

Light efficiency:

76 Lumen/Watt

Light quality:

CRI: 82.8

Color temperature:

3019 K

Output: 11066 lm

Peak: 26575 cd

Power: 146 W

PF: 1.0

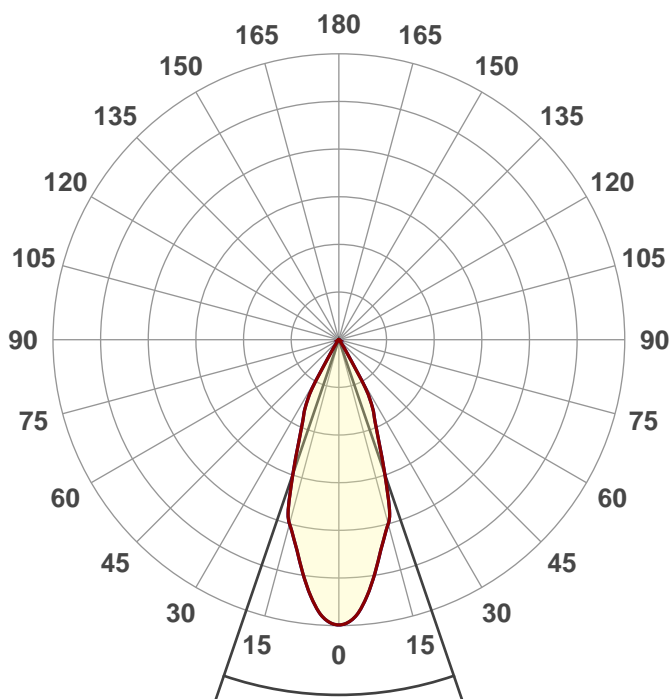


Product name:

680XK-9-CXB-110LM-30K-80-  
SA40-10V-MC-S-A16

Date and time:

6/6/2018 11:15:47 AM



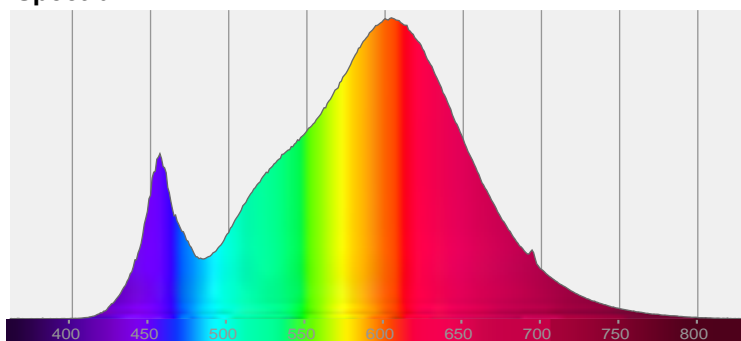
Beam angle

37.8°

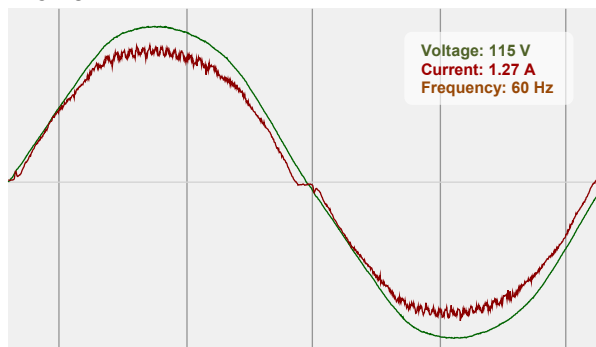


CIE 1931  
x: 0.436  
y: 0.404

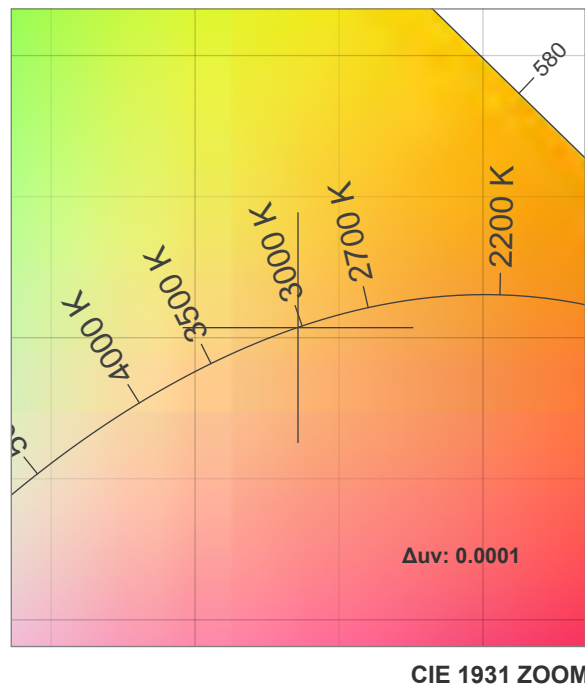
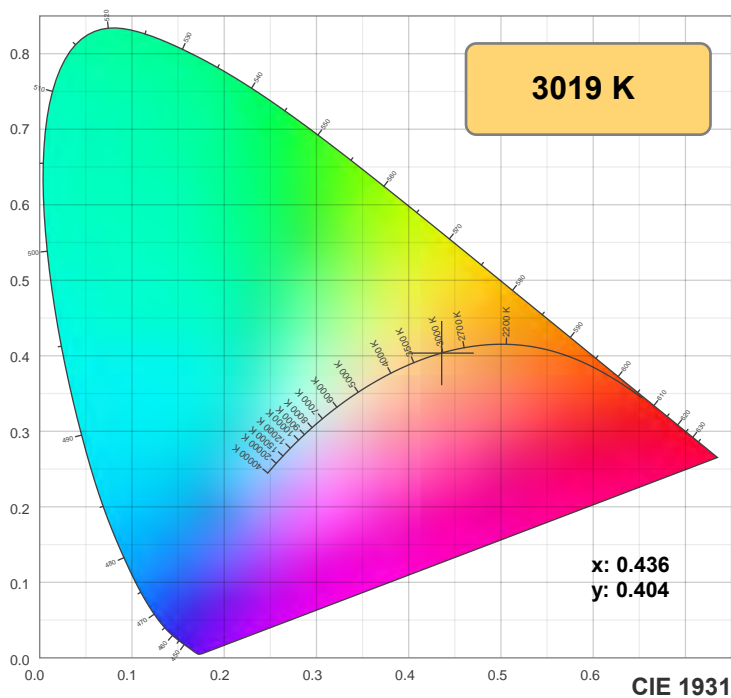
Spectra



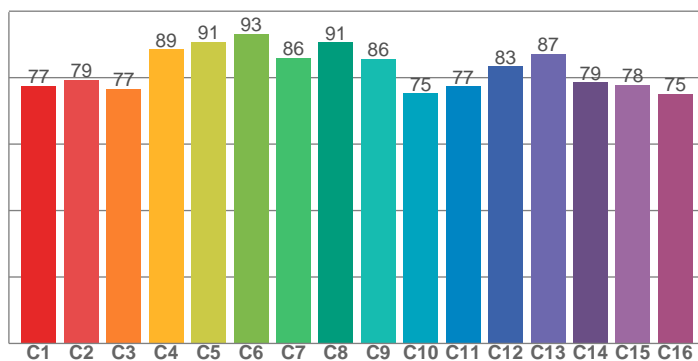
Power



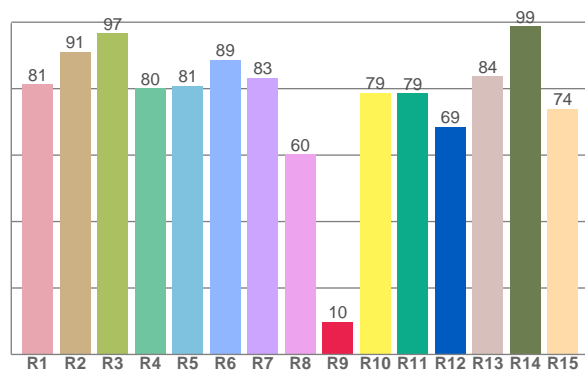
## Color details



TM30: 82.7



CRI: 82.8 (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  |
|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|
| 81.4 | 91.1 | 96.7 | 80.2 | 80.9 | 88.7 | 83.3 | 60.3 | 9.9 | 78.7 | 78.6 | 68.5 | 83.8 | 98.8 | 73.9 |

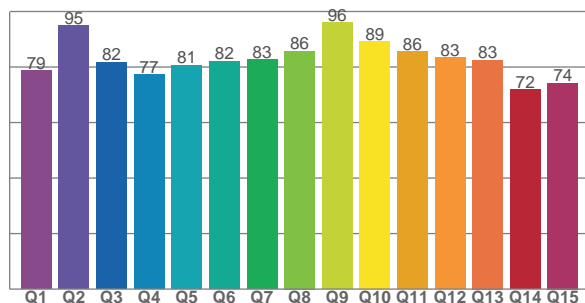
TM30 C values, 16 binned values out of total of 99 C values

| C1   | C2   | C3   | C4   | C5   | C6   | C7   | C8   | C9   | C10  | C11  | C12  | C13  | C14  | C15  | C16  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 77.5 | 79.4 | 76.6 | 88.6 | 90.7 | 93.2 | 86.0 | 90.6 | 85.7 | 75.2 | 77.4 | 83.4 | 87.1 | 78.6 | 77.8 | 75.1 |

CQS Q values

| Q1   | Q2   | Q3   | Q4   | Q5   | Q6   | Q7   | Q8   | Q9   | Q10  | Q11  | Q12  | Q13  | Q14  | Q15  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 78.7 | 95.0 | 81.7 | 77.3 | 80.7 | 82.0 | 82.7 | 85.8 | 95.9 | 89.2 | 85.6 | 83.4 | 82.5 | 71.9 | 74.2 |

CQS: 81.8



## 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                             |
| 3019 K            | 82.8                  | 9.9           | 82.7           | 95.1        | 81.8                | 0.436                     | 0.404                     | 0.250            | 0.347            | 0.0001                          |

## TM30 details

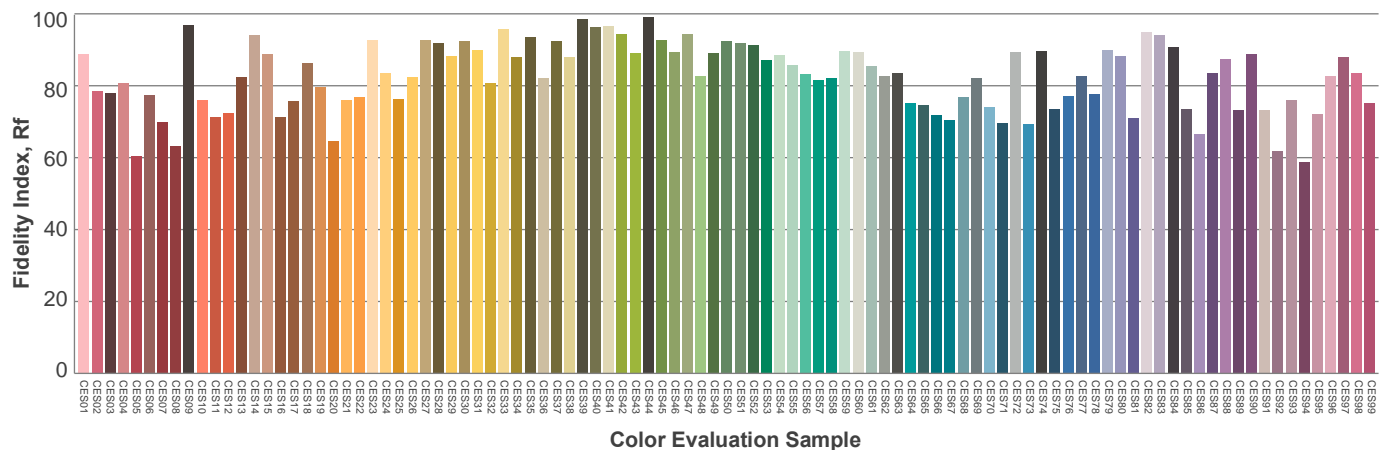
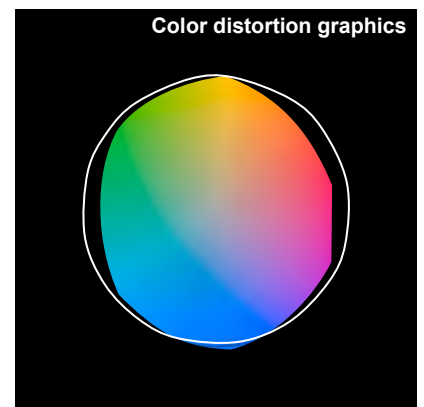
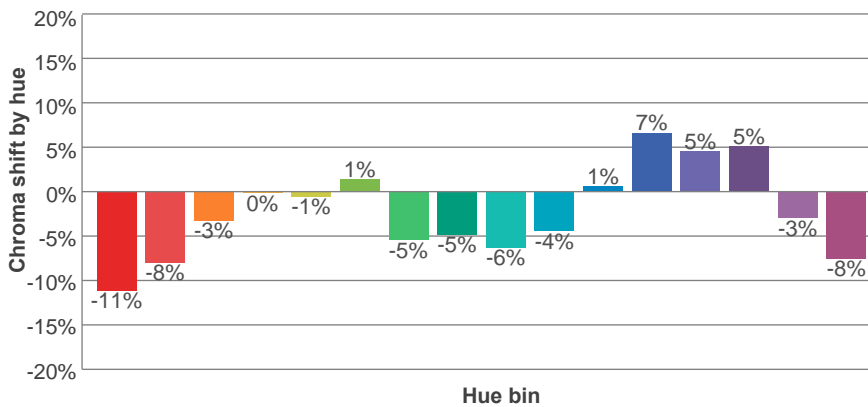
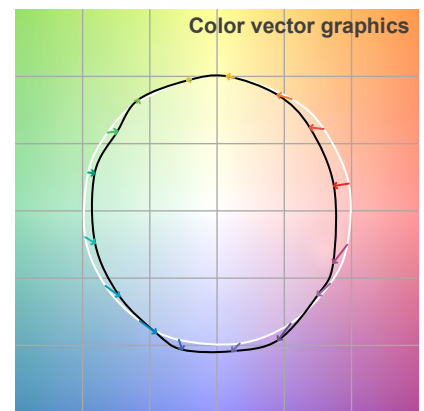
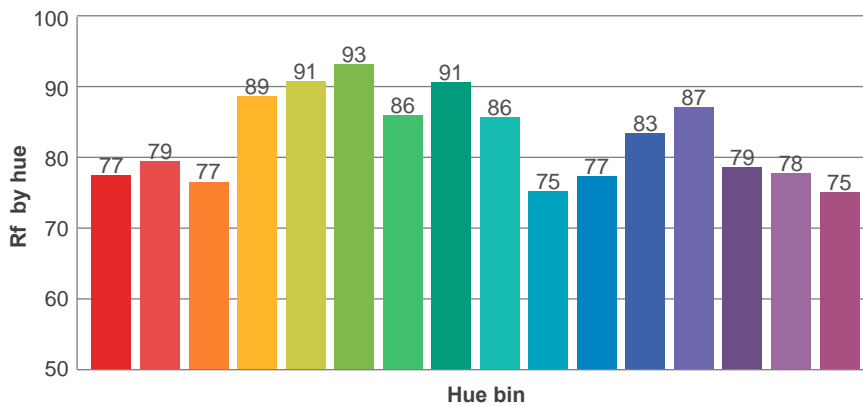
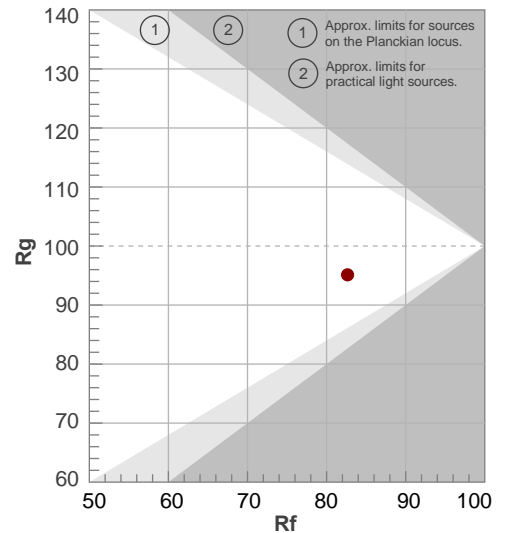
**Rf 82.7**

Fidelity index Rf

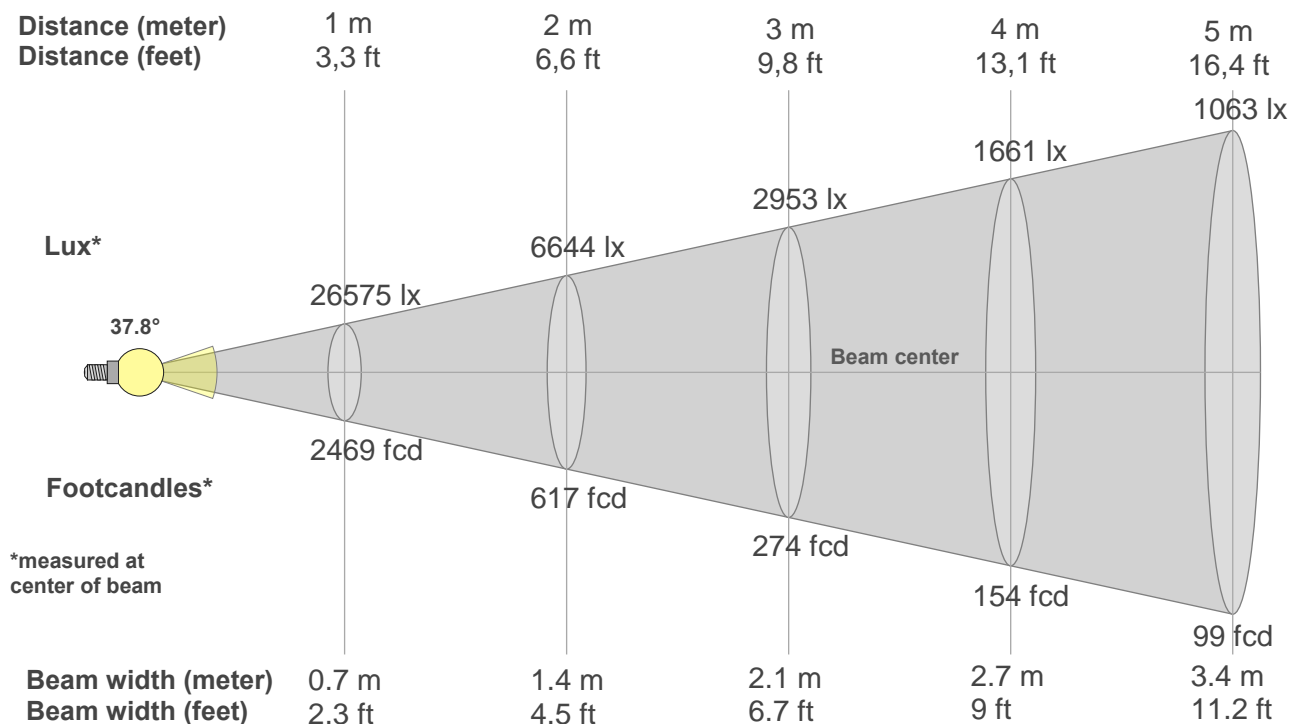
**Rg 95.1**

Gammut index Rg

| Hue Bin | R <sub>f</sub> | Graphic shifts (%) |      |
|---------|----------------|--------------------|------|
|         |                | Chroma             | Hue  |
| 1       | 77             | -11%               | 0%   |
| 2       | 79             | -8%                | 7%   |
| 3       | 77             | -3%                | 11%  |
| 4       | 89             | 0%                 | 6%   |
| 5       | 91             | -1%                | 3%   |
| 6       | 93             | 1%                 | -2%  |
| 7       | 86             | -5%                | -5%  |
| 8       | 91             | -5%                | 0%   |
| 9       | 86             | -6%                | 6%   |
| 10      | 75             | -4%                | 12%  |
| 11      | 77             | 1%                 | 15%  |
| 12      | 83             | 7%                 | 4%   |
| 13      | 87             | 5%                 | -7%  |
| 14      | 79             | 5%                 | -15% |
| 15      | 78             | -3%                | -12% |
| 16      | 75             | -8%                | -15% |



## 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 |
| 26575lx   | 6644lx   | 2953lx   | 1661lx   | 1063lx  | 738lx   | 542lx   | 415lx   | 328lx   | 266lx   | 220lx   | 185lx   | 157lx   | 136lx   | 118lx  | 104lx  | 92lx   | 82lx   | 74lx   | 66lx   |
| 2468.9fcd | 617.2fcd | 274.3fcd | 154.3fcd | 98.8fcd | 68.6fcd | 50.4fcd | 38.6fcd | 30.5fcd | 24.7fcd | 20.4fcd | 17.1fcd | 14.6fcd | 12.6fcd | 11fcd  | 9.6fcd | 8.5fcd | 7.6fcd | 6.8fcd | 6.2fcd |

### Intensities in 0° c-plane

| 0°    | 2°    | 4°    | 6°    | 8°    | 10°   | 12°   | 14°   | 16°   | 18°   | 20°   | 22°  | 24°  | 26°  | 28°  | 30°  | 32°  | 34°  | 36°  | 38°  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|
| 26.6K | 26.3K | 25.6K | 24.3K | 22.7K | 21.1K | 19.6K | 18.3K | 17.1K | 14.5K | 12.0K | 9.8K | 8.3K | 7.3K | 5.8K | 3.5K | 1.3K | 0.6K | 0.3K | 0.2K |
| 100%  | 99%   | 96%   | 91%   | 86%   | 79%   | 74%   | 69%   | 64%   | 55%   | 45%   | 37%  | 31%  | 27%  | 22%  | 13%  | 5%   | 2%   | 1%   | 1%   |

### Intensities in 90° c-plane

| 0°    | 2°    | 4°    | 6°    | 8°    | 10°   | 12°   | 14°   | 16°   | 18°   | 20°   | 22°  | 24°  | 26°  | 28°  | 30°  | 32°  | 34°  | 36°  | 38°  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|
| 26.6K | 26.3K | 25.6K | 24.3K | 22.7K | 21.1K | 19.6K | 18.3K | 17.1K | 14.5K | 12.0K | 9.8K | 8.3K | 7.3K | 5.8K | 3.5K | 1.3K | 0.6K | 0.3K | 0.2K |
| 100%  | 99%   | 96%   | 91%   | 86%   | 79%   | 74%   | 69%   | 64%   | 55%   | 45%   | 37%  | 31%  | 27%  | 22%  | 13%  | 5%   | 2%   | 1%   | 1%   |

### Intensities in 180° c-plane

| 0°    | 2°    | 4°    | 6°    | 8°    | 10°   | 12°   | 14°   | 16°   | 18°   | 20°   | 22°  | 24°  | 26°  | 28°  | 30°  | 32°  | 34°  | 36°  | 38°  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|
| 26.6K | 26.3K | 25.6K | 24.3K | 22.7K | 21.1K | 19.6K | 18.3K | 17.1K | 14.5K | 12.0K | 9.8K | 8.3K | 7.3K | 5.8K | 3.5K | 1.3K | 0.6K | 0.3K | 0.2K |
| 100%  | 99%   | 96%   | 91%   | 86%   | 79%   | 74%   | 69%   | 64%   | 55%   | 45%   | 37%  | 31%  | 27%  | 22%  | 13%  | 5%   | 2%   | 1%   | 1%   |

### Intensities in 270° c-plane

| 0°    | 2°    | 4°    | 6°    | 8°    | 10°   | 12°   | 14°   | 16°   | 18°   | 20°   | 22°  | 24°  | 26°  | 28°  | 30°  | 32°  | 34°  | 36°  | 38°  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|
| 26.6K | 26.3K | 25.6K | 24.3K | 22.7K | 21.1K | 19.6K | 18.3K | 17.1K | 14.5K | 12.0K | 9.8K | 8.3K | 7.3K | 5.8K | 3.5K | 1.3K | 0.6K | 0.3K | 0.2K |
| 100%  | 99%   | 96%   | 91%   | 86%   | 79%   | 74%   | 69%   | 64%   | 55%   | 45%   | 37%  | 31%  | 27%  | 22%  | 13%  | 5%   | 2%   | 1%   | 1%   |

| Beam angle 50% | Field angle 10% | Cutoff angle 2,5% | Intensity ratio in 120° cone | Intensity ratio in 90° cone |
|----------------|-----------------|-------------------|------------------------------|-----------------------------|
| 37.8°          | 61.1°           | 67.2°             | 99.5%                        | 99.1%                       |