

Colorimetric "Standard data": Television Luminous System TLS18 for CIE lightness $L^*_N=18$ of black for illuminant D65

System TLS18	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	L^*	a^*	b^*	C^*_{ab}	h_{ab}	$X=XYZ_1$	$Y=XYZ_2$	$Z=XYZ_3$	x	y	$Y/88.59$
TLS18 system	O (R)	1.0	0.0	0.0	52.76	71.63	49.88	87.29	35	37.89	20.83	4.41	0.6003	0.3299	0.2351
	Y	1.0	1.0	0.0	92.74	-20.03	84.97	87.3	103	68.67	82.37	14.66	0.4144	0.4971	0.9298
D65 reflection:	L (G)	0.0	1.0	0.0	84.0	-78.99	73.94	108.2	137	33.17	64.07	13.0	0.3009	0.5812	0.7231
	C	0.0	1.0	1.0	87.14	-44.42	-13.12	46.33	196	48.71	70.29	94.77	0.2279	0.3288	0.7934
$Y_N = 2.52$	V (B)	0.0	0.0	1.0	31.9	24.46	-37.38	44.68	303	9.36	7.04	23.5	0.2346	0.1764	0.0795
$L^*_N = 18.01$	M	1.0	0.0	1.0	59.01	89.33	-19.43	91.42	348	53.42	27.04	44.81	0.4265	0.2158	0.3052
	N	0.0	0.0	0.0	18.01	0.0	0.0	0.01	0	2.4	2.52	2.74	0.3127	0.329	0.0284
	W	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0
	N0	0.0	0.0	0.0	18.01	0.0	0.0	0.01	0	2.4	2.52	2.74	0.3127	0.329	0.0284
	W1	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0

Colorimetric "Adapted data (a)": Television Luminous System TLS18a for CIE lightness $L^*_N=18$ of black for illuminant D65

System TLS18a	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	L^*_a	a^*_a	b^*_a	$C^*_{ab,a}$	$h_{ab,a}$	$X_a=XYZ_{1a}$	$Y_a=XYZ_{2a}$	$Z_a=XYZ_{3a}$	x_a	y_a	$Y_a/88.59$
TLS18 system	O (R)	1.0	0.0	0.0	52.76	71.63	49.88	87.29	35	37.89	20.83	4.41	0.6003	0.3299	0.2351
	Y	1.0	1.0	0.0	92.74	-20.03	84.97	87.3	103	68.67	82.37	14.66	0.4144	0.4971	0.9298
D65 reflection:	L (G)	0.0	1.0	0.0	84.0	-78.99	73.94	108.2	137	33.17	64.07	13.0	0.3009	0.5812	0.7231
	C	0.0	1.0	1.0	87.14	-44.42	-13.12	46.33	196	48.71	70.29	94.77	0.2279	0.3288	0.7934
$Y_N = 2.52$	V (B)	0.0	0.0	1.0	31.9	24.46	-37.38	44.68	303	9.36	7.04	23.5	0.2346	0.1764	0.0795
$L^*_N = 18.01$	M	1.0	0.0	1.0	59.01	89.33	-19.43	91.42	348	53.42	27.04	44.81	0.4265	0.2158	0.3052
	N	0.0	0.0	0.0	18.01	0.0	0.0	0.01	0	2.4	2.52	2.74	0.3127	0.329	0.0284
	W	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0
	N0	0.0	0.0	0.0	18.01	0.0	0.0	0.01	0	2.4	2.52	2.74	0.3127	0.329	0.0284
	W1	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	84.2	88.59	96.46	0.3127	0.329	1.0

Colorimetric "Adapted data (a0)": Television Luminous System TLS00a0 for CIE lightness $L^*_N=00$ of black for illuminant D65

System TLS00a0	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	L^*_{a0}	a^*_{a0}	b^*_{a0}	$C^*_{ab,a0}$	$h_{ab,a0}$	$X_{a0}=XYZ_{1a0}$	$Y_{a0}=XYZ_{2a0}$	$Z_{a0}=XYZ_{3a0}$	x_{a0}	y_{a0}	$Y_{a0}/88.59$
TLS18 system	O (R)	1.0	0.0	0.0	50.5	76.92	64.55	100.42	40	$36.54=k(37.89-2.4)$	$18.84=k(20.83-2.52)$	$1.71=k(4.41-2.74)$	0.64	0.33	0.2127
	Y	1.0	1.0	0.0	92.66	-20.68	90.75	93.08	103	$68.22=k(68.67-2.4)$	$82.19=k(82.37-2.52)$	$12.27=k(14.66-2.74)$	0.4193	0.5053	0.9278
D65 reflection:	L (G)	0.0	1.0	0.0	83.62	-82.74	79.9	115.03	136	$31.68=k(33.17-2.4)$	$63.35=k(64.07-2.52)$	$10.55=k(13.0-2.74)$	0.3	0.6	0.715
	C	0.0	1.0	1.0	86.88	-46.15	-13.54	48.11	196	$47.67=k(48.71-2.4)$	$69.76=k(70.29-2.52)$	$94.72=k(94.77-2.74)$	0.2247	0.3288	0.7874
$Y_N = 0.0$	V (B)	0.0	0.0	1.0	25.72	31.45	-44.28	54.32	305	$7.17=k(9.36-2.4)$	$4.65=k(7.04-2.52)$	$21.37=k(23.5-2.74)$	0.2161	0.1402	0.0525
$L^*_N = 0.0$	M	1.0	0.0	1.0	57.3	94.35	-20.68	96.59	348	$52.52=k(53.42-2.4)$	$25.24=k(27.04-2.52)$	$43.3=k(44.81-2.74)$	0.4339	0.2085	0.2849
	N	0.0	0.0	0.0	0.0	0.0	0.0	0.01	358	$0.0=k(2.4-2.4)$	$0.0=k(2.52-2.52)$	$0.0=k(2.74-2.74)$	0.0	0.0	0.0
$k = 88.59 / (88.59 - 2.52)$	W	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	$84.2=k(84.2-2.4)$	$88.59=k(88.59-2.52)$	$96.46=k(96.46-2.74)$	0.3127	0.329	1.0
$= 1.029$	N0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	358	$0.0=k(2.4-2.4)$	$0.0=k(2.52-2.52)$	$0.0=k(2.74-2.74)$	0.0	0.0	0.0
	W1	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	$84.2=k(84.2-2.4)$	$88.59=k(88.59-2.52)$	$96.46=k(96.46-2.74)$	0.3127	0.329	1.0

Colorimetric "Adapted data (a0)": Television Luminous System TLS00a0 for CIE lightness $L^*_N=00$ of black for illuminant D65

System TLS00a0	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	L^*_{a0}	a^*_{a0}	b^*_{a0}	$C^*_{ab,a0}$	$h_{ab,a0}$	$X_{a0}=XYZ1a0$	$Y_{a0}=XYZ2a0$	$Z_{a0}=XYZ3a0$	x_{a0}	y_{a0}	$Y_{a0}/88.59$
TLS18 system	O (R)	1.0	0.0	0.0	50.5	76.92	64.55	100.42	40	$36.54=k(37.89-2.4)$	$18.84=k(20.83-2.52)$	$1.71=k(4.41-2.74)$	0.64	0.33	0.2127
	Y	1.0	1.0	0.0	92.66	-20.68	90.75	93.08	103	$68.22=k(68.67-2.4)$	$82.19=k(82.37-2.52)$	$12.27=k(14.66-2.74)$	0.4193	0.5053	0.9278
D65 reflection:	L (G)	0.0	1.0	0.0	83.62	-82.74	79.9	115.03	136	$31.68=k(33.17-2.4)$	$63.35=k(64.07-2.52)$	$10.55=k(13.0-2.74)$	0.3	0.6	0.715
	C	0.0	1.0	1.0	86.88	-46.15	-13.54	48.11	196	$47.67=k(48.71-2.4)$	$69.76=k(70.29-2.52)$	$94.72=k(94.77-2.74)$	0.2247	0.3288	0.7874
$Y_N = 0.0$	V (B)	0.0	0.0	1.0	25.72	31.45	-44.28	54.32	305	$7.17=k(9.36-2.4)$	$4.65=k(7.04-2.52)$	$21.37=k(23.5-2.74)$	0.2161	0.1402	0.0525
$L^*_N = 0.0$	M	1.0	0.0	1.0	57.3	94.35	-20.68	96.59	348	$52.52=k(53.42-2.4)$	$25.24=k(27.04-2.52)$	$43.3=k(44.81-2.74)$	0.4339	0.2085	0.2849
	N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	358	$0.0=k(2.4-2.4)$	$0.0=k(2.52-2.52)$	$0.0=k(2.74-2.74)$	0.0	0.0	0.0
$k = 88.59 / (88.59 - 2.52)$ $= 1.029$	W	1.0	1.0	1.0	95.41	0.0	0.0	0.0	0	$84.2=k(84.2-2.4)$	$88.59=k(88.59-2.52)$	$96.46=k(96.46-2.74)$	0.3127	0.329	1.0
	N0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	358	$0.0=k(2.4-2.4)$	$0.0=k(2.52-2.52)$	$0.0=k(2.74-2.74)$	0.0	0.0	0.0
	W1	1.0	1.0	1.0	95.41	0.0	0.0	0.0	0	$84.2=k(84.2-2.4)$	$88.59=k(88.59-2.52)$	$96.46=k(96.46-2.74)$	0.3127	0.329	1.0

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

System TLS00a	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	L^*_a	a^*_a	b^*_a	$C^*_{ab,a}$	$h_{ab,a}$	$X_a=XYZ1a$	$Y_a=XYZ2a$	$Z_a=XYZ3a$	x_a	y_a	$Y_a/88.59$
TLS18 system	O (R)	1.0	0.0	0.0	50.5	76.92	64.55	100.42	40	$36.54=(36.54n+0.0)$	$18.84=(18.84n+0.0)$	$1.71=(1.71n+0.0)$	0.64	0.33	0.2127
	Y	1.0	1.0	0.0	92.66	-20.68	90.75	93.08	103	$68.22=(68.22n+0.0)$	$82.19=(82.19n+0.0)$	$12.27=(12.27n+0.0)$	0.4193	0.5053	0.9278
D65 reflection:	L (G)	0.0	1.0	0.0	83.62	-82.74	79.9	115.03	136	$31.68=(31.68n+0.0)$	$63.35=(63.35n+0.0)$	$10.55=(10.55n+0.0)$	0.3	0.6	0.715
	C	0.0	1.0	1.0	86.88	-46.15	-13.54	48.11	196	$47.67=(47.67n+0.0)$	$69.76=(69.76n+0.0)$	$94.72=(94.72n+0.0)$	0.2247	0.3288	0.7874
$Y_N = 0.0$	V (B)	0.0	0.0	1.0	25.72	31.45	-44.28	54.32	305	$7.17=(7.17n+0.0)$	$4.65=(4.65n+0.0)$	$21.37=(21.37n+0.0)$	0.2161	0.1402	0.0525
$L^*_N = 0.0$	M	1.0	0.0	1.0	57.3	94.35	-20.68	96.59	348	$52.52=(52.52n+0.0)$	$25.24=(25.24n+0.0)$	$43.3=(43.3n+0.0)$	0.4339	0.2085	0.2849
	N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	358	$0.0=(0.0n+0.0)$	$0.0=(0.0n+0.0)$	$0.0=(0.0n+0.0)$	0.0	0.0	0.0
$n = (88.59 - 0.0) / 88.59$ $= 1.0$	W	1.0	1.0	1.0	95.41	0.0	0.0	0.0	0	$84.2=(84.2n+0.0)$	$88.59=(88.59n+0.0)$	$96.46=(96.46n+0.0)$	0.3127	0.329	1.0
	N0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	358	$0.0=(0.0n+0.0)$	$0.0=(0.0n+0.0)$	$0.0=(0.0n+0.0)$	0.0	0.0	0.0
	W1	1.0	1.0	1.0	95.41	0.0	0.0	0.0	0	$84.2=(84.2n+0.0)$	$88.59=(88.59n+0.0)$	$96.46=(96.46n+0.0)$	0.3127	0.329	1.0

System TLS06a	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	L^*_a	a^*_a	b^*_a	$C^*_{ab,a}$	$h_{ab,a}$	$X_a=XYZ1a$	$Y_a=XYZ2a$	$Z_a=XYZ3a$	x_a	y_a	$Y_a/88.59$
TLS18 system	O (R)	1.0	0.0	0.0	51.08	75.54	59.69	96.28	38	$36.88=(36.54n+0.6)$	$19.34=(18.84n+0.63)$	$2.39=(1.71n+0.69)$	0.6293	0.33	0.2183
	Y	1.0	1.0	0.0	92.68	-20.51	89.24	91.57	103	$68.33=(68.22n+0.6)$	$82.24=(82.19n+0.63)$	$12.87=(12.27n+0.69)$	0.4181	0.5032	0.9283
D65 reflection:	L (G)	0.0	1.0	0.0	83.72	-81.79	78.32	113.25	136	$32.05=(31.68n+0.6)$	$63.53=(63.35n+0.63)$	$11.16=(10.55n+0.69)$	0.3003	0.5952	0.7171
	C	0.0	1.0	1.0	86.94	-45.72	-13.43	47.66	196	$47.93=(47.67n+0.6)$	$69.89=(69.76n+0.63)$	$94.73=(94.72n+0.69)$	0.2255	0.3288	0.7889
$Y_N = 0.63$	V (B)	0.0	0.0	1.0	27.44	29.31	-42.29	51.46	305	$7.72=(7.17n+0.6)$	$5.25=(4.65n+0.63)$	$21.9=(21.37n+0.69)$	0.2214	0.1506	0.0593
$L^*_N = 5.69$	M	1.0	0.0	1.0	57.74	93.06	-20.36	95.27	348	$52.75=(52.52n+0.6)$	$25.69=(25.24n+0.63)$	$43.68=(43.3n+0.69)$	0.432	0.2104	0.2899
	N	0.0	0.0	0.0	5.69	0.0	0.0	0.0	357	$0.6=(0.0n+0.6)$	$0.63=(0.0n+0.63)$	$0.69=(0.0n+0.69)$	0.3127	0.329	0.0071
$n = (88.59 - 0.63) / 88.59$ $= 0.993$	W	1.0	1.0	1.0	95.41	0.0	0.0	0.0	0	$84.2=(84.2n+0.6)$	$88.59=(88.59n+0.63)$	$96.46=(96.46n+0.69)$	0.3127	0.329	1.0
	N0	0.0	0.0	0.0	5.69	0.0	0.0	0.0	357	$0.6=(0.0n+0.6)$	$0.63=(0.0n+0.63)$	$0.69=(0.0n+0.69)$	0.3127	0.329	0.0071
	W1	1.0	1.0	1.0	95.41	0.0	0.0	0.0	0	$84.2=(84.2n+0.6)$	$88.59=(88.59n+0.63)$	$96.46=(96.46n+0.69)$	0.3127	0.329	1.0

System TLS11a	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	L^*_a	a^*_a	b^*_a	$C^*_{ab,a}$	$h_{ab,a}$	$X_a=XYZ1a$	$Y_a=XYZ2a$	$Z_a=XYZ3a$	x_a	y_a	$Y_a/88.59$
TLS18 system	O (R)	1.0	0.0	0.0	51.65	74.21	55.83	92.86	37	$37.22=(36.54n+1.2)$	$19.84=(18.84n+1.26)$	$3.06=(1.71n+1.37)$	0.6191	0.33	0.2239
	Y	1.0	1.0	0.0	92.7	-20.35	87.77	90.1	103	$68.44=(68.22n+1.2)$	$82.28=(82.19n+1.26)$	$13.46=(12.27n+1.37)$	0.4168	0.5011	0.9288
D65 reflection:	L (G)	0.0	1.0	0.0	83.81	-80.85	76.81	111.52	136	$32.42=(31.68n+1.2)$	$63.71=(63.35n+1.26)$	$11.77=(10.55n+1.37)$	0.3005	0.5904	0.7191
	C	0.0	1.0	1.0	87.01	-45.28	-13.33	47.22	196	$48.19=(47.67n+1.2)$	$70.02=(69.76n+1.26)$	$94.74=(94.72n+1.37)$	0.2263	0.3288	0.7904
$Y_N = 1.26$	V (B)	0.0	0.0	1.0	29.02	27.48	-40.49	48.95	304	$8.27=(7.17n+1.2)$	$5.85=(4.65n+1.26)$	$22.44=(21.37n+1.37)$	0.2262	0.16	0.066
$L^*_N = 11.0$	M	1.0	0.0	1.0	58.17	91.8	-20.04	93.96	348	$52.97=(52.52n+1.2)$	$26.14=(25.24n+1.26)$	$44.05=(43.3n+1.37)$	0.4301	0.2122	0.295
	N	0.0	0.0	0.0	10.99	0.0	0.0	0.0	358	$1.2=(0.0n+1.2)$	$1.26=(0.0n+1.26)$	$1.37=(0.0n+1.37)$	0.3127	0.329	0.0142
$n = (88.59 - 1.26) / 88.59$ $= 0.986$	W	1.0	1.0	1.0	95.41	0.0	0.0	0.0	0	$84.2=(84.2n+1.2)$	$88.59=(88.59n+1.26)$	$96.46=(96.46n+1.37)$	0.3127	0.329	1.0
	N0	0.0	0.0	0.0	10.99	0.0	0.0	0.0	358	$1.2=(0.0n+1.2)$	$1.26=(0.0n+1.26)$	$1.37=(0.0n+1.37)$	0.3127	0.329	0.0142
	W1	1.0	1.0	1.0	95.41	0.0	0.0	0.0	0	$84.2=(84.2n+1.2)$	$88.59=(88.59n+1.26)$	$96.46=(96.46n+1.37)$	0.3127	0.329	1.0

System TLS18a	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	L^*_a	a^*_a	b^*_a	$C^*_{ab,a}$	$h_{ab,a}$	$X_a=XYZ1a$	$Y_a=XYZ2a$	$Z_a=XYZ3a$	x_a	y_a	$Y_a/88.59$
TLS18 system	O (R)	1.0	0.0	0.0	52.76	71.63	49.88	87.29	35	$37.89=(36.54n+2.4)$	$20.83=(18.84n+2.52)$	$4.41=(1.71n+2.74)$	0.6003	0.3299	0.2351
	Y	1.0	1.0	0.0	92.74	-20.03	84.97	87.3	103	$68.67=(68.22n+2.4)$	$82.37=(82.19n+2.52)$	$14.66=(12.27n+2.74)$	0.4144	0.4971	0.9298
D65 reflection:	L (G)	0.0	1.0	0.0	84.0	-78.99	73.94	108.2	137	$33.17=(31.68n+2.4)$	$64.07=(63.35n+2.52)$	$13.0=(10.55n+2.74)$	0.3009	0.5812	0.7231
	C	0.0	1.0	1.0	87.14	-44.42	-13.12	46.33	196	$48.71=(47.67n+2.4)$	$70.29=(69.76n+2.52)$	$94.77=(94.72n+2.74)$	0.2279	0.3288	0.7934
$Y_N = 2.52$	V (B)	0.0	0.0	1.0	31.9	24.46	-37.38	44.68	303	$9.36=(7.17n+2.4)$	$7.04=(4.65n+2.52)$	$23.5=(21.37n+2.74)$	0.2346	0.1764	0.0795
$L^*_N = 18.01$	M	1.0	0.0	1.0	59.01	89.33	-19.43	91.42	348	$53.42=(52.52n+2.4)$	$27.04=(25.24n+2.52)$	$44.81=(43.3n+2.74)$	0.4265	0.2158	0.3052
	N	0.0	0.0	0.0	18.01	0.0	0.0	0.0	357	$2.4=(0.0n+2.4)$	$2.52=(0.0n+2.52)$	$2.74=(0.0n+2.74)$	0.3127	0.329	0.0284
$n = (88.59 - 2.52) / 88.59$ $= 0.972$	W	1.0	1.0	1.0	95.41	0.0	0.0	0.0	0	$84.2=(84.2n+2.4)$	$88.59=(88.59n+2.52)$	$96.46=(96.46n+2.74)$	0.3127	0.329	1.0
	N0	0.0	0.0	0.0	18.01	0.0	0.0	0.0	357	$2.4=(0.0n+2.4)$	$2.52=(0.0n+2.52)$	$2.74=(0.0n+2.74)$	0.3127	0.329	0.0284
	W1	1.0	1.0	1.0	95.41	0.0	0.0	0.0	0	$84.2=(84.2n+2.4)$	$88.59=(88.59n+2.52)$	$96.46=(96.46n+2.74)$	0.3127	0.329	1.0

Colorimetric "Adapted data (a0)": Television Luminous System TLS00a0 for CIE lightness $L^*_N=00$ of black for illuminant D65

System TLS00a0	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	L^*_{a0}	a^*_{a0}	b^*_{a0}	$C^*_{ab,a0}$	$h_{ab,a0}$	$X_{a0}=XYZ1a0$	$Y_{a0}=XYZ2a0$	$Z_{a0}=XYZ3a0$	x_{a0}	y_{a0}	$Y_{a0}/88.59$
TLS18 system	O (R)	1.0	0.0	0.0	50.5	76.92	64.55	100.42	40	$36.54=k(37.89-2.4)$	$18.84=k(20.83-2.52)$	$1.71=k(4.41-2.74)$	0.64	0.33	0.2127
	Y	1.0	1.0	0.0	92.66	-20.68	90.75	93.08	103	$68.22=k(68.67-2.4)$	$82.19=k(82.37-2.52)$	$12.27=k(14.66-2.74)$	0.4193	0.5053	0.9278
D65 reflection:	L (G)	0.0	1.0	0.0	83.62	-82.74	79.9	115.03	136	$31.68=k(33.17-2.4)$	$63.35=k(64.07-2.52)$	$10.55=k(13.0-2.74)$	0.3	0.6	0.715
	C	0.0	1.0	1.0	86.88	-46.15	-13.54	48.11	196	$47.67=k(48.71-2.4)$	$69.76=k(70.29-2.52)$	$94.72=k(94.77-2.74)$	0.2247	0.3288	0.7874
$Y_N = 0.0$	V (B)	0.0	0.0	1.0	25.72	31.45	-44.28	54.32	305	$7.17=k(9.36-2.4)$	$4.65=k(7.04-2.52)$	$21.37=k(23.5-2.74)$	0.2161	0.1402	0.0525
$L^*_N = 0.0$	M	1.0	0.0	1.0	57.3	94.35	-20.68	96.59	348	$52.52=k(53.42-2.4)$	$25.24=k(27.04-2.52)$	$43.3=k(44.81-2.74)$	0.4339	0.2085	0.2849
	N	0.0	0.0	0.0	0.0	0.0	0.0	0.01	358	$0.0=k(2.4-2.4)$	$0.0=k(2.52-2.52)$	$0.0=k(2.74-2.74)$	0.0	0.0	0.0
$k = 88.59 / (88.59 - 2.52)$ $= 1.029$	W	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	$84.2=k(84.2-2.4)$	$88.59=k(88.59-2.52)$	$96.46=k(96.46-2.74)$	0.3127	0.329	1.0
	NO	0.0	0.0	0.0	0.0	0.0	0.0	0.01	358	$0.0=k(2.4-2.4)$	$0.0=k(2.52-2.52)$	$0.0=k(2.74-2.74)$	0.0	0.0	0.0
W1	1.0	1.0	1.0	95.41	0.0	0.0	0.01	0	$84.2=k(84.2-2.4)$	$88.59=k(88.59-2.52)$	$96.46=k(96.46-2.74)$	0.3127	0.329	1.0	

Calculated colorimetric data: Television Luminous Systems TLSXxa for CIE lightness $L^*_N=27, 33, 52, 70$ of black for illuminant D65

System TLS27a	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	L^*_a	a^*_a	b^*_a	$C^*_{ab,a}$	$h_{ab,a}$	$X_a=XYZ1a$	$Y_a=XYZ2a$	$Z_a=XYZ3a$	x_a	y_a	$Y_a/88.59$
TLS18 system	O (R)	1.0	0.0	0.0	54.88	66.84	41.69	78.78	32	$39.25(=36.54n+4.79)$	$22.81(=18.84n+5.04)$	$7.1(=1.71n+5.49)$	0.5675	0.3298	0.2575
	Y	1.0	1.0	0.0	92.82	-19.39	79.81	82.13	104	$69.12(=68.22n+4.79)$	$82.56(=82.19n+5.04)$	$17.06(=12.27n+5.49)$	0.4097	0.4893	0.9319
D65 reflection:	L (G)	0.0	1.0	0.0	84.37	-75.39	68.76	102.04	138	$34.66(=31.68n+4.79)$	$64.78(=63.35n+5.04)$	$15.44(=10.55n+5.49)$	0.3017	0.5639	0.7313
	C	0.0	1.0	1.0	87.4	-42.72	-12.7	44.58	197	$49.75(=47.67n+4.79)$	$70.83(=69.76n+5.04)$	$94.83(=94.72n+5.49)$	0.231	0.3288	0.7995
$Y_N = 5.04$	V (B)	0.0	0.0	1.0	36.8	20.12	-32.47	38.2	302	$11.55(=7.17n+4.79)$	$9.43(=4.65n+5.04)$	$25.64(=21.37n+5.49)$	0.2478	0.2022	0.1064
$L^*_N = 26.85$	M	1.0	0.0	1.0	60.64	84.61	-18.27	86.56	348	$54.33(=52.52n+4.79)$	$28.84(=25.24n+5.04)$	$46.32(=43.3n+5.49)$	0.4195	0.2227	0.3255
	N	0.0	0.0	0.0	26.85	0.0	0.0	0.0	0	$4.79(=0.0n+4.79)$	$5.49(=0.0n+5.04)$	$5.49(=0.0n+5.49)$	0.3127	0.329	0.0569
$n = (88.59 - 5.04) / 88.59$ $= 0.943$	W	1.0	1.0	1.0	95.41	0.0	0.0	0.0	0	$84.2(=84.2n+4.79)$	$88.59(=88.59n+5.04)$	$96.46(=96.46n+5.49)$	0.3127	0.329	1.0
	NO	0.0	0.0	0.0	26.85	0.0	0.0	0.0	0	$4.79(=0.0n+4.79)$	$5.49(=0.0n+5.04)$	$5.49(=0.0n+5.49)$	0.3127	0.329	0.0569
W1	1.0	1.0	1.0	95.41	0.0	0.0	0.0	0	$84.2(=84.2n+4.79)$	$88.59(=88.59n+5.04)$	$96.46(=96.46n+5.49)$	0.3127	0.329	1.0	

System TLS38a	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	L^*_a	a^*_a	b^*_a	$C^*_{ab,a}$	$h_{ab,a}$	$X_a=XYZ1a$	$Y_a=XYZ2a$	$Z_a=XYZ3a$	x_a	y_a	$Y_a/88.59$
TLS18 system	O (R)	1.0	0.0	0.0	58.77	58.45	31.73	66.5	28	$41.96(=36.54n+9.58)$	$26.78(=18.84n+10.08)$	$12.49(=1.71n+10.98)$	0.5166	0.3297	0.3023
	Y	1.0	1.0	0.0	92.98	-18.11	70.81	73.09	104	$70.03(=68.22n+9.58)$	$82.92(=82.19n+10.08)$	$21.85(=12.27n+10.98)$	0.4006	0.4744	0.936
D65 reflection:	L (G)	0.0	1.0	0.0	85.11	-68.58	60.02	91.14	139	$37.65(=31.68n+9.58)$	$66.22(=63.35n+10.08)$	$10.33(=10.55n+10.98)$	0.3032	0.5332	0.7475
	C	0.0	1.0	1.0	87.92	-39.42	-11.87	41.19	197	$51.83(=47.67n+9.58)$	$71.9(=69.76n+10.08)$	$94.92(=94.72n+10.98)$	0.237	0.3288	0.8116
$Y_N = 10.08$	V (B)	0.0	0.0	1.0	44.52	14.84	-25.65	29.64	300	$15.94(=7.17n+9.58)$	$14.2(=4.65n+10.08)$	$29.91(=21.37n+10.98)$	0.2654	0.2365	0.1603
$L^*_N = 37.99$	M	1.0	0.0	1.0	63.71	75.92	-16.19	77.63	348	$56.13(=52.52n+9.58)$	$32.44(=25.24n+10.08)$	$49.35(=43.3n+10.98)$	0.407	0.2352	0.3662
	N	0.0	0.0	0.0	37.99	0.0	0.0	0.0	0	$9.58(=0.0n+9.58)$	$10.08(=0.0n+10.08)$	$10.98(=0.0n+10.98)$	0.3127	0.329	0.1138
$n = (88.59 - 10.08) / 88.59$ $= 0.886$	W	1.0	1.0	1.0	95.41	0.0	0.0	0.0	0	$84.2(=84.2n+9.58)$	$88.59(=88.59n+10.08)$	$96.46(=96.46n+10.98)$	0.3127	0.329	1.0
	NO	0.0	0.0	0.0	37.99	0.0	0.0	0.0	0	$9.58(=0.0n+9.58)$	$10.08(=0.0n+10.08)$	$10.98(=0.0n+10.98)$	0.3127	0.329	0.1138
W1	1.0	1.0	1.0	95.41	0.0	0.0	0.0	0	$84.2(=84.2n+9.58)$	$88.59(=88.59n+10.08)$	$96.46(=96.46n+10.98)$	0.3127	0.329	1.0	

System TLS52a	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	L^*_a	a^*_a	b^*_a	$C^*_{ab,a}$	$h_{ab,a}$	$X_a=XYZ1a$	$Y_a=XYZ2a$	$Z_a=XYZ3a$	x_a	y_a	$Y_a/88.59$
TLS18 system	O (R)	1.0	0.0	0.0	65.53	45.06	20.98	49.71	25	$47.38(=36.54n+19.16)$	$34.72(=18.84n+20.16)$	$23.27(=1.71n+21.95)$	0.4497	0.3295	0.3919
	Y	1.0	1.0	0.0	93.3	-15.61	56.27	58.4	106	$71.85(=68.22n+19.16)$	$83.65(=82.19n+20.16)$	$31.43(=12.27n+21.95)$	0.3844	0.4475	0.9442
D65 reflection:	L (G)	0.0	1.0	0.0	86.55	-56.31	46.52	73.05	140	$43.63(=31.68n+19.16)$	$69.09(=63.35n+20.16)$	$30.1(=10.55n+21.95)$	0.3055	0.4838	0.7799
	C	0.0	1.0	1.0	88.94	-33.19	-10.24	34.75	197	$55.98(=47.67n+19.16)$	$74.04(=69.76n+20.16)$	$95.12(=94.72n+21.95)$	0.2487	0.3289	0.8358
$Y_N = 20.16$	V (B)	0.0	0.0	1.0	55.84	9.42	-17.5	19.88	298	$24.7(=7.17n+19.16)$	$23.75(=4.65n+20.16)$	$38.46(=21.37n+21.95)$	0.2842	0.2733	0.2681
$L^*_N = 52.02$	M	1.0	0.0	1.0	69.22	60.95	-12.72	62.27	348	$59.73(=52.52n+19.16)$	$39.65(=25.24n+20.16)$	$55.4(=43.3n+21.95)$	0.3859	0.2562	0.4476
	N	0.0	0.0	0.0	52.02	0.0	0.0	0.0	0	$19.16(=0.0n+19.16)$	$20.16(=0.0n+20.16)$	$21.95(=0.0n+21.95)$	0.3127	0.329	0.2276
$n = (88.59 - 20.16) / 88.59$ $= 0.772$	W	1.0	1.0	1.0	95.41	0.0	0.0	0.0	0	$84.2(=84.2n+19.16)$	$88.59(=88.59n+20.16)$	$96.46(=96.46n+21.95)$	0.3127	0.329	1.0
	NO	0.0	0.0	0.0	52.02	0.0	0.0	0.0	0	$19.16(=0.0n+19.16)$	$20.16(=0.0n+20.16)$	$21.95(=0.0n+21.95)$	0.3127	0.329	0.2276
W1	1.0	1.0	1.0	95.41	0.0	0.0	0.0	0	$84.2(=84.2n+19.16)$	$88.59(=88.59n+20.16)$	$96.46(=96.46n+21.95)$	0.3127	0.329	1.0	

System TLS70a	Color	$r=olv^*_1$	$g=olv^*_2$	$b=olv^*_3$	L^*_a	a^*_a	b^*_a	$C^*_{ab,a}$	$h_{ab,a}$	$X_a=XYZ1a$	$Y_a=XYZ2a$	$Z_a=XYZ3a$	x_a	y_a	$Y_a/88.59$
TLS18 system	O (R)	1.0	0.0	0.0	76.43	26.27	10.57	28.31	22	$58.23(=36.54n+38.32)$	$50.59(=18.84n+40.32)$	$44.83(=1.71n+43.9)$	0.379	0.3292	0.571
	Y	1.0	1.0	0.0	93.93	-10.77	34.63	36.27	107	$75.49(=68.22n+38.32)$	$85.11(=82.19n+40.32)$	$50.58(=12.27n+43.9)$	0.3575	0.403	0.9606
D65 reflection:	L (G)	0.0	1.0	0.0	89.32	-35.81	27.64	45.25	142	$55.58(=31.68n+38.32)$	$74.84(=63.35n+40.32)$	$49.65(=10.55n+43.9)$	0.3087	0.4156	0.8447
	C	0.0	1.0	1.0	90.93	-21.96	-7.08	23.09	198	$64.31(=47.67n+38.32)$	$78.33(=69.76n+40.32)$	$95.51(=94.72n+43.9)$	0.27	0.3289	0.8841
$Y_N = 40.32$	V (B)	0.0	0.0	1.0	71.46	4.57	-9.01	10.11	297	$42.23(=7.17n+38.32)$	$42.86(=4.65n+40.32)$	$55.54(=21.37n+43.9)$	0.3003	0.3047	0.4837
$L^*_N = 69.7$	M	1.0	0.0	1.0	78.5	37.52	-7.58	38.28	349	$66.94(=52.52n+38.32)$	$54.07(=25.24n+40.32)$	$67.49(=43.3n+43.9)$	0.3551	0.2868	0.6103
	N	0.0	0.0	0.0	69.7	0.0	0.0	0.0	0	$38.32(=0.0n+38.32)$	$43.9(=0.0n+43.9)$	$43.9(=0.0n+43.9)$	0.3127	0.329	0.4513
$n = (88.59 - 40.32) / 88.59$ $= 0.545$	W	1.0	1.0	1.0	95.41	0.0	0.0	0.0	0	$84.2(=84.2n+38.32)$	$88.59(=88.59n+40.32)$	$96.46(=96.46n+43.9)$	0.3127	0.329	1.0
	NO	0.0	0.0	0.0	69.7	0.0	0.0	0.0	0	$38.32(=0.0n+38.32)$	$43.9(=0.0n+43.9)$	$43.9(=0.0n+43.9)$	0.3127	0.329	0.4551
W1	1.0	1.0	1.0	95.41	0.0	0.0	0.0	0	$84.2(=84$						