

Light efficiency:

90 Lumen/Watt

Light quality:

CRI: 81.5

Color temperature:

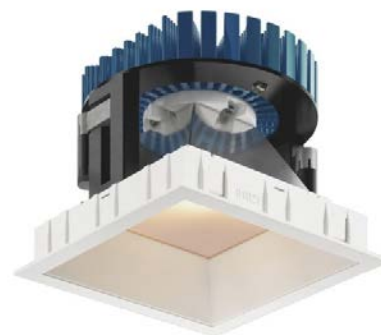
2967 K

Output: 3351 lm

Peak: 2213 cd

Power: 37.2 W

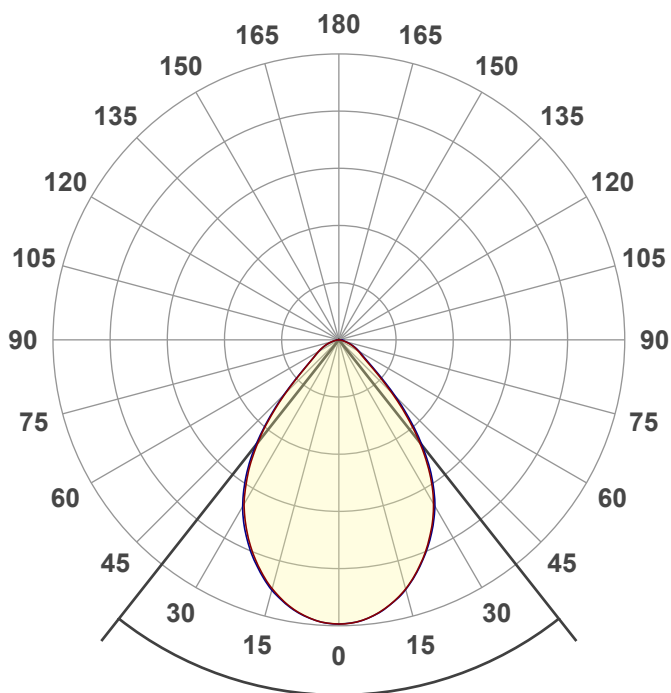
PF: 0.98



NU4-QD-SW-40LM-30K-80-HE70-WH-WH

Date and time:

9/14/2022 10:04:53 AM



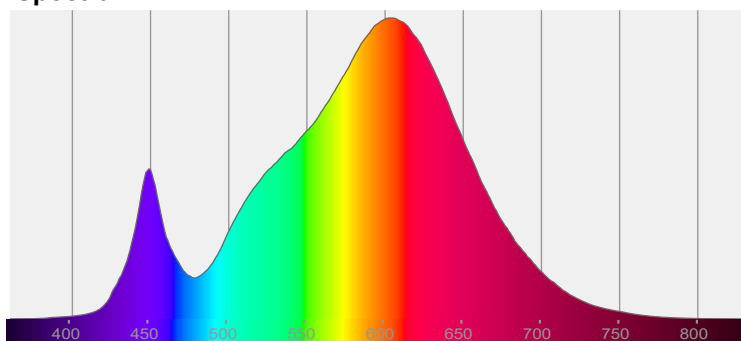
Beam angle

76.5°

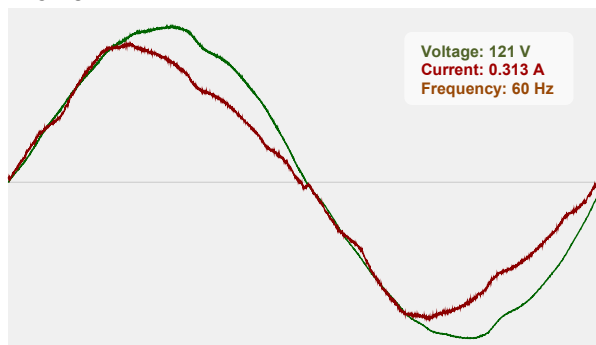


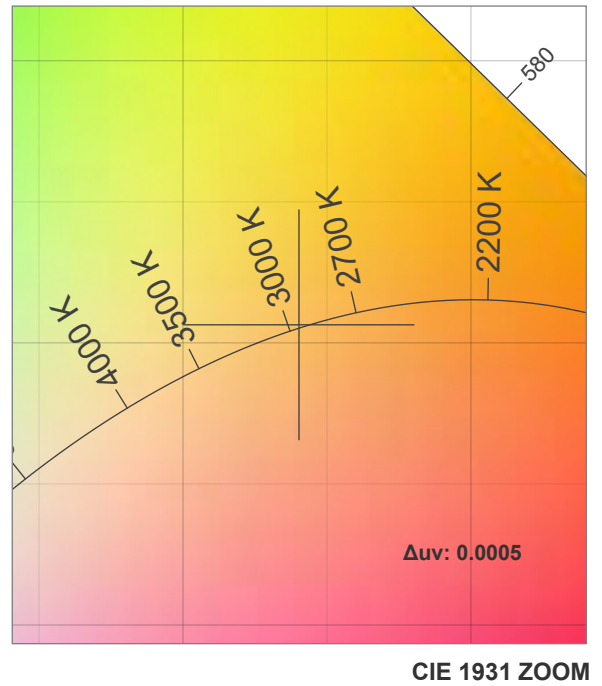
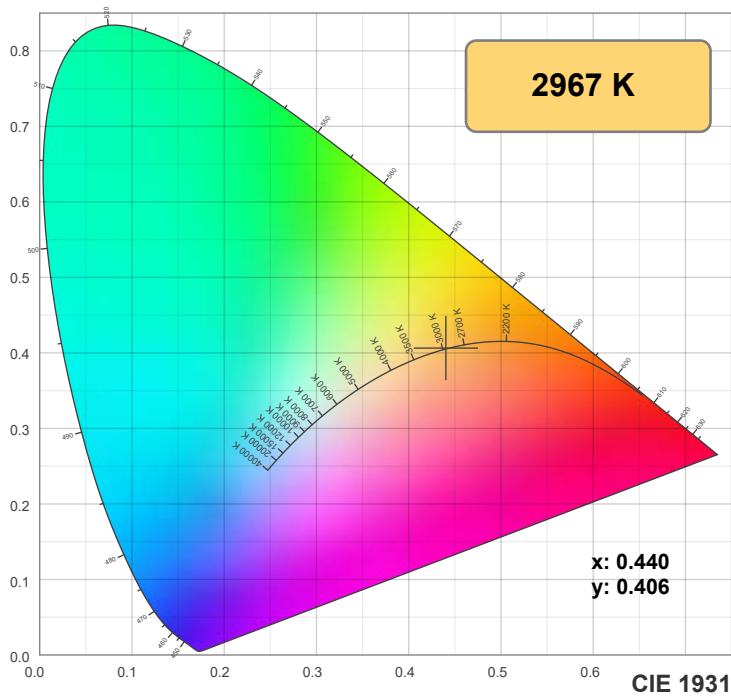
CIE 1931  
x: 0.440  
y: 0.406

Spectra

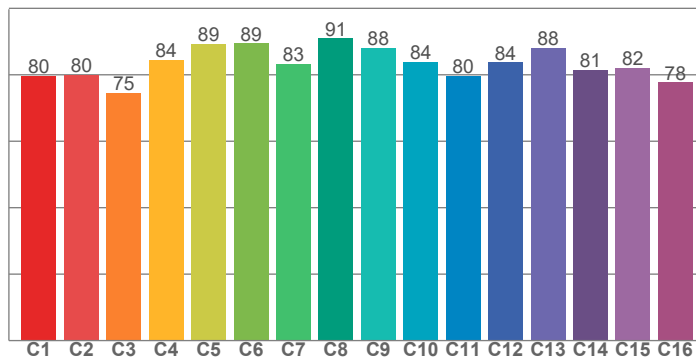


Power

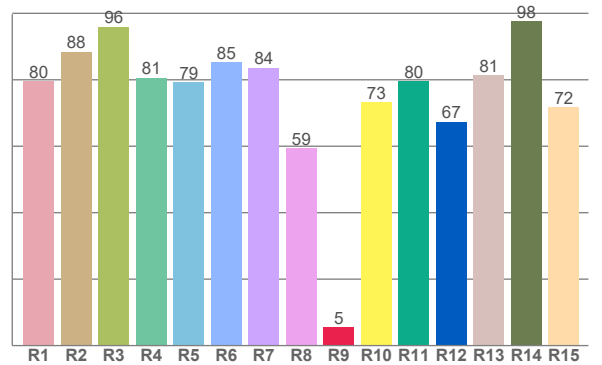




**TM30: 83.3**



**CRI: 81.5 (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  |
|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|
| 79.6 | 88.4 | 96.0 | 80.6 | 79.2 | 85.3 | 83.6 | 59.3 | 5.5 | 73.3 | 79.5 | 67.4 | 81.4 | 97.6 | 71.8 |

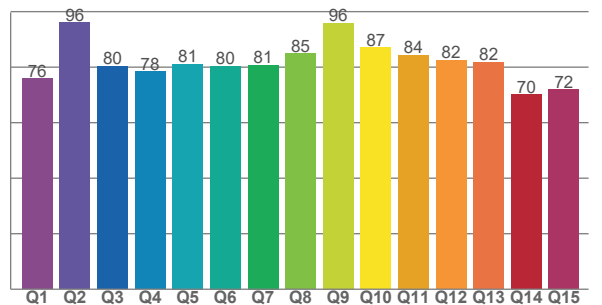
TM30 C values, 16 binned values out of total of 99 C values

| C1   | C2   | C3   | C4   | C5   | C6   | C7   | C8   | C9   | C10  | C11  | C12  | C13  | C14  | C15  | C16  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 79.7 | 80.0 | 74.5 | 84.5 | 89.3 | 89.5 | 83.2 | 91.0 | 88.0 | 83.9 | 79.7 | 83.7 | 88.1 | 81.5 | 82.1 | 77.7 |

CQS Q values

| Q1   | Q2   | Q3   | Q4   | Q5   | Q6   | Q7   | Q8   | Q9   | Q10  | Q11  | Q12  | Q13  | Q14  | Q15  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 76.0 | 96.0 | 80.3 | 78.5 | 81.2 | 80.5 | 80.8 | 84.8 | 96.0 | 87.0 | 84.4 | 82.4 | 81.8 | 70.1 | 71.9 |

**CQS: 80.7**



## 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                             |
| 2967 K            | 81.5                  | 5.5           | 83.3           | 97.4        | 80.7                | 0.440                     | 0.406                     | 0.252            | 0.349            | 0.0005                          |

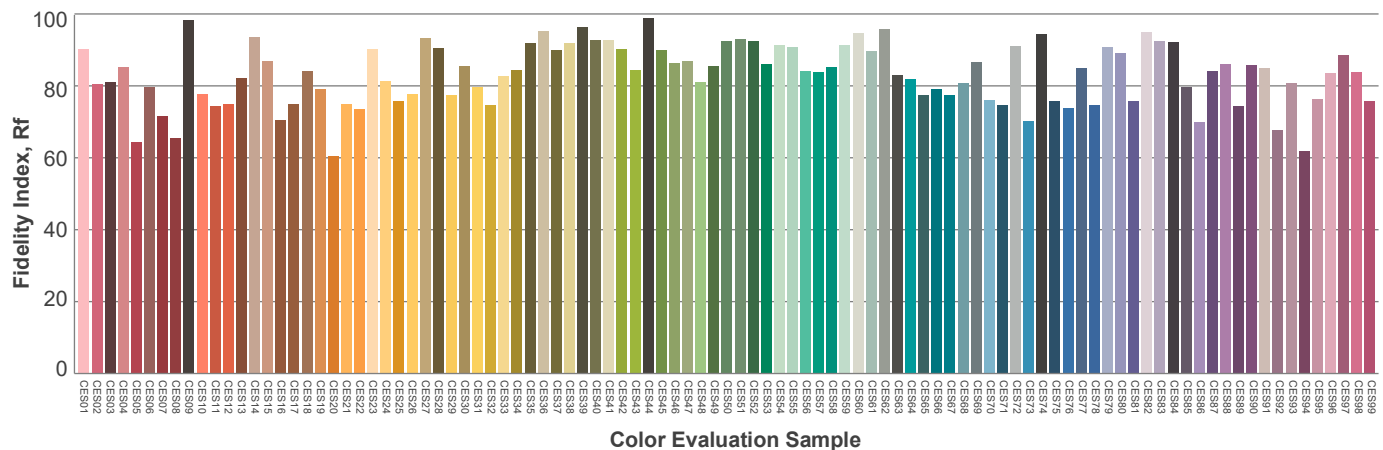
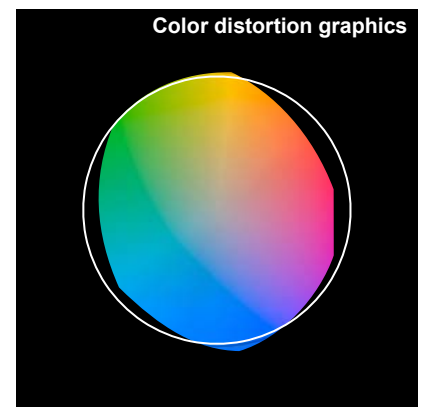
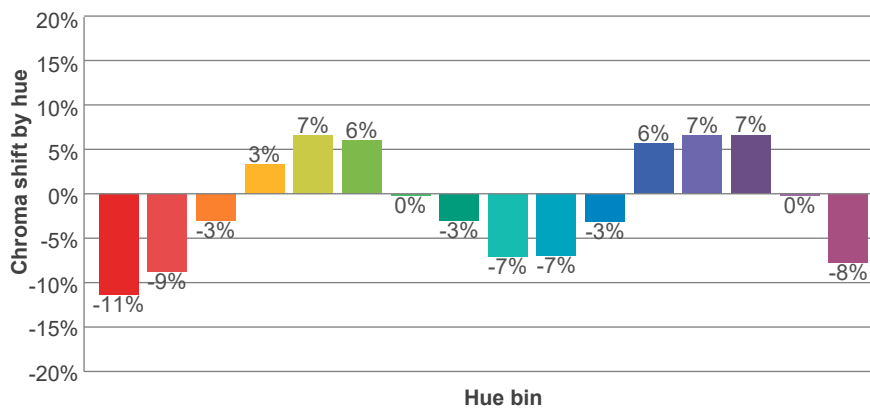
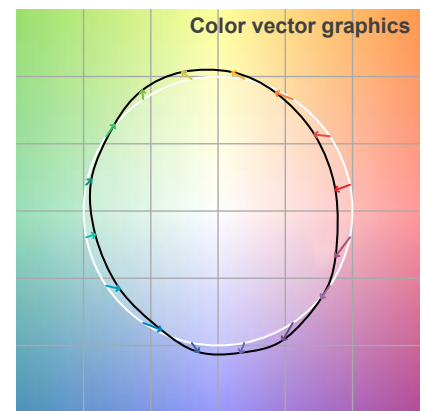
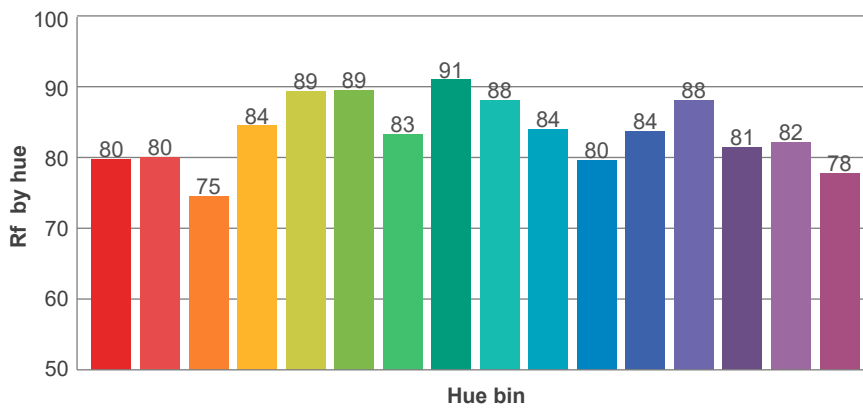
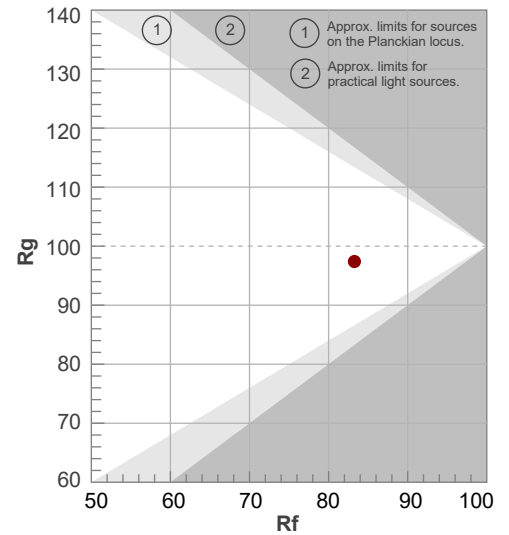
**Rf 83.3**

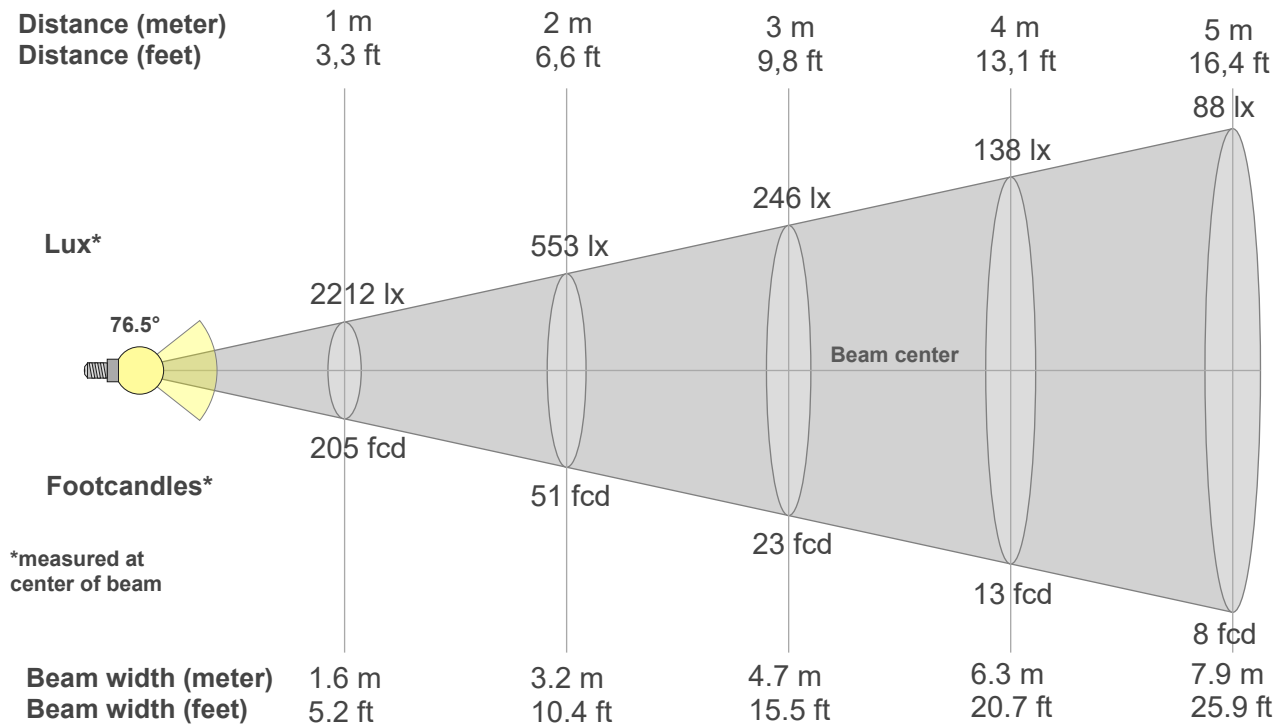
Fidelity index Rf

**Rg 97.4**

Gamut index Rg

| Hue Bin | R <sub>f</sub> | Graphic shifts (%) |      |
|---------|----------------|--------------------|------|
|         |                | Chroma             | Hue  |
| 1       | 80             | -11%               | -2%  |
| 2       | 80             | -9%                | 7%   |
| 3       | 75             | -3%                | 13%  |
| 4       | 84             | 3%                 | 10%  |
| 5       | 89             | 7%                 | 6%   |
| 6       | 89             | 6%                 | -3%  |
| 7       | 83             | 0%                 | -11% |
| 8       | 91             | -3%                | -5%  |
| 9       | 88             | -7%                | -1%  |
| 10      | 84             | -7%                | 7%   |
| 11      | 80             | -3%                | 14%  |
| 12      | 84             | 6%                 | 6%   |
| 13      | 88             | 7%                 | -4%  |
| 14      | 81             | 7%                 | -13% |
| 15      | 82             | 0%                 | -11% |
| 16      | 78             | -8%                | -16% |





#### 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 |
| 2212lx   | 553lx   | 246lx   | 138lx   | 88lx   | 61lx   | 45lx   | 35lx   | 27lx   | 22lx   | 18lx   | 15lx   | 13lx   | 11lx   | 10lx   | 9lx    | 8lx    | 7lx    | 6lx    | 6lx    |
| 205.5fcd | 51.4fcd | 22.8fcd | 12.8fcd | 8.2fcd | 5.7fcd | 4.2fcd | 3.2fcd | 2.5fcd | 2.1fcd | 1.7fcd | 1.4fcd | 1.2fcd | 1fcd   | 0.9fcd | 0.8fcd | 0.7fcd | 0.6fcd | 0.6fcd | 0.5fcd |

#### 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° |
|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2212 | 2189 | 2117 | 2008 | 1857 | 1680 | 1473 | 1213 | 902 | 585 | 345 | 228 | 172 | 127 | 85  | 48  | 24  | 7   | 0   | 0   |
| 100% | 99%  | 96%  | 91%  | 84%  | 76%  | 67%  | 55%  | 41% | 26% | 16% | 10% | 8%  | 6%  | 4%  | 2%  | 1%  | 0%  | 0%  | 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° |
|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2212 | 2189 | 2119 | 2011 | 1863 | 1692 | 1495 | 1242 | 940 | 625 | 373 | 246 | 185 | 139 | 93  | 54  | 27  | 9   | 1   | 0   |
| 100% | 99%  | 96%  | 91%  | 84%  | 76%  | 68%  | 56%  | 42% | 28% | 17% | 11% | 8%  | 6%  | 4%  | 2%  | 1%  | 0%  | 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° |
|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2212 | 2188 | 2118 | 2005 | 1856 | 1679 | 1475 | 1215 | 909 | 587 | 353 | 242 | 185 | 138 | 97  | 56  | 30  | 10  | 1   | 0   |
| 100% | 99%  | 96%  | 91%  | 84%  | 76%  | 67%  | 55%  | 41% | 27% | 16% | 11% | 8%  | 6%  | 4%  | 3%  | 1%  | 0%  | 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° |
|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2212 | 2189 | 2123 | 2018 | 1870 | 1699 | 1497 | 1241 | 929 | 606 | 361 | 240 | 179 | 133 | 89  | 50  | 26  | 8   | 0   | 0   |
| 100% | 99%  | 96%  | 91%  | 85%  | 77%  | 68%  | 56%  | 42% | 27% | 16% | 11% | 8%  | 6%  | 4%  | 2%  | 1%  | 0%  | 0%  | 0%  |

| Beam angle 50% | Field angle 10% | Cutoff angle 2,5% | Intensity ratio in 120° cone | Intensity ratio in 90° cone |
|----------------|-----------------|-------------------|------------------------------|-----------------------------|
| 76.5°          | 114.9°          | 149.5°            | 93.9%                        | 79.2%                       |