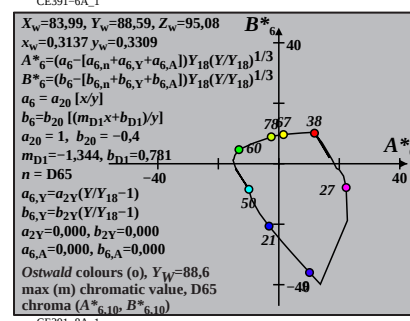
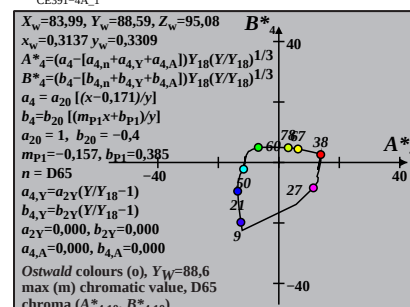
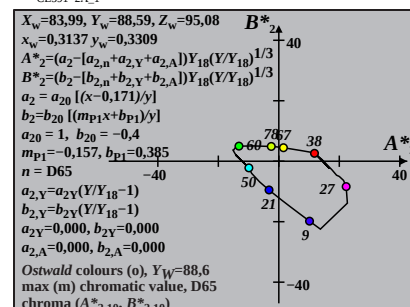
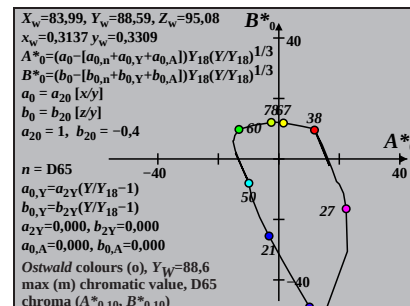
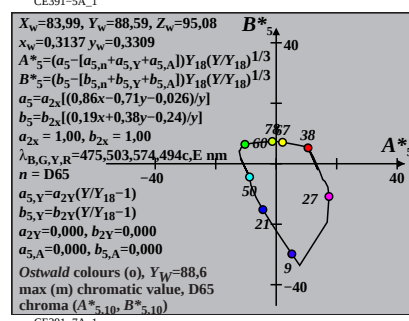
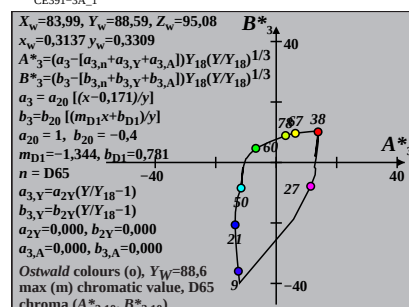
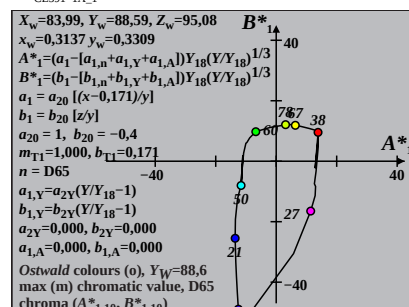
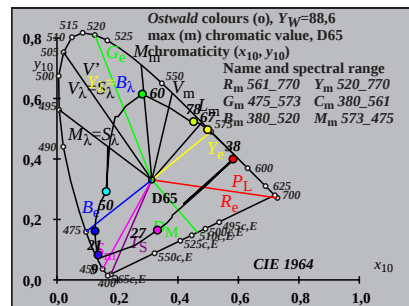


Ostwald optimal colours (o) of maximum (m) $C_{AB,10}$ for D65, $Y_w=88,6$, $Y_m=520\text{--}770$

i_1, λ_1	i_2, λ_2	L^*_{10}	a^*_{10}	b^*_{10}	$C^*_{ab,10}$	a'_{10}	b'_{10}	$h_{ab,10}$	i_d, λ_d	i_c, λ_c	Code
0 405	31 556	76.14	-63.69	-32.73	71.61	0.1807	-0.1034	207.2	15 476	37 585	Cm
6 435	31 557	76.6	-79.33	-17.09	81.15	0.1724	-0.0949	192.1	16 480	44 621	
10 450	31 559	76.66	-104.0	14.38	104.99	0.1591	-0.078	172.1	18 491	-1 491c	
11 460	32 562	77.59	-106.96	26.3	110.15	0.1581	-0.0717	166.1	19 498	-1 498c	
12 465	33 565	78.44	-108.31	38.66	115.0	0.1579	-0.0653	160.3	21 506	-1 506c	
14 470	34 570	79.55	-105.44	62.82	122.74	0.1601	-0.053	149.2	24 522	-1 522c	
15 475	35 579	82.28	-90.9	78.08	119.83	0.169	-0.0462	139.3	26 533	-1 533c	Gm
16 480	41 606	88.26	-51.22	98.09	110.66	0.1907	-0.0389	117.5	30 550	-1 550c	
16 485	-1 484c	92.47	-19.41	105.36	107.14	0.2063	-0.0374	100.4	32 560	10 454	
18 490	-1 490c	91.19	-14.24	119.52	120.37	0.2086	-0.0302	96.7	32 562	11 459	max
19 495	-1 495c	90.38	-10.78	125.17	125.64	0.2101	-0.0271	94.9	32 563	12 461	
19 500	-1 499c	90.38	-10.78	125.17	125.64	0.2101	-0.0271	94.9	32 563	12 461	
22 510	-1 510c	87.03	2.81	136.08	136.11	0.2166	-0.0195	88.8	33 566	13 466	
23 520	-1 519c	85.59	8.2	138.07	138.32	0.2192	-0.0174	86.5	33 568	13 468	Ym
26 530	-1 530c	80.1	26.24	135.8	138.31	0.2288	-0.0115	79.0	34 573	14 472	
27 540	-1 539c	77.92	32.52	133.12	137.03	0.2325	-0.0095	76.2	35 576	14 473	
28 545	-1 544c	75.58	38.77	129.76	135.43	0.2363	-0.0075	73.3	35 578	14 474	
29 550	-1 549c	73.08	44.94	125.82	133.6	0.2404	-0.0054	70.3	36 580	15 475	
31 555	-1 555c	67.68	56.46	116.69	129.64	0.2489	0.0	64.1	37 586	15 476	
32 560	10 451	66.12	81.07	-15.27	82.5	0.2645	-0.095	349.3	-1 492c	18 492	
31 556	0 405	76.0	48.11	59.74	76.71	0.2413	-0.0534	51.1	37 585	15 476	Rm
31 557	6 435	75.53	57.37	22.48	61.62	0.2465	-0.0735	21.4	44 621	16 480	
31 559	10 450	75.47	68.68	-12.46	69.8	0.2527	-0.0925	349.7	-1 491c	18 491	
32 562	11 460	74.5	72.44	-20.87	75.39	0.2552	-0.0972	343.9	-1 498c	19 498	
33 565	12 465	73.57	75.5	-28.15	80.57	0.2573	-0.1013	339.5	-1 506c	21 506	
34 570	14 470	72.31	77.62	-38.5	86.64	0.2591	-0.1074	333.6	-1 522c	24 522	
35 579	15 475	68.89	79.19	-47.07	92.12	0.2618	-0.1133	329.2	-1 533c	26 533	Mm
41 606	16 480	59.35	70.77	-65.44	96.39	0.2621	-0.1289	317.2	-1 550c	30 550	
-1 484c	16 485	49.78	43.57	-81.94	92.81	0.2483	-0.1477	298.0	10 454	32 560	
-1 490c	18 490	53.06	30.12	-78.58	84.16	0.237	-0.1423	290.9	11 459	32 562	min
-1 495c	19 495	54.95	22.04	-76.01	79.14	0.2307	-0.139	286.1	12 461	32 563	
-1 499c	19 500	54.95	22.04	-76.01	79.14	0.2307	-0.139	286.1	12 461	32 563	
-1 510c	22 510	61.59	-5.06	-65.65	65.85	0.2119	-0.1278	265.5	13 466	33 566	
-1 519c	23 520	64.03	-14.04	-61.63	63.21	0.2064	-0.124	257.1	13 468	33 568	Bm
-1 530c	26 530	71.66	-37.09	-48.77	61.27	0.1941	-0.1134	232.7	14 472	34 573	
-1 539c	27 540	74.15	-42.73	-44.52	61.71	0.1915	-0.1103	226.1	14 473	35 576	
-1 544c	28 545	76.56	-47.17	-40.39	62.1	0.1897	-0.1074	220.5	14 474	35 578	
-1 549c	29 550	78.88	-50.39	-36.41	62.17	0.1887	-0.1048	215.8	15 475	36 580	
-1 555c	31 555	83.16	-53.18	-29.03	60.59	0.1884	-0.1003	208.6	15 476	37 586	
10 451	32 560	84.24	-82.62	12.24	83.52	0.174	-0.0796	171.5	18 492	-1 492c	
380	770	95.41	0.0	0.0	0.0	0.2152	-0.0857	0.0			

TUB-test chart CE39; CIE (x_{10}, y_{10}) and chroma ($A^*_{i,10}, B^*_{i,10}$)
Ostwald optimal colours for illuminant P60; diagram for illuminant P60, $Y_w=88,6$

input: w/rgb/cmyk -> rgb



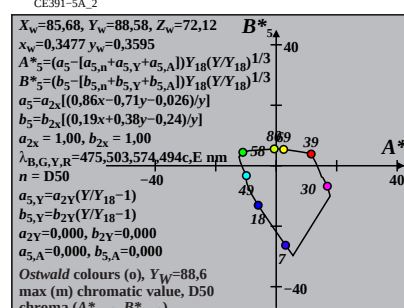
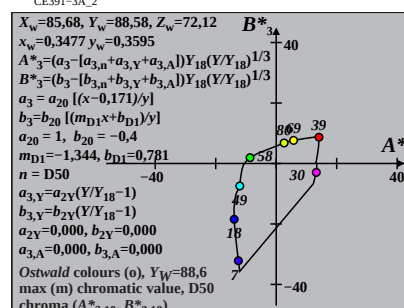
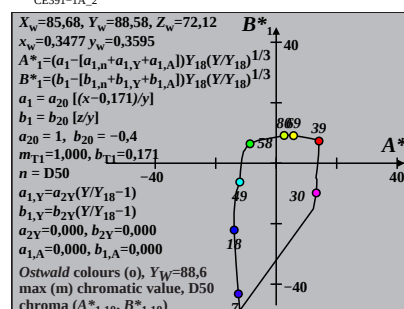
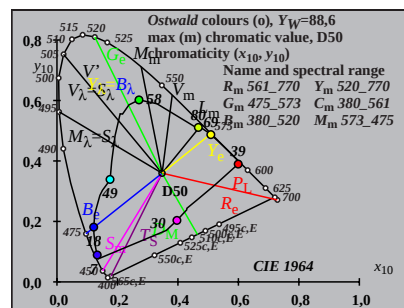
Ostwald optimal colours (o) of maximum (m) $C_{AB,10}$ for D50, $Y_{w,10}=88,6$, $Y_m=520_770$

i_1, λ_1	i_2, λ_2	L^*_{10}	a^*_{10}	b^*_{10}	$C^*_{ab,10}$	a^*_{10}	b^*_{10}	$h_{ab,10}$	i_d, λ_d	i_c, λ_c	Code
1 405	31 559	75.81	-74.14	-32.84	81.09	0.176	-0.0944	203.8	15 479	37 589	Cm
7 435	32 561	76.06	-88.18	-14.56	89.37	0.1685	-0.0853	189.3	16 484	58 693	
10 450	32 562	76.19	-101.94	9.91	102.42	0.161	-0.0733	174.4	18 493	-1 493c	
12 460	32 564	76.6	-107.87	31.3	112.32	0.1581	-0.0628	163.8	20 503	-1 503c	
13 465	33 566	77.17	-107.42	43.33	115.84	0.1587	-0.0571	158.0	22 512	-1 512c	
14 470	34 570	78.3	-103.34	56.29	117.68	0.1615	-0.0511	151.4	24 521	-1 521c	
15 475	35 576	80.26	-93.29	70.23	116.78	0.1679	-0.0451	143.0	26 531	-1 531c	Gm
16 480	38 590	84.26	-70.56	86.88	111.93	0.1812	-0.0388	129.0	28 543	-1 543c	
17 485	-1 485c	92.59	-10.86	109.97	110.51	0.2116	-0.0322	95.6	32 563	11 458	
18 490	-1 490c	92.0	-8.41	116.83	117.13	0.2127	-0.0291	94.1	32 564	12 460	max
19 495	-1 495c	91.29	-5.39	122.85	122.97	0.2141	-0.0262	92.5	33 565	12 462	
20 500	-1 500c	90.45	-1.83	128.06	128.07	0.2158	-0.0236	90.8	33 566	12 464	
21 510	-1 509c	89.46	2.21	132.39	132.41	0.2177	-0.0212	89.0	33 567	13 466	
24 520	-1 520c	85.49	17.03	141.32	142.34	0.2251	-0.015	83.1	34 571	14 471	Ym
25 530	-1 529c	83.78	22.72	140.61	142.43	0.2281	-0.0131	80.8	34 573	14 473	
28 540	-1 540c	77.61	40.65	133.26	139.33	0.2385	-0.0073	73.0	35 579	15 476	
29 545	-1 545c	75.23	46.62	129.53	137.66	0.2423	-0.0052	70.2	36 581	15 477	
29 550	-1 549c	75.23	46.62	129.53	137.66	0.2423	-0.0052	70.2	36 581	15 477	
31 555	-1 555c	70.05	57.92	120.77	133.95	0.2505	0.0	64.3	37 587	15 479	
32 560	2 411	67.3	63.8	87.6	108.37	0.2551	-0.0304	53.9	38 591	16 480	
31 559	1 405	76.33	53.04	58.6	79.04	0.2455	-0.0494	47.8	37 589	15 479	Rm
32 561	7 435	76.08	60.36	17.87	62.95	0.2496	-0.0694	16.4	58 693	16 484	
32 562	10 450	75.95	66.6	-8.85	67.19	0.2531	-0.0825	352.4	-1 493c	18 493	
32 564	12 460	75.54	70.06	-22.73	73.65	0.2551	-0.0894	342.0	-1 503c	20 503	
33 566	13 465	74.95	71.45	-28.72	77.01	0.2561	-0.0925	338.0	-1 512c	22 512	
34 570	14 470	73.73	72.95	-34.74	80.8	0.2575	-0.0957	334.5	-1 521c	24 521	
35 576	15 475	71.45	74.03	-41.62	84.93	0.2592	-0.0998	330.6	-1 531c	26 531	Mm
38 590	16 480	66.09	72.94	-53.03	90.18	0.2613	-0.1075	323.9	-1 543c	28 543	
-1 485c	17 485	49.46	26.62	-83.22	87.37	0.2371	-0.1358	287.7	11 458	32 563	
-1 490c	18 490	51.03	20.02	-81.6	84.02	0.2317	-0.1334	283.7	12 460	32 564	min
-1 495c	19 495	52.81	12.42	-79.34	80.31	0.2257	-0.1305	278.9	12 462	33 565	
-1 500c	20 500	54.79	4.07	-76.52	76.63	0.2195	-0.1272	273.0	12 464	33 566	
-1 509c	21 510	56.93	-4.73	-73.24	73.39	0.2134	-0.1237	266.3	13 466	33 567	
-1 520c	24 520	64.19	-31.07	-61.41	68.83	0.1971	-0.1129	243.1	14 471	34 571	Bm
-1 529c	25 530	66.8	-38.85	-57.03	69.01	0.193	-0.1094	235.7	14 473	34 573	
-1 540c	28 540	74.47	-55.6	-43.98	70.89	0.1857	-0.1002	218.3	15 476	35 579	
-1 545c	29 545	76.89	-58.7	-39.83	70.94	0.1849	-0.0976	214.1	15 477	36 581	
-1 549c	29 550	76.89	-58.7	-39.83	70.94	0.1849	-0.0976	214.1	15 477	36 581	
-1 555c	31 555	81.39	-61.1	-32.07	69.01	0.1851	-0.0931	207.6	15 479	37 587	
2 411	32 560	83.43	-61.66	-27.1	67.35	0.1854	-0.0905	203.7	16 480	38 591	
380	770	95.41	0.0	0.0	0.0	0.2166	-0.0782	0.0			

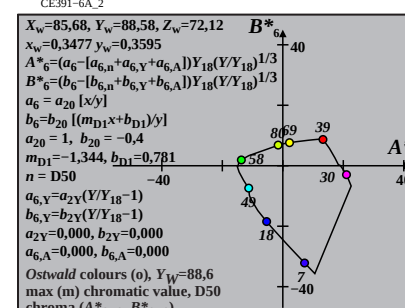
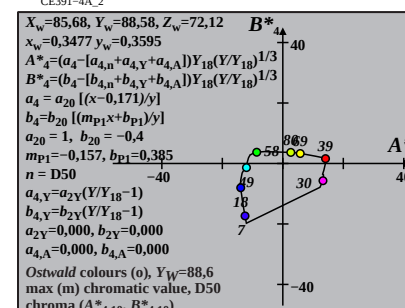
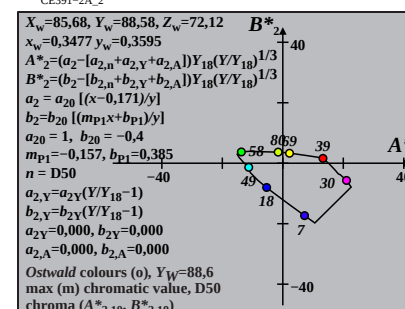
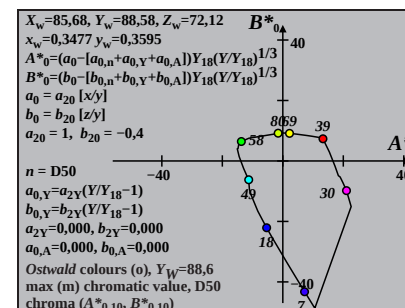
TUB-test chart CE39; CIE (x_{10}, y_{10}) and chroma ($A^*_{i,10}, B^*_{i,10}$)

Ostwald optimal colours for illuminant P55; diagram for illuminant P55, $Y_{w,10}=88,6$

input: w/rgb/cmyk -> rgb



CE391-7A_2



CE391-8A_2

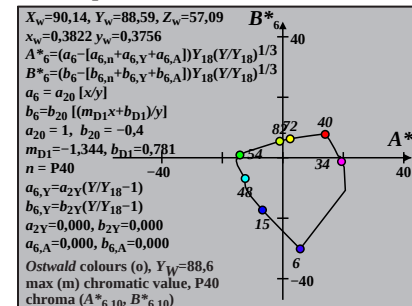
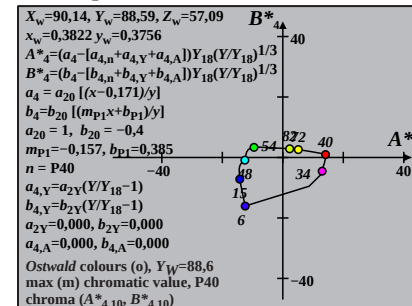
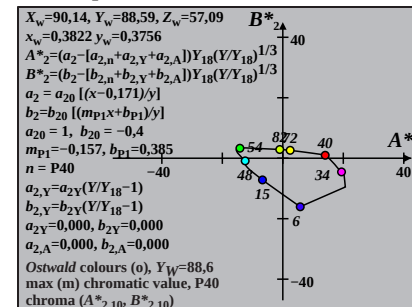
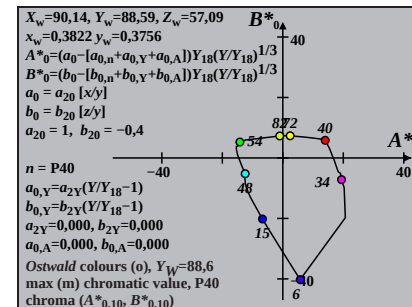
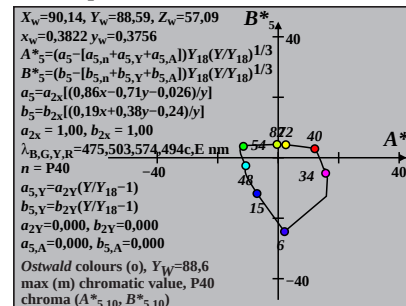
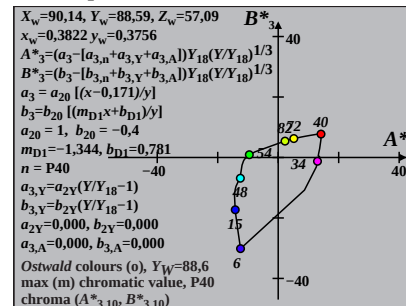
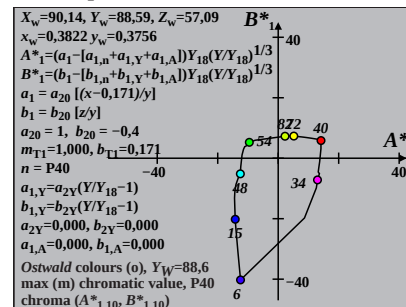
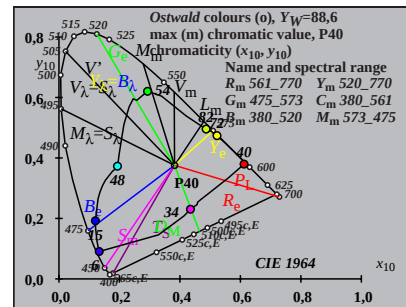
Ostwald optimal colours (o) of maximum (m) $C_{AB,10}$ for P40, $Y_{w,10}=88,6$, $Y_m=520_770$

i_1, λ_1	i_2, λ_2	L^*_{10}	a^*_{10}	b^*_{10}	$C^*_{ab,10}$	a'_{10}	b'_{10}	$h_{ab,10}$	i_d, λ_d	i_c, λ_c	Code
0 405	32 563	75.01	-78.15	-34.74	85.53	0.1764	-0.0883	203.9	16 481	38 591	Cm
7 435	32 564	75.18	-90.63	-14.29	91.75	0.1695	-0.0789	188.9	17 487	-1 487c	
10 450	33 565	75.32	-100.3	9.01	100.71	0.1642	-0.0682	174.8	19 495	-1 495c	
12 460	33 567	75.69	-103.79	29.0	107.76	0.1624	-0.059	164.3	21 505	-1 505c	
12 465	33 568	76.47	-101.63	30.33	106.06	0.1641	-0.0585	163.3	21 506	-1 506c	
14 470	34 571	77.13	-99.72	52.55	112.72	0.1656	-0.0486	152.2	24 521	-1 521c	
15 475	35 576	78.75	-92.17	65.41	113.02	0.1706	-0.0433	144.6	26 531	-1 531c	Gm
16 480	37 585	81.96	-75.87	80.35	110.51	0.1807	-0.0379	133.3	28 542	-1 542c	
17 485	42 611	88.62	-36.75	100.49	107.0	0.2024	-0.032	110.0	31 558	-1 558c	
17 490	-1 489c	93.2	-7.47	108.37	108.63	0.2168	-0.0306	93.9	33 566	11 458	max
19 495	-1 495c	92.1	-2.82	121.72	121.75	0.219	-0.025	91.3	33 568	12 463	
20 500	-1 500c	91.38	0.21	127.19	127.19	0.2204	-0.0226	89.9	33 569	13 465	
22 510	-1 510c	89.51	7.73	135.74	135.96	0.2241	-0.0183	86.7	34 571	13 469	
23 520	-1 519c	88.34	12.18	143.87	144.38	0.2263	-0.0163	85.1	34 572	14 471	Ym
25 530	-1 529c	85.49	22.06	143.82	145.5	0.2314	-0.0126	81.2	35 575	14 474	
28 540	-1 540c	79.96	38.44	137.33	142.61	0.2408	-0.007	74.3	36 581	15 477	
28 545	-1 544c	79.96	38.44	137.33	142.61	0.2408	-0.007	74.3	36 581	15 477	
30 550	-1 550c	75.47	49.47	130.1	139.19	0.248	-0.0029	69.1	37 585	15 479	
31 555	-1 555c	72.99	54.76	125.85	137.25	0.2518	0.0	66.4	37 587	16 480	
31 560	-1 559c	72.99	54.76	125.85	137.25	0.2518	0.0	66.4	37 587	16 480	
32 563	0 405	77.11	53.37	61.87	81.71	0.2496	-0.0444	49.2	38 591	16 481	Rm
32 564	7 435	76.94	59.41	16.73	61.73	0.253	-0.0647	15.7	-1 487c	17 487	
33 565	10 450	76.81	63.77	-7.84	64.25	0.2555	-0.0758	352.9	-1 495c	19 495	
33 567	12 460	76.45	66.07	-20.78	69.26	0.2569	-0.0817	342.5	-1 505c	21 505	
33 568	12 465	75.67	67.2	-22.12	70.75	0.2578	-0.0824	341.7	-1 506c	21 506	
34 571	14 470	74.99	68.14	-32.02	75.29	0.2586	-0.0871	334.8	-1 521c	24 521	
35 576	15 475	73.23	69.08	-38.0	78.84	0.2599	-0.0902	331.1	-1 531c	26 531	Mm
37 585	16 480	69.31	69.27	-46.95	83.69	0.2618	-0.0954	325.8	-1 542c	28 542	
42 611	17 485	58.64	56.13	-66.97	87.38	0.2588	-0.11	309.9	-1 558c	31 558	
-1 489c	17 490	47.74	20.07	-85.76	88.08	0.2364	-0.1288	283.1	11 458	33 566	min
-1 495c	19 495	50.79	7.17	-82.57	82.88	0.2258	-0.1242	274.9	12 463	33 568	
-1 500c	20 500	52.61	-0.53	-80.07	80.07	0.2199	-0.1213	269.6	13 465	33 569	
-1 510c	22 510	56.83	-17.46	-73.6	75.65	0.2081	-0.1147	256.6	13 469	34 571	
-1 519c	23 520	59.19	-26.14	-69.79	74.52	0.2025	-0.1113	249.4	14 471	34 572	Bm
-1 529c	25 530	64.19	-42.07	-61.49	74.51	0.1935	-0.1045	235.6	14 474	35 575	
-1 540c	28 540	71.82	-59.01	-48.54	76.41	0.186	-0.0955	219.4	15 477	36 581	
-1 544c	28 545	71.82	-59.01	-48.54	76.41	0.186	-0.0955	219.4	15 477	36 581	
-1 550c	30 550	76.66	-64.32	-40.23	75.87	0.1848	-0.0905	212.0	15 479	37 585	
-1 555c	31 555	78.96	-65.09	-36.27	74.51	0.1853	-0.0883	209.1	16 480	37 587	
-1 559c	31 560	78.96	-65.09	-36.27	74.51	0.1853	-0.0883	209.1	16 480	37 587	
380	770	95.41	0.0	0.0	0.0	0.2203	-0.0723	0.0			

TUB-test chart CE39; CIE (x_{10}, y_{10}) and chroma ($A^*_{i,10}, B^*_{i,10}$)

Ostwald optimal colours for illuminant P50; diagram for illuminant P50, $Y_{w,10}=88,6$

input: w/rgb/cmyk -> rgb



see similar files: <http://farbe.li.tu-berlin.de/CE39/CE39L0NP.PDF> /PS
technical information: <http://farbe.li.tu-berlin.de> or <http://130.149.60.45/~farbmeterik>

TUB registration: 20170801-CE39/CE39L0NP.PDF /PS
application for measurement of offset print output

TUB material: code=rha4ta

Ostwald optimal colours (o) of maximum (m) $C_{AB,10}$ for A00, $Y_{w,10}=88,6$, $Y_m=520_770$

i_1, λ_1	i_2, λ_2	L^*_{10}	a^*_{10}	b^*_{10}	$C^*_{ab,10}$	a'_{10}	b'_{10}	$h_{ab,10}$	i_d, λ_d	i_c, λ_c	Code
1 405	34 570	73.74	-85.09	-36.67	92.66	0.177	-0.0731	203.3	17 487	39 597	Cm
7 435	34 570	73.86	-89.97	-20.7	92.32	0.1742	-0.067	192.9	18 491	47 639	
9 450	34 571	74.03	-92.62	-7.66	92.94	0.1727	-0.062	184.7	19 495	-1 495c	
12 460	34 572	74.16	-95.85	18.39	97.6	0.1709	-0.0521	169.1	21 505	-1 505c	
13 465	34 573	74.43	-95.43	28.93	99.72	0.1713	-0.0481	163.1	22 512	-1 512c	
14 470	34 574	74.95	-93.68	40.09	101.89	0.1727	-0.044	156.8	24 520	-1 520c	
15 475	35 576	75.82	-89.67	51.52	103.42	0.1755	-0.0398	150.1	25 528	-1 528c	Gm
16 480	36 581	77.49	-82.26	63.76	104.08	0.1806	-0.0357	142.2	27 537	-1 537c	
17 485	37 588	80.42	-68.73	77.58	103.65	0.1894	-0.0315	131.5	29 547	-1 547c	
18 490	41 609	86.98	-36.46	97.04	103.66	0.2083	-0.0268	110.5	32 561	-1 561c	max
19 495	-1 495c	93.32	1.05	115.54	115.54	0.2274	-0.0228	89.4	34 573	13 465	
20 500	-1 500c	92.8	3.25	121.7	121.75	0.2285	-0.0207	88.4	34 573	13 468	
21 510	-1 509c	92.17	5.86	127.16	127.29	0.2298	-0.0187	87.3	34 574	14 470	
24 520	-1 520c	89.43	16.25	140.1	141.04	0.235	-0.0135	83.3	35 577	15 476	Ym
25 530	-1 529c	88.22	20.43	148.92	150.31	0.2372	-0.0118	82.1	35 578	15 477	
27 540	-1 539c	85.3	29.63	146.0	148.98	0.2423	-0.0084	78.5	36 581	16 480	
29 545	-1 545c	81.72	39.57	140.72	146.18	0.2482	-0.0048	74.2	37 585	16 483	
30 550	-1 550c	79.68	44.6	137.34	144.41	0.2515	-0.0027	72.0	37 587	16 484	
31 555	-1 555c	77.46	49.59	133.55	142.46	0.2549	0.0	69.6	37 589	17 485	
32 560	-1 560c	75.06	54.41	129.42	140.39	0.2584	0.0	67.1	38 592	17 486	
34 570	1 405	78.29	53.9	62.95	82.87	0.257	-0.0362	49.4	39 597	17 487	Rm
34 570	7 435	78.18	56.21	25.17	61.59	0.2583	-0.0499	24.1	47 639	18 491	
34 571	9 450	78.02	57.68	7.74	58.2	0.2592	-0.0563	7.6	-1 495c	19 495	
34 572	12 460	77.9	59.26	-13.81	60.85	0.2601	-0.0641	346.8	-1 505c	21 505	
34 573	13 465	77.65	59.7	-19.76	62.89	0.2605	-0.0663	341.6	-1 512c	22 512	
34 574	14 470	77.16	60.18	-25.13	65.21	0.2609	-0.0683	337.3	-1 520c	24 520	
35 576	15 475	76.32	60.48	-30.12	67.56	0.2614	-0.0703	333.5	-1 528c	25 528	Mm
36 581	16 480	74.61	60.92	-35.76	70.64	0.2623	-0.0726	329.5	-1 537c	27 537	
37 588	17 485	71.26	60.53	-43.56	74.58	0.2634	-0.0762	324.2	-1 547c	29 547	
41 609	18 490	61.68	50.84	-61.61	79.88	0.2614	-0.0863	309.5	-1 561c	32 561	min
-1 495c	19 495	47.38	-3.17	-87.44	87.5	0.2243	-0.1064	267.9	13 465	34 573	
-1 500c	20 500	48.88	-9.53	-85.73	86.25	0.2192	-0.1044	263.6	13 468	34 573	
-1 509c	21 510	50.6	-16.61	-83.41	85.05	0.2138	-0.1021	258.7	14 470	34 574	
-1 520c	24 520	57.0	-40.0	-73.54	83.71	0.198	-0.0937	241.4	15 476	35 577	Bm
-1 529c	25 530	59.42	-47.39	-69.57	84.18	0.1938	-0.0907	235.7	15 477	35 578	
-1 539c	27 540	64.49	-59.97	-61.09	85.61	0.1877	-0.0851	225.5	16 480	36 581	
-1 545c	29 545	69.63	-68.42	-52.33	86.14	0.1848	-0.0801	217.4	16 483	37 585	
-1 550c	30 550	72.16	-70.79	-47.99	85.53	0.1846	-0.0778	214.1	16 484	37 587	
-1 555c	31 555	74.64	-71.88	-43.71	84.13	0.1851	-0.0756	211.3	17 485	37 589	
-1 560c	32 560	77.06	-71.7	-39.54	81.88	0.1863	-0.0737	208.8	17 486	38 592	
380	770	95.41	0.0	0.0	0.0	0.2269	-0.0591	0.0			

1-001330-L0

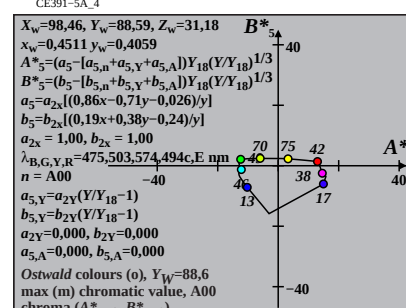
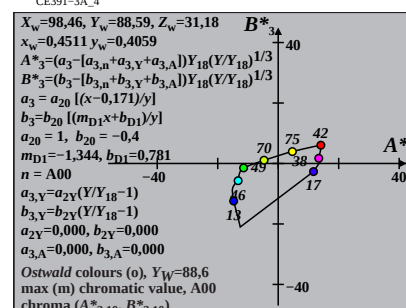
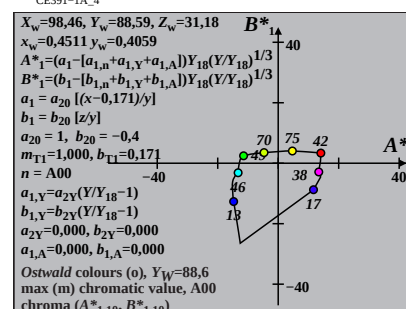
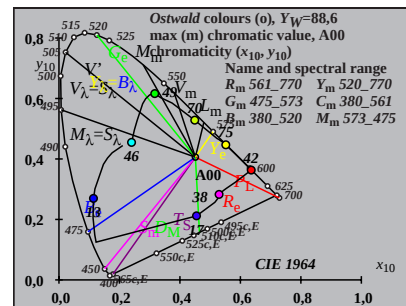
CE390-7N_16

TUB-test chart CE39; CIE (x_{10}, y_{10}) and chroma ($A^*_{i,10}, B^*_{i,10}$)

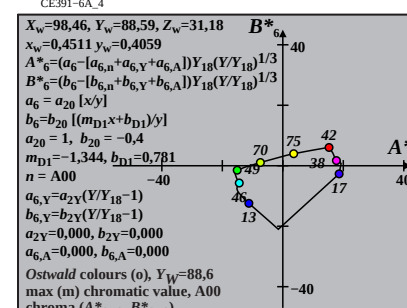
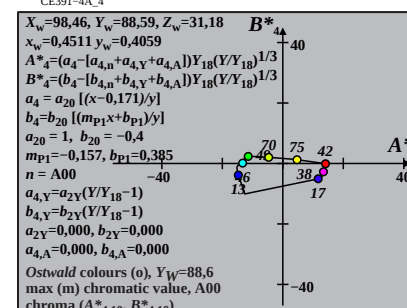
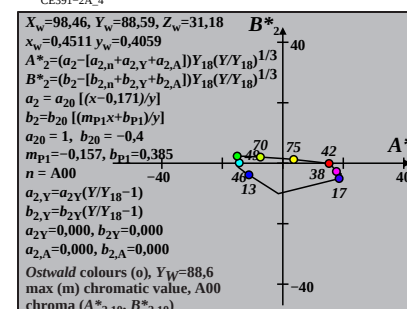
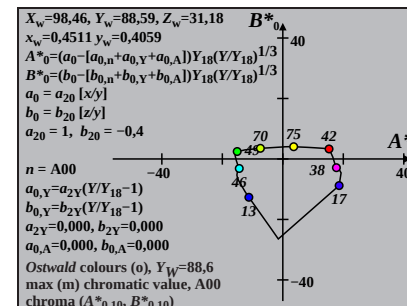
Ostwald optimal colours for illuminant P45; diagram for illuminant P45, $Y_{w,10}=88,6$

input: w/rgb/cmyk -> rgb

1-001330-F0



CE391-7A_4



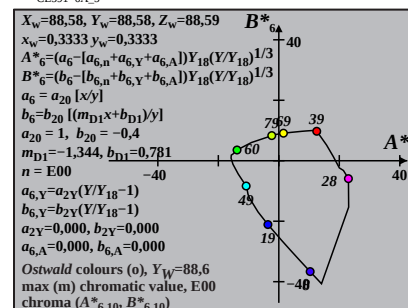
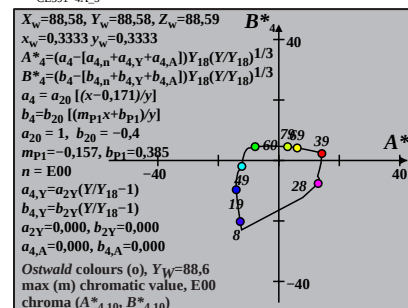
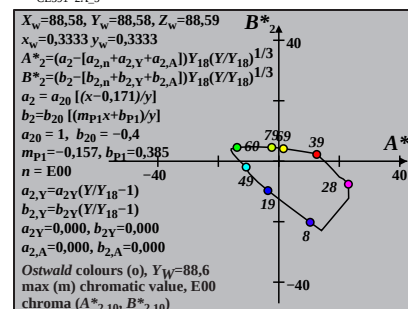
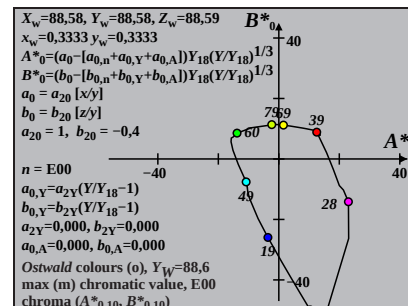
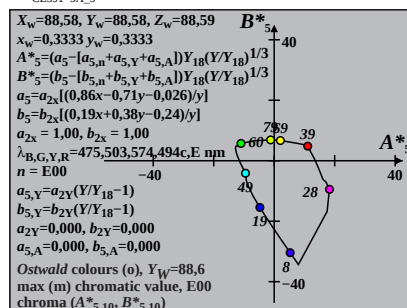
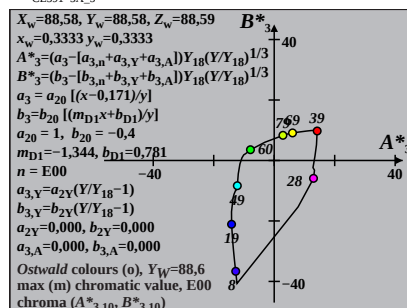
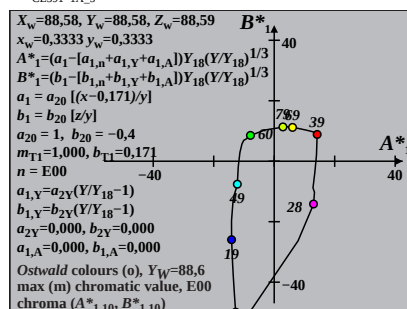
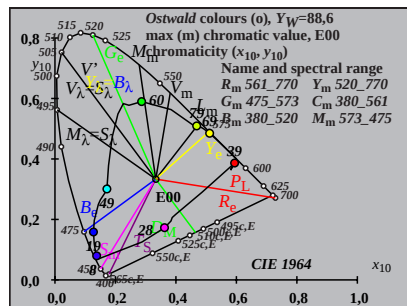
CE391-8A_4

Ostwald optimal colours (o) of maximum (m) $C_{AB,10}$ for $E00$, $Y_{w,10}=88,6$, $Y_m=520_770$

i_1, λ_1	i_2, λ_2	L^*_{10}	a^*_{10}	b^*_{10}	$C^*_{ab,10}$	a^*_{10}	b^*_{10}	$h_{ab,10}$	i_d, λ_d	i_c, λ_c	Code
1 405	31 559	75.65	-67.2	-32.61	74.69	0.1818	-0.101	205.8	15 477	37 589	Cm
7 435	32 561	75.87	-88.44	-8.71	88.87	0.1701	-0.0883	185.6	16 484	-1 484c	
10 450	32 562	76.06	-104.28	16.79	105.62	0.1615	-0.0748	170.8	18 493	-1 493c	
12 460	33 565	76.64	-110.19	37.99	116.55	0.1586	-0.0638	160.9	21 506	-1 506c	
13 465	33 568	77.42	-108.99	50.06	119.94	0.1597	-0.0577	155.3	23 515	-1 515c	
13 470	34 572	79.37	-102.27	53.42	115.38	0.1645	-0.0565	152.4	24 520	-1 520c	
14 475	36 581	82.07	-90.25	68.7	113.43	0.1723	-0.0497	142.7	26 532	-1 532c	Gm
16 480	40 604	87.54	-53.52	97.39	111.13	0.1928	-0.038	118.7	30 551	-1 551c	
17 485	-1 485c	92.28	-15.22	113.98	114.99	0.2119	-0.0326	97.6	32 564	11 456	
18 490	-1 490c	91.66	-12.62	120.55	121.21	0.2131	-0.0293	95.9	32 564	11 458	max
19 495	-1 495c	90.93	-9.49	126.23	126.58	0.2145	-0.0263	94.3	33 565	12 460	
20 500	-1 500c	90.06	-5.84	131.06	131.19	0.2162	-0.0236	92.5	33 566	12 462	
22 510	-1 510c	87.88	2.91	138.36	138.39	0.2205	-0.019	88.7	33 569	13 466	
23 520	-1 519c	86.54	7.96	140.28	140.5	0.223	-0.0169	86.7	34 570	13 468	Ym
25 530	-1 529c	83.36	18.92	140.03	141.3	0.2287	-0.013	82.3	34 573	14 470	
27 540	-1 539c	79.53	30.56	135.94	139.34	0.2353	-0.0092	77.3	35 577	14 473	
29 545	-1 545c	75.08	42.27	129.27	136.01	0.2426	-0.0052	71.8	36 582	15 475	
29 550	-1 549c	75.08	42.27	129.27	136.01	0.2426	-0.0052	71.8	36 582	15 475	
31 555	-1 555c	70.06	53.33	120.8	132.05	0.2505	0.0	66.1	37 587	15 476	
32 560	3 415	67.43	60.92	66.58	90.25	0.2562	-0.0449	47.5	39 595	15 478	
31 559	1 405	76.48	49.11	57.09	75.31	0.246	-0.0537	49.2	37 589	15 477	Rm
32 561	7 435	76.27	60.04	9.71	60.82	0.2521	-0.0786	9.1	-1 484c	16 484	
32 562	10 450	76.08	67.21	-13.83	68.62	0.2562	-0.091	348.3	-1 493c	18 493	
33 565	12 460	75.49	71.09	-25.93	75.67	0.2585	-0.0975	339.9	-1 506c	21 506	
33 568	13 465	74.68	72.8	-31.54	79.34	0.2599	-0.1006	336.5	-1 515c	23 515	
34 572	13 470	72.52	75.64	-35.27	83.46	0.2625	-0.1031	335.0	-1 520c	24 520	
36 581	14 475	69.17	78.13	-44.35	89.84	0.2657	-0.109	330.4	-1 532c	26 532	Mm
40 604	16 480	60.68	70.33	-63.25	94.59	0.2657	-0.1238	318.0	-1 551c	30 551	
-1 485c	17 485	50.29	34.87	-82.44	89.51	0.2458	-0.1441	292.9	11 456	32 564	
-1 490c	18 490	51.91	28.09	-80.6	85.35	0.2401	-0.1414	289.2	11 458	32 564	min
-1 495c	19 495	53.69	20.46	-78.19	80.82	0.234	-0.1382	284.6	12 460	33 565	
-1 500c	20 500	55.65	12.15	-75.29	76.27	0.2277	-0.1348	279.1	12 462	33 566	
-1 510c	22 510	60.05	-5.57	-68.3	68.53	0.2153	-0.1274	265.3	13 466	33 569	
-1 519c	23 520	62.45	-14.46	-64.35	65.96	0.2097	-0.1236	257.3	13 468	34 570	Bm
-1 529c	25 530	67.4	-30.6	-56.04	63.85	0.2004	-0.1164	241.3	14 470	34 573	
-1 539c	27 540	72.33	-43.16	-47.64	64.29	0.1942	-0.1099	227.8	14 473	35 577	
-1 545c	29 545	77.04	-51.32	-39.57	64.81	0.191	-0.1044	217.6	15 475	36 582	
-1 549c	29 550	77.04	-51.32	-39.57	64.81	0.191	-0.1044	217.6	15 475	36 582	
-1 555c	31 555	81.38	-54.76	-32.09	63.48	0.1905	-0.0997	210.3	15 476	37 587	
3 415	32 560	83.33	-58.24	-24.81	63.3	0.1892	-0.0959	203.0	15 478	39 595	
380	770	95.41	0.0	0.0	0.0	0.219	-0.0837	0.0			

TUB-test chart CE39; CIE (x_{10}, y_{10}) and chroma ($A^*_{i,10}, B^*_{i,10}$)
Ostwald optimal colours for illuminant P40; diagram for illuminant P40, $Y_{w,10}=88,6$

input: w/rgb/cmyk -> rgb

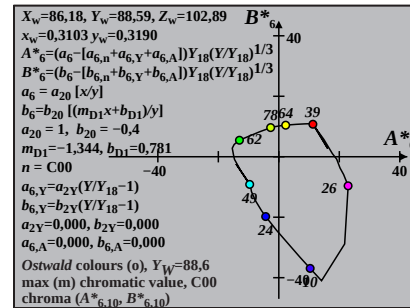
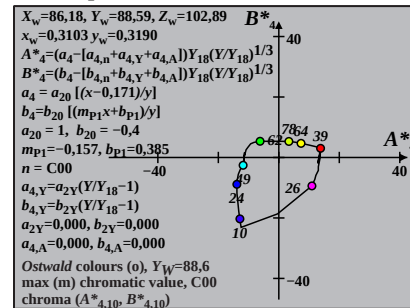
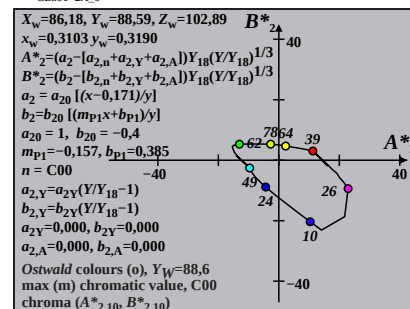
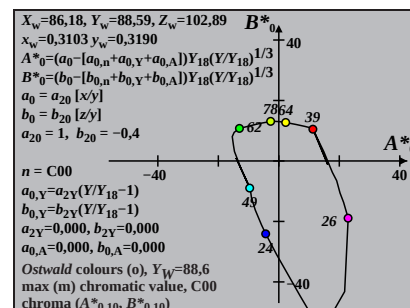
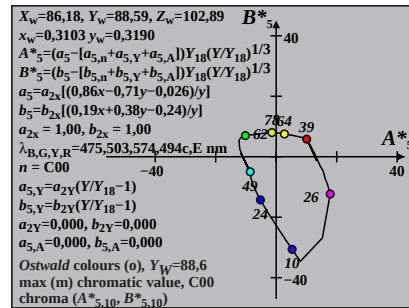
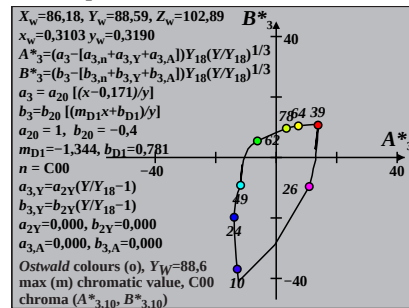
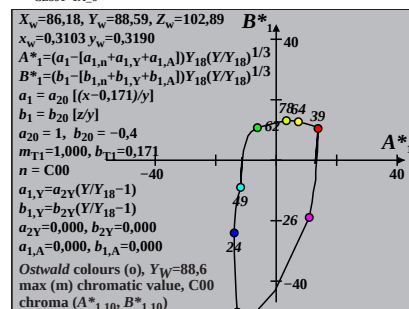
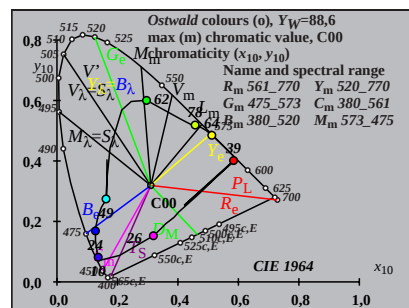


Ostwald optimal colours (o) of maximum (m) $C_{AB,10}$ for C00, $Y_w=88,6$, $Y_m=520,770$

i_1, λ_1	i_2, λ_2	L^*_{10}	a^*_{10}	b^*_{10}	$C^*_{ab,10}$	a^*_{10}	b^*_{10}	$h_{ab,10}$	i_d, λ_d	i_c, λ_c	Code
1 405	31 556	75.77	-60.45	-32.97	68.85	0.1839	-0.1063	208.6	15 475	37 586	Cm
6 435	31 558	76.29	-76.89	-17.04	78.75	0.1751	-0.0974	192.4	16 480	44 623	
9 450	32 560	76.66	-96.46	6.49	96.67	0.1646	-0.0844	176.1	17 487	-1 487c	
12 460	32 563	77.08	-110.7	37.45	116.87	0.1571	-0.0674	161.3	20 504	-1 504c	
12 465	33 566	78.48	-106.72	39.87	113.92	0.1601	-0.0664	159.5	21 507	-1 507c	
13 470	34 572	80.35	-101.75	54.2	115.29	0.1638	-0.0593	151.9	24 520	-1 520c	
14 475	36 582	83.51	-87.05	70.77	112.18	0.173	-0.0517	140.8	26 533	-1 533c	Gm
16 480	44 622	90.21	-36.45	102.78	109.05	0.1998	-0.0386	109.5	31 556	0 403	
17 485	-1 485c	91.61	-18.09	114.22	115.64	0.2086	-0.0338	99.0	32 562	11 456	
18 490	-1 490c	90.87	-14.99	121.11	122.04	0.21	-0.0301	97.0	32 563	11 459	max
19 495	-1 495c	90.02	-11.38	126.96	127.47	0.2116	-0.0268	95.1	32 564	12 461	
20 500	-1 500c	89.06	-7.35	131.81	132.01	0.2135	-0.0239	93.1	33 565	12 463	
22 510	-1 510c	86.81	1.71	136.8	136.81	0.2179	-0.0191	89.2	33 567	13 466	
24 520	-1 520c	83.99	11.93	139.02	139.53	0.2231	-0.015	85.0	34 570	13 468	Ym
26 530	-1 530c	80.5	23.1	136.58	138.52	0.2291	-0.0113	80.3	34 574	14 471	
28 540	-1 540c	76.2	35.1	130.82	135.45	0.2362	-0.0074	74.9	35 578	14 473	
28 545	-1 544c	76.2	35.1	130.82	135.45	0.2362	-0.0074	74.9	35 578	14 473	
29 550	-1 549c	73.75	41.16	126.97	133.47	0.2402	-0.0053	72.0	36 580	14 474	
31 555	-1 555c	68.31	52.84	117.77	129.08	0.2486	0.0	65.8	37 585	15 475	
31 560	9 447	69.42	71.85	-5.06	72.03	0.2594	-0.091	355.9	-1 487c	17 487	
31 556	1 405	76.37	45.58	58.88	74.47	0.2419	-0.0554	52.2	37 586	15 475	Rm
31 558	6 435	75.85	55.45	22.04	59.67	0.2475	-0.0757	21.6	44 623	16 480	
32 560	9 450	75.47	65.51	-6.15	65.8	0.2531	-0.0914	354.6	-1 487c	17 487	
32 563	12 460	75.03	72.52	-26.13	77.09	0.2572	-0.1027	340.1	-1 504c	20 504	
33 566	12 465	73.52	74.95	-28.74	80.27	0.2592	-0.1044	339.0	-1 507c	21 507	
34 572	13 470	71.35	78.46	-36.96	86.73	0.2623	-0.1096	334.7	-1 520c	24 520	
36 582	14 475	67.19	81.2	-47.65	94.15	0.2662	-0.1173	329.5	-1 533c	26 533	Mm
44 622	16 480	55.32	61.46	-72.61	95.13	0.2605	-0.14	310.2	0 403	31 556	
-1 485c	17 485	52.03	38.3	-79.64	88.37	0.2454	-0.1478	295.6	11 456	32 562	
-1 490c	18 490	53.83	30.74	-77.48	83.36	0.2392	-0.1447	291.6	11 459	32 563	min
-1 495c	19 495	55.74	22.55	-74.84	78.17	0.2329	-0.1413	286.7	12 461	32 564	
-1 500c	20 500	57.76	14.04	-71.83	73.19	0.2266	-0.1377	281.0	12 463	33 565	
-1 510c	22 510	61.99	-3.02	-65.05	65.12	0.2151	-0.1306	267.3	13 466	33 567	
-1 520c	24 520	66.49	-19.03	-57.56	60.63	0.2054	-0.1236	251.7	13 468	34 570	Bm
-1 530c	26 530	71.17	-32.67	-49.62	59.41	0.1982	-0.1171	236.6	14 471	34 574	
-1 540c	28 540	75.95	-42.99	-41.45	59.72	0.1935	-0.111	223.9	14 473	35 578	
-1 544c	28 545	75.95	-42.99	-41.45	59.72	0.1935	-0.111	223.9	14 473	35 578	
-1 549c	29 550	78.28	-46.54	-37.43	59.73	0.1922	-0.1083	218.8	14 474	36 580	
-1 555c	31 555	82.71	-50.08	-29.81	58.28	0.1915	-0.1034	210.7	15 475	37 585	
9 447	31 560	81.88	-80.49	4.08	80.6	0.1756	-0.0859	177.0	17 487	-1 487c	
380	770	95.41	0.0	0.0	0.0	0.2171	-0.088	0.0			

TUB-test chart CE39; CIE (x_{10}, y_{10}) and chroma ($A^*_{i,10}, B^*_{i,10}$)
Ostwald optimal colours for illuminant P35; diagram for illuminant P35, $Y_w=88,6$

input: w/rgb/cmyk -> rgb

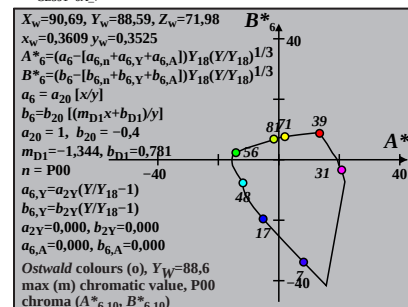
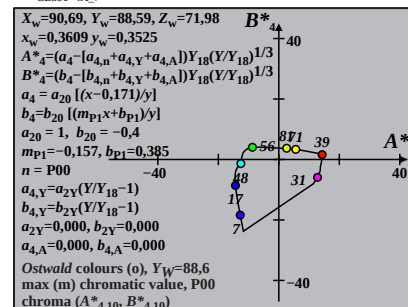
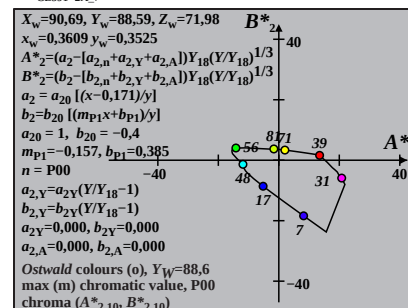
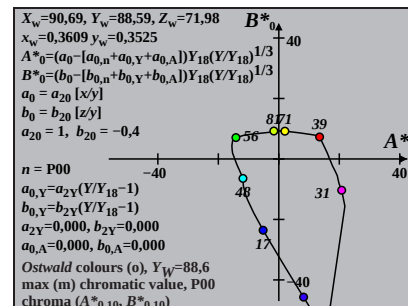
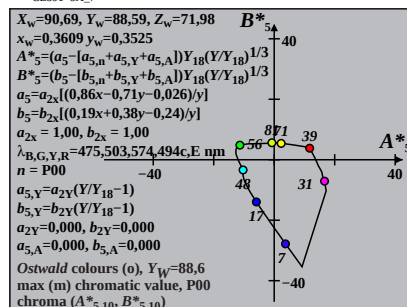
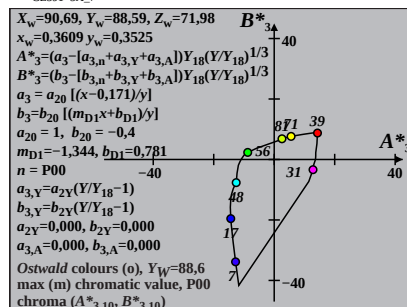
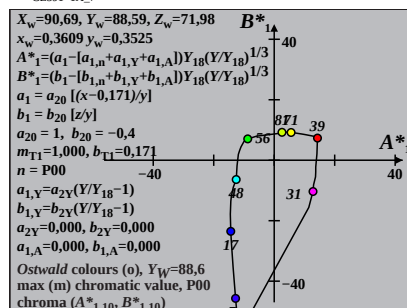
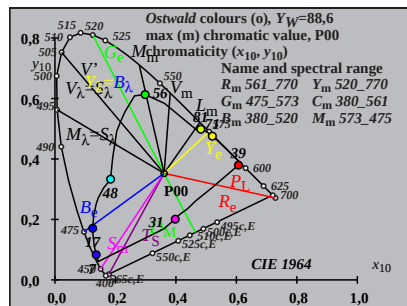


Ostwald optimal colours (o) of maximum (m) $C_{AB,10}$ for P00, $Y_{w,10}=88,6$, $Y_m=520_770$

i_1, λ_1	i_2, λ_2	L^*_{10}	a^*_{10}	b^*_{10}	$C^*_{ab,10}$	a^*_{10}	b^*_{10}	$h_{ab,10}$	i_d, λ_d	i_c, λ_c	Code
0 405	32 562	75.23	-72.6	-34.22	80.26	0.18	-0.0951	205.2	15 479	38 591	Cm
7 435	32 563	75.4	-89.74	-11.04	90.42	0.1705	-0.0836	187.0	17 485	-1 485c	
9 450	32 564	75.75	-98.0	5.01	98.12	0.166	-0.0756	177.0	18 491	-1 491c	
12 460	33 567	76.03	-106.52	34.29	111.91	0.1615	-0.0612	162.1	21 506	-1 506c	
13 465	33 569	76.67	-105.75	46.01	115.32	0.1623	-0.0556	156.4	22 514	-1 514c	
13 470	34 572	78.26	-100.34	48.76	111.56	0.1662	-0.0547	154.0	23 518	-1 518c	
15 475	35 579	80.0	-90.86	72.33	116.14	0.1723	-0.0439	141.4	26 534	-1 534c	Gm
16 480	38 593	84.47	-66.52	89.29	111.35	0.1868	-0.0378	126.6	29 547	-1 547c	
17 485	-1 485c	92.79	-10.84	112.12	112.64	0.2157	-0.0314	95.5	33 566	11 457	
17 490	-1 489c	92.79	-10.84	112.12	112.64	0.2157	-0.0314	95.5	33 566	11 457	max
19 495	-1 495c	91.59	-5.77	124.83	124.96	0.218	-0.0255	92.6	33 567	12 461	
19 500	-1 499c	91.59	-5.77	124.83	124.96	0.218	-0.0255	92.6	33 567	12 461	
22 510	-1 510c	88.85	5.43	137.75	137.86	0.2234	-0.0185	87.7	34 570	13 467	
23 520	-1 519c	87.62	10.07	142.54	142.89	0.2258	-0.0165	85.9	34 572	13 469	Ym
26 530	-1 530c	82.96	25.7	140.91	143.24	0.2341	-0.0109	79.6	35 577	14 473	
28 540	-1 540c	79.05	36.94	135.77	140.71	0.2407	-0.0071	74.7	36 580	15 475	
28 545	-1 544c	79.05	36.94	135.77	140.71	0.2407	-0.0071	74.7	36 580	15 475	
29 550	-1 549c	76.87	42.55	132.36	139.03	0.2442	-0.0051	72.1	36 583	15 476	
31 555	-1 555c	72.06	53.34	124.25	135.21	0.2518	0.0	66.7	37 587	15 478	
32 560	-1 560c	69.43	58.34	119.7	133.16	0.2558	0.0	64.0	38 590	15 479	
32 562	0 405	76.9	51.08	60.98	79.55	0.2489	-0.0483	50.0	38 591	15 479	Rm
32 563	7 435	76.73	59.53	12.44	60.82	0.2537	-0.072	11.8	-1 485c	17 485	
32 564	9 450	76.39	63.88	-4.65	64.05	0.2562	-0.0804	355.8	-1 491c	18 491	
33 567	12 460	76.11	68.02	-23.66	72.02	0.2586	-0.0898	340.8	-1 506c	21 506	
33 569	13 465	75.47	69.4	-29.19	75.29	0.2597	-0.0926	337.1	-1 514c	22 514	
34 572	13 470	73.77	71.53	-32.12	78.41	0.2616	-0.0943	335.8	-1 518c	23 518	
35 579	15 475	71.77	72.0	-41.68	83.19	0.2628	-0.0996	329.9	-1 534c	26 534	Mm
38 593	16 480	65.77	70.67	-53.96	88.91	0.2651	-0.108	322.6	-1 547c	29 547	
-1 485c	17 485	48.91	27.05	-84.44	88.67	0.2421	-0.1371	287.7	11 457	33 566	
-1 489c	17 490	48.91	27.05	-84.44	88.67	0.2421	-0.1371	287.7	11 457	33 566	min
-1 495c	19 495	52.08	13.6	-80.74	81.88	0.231	-0.1319	279.5	12 461	33 567	
-1 499c	19 500	52.08	13.6	-80.74	81.88	0.231	-0.1319	279.5	12 461	33 567	
-1 510c	22 510	58.2	-11.38	-71.41	72.31	0.2129	-0.1218	260.9	13 467	34 570	
-1 519c	23 520	60.54	-20.07	-67.57	70.49	0.2073	-0.1181	253.4	13 469	34 572	Bm
-1 530c	26 530	67.95	-42.77	-55.13	69.78	0.1947	-0.1079	232.1	14 473	35 577	
-1 540c	28 540	72.88	-53.23	-46.72	70.82	0.1901	-0.1019	221.2	15 475	36 580	
-1 544c	28 545	72.88	-53.23	-46.72	70.82	0.1901	-0.1019	221.2	15 475	36 580	
-1 549c	29 550	75.25	-56.71	-42.65	70.96	0.1889	-0.0993	216.9	15 476	36 583	
-1 555c	31 555	79.76	-60.07	-34.89	69.47	0.1886	-0.0946	210.1	15 478	37 587	
-1 560c	32 560	81.87	-59.98	-31.25	67.63	0.1894	-0.0926	207.5	15 479	38 590	
380	770	95.41	0.0	0.0	0.0	0.2208	-0.0781	0.0			

TUB-test chart CE39; CIE (x_{10}, y_{10}) and chroma ($A^*_{i,10}, B^*_{i,10}$)
Ostwald optimal colours for illuminant P30; diagram for illuminant P30, $Y_{w,10}=88,6$

input: w/rgb/cmyk -> rgb

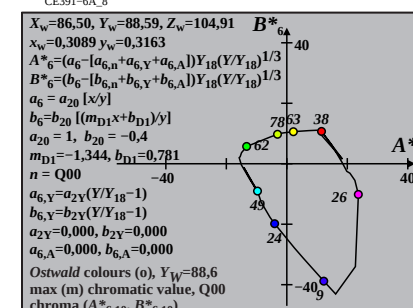
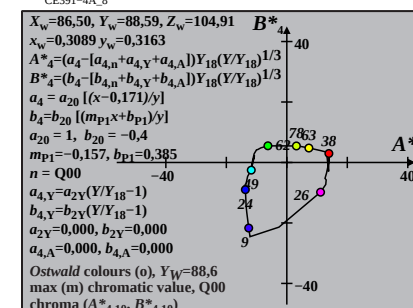
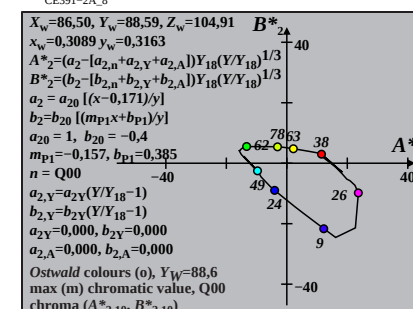
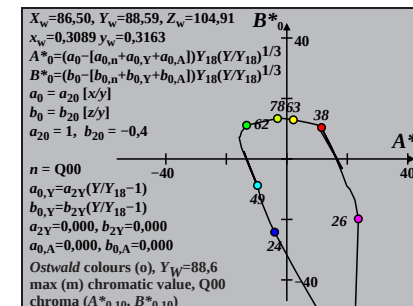
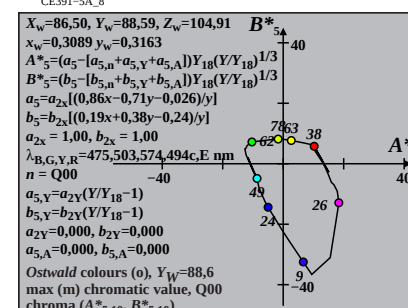
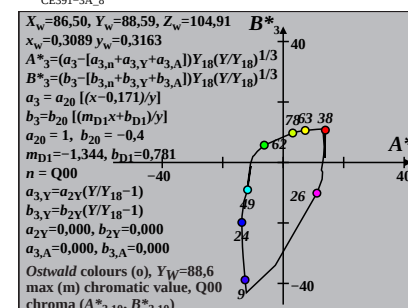
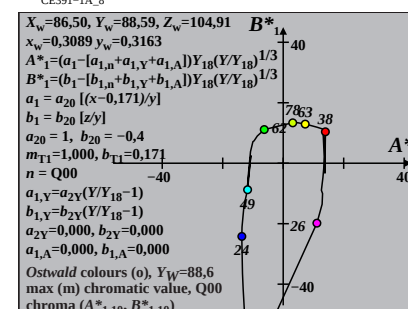
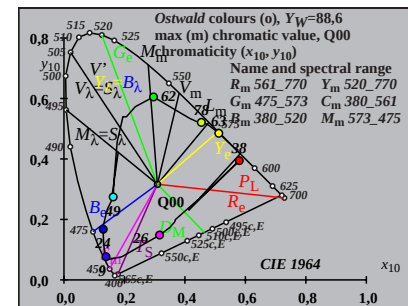


Ostwald optimal colours (o) of maximum (m) $C_{AB,10}$ for Q00, $Y_{w,10}=88,6$, $Y_m=520-770$

i_1, λ_1	i_2, λ_2	L^*_{10}	a^*_{10}	b^*_{10}	$C^*_{ab,10}$	a'_{10}	b'_{10}	$h_{ab,10}$	i_d, λ_d	i_c, λ_c	Code
1 405	31 556	76.0	-60.53	-31.91	68.43	0.1841	-0.1064	207.7	15 475	37 587	Cm
7 435	31 558	76.28	-86.6	-6.97	86.88	0.17	-0.0925	184.6	16 482	-1 482c	
10 450	32 560	76.52	-106.19	19.17	107.9	0.1594	-0.0779	169.7	18 493	-1 493c	
12 460	32 563	77.21	-113.29	40.82	120.42	0.156	-0.0661	160.1	21 506	-1 506c	
13 465	33 566	78.14	-112.18	53.23	124.17	0.1572	-0.0595	154.6	23 515	-1 515c	
13 470	34 572	80.43	-103.98	57.18	118.67	0.1629	-0.0581	151.1	24 520	-1 520c	
15 475	36 583	83.12	-87.88	82.54	120.57	0.1726	-0.0458	136.7	27 536	-1 536c	Gm
15 480	45 629	91.51	-35.16	96.99	103.17	0.2008	-0.0422	109.9	31 556	2 413	
17 485	-1 485c	91.78	-20.01	115.08	116.81	0.208	-0.0337	99.8	32 561	11 455	
17 490	-1 489c	91.78	-20.01	115.08	116.81	0.208	-0.0337	99.8	32 561	11 455	max
18 495	-1 494c	91.08	-17.1	121.47	122.67	0.2093	-0.0302	98.0	32 562	11 458	
19 500	-1 499c	90.27	-13.62	126.93	127.66	0.2109	-0.0271	96.1	32 563	12 460	
21 510	-1 509c	88.2	-5.03	135.24	135.33	0.2149	-0.0218	92.1	33 566	12 464	
24 520	-1 520c	83.83	11.22	138.44	138.9	0.223	-0.0153	85.3	34 570	13 468	Ym
26 530	-1 530c	80.07	23.26	135.82	137.79	0.2295	-0.0114	80.2	34 574	14 471	
27 540	-1 539c	77.94	29.43	133.19	136.41	0.2331	-0.0094	77.5	35 576	14 472	
29 545	-1 545c	73.25	41.61	126.12	132.8	0.2408	-0.0053	71.7	36 581	14 474	
30 550	-1 550c	70.7	47.41	121.87	130.77	0.2449	-0.003	68.7	36 583	15 475	
30 555	-1 554c	70.7	47.41	121.87	130.77	0.2449	-0.003	68.7	36 583	15 475	
31 560	9 447	69.2	73.77	-8.69	74.28	0.261	-0.0938	353.2	-1 488c	17 488	
31 556	1 405	76.14	46.06	56.15	72.62	0.2425	-0.0572	50.6	37 587	15 475	Rm
31 558	7 435	75.86	60.15	7.72	60.65	0.2504	-0.0842	7.3	-1 482c	16 482	
32 560	10 450	75.62	69.18	-15.69	70.94	0.2554	-0.0974	347.2	-1 493c	18 493	
32 563	12 460	74.9	73.88	-27.74	78.92	0.2583	-0.1043	339.4	-1 506c	21 506	
33 566	13 465	73.9	76.17	-33.53	83.23	0.2601	-0.1077	336.2	-1 515c	23 515	
34 572	13 470	71.25	79.77	-38.1	88.4	0.2634	-0.111	334.4	-1 520c	24 520	
36 583	15 475	67.73	80.34	-49.71	94.48	0.2657	-0.1191	328.2	-1 536c	27 536	Mm
45 629	15 480	52.29	65.19	-76.34	100.39	0.2655	-0.146	310.4	2 413	31 556	
-1 485c	17 485	51.6	42.29	-80.46	90.9	0.2489	-0.1498	297.7	11 455	32 561	
-1 489c	17 490	51.6	42.29	-80.46	90.9	0.2489	-0.1498	297.7	11 455	32 561	min
-1 494c	18 495	53.32	35.06	-78.37	85.85	0.2428	-0.1467	294.1	11 458	32 562	
-1 499c	19 500	55.2	27.0	-75.74	80.41	0.2365	-0.1433	289.6	12 460	32 563	
-1 509c	21 510	59.46	9.23	-69.17	69.78	0.2235	-0.1357	277.6	12 464	33 566	
-1 520c	24 520	66.73	-17.63	-57.14	59.8	0.2066	-0.1241	252.8	13 468	34 570	Bm
-1 530c	26 530	71.69	-32.18	-48.72	58.39	0.1988	-0.1171	236.5	14 471	34 574	
-1 539c	27 540	74.12	-37.96	-44.57	58.55	0.1961	-0.114	229.5	14 472	35 576	
-1 545c	29 545	78.73	-46.08	-36.67	58.89	0.1928	-0.1085	218.5	14 474	36 581	
-1 550c	30 550	80.88	-48.39	-32.96	58.55	0.1921	-0.1061	214.2	15 475	36 583	
-1 554c	30 555	80.88	-48.39	-32.96	58.55	0.1921	-0.1061	214.2	15 475	36 583	
9 447	31 560	82.05	-82.81	7.26	83.13	0.1747	-0.0848	174.9	17 488	-1 488c	
380	770	95.41	0.0	0.0	0.0	0.2173	-0.0886	0.0			

TUB-test chart CE39; CIE (x_{10}, y_{10}) and chroma ($A^*_{i,10}, B^*_{i,10}$)

Ostwald optimal colours for illuminant P25; diagram for illuminant P25, $Y_{w,10}=88,6$



TUV registration: 20170801-CE39/CE39L0NP.PDF /.PSS
application for measurement of offset print output

TUB material: code=rha4ta

input: w/rqb/cmyk $\rightarrow$ rqb