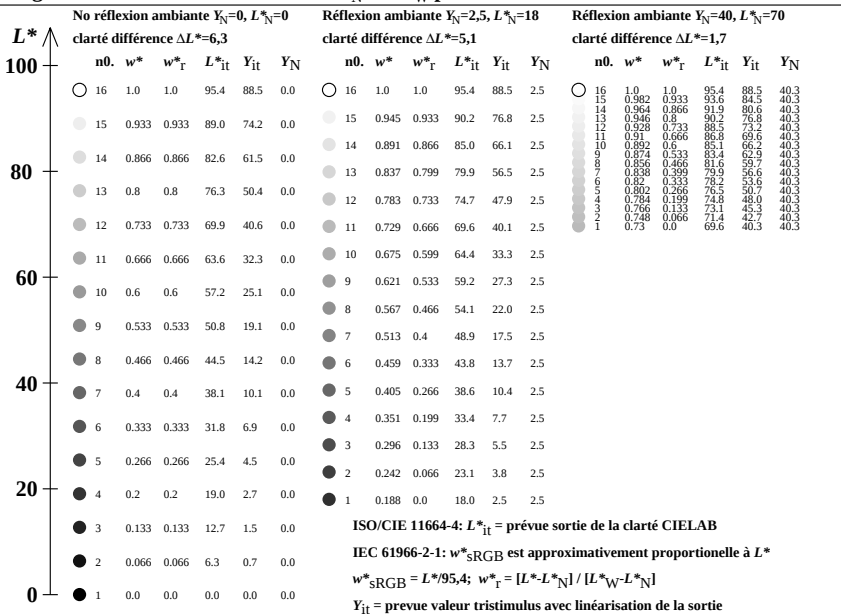


# 16 gris avec la même échelle entre $L^*_N$ et $L^*_W$ pour 3 réflexions de lumière ambiante



# 16 gris avec la même échelle entre $L^*_N$ et $L^*_W$ pour 3 réflexions de lumière ambiante

| $L^*$ | No réflexion ambiante $Y_N=0, L^*_N=0$<br>clarté différence $\Delta L^*=6,3$ |       |         |            |          |       | Réflexion ambiante $Y_N=2,5, L^*_N=18$<br>clarté différence $\Delta L^*=5,1$ |       |         |            |          |       | Réflexion ambiante $Y_N=40, L^*_N=70$<br>clarté différence $\Delta L^*=1,7$ |       |         |            |          |       |
|-------|------------------------------------------------------------------------------|-------|---------|------------|----------|-------|------------------------------------------------------------------------------|-------|---------|------------|----------|-------|-----------------------------------------------------------------------------|-------|---------|------------|----------|-------|
|       | n0.                                                                          | $w^*$ | $w^*_T$ | $L^*_{re}$ | $Y_{re}$ | $Y_N$ | n0.                                                                          | $w^*$ | $w^*_T$ | $L^*_{re}$ | $Y_{re}$ | $Y_N$ | n0.                                                                         | $w^*$ | $w^*_T$ | $L^*_{re}$ | $Y_{re}$ | $Y_N$ |
| 100   | ○ 16                                                                         | 1.0   | 1.0     | 95.4       | 88.59    | 0.0   | ○ 16                                                                         | 1.0   | 1.0     | 95.4       | 88.59    | 2.52  | ○ 16                                                                        | 1.0   | 1.0     | 95.4       | 88.59    | 40.32 |
|       |                                                                              |       |         |            |          |       |                                                                              |       |         |            |          |       |                                                                             |       |         |            |          |       |
|       | ● 15                                                                         | 0.933 | 0.933   | 89.0       | 74.27    | 0.0   | ● 15                                                                         | 0.945 | 0.933   | 89.2       | 74.67    | 2.52  | ● 15                                                                        | 0.982 | 0.933   | 92.0       | 80.78    | 40.32 |
|       |                                                                              |       |         |            |          |       |                                                                              |       |         |            |          |       |                                                                             |       |         |            |          |       |
|       | ● 14                                                                         | 0.866 | 0.866   | 82.6       | 61.58    | 0.0   | ● 14                                                                         | 0.891 | 0.866   | 83.0       | 62.34    | 2.52  | ● 14                                                                        | 0.964 | 0.866   | 88.8       | 73.87    | 40.32 |
|       |                                                                              |       |         |            |          |       |                                                                              |       |         |            |          |       |                                                                             |       |         |            |          |       |
|       | ● 13                                                                         | 0.8   | 0.8     | 76.3       | 50.42    | 0.0   | ● 13                                                                         | 0.837 | 0.799   | 76.9       | 51.51    | 2.52  | ● 13                                                                        | 0.946 | 0.8     | 85.9       | 67.79    | 40.32 |
|       |                                                                              |       |         |            |          |       |                                                                              |       |         |            |          |       |                                                                             |       |         |            |          |       |
|       | ● 12                                                                         | 0.733 | 0.733   | 69.9       | 40.7     | 0.0   | ● 12                                                                         | 0.783 | 0.733   | 70.9       | 42.06    | 2.52  | ● 12                                                                        | 0.928 | 0.733   | 83.1       | 62.49    | 40.32 |
|       |                                                                              |       |         |            |          |       |                                                                              |       |         |            |          |       |                                                                             |       |         |            |          |       |
|       | ● 11                                                                         | 0.666 | 0.666   | 63.6       | 32.32    | 0.0   | ● 11                                                                         | 0.729 | 0.666   | 64.9       | 33.92    | 2.52  | ● 11                                                                        | 0.91  | 0.666   | 80.7       | 57.93    | 40.32 |
|       |                                                                              |       |         |            |          |       |                                                                              |       |         |            |          |       |                                                                             |       |         |            |          |       |
|       | ● 10                                                                         | 0.6   | 0.6     | 57.2       | 25.17    | 0.0   | ● 10                                                                         | 0.675 | 0.599   | 58.9       | 26.98    | 2.52  | ● 10                                                                        | 0.892 | 0.6     | 78.4       | 54.03    | 40.32 |
|       |                                                                              |       |         |            |          |       |                                                                              |       |         |            |          |       |                                                                             |       |         |            |          |       |
|       | ● 9                                                                          | 0.533 | 0.533   | 50.8       | 19.17    | 0.0   | ● 9                                                                          | 0.621 | 0.533   | 53.1       | 21.14    | 2.52  | ● 9                                                                         | 0.874 | 0.533   | 76.5       | 50.76    | 40.32 |
|       |                                                                              |       |         |            |          |       |                                                                              |       |         |            |          |       |                                                                             |       |         |            |          |       |
|       | ● 8                                                                          | 0.466 | 0.466   | 44.5       | 14.2     | 0.0   | ● 8                                                                          | 0.567 | 0.466   | 47.3       | 16.32    | 2.52  | ● 8                                                                         | 0.856 | 0.466   | 74.8       | 48.06    | 40.32 |
|       |                                                                              |       |         |            |          |       |                                                                              |       |         |            |          |       |                                                                             |       |         |            |          |       |
|       | ● 7                                                                          | 0.4   | 0.4     | 38.1       | 10.18    | 0.0   | ● 7                                                                          | 0.513 | 0.4     | 41.8       | 12.41    | 2.52  | ● 7                                                                         | 0.838 | 0.399   | 73.4       | 45.86    | 40.32 |
|       |                                                                              |       |         |            |          |       |                                                                              |       |         |            |          |       |                                                                             |       |         |            |          |       |
|       | ● 6                                                                          | 0.333 | 0.333   | 31.8       | 7.0      | 0.0   | ● 6                                                                          | 0.459 | 0.333   | 36.5       | 9.32     | 2.52  | ● 6                                                                         | 0.82  | 0.333   | 72.3       | 44.13    | 40.32 |
|       |                                                                              |       |         |            |          |       |                                                                              |       |         |            |          |       |                                                                             |       |         |            |          |       |
|       | ● 5                                                                          | 0.266 | 0.266   | 25.4       | 4.56     | 0.0   | ● 5                                                                          | 0.405 | 0.266   | 31.6       | 6.95     | 2.52  | ● 5                                                                         | 0.802 | 0.266   | 71.4       | 42.8     | 40.32 |
|       |                                                                              |       |         |            |          |       |                                                                              |       |         |            |          |       |                                                                             |       |         |            |          |       |
|       | ● 4                                                                          | 0.2   | 0.2     | 19.0       | 2.76     | 0.0   | ● 4                                                                          | 0.351 | 0.199   | 27.3       | 5.2      | 2.52  | ● 4                                                                         | 0.784 | 0.199   | 70.7       | 41.82    | 40.32 |
|       |                                                                              |       |         |            |          |       |                                                                              |       |         |            |          |       |                                                                             |       |         |            |          |       |
|       | ● 3                                                                          | 0.133 | 0.133   | 12.7       | 1.51     | 0.0   | ● 3                                                                          | 0.296 | 0.133   | 23.6       | 3.99     | 2.52  | ● 3                                                                         | 0.766 | 0.133   | 70.2       | 41.14    | 40.32 |
|       |                                                                              |       |         |            |          |       |                                                                              |       |         |            |          |       |                                                                             |       |         |            |          |       |
|       | ● 2                                                                          | 0.066 | 0.066   | 6.3        | 0.7      | 0.0   | ● 2                                                                          | 0.242 | 0.066   | 20.8       | 3.2      | 2.52  | ● 2                                                                         | 0.748 | 0.066   | 69.9       | 40.7     | 40.32 |
|       |                                                                              |       |         |            |          |       |                                                                              |       |         |            |          |       |                                                                             |       |         |            |          |       |
|       | ● 1                                                                          | 0.0   | 0.0     | 0.0        | 0.0      | 0.0   | ● 1                                                                          | 0.188 | 0.0     | 18.0       | 2.52     | 2.52  | ● 1                                                                         | 0.73  | 0.0     | 69.6       | 40.32    | 40.32 |

ISO/CIE 11664-4:  $L^*_{it}$  = prévue sortie de la clarté CIELAB

IEC 61966-2-1:  $w^*_{sRGB}$  est approximativement proportionnelle à  $L^*$

$w^*_{sRGB} = L^*/95,4$ ;  $w^*_T = [L^*-L^*_N] / [L^*_W-L^*_N]$

$Y_{re}$  = vrai valeur tristimulus sans linéarisation de la sortie

# 16 gris avec la même échelle entre $L^*_N$ et $L^*_W$ pour 3 réflexions de lumière ambiante

| $L^*$ | No réflexion ambiante $Y_N=0, L^*_N=0$<br>clarté différence $\Delta L^*=6,3$ |       |         |            |            |                   | Réflexion ambiante $Y_N=2,5, L^*_N=18$<br>clarté différence $\Delta L^*=5,1$ |       |         |            |            |                   | Réflexion ambiante $Y_N=40, L^*_N=70$<br>clarté différence $\Delta L^*=1,7$ |       |         |            |            |                   |
|-------|------------------------------------------------------------------------------|-------|---------|------------|------------|-------------------|------------------------------------------------------------------------------|-------|---------|------------|------------|-------------------|-----------------------------------------------------------------------------|-------|---------|------------|------------|-------------------|
|       | n0.                                                                          | $w^*$ | $w^*_r$ | $L^*_{it}$ | $L^*_{re}$ | $\Delta L^*_{re}$ | n0.                                                                          | $w^*$ | $w^*_r$ | $L^*_{it}$ | $L^*_{re}$ | $\Delta L^*_{re}$ | n0.                                                                         | $w^*$ | $w^*_r$ | $L^*_{it}$ | $L^*_{re}$ | $\Delta L^*_{re}$ |
|       |                                                                              |       |         |            |            |                   |                                                                              |       |         |            |            |                   |                                                                             |       |         |            |            |                   |
| 100   | ○ 16                                                                         | 1.0   | 1.0     | 95.4       | 95.4       |                   | ○ 16                                                                         | 1.0   | 1.0     | 95.4       | 95.4       |                   | ○ 16                                                                        | 1.0   | 1.0     | 95.4       | 95.4       |                   |
|       |                                                                              |       |         |            |            | 6.35              |                                                                              |       |         |            |            | 6.16              |                                                                             |       |         |            |            | 3.37              |
|       | ● 15                                                                         | 0.933 | 0.933   | 89.0       | 89.0       |                   | ● 15                                                                         | 0.945 | 0.933   | 90.2       | 89.2       |                   | ● 15                                                                        | 0.964 | 0.866   | 91.9       | 88.8       | 3.17              |
|       |                                                                              |       |         |            |            | 6.35              |                                                                              |       |         |            |            | 6.14              |                                                                             |       |         |            |            | 2.95              |
|       | ● 14                                                                         | 0.866 | 0.866   | 82.6       | 82.6       |                   | ● 14                                                                         | 0.891 | 0.866   | 85.0       | 83.0       |                   | ● 14                                                                        | 0.928 | 0.733   | 88.5       | 83.1       | 5.47              |
|       |                                                                              |       |         |            |            | 6.35              |                                                                              |       |         |            |            | 6.11              |                                                                             |       |         |            |            | 5.47              |
|       | ● 13                                                                         | 0.8   | 0.8     | 76.3       | 76.3       |                   | ● 13                                                                         | 0.837 | 0.799   | 79.9       | 76.9       |                   | ● 13                                                                        | 0.91  | 0.666   | 86.8       | 80.7       | 6.11              |
|       |                                                                              |       |         |            |            | 6.35              |                                                                              |       |         |            |            | 6.06              |                                                                             |       |         |            |            | 6.11              |
|       | ● 12                                                                         | 0.733 | 0.733   | 69.9       | 69.9       |                   | ● 12                                                                         | 0.783 | 0.733   | 74.7       | 70.9       |                   | ● 12                                                                        | 0.892 | 0.533   | 85.1       | 78.4       | 6.77              |
|       |                                                                              |       |         |            |            | 6.35              |                                                                              |       |         |            |            | 6.01              |                                                                             |       |         |            |            | 6.77              |
|       | ● 11                                                                         | 0.666 | 0.666   | 63.6       | 63.6       |                   | ● 11                                                                         | 0.729 | 0.666   | 69.6       | 64.9       |                   | ● 11                                                                        | 0.874 | 0.466   | 81.6       | 74.8       | 6.77              |
|       |                                                                              |       |         |            |            | 6.35              |                                                                              |       |         |            |            | 5.94              |                                                                             |       |         |            |            | 6.77              |
|       | ● 10                                                                         | 0.6   | 0.6     | 57.2       | 57.2       |                   | ● 10                                                                         | 0.675 | 0.599   | 64.4       | 58.9       |                   | ● 10                                                                        | 0.856 | 0.399   | 79.9       | 73.4       | 6.55              |
|       |                                                                              |       |         |            |            | 6.35              |                                                                              |       |         |            |            | 5.84              |                                                                             |       |         |            |            | 6.55              |
|       | ● 9                                                                          | 0.533 | 0.533   | 50.8       | 50.8       |                   | ● 9                                                                          | 0.621 | 0.533   | 59.2       | 53.1       |                   | ● 9                                                                         | 0.82  | 0.333   | 78.2       | 72.3       | 5.97              |
|       |                                                                              |       |         |            |            | 6.35              |                                                                              |       |         |            |            | 5.71              |                                                                             |       |         |            |            | 5.97              |
|       | ● 8                                                                          | 0.466 | 0.466   | 44.5       | 44.5       |                   | ● 8                                                                          | 0.567 | 0.466   | 54.1       | 47.3       |                   | ● 8                                                                         | 0.802 | 0.266   | 76.5       | 71.4       | 5.11              |
|       |                                                                              |       |         |            |            | 6.35              |                                                                              |       |         |            |            | 5.53              |                                                                             |       |         |            |            | 5.11              |
|       | ● 7                                                                          | 0.4   | 0.4     | 38.1       | 38.1       |                   | ● 7                                                                          | 0.513 | 0.4     | 48.9       | 41.8       |                   | ● 7                                                                         | 0.784 | 0.199   | 74.8       | 70.7       | 4.11              |
|       |                                                                              |       |         |            |            | 6.35              |                                                                              |       |         |            |            | 5.26              |                                                                             |       |         |            |            | 4.11              |
|       | ● 6                                                                          | 0.333 | 0.333   | 31.8       | 31.8       |                   | ● 6                                                                          | 0.459 | 0.333   | 43.8       | 36.5       |                   | ● 6                                                                         | 0.766 | 0.133   | 73.1       | 70.2       | 2.97              |
|       |                                                                              |       |         |            |            | 6.35              |                                                                              |       |         |            |            | 4.89              |                                                                             |       |         |            |            | 2.97              |
|       | ● 5                                                                          | 0.266 | 0.266   | 25.4       | 25.4       |                   | ● 5                                                                          | 0.405 | 0.266   | 38.6       | 31.6       |                   | ● 5                                                                         | 0.748 | 0.066   | 71.4       | 69.9       | 1.55              |
|       |                                                                              |       |         |            |            | 6.35              |                                                                              |       |         |            |            | 4.37              |                                                                             |       |         |            |            | 1.55              |
|       | ● 4                                                                          | 0.2   | 0.2     | 19.0       | 19.0       |                   | ● 4                                                                          | 0.351 | 0.199   | 33.4       | 27.3       |                   | ● 4                                                                         | 0.73  | 0.0     | 69.6       | 69.6       | 0.0               |
|       |                                                                              |       |         |            |            | 6.35              |                                                                              |       |         |            |            | 2.83              |                                                                             |       |         |            |            | 0.0               |
|       | ● 3                                                                          | 0.133 | 0.133   | 12.7       | 12.7       |                   | ● 3                                                                          | 0.296 | 0.133   | 28.3       | 23.6       |                   | ● 3                                                                         |       |         |            |            |                   |
|       |                                                                              |       |         |            |            | 6.35              |                                                                              |       |         |            |            | 2.81              |                                                                             |       |         |            |            |                   |
|       | ● 2                                                                          | 0.066 | 0.066   | 6.3        | 6.3        |                   | ● 2                                                                          | 0.242 | 0.066   | 23.1       | 20.8       |                   | ● 2                                                                         |       |         |            |            |                   |
|       |                                                                              |       |         |            |            | 6.35              |                                                                              |       |         |            |            | 2.83              |                                                                             |       |         |            |            |                   |
|       | ● 1                                                                          | 0.0   | 0.0     | 0.0        | 0.0        |                   | ● 1                                                                          | 0.188 | 0.0     | 18.0       | 18.0       |                   | ● 1                                                                         |       |         |            |            |                   |

ISO/CIE 11664-4:  $L^*_{it}$  = prévue sortie de la clarté CIELAB

IEC 61966-2-1:  $w^*_{sRGB}$  est approximativement proportionnelle à  $L^*$

$$w^*_{sRGB} = L^*/95,4; w^*_r = [L^* \cdot L^*_N] / [L^*_W \cdot L^*_N]$$

$L^*_{re}$  = vrai clarté sans linéarisation de la sortie

**16 gris avec la même échelle entre  $L_N^*$  et  $L_W^*$  pour 3 réflexions de lumière ambiante**

**No réflexion ambiante  $Y_N=0, L^*_N=0$**   
clarté différence  $\Delta L^*=6,3$

| $L^*$ | n0. | $w^*$ | $w^*_r$ | $L^*_{it}$ | $L^*_{re}$ | $Y_{re}$ |
|-------|-----|-------|---------|------------|------------|----------|
| 100   | 16  | 1.0   | 1.0     | 95.4       | 95.4       | 88.59    |
| 90    | 15  | 0.933 | 0.933   | 89.0       | 89.0       | 74.27    |
| 80    | 14  | 0.866 | 0.866   | 82.6       | 82.6       | 61.58    |
| 70    | 13  | 0.8   | 0.8     | 76.3       | 76.3       | 50.42    |
| 60    | 12  | 0.733 | 0.733   | 69.9       | 69.9       | 40.7     |
| 50    | 11  | 0.666 | 0.666   | 63.6       | 63.6       | 32.32    |
| 40    | 10  | 0.6   | 0.6     | 57.2       | 57.2       | 25.17    |
| 30    | 9   | 0.533 | 0.533   | 50.8       | 50.8       | 19.17    |
| 20    | 8   | 0.466 | 0.466   | 44.5       | 44.5       | 14.2     |
| 10    | 7   | 0.4   | 0.4     | 38.1       | 38.1       | 10.18    |
| 0     | 6   | 0.333 | 0.333   | 31.8       | 31.8       | 7.0      |
|       | 5   | 0.266 | 0.266   | 25.4       | 25.4       | 4.56     |
|       | 4   | 0.2   | 0.2     | 19.0       | 19.0       | 2.76     |
|       | 3   | 0.133 | 0.133   | 12.7       | 12.7       | 1.51     |
|       | 2   | 0.066 | 0.066   | 6.3        | 6.3        | 0.7      |
|       | 1   | 0.0   | 0.0     | 0.0        | 0.0        | 0.0      |

**Réflexion ambiante  $Y_N=2,5, L^*_N=18$**   
clarté différence  $\Delta L^*=5,1$

| $L^*$ | n0. | $w^*$ | $w^*_r$ | $L^*_{it}$ | $L^*_{re}$ | $Y_{re}$ |
|-------|-----|-------|---------|------------|------------|----------|
| 100   | 16  | 1.0   | 1.0     | 95.4       | 95.4       | 88.59    |
| 90    | 15  | 0.945 | 0.933   | 90.2       | 89.2       | 74.67    |
| 80    | 14  | 0.891 | 0.866   | 85.0       | 83.0       | 62.34    |
| 70    | 13  | 0.837 | 0.799   | 79.9       | 76.9       | 51.51    |
| 60    | 12  | 0.783 | 0.733   | 74.7       | 70.9       | 42.06    |
| 50    | 11  | 0.729 | 0.666   | 69.6       | 64.9       | 33.92    |
| 40    | 10  | 0.675 | 0.599   | 64.4       | 58.9       | 26.98    |
| 30    | 9   | 0.621 | 0.533   | 59.2       | 53.1       | 21.14    |
| 20    | 8   | 0.567 | 0.466   | 54.1       | 47.3       | 16.32    |
| 10    | 7   | 0.513 | 0.4     | 48.9       | 41.8       | 12.41    |
| 0     | 6   | 0.459 | 0.333   | 43.8       | 36.5       | 9.32     |
|       | 5   | 0.405 | 0.266   | 38.6       | 31.6       | 6.95     |
|       | 4   | 0.351 | 0.199   | 33.4       | 27.3       | 5.2      |
|       | 3   | 0.296 | 0.133   | 28.3       | 23.6       | 3.99     |
|       | 2   | 0.242 | 0.066   | 23.1       | 20.8       | 3.2      |
|       | 1   | 0.188 | 0.0     | 18.0       | 18.0       | 2.52     |

**Réflexion ambiante  $Y_N=40, L^*_N=70$**   
clarté différence  $\Delta L^*=1,7$

| $L^*$ | n0. | $w^*$ | $w^*_r$ | $L^*_{it}$ | $L^*_{re}$ | $Y_{re}$ |
|-------|-----|-------|---------|------------|------------|----------|
| 100   | 16  | 1.0   | 1.0     | 95.4       | 95.4       | 88.59    |
| 90    | 15  | 0.982 | 0.933   | 93.6       | 92.0       | 80.78    |
| 80    | 14  | 0.964 | 0.866   | 91.9       | 88.8       | 73.87    |
| 70    | 13  | 0.946 | 0.8     | 90.2       | 85.9       | 67.79    |
| 60    | 12  | 0.928 | 0.733   | 88.5       | 83.1       | 62.49    |
| 50    | 11  | 0.91  | 0.666   | 86.8       | 80.7       | 57.93    |
| 40    | 10  | 0.892 | 0.6     | 85.1       | 78.4       | 54.03    |
| 30    | 9   | 0.874 | 0.533   | 83.4       | 76.5       | 50.76    |
| 20    | 8   | 0.856 | 0.466   | 81.6       | 74.8       | 48.06    |
| 10    | 7   | 0.838 | 0.399   | 79.9       | 72.4       | 45.86    |
| 0     | 6   | 0.82  | 0.333   | 78.2       | 70.3       | 44.13    |
|       | 5   | 0.802 | 0.266   | 76.5       | 68.4       | 42.8     |
|       | 4   | 0.784 | 0.199   | 74.8       | 66.7       | 41.82    |
|       | 3   | 0.766 | 0.133   | 73.1       | 65.2       | 41.14    |
|       | 2   | 0.748 | 0.066   | 71.4       | 63.9       | 40.7     |
|       | 1   | 0.73  | 0.0     | 69.6       | 62.6       | 40.32    |

**ISO/CIE 11664-4:  $L^*_{it}$  = prévue sortie de la clarté CIELAB**

**IEC 61966-2-1:  $w^*_{sRGB}$  est approximativement proportionnelle à  $L^*$**

$w^*_{sRGB} = L^*/95,4; w^*_r = [L^* - L^*_N] / [L^*_W - L^*_N]$

**$L^*_{re}$  = vrai clarté sans linéarisation de la sortie**