**9stufige Grauskalierung zwischen $L^*_{0aN}$=24 & $L^*_{0aW}$=100.0, $Y_{0ref}$=4, Normierung Weiß *W***

$L^*_{0aN}$=24.7, $L^*_{0aU}$=62.3, $L^*_{0aW}$=100.0, $Y_{0aN}$=4.0, $Y_{0aU}$=33.7, $Y_{0aW}$=100.0, $C_{0aY}$=$Y_{0aW}$:$Y_{0aN}$=25.0
$L^*_{taN}$=32.8, $L^*_{taU}$=64.4, $L^*_{taW}$=100.0, $Y_{taN}$=7.7, $Y_{taU}$=36.2, $Y_{taW}$=100.0, $C_{taY}$=$Y_{taW}$:$Y_{taN}$=13.0

**Regularitätsindex nach ISO/IEC 15775:2022, Anhang G für 5 und 9 Stufen**

$g^*$ = 100 [$\Delta L^*_{min}$] / [$\Delta L^*_{max}$], $L^*_{TUBsRGB,W}$ = 100 [$Y/Y_N$]$^{1/\ln(10)}$ mit $Y >= 0,39$ = 100/255, $Y_N$=100
$g^*_5$= 99, $g^*_9$= 99

| $L^*_{TUBsRGB,W}$ | angestrebte Ausgabe | | | | reale Ausgabe | | | | linearisierte Ausgabe | |
|---|---|---|---|---|---|---|---|---|---|---|
| n0 i | L*0a | L*0r | Y0a | Y0r | L*ta | ΔL*ta | L*tr | Yta | (L*tr)$^{1.21}$ | L*la | ΔL*la |
| 9 | 100.0 | 1.0 | 100.0 | 1.0 | 100.0 | | 1.0 | 100.0 | 1.0 | 100.0 | |
| | | | | | | 9.0 | | | | | 7.5 |
| 8 | 90.6 | 0.875 | 79.6 | 0.788 | 91.0 | | 0.866 | 80.4 | 0.888 | 92.5 | |
| | | | | | | 9.0 | | | | | 7.7 |
| 7 | 81.2 | 0.75 | 61.9 | 0.603 | 82.0 | | 0.732 | 63.3 | 0.773 | 84.8 | |
| | | | | | | 8.9 | | | | | 7.9 |
| 6 | 71.8 | 0.625 | 46.6 | 0.443 | 73.1 | | 0.6 | 48.6 | 0.656 | 76.9 | |
| | | | | | | 8.8 | | | | | 8.1 |
| 5 | 62.3 | 0.5 | 33.7 | 0.309 | 64.4 | | 0.469 | 36.2 | 0.536 | 68.8 | |
| | | | | | | 8.6 | | | | | 8.3 |
| 4 | 52.9 | 0.375 | 23.1 | 0.199 | 55.8 | | 0.342 | 26.1 | 0.412 | 60.5 | |
| | | | | | | 8.3 | | | | | 8.5 |
| 3 | 43.5 | 0.25 | 14.7 | 0.112 | 47.5 | | 0.218 | 18.0 | 0.285 | 52.0 | |
| | | | | | | 7.8 | | | | | 8.9 |
| 2 | 34.1 | 0.125 | 8.4 | 0.046 | 39.7 | | 0.103 | 11.9 | 0.153 | 43.1 | |
| | | | | | | 6.9 | | | | | 10.3 |
| 1 | 24.7 | 0.0 | 4.0 | 0.0 | 32.8 | | 0.0 | 7.7 | 0.0 | 32.8 | |

$\Delta L^*_{0a}$=9.4 (i=1,2,...,8)

Normierung: $Y_{taiW}$=$Y_{0aW}$ $\frac{Y_{0ai}+Y_{0ref}}{Y_{0aW}+Y_{0ref}}$

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**9stufige Grauskalierung zwischen $L^*_{0aN}$=24 & $L^*_{0aW}$=100.0, $Y_{0ref}$=1, Normierung Weiß *W***

$L^*_{0aN}$=24.7, $L^*_{0aU}$=62.3, $L^*_{0aW}$=100.0, $Y_{0aN}$=4.0, $Y_{0aU}$=33.7, $Y_{0aW}$=100.0, $C_{0aY}$=$Y_{0aW}$:$Y_{0aN}$=25.0
$L^*_{taN}$=27.1, $L^*_{taU}$=62.9, $L^*_{taW}$=100.0, $Y_{taN}$=4.9, $Y_{taU}$=34.4, $Y_{taW}$=100.0, $C_{taY}$=$Y_{taW}$:$Y_{taN}$=20.2

**Regularitätsindex nach ISO/IEC 15775:2022, Anhang G für 5 und 9 Stufen**

$g^*$ = 100 [$\Delta L^*_{min}$] / [$\Delta L^*_{max}$], $L^*_{TUBsRGB,W}$ = 100 [$Y/Y_N$]$^{1/\ln(10)}$ mit $Y >= 0,39$ = 100/255, $Y_N$=100
$g^*_5$= 99, $g^*_9$= 99 $g^*_5$= 94, $g^*_9$= 91

| $L^*_{TUBsRGB,W}$ | angestrebte Ausgabe | | | | reale Ausgabe | | | | linearisierte Ausgabe | |
|---|---|---|---|---|---|---|---|---|---|---|
| n0 i | L*0a | L*0r | Y0a | Y0r | L*ta | ΔL*ta | L*tr | Yta | (L*tr)$^{1.06}$ | L*la | ΔL*la |
| 9 | 100.0 | 1.0 | 100.0 | 1.0 | 100.0 | | 1.0 | 100.0 | 1.0 | 100.0 | |
| | | | | | | 9.3 | | | | | 8.8 |
| 8 | 90.6 | 0.875 | 79.6 | 0.788 | 90.7 | | 0.872 | 79.8 | 0.879 | 91.2 | |
| | | | | | | 9.3 | | | | | 8.8 |
| 7 | 81.2 | 0.75 | 61.9 | 0.603 | 81.4 | | 0.745 | 62.2 | 0.758 | 82.4 | |
| | | | | | | 9.2 | | | | | 8.9 |
| 6 | 71.8 | 0.625 | 46.6 | 0.443 | 72.1 | | 0.617 | 47.1 | 0.636 | 73.4 | |
| | | | | | | 9.2 | | | | | 9.0 |
| 5 | 62.3 | 0.5 | 33.7 | 0.309 | 62.9 | | 0.491 | 34.4 | 0.512 | 64.4 | |
| | | | | | | 9.2 | | | | | 9.1 |
| 4 | 52.9 | 0.375 | 23.1 | 0.199 | 53.7 | | 0.365 | 23.9 | 0.387 | 55.3 | |
| | | | | | | 9.1 | | | | | 9.2 |
| 3 | 43.5 | 0.25 | 14.7 | 0.112 | 44.6 | | 0.24 | 15.6 | 0.261 | 46.2 | |
| | | | | | | 8.9 | | | | | 9.3 |
| 2 | 34.1 | 0.125 | 8.4 | 0.046 | 35.7 | | 0.117 | 9.3 | 0.134 | 36.8 | |
| | | | | | | 8.6 | | | | | 9.7 |
| 1 | 24.7 | 0.0 | 4.0 | 0.0 | 27.1 | | 0.0 | 4.9 | 0.0 | 27.1 | |

$\Delta L^*_{0a}$=9.4 (i=1,2,...,8)

Normierung: $Y_{taiW}$=$Y_{0aW}$ $\frac{Y_{0ai}+Y_{0ref}}{Y_{0aW}+Y_{0ref}}$

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**9stufige Grauskalierung zwischen $L^*_{0aN}$=24 & $L^*_{0aW}$=100.0, $Y_{0ref}$=2, Normierung Weiß *W***

$L^*_{0aN}$=24.7, $L^*_{0aU}$=62.3, $L^*_{0aW}$=100.0, $Y_{0aN}$=4.0, $Y_{0aU}$=33.7, $Y_{0aW}$=100.0, $C_{0aY}$=$Y_{0aW}$:$Y_{0aN}$=25.0
$L^*_{taN}$=29.2, $L^*_{taU}$=63.4, $L^*_{taW}$=100.0, $Y_{taN}$=5.9, $Y_{taU}$=35.0, $Y_{taW}$=100.0, $C_{taY}$=$Y_{taW}$:$Y_{taN}$=17.0

**Regularitätsindex nach ISO/IEC 15775:2022, Anhang G für 5 und 9 Stufen**

$g^*$ = 100 [$\Delta L^*_{min}$] / [$\Delta L^*_{max}$], $L^*_{TUBsRGB,W}$ = 100 [$Y/Y_N$]$^{1/\ln(10)}$ mit $Y >= 0,39$ = 100/255, $Y_N$=100
$g^*_5$= 99, $g^*_9$= 99 $g^*_5$= 89, $g^*_9$= 85 $g^*_5$= 87, $g^*_9$= 83

| $L^*_{TUBsRGB,W}$ | angestrebte Ausgabe | | | | reale Ausgabe | | | | linearisierte Ausgabe | |
|---|---|---|---|---|---|---|---|---|---|---|
| n0 i | L*0a | L*0r | Y0a | Y0r | L*ta | ΔL*ta | L*tr | Yta | (L*tr)$^{1.12}$ | L*la | ΔL*la |
| 9 | 100.0 | 1.0 | 100.0 | 1.0 | 100.0 | | 1.0 | 100.0 | 1.0 | 100.0 | |
| | | | | | | 9.2 | | | | | 8.3 |
| 8 | 90.6 | 0.875 | 79.6 | 0.788 | 90.8 | | 0.87 | 80.0 | 0.883 | 91.7 | |
| | | | | | | 9.2 | | | | | 8.4 |
| 7 | 81.2 | 0.75 | 61.9 | 0.603 | 81.6 | | 0.74 | 62.6 | 0.764 | 83.3 | |
| | | | | | | 9.1 | | | | | 8.5 |
| 6 | 71.8 | 0.625 | 46.6 | 0.443 | 72.5 | | 0.611 | 47.6 | 0.644 | 74.8 | |
| | | | | | | 9.0 | | | | | 8.6 |
| 5 | 62.3 | 0.5 | 33.7 | 0.309 | 63.4 | | 0.483 | 35.0 | 0.522 | 66.1 | |
| | | | | | | 8.8 | | | | | 8.8 |
| 4 | 52.9 | 0.375 | 23.1 | 0.199 | 54.4 | | 0.356 | 24.6 | 0.397 | 57.3 | |
| | | | | | | 8.5 | | | | | 9.0 |
| 3 | 43.5 | 0.25 | 14.7 | 0.112 | 45.6 | | 0.232 | 16.4 | 0.271 | 48.4 | |
| | | | | | | 7.9 | | | | | 9.2 |
| 2 | 34.1 | 0.125 | 8.4 | 0.046 | 37.1 | | 0.111 | 10.2 | 0.141 | 39.2 | |
| | | | | | | | | | | | 10.0 |
| 1 | 24.7 | 0.0 | 4.0 | 0.0 | 29.2 | | 0.0 | 5.9 | 0.0 | 29.2 | |

$\Delta L^*_{0a}$=9.4 (i=1,2,...,8)

Normierung: $Y_{taiW}$=$Y_{0aW}$ $\frac{Y_{0ai}+Y_{0ref}}{Y_{0aW}+Y_{0ref}}$

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**9stufige Grauskalierung zwischen $L^*_{0aN}$=24 & $L^*_{0aW}$=100.0, $Y_{0ref}$=100, Normierung Weiß *W***

$L^*_{0aN}$=24.7, $L^*_{0aU}$=62.3, $L^*_{0aW}$=100.0, $Y_{0aN}$=4.0, $Y_{0aU}$=33.7, $Y_{0aW}$=100.0, $C_{0aY}$=$Y_{0aW}$:$Y_{0aN}$=25.0
$L^*_{taN}$=75.3, $L^*_{taU}$=83.9, $L^*_{taW}$=100.0, $Y_{taN}$=52.0, $Y_{taU}$=66.8, $Y_{taW}$=100.0, $C_{taY}$=$Y_{taW}$:$Y_{taN}$=1.9

**Regularitätsindex nach ISO/IEC 15775:2022, Anhang G für 5 und 9 Stufen**

$g^*$ = 100 [$\Delta L^*_{min}$] / [$\Delta L^*_{max}$], $L^*_{TUBsRGB,W}$ = 100 [$Y/Y_N$]$^{1/\ln(10)}$ mit $Y >= 0,39$ = 100/255, $Y_N$=100
$g^*_5$= 99, $g^*_9$= 99 $g^*_5$= 37, $g^*_9$= 30 $g^*_5$= 51, $g^*_9$= 38

| $L^*_{TUBsRGB,W}$ | angestrebte Ausgabe | | | | reale Ausgabe | | | | linearisierte Ausgabe | |
|---|---|---|---|---|---|---|---|---|---|---|
| n0 i | L*0a | L*0r | Y0a | Y0r | L*ta | ΔL*ta | L*tr | Yta | (L*tr)$^{1.06}$ | L*la | ΔL*la |
| 9 | 100.0 | 1.0 | 100.0 | 1.0 | 100.0 | | 1.0 | 100.0 | 1.0 | 100.0 | |
| | | | | | | 4.5 | | | | | 2.3 |
| 8 | 90.6 | 0.875 | 79.6 | 0.788 | 95.4 | | 0.816 | 89.8 | 0.906 | 97.7 | |
| | | | | | | 4.2 | | | | | 2.4 |
| 7 | 81.2 | 0.75 | 61.9 | 0.603 | 91.2 | | 0.645 | 80.9 | 0.808 | 95.3 | |
| | | | | | | 3.8 | | | | | 2.5 |
| 6 | 71.8 | 0.625 | 46.6 | 0.443 | 87.4 | | 0.489 | 73.3 | 0.707 | 92.7 | |
| | | | | | | 3.4 | | | | | 2.6 |
| 5 | 62.3 | 0.5 | 33.7 | 0.309 | 83.9 | | 0.351 | 66.8 | 0.602 | 90.1 | |
| | | | | | | 2.9 | | | | | 2.7 |
| 4 | 52.9 | 0.375 | 23.1 | 0.199 | 81.0 | | 0.232 | 61.6 | 0.492 | 87.4 | |
| | | | | | | 2.4 | | | | | 2.9 |
| 3 | 43.5 | 0.25 | 14.7 | 0.112 | 78.5 | | 0.133 | 57.4 | 0.375 | 84.5 | |
| | | | | | | 1.9 | | | | | 3.2 |
| 2 | 34.1 | 0.125 | 8.4 | 0.046 | 76.6 | | 0.055 | 54.2 | 0.246 | 81.3 | |
| | | | | | | 1.4 | | | | | 6.1 |
| 1 | 24.7 | 0.0 | 4.0 | 0.0 | 75.3 | | 0.0 | 52.0 | 0.0 | 75.3 | |

$\Delta L^*_{0a}$=9.4 (i=1,2,...,8)

Normierung: $Y_{taiW}$=$Y_{0aW}$ $\frac{Y_{0ai}+Y_{0ref}}{Y_{0aW}+Y_{0ref}}$

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Prüfvorlage iee0; 9stufige Grauskalierung für vier Displayreflexionen $Y_{ref}$=4, 2, 1, 100 und Schwarz $L^*_{N,TUBsRGB,W}$=24.7, $Y_N$=4.0 & Weiß $L^*_{W,TUBsRGB,W}$=100.0, $Y_W$=100, Normierung: *W*