

Light efficiency:



Light quality:



Color temperature:

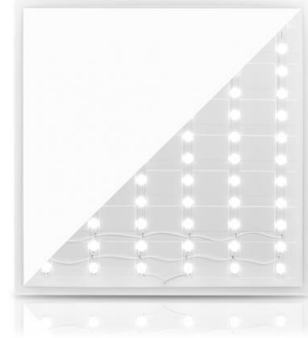


Output: 4211 lm

Peak: 1417 cd

Power: 34,6 W

PF: 0,96



Tracking number: [VT240917-001299](#)

Product name:

272859

Item number:

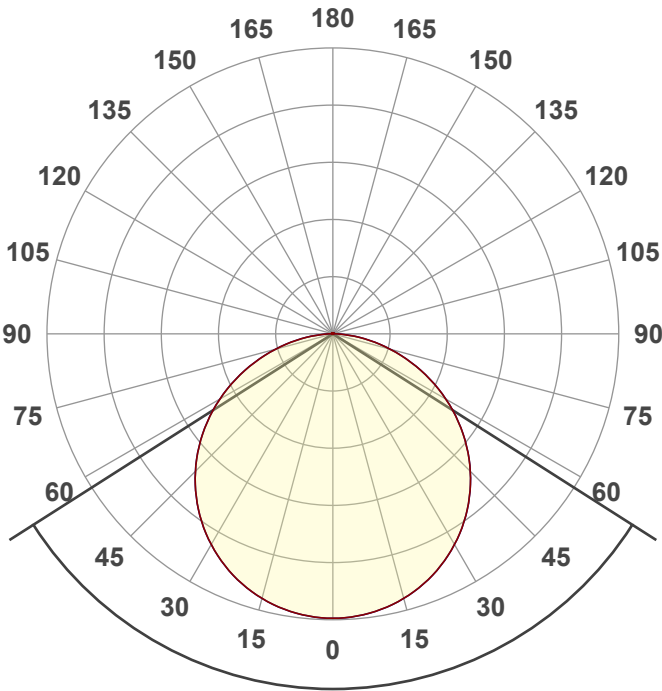
272859

Date and time:

17-9-2024 12:59:58

Description:

BACK-LIT LED PANEEL | ARIEL | 60X60CM | 36W

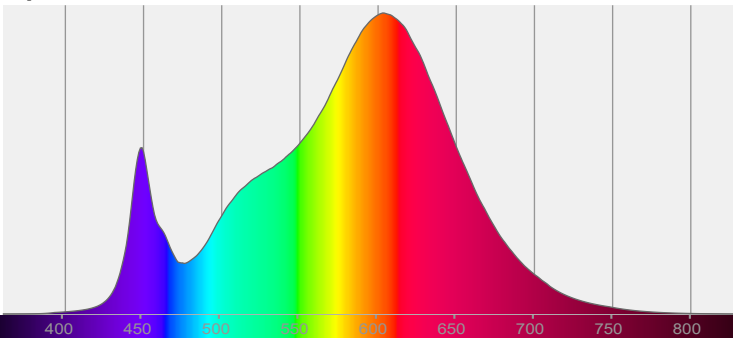


Beam angle **115°**

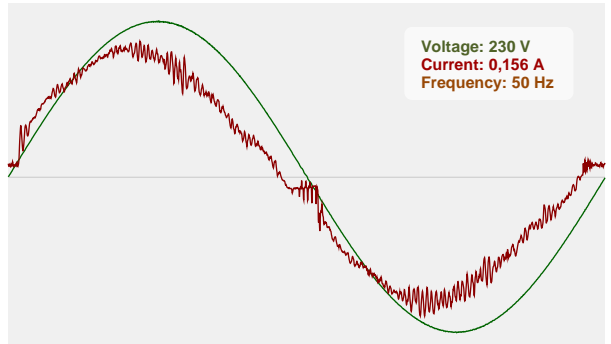


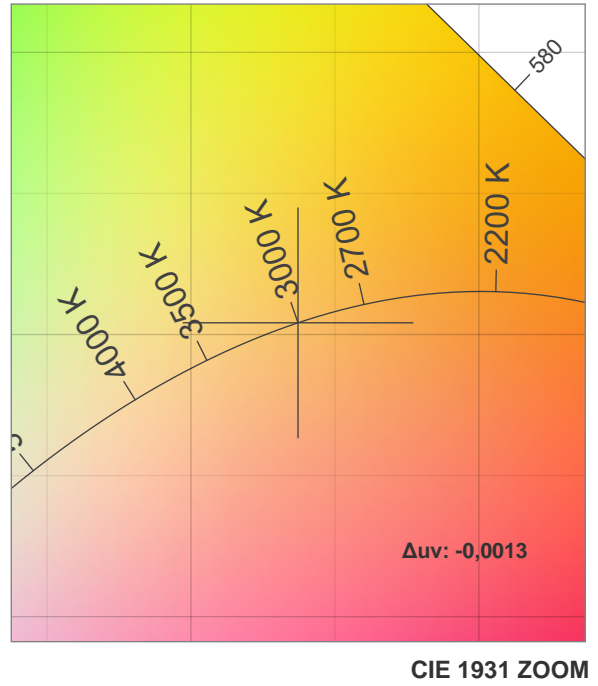
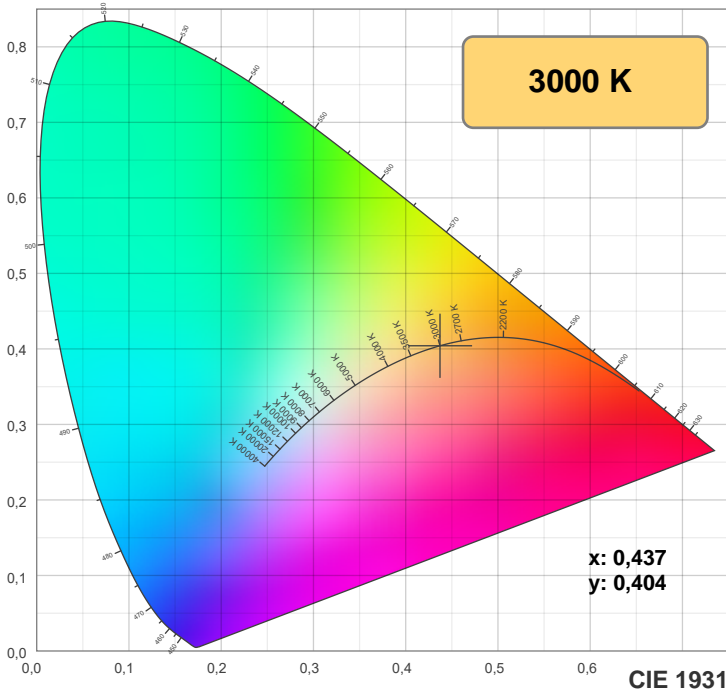
CIE 1931
x: 0,437
y: 0,404

Spectra

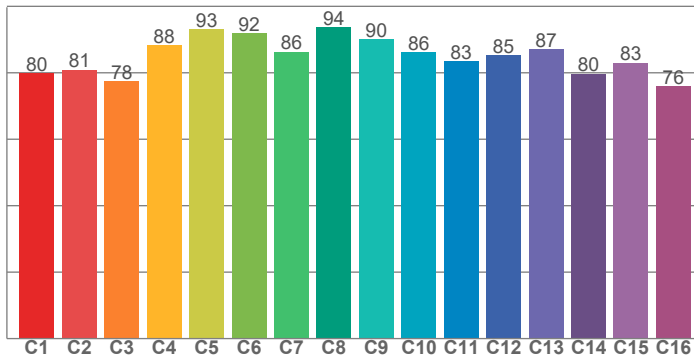


Power

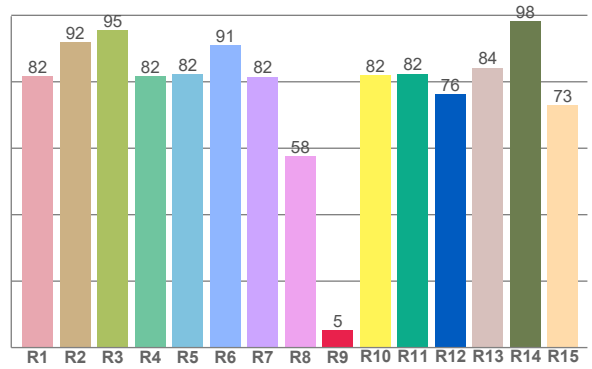




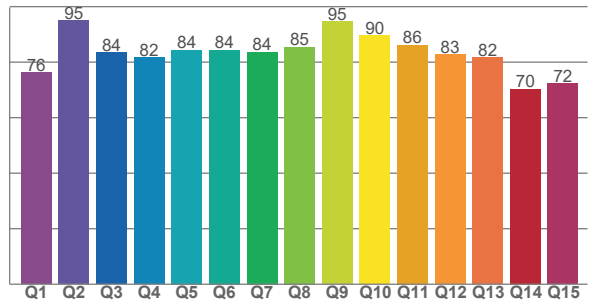
TM-30: 85,0



CRI: 82,9 (R1-R8)



CQS: 82,0



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 |
|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|
| 81,7 | 91,8 | 95,5 | 81,8 | 82,4 | 90,9 | 81,5 | 57,6 | 5,3 | 82,1 | 82,4 | 76,3 | 84,3 | 98,2 | 72,9 |

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 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 79,8 | 80,9 | 77,5 | 88,3 | 93,1 | 91,8 | 86,4 | 93,7 | 90,1 | 86,2 | 83,4 | 85,3 | 87,1 | 79,6 | 83,0 | 75,9 |

CQS Q values

| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 76,3 | 95,0 | 83,5 | 81,6 | 84,3 | 84,4 | 83,6 | 85,4 | 94,7 | 89,6 | 86,1 | 82,8 | 81,6 | 70,4 | 72,2 |

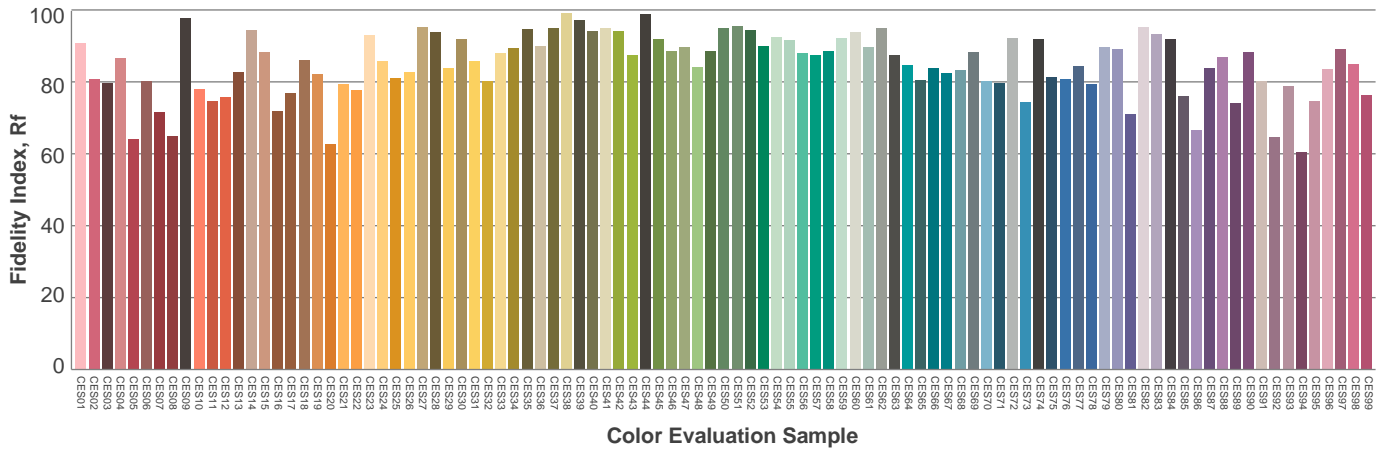
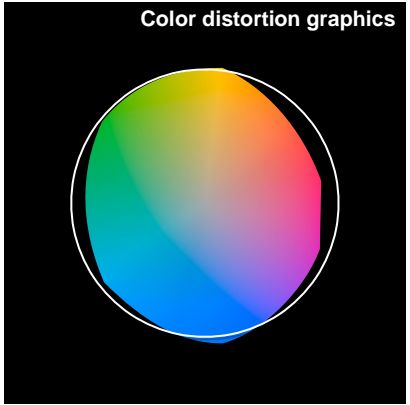
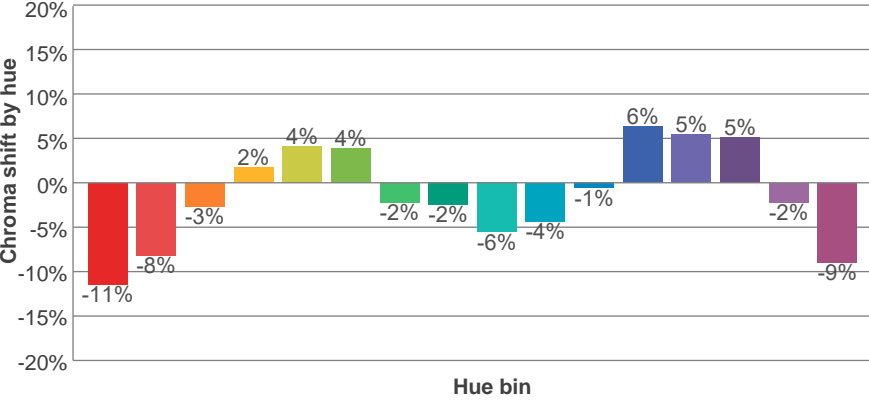
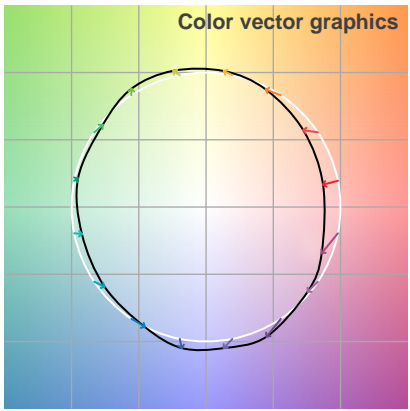
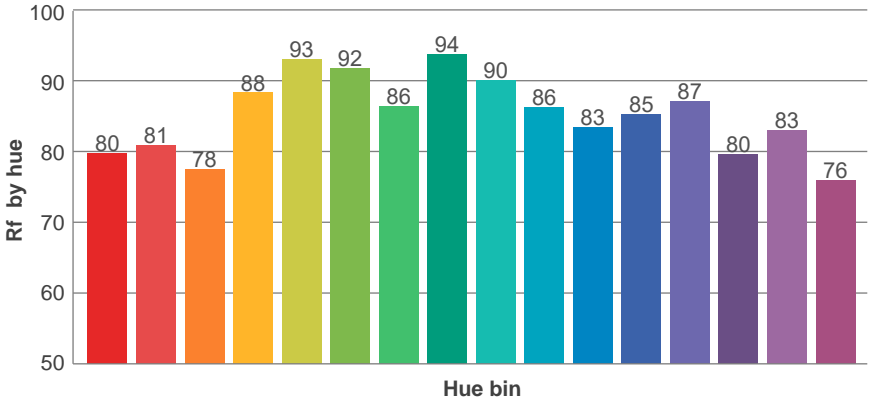
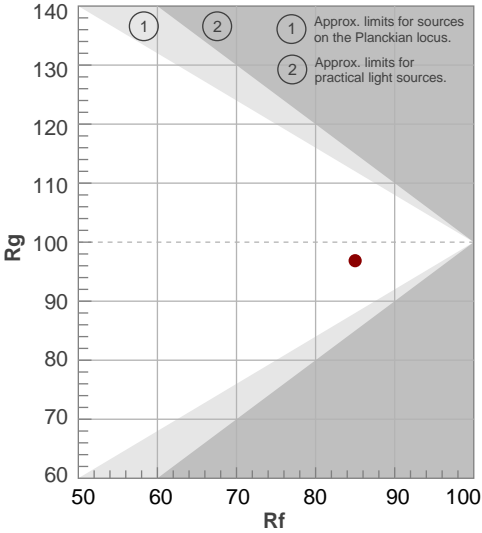
Color parameters

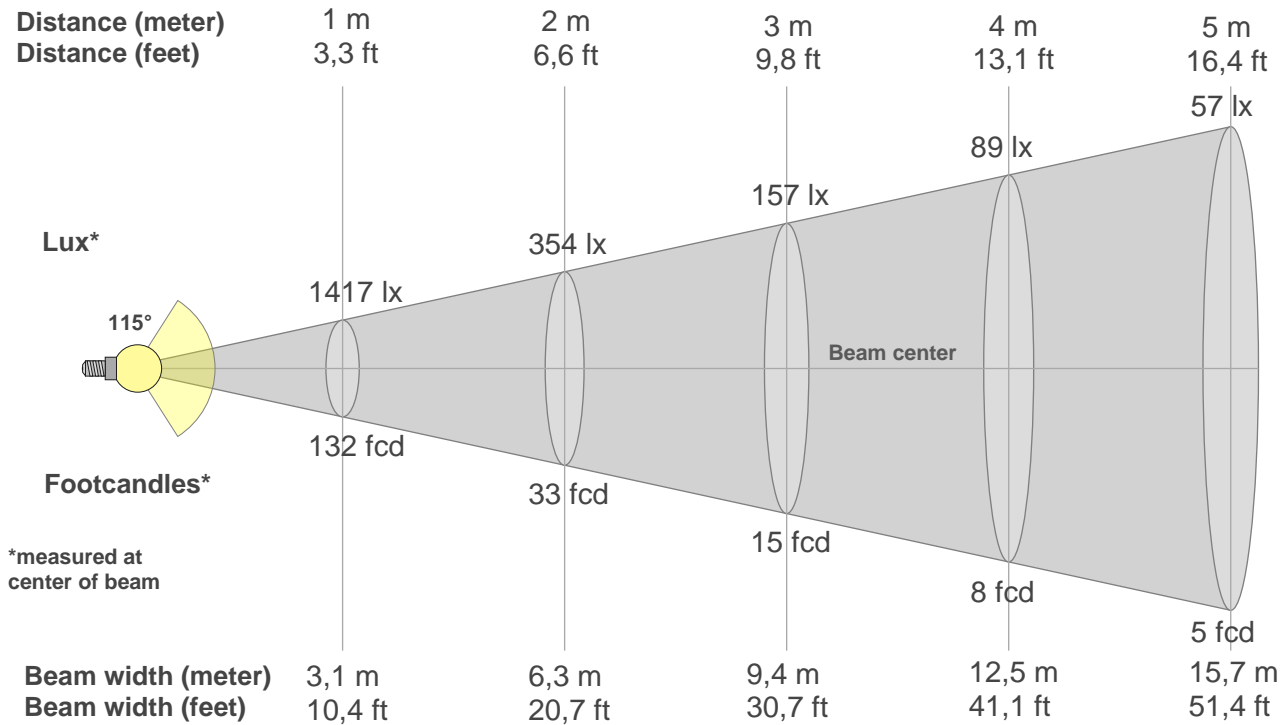
| Color temperature | Color rendering index | Red component | Color fidelity | Color gamut | Color quality scale | Color coordinate cie 1931 | Color coordinate cie 1931 | Color coordinate | Color coordinate | Color deviation from black body |
|-------------------|-----------------------|---------------|----------------|-------------|---------------------|---------------------------|---------------------------|------------------|------------------|---------------------------------|
| CCT | CRI | CRI R9 | TM30 Rf | TM30 Rg | CQS | x | y | u | v | Δuv |
| 3000 K | 82,9 | 5,3 | 85,0 | 96,9 | 82,0 | 0,437 | 0,404 | 0,251 | 0,348 | -0,0013 |

Rf 85,0
Fidelity index Rf

Rg 96,9
Gamut index Rg

| Hue Bin | R _f | Shifts (%) | |
|---------|----------------|------------|------|
| | | Chroma | Hue |
| 1 | 80 | -11% | -1% |
| 2 | 81 | -8% | 7% |
| 3 | 78 | -3% | 12% |
| 4 | 88 | 2% | 7% |
| 5 | 93 | 4% | 4% |
| 6 | 92 | 4% | -3% |
| 7 | 86 | -2% | -8% |
| 8 | 94 | -2% | -2% |
| 9 | 90 | -6% | 2% |
| 10 | 86 | -4% | 7% |
| 11 | 83 | -1% | 12% |
| 12 | 85 | 6% | 3% |
| 13 | 87 | 5% | -7% |
| 14 | 80 | 5% | -16% |
| 15 | 83 | -2% | -10% |
| 16 | 76 | -9% | -17% |





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 |
| 1417lx | 354lx | 157lx | 89lx | 57lx | 39lx | 29lx | 22lx | 17lx | 14lx | 12lx | 10lx | 8lx | 7lx | 6lx | 6lx | 5lx | 4lx | 4lx | 4lx |
| 131,6fcd | 32,9fcd | 14,6fcd | 8,2fcd | 5,3fcd | 3,7fcd | 2,7fcd | 2,1fcd | 1,6fcd | 1,3fcd | 1,1fcd | 0,9fcd | 0,8fcd | 0,7fcd | 0,6fcd | 0,5fcd | 0,5fcd | 0,4fcd | 0,4fcd | 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° |
|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1417 | 1411 | 1393 | 1364 | 1324 | 1273 | 1212 | 1140 | 1059 | 968 | 869 | 763 | 650 | 533 | 414 | 297 | 186 | 87 | 22 | 2 |
| 100% | 100% | 98% | 96% | 93% | 90% | 86% | 80% | 75% | 68% | 61% | 54% | 46% | 38% | 29% | 21% | 13% | 6% | 2% | 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° |
|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1417 | 1411 | 1393 | 1364 | 1324 | 1273 | 1212 | 1140 | 1059 | 968 | 869 | 763 | 650 | 533 | 414 | 297 | 186 | 87 | 22 | 2 |
| 100% | 100% | 98% | 96% | 93% | 90% | 86% | 80% | 75% | 68% | 61% | 54% | 46% | 38% | 29% | 21% | 13% | 6% | 2% | 0% |

Intensities in 180° c-plane

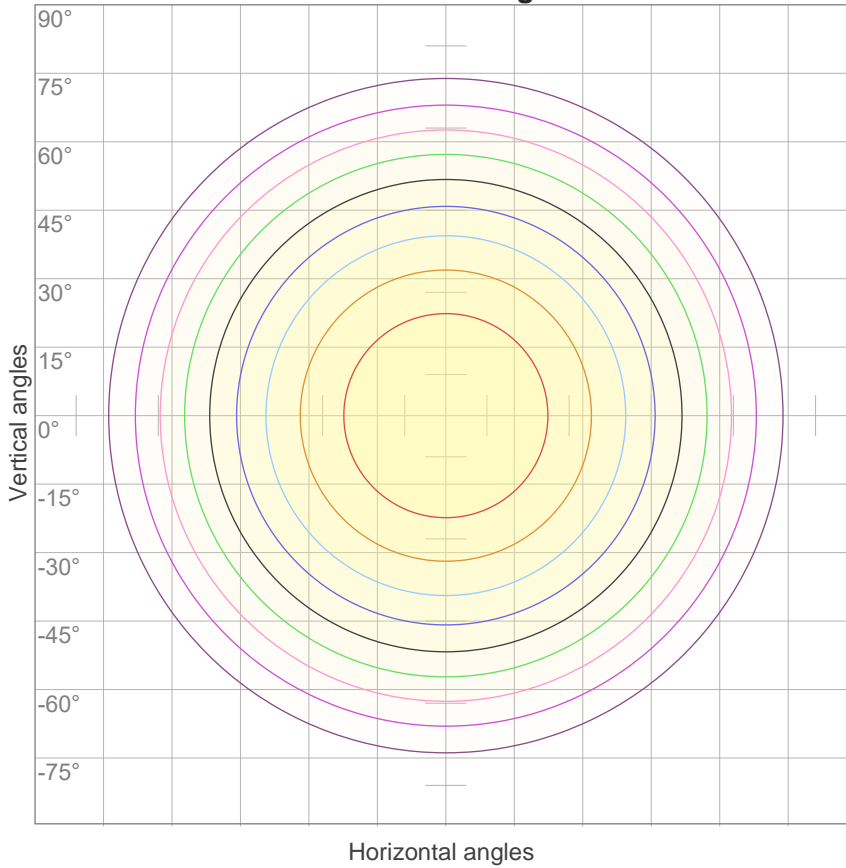
| 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° | 95° |
|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1417 | 1411 | 1393 | 1364 | 1324 | 1273 | 1212 | 1140 | 1059 | 968 | 869 | 763 | 650 | 533 | 414 | 297 | 186 | 87 | 22 | 2 |
| 100% | 100% | 98% | 96% | 93% | 90% | 86% | 80% | 75% | 68% | 61% | 54% | 46% | 38% | 29% | 21% | 13% | 6% | 2% | 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° |
|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1417 | 1411 | 1393 | 1364 | 1324 | 1273 | 1212 | 1140 | 1059 | 968 | 869 | 763 | 650 | 533 | 414 | 297 | 186 | 87 | 22 | 2 |
| 100% | 100% | 98% | 96% | 93% | 90% | 86% | 80% | 75% | 68% | 61% | 54% | 46% | 38% | 29% | 21% | 13% | 6% | 2% | 0% |

| Beam angle 50% | Field angle 10% | Cutoff angle 2,5% | Intensity ratio in 120° cone | Intensity ratio in 90° cone |
|----------------|-----------------|-------------------|------------------------------|-----------------------------|
| 115° | 164,1° | 176,6° | 77,3% | 52,2% |

iso-candela diagram



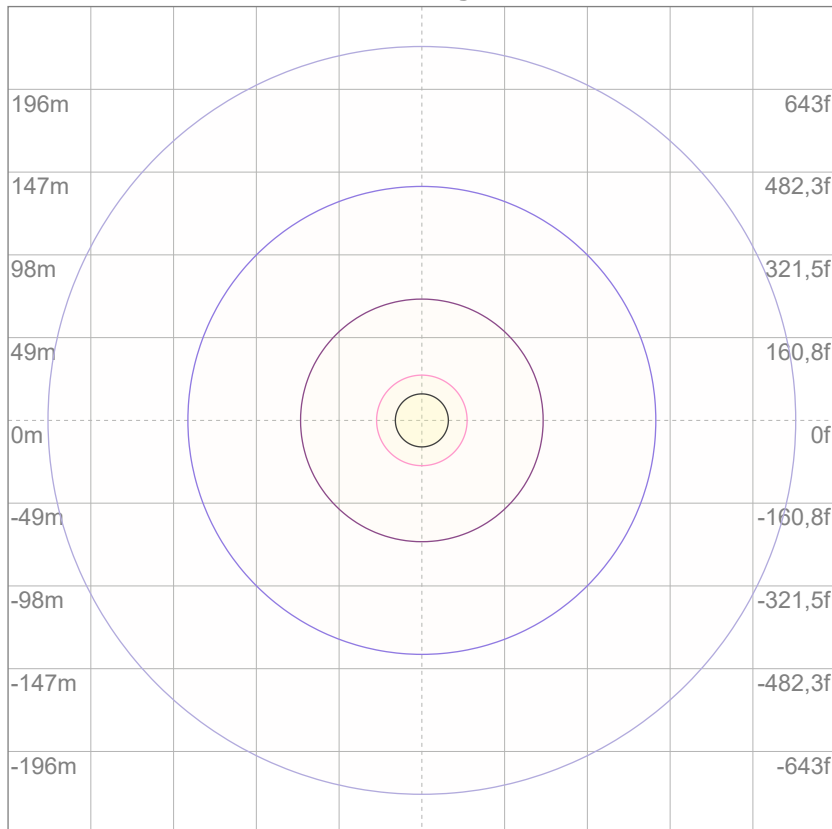
| | |
|-----|---------|
| 10% | 142 cd |
| 20% | 283 cd |
| 30% | 425 cd |
| 40% | 567 cd |
| 50% | 708 cd |
| 60% | 850 cd |
| 70% | 992 cd |
| 80% | 1133 cd |
| 90% | 1275 cd |

Conditions:

Number of c-planes: 72

Candela at center: 1417 cd

iso-lux diagram



Mounting height: 10 meters (33 feet)

| | |
|-----|----------|
| 3% | 0,425 lx |
| 5% | 0,708 lx |
| 10% | 1,42 lx |
| 30% | 4,25 lx |
| 50% | 7,08 lx |

Conditions:

Number of c-planes: 72

Lux at center: 14,2 lx

Lux distribution on a surface when lamp is mounted at 10 meters from the surface.

Glare evaluation according to UGR

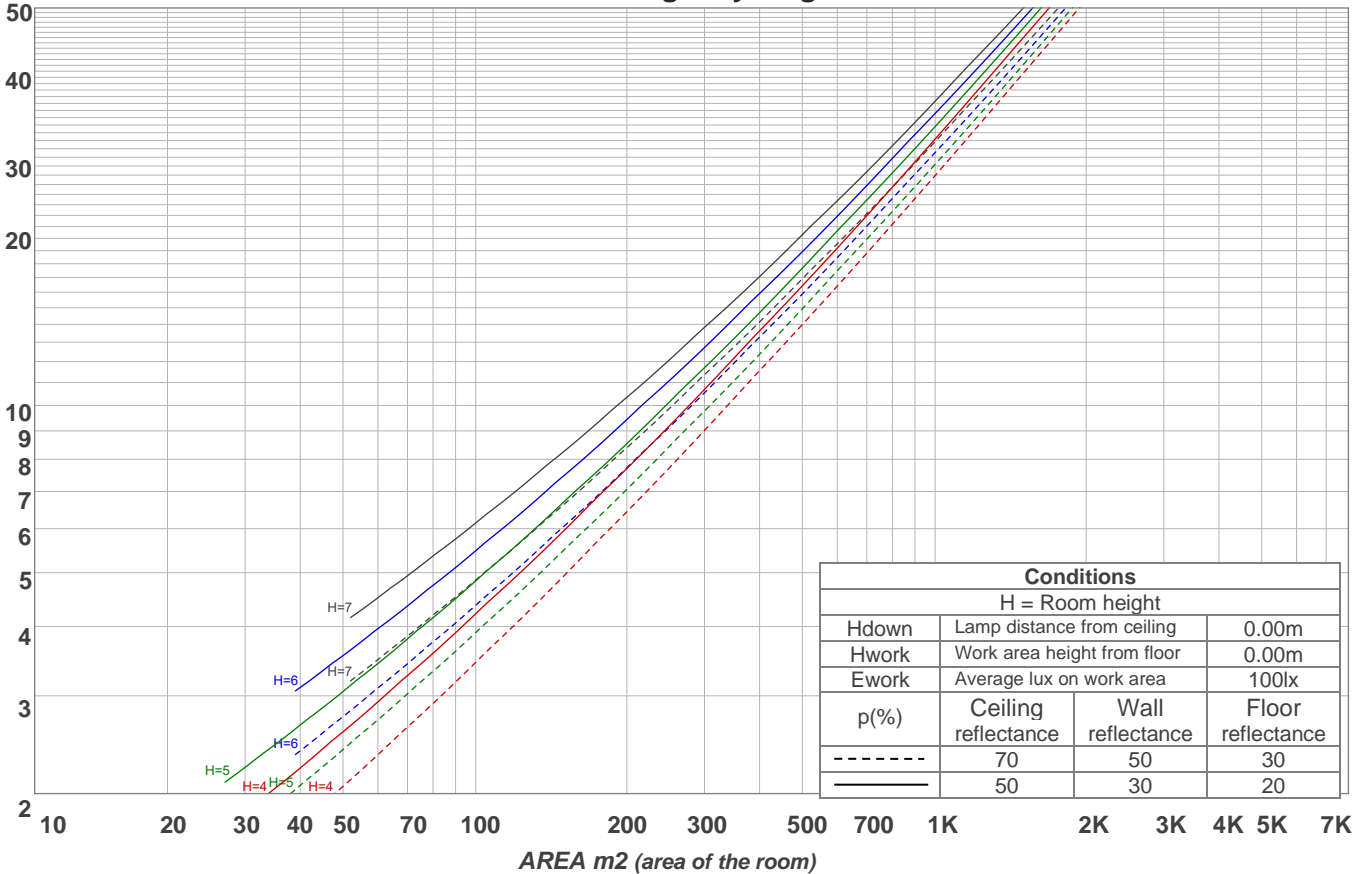
| | | | | | | | | | | | |
|--|--|------|------|------|------|---|------|------|------|------|------|
| p Ceiling | 70 | 70 | 50 | 50 | 30 | 70 | 70 | 50 | 50 | 30 | |
| p Walls | 50 | 30 | 50 | 30 | 30 | 50 | 30 | 50 | 30 | 30 | |
| p Floor | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | |
| Room size X Y | Viewing direction at right angles to lamp axis | | | | | Viewing direction parallel to lamp axis | | | | | |
| 2H | 2H | 17,6 | 18,9 | 17,9 | 19,2 | 19,4 | 17,6 | 18,9 | 17,9 | 19,2 | 19,4 |
| | 3H | 19,1 | 20,4 | 19,6 | 20,7 | 20,9 | 19,1 | 20,4 | 19,6 | 20,7 | 20,9 |
| | 4H | 19,8 | 21,0 | 20,2 | 21,3 | 21,6 | 19,8 | 21,0 | 20,2 | 21,3 | 21,6 |
| | 6H | 20,4 | 21,5 | 20,7 | 21,7 | 22,1 | 20,4 | 21,5 | 20,7 | 21,7 | 22,1 |
| | 8H | 20,5 | 21,6 | 20,9 | 21,9 | 22,3 | 20,5 | 21,6 | 20,9 | 21,9 | 22,3 |
| 12H | 20,6 | 21,7 | 21,0 | 22,0 | 22,5 | 20,6 | 21,7 | 21,0 | 22,0 | 22,5 | |
| 4H | 2H | 18,3 | 19,5 | 18,7 | 19,8 | 20,0 | 18,3 | 19,5 | 18,7 | 19,8 | 20,0 |
| | 3H | 20,1 | 21,1 | 20,5 | 21,4 | 21,9 | 20,1 | 21,1 | 20,5 | 21,4 | 21,9 |
| | 4H | 20,8 | 21,7 | 21,2 | 22,2 | 22,7 | 20,8 | 21,7 | 21,2 | 22,2 | 22,7 |
| | 6H | 21,4 | 22,3 | 21,9 | 22,7 | 23,1 | 21,4 | 22,3 | 21,9 | 22,7 | 23,1 |
| | 8H | 21,6 | 22,5 | 22,2 | 22,8 | 23,2 | 21,6 | 22,5 | 22,2 | 22,8 | 23,2 |
| 12H | 21,8 | 22,5 | 22,3 | 22,9 | 23,4 | 21,8 | 22,5 | 22,3 | 22,9 | 23,4 | |
| 8H | 4H | 21,1 | 21,9 | 21,6 | 22,3 | 22,7 | 21,1 | 21,9 | 21,6 | 22,3 | 22,7 |
| | 6H | 21,9 | 22,5 | 22,4 | 23,0 | 23,5 | 21,9 | 22,5 | 22,4 | 23,0 | 23,5 |
| | 8H | 22,2 | 22,8 | 22,7 | 23,3 | 23,9 | 22,2 | 22,8 | 22,7 | 23,3 | 23,9 |
| | 12H | 22,5 | 22,9 | 23,0 | 23,4 | 24,0 | 22,5 | 22,9 | 23,0 | 23,4 | 24,0 |
| 12H | 4H | 21,1 | 21,8 | 21,6 | 22,2 | 22,7 | 21,1 | 21,8 | 21,6 | 22,2 | 22,7 |
| | 6H | 22,0 | 22,5 | 22,5 | 23,0 | 23,7 | 22,0 | 22,5 | 22,5 | 23,0 | 23,7 |
| | 8H | 22,3 | 22,8 | 22,9 | 23,3 | 23,9 | 22,3 | 22,8 | 22,9 | 23,3 | 23,9 |
| Variation of the observer position for the luminaire distance S | | | | | | | | | | | |
| S = 1.0H | 0,1 / -0,1 | | | | | 0,1 / -0,1 | | | | | |
| S = 1.5H | 0,1 / -0,2 | | | | | 0,1 / -0,2 | | | | | |
| S = 2.0H | 0,4 / -0,4 | | | | | 0,4 / -0,4 | | | | | |
| CIE 117-1995. Corrected glare indices referring to 4211 lm total luminous flux | | | | | | | | | | | |

Coefficients of Utilization

| Ceiling reflectance | 80 | | | | 70 | | | | 50 | | | 30 | | | 10 | | | 0 | | | |
|---------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|---|
| Wall reflectance | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 | | | |
| Floor reflectance | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 0 |
| RCR | (RCR: Room Cavity Ratio) | | | | | | | | | | | | | | | | | | | | |
| | Room Values are expressed as percentage of Lumens delivered to the task surface | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 99 | | | |
| 1 | 108 | 103 | 99 | 95 | 106 | 101 | 97 | 93 | 97 | 93 | 90 | 93 | 90 | 87 | 89 | 87 | 85 | 83 | | | |
| 2 | 98 | 90 | 83 | 77 | 96 | 88 | 81 | 76 | 84 | 79 | 74 | 81 | 76 | 72 | 78 | 74 | 71 | 68 | | | |
| 3 | 89 | 79 | 70 | 64 | 87 | 77 | 69 | 63 | 74 | 67 | 62 | 71 | 65 | 61 | 68 | 64 | 60 | 57 | | | |
| 4 | 82 | 70 | 61 | 54 | 79 | 68 | 60 | 53 | 66 | 58 | 53 | 63 | 57 | 52 | 61 | 55 | 51 | 49 | | | |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 59 | 51 | 45 | 57 | 50 | 45 | 55 | 49 | 44 | 42 | | | |
| 6 | 69 | 56 | 47 | 40 | 67 | 55 | 46 | 40 | 53 | 45 | 40 | 51 | 44 | 39 | 50 | 44 | 39 | 37 | | | |
| 7 | 64 | 51 | 42 | 35 | 62 | 50 | 41 | 35 | 48 | 40 | 35 | 47 | 40 | 35 | 45 | 39 | 34 | 32 | | | |
| 8 | 60 | 46 | 37 | 32 | 58 | 45 | 37 | 31 | 44 | 37 | 31 | 43 | 36 | 31 | 41 | 35 | 31 | 29 | | | |
| 9 | 56 | 42 | 34 | 28 | 54 | 42 | 34 | 28 | 40 | 33 | 28 | 39 | 33 | 28 | 38 | 32 | 28 | 26 | | | |
| 10 | 52 | 39 | 31 | 26 | 51 | 38 | 31 | 26 | 37 | 30 | 25 | 36 | 30 | 25 | 35 | 29 | 25 | 23 | | | |

LAMPS (number of lamps)

Luminaire budgetary diagram



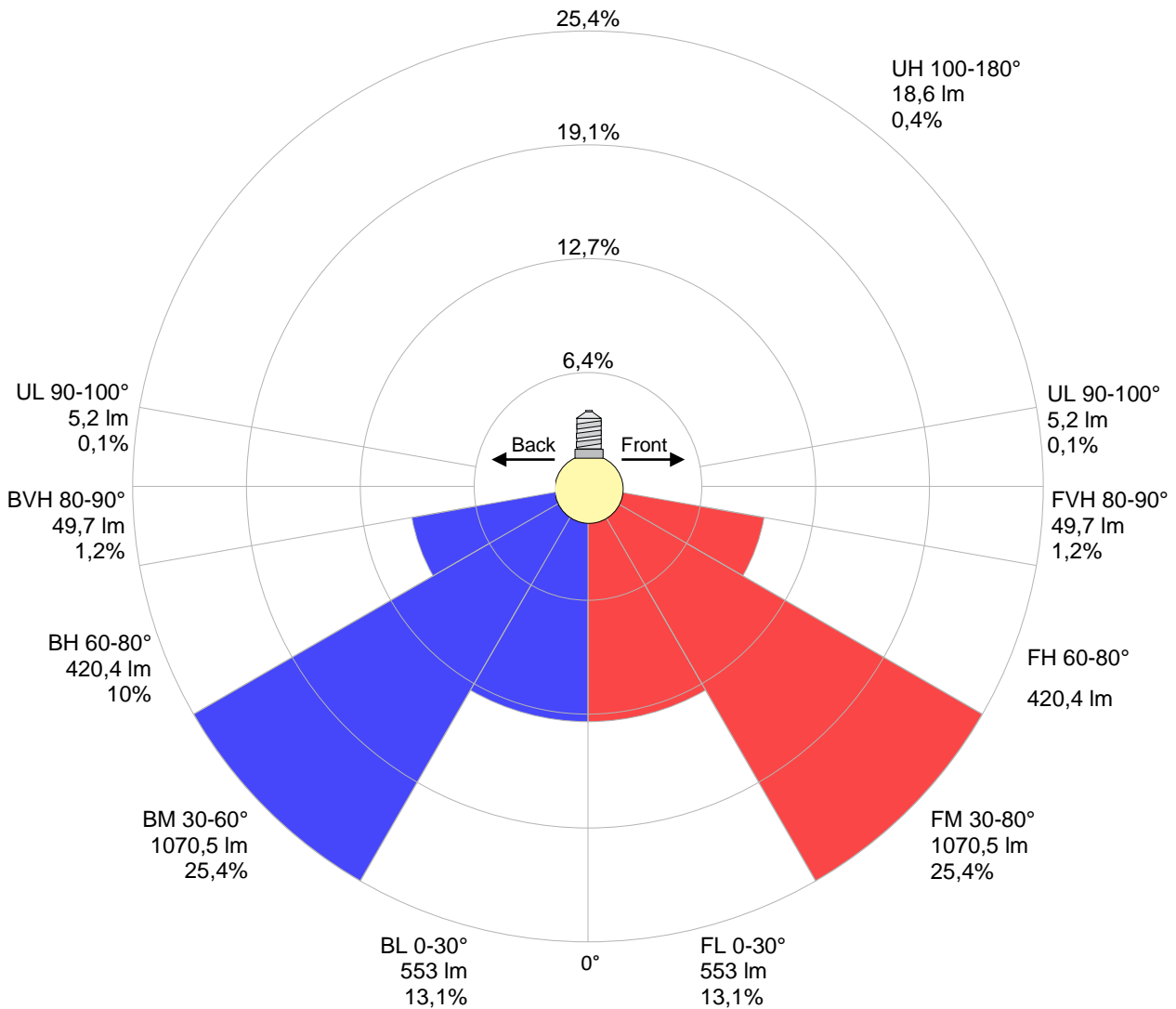
Zonal Lumen Summary

| 0°-10° | 10°-20° | 20°-30° | 30°-40° | 40°-50° | 50°-60° | 60°-70° | 70°-80° | 80°-90° |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| {LUM0-10} | 386 lm | 588 lm | 715 lm | 748 lm | 683 lm | 528 lm | 313 lm | 95,0 lm |
| 90°-100° | 100°-110° | 110°-120° | 120°-130° | 130°-140° | 140°-150° | 150°-160° | 160°-170° | 170°-180° |
| 2,56 lm | 2,53 lm | 3,06 lm | 3,19 lm | 3,00 lm | 2,77 lm | 2,20 lm | 1,39 lm | 0,484 lm |

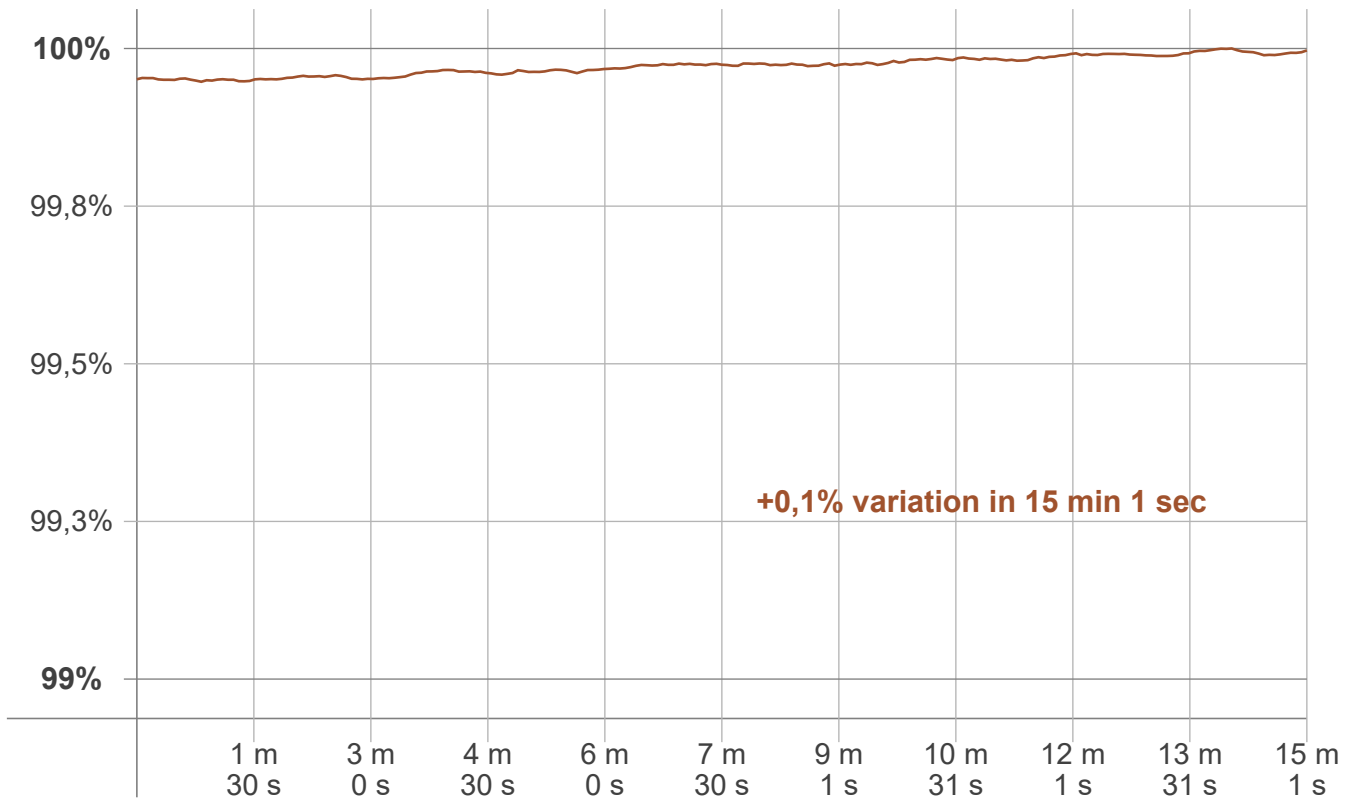
LCS table

| BUG rating: | B2 U2 G1 | |
|----------------------|----------|----------|
| Forward light | Lumens | Lumens % |
| Low(0-30): | 553 | 13,1% |
| Medium(30-60): | 1070,5 | 25,4% |
| High(60-80): | 420,4 | 10% |
| Very high(80-90): | 49,7 | 1,2% |
| Back light | | |
| Low(0-30): | 553 | 13,1% |
| Medium(30-60): | 1070,5 | 25,4% |
| High(60-80): | 420,4 | 10% |
| Very high(80-90): | 49,7 | 1,2% |
| Uplight | | |
| Low(90-100): | 5,2 | 0,1% |
| High(100-180): | 18,6 | 0,4% |

LCS graph



Warmup curve



Warmup result

| | |
|-------------------------|--|
| Warmup time: | Lamp stabilized in 15 min 1 sec |
| Warmup variation | +0,1% |

Warmup conditions

| | |
|---------------------------|---------------|
| Stable period: | 15 min |
| Stable change max: | 2,0% |
| Minimum time: | 15 min |

Color temperature change

| CCT start | CCT change | CCT end |
|------------------|-------------------|----------------|
| 2999 K | +1 K | 3000 K |

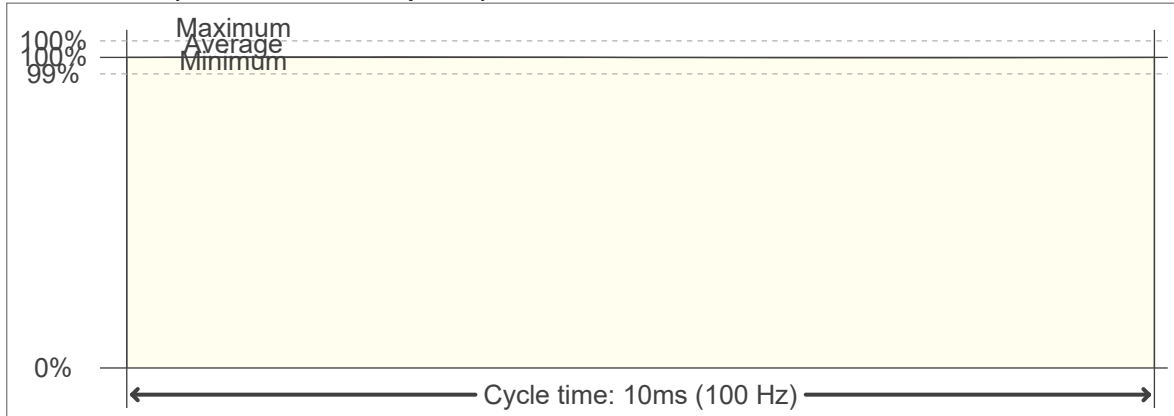
Output change

| Output start | Output change | Output end |
|---------------------|----------------------|-------------------|
| 4209 lm | +2 lm | 4211 lm |

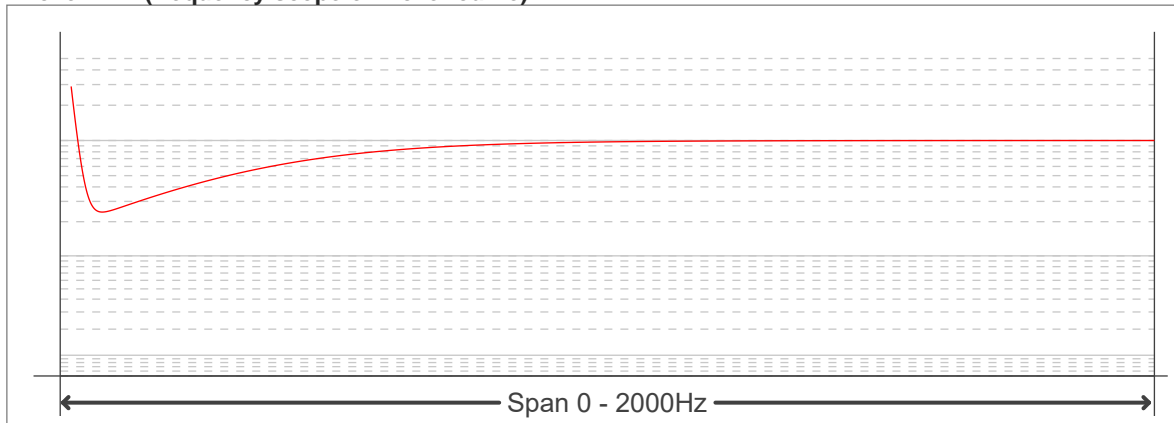
Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

| Flicker frequency: | | 100 Hz | |
|-----------------------|--------|---------------|--------|
| Flicker index: | 0 | JA8/10 40Hz | 0,02 % |
| Flicker percentage: | 0,22 % | JA8/10 90Hz | 0,03 % |
| SVM: (Visual flicker) | 0,01 | JA8/10 200Hz | 0,17 % |
| PstLM | 0,01 | JA8/10 400Hz | 0,18 % |
| Mp | 0,01 | JA8/10 1000Hz | 0,21 % |

Flicker conditions:

| | |
|--------------|----------------------|
| Sample rate: | 20000 samples/second |
|--------------|----------------------|