

## Light efficiency:

137 Lumen/Watt

Output: 4000 lm

## Light quality:

CRI: 81.7

Peak: 1300 cd

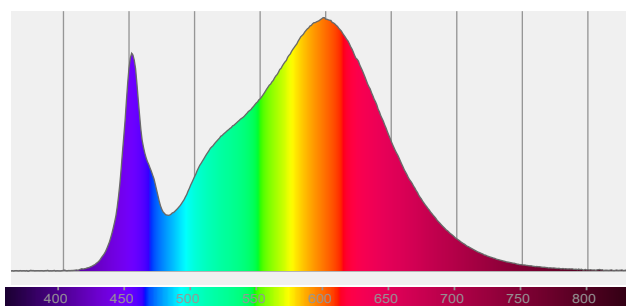
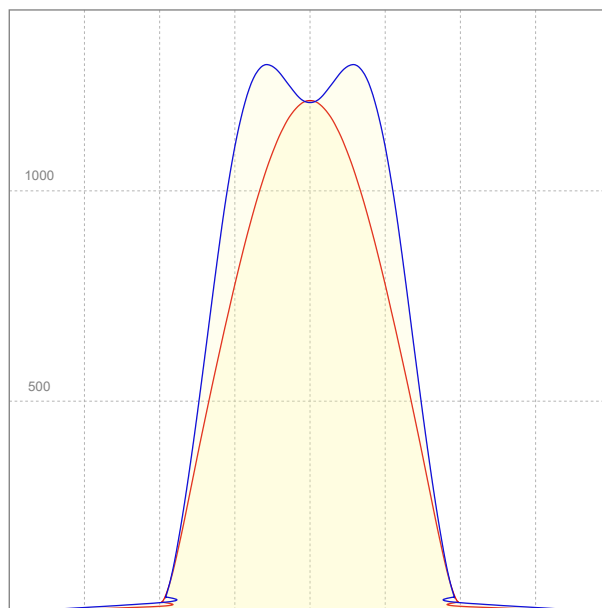
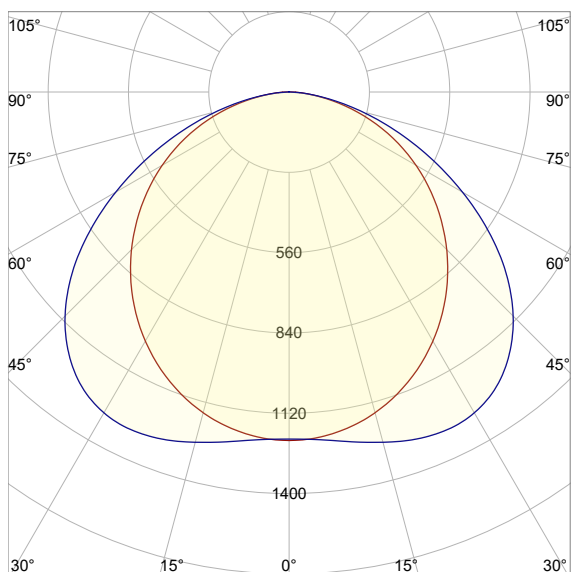
## Color temperature:

3410 K

Power: 29.1 W

PF: 1.0

No photo



## Product name:

MICROBeam Batwing 60°

## Item number:

MBE140

## Configuration:

MBE140-4FT-3580-AL-DB60-1000LPF

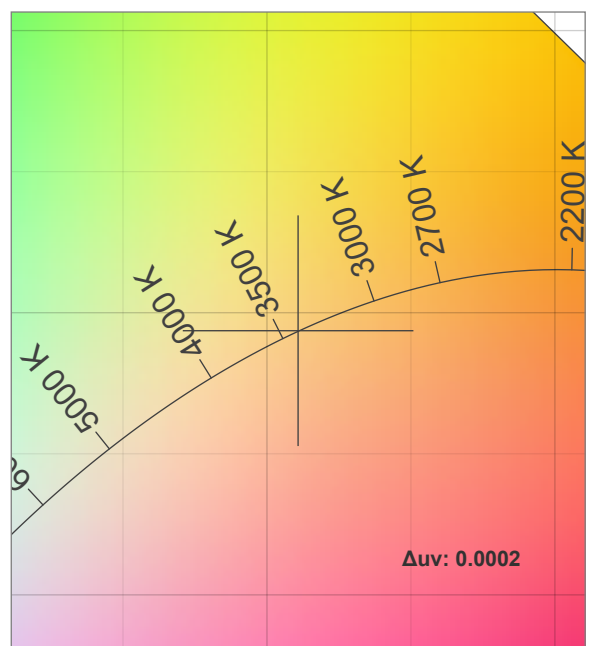
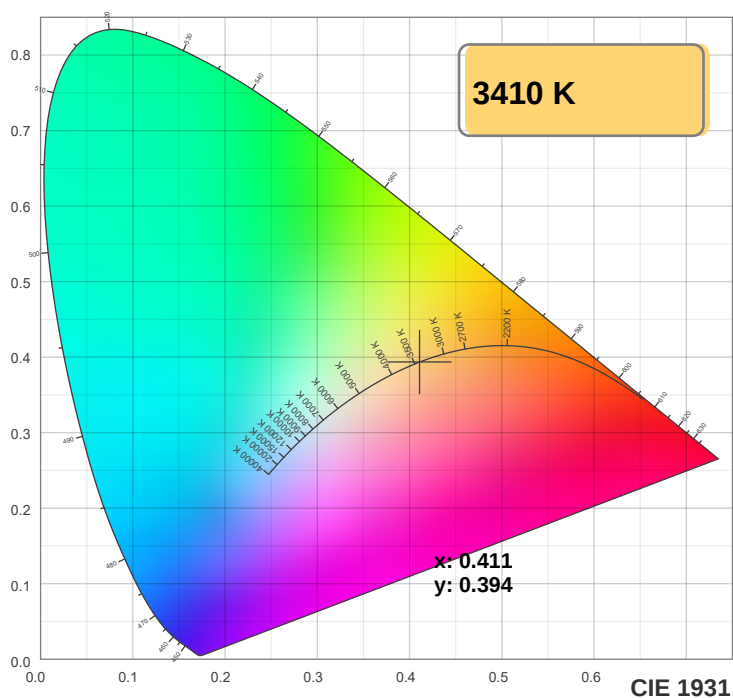
## Date and time:

8/9/2021 9:19:01 AM

## Description:

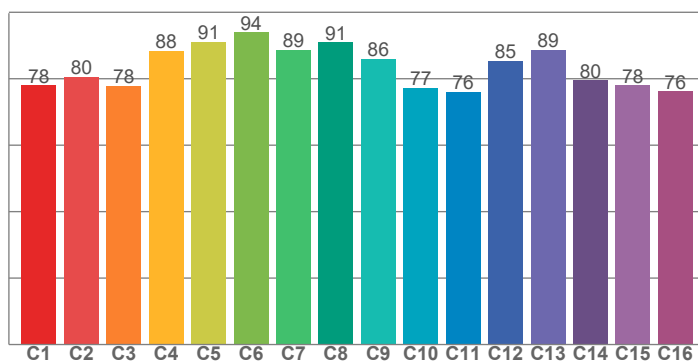
Power Supply @ 770mA, No Lenticular

## Color Details

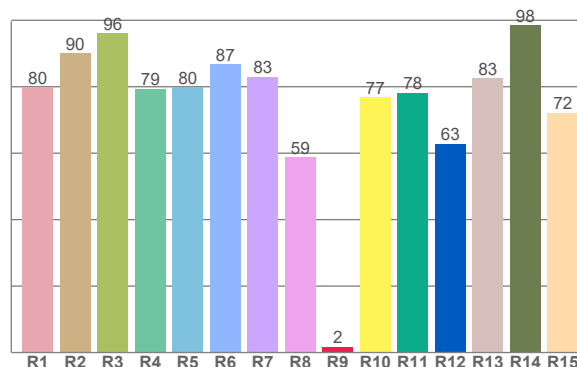


CIE 1931 ZOOM

TM-30: 83.2



CRI: 81.7 (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  |
|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|
| 79.9 | 90.1 | 96.1 | 79.4 | 79.8 | 86.7 | 83.0 | 58.9 | 1.8 | 76.9 | 78.2 | 62.8 | 82.6 | 98.4 | 72.1 |

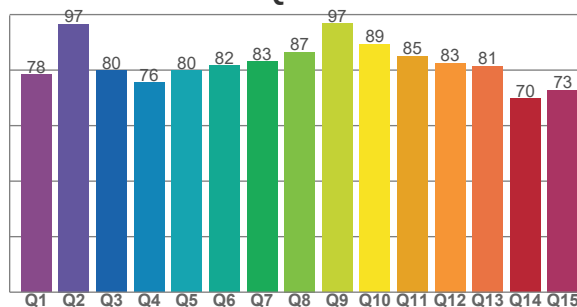
TM30 C values, 16 binned values out of total of 99 C values

| C1   | C2   | C3   | C4   | C5   | C6   | C7   | C8   | C9   | C10  | C11  | C12  | C13  | C14  | C15  | C16  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 78.0 | 80.5 | 77.8 | 88.3 | 91.2 | 93.9 | 88.6 | 90.9 | 86.0 | 77.2 | 76.0 | 85.3 | 88.8 | 79.6 | 78.1 | 76.2 |

CQS Q values

| Q1   | Q2   | Q3   | Q4   | Q5   | Q6   | Q7   | Q8   | Q9   | Q10  | Q11  | Q12  | Q13  | Q14  | Q15  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 78.5 | 96.6 | 79.9 | 75.6 | 79.9 | 81.7 | 83.0 | 86.5 | 96.8 | 89.3 | 85.1 | 82.6 | 81.5 | 69.7 | 72.9 |

CQS: 81.1



## 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                | $\Delta uv$                     |
| 3410 K            | 81.7                  | 1.8           | 83.2           | 94.7        | 81.1                | 0.411                     | 0.394                     | 0.238            | 0.342            | 0.0002                          |

## TM-30 Details

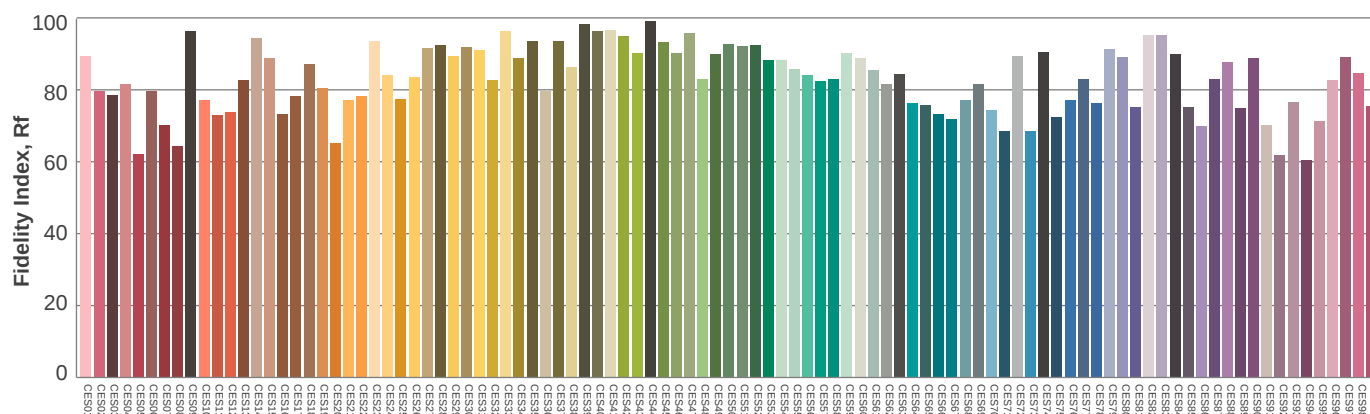
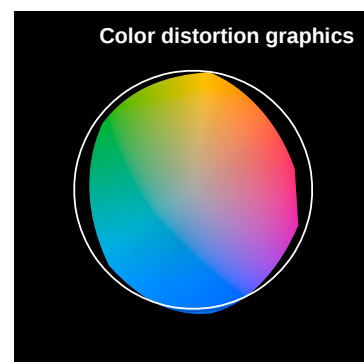
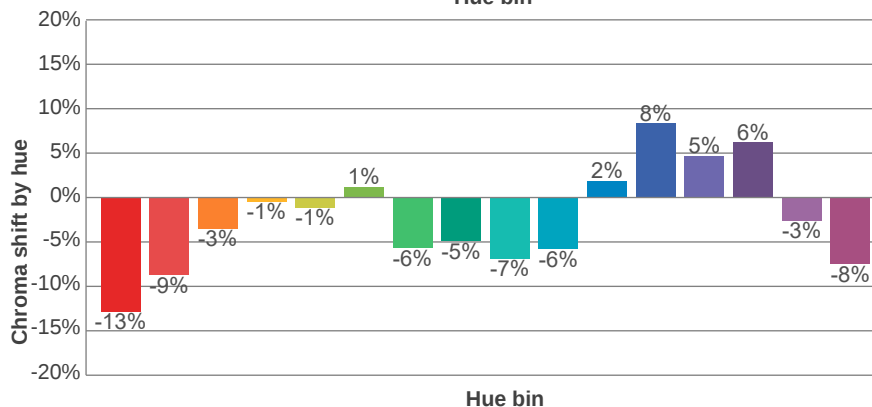
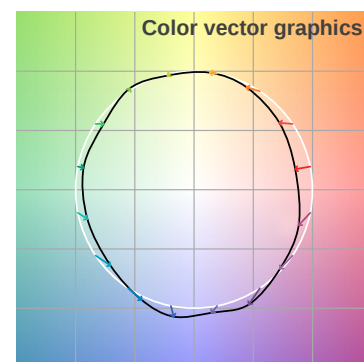
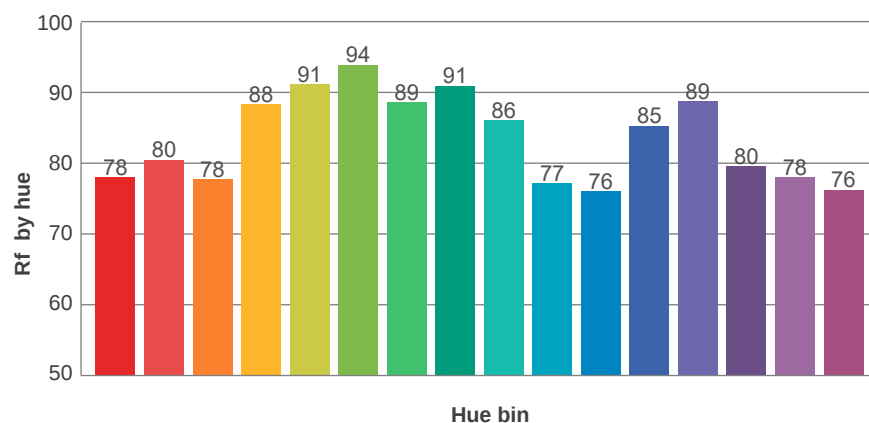
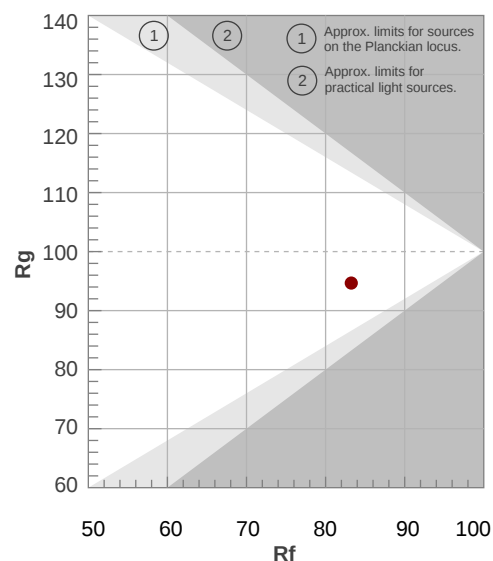
**Rf 83.2**

Fidelity index Rf

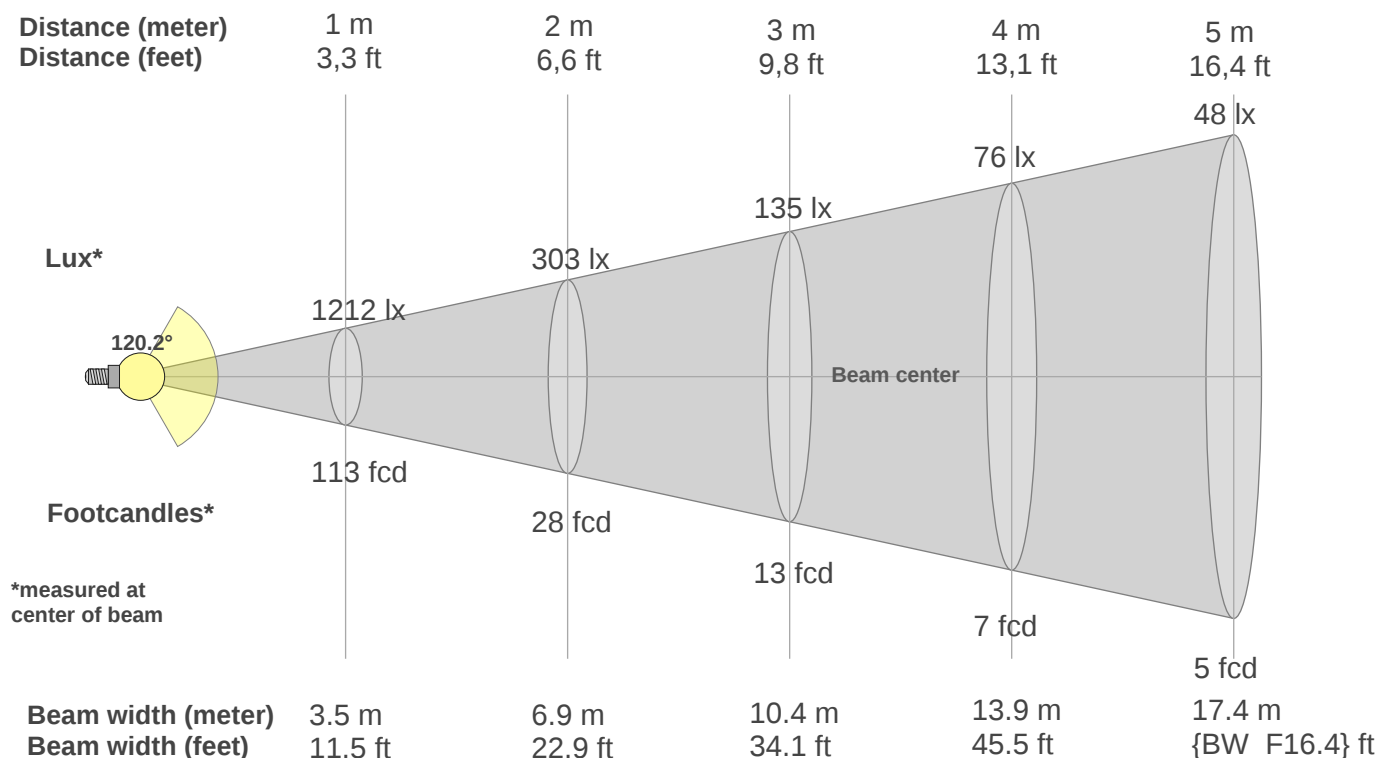
**Rg 94.7**

Gamut index Rg

| Hue Bin | R <sub>f</sub> | Shifts (%) |      |
|---------|----------------|------------|------|
|         |                | Chroma     | Hue  |
| 1       | 78             | -13%       | 0%   |
| 2       | 80             | -9%        | 7%   |
| 3       | 78             | -3%        | 11%  |
| 4       | 88             | -1%        | 6%   |
| 5       | 91             | -1%        | 3%   |
| 6       | 94             | 1%         | -2%  |
| 7       | 89             | -6%        | -4%  |
| 8       | 91             | -5%        | 0%   |
| 9       | 86             | -7%        | 7%   |
| 10      | 77             | -6%        | 14%  |
| 11      | 76             | 2%         | 15%  |
| 12      | 85             | 8%         | 4%   |
| 13      | 89             | 5%         | -6%  |
| 14      | 80             | 6%         | -15% |
| 15      | 78             | -3%        | -15% |
| 16      | 76             | -8%        | -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 |
| 1212lx   | 303lx   | 135lx   | 76lx   | 48lx   | 34lx   | 25lx   | 19lx   | 15lx   | 12lx   | 10lx   | 8lx    | 7lx    | 6lx    | 5lx    | 5lx    | 4lx    | 4lx    | 3lx    | 3lx    |
| 112.6fcd | 28.2fcd | 12.5fcd | 7fcd   | 4.5fcd | 3.1fcd | 2.3fcd | 1.8fcd | 1.4fcd | 1.1fcd | 0.9fcd | 0.8fcd | 0.7fcd | 0.6fcd | 0.5fcd | 0.4fcd | 0.4fcd | 0.3fcd | 0.3fcd | 0.3fcd |

## 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° |
|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1212 | 1208 | 1188 | 1157 | 1115 | 1063 | 1002 | 933 | 858 | 777 | 691 | 602 | 510 | 416 | 318 | 221 | 129 | 54  | 12  | 12  |
| 100% | 100% | 98%  | 95%  | 92%  | 88%  | 83%  | 77% | 71% | 64% | 57% | 50% | 42% | 34% | 26% | 18% | 11% | 4%  | 1%  | 1%  |

## 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° |
|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1212 | 1217 | 1238 | 1264 | 1288 | 1299 | 1291 | 1256 | 1193 | 1104 | 988 | 849 | 698 | 544 | 396 | 261 | 143 | 52  | 21  | 20  |
| 100% | 100% | 102% | 104% | 106% | 107% | 106% | 104% | 98%  | 91%  | 82% | 70% | 58% | 45% | 33% | 22% | 12% | 4%  | 2%  | 2%  |

## 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° |
|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1212 | 1208 | 1188 | 1157 | 1115 | 1063 | 1002 | 933 | 858 | 777 | 691 | 602 | 510 | 416 | 318 | 221 | 129 | 54  | 12  | 12  |
| 100% | 100% | 98%  | 95%  | 92%  | 88%  | 83%  | 77% | 71% | 64% | 57% | 50% | 42% | 34% | 26% | 18% | 11% | 4%  | 1%  | 1%  |

## 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° |
|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1212 | 1217 | 1238 | 1264 | 1288 | 1299 | 1291 | 1256 | 1193 | 1104 | 988 | 849 | 698 | 544 | 396 | 261 | 143 | 52  | 21  | 20  |
| 100% | 100% | 102% | 104% | 106% | 107% | 106% | 104% | 98%  | 91%  | 82% | 70% | 58% | 45% | 33% | 22% | 12% | 4%  | 2%  | 2%  |

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 |      |      |      |      |
| 2H                                                                             | 2H  | 24.0                                              | 25.2 | 24.2 | 25.6 | 25.8 | 25.5                                    | 26.7 | 25.7 | 27.1 | 27.3 |
|                                                                                | 3H  | 25.4                                              | 26.6 | 25.8 | 26.9 | 27.1 | 26.8                                    | 28.1 | 27.2 | 28.4 | 28.6 |
|                                                                                | 4H  | 25.9                                              | 27.2 | 26.3 | 27.4 | 27.7 | 27.3                                    | 28.6 | 27.7 | 28.8 | 29.1 |
|                                                                                | 6H  | 26.4                                              | 27.5 | 26.7 | 27.7 | 28.1 | 27.7                                    | 28.8 | 28.0 | 29.1 | 29.4 |
|                                                                                | 8H  | 26.5                                              | 27.5 | 26.8 | 27.9 | 28.3 | 27.8                                    | 28.8 | 28.1 | 29.1 | 29.6 |
|                                                                                | 12H | 26.6                                              | 27.6 | 26.9 | 27.9 | 28.4 | 27.8                                    | 28.8 | 28.2 | 29.2 | 29.6 |
| 4H                                                                             | 2H  | 24.8                                              | 26.1 | 25.3 | 26.3 | 26.6 | 26.0                                    | 27.2 | 26.4 | 27.5 | 27.7 |
|                                                                                | 3H  | 26.5                                              | 27.5 | 26.9 | 27.9 | 28.3 | 27.6                                    | 28.7 | 28.0 | 29.0 | 29.4 |
|                                                                                | 4H  | 27.1                                              | 28.0 | 27.6 | 28.5 | 29.0 | 28.2                                    | 29.1 | 28.7 | 29.6 | 30.1 |
|                                                                                | 6H  | 27.6                                              | 28.5 | 28.1 | 28.8 | 29.2 | 28.6                                    | 29.5 | 29.1 | 29.9 | 30.3 |
|                                                                                | 8H  | 27.8                                              | 28.6 | 28.3 | 28.9 | 29.3 | 28.8                                    | 29.6 | 29.3 | 29.9 | 30.3 |
|                                                                                | 12H | 27.8                                              | 28.5 | 28.3 | 28.9 | 29.4 | 28.8                                    | 29.5 | 29.3 | 29.9 | 30.4 |
| 8H                                                                             | 4H  | 27.5                                              | 28.3 | 28.0 | 28.6 | 29.0 | 28.4                                    | 29.3 | 29.0 | 29.6 | 30.0 |
|                                                                                | 6H  | 28.1                                              | 28.7 | 28.6 | 29.2 | 29.7 | 29.0                                    | 29.6 | 29.5 | 30.1 | 30.7 |
|                                                                                | 8H  | 28.4                                              | 28.9 | 28.9 | 29.4 | 30.1 | 29.2                                    | 29.8 | 29.7 | 30.3 | 30.9 |
|                                                                                | 12H | 28.5                                              | 29.0 | 29.1 | 29.5 | 30.1 | 29.4                                    | 29.8 | 29.9 | 30.3 | 30.9 |
| 12H                                                                            | 4H  | 27.5                                              | 28.2 | 28.0 | 28.6 | 29.1 | 28.4                                    | 29.1 | 28.9 | 29.5 | 30.0 |
|                                                                                | 6H  | 28.2                                              | 28.7 | 28.7 | 29.3 | 29.9 | 29.1                                    | 29.6 | 29.6 | 30.1 | 30.8 |
|                                                                                | 8H  | 28.5                                              | 28.9 | 29.0 | 29.4 | 30.0 | 29.3                                    | 29.8 | 29.9 | 30.3 | 30.9 |
| Variation of the observer position for the luminaire distance S                |     |                                                   |      |      |      |      |                                         |      |      |      |      |
| S = 1.0H                                                                       |     | 0.1 / -0.1                                        |      |      |      |      | 0.1 / -0.1                              |      |      |      |      |
| S = 1.5H                                                                       |     | 0.2 / -0.3                                        |      |      |      |      | 0.2 / -0.3                              |      |      |      |      |
| S = 2.0H                                                                       |     | 0.4 / -0.7                                        |      |      |      |      | 0.6 / -0.6                              |      |      |      |      |
| CIE 117-1995. Corrected glare indices referring to 4000 lm total luminous flux |     |                                                   |      |      |      |      |                                         |      |      |      |      |