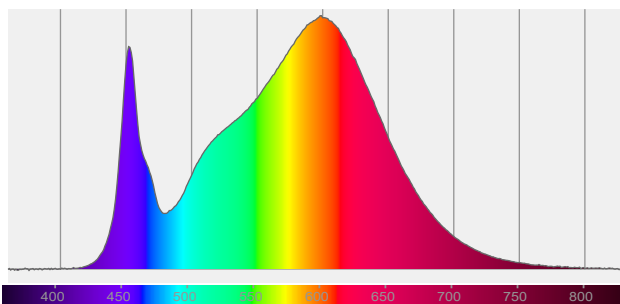
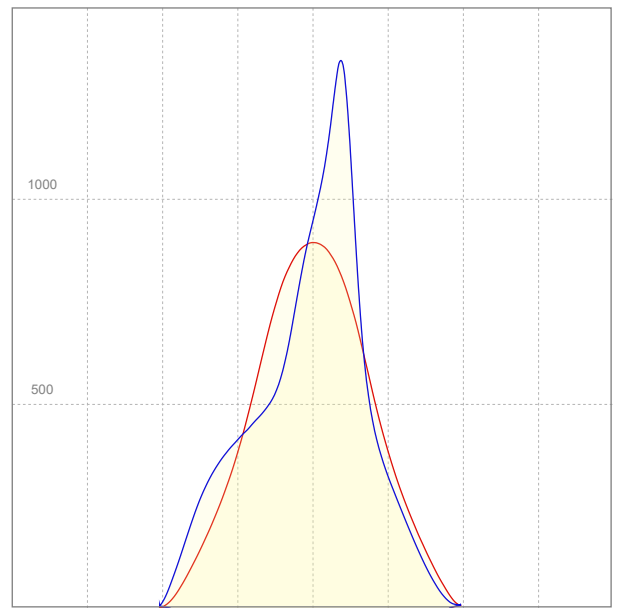
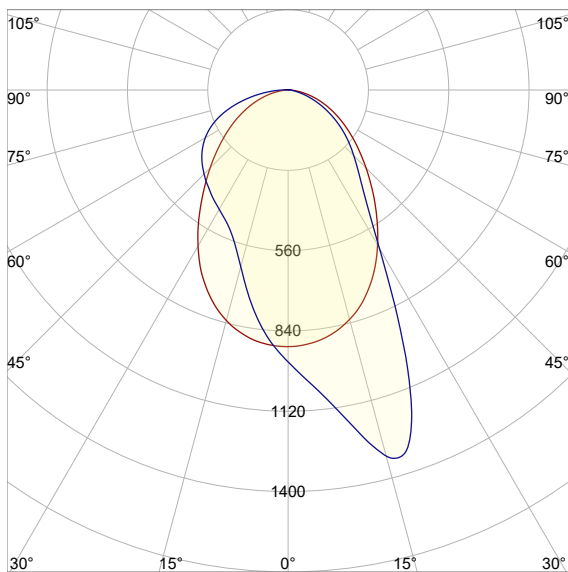
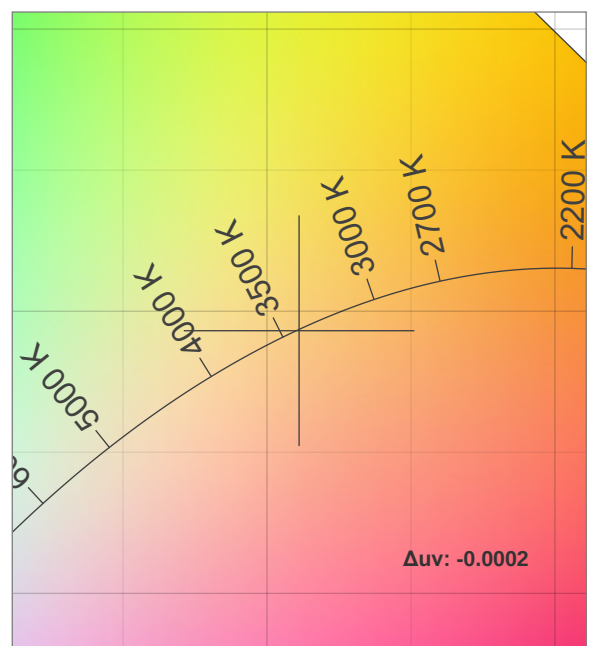
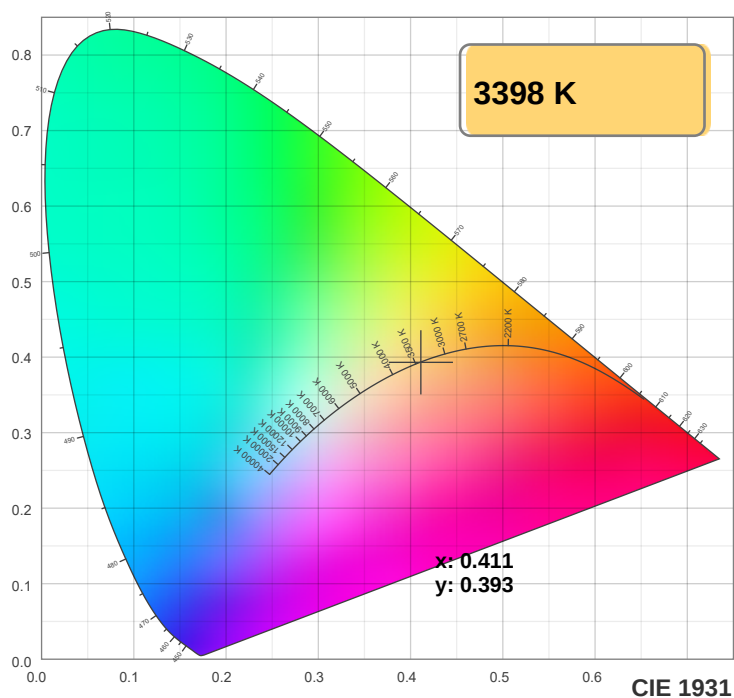


**MICROSquare Asymmetric 30° at 15°****MSQ140****Light efficiency:****135 Lumen/Watt****Output: 1963 lm****Light quality:****CRI: 82.1****Peak: 1333 cd****Color temperature:****3398 K****Power: 14.5 W****PF: 1.0**

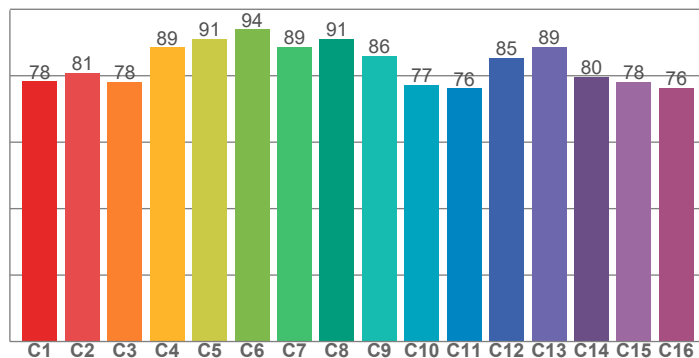
No photo

**Product name:****MICROSquare Asymmetric 30° at 15°****Item number:****MSQ140****Configuration:****MSQ140-4FT-3580-AL-DA3015-500LPF****Date and time:****8/9/2021 8:54:56 AM****Description:****Power Supply @ 400mA, With Lenticular**

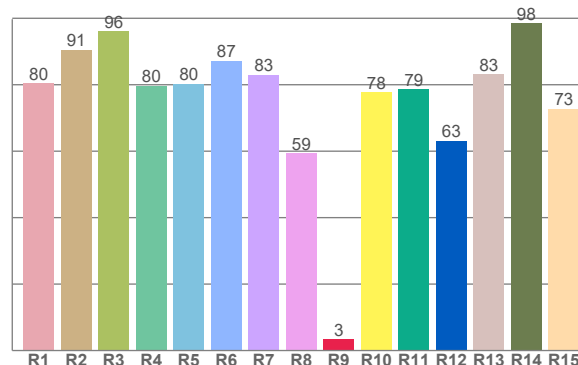
## Color Details



TM-30: 83.4



CRI: 82.1 (R1-R8)



CRI R values, only R1-R8 are used to calculate final CRI value

| R1   | R2   | R3   | R4   | R5   | R6   | R7   | R8   | R9  | R10  | R11  | R12  | R13  | R14  | R15  |
|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|
| 80.4 | 90.5 | 96.1 | 79.7 | 80.3 | 87.2 | 83.0 | 59.3 | 3.4 | 77.8 | 78.6 | 63.1 | 83.1 | 98.5 | 72.7 |

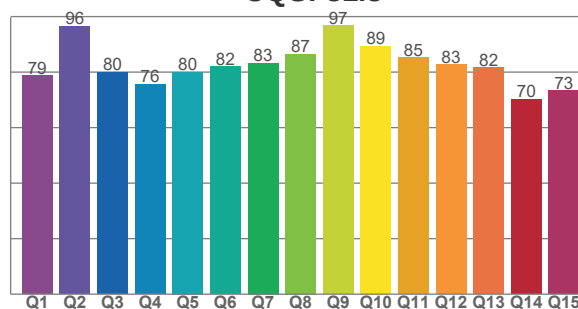
TM30 C values, 16 binned values out of total of 99 C values

| C1   | C2   | C3   | C4   | C5   | C6   | C7   | C8   | C9   | C10  | C11  | C12  | C13  | C14  | C15  | C16  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 78.3 | 80.8 | 78.2 | 88.5 | 91.1 | 94.0 | 88.7 | 91.0 | 86.0 | 77.2 | 76.2 | 85.3 | 88.8 | 79.6 | 78.2 | 76.4 |

CQS Q values

| Q1   | Q2   | Q3   | Q4   | Q5   | Q6   | Q7   | Q8   | Q9   | Q10  | Q11  | Q12  | Q13  | Q14  | Q15  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 78.7 | 96.5 | 79.9 | 75.6 | 80.0 | 81.9 | 83.2 | 86.6 | 96.8 | 89.5 | 85.2 | 82.7 | 81.7 | 70.2 | 73.3 |

CQS: 81.3



## Color parameters

| Color temperature | Color rendering index | Red component | Color fidelity | Color gamut | Color quality scale | Color coordinate cie 1931 | Color coordinate cie 1931 | Color coordinate | Color coordinate | Color deviation from black body |
|-------------------|-----------------------|---------------|----------------|-------------|---------------------|---------------------------|---------------------------|------------------|------------------|---------------------------------|
| CCT               | CRI                   | CRI R9        | TM30 Rf        | TM30 Rg     | CQS                 | x                         | y                         | u                | v                | Δuv                             |
| 3398 K            | 82.1                  | 3.4           | 83.4           | 94.8        | 81.3                | 0.411                     | 0.393                     | 0.239            | 0.342            | -0.0002                         |

## MICROSquare Asymmetric 30° at 15°

MSQ140

## TM-30 Details

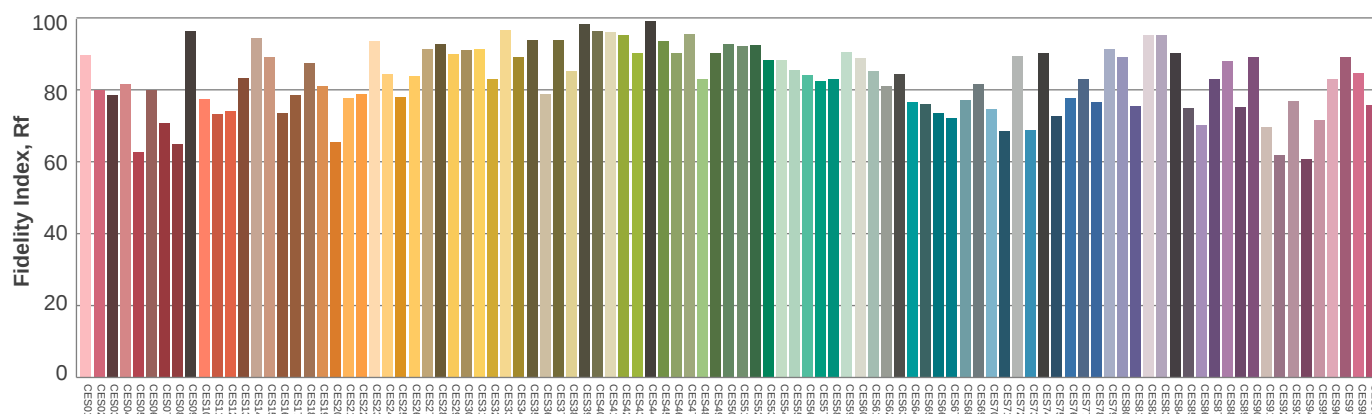
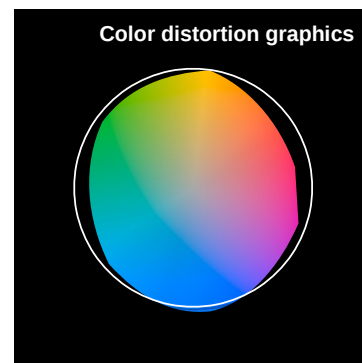
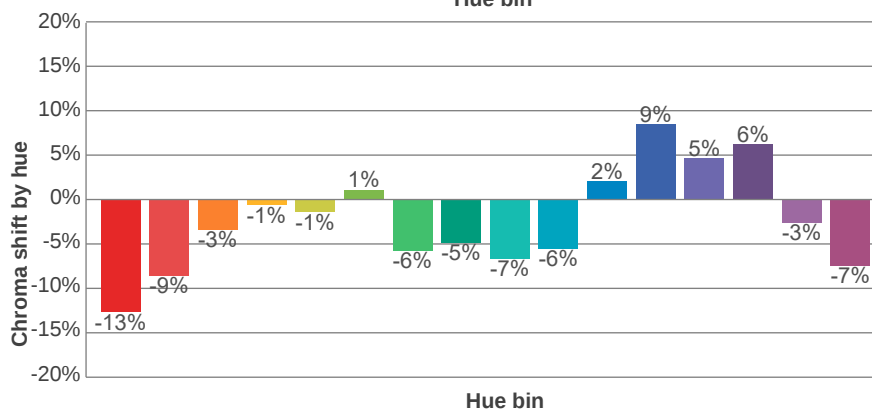
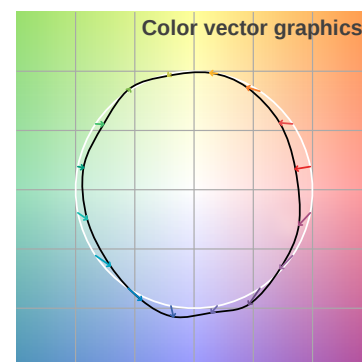
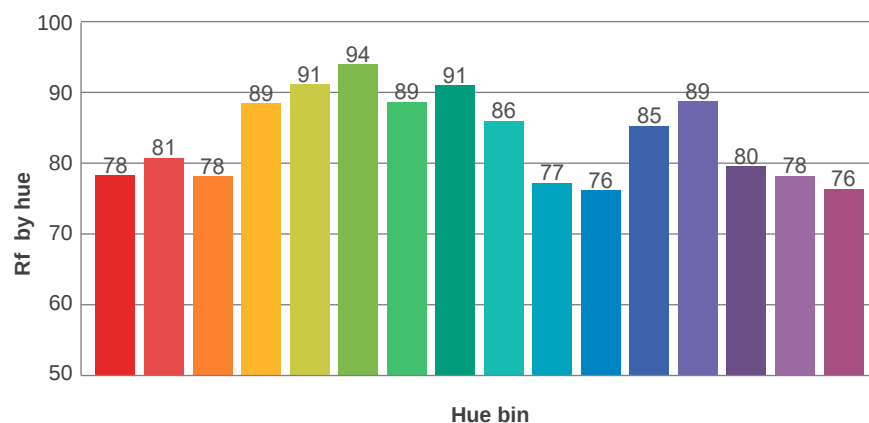
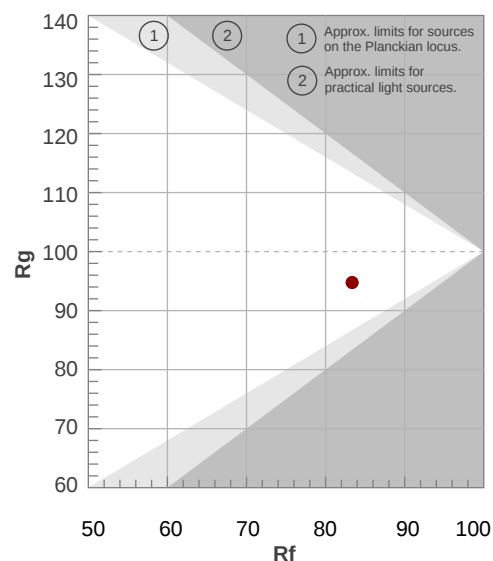
**Rf 83.4**

Fidelity index Rf

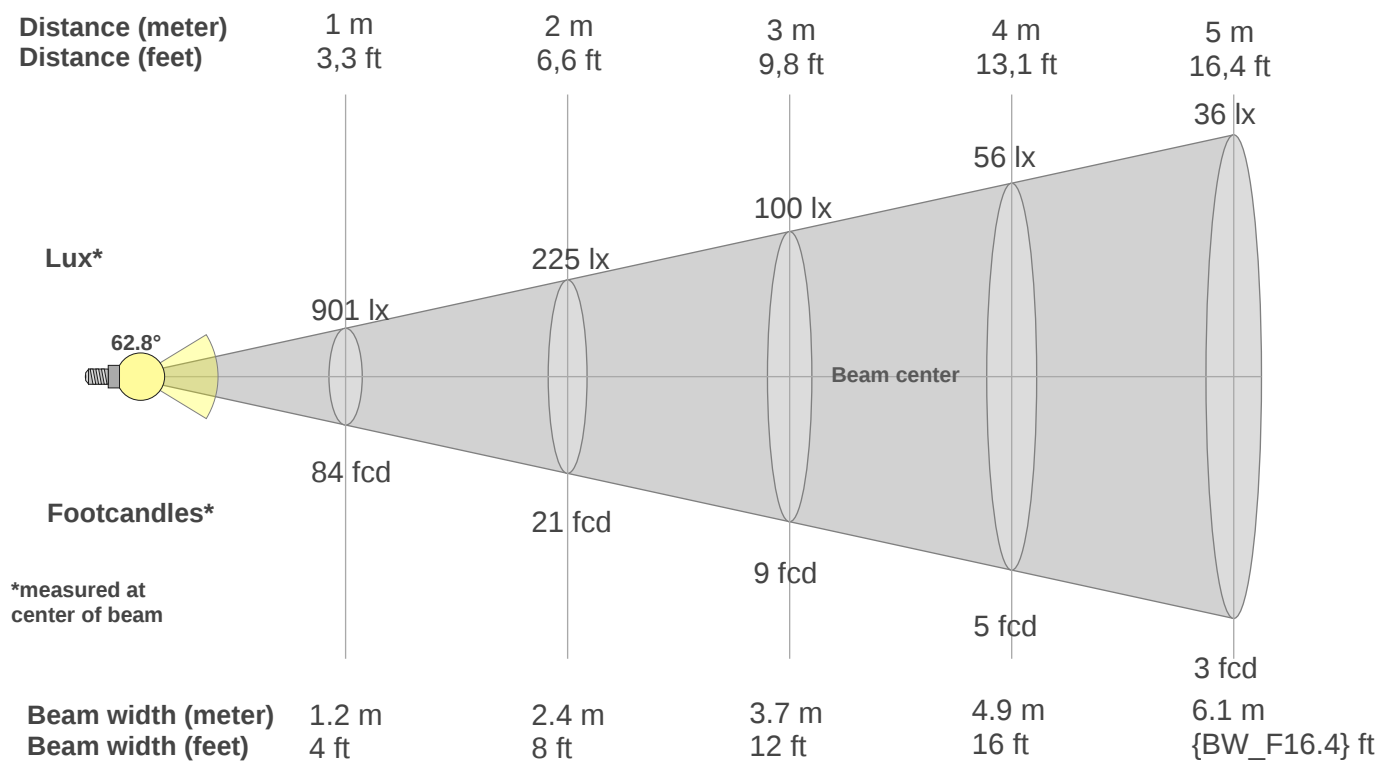
**Rg 94.8**

Gamut index Rg

| Hue Bin | R <sub>f</sub> | Shifts (%) |      |
|---------|----------------|------------|------|
|         |                | Chroma     | Hue  |
| 1       | 78             | -13%       | 0%   |
| 2       | 81             | -9%        | 7%   |
| 3       | 78             | -3%        | 11%  |
| 4       | 89             | -1%        | 6%   |
| 5       | 91             | -1%        | 3%   |
| 6       | 94             | 1%         | -2%  |
| 7       | 89             | -6%        | -3%  |
| 8       | 91             | -5%        | 0%   |
| 9       | 86             | -7%        | 7%   |
| 10      | 77             | -6%        | 14%  |
| 11      | 76             | 2%         | 15%  |
| 12      | 85             | 9%         | 4%   |
| 13      | 89             | 5%         | -6%  |
| 14      | 80             | 6%         | -15% |
| 15      | 78             | -3%        | -15% |
| 16      | 76             | -7%        | -12% |



## Beam details



## Beam intensities from 1-20m

| 1m      | 2m      | 3m     | 4m     | 5m     | 6m     | 7m     | 8m     | 9m     | 10m    | 11m    | 12m    | 13m    | 14m    | 15m    | 16m    | 17m    | 18m    | 19m    | 20m    |
|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 3.3ft   | 6.6ft   | 9.8ft  | 13.1ft | 16.4ft | 19.7ft | 23ft   | 26.2ft | 29.5ft | 32.8ft | 36.1ft | 39.4ft | 42.7ft | 45.9ft | 49.2ft | 52.5ft | 55.8ft | 59.1ft | 62.3ft | 65.6ft |
| 901lx   | 225lx   | 100lx  | 56lx   | 36lx   | 25lx   | 18lx   | 14lx   | 11lx   | 9lx    | 7lx    | 6lx    | 5lx    | 5lx    | 4lx    | 4lx    | 3lx    | 3lx    | 2lx    | 2lx    |
| 83.7fcd | 20.9fcd | 9.3fcd | 5.2fcd | 3.3fcd | 2.3fcd | 1.7fcd | 1.3fcd | 1fcd   | 0.8fcd | 0.7fcd | 0.6fcd | 0.5fcd | 0.4fcd | 0.4fcd | 0.3fcd | 0.3fcd | 0.3fcd | 0.2fcd | 0.2fcd |

## Intensities in 0° c-plane

| 0°   | 5°  | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° | 95° |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 901  | 886 | 865 | 827 | 774 | 705 | 623 | 538 | 457 | 384 | 320 | 264 | 213 | 168 | 125 | 86  | 50  | 23  | 7   | 0   |
| 100% | 98% | 96% | 92% | 86% | 78% | 69% | 60% | 51% | 43% | 36% | 29% | 24% | 19% | 14% | 10% | 6%  | 3%  | 1%  | 0%  |

## Intensities in 90° c-plane

| 0°   | 5°   | 10°  | 15°  | 20°  | 25°  | 30° | 35° | 40° | 45° | 50° | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° | 95° |
|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 901  | 1039 | 1166 | 1315 | 1247 | 931  | 639 | 476 | 386 | 324 | 271 | 221 | 172 | 126 | 85  | 50  | 25  | 13  | 0   | 0   |
| 100% | 115% | 129% | 146% | 138% | 103% | 71% | 53% | 43% | 36% | 30% | 24% | 19% | 14% | 9%  | 6%  | 3%  | 1%  | 0%  | 0%  |

## Intensities in 180° c-plane

| 0°   | 5°  | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° | 95° |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 901  | 888 | 868 | 831 | 778 | 710 | 628 | 541 | 458 | 385 | 320 | 263 | 212 | 165 | 122 | 81  | 46  | 18  | 0   | 0   |
| 100% | 99% | 96% | 92% | 86% | 79% | 70% | 60% | 51% | 43% | 35% | 29% | 24% | 18% | 13% | 9%  | 5%  | 2%  | 0%  | 0%  |

## Intensities in 270° c-plane

| 0°   | 5°  | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° | 95° |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 901  | 859 | 750 | 638 | 556 | 509 | 480 | 458 | 435 | 414 | 391 | 365 | 333 | 293 | 243 | 184 | 122 | 65  | 19  | 0   |
| 100% | 95% | 83% | 71% | 62% | 56% | 53% | 51% | 48% | 46% | 43% | 41% | 37% | 33% | 27% | 20% | 14% | 7%  | 2%  | 0%  |

UGR

## Glare evaluation according to UGR

|                                                                                |                                                   |     |     |     |     |                                         |     |     |     |     |
|--------------------------------------------------------------------------------|---------------------------------------------------|-----|-----|-----|-----|-----------------------------------------|-----|-----|-----|-----|
| p Ceiling                                                                      | 70                                                | 70  | 50  | 50  | 30  | 70                                      | 70  | 50  | 50  | 30  |
| p Walls                                                                        | 50                                                | 30  | 50  | 30  | 30  | 50                                      | 30  | 50  | 30  | 30  |
| p Floor                                                                        | 20                                                | 20  | 20  | 20  | 20  | 20                                      | 20  | 20  | 20  | 20  |
| Room size<br>X      Y                                                          | Viewing direction at right angles to<br>lamp axis |     |     |     |     | Viewing direction parallel to lamp axis |     |     |     |     |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| n/a                                                                            | n/a                                               | n/a | n/a | n/a | n/a | n/a                                     | n/a | n/a | n/a | n/a |
| Variation of the observer position for the luminaire distance S                |                                                   |     |     |     |     |                                         |     |     |     |     |
| n/a                                                                            | n/a                                               |     |     |     |     | n/a                                     |     |     |     |     |
| n/a                                                                            | n/a                                               |     |     |     |     | n/a                                     |     |     |     |     |
| n/a                                                                            | n/a                                               |     |     |     |     | n/a                                     |     |     |     |     |
| CIE 117-1995. Corrected glare indices referring to 1963 lm total luminous flux |                                                   |     |     |     |     |                                         |     |     |     |     |