

Light efficiency:

144 Lumen/Watt

Light quality:

CRI: 74.4

Color temperature:

3838 K

Output: 10826 lm

Peak: 7735 cd

Power: 75.4 W

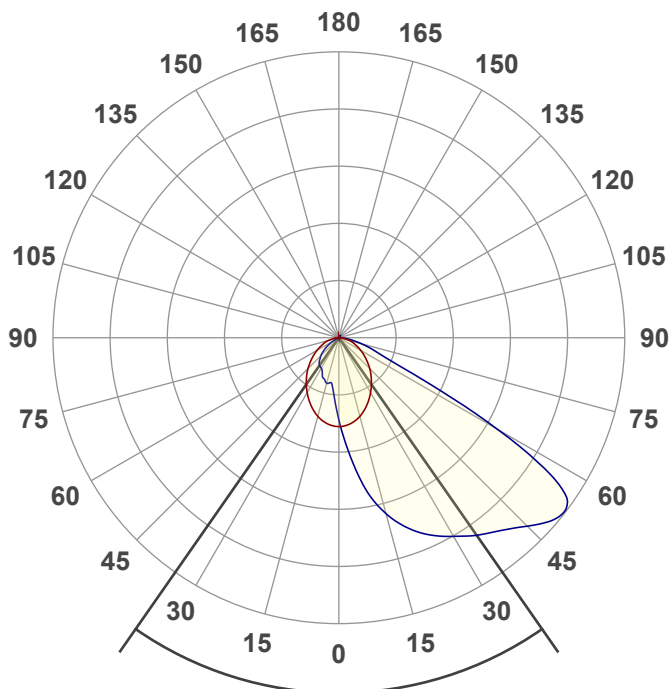
PF: 0.99

Product name:

WPECCT-R1-SW3B80-LC

Date and time:

10/5/2021 1:32:31 PM



Beam angle

69.8°

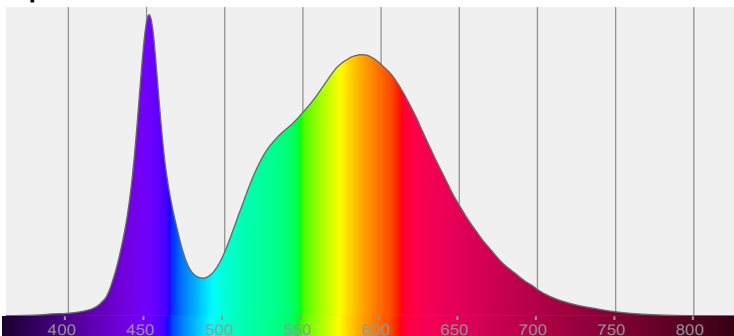


CIE 1931

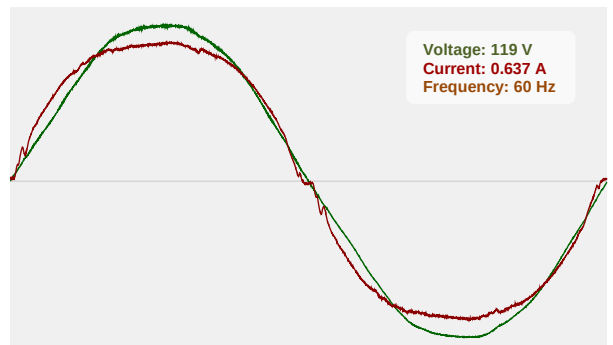
x: 0.386

y: 0.374

Spectra



Power



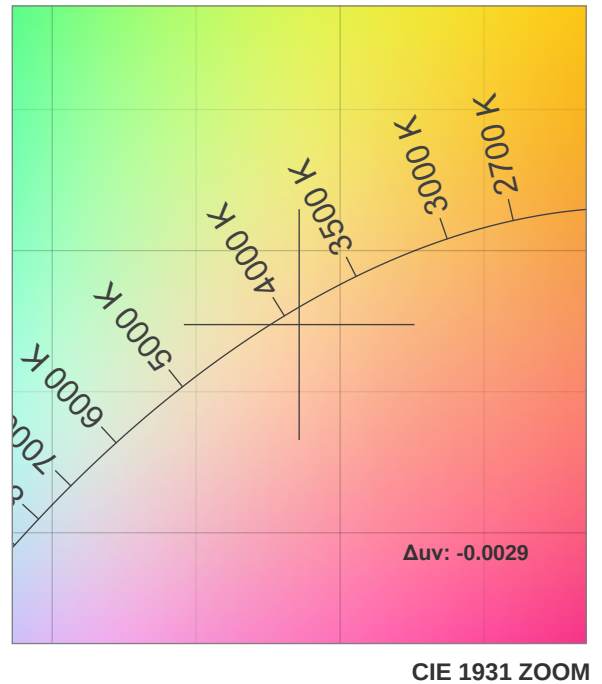
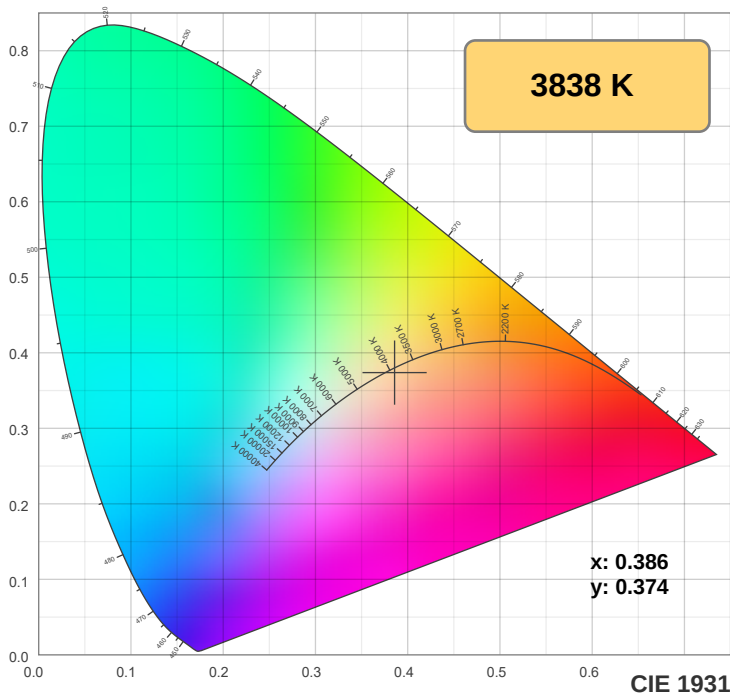
T 314.743.3067

F 314.972.6202

email: [commercial-sales@superbrightleds.com](mailto:commercial-sales@superbrightleds.com)

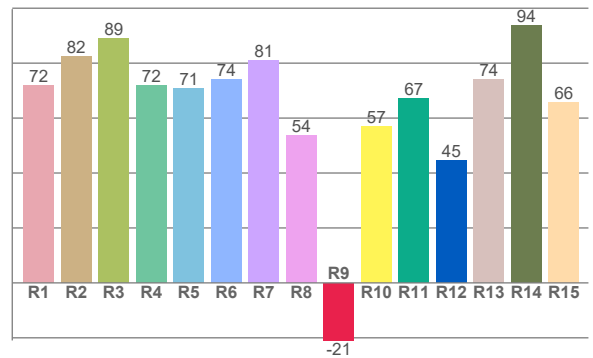
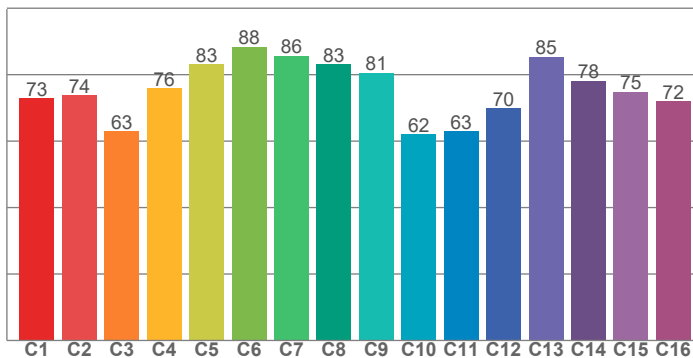
[www.superbrightleds.com/](http://www.superbrightleds.com/)

## Color Specifications



TM30: 75.3

CRI: 74.4 (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  |
|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|
| 72.0 | 82.3 | 89.1 | 71.9 | 71.0 | 73.9 | 81.1 | 53.6 | -21.0 | 56.9 | 67.1 | 44.7 | 74.1 | 93.7 | 65.9 |

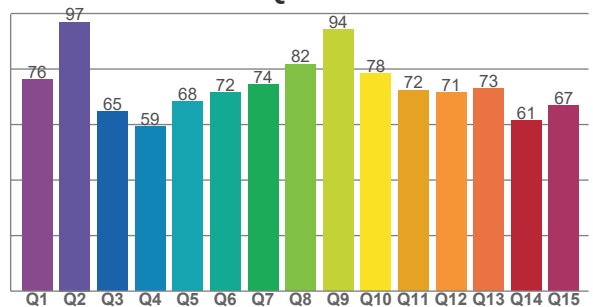
TM30 C values, 16 binned values out of total of 99 C values

| C1   | C2   | C3   | C4   | C5   | C6   | C7   | C8   | C9   | C10  | C11  | C12  | C13  | C14  | C15  | C16  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 72.9 | 73.7 | 62.9 | 75.9 | 83.1 | 88.4 | 85.6 | 83.1 | 80.5 | 62.0 | 62.9 | 69.9 | 85.3 | 78.1 | 74.9 | 71.9 |

CQS Q values

| Q1   | Q2   | Q3   | Q4   | Q5   | Q6   | Q7   | Q8   | Q9   | Q10  | Q11  | Q12  | Q13  | Q14  | Q15  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 76.3 | 96.9 | 64.6 | 59.2 | 68.3 | 71.5 | 74.4 | 81.7 | 94.2 | 78.3 | 72.3 | 71.4 | 72.9 | 61.5 | 66.7 |

CQS: 72.1



## 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                             |
| 3838 K            | 74.4                  | -21.0         | 75.3           | 94.4        | 72.1                | 0.386                     | 0.374                     | 0.230            | 0.334            | -0.0029                         |



## TM30 Report

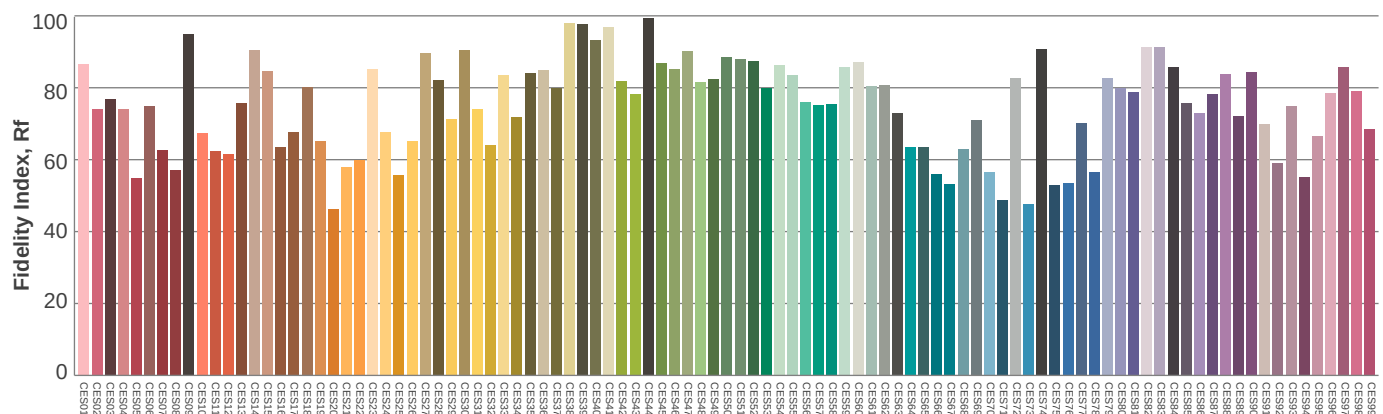
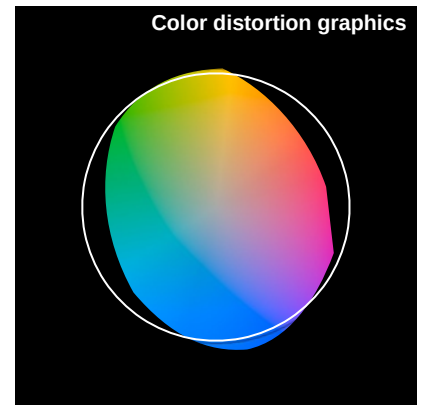
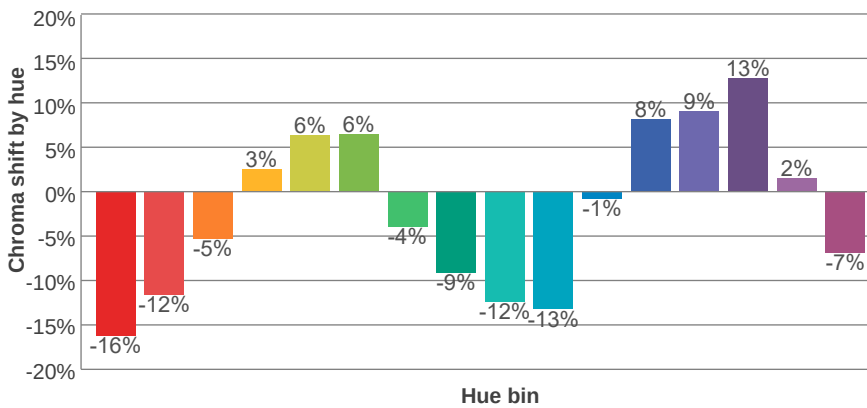
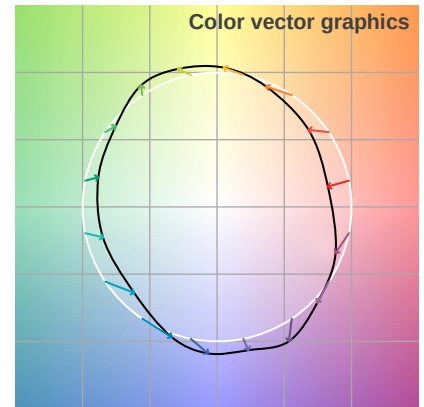
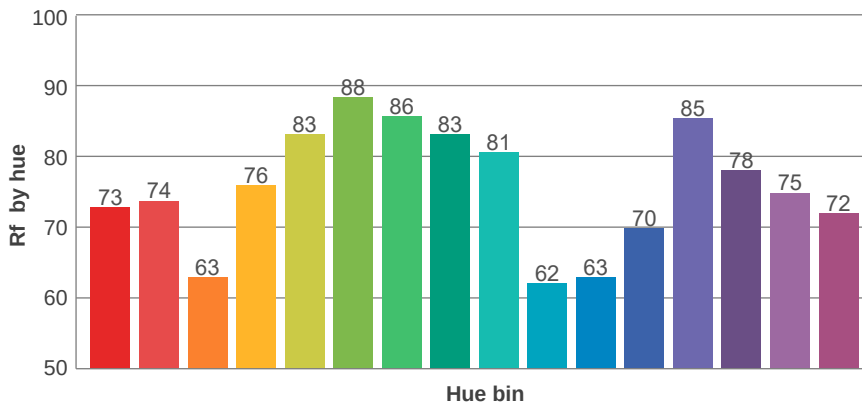
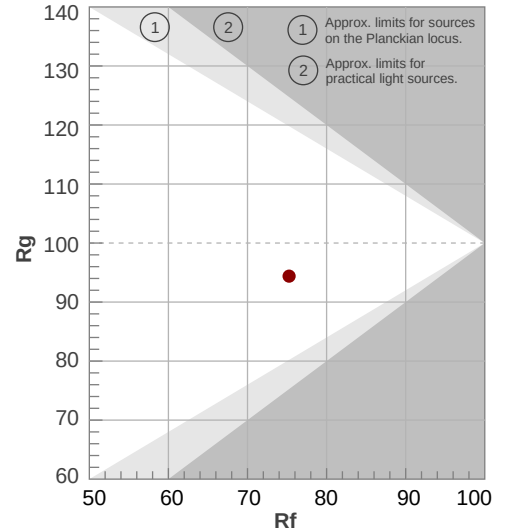
**Rf 75.3**

Fidelity index Rf

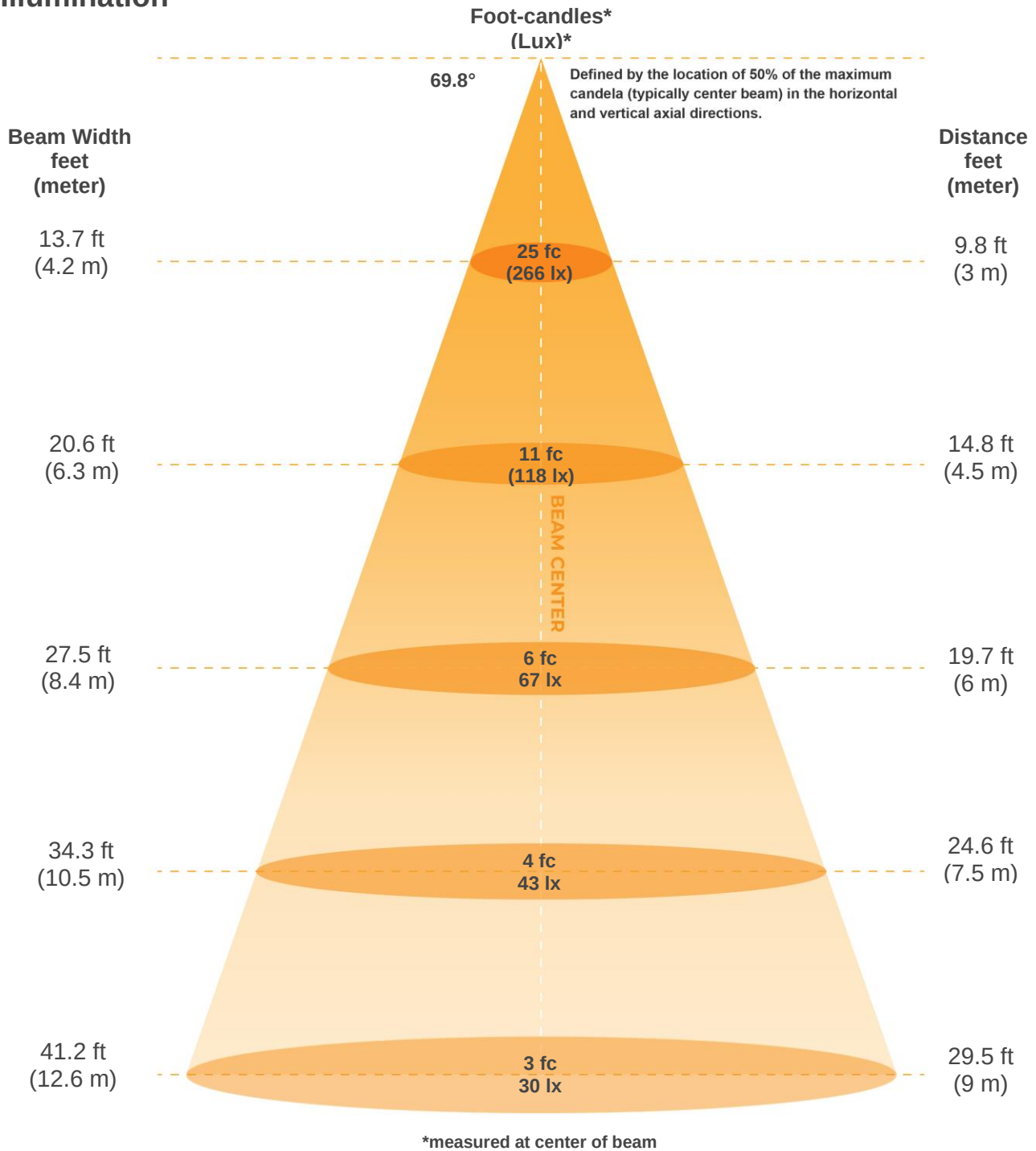
**Rg 94.4**

Gamut index Rg

| Hue Bin | R <sub>f</sub> | Graphic shifts (%) |      |
|---------|----------------|--------------------|------|
|         |                | Chroma             | Hue  |
| 1       | 73             | -16%               | -1%  |
| 2       | 74             | -12%               | 10%  |
| 3       | 63             | -5%                | 19%  |
| 4       | 76             | 3%                 | 15%  |
| 5       | 83             | 6%                 | 9%   |
| 6       | 88             | 6%                 | -3%  |
| 7       | 86             | -4%                | -8%  |
| 8       | 83             | -9%                | -4%  |
| 9       | 81             | -12%               | 6%   |
| 10      | 62             | -13%               | 19%  |
| 11      | 63             | -1%                | 26%  |
| 12      | 70             | 8%                 | 15%  |
| 13      | 85             | 9%                 | 2%   |
| 14      | 78             | 13%                | -11% |
| 15      | 75             | 2%                 | -18% |
| 16      | 72             | -7%                | -17% |



## Illumination



### Beam intensities from 1-20m

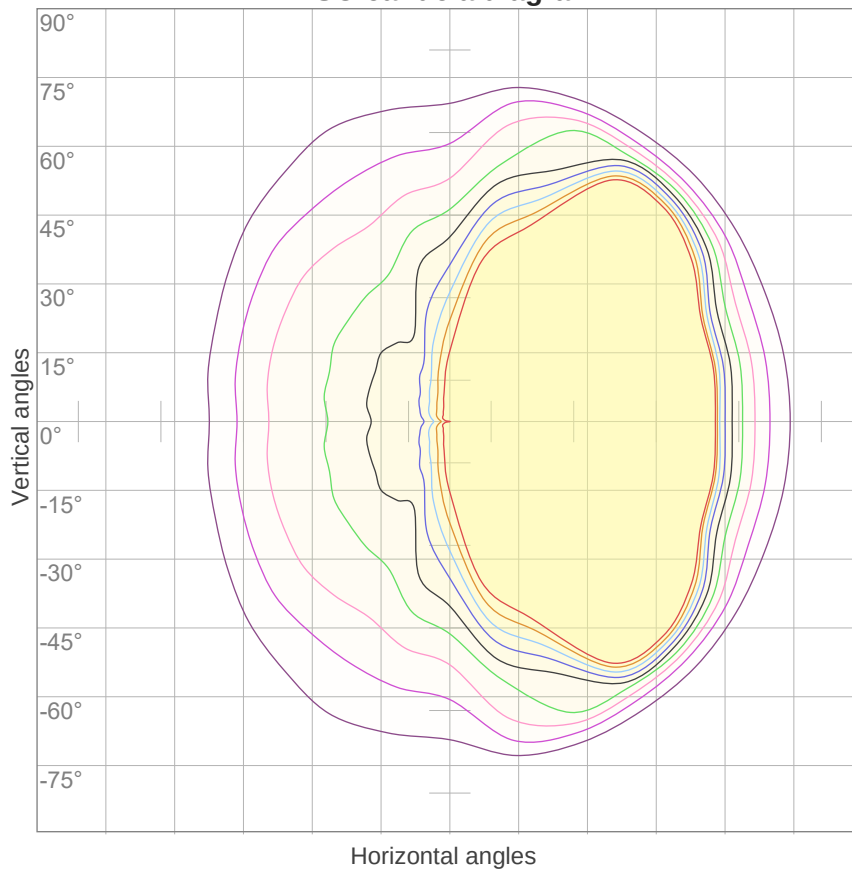
| 1m      | 2m      | 3m      | 4m      | 5m     | 6m     | 7m     | 8m     | 9m     | 10m    | 11m    | 12m    | 13m    | 14m    | 15m    | 16m    | 17m    | 18m    | 19m    | 20m    |
|---------|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 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 |
| 2396lx  | 599lx   | 266lx   | 150lx   | 96lx   | 67lx   | 49lx   | 37lx   | 30lx   | 24lx   | 20lx   | 17lx   | 14lx   | 12lx   | 11lx   | 9lx    | 8lx    | 7lx    | 7lx    | 6lx    |
| 222.6fc | 55.7fcd | 24.7fcd | 13.9fcd | 8.9fcd | 6.2fcd | 4.5fcd | 3.5fcd | 2.7fcd | 2.2fcd | 1.8fcd | 1.5fcd | 1.3fcd | 1.1fcd | 1fcd   | 0.9fcd | 0.8fcd | 0.7fcd | 0.6fcd | 0.6fcd |

| Beam angle 50% | Field angle 10% | Cutoff angle 2,5% | Intensity ratio in 120° cone | Intensity ratio in 90° cone |
|----------------|-----------------|-------------------|------------------------------|-----------------------------|
| 69.8°          | 143.9°          | 164°              | 77.9%                        | 46.6%                       |



## ISO Diagrams

ISO candela diagram



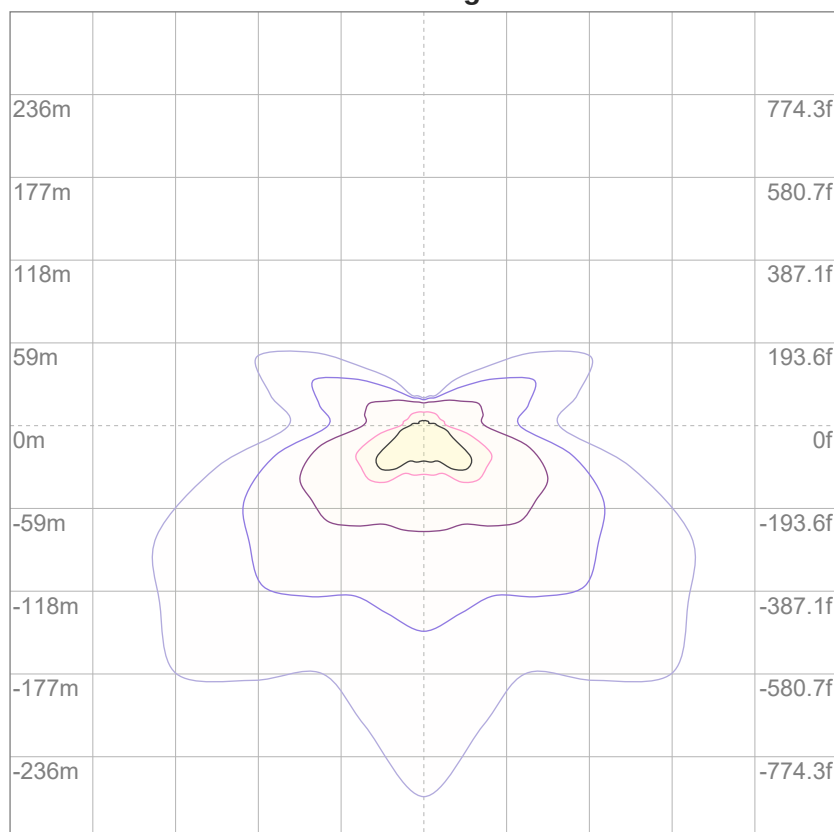
|     |         |
|-----|---------|
| 10% | 240 cd  |
| 20% | 479 cd  |
| 30% | 719 cd  |
| 40% | 958 cd  |
| 50% | 1198 cd |
| 60% | 1438 cd |
| 70% | 1677 cd |
| 80% | 1917 cd |
| 90% | 2157 cd |

Conditions:

Number of c-planes: 16

Candela at center: 2396 cd

ISO lux diagram



|     |          |
|-----|----------|
| 3%  | 0.719 lx |
| 5%  | 1.20 lx  |
| 10% | 2.40 lx  |
| 30% | 7.19 lx  |
| 50% | 12.0 lx  |

Conditions:

Number of c-planes: 16

Lux at center: 24.0 lx

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



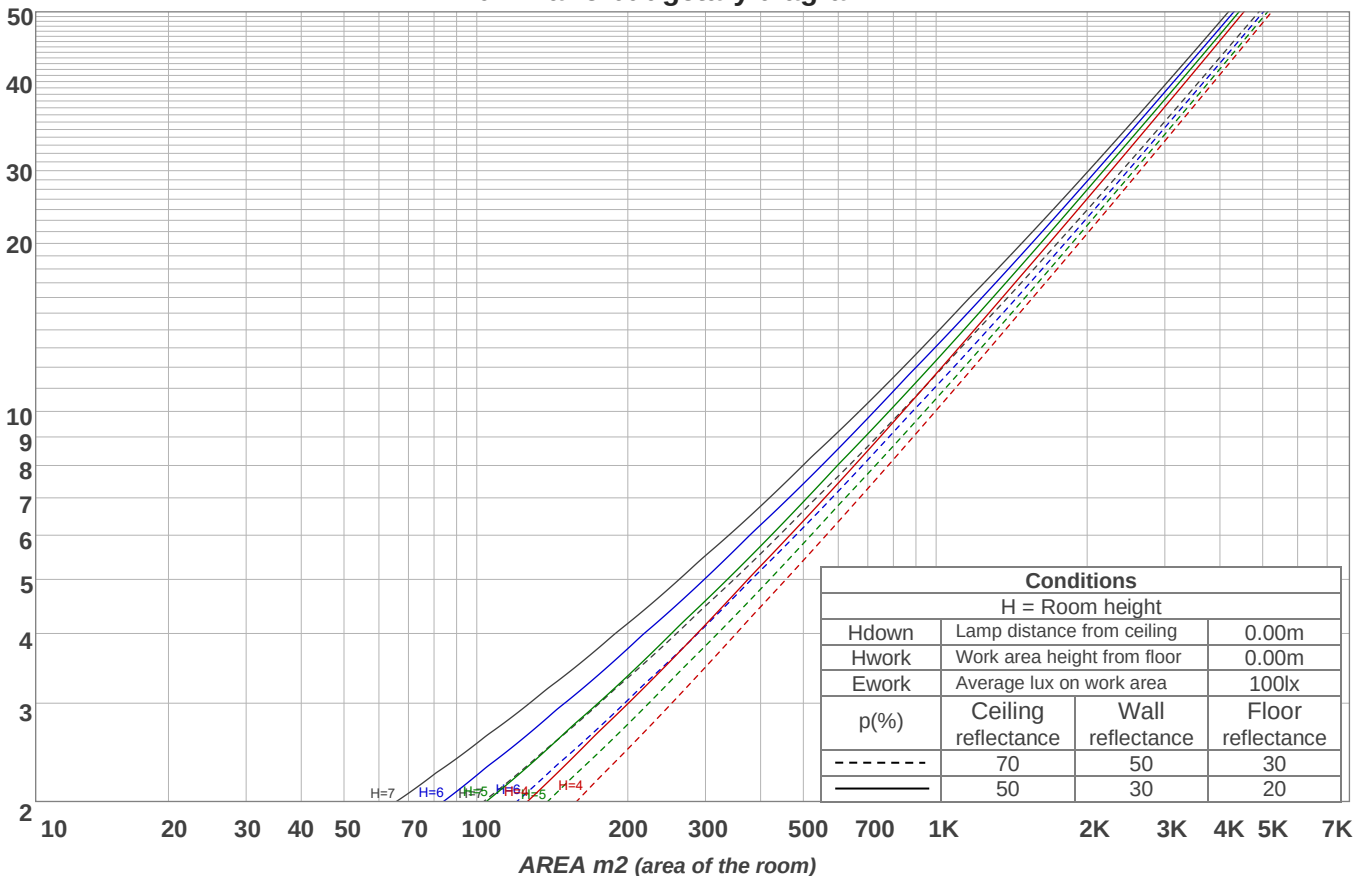
## Light Planning

### 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                   | 108                                                                                                      | 104 | 99  | 95  | 106 | 101 | 97  | 94  | 97  | 94  | 91  | 93  | 90  | 88  | 89  | 87  | 85  | 83  |
| 2                   | 98                                                                                                       | 89  | 82  | 76  | 95  | 87  | 81  | 75  | 84  | 78  | 74  | 80  | 76  | 72  | 77  | 74  | 70  | 68  |
| 3                   | 89                                                                                                       | 78  | 69  | 62  | 86  | 76  | 68  | 62  | 73  | 66  | 60  | 70  | 64  | 59  | 67  | 62  | 58  | 56  |
| 4                   | 80                                                                                                       | 68  | 59  | 52  | 78  | 66  | 58  | 51  | 64  | 56  | 50  | 61  | 55  | 50  | 59  | 54  | 49  | 47  |
| 5                   | 73                                                                                                       | 60  | 50  | 43  | 71  | 59  | 50  | 43  | 56  | 49  | 43  | 54  | 48  | 42  | 52  | 46  | 42  | 39  |
| 6                   | 67                                                                                                       | 53  | 44  | 37  | 65  | 52  | 43  | 37  | 50  | 42  | 37  | 49  | 42  | 36  | 47  | 41  | 36  | 34  |
| 7                   | 62                                                                                                       | 48  | 39  | 32  | 60  | 47  | 38  | 32  | 45  | 37  | 32  | 44  | 37  | 31  | 42  | 36  | 31  | 29  |
| 8                   | 57                                                                                                       | 43  | 34  | 28  | 56  | 42  | 34  | 28  | 41  | 33  | 28  | 40  | 33  | 28  | 39  | 32  | 27  | 25  |
| 9                   | 53                                                                                                       | 39  | 31  | 25  | 52  | 39  | 30  | 25  | 37  | 30  | 25  | 36  | 29  | 24  | 35  | 29  | 24  | 22  |
| 10                  | 50                                                                                                       | 36  | 28  | 22  | 48  | 35  | 28  | 22  | 34  | 27  | 22  | 33  | 27  | 22  | 32  | 26  | 22  | 20  |

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°   |
|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 218 lm   | 731 lm    | 1266 lm   | 1821 lm   | 2112 lm   | 2291 lm   | 1528 lm   | 697 lm    | 128 lm    |
| 90°-100° | 100°-110° | 110°-120° | 120°-130° | 130°-140° | 140°-150° | 150°-160° | 160°-170° | 170°-180° |
| 3.99 lm  | 3.80 lm   | 5.04 lm   | 4.43 lm   | 5.36 lm   | 4.57 lm   | 3.97 lm   | 2.70 lm   | 0.884 lm  |

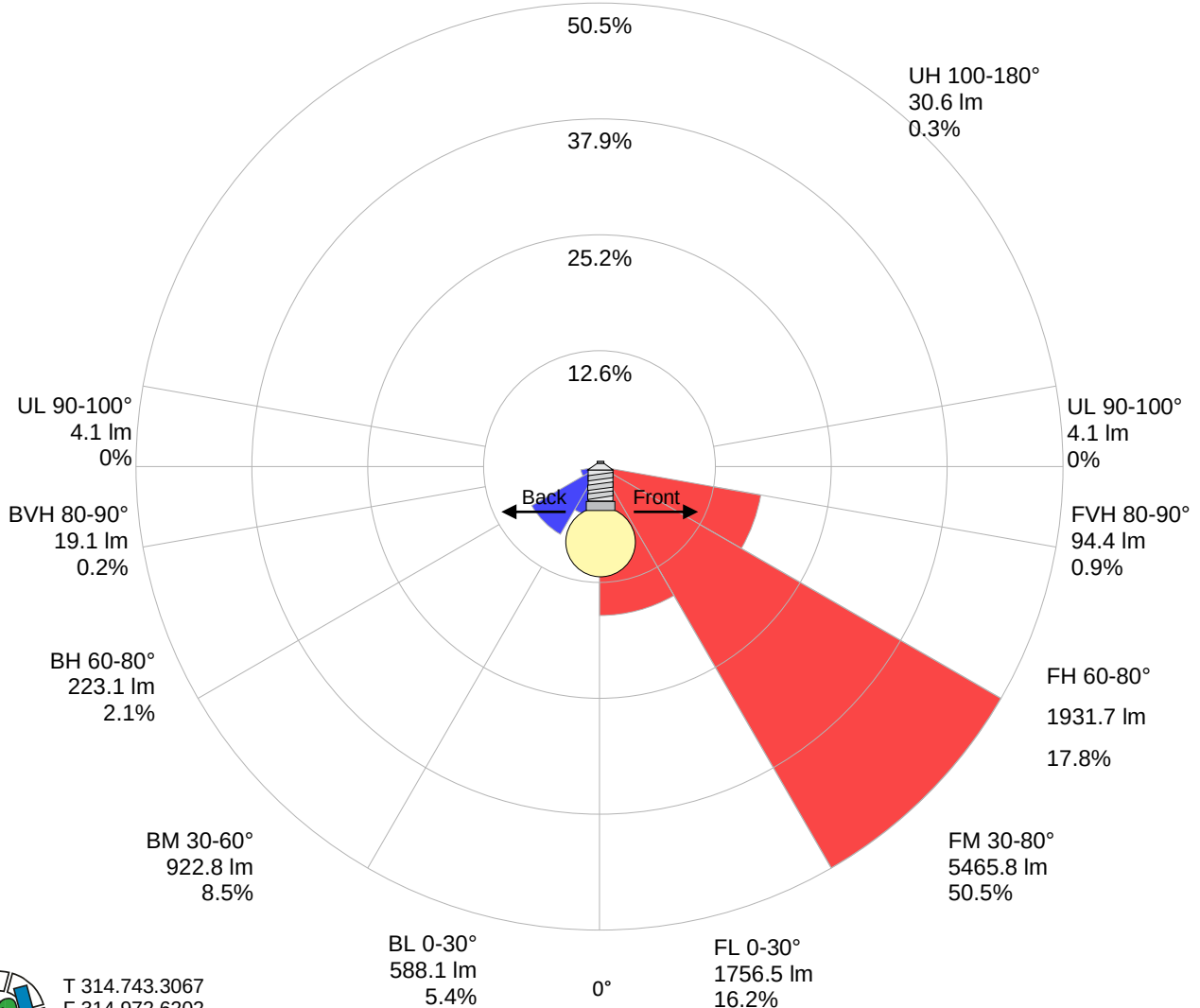


## Road Report

LCS table

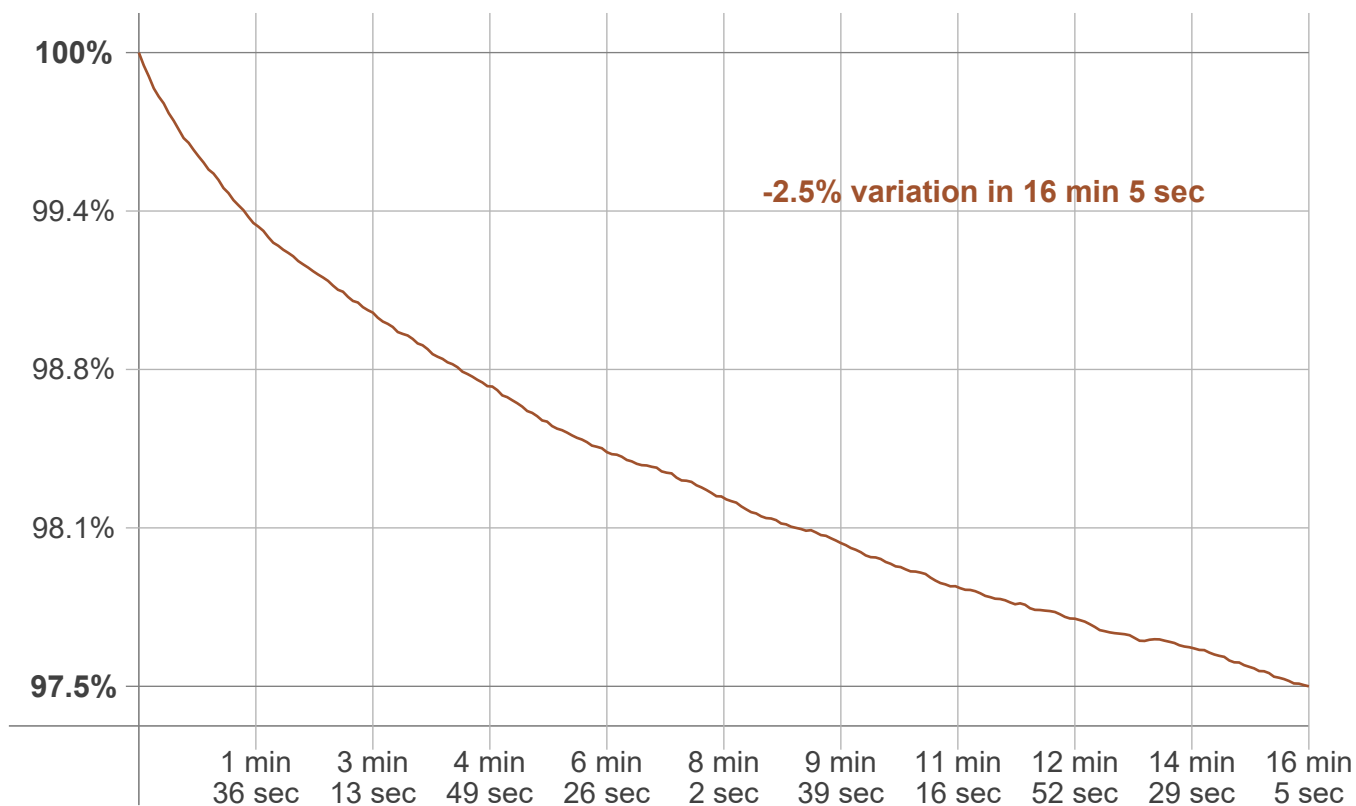
| BUG rating:       | B2 U2 G2 |          |
|-------------------|----------|----------|
| Forward light     | Lumens   | Lumens % |
| Low(0-30):        | 1756.5   | 16.2%    |
| Medium(30-60):    | 5465.8   | 50.5%    |
| High(60-80):      | 1931.7   | 17.8%    |
| Very high(80-90): | 94.4     | 0.9%     |
| Back light        |          |          |
| Low(0-30):        | 588.1    | 5.4%     |
| Medium(30-60):    | 922.8    | 8.5%     |
| High(60-80):      | 223.1    | 2.1%     |
| Very high(80-90): | 19.1     | 0.2%     |
| Uplight           |          |          |
| Low(90-100):      | 4.1      | 0%       |
| High(100-180):    | 30.6     | 0.3%     |

LCS graph



## Stabilization

Warmup curve



Warmup result

|                  |                                 |
|------------------|---------------------------------|
| Warmup time:     | Lamp stabilized in 16 min 5 sec |
| Warmup variation | -2.5%                           |

Warmup conditions

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

Color temperature change

| CCT start | CCT change | CCT end |
|-----------|------------|---------|
| 3824 K    | +14 K      | 3838 K  |

Output change

| Output start | Output change | Output end |
|--------------|---------------|------------|
| 11081 lm     | -254 lm       | 10826 lm   |



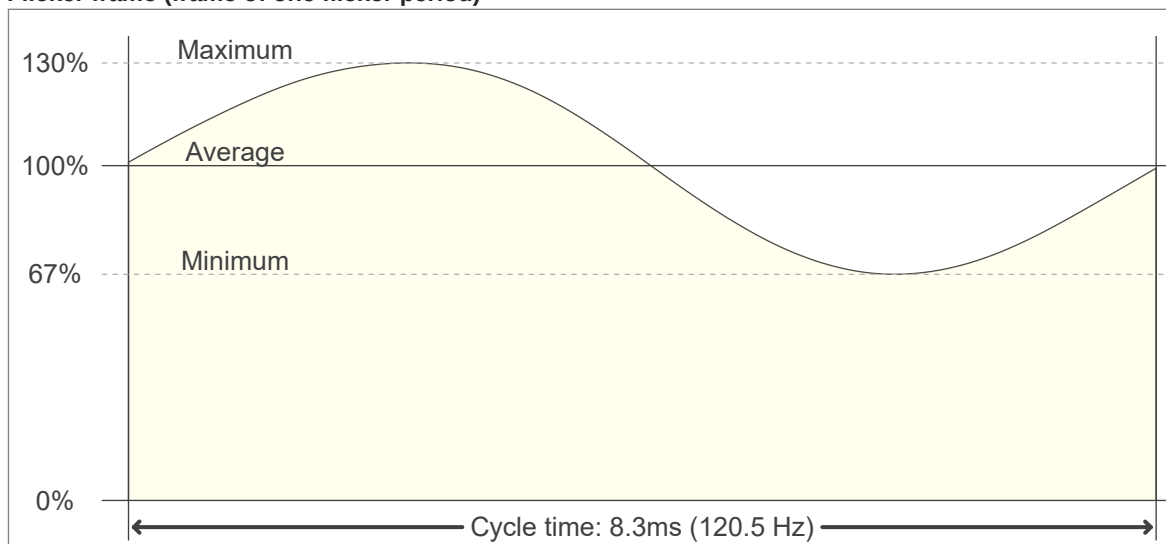


## Flicker Specifications

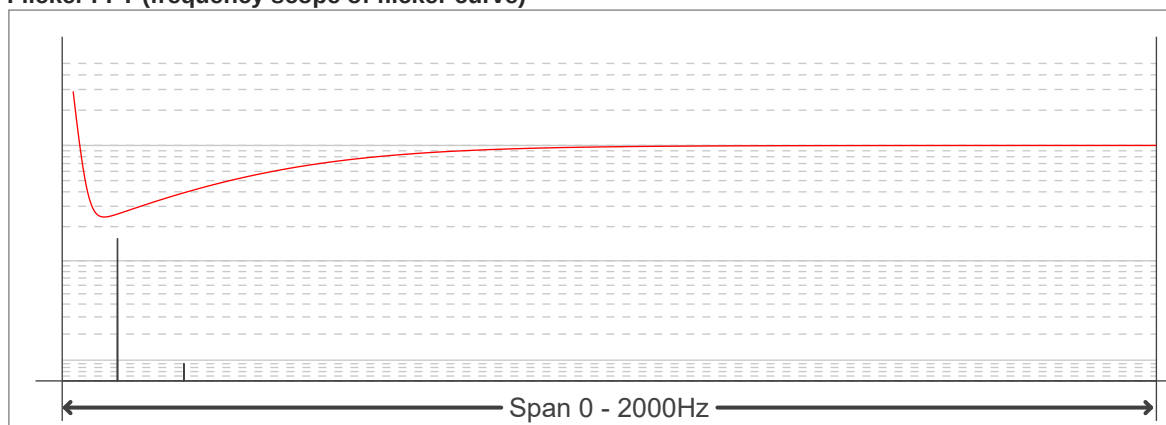
Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



### Flicker results:

|                       |           |
|-----------------------|-----------|
| Flicker frequency:    | 120.48 Hz |
| Flicker index:        | 0.1       |
| Flicker percentage:   | 31.9 %    |
| SVM: (Visual flicker) | 1.14      |

### Flicker conditions:

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

