

Colorimetric data of "Standard Original": Television Reflective System TRS18 for CIE lightness $L^*=18$ of black and illuminant D65

System TRS18

(Reflective CIE, $Y_N=2.52$
and CIELAB zero point)
(CIELAB according
to ISO/IEC 15775)

Color	$L^*=LAB^*_1$	$a^*=LAB^*_2$	$b^*=LAB^*_3$	$C^*_{ab}=LAB^*_r$	$X=XYZ_1$	$Y=XYZ_2$	$Z=XYZ_3$	x	y	Y/88.59
O (R)	53.24	80.09	67.21	104.55	41.24	21.27	1.93	0.64	0.33	0.24
Y	97.14	-21.54	94.49	96.92	77.0	92.78	13.85	0.4193	0.5053	1.0472
L (G)	87.73	-86.16	83.19	119.78	35.76	71.52	11.91	0.3	0.6	0.8072
C	91.12	-48.06	-14.11	50.1	53.81	78.75	106.94	0.2247	0.3288	0.8888
V (B)	27.44	32.75	-46.12	56.57	8.09	5.25	24.12	0.216	0.1402	0.0593
M	60.32	98.24	-60.82	115.54	59.28	28.48	96.96	0.3209	0.1542	0.3215
N	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.3127	0.329	0.0
W	95.41	0.0	0.0	0.01	84.2	88.6	96.46	0.3127	0.329	1.0
N0	18.01	0.0	0.0	0.01	2.4	2.52	2.74	0.3127	0.329	0.0284
W1	100.0	0.0	0.0	0.01	95.04	100.0	108.88	0.3127	0.329	1.1288

Calculated colorimetric data: Television Luminous Systems (TLSxx) for CIE lightness $L^*=00, 06, 11, 18$ of black; illuminant D65

System TLS00

(Display reflection
 $Y_r=0.0$)

Color	$L^*=LAB^*_1$	$a^*=LAB^*_2$	$b^*=LAB^*_3$	$C^*_r=LAB^*_r$	$X=XYZ_1$	$Y=XYZ_2$	$Z=XYZ_3$	x	y	Y/88.59
O (R)	51.03	85.72	87.98	122.84	39.98 (=39.98+0.0)	19.3 (=19.3+0.0)	-0.83 (= -0.83+0.0)	0.6841	0.3302	0.2178
Y	97.19	-22.18	100.81	103.22	76.78 (=76.78+0.0)	92.9 (=92.9+0.0)	11.43 (=11.43+0.0)	0.424	0.5129	1.0486
L (G)	87.49	-89.95	89.92	127.2	34.34 (=34.34+0.0)	71.02 (=71.02+0.0)	9.44 (=9.44+0.0)	0.2991	0.6186	0.8016
C	90.99	-49.79	-14.52	51.88	52.92 (=52.92+0.0)	78.46 (=78.46+0.0)	107.25 (=107.25+0.0)	0.2218	0.3288	0.8856
V (B)	19.27	45.56	-56.55	72.63	5.87 (=5.87+0.0)	2.81 (=2.81+0.0)	22.01 (=22.01+0.0)	0.1912	0.0916	0.0317
M	58.71	103.4	-63.59	121.39	58.55 (=58.55+0.0)	26.72 (=26.72+0.0)	96.97 (=96.97+0.0)	0.3213	0.1466	0.3016
N	0.0	0.0	0.0	0.0	-2.45 (= -2.45+0.0)	-2.58 (= -2.58+0.0)	-2.81 (= -2.81+0.0)	0.3127	0.329	-0.0292
W	95.41	0.0	0.0	0.0	84.2 (=84.2+0.0)	88.6 (=88.6+0.0)	96.46 (=96.46+0.0)	0.3127	0.329	1.0
N0	0.0	0.0	0.0	0.0	0.0 (=0.0+0.0)	0.0 (=0.0+0.0)	0.0 (=0.0+0.0)	0.256	0.3514	0.0
W1	100.13	0.0	0.0	0.0	95.36 (=95.36+0.0)	100.34 (=100.34+0.0)	109.25 (=109.25+0.0)	0.3127	0.329	1.1325

System TLS06

(Display reflection
 $Y_r=0.63$)

Color	$L^*=LAB^*_1$	$a^*=LAB^*_2$	$b^*=LAB^*_3$	$C^*_r=LAB^*_r$	$X=XYZ_1$	$Y=XYZ_2$	$Z=XYZ_3$	x	y	Y/88.59
O (R)	51.6	84.26	88.96	122.53	40.3 (=39.7+0.6)	19.79 (=19.16+0.63)	-0.13 (= -0.82+0.69)	0.6723	0.3301	0.2234
Y	97.17	-22.02	99.15	101.57	76.84 (=76.24+0.6)	92.87 (=92.24+0.63)	12.03 (=11.35+0.69)	0.4228	0.511	1.0483
L (G)	87.55	-88.99	88.13	125.25	34.7 (=34.1+0.6)	71.14 (=70.51+0.63)	10.06 (=9.37+0.69)	0.2994	0.6138	0.803
C	91.02	-49.36	-14.42	51.43	53.15 (=52.55+0.6)	78.53 (=77.9+0.63)	107.17 (=106.49+0.69)	0.2225	0.3288	0.8864
V (B)	21.66	41.34	-53.37	67.52	6.42 (=5.82+0.6)	3.42 (=2.79+0.63)	22.54 (=21.85+0.69)	0.1984	0.1057	0.0386
M	59.12	102.08	-62.89	119.9	58.73 (=58.13+0.6)	27.16 (=26.53+0.63)	96.97 (=96.28+0.69)	0.3212	0.1485	0.3066
N	0.0	0.0	0.0	0.0	-1.84 (= -2.44+0.6)	-1.93 (= -2.56+0.63)	-2.11 (= -2.79+0.69)	0.3127	0.329	-0.0218
W	95.41	0.0	0.0	0.0	84.2 (=83.6+0.6)	88.6 (=87.97+0.63)	96.46 (=95.78+0.69)	0.3127	0.329	1.0
N0	5.69	0.0	0.0	0.0	0.6 (=0.0+0.6)	0.63 (=0.0+0.63)	0.69 (=0.0+0.69)	0.3127	0.329	0.0071
W1	100.1	0.0	0.0	0.0	95.28 (=94.68+0.6)	100.25 (=99.62+0.63)	109.16 (=108.47+0.69)	0.3127	0.329	1.1316

System TLS11

(Display reflection
 $Y_r=1.26$)

Color	$L^*=LAB^*_1$	$a^*=LAB^*_2$	$b^*=LAB^*_3$	$C^*_r=LAB^*_r$	$X=XYZ_1$	$Y=XYZ_2$	$Z=XYZ_3$	x	y	Y/88.59
O (R)	52.15	82.84	82.07	116.61	40.61 (=39.41+1.2)	20.28 (=19.02+1.26)	0.55 (= -0.81+1.37)	0.661	0.3301	0.2289
Y	97.16	-21.86	97.55	99.97	76.89 (=75.69+1.2)	92.84 (=91.58+1.26)	12.64 (=11.27+1.37)	0.4216	0.5091	1.0479
L (G)	87.61	-88.04	86.42	123.37	35.05 (=33.85+1.2)	71.27 (=70.01+1.26)	10.68 (=9.3+1.37)	0.2996	0.6091	0.8044
C	91.05	-48.92	-14.32	50.99	53.37 (=52.17+1.2)	78.6 (=77.34+1.26)	107.1 (=105.73+1.37)	0.2232	0.3288	0.8872
V (B)	23.77	37.95	-50.64	63.28	6.98 (=5.78+1.2)	4.03 (=2.77+1.26)	23.06 (=21.69+1.37)	0.2048	0.1183	0.0455
M	59.53	100.78	-62.19	118.43	58.92 (=57.72+1.2)	27.6 (=26.34+1.26)	96.96 (=95.59+1.37)	0.3211	0.1504	0.3115
N	0.0	0.0	0.0	0.0	-1.22 (= -2.42+1.2)	-1.29 (= -2.55+1.26)	-1.4 (= -2.77+1.37)	0.3127	0.329	-0.0145
W	95.41	0.0	0.0	0.0	84.2 (=83.0+1.2)	88.6 (=87.34+1.26)	96.46 (=95.09+1.37)	0.3127	0.329	1.0
N0	11.0	0.0	0.0	0.0	1.2 (=0.0+1.2)	1.26 (=0.0+1.26)	1.37 (=0.0+1.37)	0.3127	0.329	0.0142
W1	100.06	0.0	0.0	0.0	95.2 (=94.0+1.2)	100.17 (=98.91+1.26)	109.07 (=107.69+1.37)	0.3127	0.329	1.1306

System TLS18

(Display reflection
 $Y_r=2.52$)

Color	$L^*=LAB^*_1$	$a^*=LAB^*_2$	$b^*=LAB^*_3$	$C^*_r=LAB^*_r$	$X=XYZ_1$	$Y=XYZ_2$	$Z=XYZ_3$	x	y	Y/88.59
O (R)	53.24	80.09	67.21	104.55	41.24 (=38.85+2.4)	21.27 (=18.75+2.52)	1.93 (= -0.8+2.74)	0.64	0.33	0.24
Y	97.14	-21.54	94.49	96.92	77.0 (=74.6+2.4)	92.78 (=90.26+2.52)	13.85 (=11.1+2.74)	0.4193	0.5053	1.0472
L (G)	87.73	-86.16	83.19	119.78	35.76 (=33.36+2.4)	71.52 (=69.0+2.52)	11.91 (=9.17+2.74)	0.3	0.6	0.8072
C	91.12	-48.06	-14.11	50.1	53.81 (=51.42+2.4)	78.75 (=76.23+2.52)	106.94 (=104.2+2.74)	0.2247	0.3288	0.8888
V (B)	27.44	32.75	-46.12	56.57	8.09 (=5.7+2.4)	5.25 (=2.73+2.52)	24.12 (=21.38+2.74)	0.216	0.1402	0.0593
M	60.32	98.24	-60.82	115.54	59.28 (=56.89+2.4)	28.48 (=25.96+2.52)	96.96 (=94.21+2.74)	0.3209	0.1542	0.3215
N	0.01	0.0	0.0	0.0	0.0 (= -2.38+2.4)	0.0 (= -2.51+2.52)	0.0 (= -2.73+2.74)	0.3037	0.3196	0.0
W	95.41	0.0	0.0	0.0	84.2 (=81.81+2.4)	88.6 (=86.08+2.52)	96.46 (=93.72+2.74)	0.3127	0.329	1.0
N0	18.01	0.0	0.0	0.0	2.4 (=0.0+2.4)	2.52 (=0.0+2.52)	2.74 (=0.0+2.74)	0.3127	0.329	0.0284
W1	100.0	0.0	0.0	0.0	95.04 (=92.65+2.4)	100.0 (=97.48+2.52)	108.88 (=106.14+2.74)	0.3127	0.329	1.1288

LE490-7N, Colorimetric data of Television Reflective System TRS18 and calculated Television Luminous Systems TLS00/06/11/18 for CIE standard illuminant D65

BAM-test chart no. LE49; colorimetric data for D65
TRS18 and Television Luminous Systems TLS00/06/11/18

input: w^* setgray
output: no change compared to input

Colorimetric data of "Standard Original": Television Reflective System TRS18 for CIE lightness L*=18 of black and illuminant D65

System TRS18

(Reflective CIE, Y_N=2.52
and CIELAB zero point)
(CIELAB according
to ISO/IEC 15775)

Color	L*=LAB* ₁	a*=LAB* ₂	b*=LAB* ₃	C* _{ab} =LAB* _r	X=XYZ ₁	Y=XYZ ₂	Z=XYZ ₃	x	y	Y/88.59
O (R)	53.24	80.09	67.21	104.55	41.24	21.27	1.93	0.64	0.33	0.24
Y	97.14	-21.54	94.49	96.92	77.0	92.78	13.85	0.4193	0.5053	1.0472
L (G)	87.73	-86.16	83.19	119.78	35.76	71.52	11.91	0.3	0.6	0.8072
C	91.12	-48.06	-14.11	50.1	53.81	78.75	106.94	0.2247	0.3288	0.8888
V (B)	27.44	32.75	-46.12	56.57	8.09	5.25	24.12	0.216	0.1402	0.0593
M	60.32	98.24	-60.82	115.54	59.28	28.48	96.96	0.3209	0.1542	0.3215
N	0.01	0.0	0.0	0.01	0.0	0.0	0.0	0.3127	0.329	0.0
W	95.41	0.0	0.0	0.01	84.2	88.6	96.46	0.3127	0.329	1.0
N0	18.01	0.0	0.0	0.01	2.4	2.52	2.74	0.3127	0.329	0.0284
W1	100.0	0.0	0.0	0.01	95.04	100.0	108.88	0.3127	0.329	1.1288

Calculated colorimetric data: Television Luminous Systems (TLSxx) for CIE lightness L*=27, 33, 52, 70 of black; illuminant D65

System TLS27

(Display reflection
Y_r=5.04)

Color	L*=LAB* ₁	a*=LAB* ₂	b*=LAB* ₃	C* _r =LAB* _r	X=XYZ ₁	Y=XYZ ₂	Z=XYZ ₃	x	y	Y/88.59
O (R)	55.32	74.95	52.8	91.68	42.5 (=37.71+4.79)	23.24 (=18.2+5.04)	4.7 (= -0.78+5.49)	0.6034	0.3299	0.2623
Y	97.09	-20.9	88.86	91.29	77.21 (=72.42+4.79)	92.66 (=87.62+5.04)	16.27 (=10.78+5.49)	0.4148	0.4978	1.0458
L (G)	87.98	-82.49	77.4	113.12	37.18 (=32.39+4.79)	72.02 (=66.98+5.04)	14.39 (=8.9+5.49)	0.3008	0.5827	0.8129
C	91.25	-46.36	-13.69	48.35	54.7 (=49.91+4.79)	79.04 (=74.0+5.04)	106.64 (=101.15+5.49)	0.2276	0.3288	0.8921
V (B)	33.33	25.92	47.17	47.17	10.32 (=5.53+4.79)	7.69 (=2.65+5.04)	26.24 (=20.75+5.49)	0.2332	0.1738	0.0868
M	61.86	93.34	-58.15	109.98	60.01 (=55.22+4.79)	30.24 (=25.2+5.04)	96.94 (=91.45+5.49)	0.3206	0.1615	0.3413
N	18.34	0.0	0.0	0.0	2.47 (= -2.31+4.79)	2.59 (= -2.44+5.04)	2.83 (= -2.65+5.49)	0.3127	0.329	0.0293
W	95.41	0.0	0.0	0.0	84.2 (=79.41+4.79)	88.6 (=83.56+5.04)	96.46 (=90.98+5.49)	0.3127	0.329	1.0
N0	26.85	0.0	0.0	0.0	4.79 (=0.0+4.79)	5.04 (=0.0+5.04)	5.49 (=0.0+5.49)	0.3127	0.329	0.0569
W1	99.87	0.0	0.0	0.0	94.73 (=89.94+4.79)	99.67 (=94.63+5.04)	108.52 (=103.03+5.49)	0.3127	0.329	1.125

System TLS38

(Display reflection
Y_r=10.08)

Color	L*=LAB* ₁	a*=LAB* ₂	b*=LAB* ₃	C* _r =LAB* _r	X=XYZ ₁	Y=XYZ ₂	Z=XYZ ₃	x	y	Y/88.59
O (R)	59.14	65.87	38.61	76.35	45.01 (=35.43+9.58)	27.18 (=17.1+10.08)	10.24 (= -0.73+10.98)	0.5461	0.3297	0.3068
Y	96.99	-19.62	79.06	81.47	77.63 (=68.05+9.58)	92.41 (=82.33+10.08)	21.1 (=10.13+10.98)	0.4061	0.4835	1.0431
L (G)	88.45	-75.48	67.67	101.38	40.01 (=30.43+9.58)	73.02 (=62.94+10.08)	19.34 (=8.37+10.98)	0.3023	0.5516	0.8242
C	91.51	-43.02	-12.86	44.91	56.48 (=46.9+9.58)	79.61 (=69.53+10.08)	106.02 (=95.05+10.98)	0.2333	0.3288	0.8986
V (B)	42.11	18.4	-30.63	35.74	14.78 (=5.2+9.58)	12.57 (=2.49+10.08)	30.48 (=19.5+10.98)	0.2556	0.2174	0.1419
M	64.77	84.24	-53.11	99.6	61.47 (=51.89+9.58)	33.76 (=23.68+10.08)	96.91 (=85.94+10.98)	0.3199	0.1757	0.3811
N	33.52	0.0	0.0	0.0	7.4 (= -2.17+9.58)	7.78 (= -2.29+10.08)	8.47 (= -2.49+10.98)	0.3127	0.329	0.0878
W	95.41	0.0	0.0	0.0	84.2 (=74.62+9.58)	88.6 (=78.52+10.08)	96.46 (=85.49+10.98)	0.3127	0.329	1.0
N0	37.99	0.0	0.0	0.0	9.58 (=0.0+9.58)	10.08 (=0.0+10.08)	10.98 (=0.0+10.98)	0.3127	0.329	0.1138
W1	99.61	0.0	0.0	0.0	94.09 (=84.51+9.58)	99.0 (=88.92+10.08)	107.79 (=96.82+10.98)	0.3127	0.329	1.1174

System TLS52

(Display reflection
Y_r=20.16)

Color	L*=LAB* ₁	a*=LAB* ₂	b*=LAB* ₃	C* _r =LAB* _r	X=XYZ ₁	Y=XYZ ₂	Z=XYZ ₃	x	y	Y/88.59
O (R)	65.8	51.18	24.92	56.92	50.05 (=30.88+19.16)	35.07 (=14.91+20.16)	21.31 (= -0.64+21.95)	0.4703	0.3295	0.3958
Y	96.79	-17.07	63.2	65.47	78.47 (=59.31+19.16)	91.92 (=71.76+20.16)	30.78 (=8.83+21.95)	0.3901	0.4569	1.0375
L (G)	89.4	-62.62	52.69	81.85	45.69 (=26.53+19.16)	75.02 (=54.86+20.16)	29.24 (=7.29+21.95)	0.3047	0.5003	0.8467
C	92.03	-36.6	-11.2	38.29	60.04 (=40.88+19.16)	80.77 (=60.61+20.16)	104.8 (=82.85+21.95)	0.2445	0.3288	0.9116
V (B)	54.38	11.33	-20.63	23.54	23.69 (=4.53+19.16)	22.33 (=2.17+20.16)	38.95 (=17.0+21.95)	0.2788	0.2628	0.2521
M	70.04	68.29	-44.0	81.25	64.39 (=45.23+19.16)	40.8 (=20.64+20.16)	96.85 (=74.9+21.95)	0.3187	0.2019	0.4605
N	49.69	0.0	0.0	0.0	17.26 (= -1.89+19.16)	18.16 (= -1.99+20.16)	19.77 (= -2.17+21.95)	0.3127	0.329	0.2049
W	95.41	0.0	0.0	0.0	84.2 (=65.04+19.16)	88.6 (=68.44+20.16)	96.46 (=74.51+21.95)	0.3127	0.329	1.0
N0	52.02	0.0	0.0	0.0	19.16 (=0.0+19.16)	20.16 (=0.0+20.16)	21.95 (=0.0+21.95)	0.3127	0.329	0.2276
W1	99.09	0.0	0.0	0.0	92.82 (=73.66+19.16)	97.67 (=77.51+20.16)	106.34 (=84.39+21.95)	0.3127	0.329	1.1024

System TLS70

(Display reflection
Y_r=40.32)

Color	L*=LAB* ₁	a*=LAB* ₂	b*=LAB* ₃	C* _r =LAB* _r	X=XYZ ₁	Y=XYZ ₂	Z=XYZ ₃	x	y	Y/88.59
O (R)	76.58	30.14	12.38	32.58	60.11 (=21.79+38.32)	50.83 (=10.51+40.32)	43.45 (= -0.45+43.9)	0.3893	0.3293	0.5738
Y	96.38	-12.0	39.34	41.13	80.16 (=41.84+38.32)	90.94 (=50.62+40.32)	50.13 (=6.23+43.9)	0.3623	0.4111	1.0265
L (G)	91.24	-40.5	31.59	51.37	57.03 (=18.71+38.32)	79.02 (=38.7+40.32)	49.05 (=5.14+43.9)	0.3081	0.4269	0.8919
C	93.04	-24.66	-7.89	25.91	67.16 (=28.84+38.32)	83.07 (=42.75+40.32)	102.34 (=58.44+43.9)	0.2659	0.3289	0.9377
V (B)	70.77	5.38	-10.53	11.83	41.52 (=3.2+38.32)	41.85 (=1.53+40.32)	55.89 (=11.99+43.9)	0.2981	0.3005	0.4724
M	78.97	42.66	-28.52	51.32	70.22 (=31.9+38.32)	54.88 (=14.56+40.32)	96.74 (=52.84+43.9)	0.3165	0.2474	0.6194
N	68.68	0.0	0.0	0.0	36.98 (= -1.33+38.32)	38.91 (= -1.4+40.32)	42.36 (= -1.53+43.9)	0.3127	0.329	0.4392
W	95.41	0.0	0.0	0.0	84.2 (=45.88+38.32)	88.6 (=48.28+40.32)	96.46 (=52.56+43.9)	0.3127	0.329	1.0
N0	69.7	0.0	0.0	0.0	38.32 (=0.0+38.32)	40.32 (=0.0+40.32)	43.9 (=0.0+43.9)	0.3127	0.329	0.4551
W1	98.03	0.0	0.0	0.0	90.28 (=51.96+38.32)	94.99 (=54.67+40.32)	103.43 (=59.53+43.9)	0.3127	0.329	1.0722

LE490-7N, Colorimetric data of Television Reflective System TRS18 and calculated Television Luminous Systems TLS27/38/52/70 for CIE standard illuminant D65

BAM-test chart no. LE49; colorimetric data for D65
TRS18 and Television Luminous Systems TLS27/38/52/70

input: w* setgray
output: no change compared to input