

Light efficiency:

n/a Lumen/Watt

Light quality:

CRI: 95.7

Color temperature:

4266 K

Output: 612 lm

Peak: 210 cd

Power: 0.00 W

PF: n/a

No photo

Tracking number: [n/a](#)

Product name:

Suspan X PrimaLine 9 -4200K

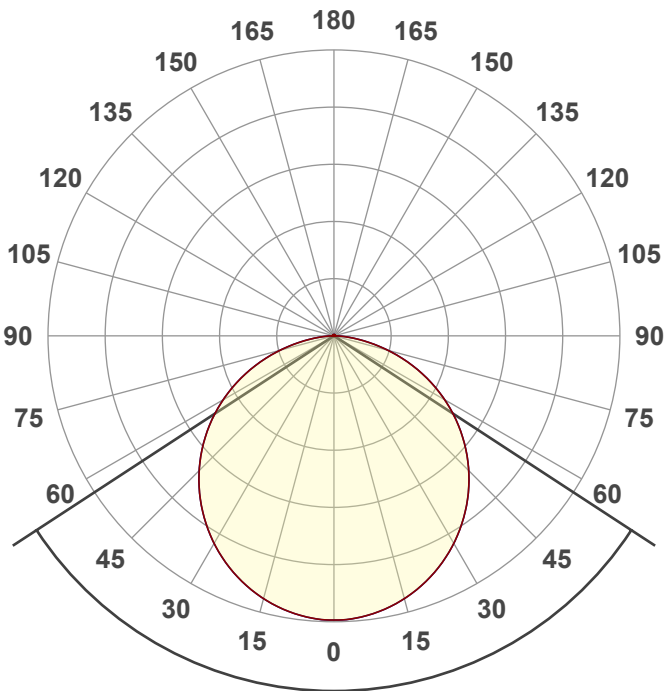
Item number:

AL-01-22-2403-CU-IN

Date and time:

10/11/2023 8:06:08 AM

Description:



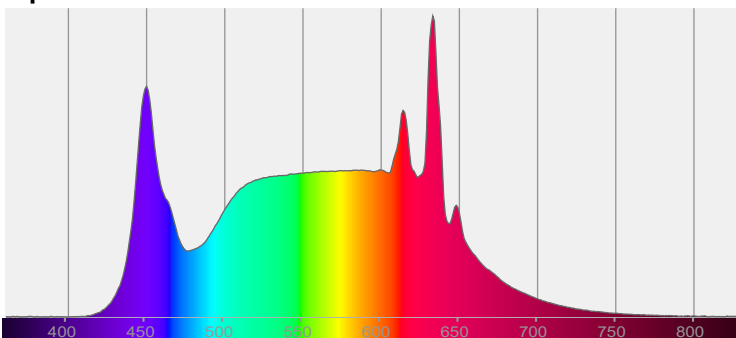
Beam angle

113.7°

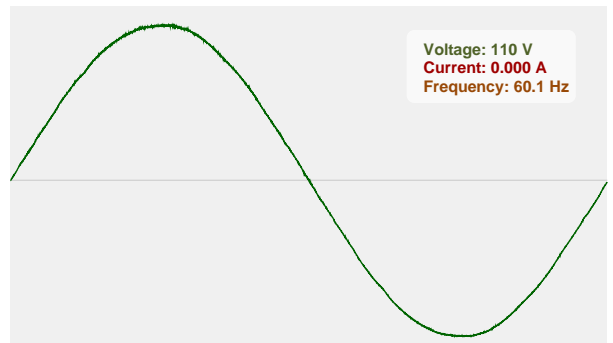


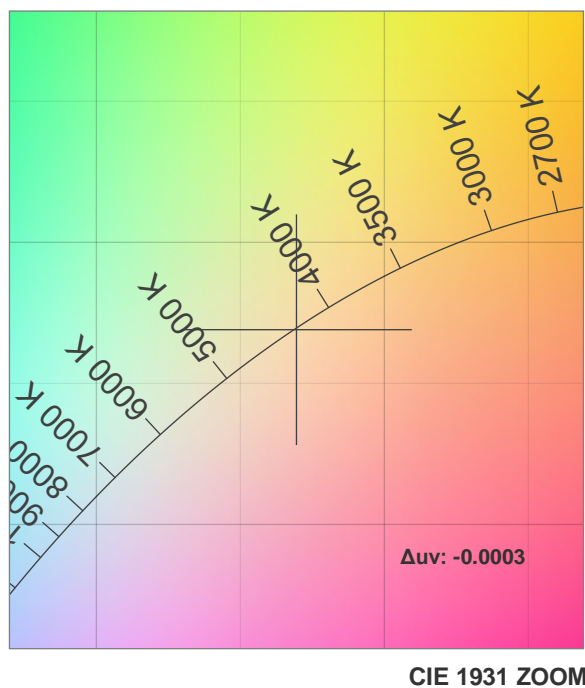
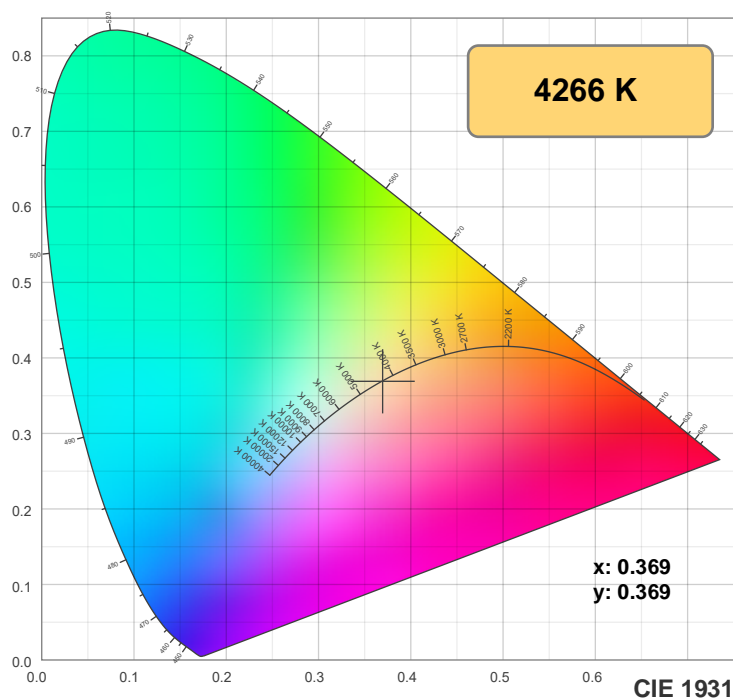
CIE 1931
x: 0.369
y: 0.369

Spectra

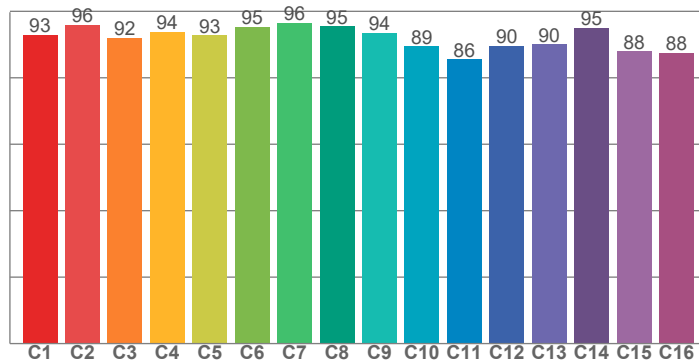


Power

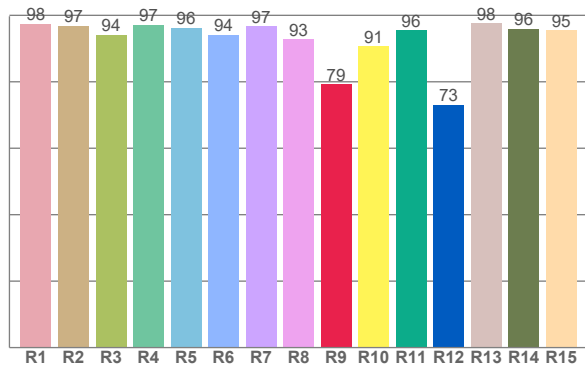




TM30: 91.9



CRI: 95.7 (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 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 97.5 | 96.8 | 94.1 | 97.1 | 96.3 | 94.1 | 96.7 | 92.9 | 79.3 | 90.6 | 95.5 | 73.1 | 97.5 | 96.0 | 95.5 |

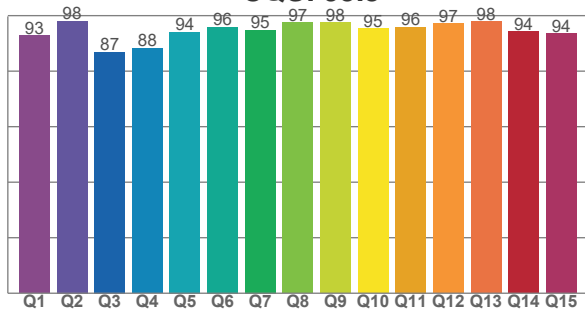
TM30 C values, 16 binned values out of total of 99 C values

| C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | C11 | C12 | C13 | C14 | C15 | C16 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 93.0 | 95.9 | 91.9 | 93.9 | 92.8 | 95.3 | 96.5 | 95.4 | 93.5 | 89.5 | 85.5 | 89.6 | 90.1 | 95.0 | 88.0 | 87.5 |

CQS Q values

| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 92.9 | 98.1 | 86.8 | 88.3 | 94.0 | 95.9 | 94.8 | 97.5 | 97.5 | 95.3 | 95.9 | 97.1 | 97.9 | 94.2 | 93.5 |

CQS: 93.8



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 |
| 4266 K | 95.7 | 79.3 | 91.9 | 100.7 | 93.8 | 0.369 | 0.369 | 0.221 | 0.331 | -0.0003 |

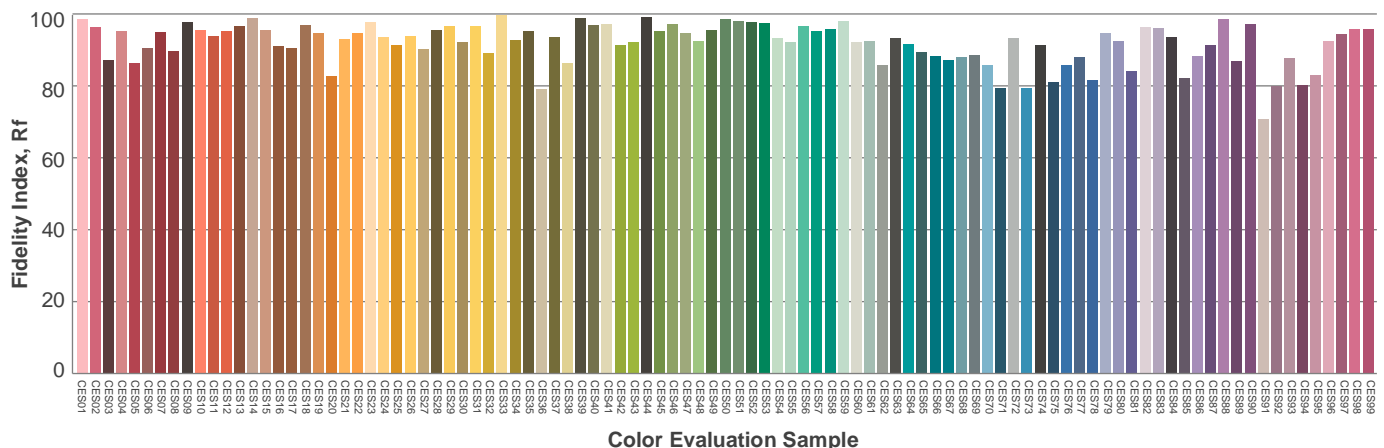
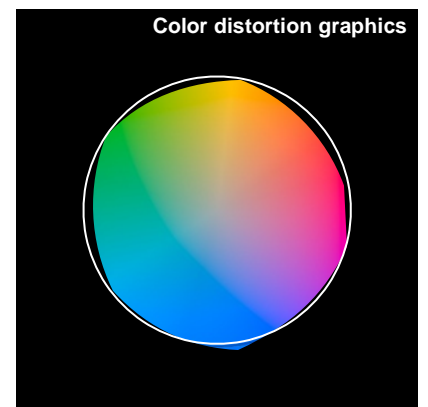
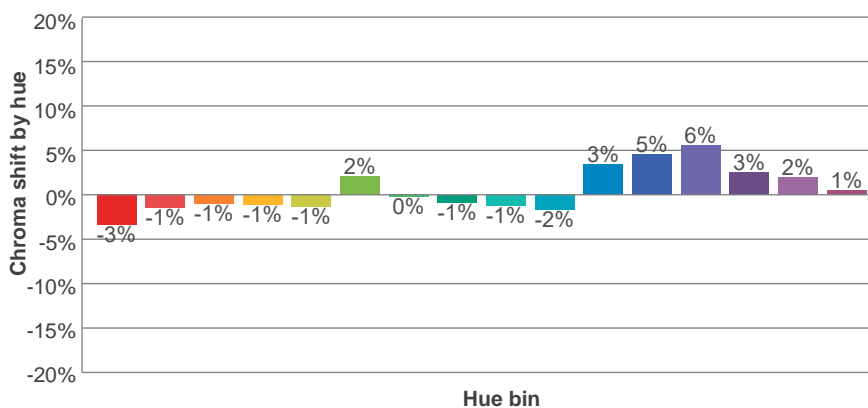
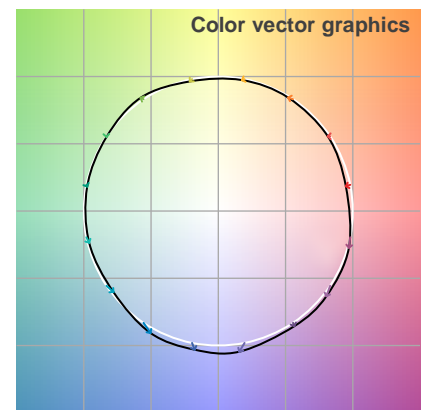
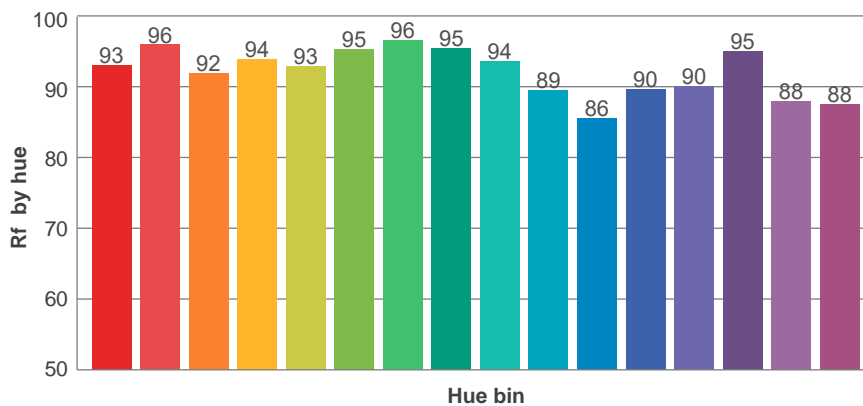
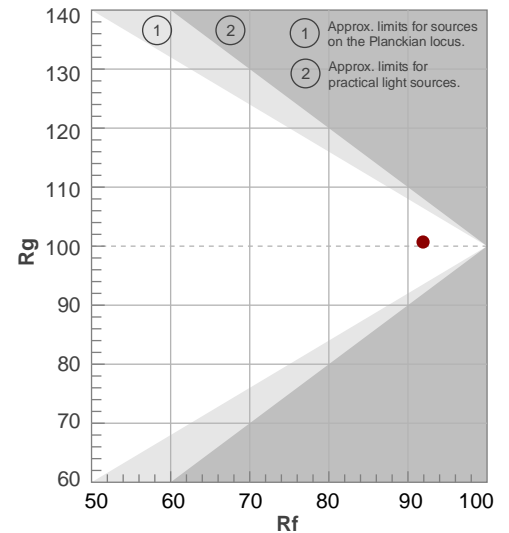
Rf 91.9

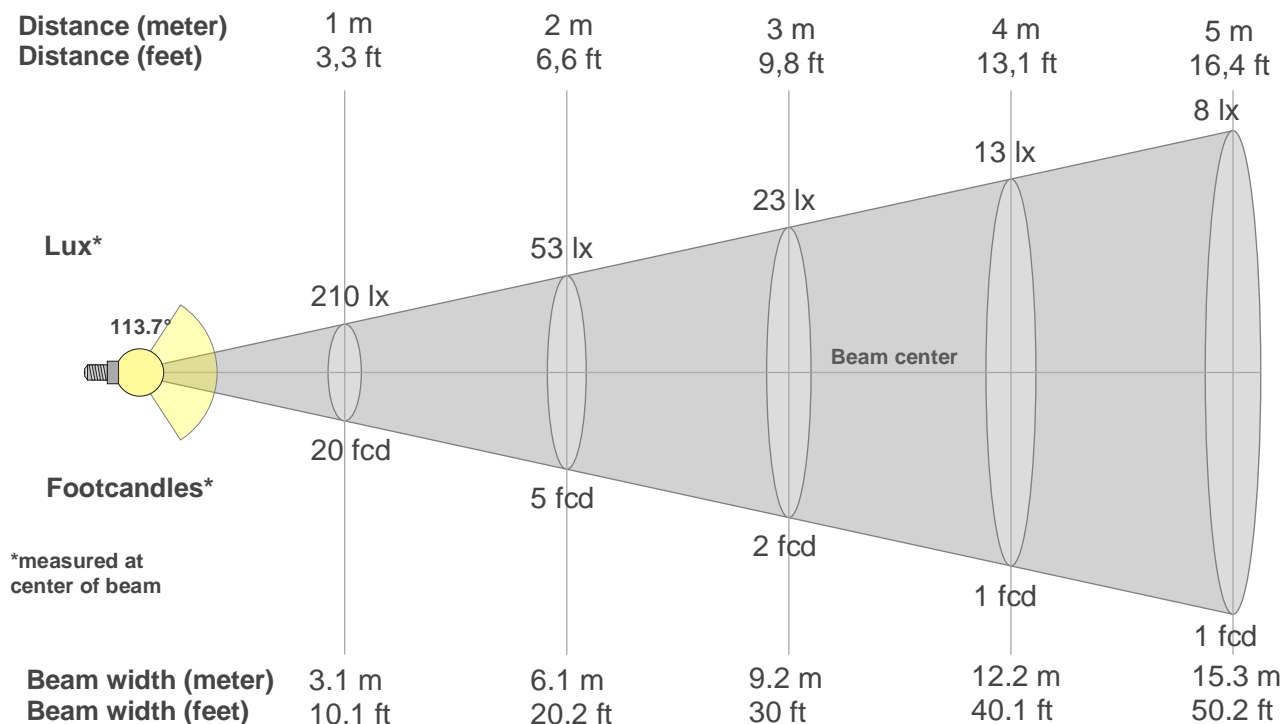
Fidelity index Rf

Rg 100.7

Gamut index Rg

| Hue Bin | R _f | Shifts (%) | |
|---------|----------------|------------|-----|
| | | Chroma | Hue |
| 1 | 93 | -3% | 0% |
| 2 | 96 | -1% | 1% |
| 3 | 92 | -1% | 4% |
| 4 | 94 | -1% | 2% |
| 5 | 93 | -1% | 2% |
| 6 | 95 | 2% | 1% |
| 7 | 96 | 0% | 0% |
| 8 | 95 | -1% | 1% |
| 9 | 94 | -1% | 4% |
| 10 | 89 | -2% | 7% |
| 11 | 86 | 3% | 8% |
| 12 | 90 | 5% | 3% |
| 13 | 90 | 6% | -5% |
| 14 | 95 | 3% | -1% |
| 15 | 88 | 2% | -8% |
| 16 | 88 | 1% | -8% |





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 |
| 210lx | 53lx | 23lx | 13lx | 8lx | 6lx | 4lx | 3lx | 3lx | 2lx | 2lx | 1lx | 1lx | 1lx | 1lx | 1lx | 1lx | 1lx | 1lx | 1lx |
| 19.5fcd | 4.9fcd | 2.2fcd | 1.2fcd | 0.8fcd | 0.5fcd | 0.4fcd | 0.3fcd | 0.2fcd | 0.2fcd | 0.2fcd | 0.1fcd | 0.1fcd | 0.1fcd | 0.1fcd | 0.1fcd | 0.1fcd | 0.1fcd | 0.1fcd | 0fcd |

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° |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 210 | 209 | 206 | 201 | 195 | 187 | 177 | 166 | 154 | 141 | 127 | 111 | 95 | 77 | 59 | 41 | 24 | 10 | 2 | 1 |
| 100% | 99% | 98% | 96% | 93% | 89% | 84% | 79% | 73% | 67% | 60% | 53% | 45% | 37% | 28% | 20% | 11% | 5% | 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° |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 210 | 209 | 206 | 201 | 195 | 187 | 177 | 166 | 154 | 141 | 127 | 111 | 95 | 77 | 59 | 41 | 24 | 10 | 2 | 1 |
| 100% | 99% | 98% | 96% | 93% | 89% | 84% | 79% | 73% | 67% | 60% | 53% | 45% | 37% | 28% | 20% | 11% | 5% | 1% | 0% |

Intensities in 180° c-plane

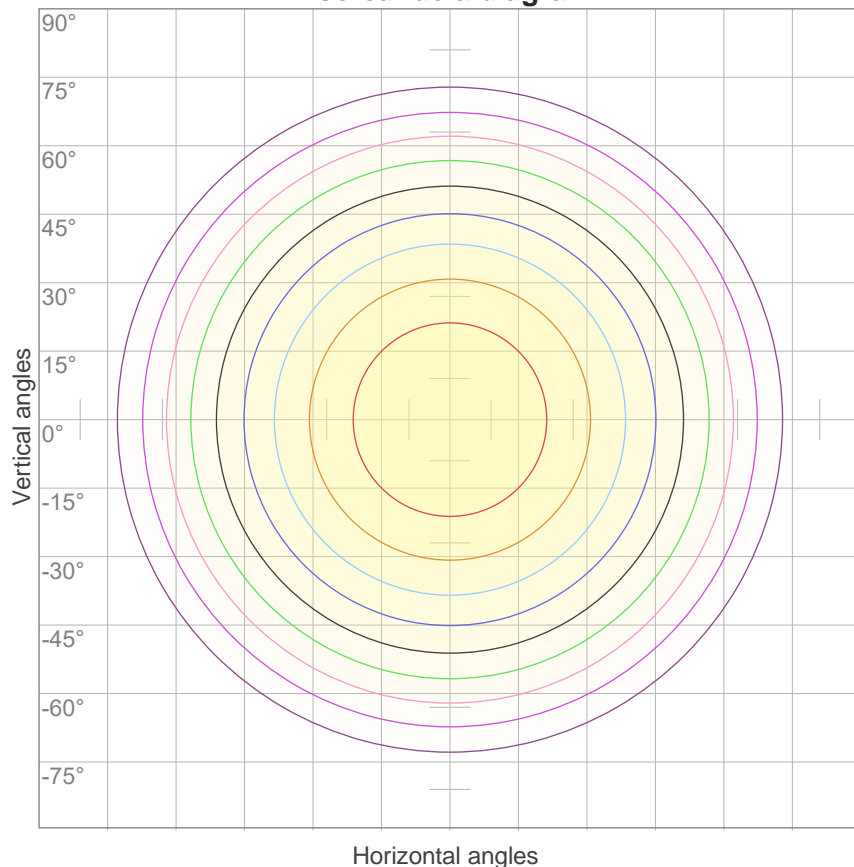
| 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° | 95° |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 210 | 209 | 206 | 201 | 195 | 187 | 177 | 166 | 154 | 141 | 127 | 111 | 95 | 77 | 59 | 41 | 24 | 10 | 2 | 1 |
| 100% | 99% | 98% | 96% | 93% | 89% | 84% | 79% | 73% | 67% | 60% | 53% | 45% | 37% | 28% | 20% | 11% | 5% | 1% | 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° |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 210 | 209 | 206 | 201 | 195 | 187 | 177 | 166 | 154 | 141 | 127 | 111 | 95 | 77 | 59 | 41 | 24 | 10 | 2 | 1 |
| 100% | 99% | 98% | 96% | 93% | 89% | 84% | 79% | 73% | 67% | 60% | 53% | 45% | 37% | 28% | 20% | 11% | 5% | 1% | 0% |

| Beam angle 50% | Field angle 10% | Cutoff angle 2,5% | Intensity ratio in 120° cone | Intensity ratio in 90° cone |
|----------------|-----------------|-------------------|------------------------------|-----------------------------|
| 113.7° | 161.9° | 174.2° | 77.6% | 52.5% |

iso-candela diagram



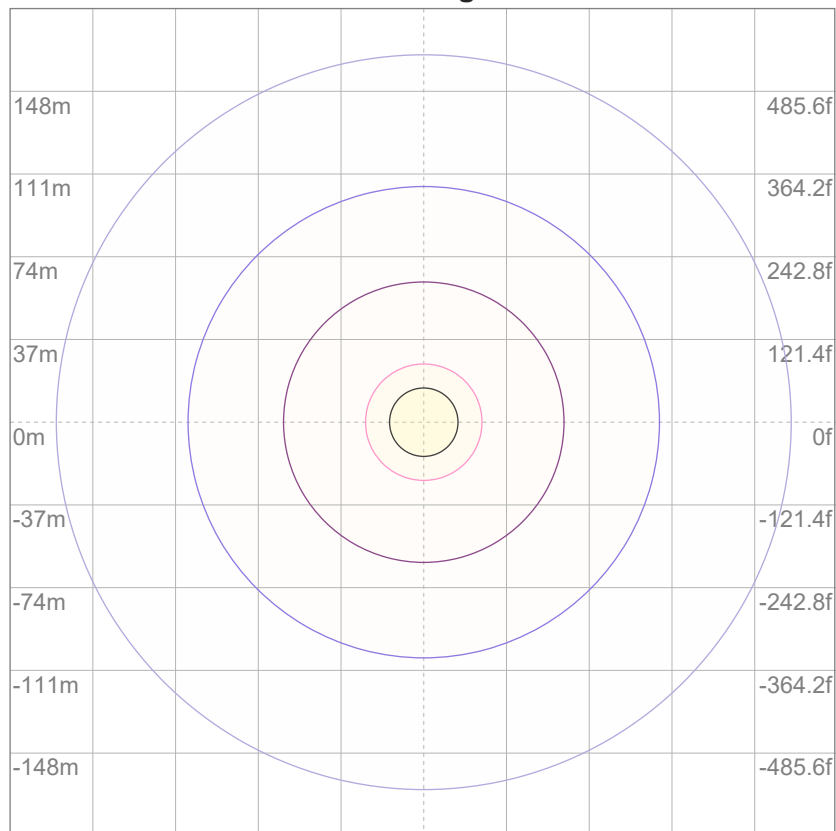
| | |
|-----|--------|
| 10% | 21 cd |
| 20% | 42 cd |
| 30% | 63 cd |
| 40% | 84 cd |
| 50% | 105 cd |
| 60% | 126 cd |
| 70% | 147 cd |
| 80% | 168 cd |
| 90% | 189 cd |

Conditions:

Number of c-planes: 12

Candela at center: 210 cd

iso-lux diagram



| | |
|-----|----------|
| 3% | 63.1m lx |
| 5% | 0.105 lx |
| 10% | 0.210 lx |
| 30% | 0.631 lx |
| 50% | 1.05 lx |

Conditions:

Number of c-planes: 12

Lux at center: 2.10 lx

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

Glare evaluation according to UGR

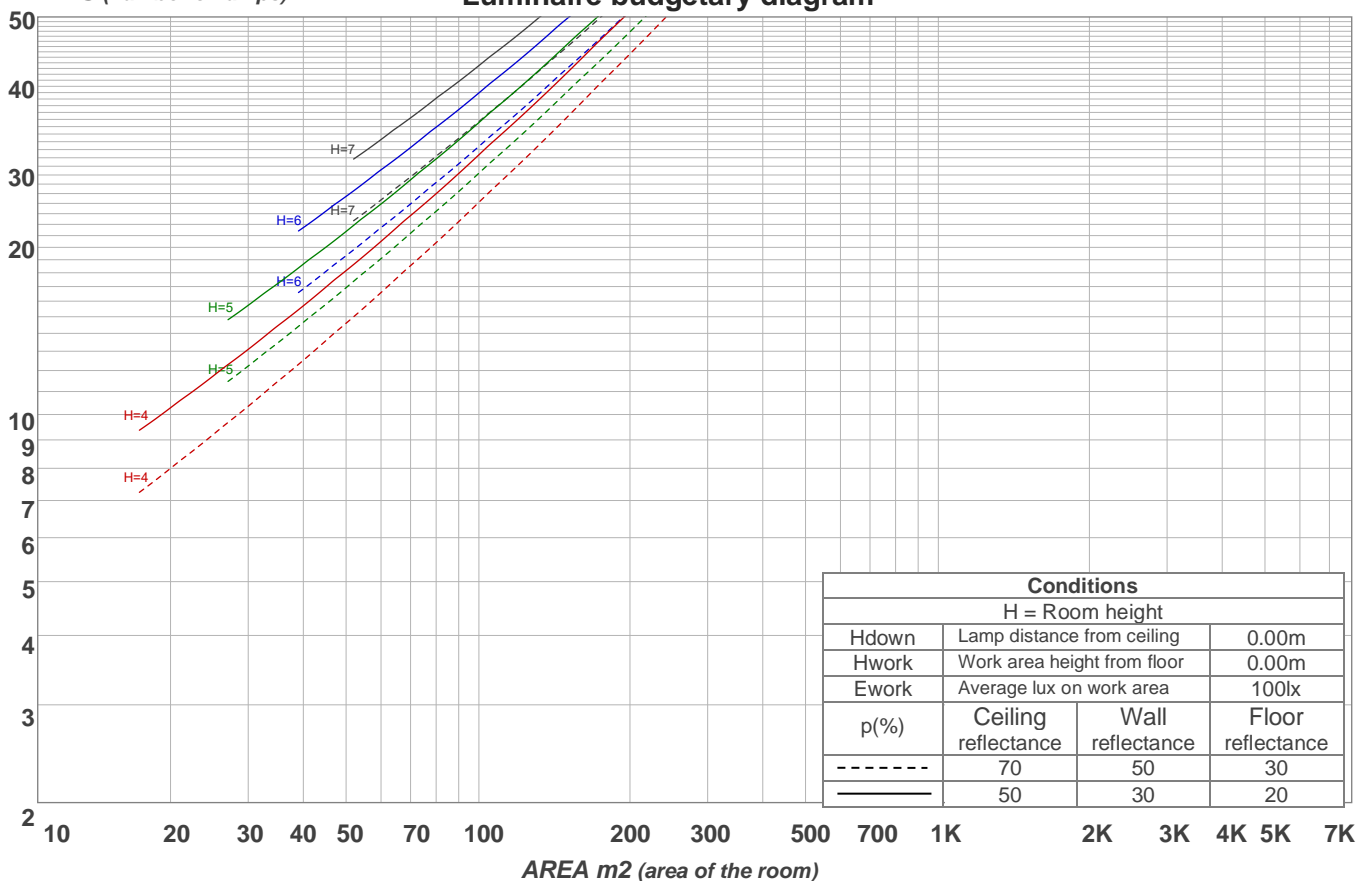
| | | | | | | | | | | | |
|---|-----|---|------|------|------|------|---|------|------|------|------|
| p Ceiling | | 70 | 70 | 50 | 50 | 30 | 70 | 70 | 50 | 50 | 30 |
| p Walls | | 50 | 30 | 50 | 30 | 30 | 50 | 30 | 50 | 30 | 30 |
| p Floor | | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Room size X Y | | Viewing direction at right angles to lamp axis | | | | | Viewing direction parallel to lamp axis | | | | |
| 2H | 2H | 19.6 | 20.8 | 19.8 | 21.1 | 21.4 | 21.1 | 22.3 | 21.3 | 22.6 | 22.9 |
| | 3H | 20.6 | 21.9 | 21.0 | 22.1 | 22.4 | 22.4 | 23.7 | 22.9 | 24.0 | 24.2 |
| | 4H | 21.0 | 22.2 | 21.4 | 22.5 | 22.7 | 23.0 | 24.2 | 23.4 | 24.5 | 24.8 |
| | 6H | 21.2 | 22.3 | 21.5 | 22.6 | 23.0 | 23.4 | 24.5 | 23.8 | 24.8 | 25.2 |
| | 8H | 21.2 | 22.3 | 21.6 | 22.6 | 23.0 | 23.5 | 24.5 | 23.9 | 24.9 | 25.3 |
| | 12H | 21.2 | 22.2 | 21.6 | 22.6 | 23.0 | 23.5 | 24.5 | 23.9 | 24.9 | 25.3 |
| 4H | 2H | 20.1 | 21.3 | 20.6 | 21.6 | 21.9 | 21.3 | 22.6 | 21.8 | 22.8 | 23.1 |
| | 3H | 21.4 | 22.4 | 21.8 | 22.8 | 23.3 | 23.0 | 24.0 | 23.4 | 24.3 | 24.8 |
| | 4H | 21.8 | 22.7 | 22.3 | 23.2 | 23.7 | 23.6 | 24.5 | 24.0 | 24.9 | 25.5 |
| | 6H | 22.1 | 22.9 | 22.6 | 23.3 | 23.7 | 24.0 | 24.9 | 24.5 | 25.2 | 25.6 |
| | 8H | 22.1 | 22.9 | 22.6 | 23.3 | 23.7 | 24.1 | 24.9 | 24.6 | 25.3 | 25.7 |
| | 12H | 22.1 | 22.8 | 22.6 | 23.2 | 23.7 | 24.2 | 24.8 | 24.7 | 25.3 | 25.8 |
| 8H | 4H | 22.0 | 22.8 | 22.5 | 23.2 | 23.6 | 23.6 | 24.4 | 24.2 | 24.8 | 25.2 |
| | 6H | 22.4 | 23.0 | 22.9 | 23.5 | 24.0 | 24.2 | 24.8 | 24.7 | 25.2 | 25.8 |
| | 8H | 22.5 | 23.0 | 23.0 | 23.6 | 24.2 | 24.3 | 24.9 | 24.9 | 25.4 | 26.1 |
| | 12H | 22.5 | 23.0 | 23.1 | 23.5 | 24.1 | 24.4 | 24.9 | 25.0 | 25.4 | 26.0 |
| 12H | 4H | 22.0 | 22.7 | 22.5 | 23.1 | 23.6 | 23.6 | 24.3 | 24.1 | 24.7 | 25.2 |
| | 6H | 22.4 | 23.0 | 22.9 | 23.5 | 24.1 | 24.2 | 24.7 | 24.7 | 25.2 | 25.9 |
| | 8H | 22.5 | 23.0 | 23.1 | 23.5 | 24.1 | 24.3 | 24.8 | 24.9 | 25.3 | 25.9 |
| Variation of the observer position for the luminaire distance S | | | | | | | | | | | |
| S = 1.0H | | 0.1 / -0.2 | | | | | 0.1 / -0.1 | | | | |
| S = 1.5H | | 0.3 / -0.5 | | | | | 0.4 / -0.5 | | | | |
| S = 2.0H | | 0.7 / -1.0 | | | | | 1.0 / -1.1 | | | | |
| CIE 117-1995. Corrected glare indices referring to 612 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 | 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 | 101 | 101 | 101 | 99 |
| 1 | 108 | 104 | 99 | 95 | 106 | 101 | 97 | 94 | 97 | 94 | 91 | 93 | 90 | 88 | 89 | 87 | 85 | 83 |
| 2 | 98 | 90 | 83 | 77 | 96 | 88 | 82 | 76 | 84 | 79 | 74 | 81 | 77 | 73 | 78 | 74 | 71 | 69 |
| 3 | 90 | 79 | 71 | 64 | 87 | 77 | 70 | 63 | 74 | 68 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 80 | 68 | 60 | 54 | 66 | 59 | 53 | 63 | 57 | 52 | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 47 | 73 | 61 | 53 | 46 | 59 | 51 | 46 | 57 | 50 | 45 | 55 | 49 | 44 | 42 |
| 6 | 70 | 56 | 47 | 41 | 68 | 55 | 47 | 40 | 53 | 46 | 40 | 51 | 45 | 39 | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 48 | 41 | 35 | 47 | 40 | 35 | 45 | 39 | 35 | 33 |
| 8 | 60 | 46 | 38 | 32 | 58 | 46 | 37 | 32 | 44 | 37 | 31 | 43 | 36 | 31 | 42 | 35 | 31 | 29 |
| 9 | 56 | 42 | 34 | 29 | 54 | 42 | 34 | 29 | 41 | 33 | 28 | 39 | 33 | 28 | 38 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 26 | 36 | 30 | 25 | 24 |

LAMPS (number of lamps)

Luminaire budgetary diagram



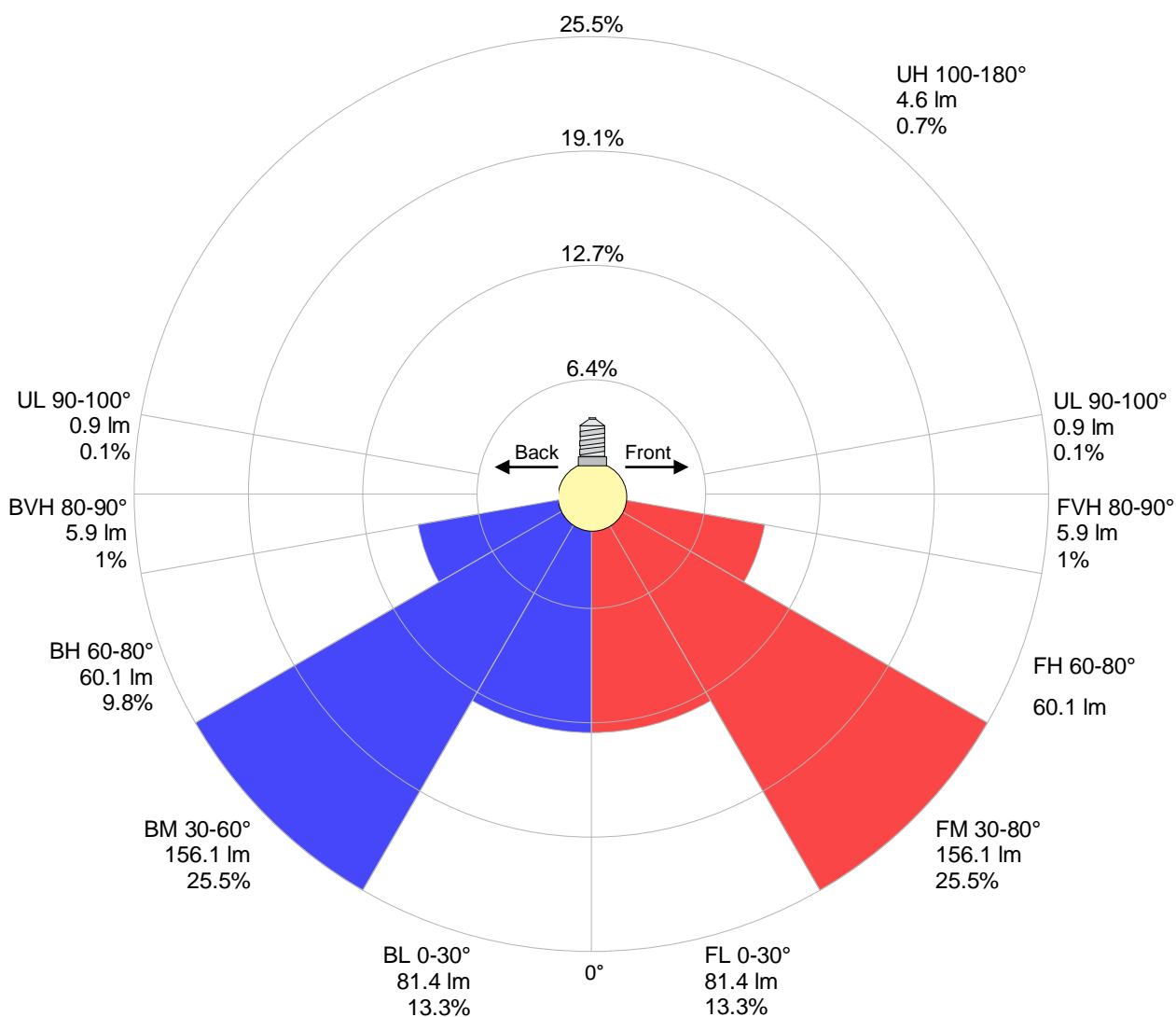
Zonal Lumen Summary

| 0°-10° | 10°-20° | 20°-30° | 30°-40° | 40°-50° | 50°-60° | 60°-70° | 70°-80° | 80°-90° |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| {LUM0-10} | 56.8 lm | 86.1 lm | 104 lm | 109 lm | 99.3 lm | 76.5 lm | 43.7 lm | 11.6 lm |
| 90°-100° | 100°-110° | 110°-120° | 120°-130° | 130°-140° | 140°-150° | 150°-160° | 160°-170° | 170°-180° |
| 0.872 lm | 0.768 lm | 0.789 lm | 0.793 lm | 0.721 lm | 0.614 lm | 0.479 lm | 0.314 lm | 0.111 lm |

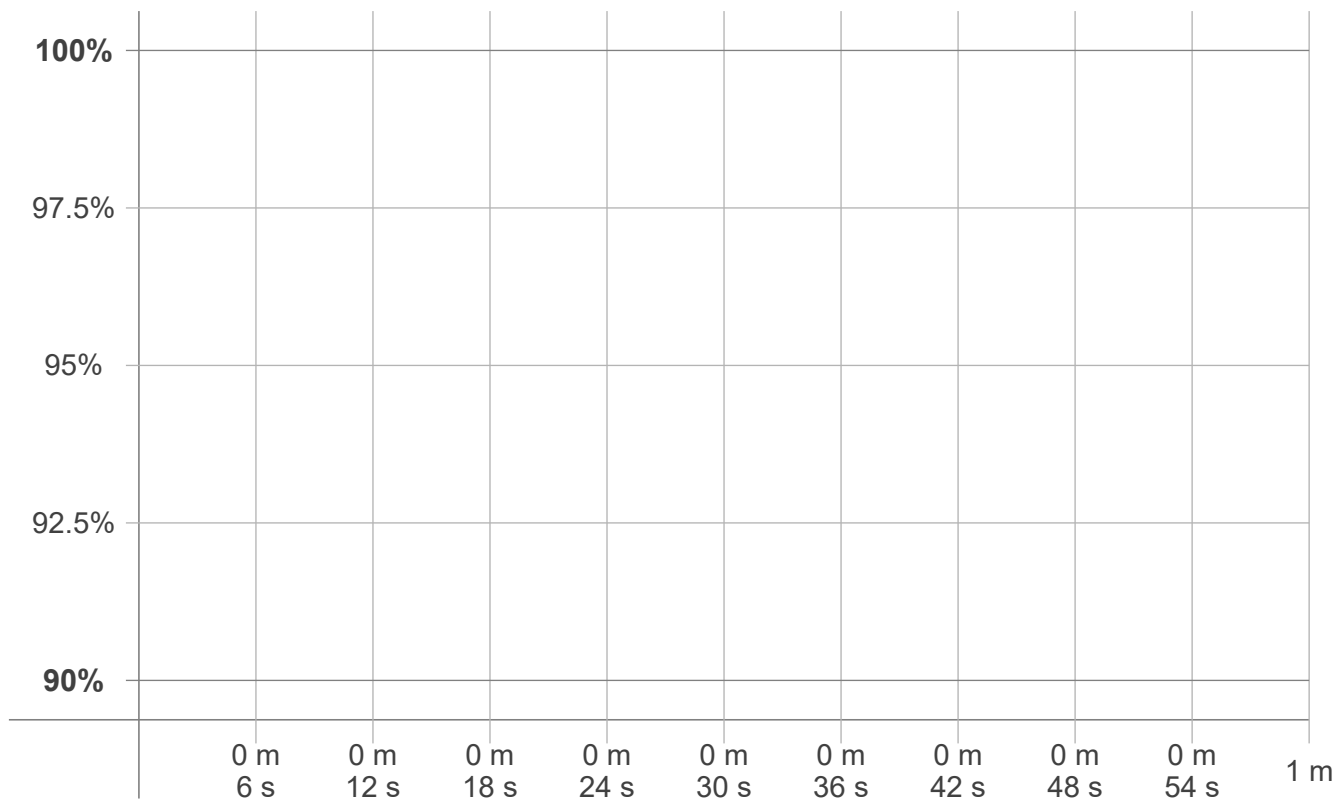
LCS table

| BUG rating: | B0 U1 G0 | |
|-------------------|----------|----------|
| Forward light | Lumens | Lumens % |
| Low(0-30): | 81.4 | 13.3% |
| Medium(30-60): | 156.1 | 25.5% |
| High(60-80): | 60.1 | 9.8% |
| Very high(80-90): | 5.9 | 1% |
| Back light | | |
| Low(0-30): | 81.4 | 13.3% |
| Medium(30-60): | 156.1 | 25.5% |
| High(60-80): | 60.1 | 9.8% |
| Very high(80-90): | 5.9 | 1% |
| Uplight | | |
| Low(90-100): | 0.9 | 0.1% |
| High(100-180): | 4.6 | 0.7% |

LCS graph



Warmup curve



Warmup result

| | |
|------------------|------|
| Warmup time: | n/a |
| Warmup variation | n/a% |

Warmup conditions

| | |
|--------------------|------|
| Stable period: | n/a |
| Stable change max: | n/a% |
| Minimum time: | n/a |

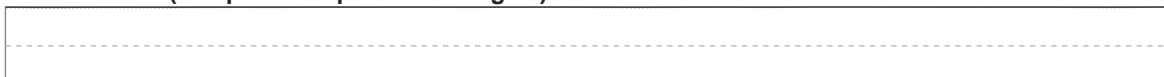
Color temperature change

| CCT start | CCT change | CCT end |
|-----------|------------|---------|
| n/a K | n/a K | 4266 K |

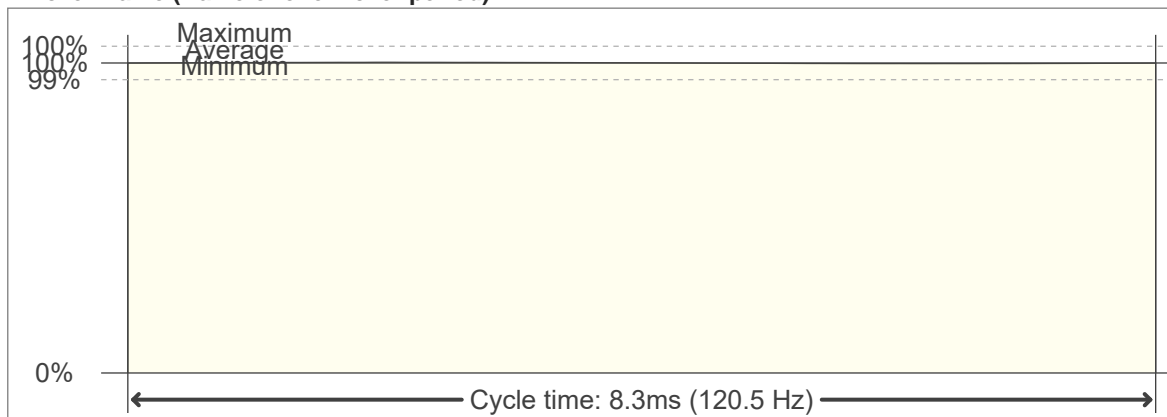
Output change

| Output start | Output change | Output end |
|--------------|---------------|------------|
| n/a lm | n/a lm | 612 lm |

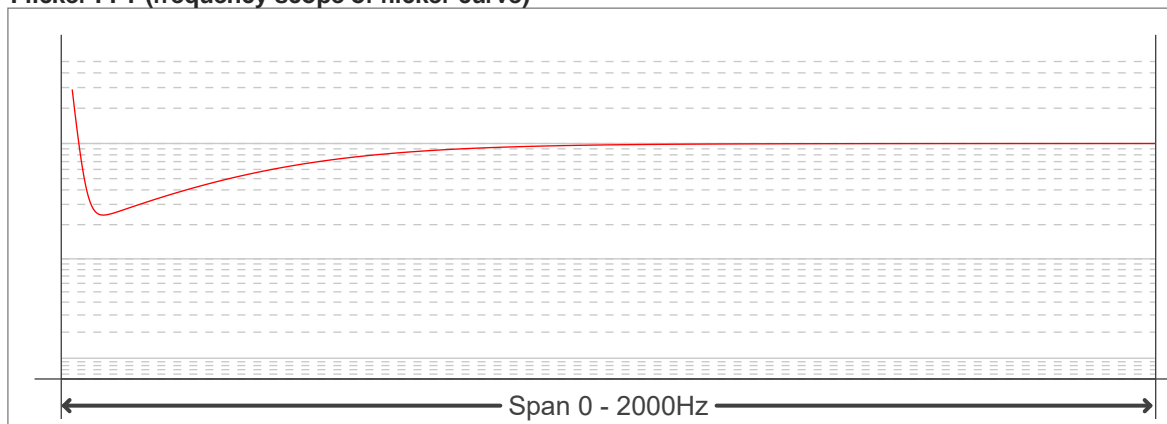
Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

| Flicker frequency: | | 120.48 Hz | |
|-----------------------|--------|---------------|--------|
| Flicker index: | 0 | JA8/10 40Hz | 0.32 % |
| Flicker percentage: | 0.54 % | JA8/10 90Hz | 0.33 % |
| SVM: (Visual flicker) | 0.01 | JA8/10 200Hz | 0.53 % |
| PstLM | 0 | JA8/10 400Hz | 0.54 % |
| Mp | 0.05 | JA8/10 1000Hz | 0.54 % |

Flicker conditions:

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