      |
| -1 510c          | 22 510           | 10.83    | 15.05    | 63.55    | 0.121    | 0.1683   | 0.7106   | 218.4       | 13 469           | 34 571           |      |
| -1 519c          | 23 520           | 11.19    | 17.86    | 63.83    | 0.1205   | 0.1922   | 0.6871   | 215.0       | 14 471           | 34 572           | Bm   |
| -1 529c          | 25 530           | 12.59    | 24.4     | 64.18    | 0.1244   | 0.2412   | 0.6343   | 207.5       | 14 474           | 35 575           |      |
| -1 540c          | 28 540           | 16.86    | 36.1     | 64.4     | 0.1436   | 0.3075   | 0.5487   | 195.9       | 15 477           | 36 581           |      |
| -1 544c          | 28 545           | 16.86    | 36.1     | 64.4     | 0.1436   | 0.3075   | 0.5487   | 195.9       | 15 477           | 36 581           |      |
| -1 550c          | 30 550           | 21.45    | 44.64    | 64.44    | 0.1643   | 0.342    | 0.4936   | 188.7       | 15 479           | 37 585           |      |
| -1 555c          | 31 555           | 24.36    | 49.04    | 64.44    | 0.1767   | 0.3557   | 0.4675   | 185.5       | 16 480           | 37 587           |      |
| -1 559c          | 31 560           | 24.36    | 49.04    | 64.44    | 0.1767   | 0.3557   | 0.4675   | 185.5       | 16 480           | 37 587           |      |
| 380              | 770              | 101.75   | 100.0    | 64.44    | 0.3822   | 0.3756   | 0.2421   | 0.0         |                  |                  |      |

TUB-test chart BE18; CIE ( $x_{10}, y_{10}$ ) and chromaticities ( $a_{i,10}, b_{i,10}$ ) input: w/rgb/cmyk  $\rightarrow$  rgb  
Ostwald optimal colours for illuminant P40; diagram for illuminant P40,  $Y_{w,10}=100$



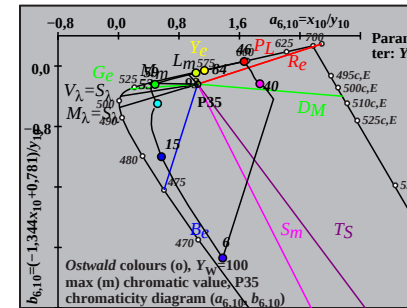
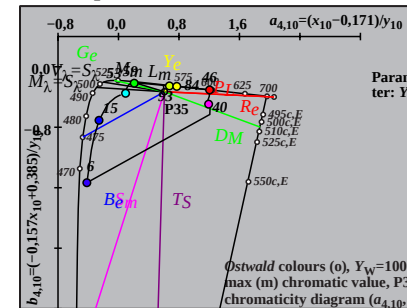
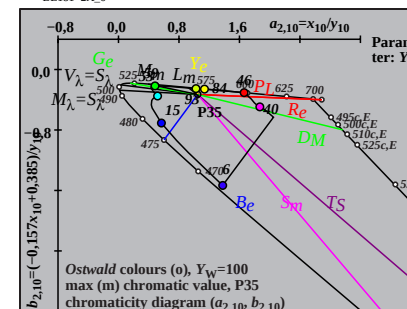
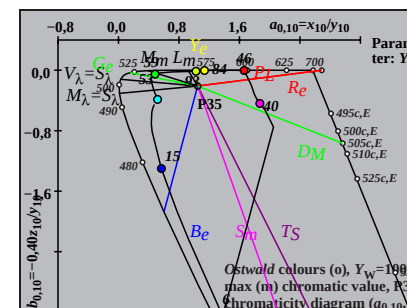
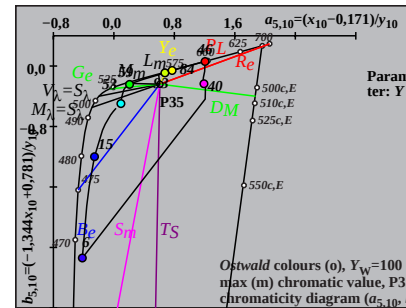
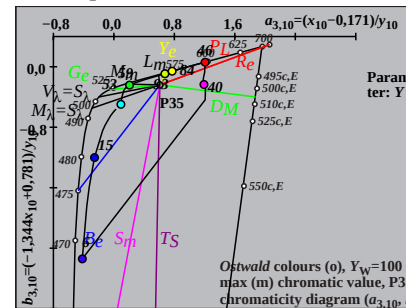
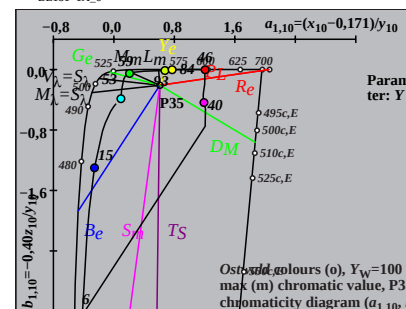
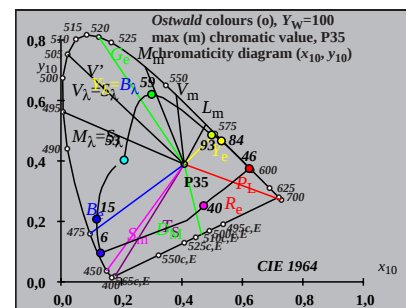
TUB registration: 20170801-BE18/BE18L0NP.PDF /.PS  
- application for measurement of offset print output

TUB material: code=rha4ta

Ostwald optimal colours (o) of maximum (m)  $C_{AB,10}$  for P35,  $Y_{w,10}=100$ ,  $Y_m=520_{-770}$

| $i_1, \lambda_1$ | $i_2, \lambda_2$ | $X_{10}$ | $Y_{10}$ | $Z_{10}$ | $x_{10}$ | $y_{10}$ | $z_{10}$ | $h_{xy,10}$ | $i_d, \lambda_d$ | $i_c, \lambda_c$ | Code |
|------------------|------------------|----------|----------|----------|----------|----------|----------|-------------|------------------|------------------|------|
| 1 405            | 33 566           | 27.75    | 53.73    | 51.44    | 0.2087   | 0.4042   | 0.387    | 175.7       | 16 484           | 38 594           | Cm   |
| 7 435            | 33 566           | 25.61    | 54.01    | 38.12    | 0.2175   | 0.4586   | 0.3237   | 159.9       | 17 488           | 58 694           |      |
| 10 450           | 33 567           | 23.89    | 54.22    | 25.26    | 0.231    | 0.5245   | 0.2444   | 142.5       | 19 496           | -1 496c          |      |
| 12 460           | 33 568           | 23.52    | 54.77    | 16.9     | 0.2471   | 0.5753   | 0.1775   | 130.7       | 21 505           | -1 505c          |      |
| 12 465           | 34 570           | 24.62    | 55.93    | 16.9     | 0.2526   | 0.5739   | 0.1734   | 129.9       | 21 506           | -1 506c          |      |
| 14 470           | 34 572           | 25.61    | 56.88    | 10.08    | 0.2766   | 0.6144   | 0.1089   | 120.1       | 24 521           | -1 521c          |      |
| 14 475           | 35 576           | 28.96    | 59.98    | 10.08    | 0.2924   | 0.6057   | 0.1018   | 118.0       | 24 524           | -1 524c          | Gm   |
| 16 480           | 36 583           | 35.5     | 64.25    | 5.66     | 0.3368   | 0.6094   | 0.0537   | 107.8       | 28 540           | -1 540c          |      |
| 17 485           | 39 598           | 52.31    | 74.44    | 4.19     | 0.3994   | 0.5684   | 0.032    | 92.5        | 30 552           | -1 552c          |      |
| 17 490           | -1 489c          | 96.42    | 95.09    | 4.19     | 0.4926   | 0.4858   | 0.0214   | 48.6        | 33 568           | 11 459           | max  |
| 18 495           | -1 494c          | 96.38    | 93.95    | 3.09     | 0.4982   | 0.4857   | 0.0159   | 46.7        | 33 569           | 12 461           |      |
| 19 500           | -1 499c          | 96.37    | 92.58    | 2.26     | 0.5039   | 0.4841   | 0.0118   | 44.5        | 34 570           | 12 464           |      |
| 22 510           | -1 510c          | 96.06    | 86.74    | 0.83     | 0.523    | 0.4723   | 0.0045   | 35.7        | 34 572           | 14 470           | Ym   |
| 24 520           | -1 520c          | 95.17    | 81.19    | 0.38     | 0.5384   | 0.4593   | 0.0022   | 28.1        | 35 575           | 14 473           |      |
| 26 530           | -1 530c          | 93.33    | 74.43    | 0.15     | 0.5558   | 0.4432   | 0.0008   | 20.0        | 35 578           | 15 476           |      |
| 27 540           | -1 539c          | 91.97    | 70.65    | 0.08     | 0.5652   | 0.4342   | 0.0005   | 15.9        | 36 580           | 15 478           |      |
| 28 545           | -1 544c          | 90.26    | 66.66    | 0.03     | 0.575    | 0.4246   | 0.0002   | 11.9        | 36 581           | 15 479           |      |
| 30 550           | -1 550c          | 85.74    | 58.24    | 0.0      | 0.5954   | 0.4044   | 0.0      | 4.6         | 37 586           | 16 481           |      |
| 31 555           | -1 555c          | 82.83    | 53.86    | 0.0      | 0.6059   | 0.394    | 0.0      | 1.3         | 37 588           | 16 482           |      |
| 32 560           | -1 560c          | 79.47    | 49.42    | 0.0      | 0.6165   | 0.3834   | 0.0      | 358.3       | 38 591           | 16 483           |      |
| 33 566           | 1 405            | 76.96    | 46.26    | 0.71     | 0.6209   | 0.3732   | 0.0057   | 355.7       | 38 594           | 16 484           | Rm   |
| 33 566           | 7 435            | 79.1     | 45.98    | 14.03    | 0.5685   | 0.3305   | 0.1008   | 339.9       | 58 694           | 17 488           |      |
| 33 567           | 10 450           | 80.82    | 45.77    | 26.89    | 0.5265   | 0.2982   | 0.1752   | 322.5       | -1 496c          | 19 496           |      |
| 33 568           | 12 460           | 81.18    | 45.22    | 35.26    | 0.5021   | 0.2797   | 0.2181   | 310.8       | -1 505c          | 21 505           |      |
| 34 570           | 12 465           | 80.09    | 44.06    | 35.26    | 0.5024   | 0.2764   | 0.2211   | 310.0       | -1 506c          | 21 506           |      |
| 34 572           | 14 470           | 79.1     | 43.11    | 42.07    | 0.4814   | 0.2624   | 0.2561   | 300.2       | -1 521c          | 24 521           |      |
| 35 576           | 14 475           | 75.75    | 40.01    | 42.07    | 0.4799   | 0.2534   | 0.2665   | 298.0       | -1 524c          | 24 524           | Mm   |
| 36 583           | 16 480           | 69.2     | 35.74    | 46.49    | 0.4569   | 0.236    | 0.307    | 287.8       | -1 540c          | 28 540           |      |
| 39 598           | 17 485           | 52.39    | 25.55    | 47.96    | 0.4161   | 0.2029   | 0.3809   | 272.6       | -1 552c          | 30 552           |      |
| -1 489c          | 17 490           | 8.29     | 4.9      | 47.96    | 0.1355   | 0.0802   | 0.7842   | 228.6       | 11 459           | 33 568           | min  |
| -1 494c          | 18 495           | 8.32     | 6.04     | 49.07    | 0.1312   | 0.0952   | 0.7735   | 226.7       | 12 461           | 33 569           |      |
| -1 499c          | 19 500           | 8.33     | 7.41     | 49.9     | 0.127    | 0.1128   | 0.76     | 224.5       | 12 464           | 34 570           |      |
| -1 510c          | 22 510           | 8.65     | 13.25    | 51.32    | 0.1181   | 0.1809   | 0.7008   | 215.7       | 14 470           | 34 572           |      |
| -1 520c          | 24 520           | 9.53     | 18.8     | 51.77    | 0.119    | 0.2347   | 0.6462   | 208.1       | 14 473           | 35 575           | Bm   |
| -1 530c          | 26 530           | 11.37    | 25.56    | 52.01    | 0.1279   | 0.2873   | 0.5847   | 200.0       | 15 476           | 35 578           |      |
| -1 539c          | 27 540           | 12.74    | 29.34    | 52.07    | 0.1353   | 0.3116   | 0.553    | 195.9       | 15 478           | 36 580           |      |
| -1 544c          | 28 545           | 14.44    | 33.33    | 52.12    | 0.1445   | 0.3336   | 0.5217   | 191.9       | 15 479           | 36 581           |      |
| -1 550c          | 30 550           | 18.97    | 41.75    | 52.15    | 0.168    | 0.3698   | 0.462    | 184.6       | 16 481           | 37 586           |      |
| -1 555c          | 31 555           | 21.87    | 46.13    | 52.16    | 0.182    | 0.3839   | 0.434    | 181.3       | 16 482           | 37 588           |      |
| -1 560c          | 32 560           | 25.23    | 50.57    | 52.16    | 0.1972   | 0.3952   | 0.4075   | 178.3       | 16 483           | 38 591           |      |
| 380              | 770              | 104.71   | 99.99    | 52.16    | 0.4076   | 0.3892   | 0.203    | 0.0         |                  |                  |      |

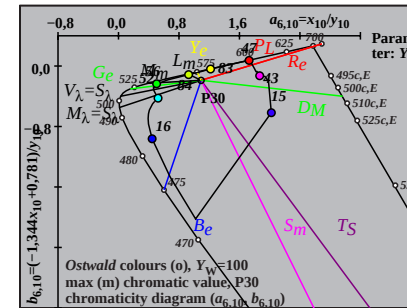
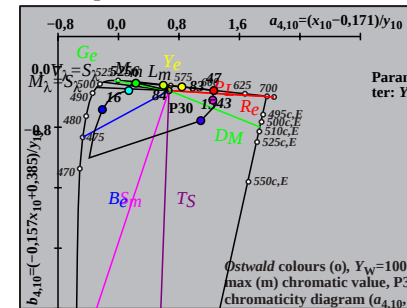
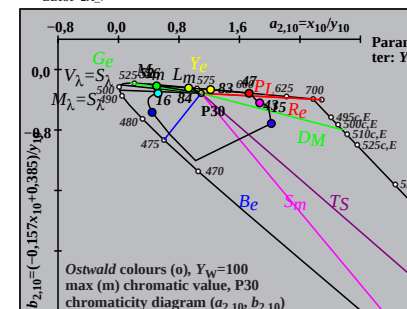
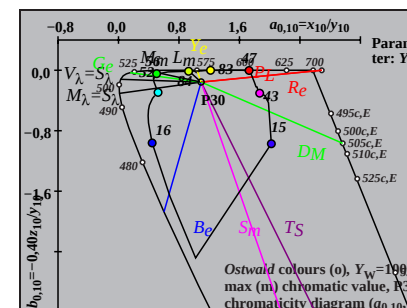
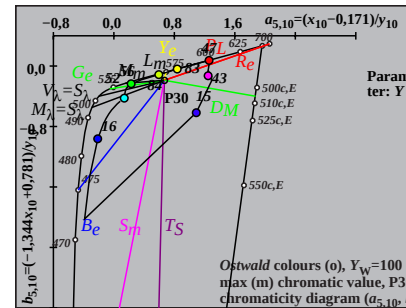
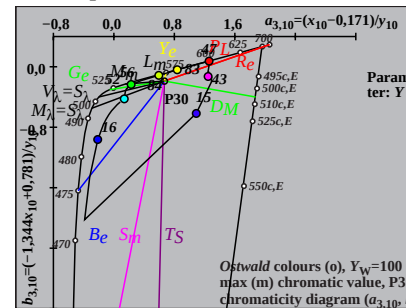
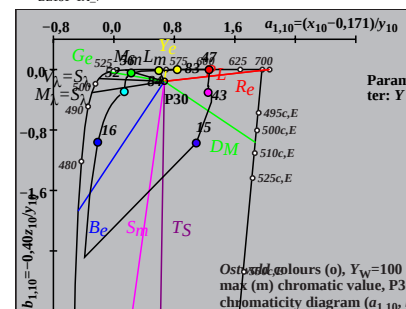
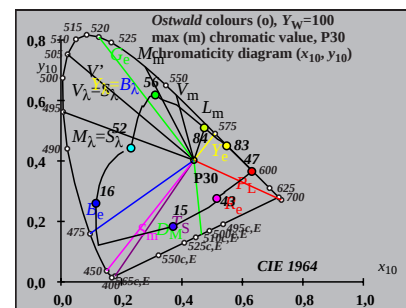
TUB-test chart BE18; CIE ( $x_{10}, y_{10}$ ) and chromaticities ( $a_{i,10}, b_{i,10}$ ) input: w/rgb/cmyk -> rgb  
Ostwald optimal colours for illuminant P35; diagram for illuminant P35,  $Y_{w,10}=100$



Ostwald optimal colours (o) of maximum (m)  $C_{AB,10}$  for P30,  $Y_{w,10}=100$ ,  $Y_m=520\_770$

| $i_1, \lambda_1$ | $i_2, \lambda_2$ | $X_{10}$ | $Y_{10}$ | $Z_{10}$ | $x_{10}$ | $y_{10}$ | $z_{10}$ | $h_{xy,10}$ | $i_d, \lambda_d$ | $i_c, \lambda_c$ | Code |
|------------------|------------------|----------|----------|----------|----------|----------|----------|-------------|------------------|------------------|------|
| 1 405            | 33 569           | 27.54    | 52.67    | 38.75    | 0.2314   | 0.4427   | 0.3257   | 169.0       | 17 486           | 39 596           | Cm   |
| 6 435            | 33 569           | 26.62    | 52.97    | 32.23    | 0.238    | 0.4737   | 0.2882   | 160.5       | 17 489           | 43 615           |      |
| 9 450            | 34 570           | 25.48    | 53.24    | 23.47    | 0.2493   | 0.5209   | 0.2296   | 148.0       | 18 494           | -1 494c          |      |
| 12 460           | 34 571           | 24.7     | 53.48    | 13.81    | 0.2685   | 0.5813   | 0.1501   | 133.7       | 21 505           | -1 505c          |      |
| 13 465           | 34 572           | 25.16    | 54.01    | 10.93    | 0.2792   | 0.5994   | 0.1213   | 129.1       | 22 512           | -1 512c          |      |
| 14 470           | 34 573           | 26.34    | 55.05    | 8.45     | 0.2931   | 0.6127   | 0.094    | 124.8       | 24 520           | -1 520c          |      |
| 14 475           | 35 576           | 28.9     | 57.35    | 8.45     | 0.3051   | 0.6055   | 0.0892   | 123.5       | 24 523           | -1 523c          | Gm   |
| 15 480           | 36 581           | 33.68    | 60.98    | 6.44     | 0.3331   | 0.6031   | 0.0637   | 117.9       | 26 534           | -1 534c          |      |
| 16 485           | 38 590           | 43.87    | 67.78    | 4.86     | 0.3765   | 0.5817   | 0.0417   | 109.4       | 29 546           | -1 546c          |      |
| 18 490           | 44 620           | 78.94    | 84.98    | 2.72     | 0.4737   | 0.5099   | 0.0163   | 72.4        | 32 564           | -1 564c          | max  |
| 19 495           | -1 495c          | 103.18   | 94.0     | 2.01     | 0.5179   | 0.4719   | 0.0101   | 41.6        | 34 572           | 13 465           |      |
| 20 500           | -1 500c          | 103.15   | 92.59    | 1.47     | 0.523    | 0.4694   | 0.0074   | 38.8        | 34 572           | 13 467           |      |
| 21 510           | -1 509c          | 103.07   | 90.89    | 1.07     | 0.5284   | 0.466    | 0.0055   | 35.6        | 34 573           | 13 469           | Ym   |
| 23 520           | -1 519c          | 102.59   | 86.52    | 0.54     | 0.5409   | 0.4562   | 0.0028   | 27.9        | 35 575           | 14 473           |      |
| 26 530           | -1 530c          | 100.39   | 77.56    | 0.14     | 0.5636   | 0.4355   | 0.0008   | 14.9        | 35 579           | 15 478           |      |
| 28 540           | -1 540c          | 97.47    | 70.17    | 0.03     | 0.5812   | 0.4185   | 0.0002   | 6.4         | 36 583           | 16 481           |      |
| 29 545           | -1 545c          | 95.47    | 66.16    | 0.01     | 0.5906   | 0.4093   | 0.0      | 2.6         | 37 585           | 16 482           |      |
| 30 550           | -1 550c          | 93.06    | 61.97    | 0.0      | 0.6002   | 0.3997   | 0.0      | 359.0       | 37 587           | 16 483           |      |
| 31 555           | -1 555c          | 90.18    | 57.64    | 0.0      | 0.61     | 0.3899   | 0.0      | 355.8       | 37 589           | 16 484           |      |
| 32 560           | -1 560c          | 86.82    | 53.2     | 0.0      | 0.62     | 0.3799   | 0.0      | 352.8       | 38 592           | 17 485           |      |
| 33 569           | 1 405            | 81.75    | 47.32    | 0.44     | 0.6311   | 0.3653   | 0.0034   | 349.0       | 39 596           | 17 486           | Rm   |
| 33 569           | 6 435            | 82.67    | 47.02    | 6.96     | 0.6049   | 0.344    | 0.0509   | 340.5       | 43 615           | 17 489           |      |
| 34 570           | 9 450            | 83.8     | 46.75    | 15.72    | 0.5728   | 0.3196   | 0.1075   | 328.1       | -1 494c          | 18 494           |      |
| 34 571           | 12 460           | 84.58    | 46.51    | 25.38    | 0.5405   | 0.2972   | 0.1622   | 313.7       | -1 505c          | 21 505           |      |
| 34 572           | 13 465           | 84.13    | 45.98    | 28.26    | 0.5311   | 0.2903   | 0.1784   | 309.2       | -1 512c          | 22 512           |      |
| 34 573           | 14 470           | 82.95    | 44.94    | 30.74    | 0.5228   | 0.2833   | 0.1938   | 304.9       | -1 520c          | 24 520           |      |
| 35 576           | 14 475           | 80.38    | 42.64    | 30.74    | 0.5227   | 0.2772   | 0.1999   | 303.5       | -1 523c          | 24 523           | Mm   |
| 36 581           | 15 480           | 75.61    | 39.01    | 32.75    | 0.513    | 0.2646   | 0.2222   | 298.0       | -1 534c          | 26 534           |      |
| 38 590           | 16 485           | 65.42    | 32.21    | 34.33    | 0.4957   | 0.2441   | 0.2601   | 289.4       | -1 546c          | 29 546           |      |
| 44 620           | 18 490           | 30.34    | 15.01    | 36.47    | 0.3708   | 0.1834   | 0.4457   | 252.5       | -1 564c          | 32 564           | min  |
| -1 495c          | 19 495           | 6.11     | 5.99     | 37.18    | 0.1239   | 0.1215   | 0.7544   | 221.6       | 13 465           | 34 572           |      |
| -1 500c          | 20 500           | 6.13     | 7.4      | 37.72    | 0.1197   | 0.1444   | 0.7357   | 218.8       | 13 467           | 34 572           |      |
| -1 509c          | 21 510           | 6.21     | 9.1      | 38.12    | 0.1163   | 0.1704   | 0.7132   | 215.6       | 13 469           | 34 573           |      |
| -1 519c          | 23 520           | 6.69     | 13.47    | 38.65    | 0.1138   | 0.229    | 0.657    | 208.0       | 14 473           | 35 575           | Bm   |
| -1 530c          | 26 530           | 8.9      | 22.43    | 39.05    | 0.1264   | 0.3186   | 0.5548   | 194.9       | 15 478           | 35 579           |      |
| -1 540c          | 28 540           | 11.82    | 29.82    | 39.16    | 0.1463   | 0.369    | 0.4846   | 186.4       | 16 481           | 36 583           |      |
| -1 545c          | 29 545           | 13.82    | 33.83    | 39.18    | 0.1591   | 0.3896   | 0.4512   | 182.6       | 16 482           | 37 585           |      |
| -1 550c          | 30 550           | 16.23    | 38.02    | 39.19    | 0.1737   | 0.4068   | 0.4194   | 179.0       | 16 483           | 37 587           |      |
| -1 555c          | 31 555           | 19.1     | 42.35    | 39.19    | 0.1898   | 0.4207   | 0.3894   | 175.7       | 16 484           | 37 589           |      |
| -1 560c          | 32 560           | 22.46    | 46.79    | 39.19    | 0.2071   | 0.4314   | 0.3614   | 172.8       | 17 485           | 38 592           |      |
| 380              | 770              | 109.29   | 99.99    | 39.19    | 0.4398   | 0.4024   | 0.1577   | 0.0         |                  |                  |      |

TUB-test chart BE18; CIE ( $x_{10}, y_{10}$ ) and chromaticities ( $a_{i,10}, b_{i,10}$ ) input: w/rgb/cmyk -> rgb  
Ostwald optimal colours for illuminant P30; diagram for illuminant P30,  $Y_{w,10}=100$



TUB registration: 20170801-BE18/BE18L0NP.PDF / PS  
application for measurement of offset print output

TUB material: code=rha4ta

Ostwald optimal colours (o) of maximum (m)  $C_{AB,10}$  for P25,  $Y_{w,10}=100$ ,  $Y_m=520_{-770}$

| $i_1, \lambda_1$ | $i_2, \lambda_2$ | $X_{10}$ | $Y_{10}$ | $Z_{10}$ | $x_{10}$ | $y_{10}$ | $z_{10}$ | $h_{xy,10}$ | $i_d, \lambda_d$ | $i_c, \lambda_c$ | Code |
|------------------|------------------|----------|----------|----------|----------|----------|----------|-------------|------------------|------------------|------|
| 1 405            | 34 573           | 28.05    | 51.09    | 25.91    | 0.267    | 0.4863   | 0.2466   | 160.7       | 18 490           | 39 599           | Cm   |
| 6 435            | 34 573           | 27.6     | 51.3     | 22.18    | 0.273    | 0.5075   | 0.2194   | 155.2       | 18 492           | 42 613           |      |
| 9 450            | 34 573           | 26.95    | 51.5     | 16.72    | 0.2832   | 0.541    | 0.1757   | 146.7       | 19 497           | -1 497c          |      |
| 12 460           | 34 574           | 26.45    | 51.67    | 10.28    | 0.2991   | 0.5844   | 0.1163   | 136.3       | 21 506           | -1 506c          |      |
| 12 465           | 35 575           | 27.08    | 52.27    | 10.28    | 0.3021   | 0.5831   | 0.1147   | 136.1       | 21 507           | -1 507c          |      |
| 13 470           | 35 576           | 27.91    | 53.01    | 8.28     | 0.3129   | 0.5942   | 0.0928   | 132.5       | 22 513           | -1 513c          |      |
| 15 475           | 35 577           | 29.31    | 53.87    | 5.05     | 0.3321   | 0.6105   | 0.0572   | 126.7       | 25 527           | -1 527c          | Gm   |
| 16 480           | 36 580           | 32.49    | 56.11    | 3.88     | 0.3513   | 0.6066   | 0.042    | 123.4       | 27 536           | -1 536c          |      |
| 17 485           | 37 586           | 38.47    | 60.05    | 2.96     | 0.3791   | 0.5916   | 0.0292   | 119.3       | 28 544           | -1 544c          |      |
| 18 490           | 39 597           | 52.93    | 68.64    | 2.24     | 0.4274   | 0.5543   | 0.0181   | 110.3       | 31 555           | -1 555c          | max  |
| 19 495           | 58 690           | 112.13   | 95.41    | 1.68     | 0.5359   | 0.4559   | 0.008    | 38.2        | 35 575           | 13 466           |      |
| 20 500           | -1 500c          | 112.6    | 94.45    | 1.25     | 0.5405   | 0.4534   | 0.006    | 34.4        | 35 575           | 13 469           |      |
| 21 510           | -1 509c          | 112.53   | 93.06    | 0.92     | 0.5448   | 0.4506   | 0.0044   | 30.7        | 35 576           | 14 471           |      |
| 24 520           | -1 520c          | 111.7    | 87.05    | 0.32     | 0.561    | 0.4372   | 0.0016   | 17.3        | 35 579           | 15 477           | Ym   |
| 26 530           | -1 530c          | 110.18   | 81.48    | 0.13     | 0.5744   | 0.4248   | 0.0006   | 7.7         | 36 581           | 16 481           |      |
| 27 540           | -1 539c          | 109.0    | 78.23    | 0.07     | 0.5819   | 0.4176   | 0.0003   | 3.1         | 36 583           | 16 482           |      |
| 28 545           | -1 544c          | 107.49   | 74.69    | 0.03     | 0.5898   | 0.4099   | 0.0001   | 358.8       | 37 585           | 16 484           |      |
| 29 550           | -1 549c          | 105.61   | 70.92    | 0.01     | 0.5982   | 0.4017   | 0.0      | 354.9       | 37 586           | 17 485           |      |
| 31 555           | -1 555c          | 100.51   | 62.71    | 0.0      | 0.6157   | 0.3842   | 0.0      | 348.3       | 38 591           | 17 487           |      |
| 31 560           | -1 559c          | 100.51   | 62.71    | 0.0      | 0.6157   | 0.3842   | 0.0      | 348.3       | 38 591           | 17 487           |      |
| 34 573           | 1 405            | 88.48    | 48.9     | 0.22     | 0.643    | 0.3553   | 0.0016   | 340.8       | 39 599           | 18 490           | Rm   |
| 34 573           | 6 435            | 88.94    | 48.69    | 3.95     | 0.6281   | 0.3438   | 0.0279   | 335.2       | 42 613           | 18 492           |      |
| 34 573           | 9 450            | 89.58    | 48.49    | 9.4      | 0.6073   | 0.3288   | 0.0637   | 326.8       | -1 497c          | 19 497           |      |
| 34 574           | 12 460           | 90.09    | 48.32    | 15.84    | 0.584    | 0.3132   | 0.1027   | 316.4       | -1 506c          | 21 506           |      |
| 35 575           | 12 465           | 89.46    | 47.72    | 15.84    | 0.5845   | 0.3118   | 0.1035   | 316.1       | -1 507c          | 21 507           |      |
| 35 576           | 13 470           | 88.62    | 46.98    | 17.85    | 0.5775   | 0.3061   | 0.1163   | 312.5       | -1 513c          | 22 513           |      |
| 35 577           | 15 475           | 87.23    | 46.12    | 21.08    | 0.5648   | 0.2986   | 0.1365   | 306.7       | -1 527c          | 25 527           | Mm   |
| 36 580           | 16 480           | 84.04    | 43.88    | 22.25    | 0.5596   | 0.2922   | 0.1481   | 303.5       | -1 536c          | 27 536           |      |
| 37 586           | 17 485           | 78.06    | 39.94    | 23.17    | 0.5529   | 0.2829   | 0.1641   | 299.4       | -1 544c          | 28 544           |      |
| 39 597           | 18 490           | 63.61    | 31.35    | 23.89    | 0.5351   | 0.2637   | 0.201    | 290.3       | -1 555c          | 31 555           | min  |
| 58 690           | 19 495           | 4.4      | 4.58     | 24.44    | 0.1318   | 0.1372   | 0.7309   | 218.2       | 13 466           | 35 575           |      |
| -1 500c          | 20 500           | 3.94     | 5.54     | 24.88    | 0.1147   | 0.1612   | 0.724    | 214.4       | 13 469           | 35 575           |      |
| -1 509c          | 21 510           | 4.0      | 6.93     | 25.21    | 0.1108   | 0.1918   | 0.6972   | 210.8       | 14 471           | 35 576           |      |
| -1 520c          | 24 520           | 4.84     | 12.94    | 25.8     | 0.111    | 0.2968   | 0.592    | 197.3       | 15 477           | 35 579           | Bm   |
| -1 530c          | 26 530           | 6.36     | 18.51    | 26.0     | 0.125    | 0.3638   | 0.511    | 187.7       | 16 481           | 36 581           |      |
| -1 539c          | 27 540           | 7.54     | 21.76    | 26.06    | 0.1361   | 0.3931   | 0.4706   | 183.1       | 16 482           | 36 583           |      |
| -1 544c          | 28 545           | 9.05     | 25.3     | 26.1     | 0.1496   | 0.4185   | 0.4317   | 178.8       | 16 484           | 37 585           |      |
| -1 549c          | 29 550           | 10.92    | 29.07    | 26.12    | 0.1652   | 0.4396   | 0.395    | 174.9       | 17 485           | 37 586           |      |
| -1 555c          | 31 555           | 16.02    | 37.28    | 26.13    | 0.2017   | 0.4692   | 0.329    | 168.3       | 17 487           | 38 591           |      |
| -1 559c          | 31 560           | 16.02    | 37.28    | 26.13    | 0.2017   | 0.4692   | 0.329    | 168.3       | 17 487           | 38 591           |      |
| 380              | 770              | 116.54   | 99.99    | 26.13    | 0.4802   | 0.412    | 0.1077   | 0.0         |                  |                  |      |

TUB-test chart BE18; CIE ( $x_{10}, y_{10}$ ) and chromaticities ( $a_{i,10}, b_{i,10}$ ) input: w/rgb/cmyk -> rgb  
Ostwald optimal colours for illuminant P25; diagram for illuminant P25,  $Y_{w,10}=100$

