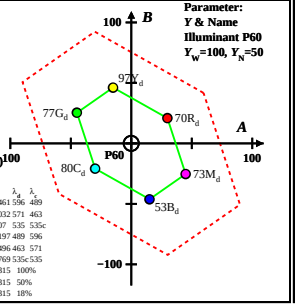
see similar files: http://farbe.li.tu-berlin.de/BEL4/BEL4.HTM
technical information: http://farbe.li.tu-berlin.de or http://farbe.li.tu-berlin.de/

TUB registration: 20220301-BEL4/BEL4L0NA.TXT /.PS
application for evaluation and measurement of display or print output

TUB material: code=rha4ta

XYZ_W=97.06 , 99.99 , 104.57
A = 2,5 ($a - a_n$) Y
B = 2,5 B_c ($b - b_n$) Y
$a = a_{20}$ [($x - x_c$) / y]
$b = b_{20}$ [z / y]
a_{20} = 1, b_{20} = −0,4
x_c = 0,000, B_c = 1,000
$C_{AB}=[A^2+B^2]^{1/2}$
6 *Ostwald* colours (o)
of maximum (m) C_{AB} in
chromatic value diagram (A, B)
Illumin. P60, Y_W=100, Y_N=50

Parameter:
Y & Name
Illuminant P60
Y_W=100, Y_N=50

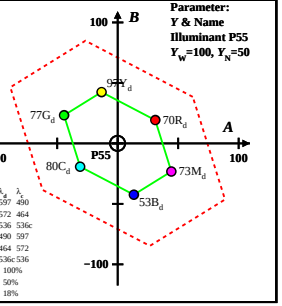


Name	Range	X_d	Y_d	Z_d	x_d	y_d	λ_d	λ_c
R_d	568,775	79.97	70.08	52.41	0.3949	0.3461	596	489
Y_d	494,775	88.45	97.34	55.59	0.3664	0.4032	571	463
G_d	494,568	57.1	77.35	55.57	0.3005	0.407	535	535c
C_d	380,568	65.77	80.06	104.6	0.2626	0.3197	489	596
B_d	380,494	57.29	52.8	101.42	0.2708	0.2496	463	571
M_d	568,494	88.64	72.79	101.44	0.3371	0.2769	535c	535
W_d	380,775	97.06	99.99	104.57	0.3218	0.3315	100%	
N_d	380,775	48.53	49.99	52.28	0.3218	0.3315	50%	
Z_d	380,775	17.47	17.99	18.82	0.3218	0.3315	18%	

BEL40−1A

XYZ_W=97.45 , 100.0 , 95.98
A = 2,5 ($a - a_n$) Y
B = 2,5 B_c ($b - b_n$) Y
$a = a_{20}$ [($x - x_c$) / y]
$b = b_{20}$ [z / y]
a_{20} = 1, b_{20} = −0,4
x_c = 0,000, B_c = 1,000
$C_{AB}=[A^2+B^2]^{1/2}$
6 *Ostwald* colours (o)
of maximum (m) C_{AB} in
chromatic value diagram (A, B)
Illumin. P55, Y_W=100, Y_N=50

Parameter:
Y & Name
Illuminant P55
Y_W=100, Y_N=50

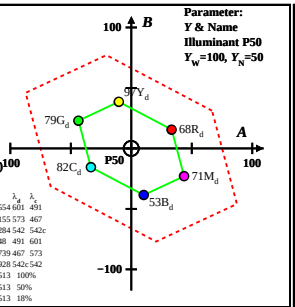


Name	Range	X_d	Y_d	Z_d	x_d	y_d	λ_d	λ_c
R_d	569,775	80.8	70.17	48.11	0.4058	0.3524	597	490
Y_d	494,775	89.6	97.41	51.05	0.3763	0.4091	572	464
G_d	494,569	57.61	77.34	51.02	0.3098	0.4158	536	536c
C_d	380,569	65.52	79.97	96.0	0.2713	0.3311	490	597
B_d	380,494	56.73	52.73	93.07	0.2801	0.2603	464	572
M_d	569,494	88.71	72.8	93.09	0.3484	0.2859	536c	536
W_d	380,775	97.45	100.0	95.98	0.3321	0.3407	100%	
N_d	380,775	48.72	50.0	47.99	0.3321	0.3407	50%	
Z_d	380,775	17.54	18.0	17.27	0.3321	0.3407	18%	

BEL40−2A

XYZ_W=98.12 , 100.0 , 86.5
A = 2,5 ($a - a_n$) Y
B = 2,5 B_c ($b - b_n$) Y
$a = a_{20}$ [($x - x_c$) / y]
$b = b_{20}$ [z / y]
a_{20} = 1, b_{20} = −0,4
x_c = 0,000, B_c = 1,000
$C_{AB}=[A^2+B^2]^{1/2}$
6 *Ostwald* colours (o)
of maximum (m) C_{AB} in
chromatic value diagram (A, B)
Illumin. P50, Y_W=100, Y_N=50

Parameter:
Y & Name
Illuminant P50
Y_W=100, Y_N=50

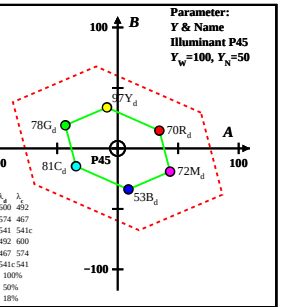


Name	Range	X_d	Y_d	Z_d	x_d	y_d	λ_d	λ_c
R_d	570,775	80.21	68.13	43.35	0.4184	0.3554	601	491
Y_d	495,775	91.07	97.01	45.35	0.3901	0.4155	573	467
G_d	495,570	60.02	78.98	45.33	0.3256	0.4284	542	542c
C_d	380,570	67.12	82.19	86.52	0.2848	0.348	491	601
B_d	380,495	56.25	53.13	84.52	0.2901	0.2739	467	573
M_d	570,495	87.3	71.16	84.54	0.3592	0.2928	542c	542
W_d	380,775	98.12	100.0	86.5	0.3447	0.3513	100%	
N_d	380,775	49.06	50.0	43.25	0.3447	0.3513	50%	
Z_d	380,775	17.66	18.0	15.57	0.3447	0.3513	18%	

BEL40−3A

XYZ_W=99.2 , 100.0 , 76.07
A = 2,5 ($a - a_n$) Y
B = 2,5 B_c ($b - b_n$) Y
$a = a_{20}$ [($x - x_c$) / y]
$b = b_{20}$ [z / y]
a_{20} = 1, b_{20} = −0,4
x_c = 0,000, B_c = 1,000
$C_{AB}=[A^2+B^2]^{1/2}$
6 *Ostwald* colours (o)
of maximum (m) C_{AB} in
chromatic value diagram (A, B)
Illumin. P45, Y_W=100, Y_N=50

Parameter:
Y & Name
Illuminant P45
Y_W=100, Y_N=50

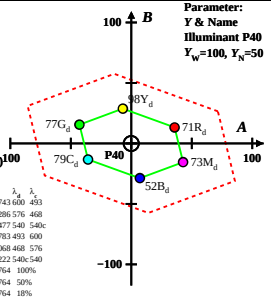


Name	Range	X_d	Y_d	Z_d	x_d	y_d	λ_d	λ_c
R_d	572,775	82.76	69.54	38.13	0.4345	0.3651	600	492
Y_d	497,775	93.08	97.41	40.21	0.4034	0.4222	574	467
G_d	497,572	60.02	77.97	40.19	0.3368	0.4375	541	541c
C_d	380,572	66.18	80.6	76.08	0.2969	0.3616	492	600
B_d	380,497	55.86	52.73	74.0	0.3059	0.2887	467	574
M_d	572,497	88.93	72.17	74.02	0.3782	0.3069	541c	541
W_d	380,775	99.2	100.0	76.07	0.3603	0.3632	100%	
N_d	380,775	49.6	50.0	38.03	0.3603	0.3632	50%	
Z_d	380,775	17.85	18.0	13.69	0.3603	0.3632	18%	

BEL40−4A

XYZ_W=100.93 , 100.0 , 64.68
A = 2,5 ($a - a_n$) Y
B = 2,5 B_c ($b - b_n$) Y
$a = a_{20}$ [($x - x_c$) / y]
$b = b_{20}$ [z / y]
a_{20} = 1, b_{20} = −0,4
x_c = 0,000, B_c = 1,000
$C_{AB}=[A^2+B^2]^{1/2}$
6 *Ostwald* colours (o)
of maximum (m) C_{AB} in
chromatic value diagram (A, B)
Illumin. P40, Y_W=100, Y_N=50

Parameter:
Y & Name
Illuminant P40
Y_W=100, Y_N=50

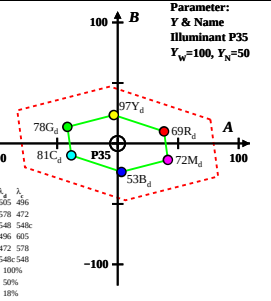


Name	Range	X_d	Y_d	Z_d	x_d	y_d	λ_d	λ_c
R_d	573,775	85.62	70.65	32.43	0.4537	0.3743	600	493
Y_d	498,775	95.81	97.72	34.43	0.4202	0.4286	576	468
G_d	498,573	60.75	77.17	34.41	0.3525	0.4477	540	540c
C_d	380,573	65.92	79.49	64.69	0.3137	0.3783	493	600
B_d	380,498	55.73	52.42	62.69	0.3262	0.3068	468	576
M_d	573,498	90.79	72.97	62.71	0.4008	0.3222	540c	540
W_d	380,775	100.93	100.0	64.68	0.3799	0.3764	100%	
N_d	380,775	50.46	50.0	32.34	0.3799	0.3764	50%	
Z_d	380,775	18.16	18.0	11.64	0.3799	0.3764	18%	

BEL40−5A

XYZ_W=103.66 , 99.99 , 52.43
A = 2,5 ($a - a_n$) Y
B = 2,5 B_c ($b - b_n$) Y
$a = a_{20}$ [($x - x_c$) / y]
$b = b_{20}$ [z / y]
a_{20} = 1, b_{20} = −0,4
x_c = 0,000, B_c = 1,000
$C_{AB}=[A^2+B^2]^{1/2}$
6 *Ostwald* colours (o)
of maximum (m) C_{AB} in
chromatic value diagram (A, B)
Illumin. P35, Y_W=100, Y_N=50

Parameter:
Y & Name
Illuminant P35
Y_W=100, Y_N=50

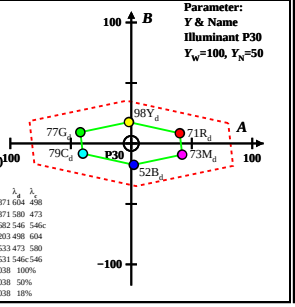


Name	Range	X_d	Y_d	Z_d	x_d	y_d	λ_d	λ_c
R_d	575,775	86.85	68.98	26.28	0.4768	0.3787	605	496
Y_d	500,775	99.6	97.31	27.49	0.4438	0.4336	578	472
G_d	500,575	64.68	78.42	27.47	0.3791	0.4597	548	548c
C_d	380,575	68.8	81.16	52.44	0.3399	0.4009	496	605
B_d	380,500	56.05	52.83	51.23	0.35	0.3299	472	578
M_d	575,500	90.97	71.72	51.25	0.4251	0.3352	548c	548
W_d	380,775	103.66	99.99	52.43	0.4047	0.3904	100%	
N_d	380,775	51.83	49.99	26.21	0.4047	0.3904	50%	
Z_d	380,775	18.66	18.0	9.43	0.4047	0.3904	18%	

BEL40−6A

XYZ_W=108.04 , 100.0 , 39.55
A = 2,5 ($a - a_n$) Y
B = 2,5 B_c ($b - b_n$) Y
$a = a_{20}$ [($x - x_c$) / y]
$b = b_{20}$ [z / y]
a_{20} = 1, b_{20} = −0,4
x_c = 0,000, B_c = 1,000
$C_{AB}=[A^2+B^2]^{1/2}$
6 *Ostwald* colours (o)
of maximum (m) C_{AB} in
chromatic value diagram (A, B)
Illumin. P30, Y_W=100, Y_N=50

Parameter:
Y & Name
Illuminant P30
Y_W=100, Y_N=50

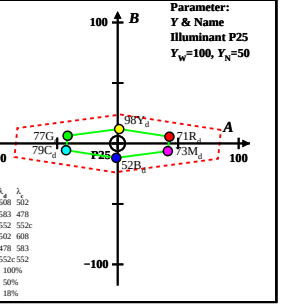


Name	Range	X_d	Y_d	Z_d	x_d	y_d	λ_d	λ_c
R_d	578,775	93.17	71.4	19.83	0.5052	0.3871	604	498
Y_d	503,775	105.07	98.0	21.09	0.4687	0.4371	580	473
G_d	503,578	66.03	76.7	21.07	0.4031	0.4682	546	546c
C_d	380,578	69.05	78.74	39.54	0.3685	0.4203	498	604
B_d	380,503	57.14	52.14	38.28	0.3872	0.3533	473	580
M_d	578,503	96.19	73.44	38.3	0.4625	0.3531	546c	546
W_d	380,775	108.04	100.0	39.55	0.4363	0.4038	100%	
N_d	380,775	54.02	50.0	19.77	0.4363	0.4038	50%	
Z_d	380,775	19.44	18.0	7.11	0.4363	0.4038	18%	

BEL40−7N

XYZ_W=115.18 , 100.0 , 26.59
A = 2,5 ($a - a_n$) Y
B = 2,5 B_c ($b - b_n$) Y
$a = a_{20}$ [($x - x_c$) / y]
$b = b_{20}$ [z / y]
a_{20} = 1, b_{20} = −0,4
x_c = 0,000, B_c = 1,000
$C_{AB}=[A^2+B^2]^{1/2}$
6 *Ostwald* colours (o)
of maximum (m) C_{AB} in
chromatic value diagram (A, B)
Illumin. P25, Y_W=100, Y_N=50

Parameter:
Y & Name
Illuminant P25
Y_W=100, Y_N=50

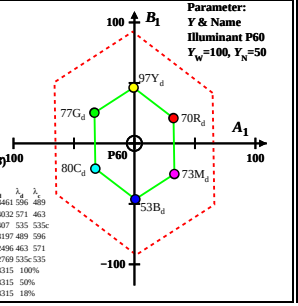


Name	Range	X_d	Y_d	Z_d	x_d	y_d	λ_d	λ_c
R_d	582,775	99.12	71.23	13.34	0.5396	0.3877	608	502
Y_d	506,775	113.29	97.93	14.1	0.5027	0.4346	583	478
G_d	506,582	71.87	76.8	14.08	0.4415	0.4718	552	552c
C_d	380,582	73.82	78.91	26.59	0.4116	0.44	502	608
B_d	380,506	59.65	52.21	25.82	0.4332	0.3791	478	583
M_d	582,506	101.07	73.34	25.84	0.5046	0.3662	552c	552
W_d	380,775	115.18	100.0	26.59	0.4764	0.4136	100%	
N_d	380,775	57.59	50.0	13.29	0.4764	0.4136	50%	
Z_d	380,775	20.73	18.0	4.78	0.4764	0.4136	18%	

BEL40−8A

XYZ_W=97.06 , 99.99 , 104.57
A_1 = 2,5 ($a_1 - a_{1,n}$) Y
B_1 = 2,5 B_c ($b_1 - b_{1,n}$) Y
$a_1 = a_{20}$ [($x - x_c$) / y]
$b_1 = b_{20}$ [z / y]
a_{20} = 1, b_{20} = −0,4
x_c = 0,110, B_c = 1,000
$C_{AB1}=[A_1^2+B_1^2]^{1/2}$
6 *Ostwald* colours (o)
of maximum (m) C_{AB} in
chromatic value diagram (A, B)
Illumin. P60, Y_W=100, Y_N=50

Parameter:
Y & Name
Illuminant P60
Y_W=100, Y_N=50

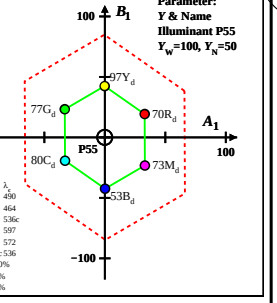


Name	Range	X_d	Y_d	Z_d	x_d	y_d	λ_d	λ_c
R_d	568,775	79.97	70.08	52.41	0.3949	0.3461	596	489
Y_d	494,775	88.45	97.34	55.59	0.3664	0.4032	571	463
G_d	494,568	57.1	77.35	55.57	0.3005	0.407	535	535c
C_d	380,568	65.77	80.06	104.6	0.2626	0.3197	489	596
B_d	380,494	57.29	52.8	101.42	0.2708	0.2496	463	571
M_d	568,494	88.64	72.79	101.44	0.3371	0.2769	535c	535
W_d	380,775	97.06	99.99	104.57	0.3218	0.3315	100%	
N_d	380,775	48.53	49.99	52.28	0.3218	0.3315	50%	
Z_d	380,775	17.47	17.99	18.82	0.3218	0.3315	18%	

BEL41−1A

XYZ_W=97.45 , 100.0 , 95.98
A_1 = 2,5 ($a_1 - a_{1,n}$) Y
B_1 = 2,5 B_c ($b_1 - b_{1,n}$) Y
$a_1 = a_{20}$ [($x - x_c$) / y]
$b_1 = b_{20}$ [z / y]
a_{20} = 1, b_{20} = −0,4
x_c = 0,110, B_c = 1,000
$C_{AB1}=[A_1^2+B_1^2]^{1/2}$
6 *Ostwald* colours (o)
of maximum (m) C_{AB} in
chromatic value diagram (A, B)
Illumin. P55, Y_W=100, Y_N=50

Parameter:
Y & Name
Illuminant P55
Y_W=100, Y_N=50

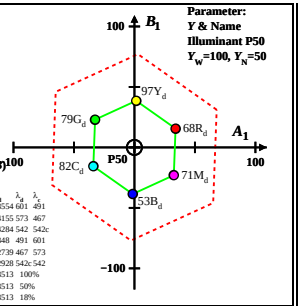


Name	Range	X_d	Y_d	Z_d	x_d	y_d	λ_d	λ_c
R_d	569,775	80.8	70.17	48.11	0.4058	0.3524	597	490
Y_d	494,775	89.6	97.41	51.05	0.3763	0.4091	572	464
G_d	494,569	57.61	77.34	51.02	0.3098	0.4158	536	536c
C_d	380,569	65.52	79.97	96.0	0.2713	0.3311	490	597
B_d	380,494	56.73	52.73	93.07	0.2801	0.2603	464	572
M_d	569,494	88.71	72.8	93.09	0.3484	0.2859	536c	536
W_d	380,775	97.45	100.0	95.98	0.3321	0.3407	100%	
N_d	380,775	48.72	50.0	47.99	0.3321	0.3407	50%	
Z_d	380,775	17.54	18.0	17.27	0.3321	0.3407	18%	

BEL41−2A

XYZ_W=98.12 , 100.0 , 86.5
A_1 = 2,5 ($a_1 - a_{1,n}$) Y
B_1 = 2,5 B_c ($b_1 - b_{1,n}$) Y
$a_1 = a_{20}$ [($x - x_c$) / y]
$b_1 = b_{20}$ [z / y]
a_{20} = 1, b_{20} = −0,4
x_c = 0,110, B_c = 1,000
$C_{AB1}=[A_1^2+B_1^2]^{1/2}$
6 *Ostwald* colours (o)
of maximum (m) C_{AB} in
chromatic value diagram (A, B)
Illumin. P50, Y_W=100, Y_N=50

Parameter:
Y & Name
Illuminant P50
Y_W=100, Y_N=50

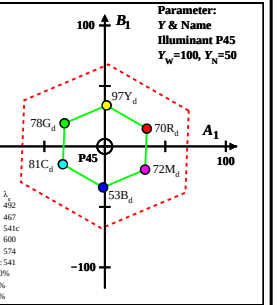


Name	Range	X_d	Y_d	Z_d	x_d	y_d	λ_d	λ_c
R_d	570,775	80.21	68.13	43.35	0.4184	0.3554	601	491
Y_d	495,775	91.07	97.01	45.35	0.3901	0.4155	573	467
G_d	495,570	60.02	78.98	45.33	0.3256	0.4284	542	542c
C_d	380,570	67.12	82.19	86.52	0.2848	0.348	491	601
B_d	380,495	56.25	53.13	84.52	0.2901	0.2739	467	573
M_d	570,495	87.3	71.16	84.54	0.3592	0.2928	542c	542
W_d	380,775	98.12	100.0	86.5	0.3447	0.3513	100%	
N_d	380,775	49.06	50.0	43.25	0.3447	0.3513	50%	
Z_d	380,775	17.66	18.0	15.57	0.3447	0.3513	18%	

BEL41−3A

XYZ_W=99.2 , 100.0 , 76.07
A_1 = 2,5 ($a_1 - a_{1,n}$) Y
B_1 = 2,5 B_c ($b_1 - b_{1,n}$) Y
$a_1 = a_{20}$ [($x - x_c$) / y]
$b_1 = b_{20}$ [z / y]
a_{20} = 1, b_{20} = −0,4
x_c = 0,110, B_c = 1,000
$C_{AB1}=[A_1^2+B_1^2]^{1/2}$
6 *Ostwald* colours (o)
of maximum (m) C_{AB} in
chromatic value diagram (A, B)
Illumin. P45, Y_W=100, Y_N=50

Parameter:
Y & Name
Illuminant P45
Y_W=100, Y_N=50

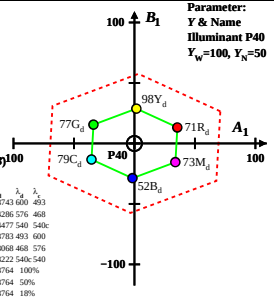


Name	Range	X_d	Y_d	Z_d	x_d	y_d	λ_d	λ_c
R_d	572,775	82.76	69.54	38.13	0.4345	0.3651	600	492
Y_d	497,775	93.08	97.41	40.21	0.4034	0.4222	574	467
G_d	497,572	60.02	77.97	40.19	0.3368	0.4375	541	541c
C_d	380,572	66.18	80.6	76.08	0.2969	0.3616	492	600
B_d	380,497	55.86	52.73	74.0	0.3059	0.2887	467	574
M_d	572,497	88.93	72.17	74.02	0.3782	0.3069	541c	541
W_d	380,775	99.2	100.0	76.07	0.3603	0.3632	100%	
N_d	380,775	49.6	50.0	38.03	0.3603	0.3632	50%	
Z_d	380,775	17.85	18.0	13.69	0.3603	0.3632	18%	

BEL41−4A

XYZ_W=100.93 , 100.0 , 64.68
A_1 = 2,5 ($a_1 - a_{1,n}$) Y
B_1 = 2,5 B_c ($b_1 - b_{1,n}$) Y
$a_1 = a_{20}$ [($x - x_c$) / y]
$b_1 = b_{20}$ [z / y]
a_{20} = 1, b_{20} = −0,4
x_c = 0,110, B_c = 1,000
$C_{AB1}=[A_1^2+B_1^2]^{1/2}$
6 *Ostwald* colours (o)
of maximum (m) C_{AB} in
chromatic value diagram (A, B)
Illumin. P40, Y_W=100, Y_N=50

Parameter:
Y & Name
Illuminant P40
Y_W=100, Y_N=50

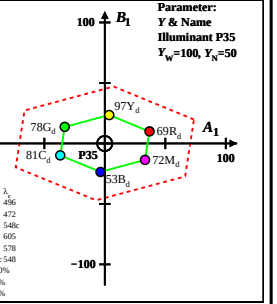


Name	Range	X_d	Y_d	Z_d	x_d	y_d	λ_d	λ_c
R_d	573,775	85.62	70.65	32.43	0.4537	0.3743	600	493
Y_d	498,775	95.81	97.72	34.43	0.4202	0.4286	576	468
G_d	498,573	60.75	77.17	34.41	0.3525	0.4477	540	540c
C_d	380,573	65.92	79.49	64.69	0.3137	0.3783	493	600
B_d	380,498	55.73	52.42	62.69	0.3262	0.3068	468	576
M_d	573,498	90.79	72.97	62.71	0.4008	0.3222	540c	540
W_d	380,775	100.93	100.0	64.68	0.3799	0.3764	100%	
N_d	380,775	50.46	50.0	32.34	0.3799	0.3764	50%	
Z_d	380,775	18.16	18.0	11.64	0.3799	0.3764	18%	

BEL41−5A

XYZ_W=103.66 , 99.99 , 52.43
A_1 = 2,5 ($a_1 - a_{1,n}$) Y
B_1 = 2,5 B_c ($b_1 - b_{1,n}$) Y
$a_1 = a_{20}$ [($x - x_c$) / y]
$b_1 = b_{20}$ [z / y]
a_{20} = 1, b_{20} = −0,4
x_c = 0,110, B_c = 1,000
$C_{AB1}=[A_1^2+B_1^2]^{1/2}$
6 *Ostwald* colours (o)
of maximum (m) C_{AB} in
chromatic value diagram (A, B)
Illumin. P35, Y_W=100, Y_N=50

Parameter:
Y & Name
Illuminant P35
Y_W=100, Y_N=50

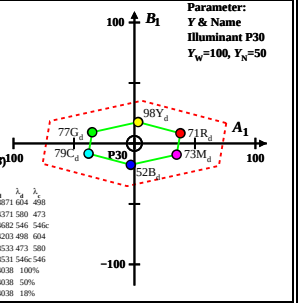


Name	Range	X_d	Y_d	Z_d	x_d	y_d	λ_d	λ_c
R_d	575,775	86.85	68.98	26.28	0.4768	0.3787	605	496
Y_d	500,775	99.6	97.31	27.49	0.4438	0.4336	578	472
G_d	500,575	64.68	78.42	27.47	0.3791	0.4597	548	548c
C_d	380,575	68.8	81.16	52.44	0.3399	0.4009	496	605
B_d	380,500	56.05	52.83	51.23	0.35	0.3299	472	578
M_d	575,500	90.97	71.72	51.25	0.4251	0.3352	548c	548
W_d	380,775	103.66	99.99	52.43	0.4047	0.3904	100%	
N_d	380,775	51.83	49.99	26.21	0.4047	0.3904	50%	
Z_d	380,775	18.66	18.0	9.43	0.4047	0.3904	18%	

BEL41−6A

XYZ_W=108.04 , 100.0 , 39.55
A_1 = 2,5 ($a_1 - a_{1,n}$) Y
B_1 = 2,5 B_c ($b_1 - b_{1,n}$) Y
$a_1 = a_{20}$ [($x - x_c$) / y]
$b_1 = b_{20}$ [z / y]
a_{20} = 1, b_{20} = −0,4
x_c = 0,110, B_c = 1,000
$C_{AB1}=[A_1^2+B_1^2]^{1/2}$
6 *Ostwald* colours (o)
of maximum (m) C_{AB} in
chromatic value diagram (A, B)
Illumin. P30, Y_W=100, Y_N=50

Parameter:
Y & Name
Illuminant P30
Y_W=100, Y_N=50

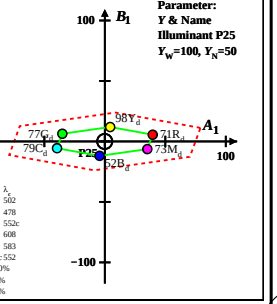


Name	Range	X_d	Y_d	Z_d	x_d	y_d	λ_d	λ_c
R_d	578,775	93.17	71.4	19.83	0.5052	0.3871	604	498
Y_d	503,775	105.07	98.0	21.09	0.4687	0.4371	580	473
G_d	503,578	66.03	76.7	21.07	0.4031	0.4682	546	546c
C_d	380,578	69.05	78.74	39.54	0.3685	0.4203	498	604
B_d	380,503	57.14	52.14	38.28	0.3872	0.3533	473	580
M_d	578,503	96.19	73.44	38.3	0.4625	0.3531	546c	546
W_d	380,775	108.04	100.0	39.55	0.4363	0.4038	100%	
N_d	380,775	54.02	50.0	19.77	0.4363	0.4038	50%	
Z_d	380,775	19.44	18.0	7.11	0.4363	0.4038	18%	

BEL41−7A

XYZ_W=115.18 , 100.0 , 26.59
A_1 = 2,5 ($a_1 - a_{1,n}$) Y
B_1 = 2,5 B_c ($b_1 - b_{1,n}$) Y
$a_1 = a_{20}$ [($x - x_c$) / y]
$b_1 = b_{20}$ [z / y]
a_{20} = 1, b_{20} = −0,4
x_c = 0,110, B_c = 1,000
$C_{AB1}=[A_1^2+B_1^2]^{1/2}$
6 *Ostwald* colours (o)
of maximum (m) C_{AB} in
chromatic value diagram (A, B)
Illumin. P25, Y_W=100, Y_N=50

Parameter:
Y & Name
Illuminant P25
Y_W=100, Y_N=50



| Name | Range | X_d | Y_d | Z_d | x_d