**Relationship brightness $B^*_{LT}$ and luminance $L_T$ as function of viewing angle φ for test equal adaptation luminance $L_a$=3000 cd/m²**

$B^*_{LT}(L_T, L_a, \varphi) = C_T(\varphi) L_T^n - B_0(L_a, \varphi)$ brightness $B^*_{LT}$ [1]
$B_0(L_a, \varphi) = C_T(\varphi)[S_0(\varphi) + S_1(\varphi) L_a^n]$ (n=0,31) [2]
$L_{Lt}(L_a, \varphi) = [S_0(\varphi) + S_1(\varphi) L_a^n]^{1/n}$ (t=black threshold) [3]

| $L_T$ | φ | $C_T(\varphi)$ | $S_0(\varphi)$ | $S_1(\varphi)$ | $B_0(L_a,\varphi)$ | $B^*_{LT}$ | $L_{Lt}$ | $L_a/L_t$ |
|---|---|---|---|---|---|---|---|---|
| 3000 | 120’ | 22,969 | 0,0718 | 0,2448 | 68,92 | 205,89 | 34,63 | 86,60 |
| 3000 | 100’ | 23,128 | 0,0747 | 0,2494 | 68,92 | 205,89 | 34,63 | 86,60 |
| 3000 | 90’ | 23,415 | 0,1086 | 0,2526 | 70,75 | 205,97 | 36,85 | 81,41 |
| 3000 | 60’ | 23,973 | 0,1313 | 0,2657 | 73,32 | 206,83 | 39,74 | 75,48 |
| 3000 | 30’ | 26,235 | 0,1797 | 0,3188 | 79,38 | 207,45 | 47,58 | 63,05 |
| 3000 | 20’ | 27,971 | 0,2013 | 0,3555 | 104,81 | 209,08 | 87,17 | 34,41 |
| 3000 | 10’ | 30,747 | 0,2730 | 0,3984 | 124,62 | 210,03 | 123,95 | 24,20 |
| 660,0U | 120’ | 22,969 | 0,0718 | 0,2448 | 68,92 | 102,94U | 34,63 | 86,60 |

hep60−1a $L_{aj}$=3000, $L_t$=300, Lajdr=10,00, Lajdren=2,04, 0’ <= φ <= 120’

**Relationship brightness $B^*_{LT}$ and luminance $L_T$ as function of viewing angle φ for test equal adaptation luminance $L_a$=3000 cd/m²**

$B^*_{LT}(L_T, L_a, \varphi) = s_x(\varphi) L_T^n - d_x(L_a, \varphi)$ brightness $B^*_{LT}$ [1]
$B_0(L_a, \varphi) = C_T(\varphi)[S_0(\varphi) + S_1(\varphi) L_a^n]$ (n=0,31) [2]
$s_x(\varphi) = C_T(\varphi)$ [3] $d_x(L_a,\varphi) = B_0(L_a, \varphi)$ [4] (s=scaling factor)

| $L_T$ | φ | $C_T(\varphi)$ | $S_0(\varphi)$ | $S_1(\varphi)$ | $B_0(L_a,\varphi)$ | $B^*_{LT}$ | $s_x(\varphi)$ | $d_x(L_a,\varphi)$ |
|---|---|---|---|---|---|---|---|---|
| 3000 | 120’ | 22,969 | 0,0718 | 0,2448 | 68,92 | 205,89 | 22,96 | 68,92 |
| 3000 | 100’ | 23,128 | 0,0747 | 0,2494 | 68,92 | 205,89 | 22,96 | 68,92 |
| 3000 | 90’ | 23,415 | 0,1086 | 0,2526 | 70,75 | 205,97 | 23,12 | 70,75 |
| 3000 | 60’ | 23,973 | 0,1313 | 0,2657 | 73,32 | 206,83 | 23,41 | 73,32 |
| 3000 | 30’ | 26,235 | 0,1797 | 0,3188 | 79,38 | 207,45 | 23,97 | 79,38 |
| 3000 | 20’ | 27,971 | 0,2013 | 0,3555 | 104,81 | 209,08 | 26,23 | 104,81 |
| 3000 | 10’ | 30,747 | 0,2730 | 0,3984 | 124,62 | 210,03 | 27,97 | 124,62 |
| 660,0U | 120’ | 22,969 | 0,0718 | 0,2448 | 68,92 | 102,94U | 22,96 | 68,92 |

hep60−2a $L_{aj}$=3000, $L_t$=300, Lajdr=10,00, Lajdren=2,04, 0’ <= φ <= 120’

**Relationship brightness $B^*_{YT}$ and tristimulus value $Y_T$ as function of viewing angle φ for test equal adaptation luminance $L_a$=3000 cd/m²**

$B^*_{YT}(L_T, L_a, \varphi) = [C_T(\varphi) L_T^n - B_0(L_a, \varphi)] L_{ra}^n$ brightness $B^*_{YT}$ [1]
$B_0(L_a, \varphi) = C_T(\varphi)[S_0(\varphi) + S_1(\varphi) L_a^n]$ (n=0,31, $L_{ra}^n = (L_{300}/L_a)^n$) [2]
$L_{Yt}(L_a, \varphi) = [S_0(\varphi) + S_1(\varphi) L_a^n]^{1/n} L_{ra}^n$ (t=black threshold)

| $Y_T$ | φ | $C_T(\varphi)$ | $S_0(\varphi)$ | $S_1(\varphi)$ | $B_0(L_a,\varphi)$ | $B^*_{YT}$ | $L_{Yt}$ | $L_a/L_t$ |
|---|---|---|---|---|---|---|---|---|
| 3000 | 120’ | 22,969 | 0,0718 | 0,2448 | 68,92 | 100,84 | 16,96 | 86,60 |
| 3000 | 100’ | 23,128 | 0,0747 | 0,2494 | 68,92 | 100,84 | 16,96 | 86,60 |
| 3000 | 90’ | 23,415 | 0,1086 | 0,2526 | 70,75 | 100,88 | 18,04 | 81,41 |
| 3000 | 60’ | 23,973 | 0,1313 | 0,2657 | 73,32 | 101,30 | 19,46 | 75,48 |
| 3000 | 30’ | 26,235 | 0,1797 | 0,3188 | 79,38 | 101,60 | 23,30 | 63,05 |
| 3000 | 20’ | 27,971 | 0,2013 | 0,3555 | 104,81 | 102,40 | 42,69 | 34,41 |
| 3000 | 10’ | 30,747 | 0,2730 | 0,3984 | 124,62 | 102,87 | 60,71 | 24,20 |
| 92,3U | 120’ | 22,969 | 0,0718 | 0,2448 | 68,92 | 50,00U | 16,96 | 86,60 |

hep60−3a $L_{aj}$=3000, $L_t$=300, Lajdr=10,00, Lajdren=2,04, 0’ <= φ <= 120’

**Relationship brightness $B^*_{YT}$ and tristimulus value $Y_T$ as function of viewing angle φ for test equal adaptation luminance $L_a$=3000 cd/m²**

$B^*_{YT}(L_T, L_a, \varphi) = s_y(L_a,\varphi) L_T^n - d_y(L_a, \varphi)$ brightness $B^*_{YT}$ [1]
$B_0(L_a, \varphi) = C_T(\varphi)[S_0(\varphi) + S_1(\varphi) L_a^n]$ (n=0,31, $L_{ra}^n = (L_{300}/L_a)^n$) [2]
$s_y(\varphi) = C_T(\varphi) L_{ra}^n$ [3] $d_y(L_a,\varphi) = B_0(L_a, \varphi) L_{ra}^n$ [4] (s=scaling factor)

| $Y_T$ | φ | $C_T(\varphi)$ | $S_0(\varphi)$ | $S_1(\varphi)$ | $B_0(L_a,\varphi)$ | $B^*_{YT}$ | $s_y(L_a,\varphi)$ | $d_y(L_a,\varphi)$ |
|---|---|---|---|---|---|---|---|---|
| 3000 | 120’ | 22,969 | 0,0718 | 0,2448 | 68,92 | 100,84 | 11,24 | 33,76 |
| 3000 | 100’ | 23,128 | 0,0747 | 0,2494 | 68,92 | 100,84 | 11,24 | 33,76 |
| 3000 | 90’ | 23,415 | 0,1086 | 0,2526 | 70,75 | 100,88 | 11,32 | 34,65 |
| 3000 | 60’ | 23,973 | 0,1313 | 0,2657 | 73,32 | 101,30 | 11,46 | 35,91 |
| 3000 | 30’ | 26,235 | 0,1797 | 0,3188 | 79,38 | 101,60 | 11,74 | 38,88 |
| 3000 | 20’ | 27,971 | 0,2013 | 0,3555 | 104,81 | 102,40 | 12,84 | 51,33 |
| 3000 | 10’ | 30,747 | 0,2730 | 0,3984 | 124,62 | 102,87 | 13,69 | 61,04 |
| 58,1U | 120’ | 22,969 | 0,0718 | 0,2448 | 68,92 | 50,00U | 11,24 | 33,76 |

hep60−4a $L_{aj}$=3000, $L_t$=300, Lajdr=10,00, Lajdren=2,04, 0’ <= φ <= 120’

hep60−3R_R

**Relationship brightness $B^*_{LT}$ and luminance $L_T$ as function of viewing angle φ for test equal adaptation luminance $L_a$=300 cd/m²**

$B^*_{LT}(L_T, L_a, \varphi) = C_T(\varphi) L_T^n - B_0(L_a, \varphi)$ brightness $B^*_{LT}$ [1]
$B_0(L_a, \varphi) = C_T(\varphi)[S_0(\varphi) + S_1(\varphi) L_a^n]$ (n=0,31) [2]
$L_{Lt}(L_a, \varphi) = [S_0(\varphi) + S_1(\varphi) L_a^n]^{1/n}$ (t=black threshold) [3]

| $L_T$ | φ | $C_T(\varphi)$ | $S_0(\varphi)$ | $S_1(\varphi)$ | $B_0(L_a,\varphi)$ | $B^*_{LT}$ | $L_{Lt}$ | $L_a/L_t$ |
|---|---|---|---|---|---|---|---|---|
| 300 | 120’ | 22,969 | 0,0718 | 0,2448 | 34,60 | 99,99 | 3,75 | 79,99 |
| 300 | 100’ | 23,128 | 0,0747 | 0,2494 | 35,53 | 99,99 | 3,99 | 75,07 |
| 300 | 90’ | 23,415 | 0,1086 | 0,2526 | 37,21 | 100,00 | 4,45 | 67,31 |
| 300 | 60’ | 23,973 | 0,1313 | 0,2657 | 40,48 | 99,99 | 5,42 | 55,33 |
| 300 | 30’ | 26,235 | 0,1797 | 0,3188 | 53,74 | 100,00 | 10,10 | 29,68 |
| 300 | 20’ | 27,971 | 0,2013 | 0,3555 | 63,91 | 99,99 | 14,37 | 20,86 |
| 300 | 10’ | 30,747 | 0,2730 | 0,3984 | 80,18 | 99,99 | 22,02 | 13,62 |
| 67,0U | 120’ | 22,969 | 0,0718 | 0,2448 | 34,60 | 49,99U | 3,75 | 79,99 |

hep60−5a $L_{aj}$=300, $L_t$=300, Lajdr=1,00, Lajdren=1,00, 0’ <= φ <= 120’

**Relationship brightness $B^*_{LT}$ and luminance $L_T$ as function of viewing angle φ for test equal adaptation luminance $L_a$=300 cd/m²**

$B^*_{LT}(L_T, L_a, \varphi) = s_x(\varphi) L_T^n - d_x(L_a, \varphi)$ brightness $B^*_{LT}$ [1]
$B_0(L_a, \varphi) = C_T(\varphi)[S_0(\varphi) + S_1(\varphi) L_a^n]$ (n=0,31) [2]
$s_x(\varphi) = C_T(\varphi)$ [3] $d_x(L_a,\varphi) = B_0(L_a, \varphi)$ [4] (s=scaling factor)

| $L_T$ | φ | $C_T(\varphi)$ | $S_0(\varphi)$ | $S_1(\varphi)$ | $B_0(L_a,\varphi)$ | $B^*_{LT}$ | $s_x(\varphi)$ | $d_x(L_a,\varphi)$ |
|---|---|---|---|---|---|---|---|---|
| 300 | 120’ | 22,969 | 0,0718 | 0,2448 | 34,60 | 99,99 | 22,96 | 34,60 |
| 300 | 100’ | 23,128 | 0,0747 | 0,2494 | 35,53 | 99,99 | 23,12 | 35,53 |
| 300 | 90’ | 23,415 | 0,1086 | 0,2526 | 37,21 | 100,00 | 23,41 | 37,21 |
| 300 | 60’ | 23,973 | 0,1313 | 0,2657 | 40,48 | 99,99 | 23,97 | 40,48 |
| 300 | 30’ | 26,235 | 0,1797 | 0,3188 | 53,74 | 100,00 | 26,23 | 53,74 |
| 300 | 20’ | 27,971 | 0,2013 | 0,3555 | 63,91 | 99,99 | 27,97 | 63,91 |
| 300 | 10’ | 30,747 | 0,2730 | 0,3984 | 80,18 | 99,99 | 30,74 | 80,18 |
| 67,0U | 120’ | 22,969 | 0,0718 | 0,2448 | 34,60 | 49,99U | 22,96 | 34,60 |

hep60−6a $L_{aj}$=300, $L_t$=300, Lajdr=1,00, Lajdren=1,00, 0’ <= φ <= 120’

**Relationship brightness $B^*_{YT}$ and tristimulus value $Y_T$ as function of viewing angle φ for test equal adaptation luminance $L_a$=300 cd/m²**

$B^*_{YT}(L_T, L_a, \varphi) = [C_T(\varphi) L_T^n - B_0(L_a, \varphi)] L_{ra}^n$ brightness $B^*_{YT}$ [1]
$B_0(L_a, \varphi) = C_T(\varphi)[S_0(\varphi) + S_1(\varphi) L_a^n]$ (n=0,31, $L_{ra}^n = (L_{300}/L_a)^n$) [2]
$L_{Yt}(L_a, \varphi) = [S_0(\varphi) + S_1(\varphi) L_a^n]^{1/n} L_{ra}^n$ (t=black threshold)

| $Y_T$ | φ | $C_T(\varphi)$ | $S_0(\varphi)$ | $S_1(\varphi)$ | $B_0(L_a,\varphi)$ | $B^*_{YT}$ | $L_{Yt}$ | $L_a/L_t$ |
|---|---|---|---|---|---|---|---|---|
| 300 | 120’ | 22,969 | 0,0718 | 0,2448 | 34,60 | 99,99 | 3,75 | 79,99 |
| 300 | 100’ | 23,128 | 0,0747 | 0,2494 | 35,53 | 99,99 | 3,99 | 75,07 |
| 300 | 90’ | 23,415 | 0,1086 | 0,2526 | 37,21 | 100,00 | 4,45 | 67,31 |
| 300 | 60’ | 23,973 | 0,1313 | 0,2657 | 40,48 | 99,99 | 5,42 | 55,33 |
| 300 | 30’ | 26,235 | 0,1797 | 0,3188 | 53,74 | 100,00 | 10,10 | 29,68 |
| 300 | 20’ | 27,971 | 0,2013 | 0,3555 | 63,91 | 99,99 | 14,37 | 20,86 |
| 300 | 10’ | 30,747 | 0,2730 | 0,3984 | 80,18 | 99,99 | 22,02 | 13,62 |
| 21,0U | 120’ | 22,969 | 0,0718 | 0,2448 | 34,60 | 50,00U | 3,75 | 79,99 |

hep60−7a $L_{aj}$=300, $L_t$=300, Lajdr=1,00, Lajdren=1,00, 0’ <= φ <= 120’

**Relationship brightness $B^*_{YT}$ and tristimulus value $Y_T$ as function of viewing angle φ for test equal adaptation luminance $L_a$=300 cd/m²**

$B^*_{YT}(L_T, L_a, \varphi) = s_y(L_a,\varphi) L_T^n - d_y(L_a, \varphi)$ brightness $B^*_{YT}$ [1]
$B_0(L_a, \varphi) = C_T(\varphi)[S_0(\varphi) + S_1(\varphi) L_a^n]$ (n=0,31, $L_{ra}^n = (L_{300}/L_a)^n$) [2]
$s_y(\varphi) = C_T(\varphi) L_{ra}^n$ [3] $d_y(L_a,\varphi) = B_0(L_a, \varphi) L_{ra}^n$ [4] (s=scaling factor)

| $Y_T$ | φ | $C_T(\varphi)$ | $S_0(\varphi)$ | $S_1(\varphi)$ | $B_0(L_a,\varphi)$ | $B^*_{YT}$ | $s_y(L_a,\varphi)$ | $d_y(L_a,\varphi)$ |
|---|---|---|---|---|---|---|---|---|
| 300 | 120’ | 22,969 | 0,0718 | 0,2448 | 34,60 | 99,99 | 22,96 | 34,60 |
| 300 | 100’ | 23,128 | 0,0747 | 0,2494 | 35,53 | 99,99 | 23,12 | 35,53 |
| 300 | 90’ | 23,415 | 0,1086 | 0,2526 | 37,21 | 100,00 | 23,41 | 37,21 |
| 300 | 60’ | 23,973 | 0,1313 | 0,2657 | 40,48 | 99,99 | 23,97 | 40,48 |
| 300 | 30’ | 26,235 | 0,1797 | 0,3188 | 53,74 | 100,00 | 26,23 | 53,74 |
| 300 | 20’ | 27,971 | 0,2013 | 0,3555 | 63,91 | 99,99 | 27,97 | 63,91 |
| 300 | 10’ | 30,747 | 0,2730 | 0,3984 | 80,18 | 99,99 | 30,74 | 80,18 |
| 9,7U | 120’ | 22,969 | 0,0718 | 0,2448 | 34,60 | 50,00U | 22,96 | 34,60 |

hep60−8a $L_{aj}$=300, $L_t$=300, Lajdr=1,00, Lajdren=1,00, 0’ <= φ <= 120’

hep60−3R_R

**Relationship brightness $B^*_{LT}$ and luminance $L_T$ as function of viewing angle φ for test equal adaptation luminance $L_a$=30 cd/m²**

$B^*_{LT}(L_T, L_a, \varphi) = C_T(\varphi) L_T^n - B_0(L_a, \varphi)$ brightness $B^*_{LT}$ [1]
$B_0(L_a, \varphi) = C_T(\varphi)[S_0(\varphi) + S_1(\varphi) L_a^n]$ (n=0,31) [2]
$L_{Lt}(L_a, \varphi) = [S_0(\varphi) + S_1(\varphi) L_a^n]^{1/n}$ (t=black threshold) [3]

| $L_T$ | φ | $C_T(\varphi)$ | $S_0(\varphi)$ | $S_1(\varphi)$ | $B_0(L_a,\varphi)$ | $B^*_{LT}$ | $L_{Lt}$ | $L_a/L_t$ |
|---|---|---|---|---|---|---|---|---|
| 30 | 120’ | 22,969 | 0,0718 | 0,2448 | 17,78 | 48,13 | 0,43 | 68,40 |
| 30 | 100’ | 23,128 | 0,0747 | 0,2494 | 18,28 | 48,09 | 0,46 | 64,00 |
| 30 | 90’ | 23,415 | 0,1086 | 0,2526 | 19,52 | 47,68 | 0,55 | 53,91 |
| 30 | 60’ | 23,973 | 0,1313 | 0,2657 | 21,43 | 47,37 | 0,69 | 43,03 |
| 30 | 30’ | 26,235 | 0,1797 | 0,3188 | 28,72 | 46,57 | 1,34 | 22,38 |
| 30 | 20’ | 27,971 | 0,2013 | 0,3555 | 34,17 | 46,10 | 1,90 | 15,71 |
| 30 | 10’ | 30,747 | 0,2730 | 0,3984 | 43,55 | 44,69 | 3,07 | 9,75 |
| 6,9U | 120’ | 22,969 | 0,0718 | 0,2448 | 17,78 | 24,06U | 0,43 | 68,40 |

hep61−1a $L_{aj}$=30, $L_t$=300, Lajdr=0,10, Lajdren=0,48, 0’ <= φ <= 120’

**Relationship brightness $B^*_{LT}$ and luminance $L_T$ as function of viewing angle φ for test equal adaptation luminance $L_a$=30 cd/m²**

$B^*_{LT}(L_T, L_a, \varphi) = s_x(\varphi) L_T^n - d_x(L_a, \varphi)$ brightness $B^*_{LT}$ [1]
$B_0(L_a, \varphi) = C_T(\varphi)[S_0(\varphi) + S_1(\varphi) L_a^n]$ (n=0,31) [2]
$s_x(\varphi) = C_T(\varphi)$ [3] $d_x(L_a,\varphi) = B_0(L_a, \varphi)$ [4] (s=scaling factor)

| $L_T$ | φ | $C_T(\varphi)$ | $S_0(\varphi)$ | $S_1(\varphi)$ | $B_0(L_a,\varphi)$ | $B^*_{LT}$ | $s_x(\varphi)$ | $d_x(L_a,\varphi)$ |
|---|---|---|---|---|---|---|---|---|
| 30 | 120’ | 22,969 | 0,0718 | 0,2448 | 17,78 | 48,13 | 22,96 | 17,78 |
| 30 | 100’ | 23,128 | 0,0747 | 0,2494 | 18,28 | 48,09 | 23,12 | 18,28 |
| 30 | 90’ | 23,415 | 0,1086 | 0,2526 | 19,52 | 47,68 | 23,41 | 19,52 |
| 30 | 60’ | 23,973 | 0,1313 | 0,2657 | 21,43 | 47,37 | 23,97 | 21,43 |
| 30 | 30’ | 26,235 | 0,1797 | 0,3188 | 28,72 | 46,57 | 26,23 | 28,72 |
| 30 | 20’ | 27,971 | 0,2013 | 0,3555 | 34,17 | 46,10 | 27,97 | 34,17 |
| 30 | 10’ | 30,747 | 0,2730 | 0,3984 | 43,55 | 44,69 | 30,74 | 43,55 |
| 6,9U | 120’ | 22,969 | 0,0718 | 0,2448 | 17,78 | 24,06U | 22,96 | 17,78 |

hep61−2a $L_{aj}$=30, $L_t$=300, Lajdr=0,10, Lajdren=0,48, 0’ <= φ <= 120’

**Relationship brightness $B^*_{YT}$ and tristimulus value $Y_T$ as function of viewing angle φ for test equal adaptation luminance $L_a$=30 cd/m²**

$B^*_{YT}(L_T, L_a, \varphi) = [C_T(\varphi) L_T^n - B_0(L_a, \varphi)] L_{ra}^n$ brightness $B^*_{YT}$ [1]
$B_0(L_a, \varphi) = C_T(\varphi)[S_0(\varphi) + S_1(\varphi) L_a^n]$ (n=0,31, $L_{ra}^n = (L_{300}/L_a)^n$) [2]
$L_{Yt}(L_a, \varphi) = [S_0(\varphi) + S_1(\varphi) L_a^n]^{1/n} L_{ra}^n$ (t=black threshold)

| $Y_T$ | φ | $C_T(\varphi)$ | $S_0(\varphi)$ | $S_1(\varphi)$ | $B_0(L_a,\varphi)$ | $B^*_{YT}$ | $L_{Yt}$ | $L_a/L_t$ |
|---|---|---|---|---|---|---|---|---|
| 30 | 120’ | 22,969 | 0,0718 | 0,2448 | 17,78 | 98,27 | 0,89 | 68,40 |
| 30 | 100’ | 23,128 | 0,0747 | 0,2494 | 18,28 | 98,19 | 0,95 | 64,00 |
| 30 | 90’ | 23,415 | 0,1086 | 0,2526 | 19,52 | 97,35 | 1,13 | 53,91 |
| 30 | 60’ | 23,973 | 0,1313 | 0,2657 | 21,43 | 96,71 | 1,42 | 43,03 |
| 30 | 30’ | 26,235 | 0,1797 | 0,3188 | 28,72 | 95,08 | 2,73 | 22,38 |
| 30 | 20’ | 27,971 | 0,2013 | 0,3555 | 34,17 | 94,13 | 3,89 | 15,71 |
| 30 | 10’ | 30,747 | 0,2730 | 0,3984 | 43,55 | 91,25 | 6,27 | 9,75 |
| 7,1U | 120’ | 22,969 | 0,0718 | 0,2448 | 17,78 | 50,00U | 0,89 | 68,40 |

hep61−3a $L_{aj}$=30, $L_t$=300, Lajdr=0,10, Lajdren=0,48, 0’ <= φ <= 120’

**Relationship brightness $B^*_{YT}$ and tristimulus value $Y_T$ as function of viewing angle φ for test equal adaptation luminance $L_a$=30 cd/m²**

$B^*_{YT}(L_T, L_a, \varphi) = s_y(L_a,\varphi) L_T^n - d_y(L_a, \varphi)$ brightness $B^*_{YT}$ [1]
$B_0(L_a, \varphi) = C_T(\varphi)[S_0(\varphi) + S_1(\varphi) L_a^n]$ (n=0,31, $L_{ra}^n = (L_{300}/L_a)^n$) [2]
$s_y(\varphi) = C_T(\varphi) L_{ra}^n$ [3] $d_y(L_a,\varphi) = B_0(L_a, \varphi) L_{ra}^n$ [4] (s=scaling factor)

| $Y_T$ | φ | $C_T(\varphi)$ | $S_0(\varphi)$ | $S_1(\varphi)$ | $B_0(L_a,\varphi)$ | $B^*_{YT}$ | $s_y(L_a,\varphi)$ | $d_y(L_a,\varphi)$ |
|---|---|---|---|---|---|---|---|---|
| 30 | 120’ | 22,969 | 0,0718 | 0,2448 | 17,78 | 98,27 | 46,89 | 36,32 |
| 30 | 100’ | 23,128 | 0,0747 | 0,2494 | 18,28 | 98,19 | 47,22 | 37,33 |
| 30 | 90’ | 23,415 | 0,1086 | 0,2526 | 19,52 | 97,35 | 47,80 | 39,86 |
| 30 | 60’ | 23,973 | 0,1313 | 0,2657 | 21,43 | 96,71 | 48,94 | 43,76 |
| 30 | 30’ | 26,235 | 0,1797 | 0,3188 | 28,72 | 95,08 | 53,56 | 58,65 |
| 30 | 20’ | 27,971 | 0,2013 | 0,3555 | 34,17 | 94,13 | 57,10 | 69,78 |
| 30 | 10’ | 30,747 | 0,2730 | 0,3984 | 43,55 | 91,25 | 62,77 | 88,93 |
| 2,3U | 120’ | 22,969 | 0,0718 | 0,2448 | 17,78 | 50,00U | 46,89 | 36,32 |

hep61−4a $L_{aj}$=30, $L_t$=300, Lajdr=0,10, Lajdren=0,48, 0’ <= φ <= 120’

hep60−3R_R

**Relationship brightness $B^*_{LT}$ and luminance $L_T$ as function of viewing angle φ for test equal adaptation luminance $L_a$=3 cd/m²**

$B^*_{LT}(L_T, L_a, \varphi) = C_T(\varphi) L_T^n - B_0(L_a, \varphi)$ brightness $B^*_{LT}$ [1]
$B_0(L_a, \varphi) = C_T(\varphi)[S_0(\varphi) + S_1(\varphi) L_a^n]$ (n=0,31) [2]
$L_{Lt}(L_a, \varphi) = [S_0(\varphi) + S_1(\varphi) L_a^n]^{1/n}$ (t=black threshold) [3]

| $L_T$ | φ | $C_T(\varphi)$ | $S_0(\varphi)$ | $S_1(\varphi)$ | $B_0(L_a,\varphi)$ | $B^*_{LT}$ | $L_{Lt}$ | $L_a/L_t$ |
|---|---|---|---|---|---|---|---|---|
| 3 | 120’ | 22,969 | 0,0718 | 0,2448 | 9,55 | 22,73 | 0,05 | 50,79 |
| 3 | 100’ | 23,128 | 0,0747 | 0,2494 | 9,83 | 22,67 | 0,06 | 47,27 |
| 3 | 90’ | 23,415 | 0,1086 | 0,2526 | 10,86 | 22,05 | 0,08 | 35,75 |
| 3 | 60’ | 23,973 | 0,1313 | 0,2657 | 12,10 | 21,59 | 0,11 | 27,18 |
| 3 | 30’ | 26,235 | 0,1797 | 0,3188 | 16,47 | 20,40 | 0,22 | 13,45 |
| 3 | 20’ | 27,971 | 0,2013 | 0,3555 | 19,61 | 19,70 | 0,31 | 9,42 |
| 3 | 10’ | 30,747 | 0,2730 | 0,3984 | 25,61 | 17,60 | 0,55 | 5,40 |
| 0,7U | 120’ | 22,969 | 0,0718 | 0,2448 | 9,55 | 11,36U | 0,05 | 50,79 |

hep61−5a $L_{aj}$=3, $L_t$=300, Lajdr=0,01, Lajdren=0,23, 0’ <= φ <= 120’

**Relationship brightness $B^*_{LT}$ and luminance $L_T$ as function of viewing angle φ for test equal adaptation luminance $L_a$=3 cd/m²**

$B^*_{LT}(L_T, L_a, \varphi) = s_x(\varphi) L_T^n - d_x(L_a, \varphi)$ brightness $B^*_{LT}$ [1]
$B_0(L_a, \varphi) = C_T(\varphi)[S_0(\varphi) + S_1(\varphi) L_a^n]$ (n=0,31) [2]
$s_x(\varphi) = C_T(\varphi)$ [3] $d_x(L_a,\varphi) = B_0(L_a, \varphi)$ [4] (s=scaling factor)

| $L_T$ | φ | $C_T(\varphi)$ | $S_0(\varphi)$ | $S_1(\varphi)$ | $B_0(L_a,\varphi)$ | $B^*_{LT}$ | $s_x(\varphi)$ | $d_x(L_a,\varphi)$ |
|---|---|---|---|---|---|---|---|---|
| 3 | 120’ | 22,969 | 0,0718 | 0,2448 | 9,55 | 22,73 | 22,96 | 9,55 |
| 3 | 100’ | 23,128 | 0,0747 | 0,2494 | 9,83 | 22,67 | 23,12 | 9,83 |
| 3 | 90’ | 23,415 | 0,1086 | 0,2526 | 10,86 | 22,05 | 23,41 | 10,86 |
| 3 | 60’ | 23,973 | 0,1313 | 0,2657 | 12,10 | 21,59 | 23,97 | 12,10 |
| 3 | 30’ | 26,235 | 0,1797 | 0,3188 | 16,47 | 20,40 | 26,23 | 16,47 |
| 3 | 20’ | 27,971 | 0,2013 | 0,3555 | 19,61 | 19,70 | 27,97 | 19,61 |
| 3 | 10’ | 30,747 | 0,2730 | 0,3984 | 25,61 | 17,60 | 30,74 | 25,61 |
| 0,7U | 120’ | 22,969 | 0,0718 | 0,2448 | 9,55 | 11,36U | 22,96 | 9,55 |

hep61−6a $L_{aj}$=3, $L_t$=300, Lajdr=0,01, Lajdren=0,23, 0’ <= φ <= 120’

**Relationship brightness $B^*_{YT}$ and tristimulus value $Y_T$ as function of viewing angle φ for test equal adaptation luminance $L_a$=3 cd/m²**

$B^*_{YT}(L_T, L_a, \varphi) = [C_T(\varphi) L_T^n - B_0(L_a, \varphi)] L_{ra}^n$ brightness $B^*_{YT}$ [1]
$B_0(L_a, \varphi) = C_T(\varphi)[S_0(\varphi) + S_1(\varphi) L_a^n]$ (n=0,31, $L_{ra}^n = (L_{300}/L_a)^n$) [2]
$L_{Yt}(L_a, \varphi) = [S_0(\varphi) + S_1(\varphi) L_a^n]^{1/n} L_{ra}^n$ (t=black threshold)

| $Y_T$ | φ | $C_T(\varphi)$ | $S_0(\varphi)$ | $S_1(\varphi)$ | $B_0(L_a,\varphi)$ | $B^*_{YT}$ | $L_{Yt}$ | $L_a/L_t$ |
|---|---|---|---|---|---|---|---|---|
| 3 | 120’ | 22,969 | 0,0718 | 0,2448 | 9,55 | 94,76 | 0,24 | 50,79 |
| 3 | 100’ | 23,128 | 0,0747 | 0,2494 | 9,83 | 94,52 | 0,26 | 47,27 |
| 3 | 90’ | 23,415 | 0,1086 | 0,2526 | 10,86 | 91,93 | 0,34 | 35,75 |
| 3 | 60’ | 23,973 | 0,1313 | 0,2657 | 12,10 | 90,02 | 0,45 | 27,18 |
| 3 | 30’ | 26,235 | 0,1797 | 0,3188 | 16,47 | 85,05 | 0,92 | 13,45 |
| 3 | 20’ | 27,971 | 0,2013 | 0,3555 | 19,61 | 82,15 | 1,32 | 9,42 |
| 3 | 10’ | 30,747 | 0,2730 | 0,3984 | 25,61 | 73,39 | 2,31 | 5,40 |
| 3,5U | 120’ | 22,969 | 0,0718 | 0,2448 | 9,55 | 50,00U | 0,24 | 50,79 |

hep61−7a $L_{aj}$=3, $L_t$=300, Lajdr=0,01, Lajdren=0,23, 0’ <= φ <= 120’

**Relationship brightness $B^*_{YT}$ and tristimulus value $Y_T$ as function of viewing angle φ for test equal adaptation luminance $L_a$=3 cd/m²**

$B^*_{YT}(L_T, L_a, \varphi) = s_y(L_a,\varphi) L_T^n - d_y(L_a, \varphi)$ brightness $B^*_{YT}$ [1]
$B_0(L_a, \varphi) = C_T(\varphi)[S_0(\varphi) + S_1(\varphi) L_a^n]$ (n=0,31, $L_{ra}^n = (L_{300}/L_a)^n$) [2]
$s_y(\varphi) = C_T(\varphi) L_{ra}^n$ [3] $d_y(L_a,\varphi) = B_0(L_a, \varphi) L_{ra}^n$ [4] (s=scaling factor)

| $Y_T$ | φ | $C_T(\varphi)$ | $S_0(\varphi)$ | $S_1(\varphi)$ | $B_0(L_a,\varphi)$ | $B^*_{YT}$ | $s_y(L_a,\varphi)$ | $d_y(L_a,\varphi)$ |
|---|---|---|---|---|---|---|---|---|
| 3 | 120’ | 22,969 | 0,0718 | 0,2448 | 9,55 | 94,76 | 95,75 | 39,83 |
| 3 | 100’ | 23,128 | 0,0747 | 0,2494 | 9,83 | 94,52 | 96,41 | 41,01 |
| 3 | 90’ | 23,415 | 0,1086 | 0,2526 | 10,86 | 91,93 | 97,60 | 45,27 |
| 3 | 60’ | 23,973 | 0,1313 | 0,2657 | 12,10 | 90,02 | 99,93 | 50,46 |
| 3 | 30’ | 26,235 | 0,1797 | 0,3188 | 16,47 | 85,05 | 109,36 | 68,68 |
| 3 | 20’ | 27,971 | 0,2013 | 0,3555 | 19,61 | 82,15 | 116,60 | 81,75 |
| 3 | 10’ | 30,747 | 0,2730 | 0,3984 | 25,61 | 73,39 | 128,17 | 106,78 |
| 0,8U | 120’ | 22,969 | 0,0718 | 0,2448 | 9,55 | 50,00U | 95,75 | 39,83 |

hep61−8a $L_{aj}$=3, $L_t$=300, Lajdr=0,01, Lajdren=0,23, 0’ <= φ <= 120’

hep60−3R_R

TUB-test chart hep6; HAULAB, scaling of achromatic colours in white surround of 180 degree, *Haubner* (1980), Adaptations $L_{wa}$=3000, 300, 30 & 3cd/m²; 7 viewing angles 120’ to 10’