**Light efficiency:**

40 Lumen/Watt

**Light quality:**

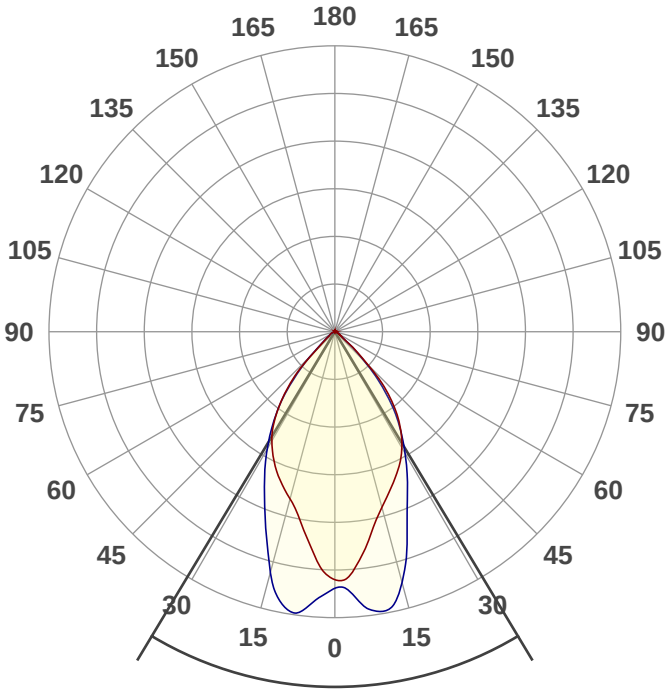
CRI: 0.0

**Color temperature:**

0 K

**Output:** 12285 lm
**Peak:** 12986 cd

**Power:** 307.4 W
**PF:** 1.0



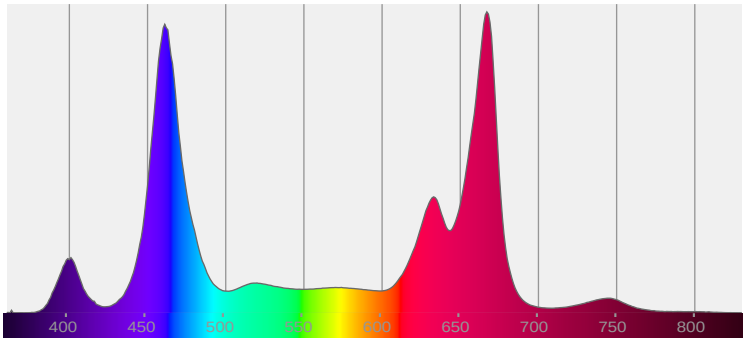

**Beam angle** 62°

**Product name:**
**GLR-390W12F-VBD All On**

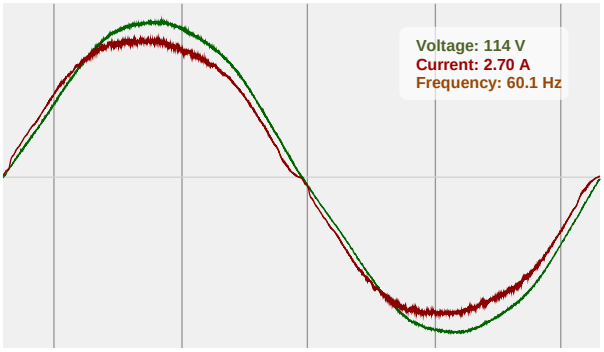
**Date and time:**
**7/22/2020 10:58:00 AM**

**CIE 1931**
**x: 0.286**
**y: 0.184**

**Spectra**




**Power**

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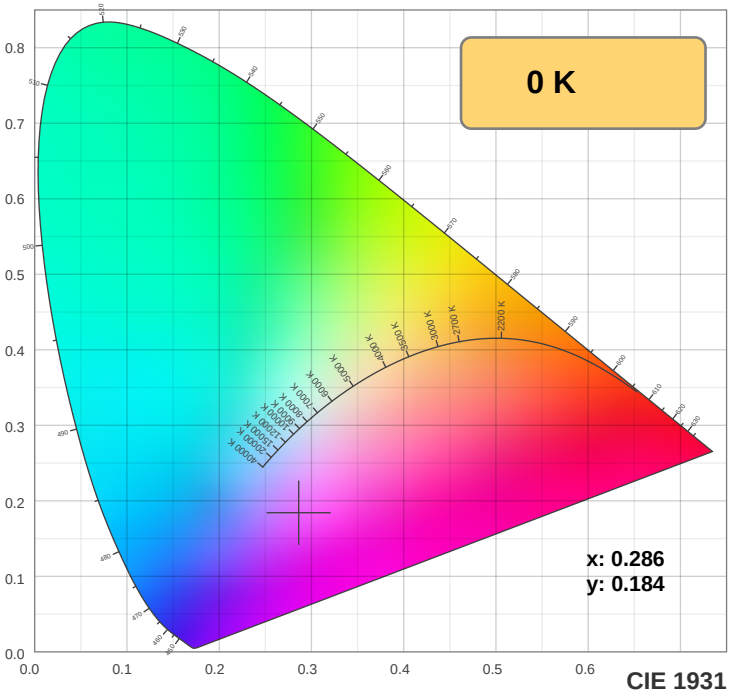
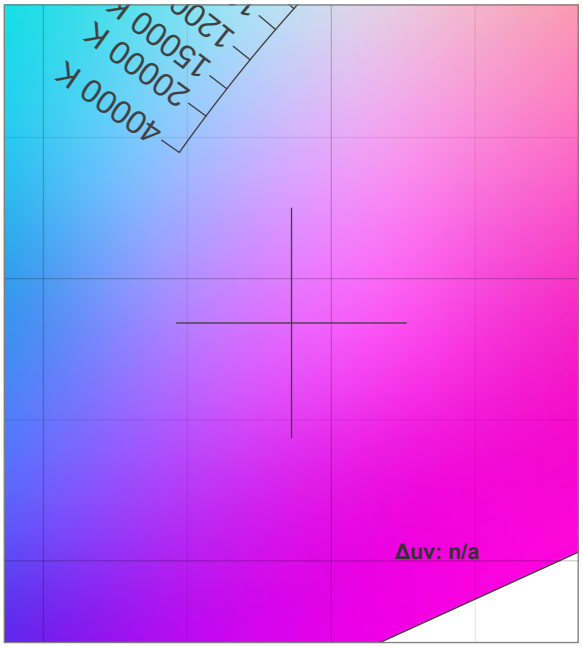
## Color Specifications

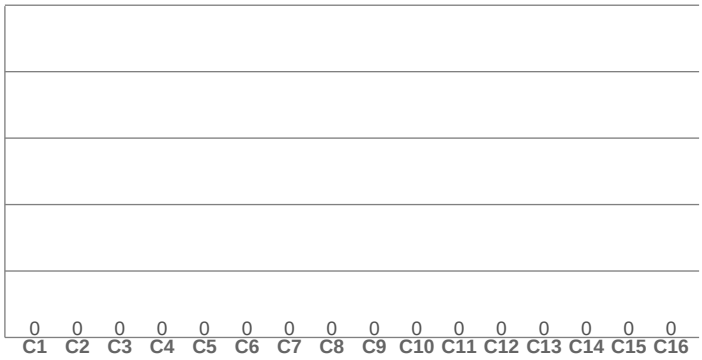



CIE 1931

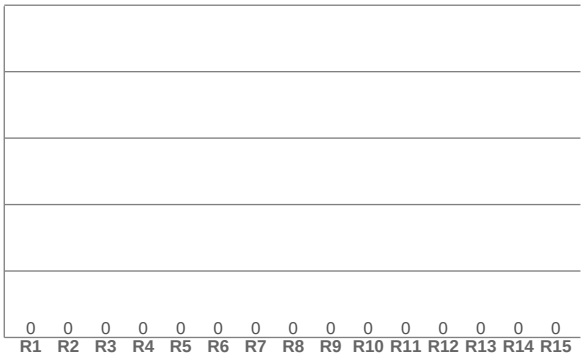



CIE 1931 ZOOM

### TM30: 0.0




### CRI: 0.0 (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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

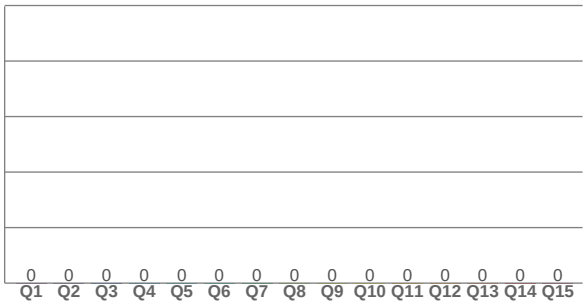
TM30 C values, 16 binned values out of total of 99 C values

| C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | C11 | C12 | C13 | C14 | C15 | C16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

CQS Q values

| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

### CQS: 0.0




### 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 diviation from black body |
|---|---|---|---|---|---|---|---|---|---|---|
| CCT | CRI | CRI R9 | TM30 Rf | TM30 Rg | CQS | x | y | u | v | Δuv |
| 0 K | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.286 | 0.184 | 0.247 | 0.238 | n/a |

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# TM30 Report

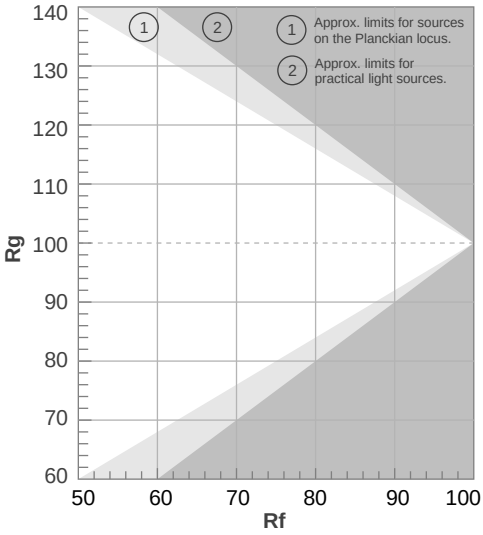
**Rf 0.0**

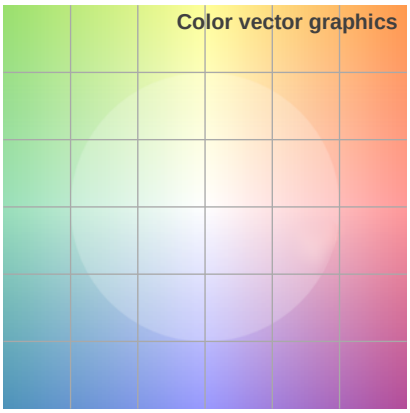
Fidelity index Rf

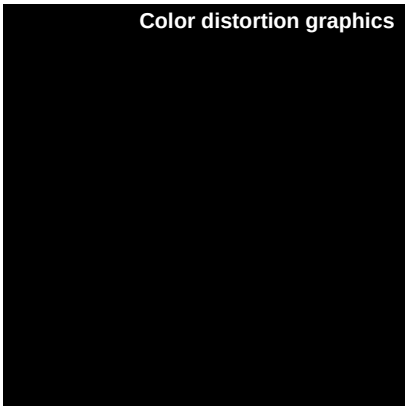
**Rg 0.0**

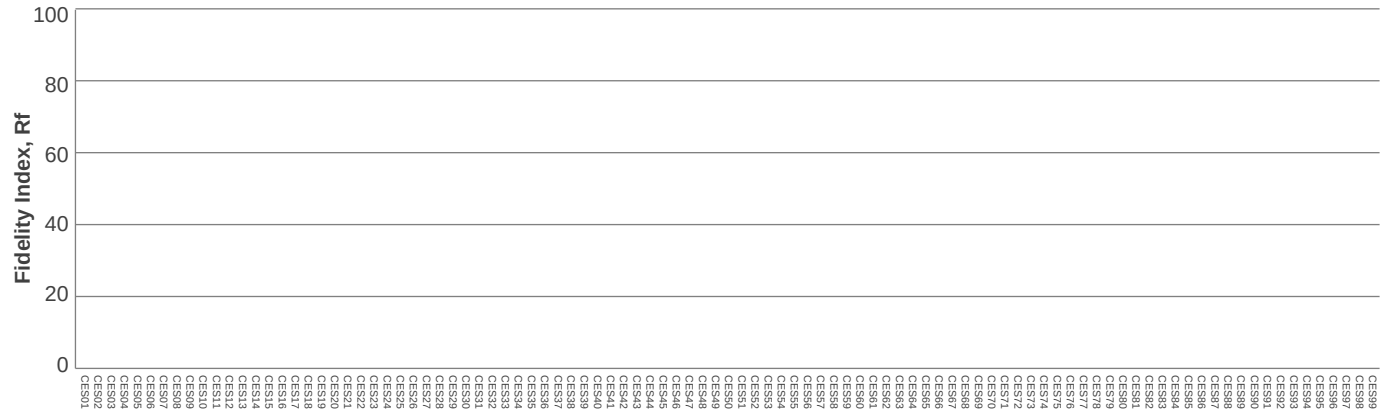
Gammut index Rg

| | | Graphic shifts (%) | |
|---|---|---|---|
| Hue Bin | $R_f$ | Chroma | Hue |
| 1 | 0 | 0% | 0% |
| 2 | 0 | 0% | 0% |
| 3 | 0 | 0% | 0% |
| 4 | 0 | 0% | 0% |
| 5 | 0 | 0% | 0% |
| 6 | 0 | 0% | 0% |
| 7 | 0 | 0% | 0% |
| 8 | 0 | 0% | 0% |
| 9 | 0 | 0% | 0% |
| 10 | 0 | 0% | 0% |
| 11 | 0 | 0% | 0% |
| 12 | 0 | 0% | 0% |
| 13 | 0 | 0% | 0% |
| 14 | 0 | 0% | 0% |
| 15 | 0 | 0% | 0% |
| 16 | 0 | 0% | 0% |





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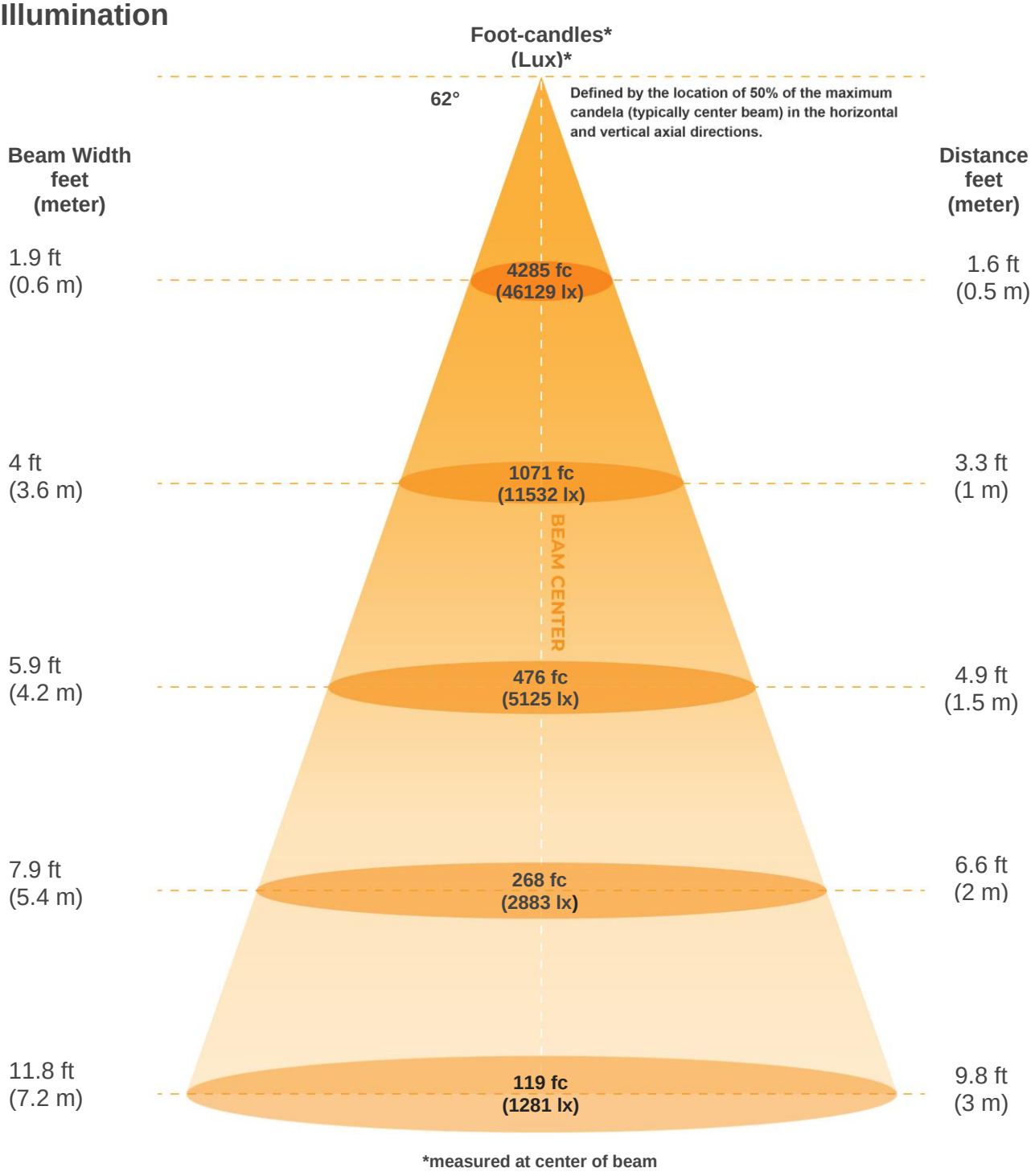
## Illumination




**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 |
| 11532lx | 2883lx | 1281lx | 721lx | 461lx | 320lx | 235lx | 180lx | 142lx | 115lx | 95lx | 80lx | 68lx | 59lx | 51lx | 45lx | 40lx | 36lx | 32lx | 29lx |
| 1071.4f | 267.8fc | 119fcd | 67fcd | 42.9fcd | 29.8fcd | 21.9fcd | 16.7fcd | 13.2fcd | 10.7fcd | 8.9fcd | 7.4fcd | 6.3fcd | 5.5fcd | 4.8fcd | 4.2fcd | 3.7fcd | 3.3fcd | 3fcd | 2.7fcd |

| Beam angle 50% | Field angle 10% | Cutoff angle 2,5% | Intensity ratio in 120° cone | Intensity ratio in 90° cone |
|---|---|---|---|---|
| 62° | 95.2° | 115.8° | 97.7% | 90.9% |

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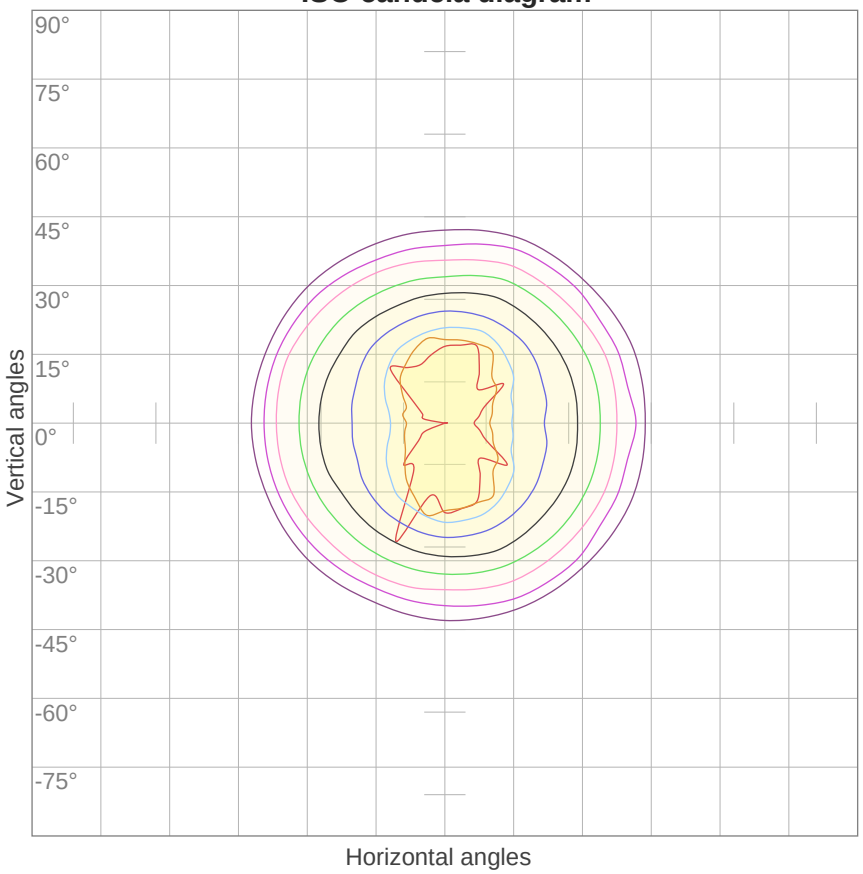
# ISO Diagrams

## ISO candela diagram



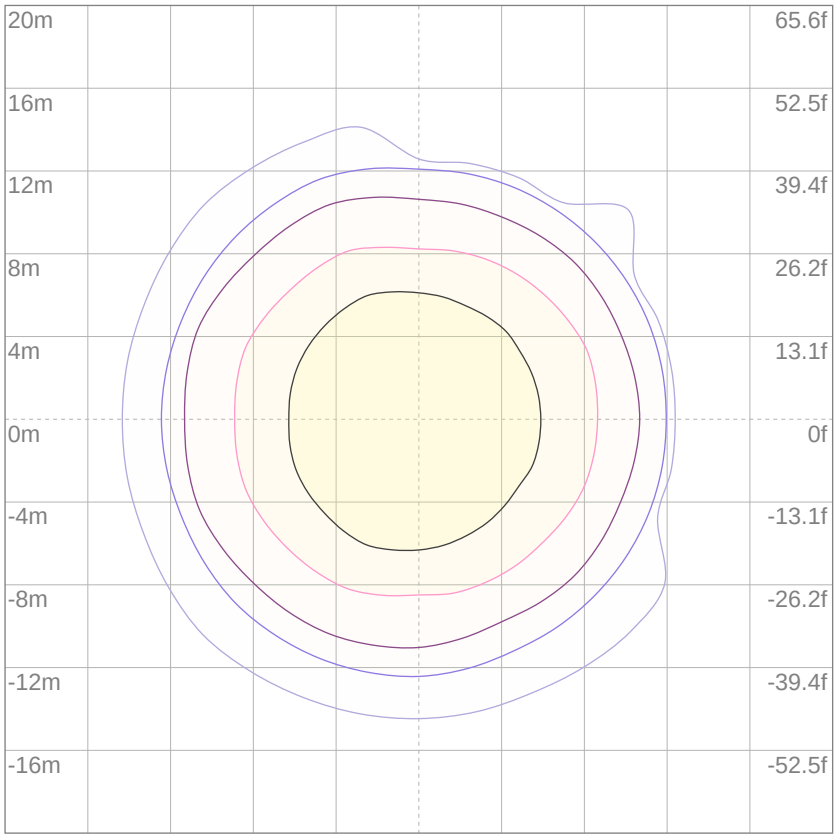

| | |
|---|---|
| 10% | 1153 cd |
| 20% | 2306 cd |
| 30% | 3460 cd |
| 40% | 4613 cd |
| 50% | 5766 cd |
| 60% | 6919 cd |
| 70% | 8073 cd |
| 80% | 9226 cd |
| 90% | 10379 cd |

Conditions:

Number of c-planes: 16

Candela at center: 11532 cd

## ISO lux diagram




| | |
|---|---|
| 3% | 3.46 lx |
| 5% | 5.77 lx |
| 10% | 11.5 lx |
| 30% | 34.6 lx |
| 50% | 57.7 lx |

Conditions:

Number of c-planes: 16

Lux at center: 115 lx

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

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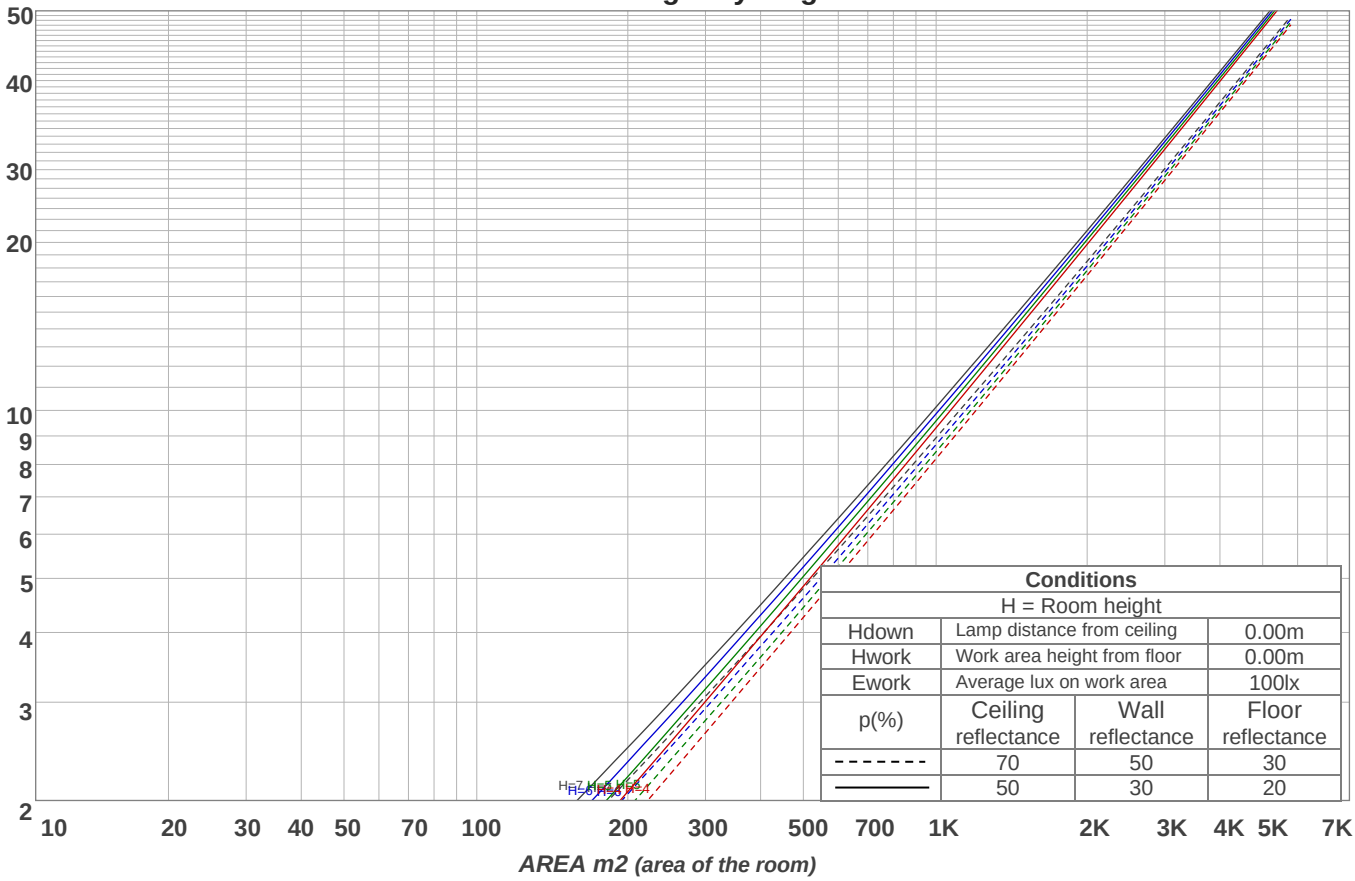
# Light Planning

## 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 | 102 | 102 | 102 | 100 |
| 1 | 113 | 110 | 107 | 105 | 110 | 108 | 105 | 103 | 103 | 101 | 100 | 100 | 98 | 97 | 96 | 95 | 94 | 92 |
| 2 | 106 | 101 | 97 | 93 | 104 | 99 | 95 | 92 | 96 | 93 | 90 | 93 | 90 | 88 | 90 | 88 | 86 | 84 |
| 3 | 100 | 93 | 88 | 83 | 98 | 92 | 87 | 83 | 89 | 85 | 81 | 86 | 83 | 80 | 84 | 81 | 79 | 77 |
| 4 | 94 | 86 | 80 | 75 | 93 | 85 | 79 | 75 | 83 | 78 | 74 | 81 | 76 | 73 | 79 | 75 | 72 | 70 |
| 5 | 89 | 80 | 73 | 69 | 87 | 79 | 73 | 68 | 77 | 72 | 68 | 75 | 71 | 67 | 73 | 69 | 66 | 65 |
| 6 | 84 | 74 | 68 | 63 | 82 | 73 | 67 | 63 | 72 | 66 | 62 | 70 | 65 | 62 | 69 | 65 | 61 | 60 |
| 7 | 79 | 69 | 62 | 58 | 78 | 68 | 62 | 58 | 67 | 61 | 57 | 66 | 61 | 57 | 65 | 60 | 57 | 55 |
| 8 | 75 | 65 | 58 | 53 | 74 | 64 | 58 | 53 | 63 | 57 | 53 | 62 | 57 | 53 | 61 | 56 | 53 | 51 |
| 9 | 71 | 60 | 54 | 50 | 70 | 60 | 54 | 50 | 59 | 53 | 49 | 58 | 53 | 49 | 57 | 52 | 49 | 47 |
| 10 | 67 | 57 | 50 | 46 | 66 | 56 | 50 | 46 | 55 | 50 | 46 | 55 | 49 | 46 | 54 | 49 | 46 | 44 |

## Luminaire budgetary diagram




## Zonal Lumen Summary

| 0°-10° | 10°-20° | 20°-30° | 30°-40° | 40°-50° | 50°-60° | 60°-70° | 70°-80° | 80°-90° |
|---|---|---|---|---|---|---|---|---|
| 1073 lm | 2683 lm | 3307 lm | 3079 lm | 1519 lm | 342 lm | 174 lm | 61.0 lm | 9.02 lm |

| 90°-100° | 100°-110° | 110°-120° | 120°-130° | 130°-140° | 140°-150° | 150°-160° | 160°-170° | 170°-180° |
|---|---|---|---|---|---|---|---|---|
| 2.41 lm | 2.89 lm | 3.70 lm | 5.08 lm | 6.07 lm | 6.51 lm | 5.80 lm | 3.93 lm | 1.45 lm |

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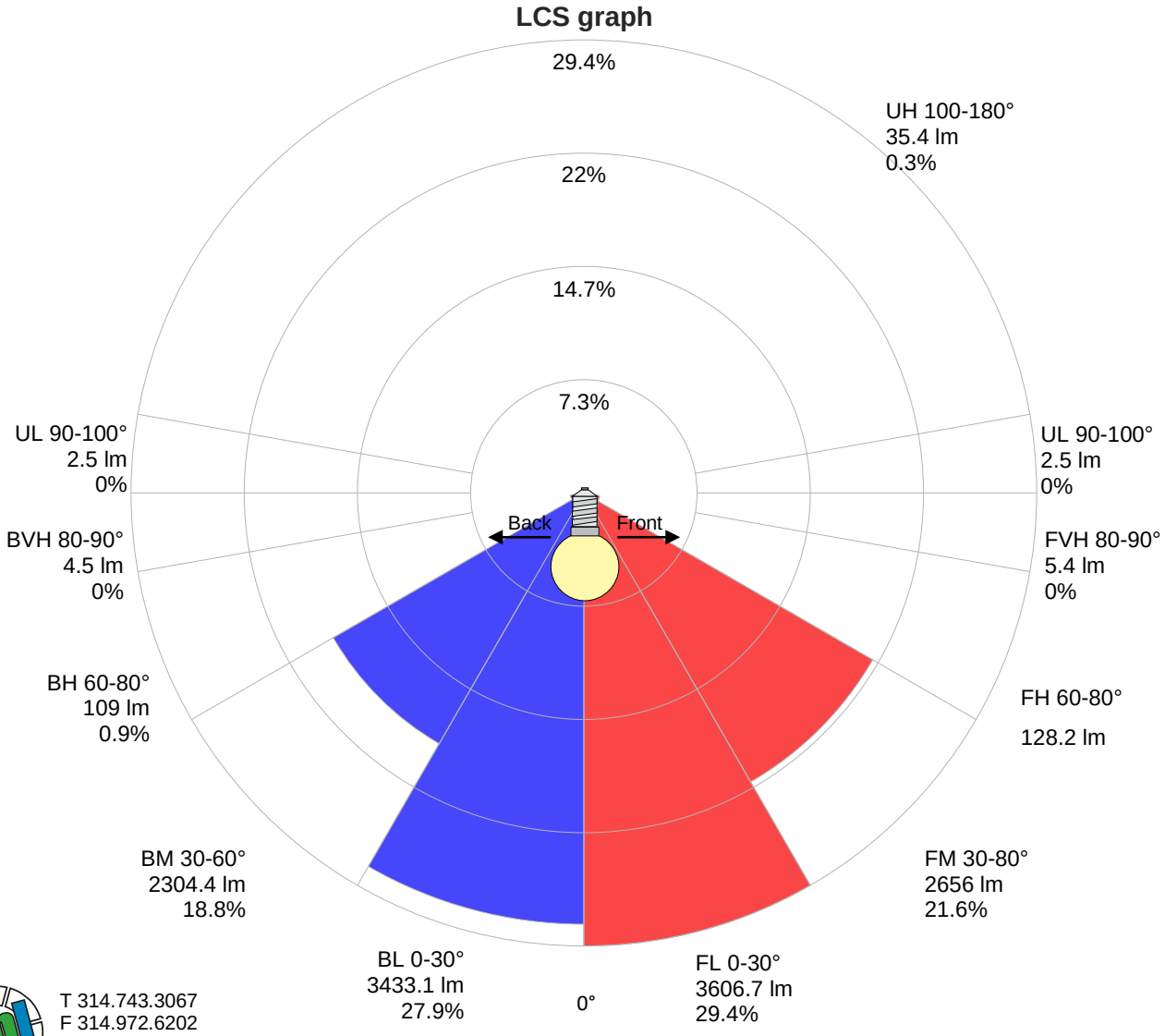
## Road Report

### LCS table

| BUG rating: | B4 U2 G0 | |
|---|---|---|
| **Forward light** | Lumens | Lumens % |
| Low(0-30): | 3606.7 | 29.4% |
| Medium(30-60): | 2656 | 21.6% |
| High(60-80): | 128.2 | 1% |
| Very high(80-90): | 5.4 | 0% |
| **Back light** | | |
| Low(0-30): | 3433.1 | 27.9% |
| Medium(30-60): | 2304.4 | 18.8% |
| High(60-80): | 109 | 0.9% |
| Very high(80-90): | 4.5 | 0% |
| **Uplight** | | |
| Low(90-100): | 2.5 | 0% |
| High(100-180): | 35.4 | 0.3% |

### LCS graph

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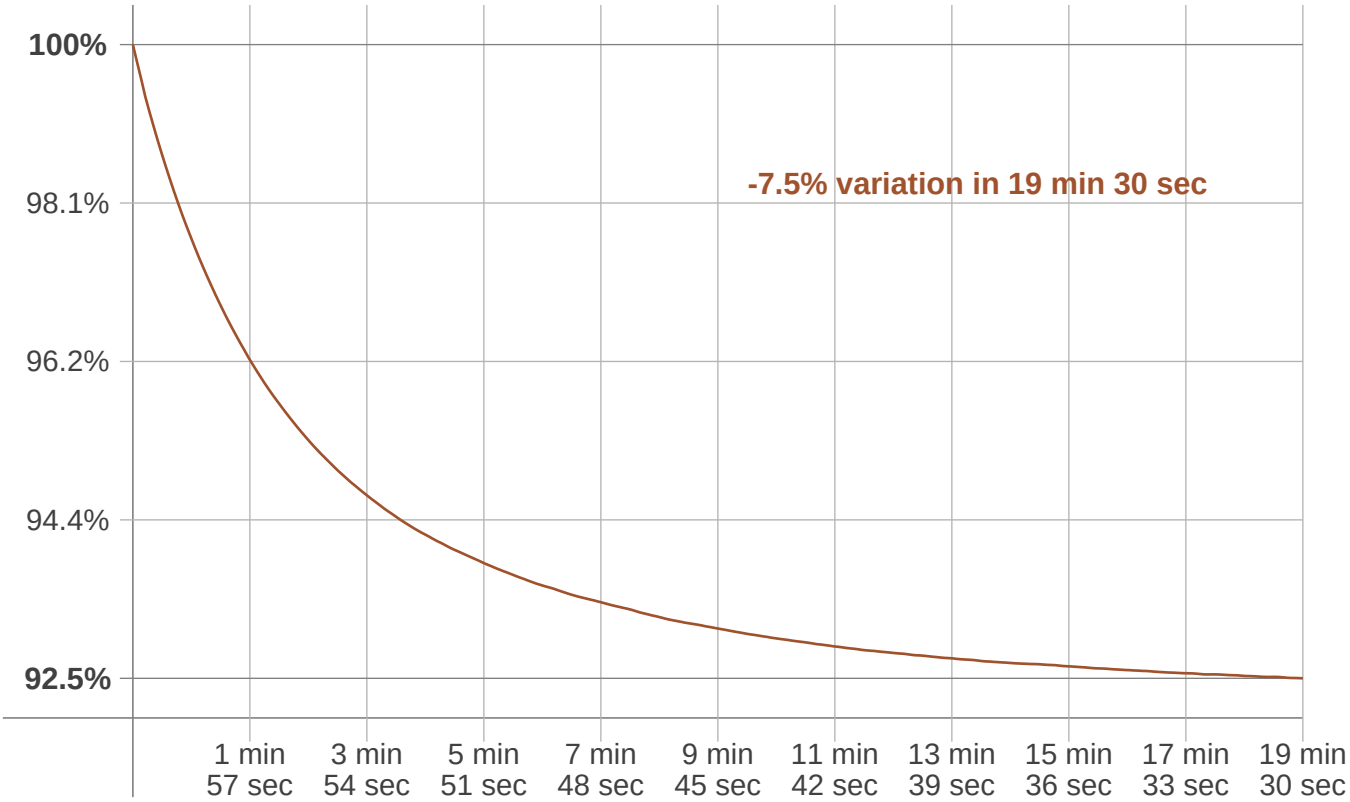
# Stabilization

## Warmup curve




## Warmup result

| | |
|---|---|
| **Warmup time:** | **19 min 30 sec** |
| **Warmup variation** | **-7.5%** |

## Warmup conditions

| | |
|---|---|
| **Stable period:** | **15 min** |
| **Stable change max:** | **2.0%** |
| **Minimum time:** | **15 min** |

## Color temperature change

| CCT start | CCT change | CCT end |
|---|---|---|
| 0 K | 0 K | 0 K |

## Output change

| Output start | Output change | Output end |
|---|---|---|
| 13229 lm | -944 lm | 12285 lm |

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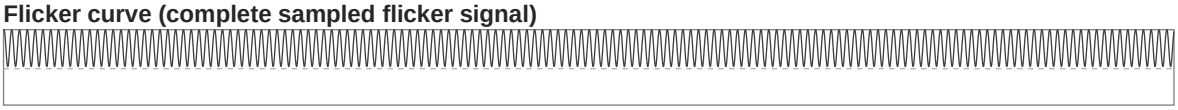
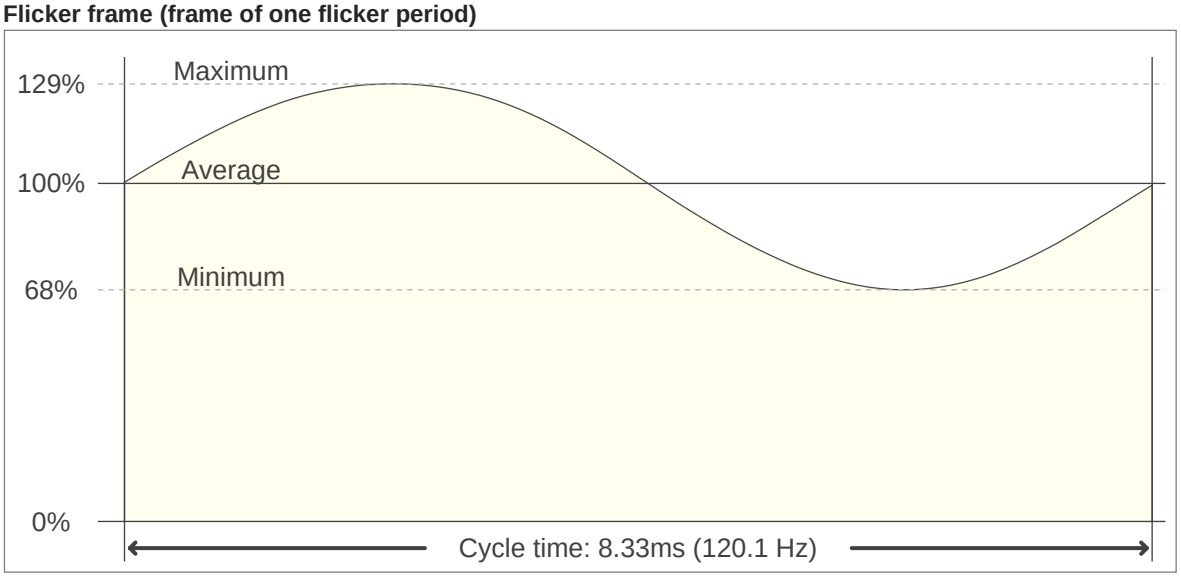
# Flicker

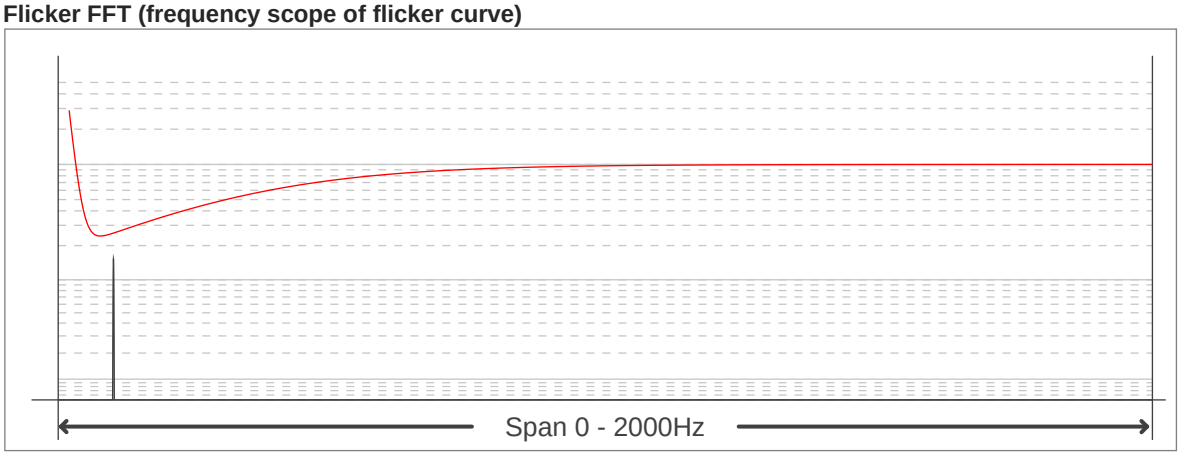
**Flicker curve (complete sampled flicker signal)**



**Flicker frame (frame of one flicker period)**




**Flicker FFT (frequency scope of flicker curve)**




**Flicker results:**

| | |
|---|---|
| **Flicker frequency:** | **120.12 Hz** |
| **Flicker index:** | **0.1** |
| **Flicker percentage:** | **30.9 %** |
| **SVM: (Visual flicker)** | **1.11** |

**Flicker conditions:**

| | |
|---|---|
| **Sample rate:** | **40000 samples/second** |

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