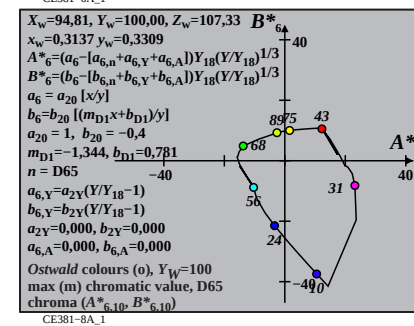
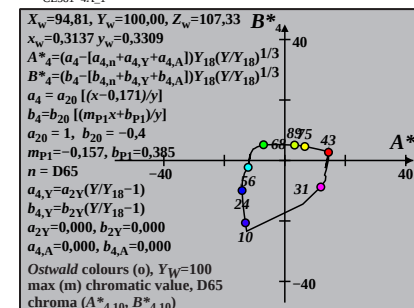
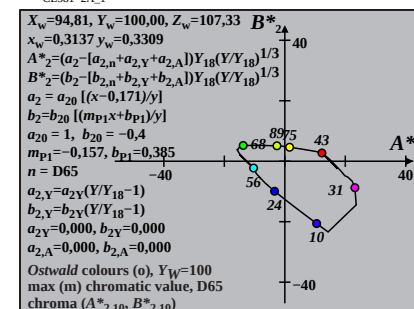
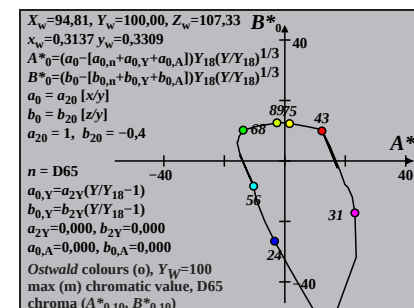
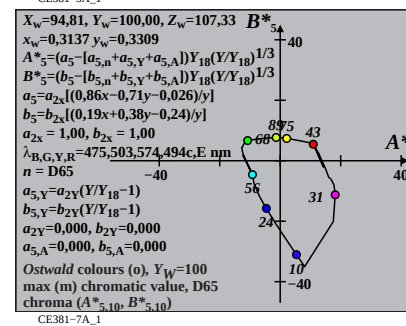
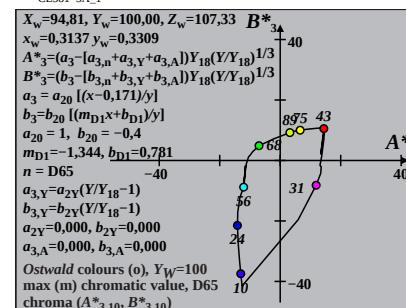
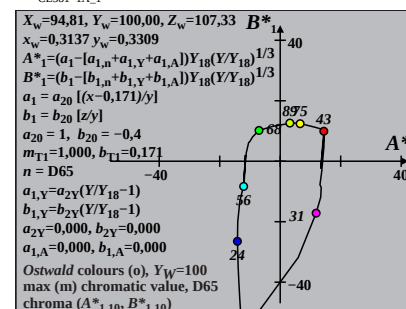
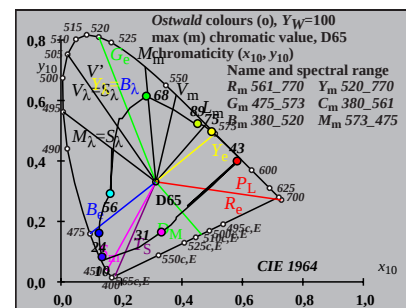


Ostwald optimal colours (o) of maximum (m) $C_{AB,10}$ for D65, $Y_{w,10}=100$, $Y_m=520-770$

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	31	556	79.94	-66.31	-34.08	74.56	0.1807	-0.1034	207.2	15	476	37	585	Cm
6	435	31	557	80.42	-82.6	-17.8	84.5	0.1724	-0.0949	192.1	16	480	44	621	
10	450	31	559	80.48	-108.29	14.97	109.32	0.1591	-0.078	172.1	18	491	-1	491c	
11	460	32	562	81.44	-111.37	27.38	114.69	0.1581	-0.0717	166.1	19	498	-1	498c	
12	465	33	565	82.34	-112.77	40.26	119.75	0.1579	-0.0653	160.3	21	506	-1	506c	
14	470	34	570	83.48	-109.79	65.41	127.8	0.1601	-0.053	149.2	24	522	-1	522c	
15	475	35	579	86.33	-94.64	81.3	124.77	0.169	-0.0462	139.3	26	533	-1	533c	Gm
16	480	41	606	92.55	-53.33	102.14	115.23	0.1907	-0.0389	117.5	30	550	-1	550c	
16	485	-1	484c	96.94	-20.21	109.71	111.55	0.2063	-0.0374	100.4	32	560	10	454	
18	490	-1	490c	95.61	-14.83	124.45	125.34	0.2086	-0.0302	96.7	32	562	11	459	max
19	495	-1	495c	94.76	-11.22	130.34	130.82	0.2101	-0.0271	94.9	32	563	12	461	
19	500	-1	499c	94.76	-11.22	130.34	130.82	0.2101	-0.0271	94.9	32	563	12	461	
22	510	-1	510c	91.28	2.92	142.55	142.58	0.2166	-0.0195	88.8	33	566	13	466	
23	520	-1	519c	89.77	8.54	144.07	144.32	0.2192	-0.0174	86.6	33	568	13	468	Ym
26	530	-1	530c	84.06	27.32	142.33	144.93	0.2288	-0.0115	79.1	34	573	14	472	
27	540	-1	539c	81.79	33.86	139.63	143.68	0.2325	-0.0095	76.3	35	576	14	473	
28	545	-1	544c	79.35	40.37	136.19	142.05	0.2363	-0.0075	73.4	35	578	14	474	
29	550	-1	549c	76.75	46.79	132.12	140.16	0.2404	-0.0054	70.4	36	580	15	475	
31	555	-1	555c	71.13	58.79	122.64	136.0	0.2489	0.0	64.3	37	586	15	476	
32	560	10	451	69.5	84.42	-15.9	85.9	0.2645	-0.095	349.3	-1	492c	18	492	
31	556	0	405	71.85	57.81	111.35	125.47	0.2481	-0.0221	62.5	37	585	15	476	Rm
31	557	6	435	71.27	68.77	29.56	74.86	0.2546	-0.0689	23.2	44	621	16	480	
31	559	10	450	71.2	81.9	-15.15	83.29	0.2621	-0.0944	349.5	-1	491c	18	491	
32	562	11	460	69.98	86.63	-25.21	90.22	0.2655	-0.1003	343.7	-1	498c	19	498	
33	565	12	465	68.81	90.56	-33.85	96.68	0.2685	-0.1056	339.5	-1	506c	21	506	
34	570	14	470	67.22	93.6	-46.02	104.3	0.2714	-0.1132	333.8	-1	522c	24	522	
35	579	15	475	62.81	97.27	-56.68	112.58	0.2768	-0.1215	329.7	-1	533c	26	533	Mm
41	606	16	480	49.57	94.8	-81.7	125.15	0.2874	-0.1477	319.2	-1	550c	30	550	
-1	484c	16	485	33.36	73.3	-109.63	131.88	0.2894	-0.1962	303.7	10	454	32	560	
-1	490c	18	490	39.48	47.93	-101.69	112.42	0.2584	-0.1769	295.2	11	459	32	562	min
-1	495c	19	495	42.69	34.2	-96.93	102.79	0.2443	-0.1679	289.4	12	461	32	563	
-1	499c	19	500	42.69	34.2	-96.93	102.79	0.2443	-0.1679	289.4	12	461	32	563	
-1	510c	22	510	52.84	-7.33	-80.67	81.0	0.2099	-0.144	264.8	13	466	33	566	
-1	519c	23	520	56.28	-19.89	-74.95	77.55	0.2014	-0.1373	255.1	13	468	33	568	Bm
-1	530c	26	530	66.39	-49.47	-57.84	76.11	0.1852	-0.1206	229.4	14	472	34	573	
-1	539c	27	540	69.54	-55.96	-52.46	76.71	0.1825	-0.1162	223.1	14	473	35	576	
-1	544c	28	545	72.53	-60.74	-47.32	77.0	0.1809	-0.1123	217.9	14	474	35	578	
-1	549c	29	550	75.38	-63.87	-42.44	76.68	0.1803	-0.1088	213.6	15	475	36	580	
-1	555c	31	555	80.53	-65.58	-33.56	73.67	0.1813	-0.103	207.1	15	476	37	586	
10	451	32	560	81.82	-103.91	14.76	104.95	0.1621	-0.0782	171.9	18	492	-1	492c	
	380		770	100.0	0.0	0.0	0.0	0.2152	-0.0857	0.0					

TUB-test chart CE38; CIE (x_{10}, y_{10}) and chroma ($A^*_{i,10}, B^*_{i,10}$)

Ostwald optimal colours for illuminant P60; diagram for illuminant P60, $Y_w, 10=100$



TUV registration: 20170801-CE38/CE38L0NP.PDF/.PSS
application for measurement of offset print output

TUB material: code=rha4ta

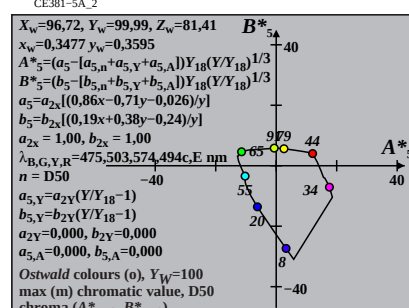
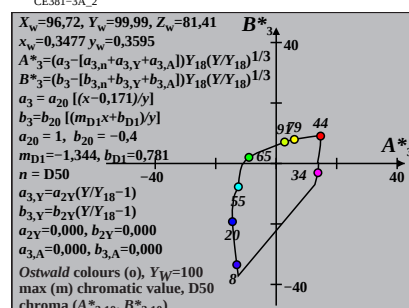
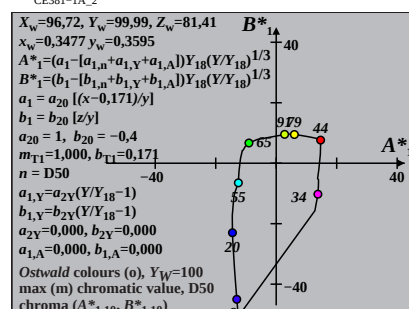
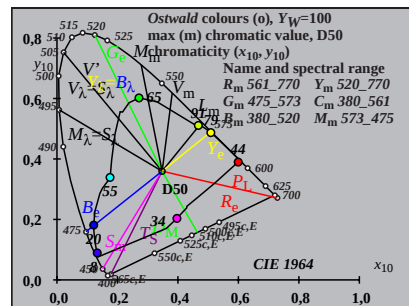
input: w/rqb/cmyk $\rightarrow$ rqb

Ostwald optimal colours (o) of maximum (m) $C_{AB,10}$ for D50, $Y_{w,10}=100$, $Y_m=520_770$

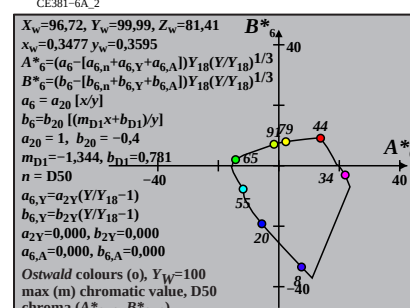
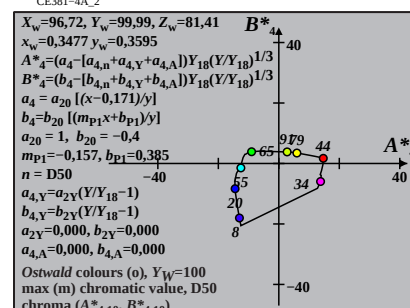
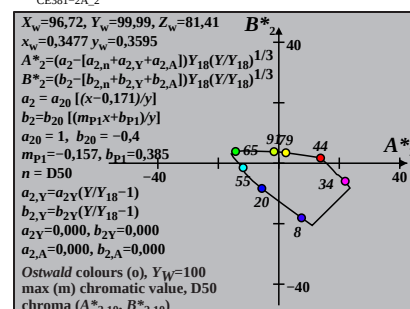
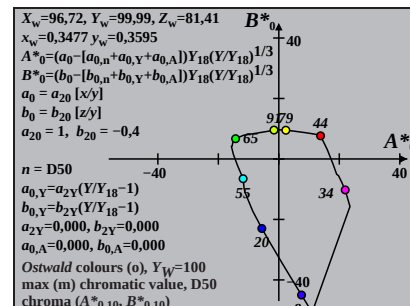
i_1, λ_1	i_2, λ_2	L^*_{10}	a^*_{10}	b^*_{10}	$C^*_{ab,10}$	a^*_{10}	b^*_{10}	$h_{ab,10}$	i_d, λ_d	i_c, λ_c	Code
1 405	31 559	79.59	-77.2	-34.19	84.44	0.176	-0.0944	203.8	15 479	37 589	Cm
7 435	32 561	79.86	-91.81	-15.16	93.06	0.1685	-0.0853	189.3	16 484	58 693	
10 450	32 562	79.99	-106.14	10.32	106.64	0.161	-0.0733	174.4	18 493	-1 493c	
12 460	32 564	80.41	-112.32	32.6	116.95	0.1581	-0.0628	163.8	20 503	-1 503c	
13 465	33 566	81.01	-111.85	45.12	120.61	0.1587	-0.0571	158.0	22 512	-1 512c	
14 470	34 570	82.18	-107.61	58.61	122.53	0.1615	-0.0511	151.4	24 521	-1 521c	
15 475	35 576	84.23	-97.14	73.13	121.59	0.1679	-0.0451	143.0	26 531	-1 531c	Gm
16 480	38 590	88.39	-73.47	90.46	116.54	0.1812	-0.0388	129.0	28 543	-1 543c	
17 485	-1 485c	97.06	-11.31	114.51	115.07	0.2116	-0.0322	95.6	32 563	11 458	
18 490	-1 490c	96.45	-8.75	121.65	121.97	0.2127	-0.0291	94.1	32 564	12 460	max
19 495	-1 495c	95.71	-5.61	127.93	128.05	0.2141	-0.0262	92.5	33 565	12 462	
20 500	-1 500c	94.84	-1.91	133.35	133.36	0.2158	-0.0236	90.8	33 566	12 464	
21 510	-1 509c	93.81	2.3	137.86	137.88	0.2177	-0.0212	89.0	33 567	13 466	
24 520	-1 520c	89.67	17.74	147.75	148.81	0.2251	-0.015	83.1	34 571	14 471	Ym
25 530	-1 529c	87.89	23.66	147.2	149.09	0.2281	-0.0131	80.8	34 573	14 473	
28 540	-1 540c	81.47	42.32	139.84	146.11	0.2385	-0.0073	73.1	35 579	15 476	
29 545	-1 545c	78.99	48.54	135.98	144.39	0.2423	-0.0052	70.3	36 581	15 477	
29 550	-1 549c	78.99	48.54	135.98	144.39	0.2423	-0.0052	70.3	36 581	15 477	
31 555	-1 555c	73.59	60.31	126.89	140.49	0.2505	0.0	64.5	37 587	15 479	
32 560	2 411	70.73	66.43	91.22	112.85	0.2551	-0.0304	53.9	38 591	16 480	
31 559	1 405	72.26	63.47	103.03	121.01	0.2528	-0.0252	58.3	37 589	15 479	Rm
32 561	7 435	71.95	72.06	23.05	75.66	0.2578	-0.0663	17.7	58 693	16 484	
32 562	10 450	71.79	79.33	-10.79	80.06	0.2621	-0.0837	352.2	-1 493c	18 493	
32 564	12 460	71.28	83.46	-27.25	87.8	0.2647	-0.0923	341.9	-1 503c	20 503	
33 566	13 465	70.54	85.3	-34.29	91.94	0.2662	-0.0961	338.1	-1 512c	22 512	
34 570	14 470	69.01	87.54	-41.42	96.85	0.2684	-0.1003	334.6	-1 521c	24 521	
35 576	15 475	66.13	89.85	-49.78	102.72	0.2716	-0.1057	331.0	-1 531c	26 531	Mm
38 590	16 480	59.09	91.66	-64.37	112.01	0.278	-0.1171	324.9	-1 543c	28 543	
-1 485c	17 485	32.71	47.82	-111.58	121.39	0.266	-0.1821	293.2	11 458	32 563	
-1 490c	18 490	35.8	34.81	-107.5	113.0	0.2505	-0.1724	287.9	12 460	32 564	min
-1 495c	19 495	39.04	20.95	-102.82	104.93	0.2358	-0.1629	281.5	12 462	33 565	
-1 500c	20 500	42.42	6.67	-97.66	97.89	0.2224	-0.154	273.9	12 464	33 566	
-1 509c	21 510	45.88	-7.52	-92.18	92.48	0.2105	-0.1458	265.3	13 466	33 567	
-1 520c	24 520	56.5	-45.46	-74.63	87.39	0.1851	-0.1249	238.6	14 471	34 571	Bm
-1 529c	25 530	60.04	-55.36	-68.66	88.2	0.18	-0.1191	231.1	14 473	34 573	
-1 540c	28 540	69.95	-73.85	-51.77	90.19	0.1734	-0.1055	215.0	15 476	35 579	
-1 545c	29 545	72.95	-76.41	-46.62	89.51	0.1734	-0.1019	211.3	15 477	36 581	
-1 549c	29 550	72.95	-76.41	-46.62	89.51	0.1734	-0.1019	211.3	15 477	36 581	
-1 555c	31 555	78.42	-76.8	-37.2	85.33	0.1757	-0.096	205.8	15 479	37 587	
2 411	32 560	80.85	-76.45	-31.35	82.63	0.1769	-0.0928	202.2	16 480	38 591	
380	770	100.0	0.0	0.0	0.0	0.2166	-0.0782	0.0			

TUB-test chart CE38; CIE (x_{10}, y_{10}) and chroma ($A^*_{i,10}, B^*_{i,10}$)
Ostwald optimal colours for illuminant P55; diagram for illuminant P55, $Y_{w,10}=100$

input: w/rgb/cmyk -> rgb



CE381-1A_2



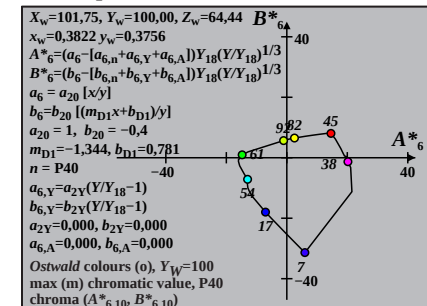
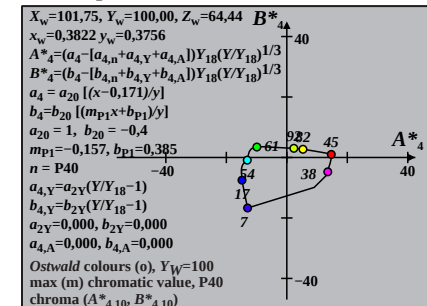
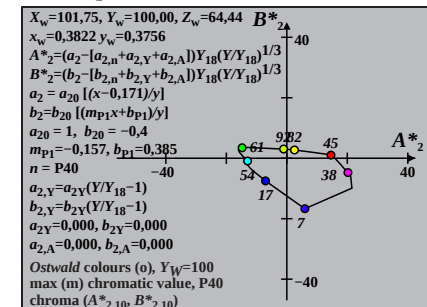
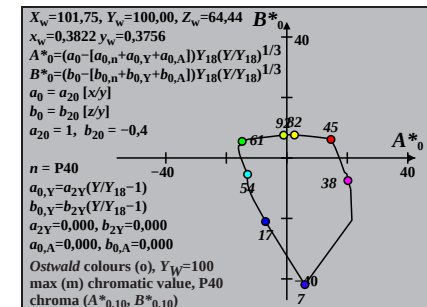
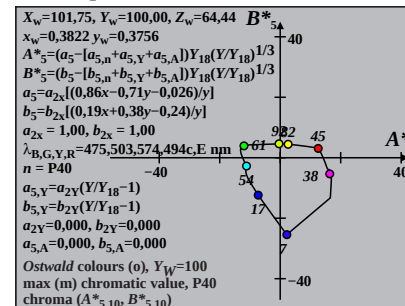
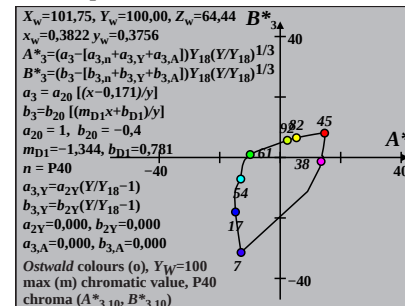
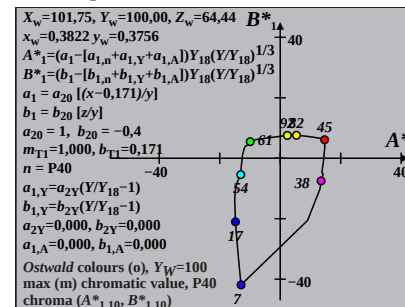
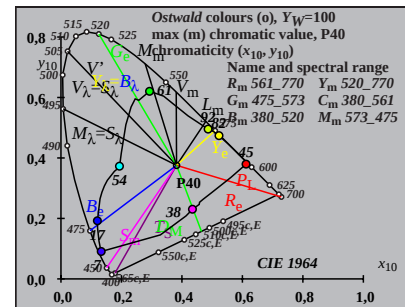
CE381-2A_2

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

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	78.76	-81.38	-36.17	89.06	0.1764	-0.0883	203.9	16 481	38 591	Cm
7 435	32 564	78.94	-94.37	-14.88	95.53	0.1695	-0.0789	188.9	17 487	-1 487c	
10 450	33 565	79.08	-104.44	9.38	104.86	0.1642	-0.0682	174.8	19 495	-1 495c	
12 460	33 567	79.47	-108.07	30.19	112.21	0.1624	-0.059	164.3	21 505	-1 505c	
12 465	33 568	80.28	-105.82	31.58	110.44	0.1641	-0.0585	163.3	21 506	-1 506c	
14 470	34 571	80.97	-103.83	54.72	117.37	0.1656	-0.0486	152.2	24 521	-1 521c	
15 475	35 576	82.65	-95.97	68.11	117.68	0.1706	-0.0433	144.6	26 531	-1 531c	Gm
16 480	37 585	86.0	-79.0	83.66	115.06	0.1807	-0.0379	133.3	28 542	-1 542c	
17 485	42 611	92.93	-38.27	104.63	111.41	0.2024	-0.032	110.0	31 558	-1 558c	
17 490	-1 489c	97.69	-7.78	112.84	113.11	0.2168	-0.0306	93.9	33 566	11 458	max
19 495	-1 495c	96.55	-2.94	126.74	126.77	0.219	-0.025	91.3	33 568	12 463	
20 500	-1 500c	95.8	0.22	132.44	132.44	0.2204	-0.0226	89.9	33 569	13 465	
22 510	-1 510c	93.86	8.05	141.35	141.57	0.2241	-0.0183	86.7	34 571	13 469	
23 520	-1 519c	92.64	12.68	144.81	145.37	0.2263	-0.0163	84.9	34 572	14 471	Ym
25 530	-1 529c	89.67	22.97	150.56	152.31	0.2314	-0.0126	81.3	35 575	14 474	
28 540	-1 540c	83.91	40.03	144.07	149.53	0.2408	-0.007	74.4	36 581	15 477	
28 545	-1 544c	83.91	40.03	144.07	149.53	0.2408	-0.007	74.4	36 581	15 477	
30 550	-1 550c	79.24	51.51	136.59	145.98	0.248	-0.0029	69.3	37 585	15 479	
31 555	-1 555c	76.66	57.02	132.17	143.94	0.2518	0.0	66.6	37 587	16 480	
31 560	-1 559c	76.66	57.02	132.17	143.94	0.2518	0.0	66.6	37 587	16 480	
32 563	0 405	73.21	63.62	119.59	135.46	0.2568	-0.0176	61.9	38 591	16 481	Rm
32 564	7 435	73.01	70.68	21.35	73.84	0.2609	-0.0622	16.8	-1 487c	17 487	
33 565	10 450	72.84	75.76	-9.53	76.35	0.2639	-0.0768	352.8	-1 495c	19 495	
33 567	12 460	72.4	78.54	-24.87	82.38	0.2658	-0.0841	342.4	-1 505c	21 505	
33 568	12 465	71.44	80.12	-26.52	84.39	0.2672	-0.085	341.6	-1 506c	21 506	
34 571	14 470	70.59	81.46	-38.07	89.92	0.2684	-0.0908	334.9	-1 521c	24 521	
35 576	15 475	68.39	83.26	-45.25	94.77	0.2708	-0.0948	331.4	-1 531c	26 531	Mm
37 585	16 480	63.36	85.37	-56.42	102.33	0.2753	-0.1021	326.5	-1 542c	28 542	
42 611	17 485	48.5	77.13	-83.88	113.95	0.2815	-0.1269	312.5	-1 558c	31 558	
-1 489c	17 490	29.03	40.0	-117.45	124.07	0.2658	-0.1818	288.8	11 458	33 566	min
-1 495c	19 495	35.33	13.24	-108.93	109.73	0.2335	-0.1614	276.9	12 463	33 568	
-1 500c	20 500	38.69	-0.95	-103.87	103.87	0.2194	-0.152	269.4	13 465	33 569	
-1 510c	22 510	45.72	-29.0	-92.66	97.1	0.1963	-0.1353	252.6	13 469	34 571	
-1 519c	23 520	49.34	-41.96	-86.71	96.33	0.1875	-0.128	244.1	14 471	34 572	Bm
-1 529c	25 530	56.5	-63.25	-74.72	97.9	0.1757	-0.1156	229.7	14 474	35 575	
-1 540c	28 540	66.6	-81.34	-57.53	99.63	0.17	-0.1015	215.2	15 477	36 581	
-1 544c	28 545	66.6	-81.34	-57.53	99.63	0.17	-0.1015	215.2	15 477	36 581	
-1 550c	30 550	72.66	-84.53	-47.12	96.78	0.1716	-0.0946	209.1	15 479	37 585	
-1 555c	31 555	75.48	-83.79	-42.27	93.85	0.1735	-0.0917	206.7	16 480	37 587	
-1 559c	31 560	75.48	-83.79	-42.27	93.85	0.1735	-0.0917	206.7	16 480	37 587	
380	770	100.0	0.0	0.0	0.0	0.2203	-0.0723	0.0			

TUB-test chart CE38; CIE (x_{10}, y_{10}) and chroma ($A^*_{i,10}, B^*_{i,10}$)
Ostwald optimal colours for illuminant P50; diagram for illuminant P50, $Y_w=100$

input: w/rgb/cmyk -> rgb

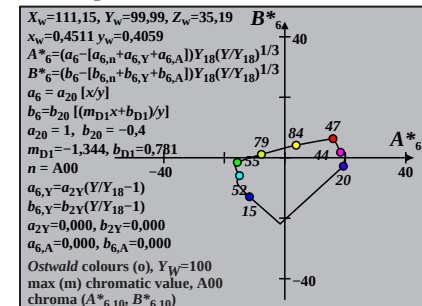
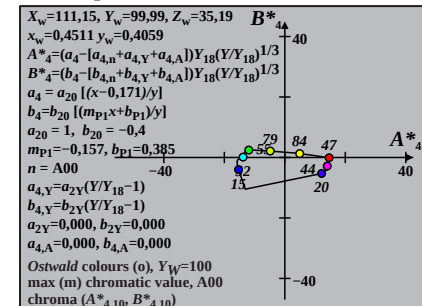
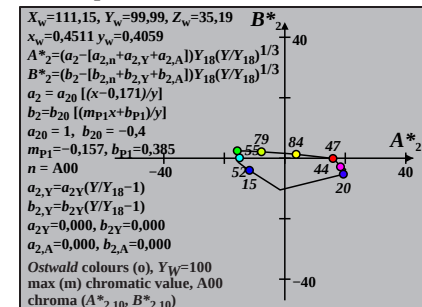
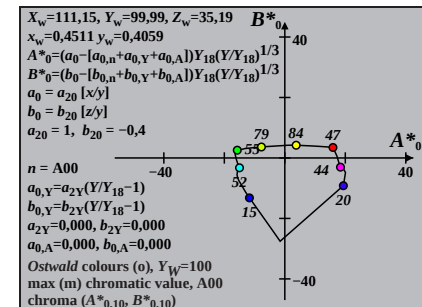
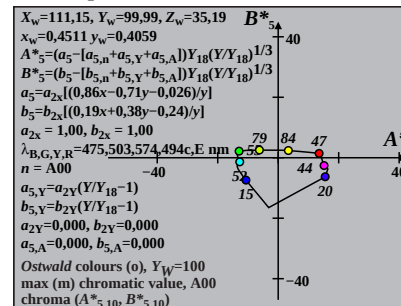
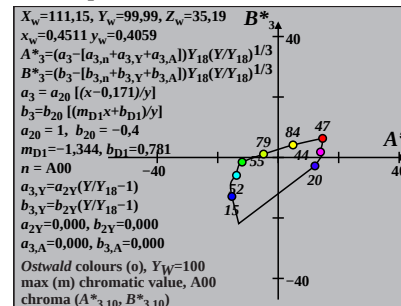
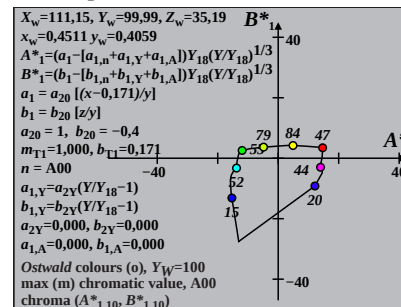
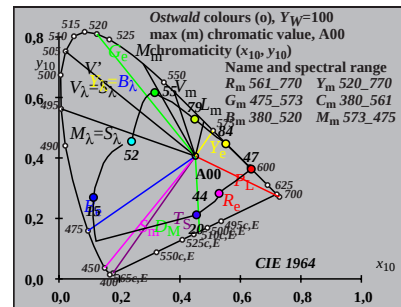


Ostwald optimal colours (o) of maximum (m) $C_{AB,10}$ for A00, $Y_{w,10}=100$, $Y_m=520_770$

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	77.44	-88.6	-38.18	96.48	0.177	-0.0731	203.3	17 487	39 597	597	Cm
7 435 34 570	77.56	-93.68	-21.55	96.13	0.1742	-0.067	192.9	18 491	47 639	639	
9 450 34 571	77.74	-96.44	-7.98	96.77	0.1727	-0.062	184.7	19 495	-1 495c		
12 460 34 572	77.88	-99.8	19.15	101.62	0.1709	-0.0521	169.1	21 505	-1 505c		
13 465 34 573	78.16	-99.37	30.12	103.84	0.1713	-0.0481	163.1	22 512	-1 512c		
14 470 34 574	78.7	-97.54	41.74	106.1	0.1727	-0.044	156.8	24 520	-1 520c		
15 475 35 576	79.61	-93.37	53.64	107.68	0.1755	-0.0398	150.1	25 528	-1 528c	Gm	
16 480 36 581	81.34	-85.65	66.39	108.37	0.1806	-0.0357	142.2	27 537	-1 537c		
17 485 37 588	84.4	-71.56	80.78	107.92	0.1894	-0.0315	131.5	29 547	-1 547c		
18 490 41 609	91.23	-37.96	101.04	107.94	0.2083	-0.0268	110.5	32 561	-1 561c	max	
19 495	-1 495c	97.82	1.09	120.3	120.31	0.2274	-0.0228	89.4	34 573	13 465	
20 500	-1 500c	97.28	3.38	126.72	126.77	0.2285	-0.0207	88.4	34 573	13 468	
21 510	-1 509c	96.62	6.1	132.41	132.55	0.2298	-0.0187	87.3	34 574	14 470	
24 520	-1 520c	93.78	16.92	145.89	146.87	0.235	-0.0135	83.3	35 577	15 476	Ym
25 530	-1 529c	92.51	21.27	155.91	157.35	0.2372	-0.0118	82.2	35 578	15 477	
27 540	-1 539c	89.47	30.85	153.06	156.14	0.2423	-0.0084	78.6	36 581	16 480	
29 545	-1 545c	85.74	41.2	147.64	153.28	0.2482	-0.0048	74.4	37 585	16 483	
30 550	-1 550c	83.62	46.44	144.14	151.43	0.2515	-0.0027	72.1	37 587	16 484	
31 555	-1 555c	81.31	51.63	140.19	149.39	0.2549	0.0	69.7	37 589	17 485	
32 560	-1 560c	78.81	56.65	135.88	147.22	0.2584	0.0	67.3	38 592	17 486	
34 570	1 405	74.66	63.91	112.25	129.17	0.264	-0.0166	60.3	39 597	17 487	Rm
34 570	7 435	74.53	66.6	32.55	74.13	0.2657	-0.0468	26.0	47 639	18 491	
34 571	9 450	74.33	68.35	9.6	69.02	0.2668	-0.0554	8.0	-1 495c	19 495	
34 572	12 460	74.19	70.2	-16.56	72.13	0.2679	-0.0654	346.7	-1 505c	21 505	
34 573	13 465	73.88	70.79	-23.54	74.61	0.2684	-0.0681	341.6	-1 512c	22 512	
34 574	14 470	73.28	71.49	-29.82	77.46	0.2691	-0.0706	337.3	-1 520c	24 520	
35 576	15 475	72.24	72.11	-35.68	80.46	0.2699	-0.073	333.6	-1 528c	25 528	Mm
36 581	16 480	70.11	73.22	-42.42	84.63	0.2717	-0.076	329.9	-1 537c	27 537	
37 588	17 485	65.88	74.11	-52.04	90.56	0.2746	-0.0809	324.9	-1 547c	29 547	
41 609	18 490	52.98	67.78	-76.04	101.87	0.2787	-0.0969	311.7	-1 561c	32 561	min
-1 495c	19 495	28.2	-7.59	-120.08	120.32	0.2178	-0.1524	266.3	13 465	34 573	
-1 500c	20 500	31.51	-21.58	-115.36	117.36	0.2029	-0.1424	259.4	13 468	34 573	
-1 509c	21 510	34.98	-35.67	-110.13	115.76	0.19	-0.1332	252.0	14 470	34 574	
-1 520c	24 520	45.97	-73.27	-92.46	117.98	0.1646	-0.1103	231.6	15 476	35 577	Bm
-1 529c	25 530	49.67	-82.45	-86.33	119.38	0.1607	-0.1042	226.3	15 477	35 578	
-1 539c	27 540	56.91	-94.77	-74.14	120.32	0.1584	-0.094	218.0	16 480	36 581	
-1 545c	29 545	63.78	-99.53	-62.42	117.49	0.1612	-0.0859	212.0	16 483	37 585	
-1 550c	30 550	67.03	-99.4	-56.84	114.5	0.1638	-0.0826	209.7	16 484	37 587	
-1 555c	31 555	70.16	-97.78	-51.44	110.49	0.1671	-0.0796	207.7	17 485	37 589	
-1 560c	32 560	73.16	-94.83	-46.28	105.52	0.1709	-0.0769	206.0	17 486	38 592	
380	770	100.0	0.0	0.0	0.0	0.2269	-0.0591	0.0			

TUB-test chart CE38; CIE (x_{10}, y_{10}) and chroma ($A^*_{i,10}, B^*_{i,10}$)

Ostwald optimal colours for illuminant P45; diagram for illuminant P45, $Y_{w,10}=100$

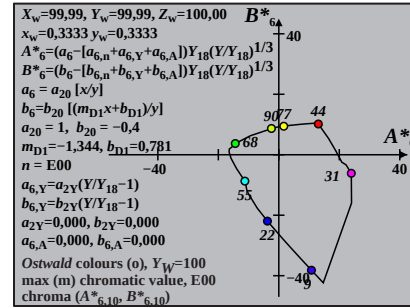
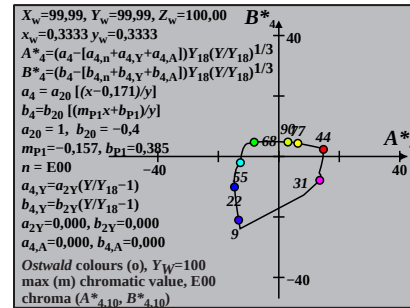
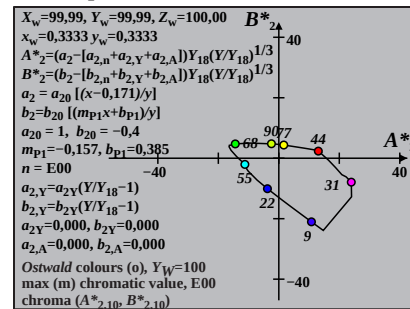
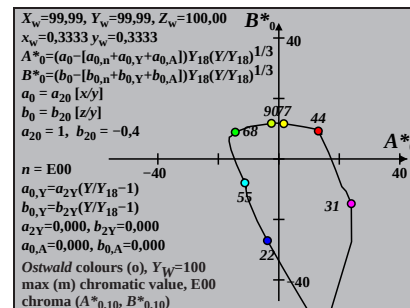
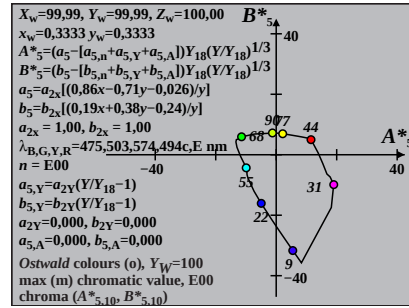
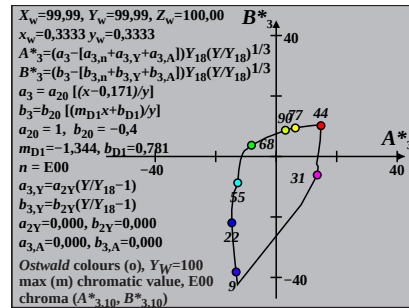
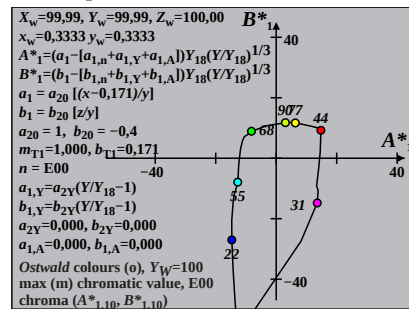
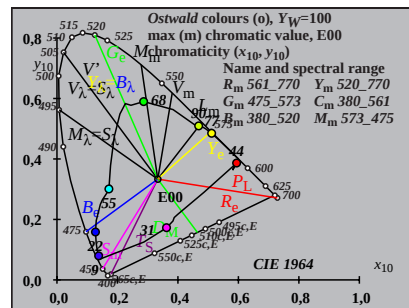


Ostwald optimal colours (o) of maximum (m) $C_{AB,10}$ for E00, $Y_{w,10}=100$, $Y_m=520_770$

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	79.43	-69.97	-33.95	77.77	0.1818	-0.101	205.8	15 477	37 589	Cm
7 435	32 561	79.66	-92.09	-9.07	92.54	0.1701	-0.0883	185.6	16 484	-1 484c	
10 450	32 562	79.85	-108.58	17.48	109.98	0.1615	-0.0748	170.8	18 493	-1 493c	
12 460	33 565	80.46	-114.73	39.56	121.36	0.1586	-0.0638	160.9	21 506	-1 506c	
13 465	33 568	81.27	-113.48	52.13	124.89	0.1597	-0.0577	155.3	23 515	-1 515c	
13 470	34 572	83.3	-106.49	55.62	120.14	0.1645	-0.0565	152.4	24 520	-1 520c	
14 475	36 581	86.11	-93.97	71.53	118.1	0.1723	-0.0497	142.7	26 532	-1 532c	Gm
16 480	40 604	91.81	-55.72	101.41	115.71	0.1928	-0.038	118.7	30 551	-1 551c	
17 485	-1 485c	96.74	-15.85	118.68	119.73	0.2119	-0.0326	97.6	32 564	11 456	
18 490	-1 490c	96.1	-13.14	125.53	126.21	0.2131	-0.0293	95.9	32 564	11 458	max
19 495	-1 495c	95.33	-9.88	131.44	131.81	0.2145	-0.0263	94.3	33 565	12 460	
20 500	-1 500c	94.43	-6.08	136.47	136.6	0.2162	-0.0236	92.5	33 566	12 462	
22 510	-1 510c	92.16	3.03	143.93	143.96	0.2205	-0.019	88.7	33 569	13 466	
23 520	-1 519c	90.77	8.29	146.41	146.64	0.223	-0.0169	86.7	34 570	13 468	Ym
25 530	-1 529c	87.45	19.7	146.61	147.93	0.2287	-0.013	82.3	34 573	14 470	
27 540	-1 539c	83.46	31.82	142.58	146.09	0.2353	-0.0092	77.4	35 577	14 473	
29 545	-1 545c	78.83	44.02	135.72	142.68	0.2426	-0.0052	72.0	36 582	15 475	
29 550	-1 549c	78.83	44.02	135.72	142.68	0.2426	-0.0052	72.0	36 582	15 475	
31 555	-1 555c	73.61	55.53	126.92	138.53	0.2505	0.0	66.3	37 587	15 476	
32 560	3 415	70.87	63.43	69.33	93.97	0.2562	-0.0449	47.5	39 595	15 478	
31 559	1 405	72.45	58.84	95.98	112.58	0.2529	-0.0309	58.4	37 589	15 477	Rm
32 561	7 435	72.18	71.63	12.24	72.67	0.2603	-0.077	9.6	-1 484c	16 484	
32 562	10 450	71.95	79.98	-16.73	81.72	0.2653	-0.093	348.1	-1 493c	18 493	
33 565	12 460	71.21	84.68	-30.97	90.17	0.2684	-0.101	339.9	-1 506c	21 506	
33 568	13 465	70.2	86.97	-37.58	94.75	0.2703	-0.1049	336.6	-1 515c	23 515	
34 572	13 470	67.48	91.21	-42.27	100.53	0.2746	-0.1083	335.1	-1 520c	24 520	
36 581	14 475	63.17	95.86	-53.49	109.77	0.2806	-0.1165	330.8	-1 532c	26 532	Mm
40 604	16 480	51.52	92.9	-78.43	121.58	0.289	-0.1402	319.8	-1 551c	30 551	
-1 485c	17 485	34.38	59.2	-109.46	124.44	0.2788	-0.1893	298.4	11 456	32 564	
-1 490c	18 490	37.42	46.35	-105.27	115.03	0.2632	-0.1795	293.7	11 458	32 564	min
-1 495c	19 495	40.57	32.86	-100.6	105.83	0.2486	-0.1701	288.0	12 460	33 565	
-1 500c	20 500	43.84	19.01	-95.52	97.39	0.2352	-0.1613	281.2	12 462	33 566	
-1 510c	22 510	50.61	-8.3	-84.51	84.92	0.2127	-0.1454	264.3	13 466	33 569	
-1 519c	23 520	54.06	-21.03	-78.76	81.52	0.2038	-0.1383	255.0	13 468	34 570	Bm
-1 529c	25 530	60.84	-42.55	-67.32	79.65	0.1909	-0.1263	237.7	14 470	34 573	
-1 539c	27 540	67.25	-57.63	-56.4	80.64	0.1838	-0.1166	224.3	14 473	35 577	
-1 545c	29 545	73.13	-66.12	-46.31	80.73	0.1813	-0.109	215.0	15 475	36 582	
-1 549c	29 550	73.13	-66.12	-46.31	80.73	0.1813	-0.109	215.0	15 475	36 582	
-1 555c	31 555	78.41	-68.43	-37.22	77.9	0.1822	-0.1029	208.5	15 476	37 587	
3 415	32 560	80.74	-72.04	-28.77	77.57	0.1812	-0.0982	201.7	15 478	39 595	
380	770	100.0	0.0	0.0	0.0	0.219	-0.0837	0.0			

TUB-test chart CE38; CIE (x_{10}, y_{10}) and chroma ($A^*_{i,10}, B^*_{i,10}$)
Ostwald optimal colours for illuminant P40; diagram for illuminant P40, $Y_{w,10}=100$

input: w/rgb/cmyk -> rgb



TUB registration: 20170801-CE38/CE38L0NP.PDF /.PS
application for measurement of offset print output

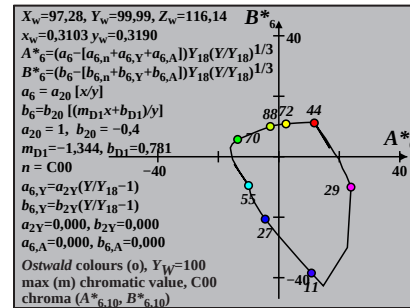
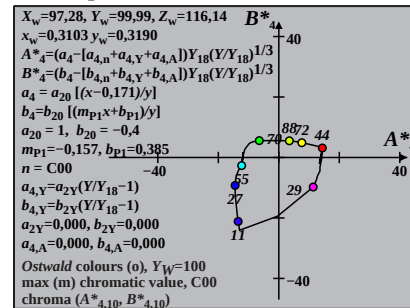
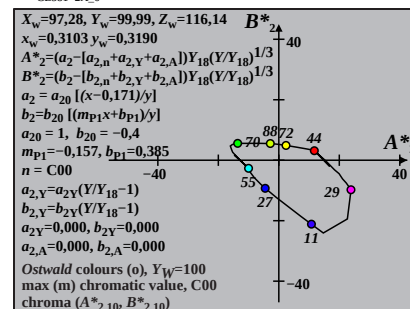
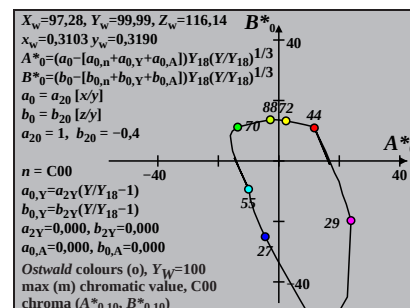
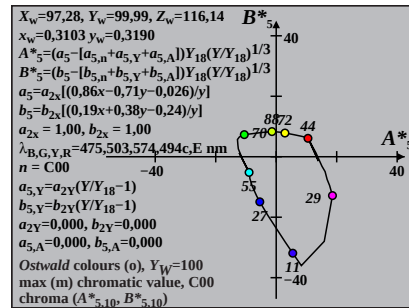
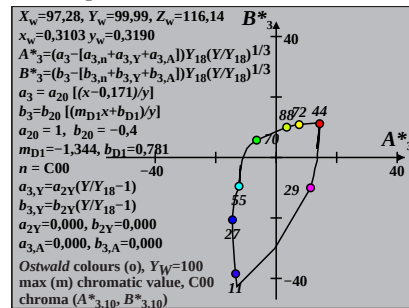
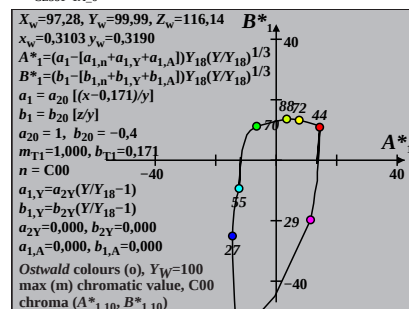
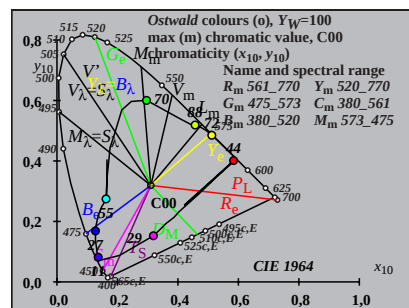
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Ostwald optimal colours (o) of maximum (m) $C_{AB,10}$ for C00, $Y_w,10=100$, $Y_m=520_770$

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	79.55	-62.94	-34.33	71.69	0.1839	-0.1063	208.6	15 475	37 586	Cm
6 435	31 558	80.09	-80.06	-17.74	82.0	0.1751	-0.0974	192.4	16 480	44 623	
9 450	32 560	80.48	-100.43	6.75	100.66	0.1646	-0.0844	176.1	17 487	-1 487c	
12 460	32 563	80.92	-115.27	39.0	121.69	0.1571	-0.0674	161.3	20 504	-1 504c	
12 465	33 566	82.38	-111.12	41.51	118.62	0.1601	-0.0664	159.5	21 507	-1 507c	
13 470	34 572	84.32	-105.95	56.44	120.04	0.1638	-0.0593	151.9	24 520	-1 520c	
14 475	36 582	87.61	-90.64	73.68	116.81	0.173	-0.0517	140.8	26 533	-1 533c	Gm
16 480	44 622	94.59	-37.95	107.02	113.55	0.1998	-0.0386	109.5	31 556	0 403	
17 485	-1 485c	96.04	-18.84	118.93	120.42	0.2086	-0.0338	99.0	32 562	11 456	
18 490	-1 490c	95.27	-15.61	126.11	127.07	0.21	-0.0301	97.0	32 563	11 459	max
19 495	-1 495c	94.39	-11.85	132.2	132.74	0.2116	-0.0268	95.1	32 564	12 461	
20 500	-1 500c	93.39	-7.65	137.25	137.46	0.2135	-0.0239	93.1	33 565	12 463	
22 510	-1 510c	91.04	1.78	142.45	142.46	0.2179	-0.0191	89.2	33 567	13 466	
24 520	-1 520c	88.11	12.43	145.37	145.9	0.2231	-0.015	85.1	34 570	13 468	Ym
26 530	-1 530c	84.48	24.05	143.15	145.15	0.2291	-0.0113	80.4	34 574	14 471	
28 540	-1 540c	79.99	36.54	137.3	142.08	0.2362	-0.0074	75.0	35 578	14 473	
28 545	-1 544c	79.99	36.54	137.3	142.08	0.2362	-0.0074	75.0	35 578	14 473	
29 550	-1 549c	77.45	42.86	133.32	140.04	0.2402	-0.0053	72.1	36 580	14 474	
31 555	-1 555c	71.78	55.02	123.76	135.44	0.2486	0.0	66.0	37 585	15 475	
31 560	9 447	72.94	74.81	-5.27	75.0	0.2594	-0.091	355.9	-1 487c	17 487	
31 556	1 405	72.31	54.74	104.15	117.66	0.2483	-0.0277	62.2	37 586	15 475	Rm
31 558	6 435	71.66	66.43	28.84	72.42	0.2552	-0.0712	23.4	44 623	16 480	
32 560	9 450	71.19	78.24	-7.55	78.6	0.2623	-0.0924	354.4	-1 487c	17 487	
32 563	12 460	70.65	86.5	-31.28	91.98	0.2673	-0.1064	340.1	-1 504c	20 504	
33 566	12 465	68.75	89.94	-34.54	96.35	0.2705	-0.1088	338.9	-1 507c	21 507	
34 572	13 470	65.99	95.06	-44.46	104.94	0.2755	-0.1157	334.9	-1 520c	24 520	
36 582	14 475	60.56	100.71	-57.86	116.15	0.2833	-0.1266	330.1	-1 533c	26 533	Mm
44 622	16 480	43.3	88.0	-92.76	127.86	0.2918	-0.1679	313.4	0 403	31 556	
-1 485c	17 485	37.65	61.31	-104.04	120.76	0.2747	-0.1871	300.5	11 456	32 562	
-1 490c	18 490	40.81	47.95	-99.66	110.6	0.2596	-0.1776	295.6	11 459	32 563	min
-1 495c	19 495	43.98	34.37	-94.93	100.96	0.2459	-0.1688	289.9	12 461	32 564	
-1 500c	20 500	47.15	20.94	-89.98	92.38	0.2338	-0.1608	283.1	12 463	33 565	
-1 510c	22 510	53.42	-4.32	-79.77	79.89	0.2139	-0.1467	266.8	13 466	33 567	
-1 520c	24 520	59.62	-26.27	-69.37	74.18	0.1995	-0.1348	249.2	13 468	34 570	Bm
-1 530c	26 530	65.76	-43.53	-58.93	73.27	0.1902	-0.1248	233.5	14 471	34 574	
-1 540c	28 540	71.78	-55.39	-48.62	73.71	0.1853	-0.1163	221.2	14 473	35 578	
-1 544c	28 545	71.78	-55.39	-48.62	73.71	0.1853	-0.1163	221.2	14 473	35 578	
-1 549c	29 550	74.65	-59.03	-43.69	73.44	0.1842	-0.1126	216.5	14 474	36 580	
-1 555c	31 555	80.0	-61.78	-34.48	70.76	0.1846	-0.1063	209.1	15 475	37 585	
9 447	31 560	79.0	-102.91	4.92	103.03	0.1625	-0.0853	177.2	17 487	-1 487c	
380	770	100.0	0.0	0.0	0.0	0.2171	-0.088	0.0			

TUB-test chart CE38; CIE (x_{10}, y_{10}) and chroma ($A^*_{i,10}, B^*_{i,10}$)
Ostwald optimal colours for illuminant P35; diagram for illuminant P35, $Y_w,10=100$

input: w/rgb/cmyk -> rgb

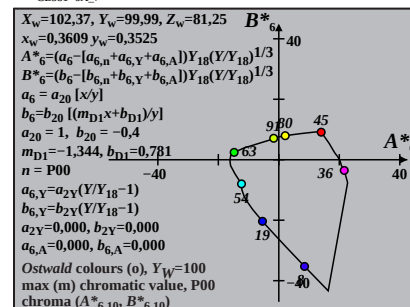
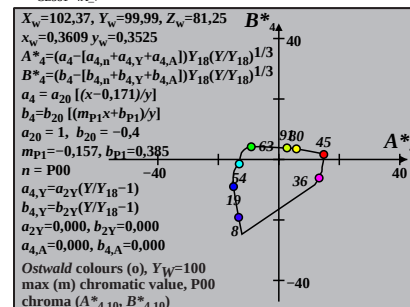
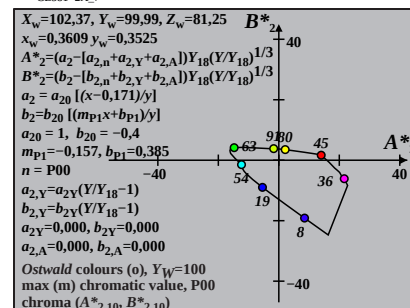
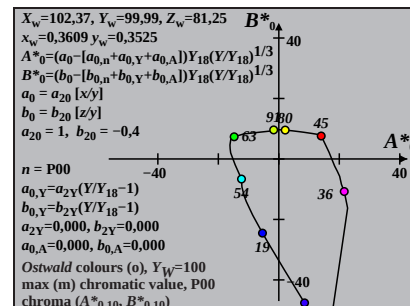
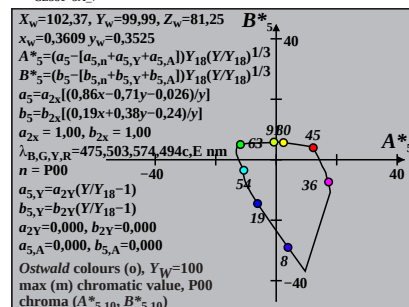
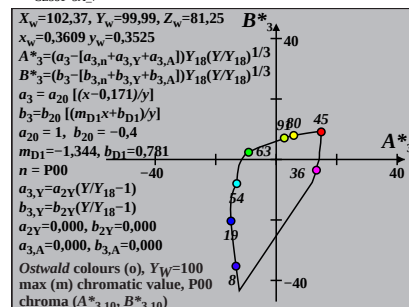
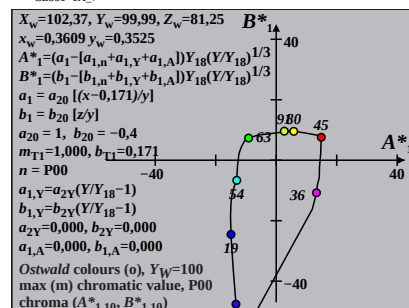
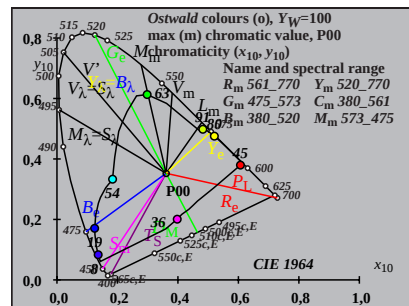


Ostwald optimal colours (o) of maximum (m) $C_{AB,10}$ for P00, $Y_{w,10}=100$, $Y_m=520_770$

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	78.99	-75.59	-35.63	83.57	0.18	-0.0951	205.2	15 479	38 591	Cm
7 435	32 563	79.17	-93.44	-11.49	94.15	0.1705	-0.0836	187.0	17 485	-1 485c	
9 450	32 564	79.53	-102.04	5.22	102.17	0.166	-0.0756	177.0	18 491	-1 491c	
12 460	33 567	79.82	-110.91	35.7	116.52	0.1615	-0.0612	162.1	21 506	-1 506c	
13 465	33 569	80.48	-110.11	47.9	120.08	0.1623	-0.0556	156.4	22 514	-1 514c	
13 470	34 572	82.15	-104.48	50.77	116.16	0.1662	-0.0547	154.0	23 518	-1 518c	
15 475	35 579	83.96	-94.61	75.32	120.93	0.1723	-0.0439	141.4	26 534	-1 534c	Gm
16 480	38 593	88.61	-69.27	92.98	115.94	0.1868	-0.0378	126.6	29 547	-1 547c	
17 485	-1 485c	97.27	-11.29	116.74	117.29	0.2157	-0.0314	95.5	33 566	11 457	
17 490	-1 489c	97.27	-11.29	116.74	117.29	0.2157	-0.0314	95.5	33 566	11 457	max
19 495	-1 495c	96.02	-6.01	129.98	130.12	0.218	-0.0255	92.6	33 567	12 461	
19 500	-1 499c	96.02	-6.01	129.98	130.12	0.218	-0.0255	92.6	33 567	12 461	
22 510	-1 510c	93.17	5.65	143.44	143.55	0.2234	-0.0185	87.7	34 570	13 467	
23 520	-1 519c	91.89	10.48	148.8	149.17	0.2258	-0.0165	85.9	34 572	13 469	Ym
26 530	-1 530c	87.04	26.76	147.67	150.08	0.2341	-0.0109	79.7	35 577	14 473	
28 540	-1 540c	82.97	38.46	142.46	147.56	0.2407	-0.0071	74.8	36 580	15 475	
28 545	-1 544c	82.97	38.46	142.46	147.56	0.2407	-0.0071	74.8	36 580	15 475	
29 550	-1 549c	80.7	44.3	138.94	145.83	0.2442	-0.0051	72.3	36 583	15 476	
31 555	-1 555c	75.69	55.54	130.5	141.83	0.2518	0.0	66.9	37 587	15 478	
32 560	-1 560c	72.95	60.74	125.77	139.67	0.2558	0.0	64.2	38 590	15 479	
32 562	0 405	72.96	61.02	114.65	129.88	0.2559	-0.021	61.9	38 591	15 479	Rm
32 563	7 435	72.75	70.89	15.73	72.61	0.2617	-0.0701	12.5	-1 485c	17 485	
32 564	9 450	72.33	76.03	-5.7	76.24	0.2649	-0.081	35.7	-1 491c	18 491	
33 567	12 460	71.98	80.91	-28.26	85.71	0.2679	-0.0927	340.7	-1 506c	21 506	
33 569	13 465	71.19	82.74	-34.74	89.74	0.2694	-0.0962	337.2	-1 514c	22 514	
34 572	13 470	69.06	85.88	-38.4	94.08	0.2725	-0.0986	335.9	-1 518c	23 518	
35 579	15 475	66.54	87.32	-49.77	100.51	0.275	-0.1055	330.3	-1 534c	26 534	Mm
38 593	16 480	58.66	89.16	-65.55	110.67	0.282	-0.1179	323.6	-1 547c	29 547	
-1 485c	17 485	31.58	49.57	-113.84	124.17	0.2742	-0.1867	293.5	11 457	33 566	
-1 489c	17 490	31.58	49.57	-113.84	124.17	0.2742	-0.1867	293.5	11 457	33 566	min
-1 495c	19 495	37.74	23.37	-105.22	107.79	0.2431	-0.1669	282.5	12 461	33 567	
-1 499c	19 500	37.74	23.37	-105.22	107.79	0.2431	-0.1669	282.5	12 461	33 567	
-1 510c	22 510	47.83	-17.88	-89.2	90.98	0.2064	-0.1415	258.6	13 467	34 570	
-1 519c	23 520	51.33	-30.66	-83.4	88.86	0.1974	-0.1343	249.8	13 469	34 572	Bm
-1 530c	26 530	61.58	-60.36	-66.11	89.52	0.1809	-0.1168	227.6	14 473	35 577	
-1 540c	28 540	67.95	-71.7	-55.23	90.5	0.177	-0.1079	217.6	15 475	36 580	
-1 544c	28 545	67.95	-71.7	-55.23	90.5	0.177	-0.1079	217.6	15 475	36 580	
-1 549c	29 550	70.92	-74.81	-50.12	90.05	0.1767	-0.1043	213.8	15 476	36 583	
-1 555c	31 555	76.45	-76.38	-40.6	86.5	0.1784	-0.098	207.9	15 478	37 587	
-1 560c	32 560	79.0	-75.05	-36.21	83.33	0.1803	-0.0954	205.7	15 479	38 590	
380	770	100.0	0.0	0.0	0.0	0.2208	-0.0781	0.0			

TUB-test chart CE38; CIE (x_{10}, y_{10}) and chroma ($A^*_{i,10}, B^*_{i,10}$)
Ostwald optimal colours for illuminant P30; diagram for illuminant P30, $Y_{w,10}=100$

input: w/rgb/cmyk -> rgb



Ostwald optimal colours (o) of maximum (m) $C_{AB,10}$ for Q00, $Y_{w,10}=100$, $Y_m=520_770$

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	79.79	-63.03	-33.22	71.25	0.1841	-0.1064	207.7	15 475	37 587	Cm
7 435	31 558	80.09	-90.17	-7.26	90.46	0.17	-0.0925	184.6	16 482	-1 482c	
10 450	32 560	80.33	-110.56	19.97	112.35	0.1594	-0.0779	169.7	18 493	-1 493c	
12 460	32 563	81.05	-117.96	42.5	125.39	0.156	-0.0661	160.1	21 506	-1 506c	
13 465	33 566	82.02	-116.8	55.42	129.29	0.1572	-0.0595	154.6	23 515	-1 515c	
13 470	34 572	84.4	-108.27	59.54	123.56	0.1629	-0.0581	151.1	24 520	-1 520c	
15 475	36 583	87.21	-91.51	85.94	125.54	0.1726	-0.0458	136.7	27 536	-1 536c	Gm
15 480	45 629	95.94	-36.61	100.99	107.43	0.2008	-0.0422	109.9	31 556	2 413	
17 485	-1 485c	96.22	-20.84	119.83	121.63	0.208	-0.0337	99.8	32 561	11 455	
17 490	-1 489c	96.22	-20.84	119.83	121.63	0.208	-0.0337	99.8	32 561	11 455	max
18 495	-1 494c	95.5	-17.81	126.48	127.73	0.2093	-0.0302	98.0	32 562	11 458	
19 500	-1 499c	94.64	-14.18	132.17	132.93	0.2109	-0.0271	96.1	32 563	12 460	
21 510	-1 509c	92.49	-5.24	140.83	140.92	0.2149	-0.0218	92.1	33 566	12 464	
24 520	-1 520c	87.94	11.68	144.75	145.22	0.223	-0.0153	85.3	34 570	13 468	Ym
26 530	-1 530c	84.03	24.22	142.35	144.4	0.2295	-0.0114	80.3	34 574	14 471	
27 540	-1 539c	81.81	30.65	139.71	143.04	0.2331	-0.0094	77.6	35 576	14 472	
29 545	-1 545c	76.93	43.32	132.43	139.34	0.2408	-0.0053	71.8	36 581	14 474	
30 550	-1 550c	74.27	49.37	128.02	137.22	0.2449	-0.003	68.9	36 583	15 475	
30 555	-1 554c	74.27	49.37	128.02	137.22	0.2449	-0.003	68.9	36 583	15 475	
31 560	9 447	72.71	76.81	-9.04	77.34	0.261	-0.0938	353.2	-1 488c	17 488	
31 556	1 405	72.02	55.36	93.99	109.09	0.249	-0.0336	59.5	37 587	15 475	Rm
31 558	7 435	71.67	71.89	9.72	72.55	0.2587	-0.0829	7.7	-1 482c	16 482	
32 560	10 450	71.37	82.43	-18.98	84.58	0.2649	-0.0997	347.0	-1 493c	18 493	
32 563	12 460	70.48	88.13	-33.16	94.16	0.2687	-0.1083	339.3	-1 506c	21 506	
33 566	13 465	69.23	91.19	-40.0	99.58	0.2713	-0.1127	336.3	-1 515c	23 515	
34 572	13 470	65.87	96.62	-45.8	106.93	0.2768	-0.1173	334.6	-1 520c	24 520	
36 583	15 475	61.29	99.34	-60.03	116.07	0.2822	-0.1285	328.8	-1 536c	27 536	Mm
45 629	15 480	38.11	98.06	-99.99	140.06	0.3088	-0.1836	314.4	2 413	31 556	
-1 485c	17 485	36.85	67.79	-105.48	125.39	0.2821	-0.1912	302.7	11 455	32 561	
-1 489c	17 490	36.85	67.79	-105.48	125.39	0.2821	-0.1912	302.7	11 455	32 561	min
-1 494c	18 495	39.93	54.8	-101.18	115.07	0.2668	-0.1816	298.4	11 458	32 562	
-1 499c	19 500	43.1	41.21	-96.41	104.85	0.2525	-0.1724	293.1	12 460	32 563	
-1 509c	21 510	49.73	13.47	-85.85	86.9	0.2277	-0.1557	278.9	12 464	33 566	
-1 520c	24 520	59.94	-24.21	-68.8	72.94	0.2012	-0.1351	250.6	13 468	34 570	Bm
-1 530c	26 530	66.43	-42.61	-57.78	71.79	0.1912	-0.1246	233.5	14 471	34 574	
-1 539c	27 540	69.5	-49.43	-52.52	72.13	0.1882	-0.1201	226.7	14 472	35 576	
-1 545c	29 545	75.2	-58.23	-42.75	72.24	0.1851	-0.1127	216.2	14 474	36 581	
-1 550c	30 550	77.8	-60.33	-38.27	71.44	0.1849	-0.1095	212.3	15 475	36 583	
-1 554c	30 555	77.8	-60.33	-38.27	71.44	0.1849	-0.1095	212.3	15 475	36 583	
9 447	31 560	79.2	-106.01	8.79	106.38	0.1612	-0.0838	175.2	17 488	-1 488c	
380	770	100.0	0.0	0.0	0.0	0.2173	-0.0886	0.0			

TUB-test chart CE38; CIE (x_{10}, y_{10}) and chroma ($A^*_{i,10}, B^*_{i,10}$)
Ostwald optimal colours for illuminant P25; diagram for illuminant P25, $Y_{w,10}=100$

input: w/rgb/cmyk -> rgb

