

Light efficiency:

119 Lumen/Watt

Light quality:

CRI: 94,8

Color temperature:

2718 K

Output: 143 lm

Peak: 47,3 cd

Power: 1,2 W

PF: 1,0



Product name:

**Mayflower-3\_510mm\_927\_Cover-Round-Frosted**

Item number:

**NP/L1C/10C/G1/L1C/0510/927/CRF**

Date and time:

**03.06.2022 13:12:57**

Description:

**Rank: C80-AD-8GB**

**Tolerances:**

**Lumen +/-4%**

**Candela +/-2,5%**

**Colour Temp +/-35 Kelvin**

**CRI +/-0,7**

**Angular Resolution: 1 Degree Step**

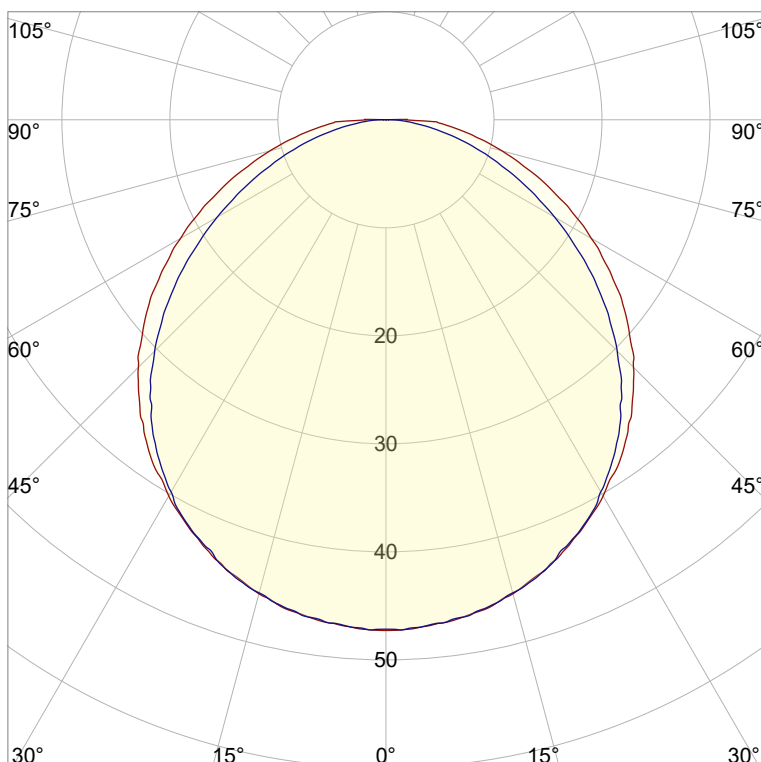
**Last Calibration 20-09-2021**

**Tester: Peter Ulrich**

**Test Site: Lichtlabor**

**Gaustrasse 13**

**55411 Bingen am Rhein**

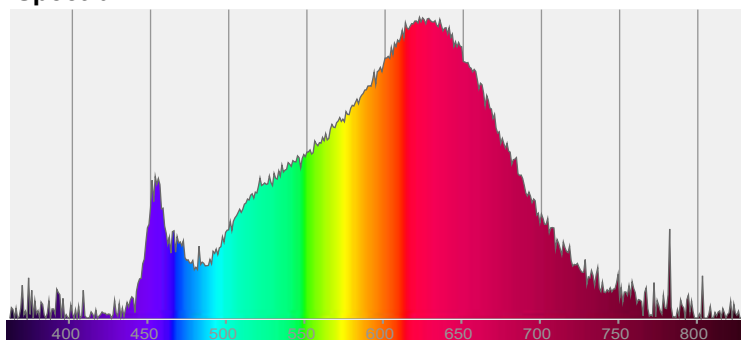


CIE 1931

x: 0,459

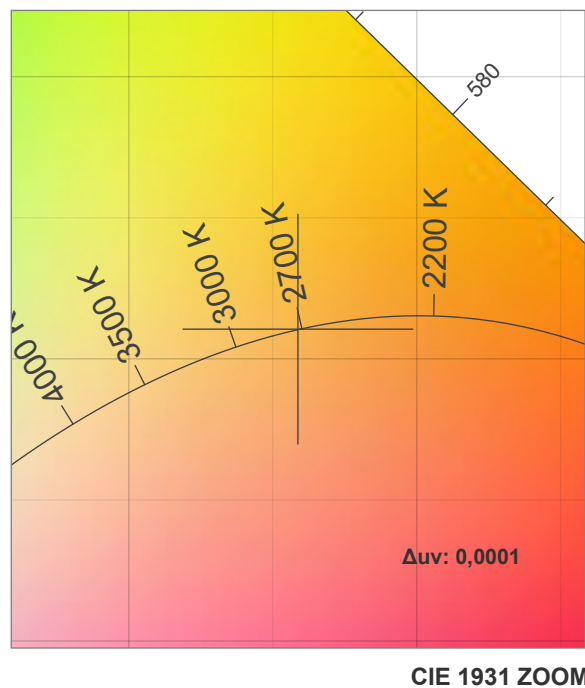
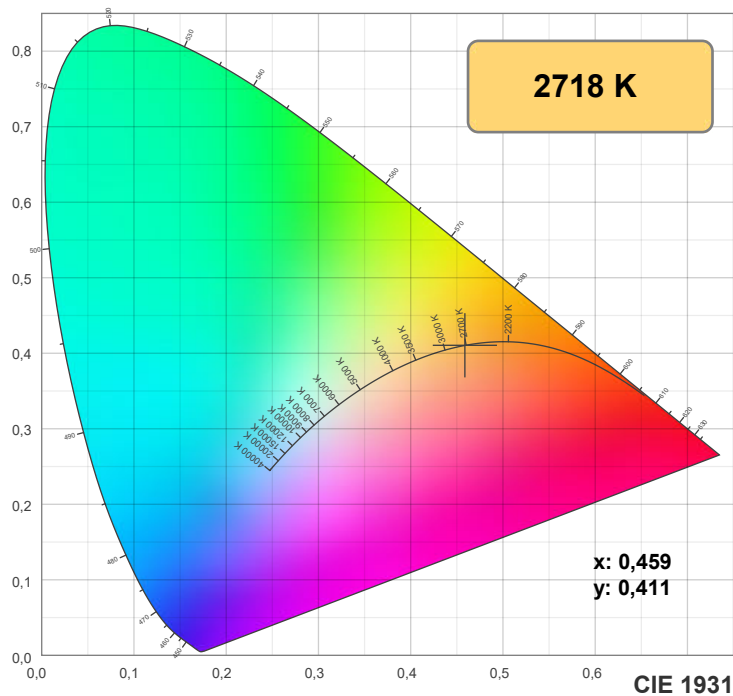
y: 0,411

Spectra

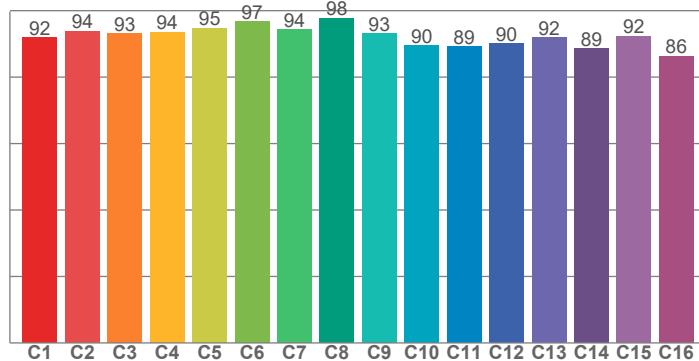


Power

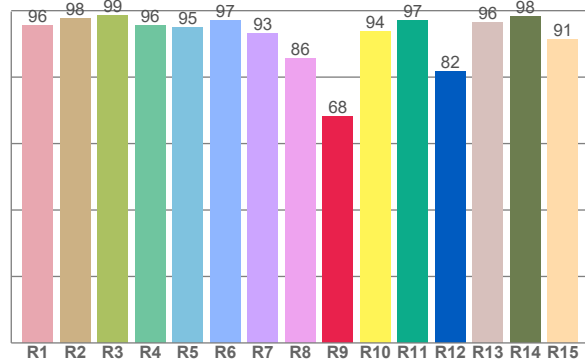
Voltage: 24,0 V  
Current: 0,050 A  
Frequency: 0 Hz



**TM30: 92,2**



**CRI: 94,8 (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  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 95,6 | 97,8 | 98,6 | 95,5 | 95,1 | 97,1 | 93,3 | 85,5 | 68,3 | 93,8 | 97,2 | 81,7 | 96,3 | 98,3 | 91,5 |

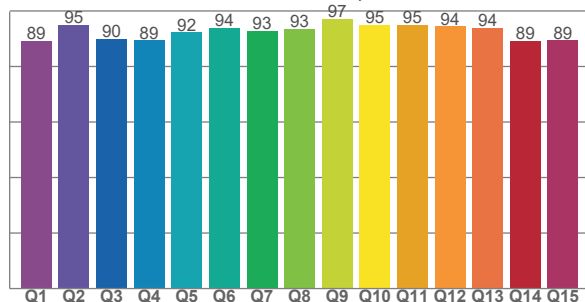
TM30 C values, 16 binned values out of total of 99 C values

| C1   | C2   | C3   | C4   | C5   | C6   | C7   | C8   | C9   | C10  | C11  | C12  | C13  | C14  | C15  | C16  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 91,9 | 93,9 | 93,1 | 93,5 | 94,8 | 96,7 | 94,4 | 97,8 | 93,1 | 89,6 | 89,1 | 90,2 | 91,9 | 88,7 | 92,4 | 86,3 |

CQS Q values

| Q1   | Q2   | Q3   | Q4   | Q5   | Q6   | Q7   | Q8   | Q9   | Q10  | Q11  | Q12  | Q13  | Q14  | Q15  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 89,3 | 94,8 | 89,9 | 89,3 | 92,2 | 93,9 | 92,8 | 93,4 | 97,2 | 95,1 | 94,9 | 94,4 | 93,9 | 89,3 | 89,3 |

**CQS: 92,1**



## 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                             |
| 2718 K            | 94,8                  | 68,3          | 92,2           | 99,0        | 92,1                | 0,459                     | 0,411                     | 0,262            | 0,351            | 0,0001                          |

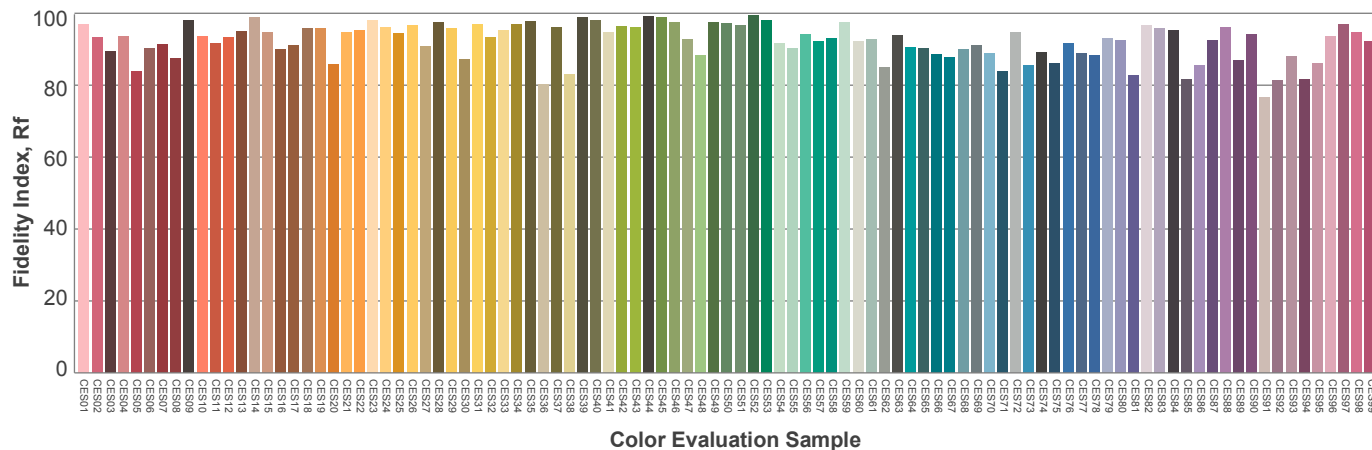
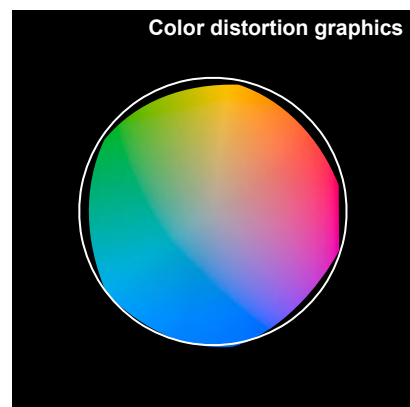
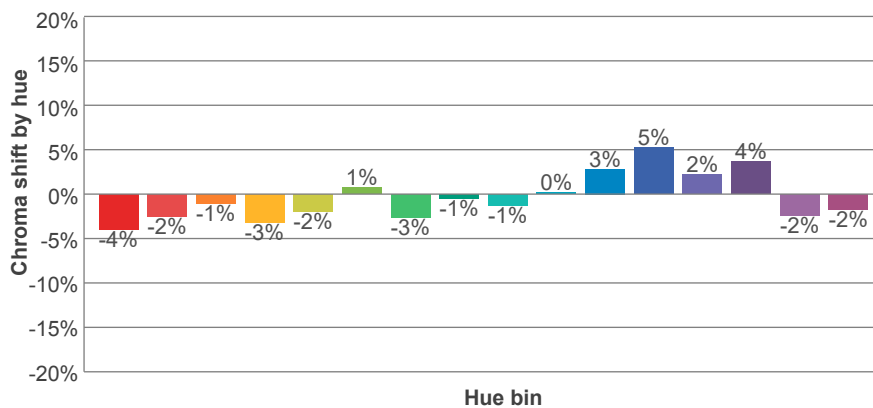
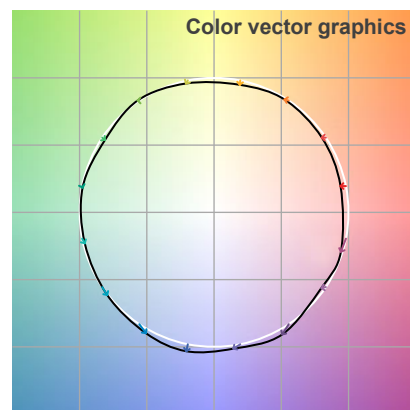
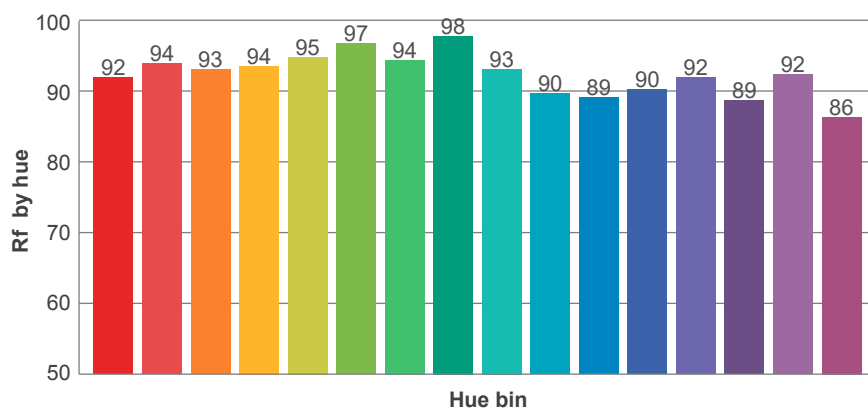
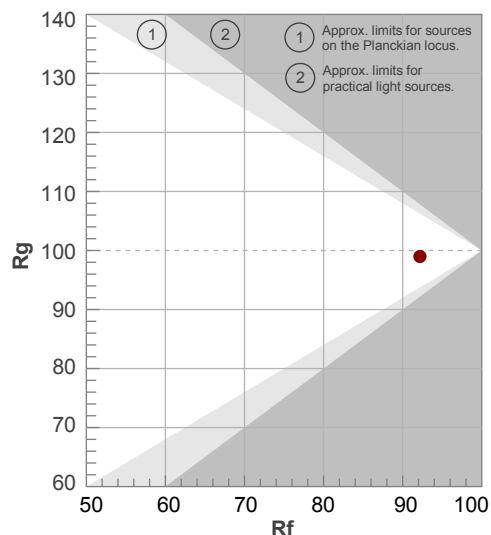
**Rf 92,2**

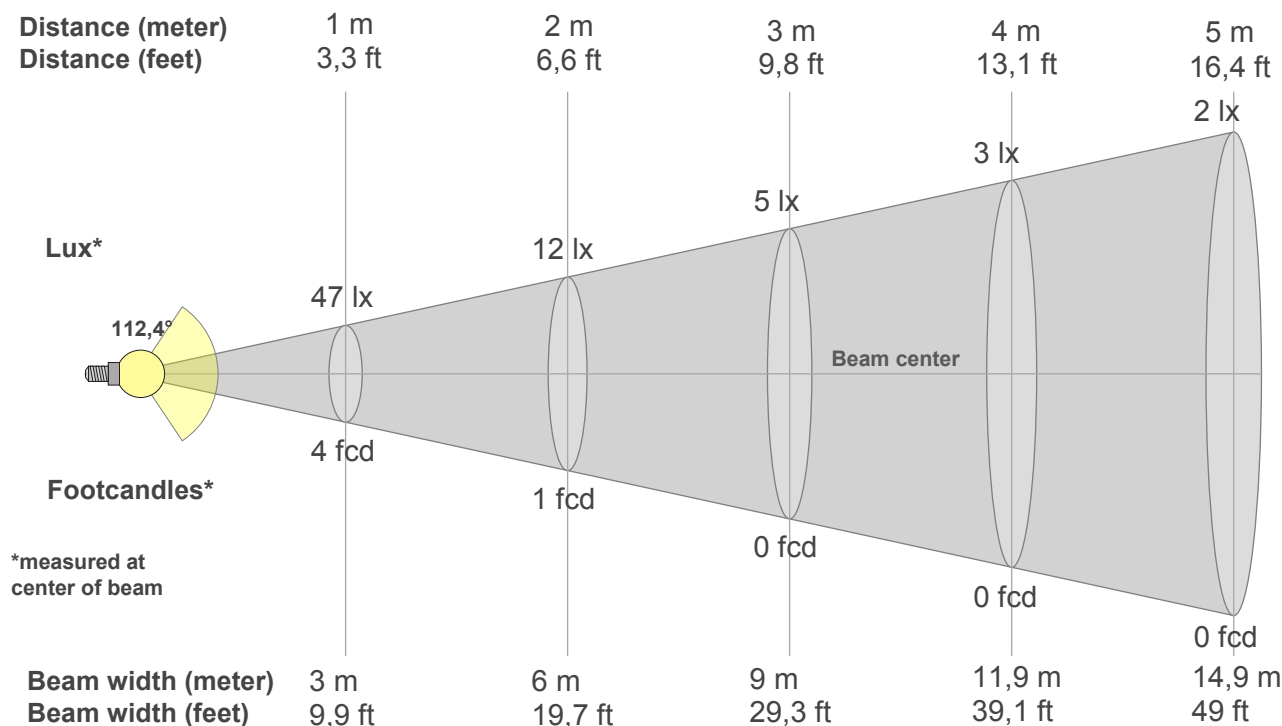
Fidelity index Rf

**Rg 99,0**

Gammut index Rg

| Hue Bin | R <sub>f</sub> | Graphic shifts (%) |      |
|---------|----------------|--------------------|------|
|         |                | Chroma             | Hue  |
| 1       | 92             | -4%                | 1%   |
| 2       | 94             | -2%                | 2%   |
| 3       | 93             | -1%                | 3%   |
| 4       | 94             | -3%                | 0%   |
| 5       | 95             | -2%                | 2%   |
| 6       | 97             | 1%                 | 1%   |
| 7       | 94             | -3%                | 0%   |
| 8       | 98             | -1%                | 1%   |
| 9       | 93             | -1%                | 4%   |
| 10      | 90             | 0%                 | 7%   |
| 11      | 89             | 3%                 | 8%   |
| 12      | 90             | 5%                 | 0%   |
| 13      | 92             | 2%                 | -6%  |
| 14      | 89             | 4%                 | -8%  |
| 15      | 92             | -2%                | -2%  |
| 16      | 86             | -2%                | -10% |





## 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 |
| 47lx   | 12lx   | 5lx    | 3lx    | 2lx    | 1lx    | 1lx    | 1lx    | 1lx    | 0lx    | 0lx    | 0lx    | 0lx    | 0lx    | 0lx    | 0lx    | 0lx    | 0lx    | 0lx    | 0lx    |
| 4,4fcd | 1,1fcd | 0,5fcd | 0,3fcd | 0,2fcd | 0,1fcd | 0,1fcd | 0,1fcd | 0,1fcd | 0fcd   | 0fcd   | 0fcd   | 0fcd   | 0fcd   | 0fcd   | 0fcd   | 0fcd   | 0fcd   | 0fcd   | 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° |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|
| 47,3 | 47,0 | 46,4 | 45,4 | 44,0 | 42,2 | 40,2 | 38,0 | 35,4 | 32,4 | 29,2 | 25,6 | 22,0 | 18,2 | 14,5 | 11,1 | 8,1 | 5,5 | 1,9 | 0,0 |
| 100% | 99%  | 98%  | 96%  | 93%  | 89%  | 85%  | 80%  | 75%  | 69%  | 62%  | 54%  | 46%  | 39%  | 31%  | 24%  | 17% | 12% | 4%  | 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° |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|
| 47,3 | 46,9 | 46,4 | 45,3 | 44,0 | 42,2 | 39,8 | 37,1 | 33,9 | 30,3 | 26,3 | 22,2 | 18,0 | 14,0 | 10,4 | 7,1 | 4,2 | 2,0 | 0,3 | 0,0 |
| 100% | 99%  | 98%  | 96%  | 93%  | 89%  | 84%  | 78%  | 72%  | 64%  | 56%  | 47%  | 38%  | 30%  | 22%  | 15% | 9%  | 4%  | 1%  | 0%  |

## Intensities in 180° c-plane

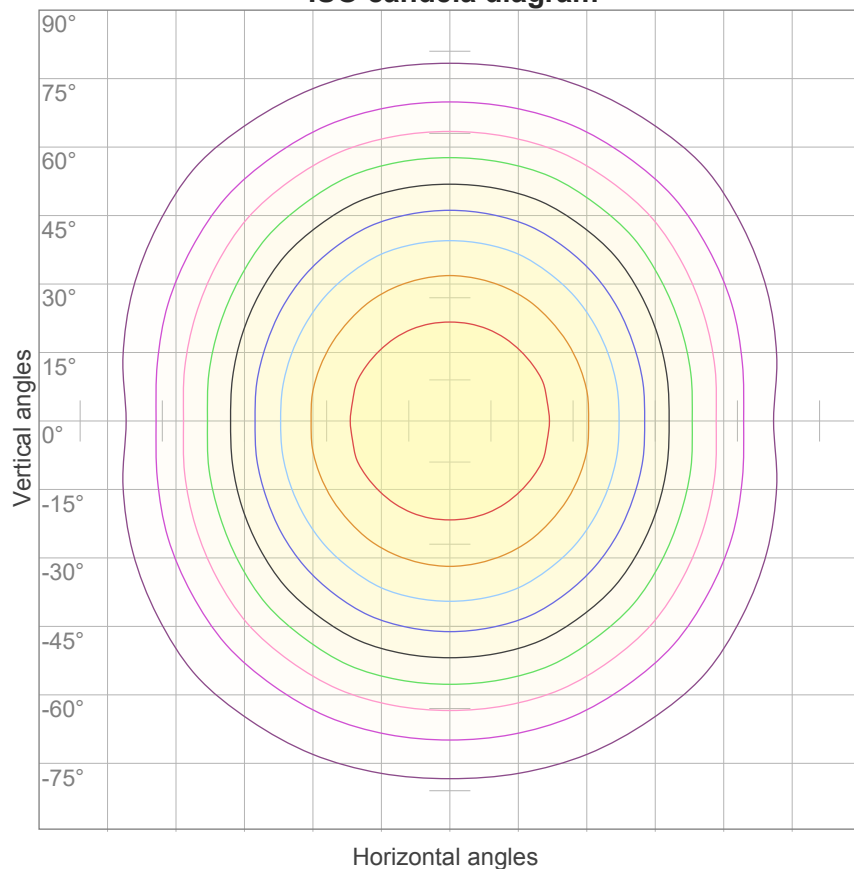
| 0°   | 5°   | 10°  | 15°  | 20°  | 25°  | 30°  | 35°  | 40°  | 45°  | 50°  | 55°  | 60°  | 65°  | 70°  | 75°  | 80° | 85° | 90° | 95° |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|
| 47,3 | 47,0 | 46,4 | 45,4 | 44,0 | 42,2 | 40,2 | 38,0 | 35,4 | 32,4 | 29,2 | 25,6 | 22,0 | 18,2 | 14,5 | 11,1 | 8,1 | 5,5 | 1,9 | 0,0 |
| 100% | 99%  | 98%  | 96%  | 93%  | 89%  | 85%  | 80%  | 75%  | 69%  | 62%  | 54%  | 46%  | 39%  | 31%  | 24%  | 17% | 12% | 4%  | 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° |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|
| 47,3 | 46,9 | 46,4 | 45,3 | 44,0 | 42,2 | 39,8 | 37,1 | 33,9 | 30,3 | 26,3 | 22,2 | 18,0 | 14,0 | 10,4 | 7,1 | 4,2 | 2,0 | 0,3 | 0,0 |
| 100% | 99%  | 98%  | 96%  | 93%  | 89%  | 84%  | 78%  | 72%  | 64%  | 56%  | 47%  | 38%  | 30%  | 22%  | 15% | 9%  | 4%  | 1%  | 0%  |

| Beam angle 50% | Field angle 10% | Cutoff angle 2,5% | Intensity ratio in 120° cone | Intensity ratio in 90° cone |
|----------------|-----------------|-------------------|------------------------------|-----------------------------|
| 112,4°         | 171°            | 211°              | 74,6%                        | 50,8%                       |

### ISO candela diagram



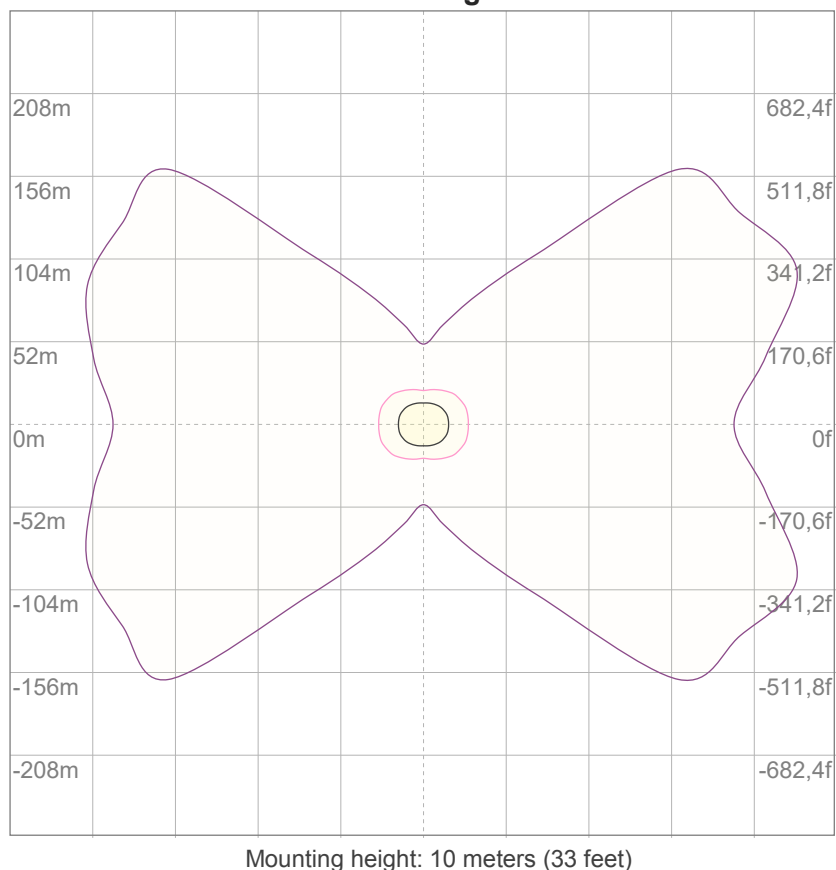
|     |       |
|-----|-------|
| 10% | 5 cd  |
| 20% | 9 cd  |
| 30% | 14 cd |
| 40% | 19 cd |
| 50% | 24 cd |
| 60% | 28 cd |
| 70% | 33 cd |
| 80% | 38 cd |
| 90% | 43 cd |

#### Conditions:

Number of c-planes: 16

Candela at center: 47 cd

### ISO lux diagram



|     |          |
|-----|----------|
| 3%  | 14,2m lx |
| 5%  | 23,6m lx |
| 10% | 47,3m lx |
| 30% | 0,142 lx |
| 50% | 0,236 lx |

#### Conditions:

Number of c-planes: 16

Lux at center: 0,473 lx

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

### Glare Evaluation According to UGR

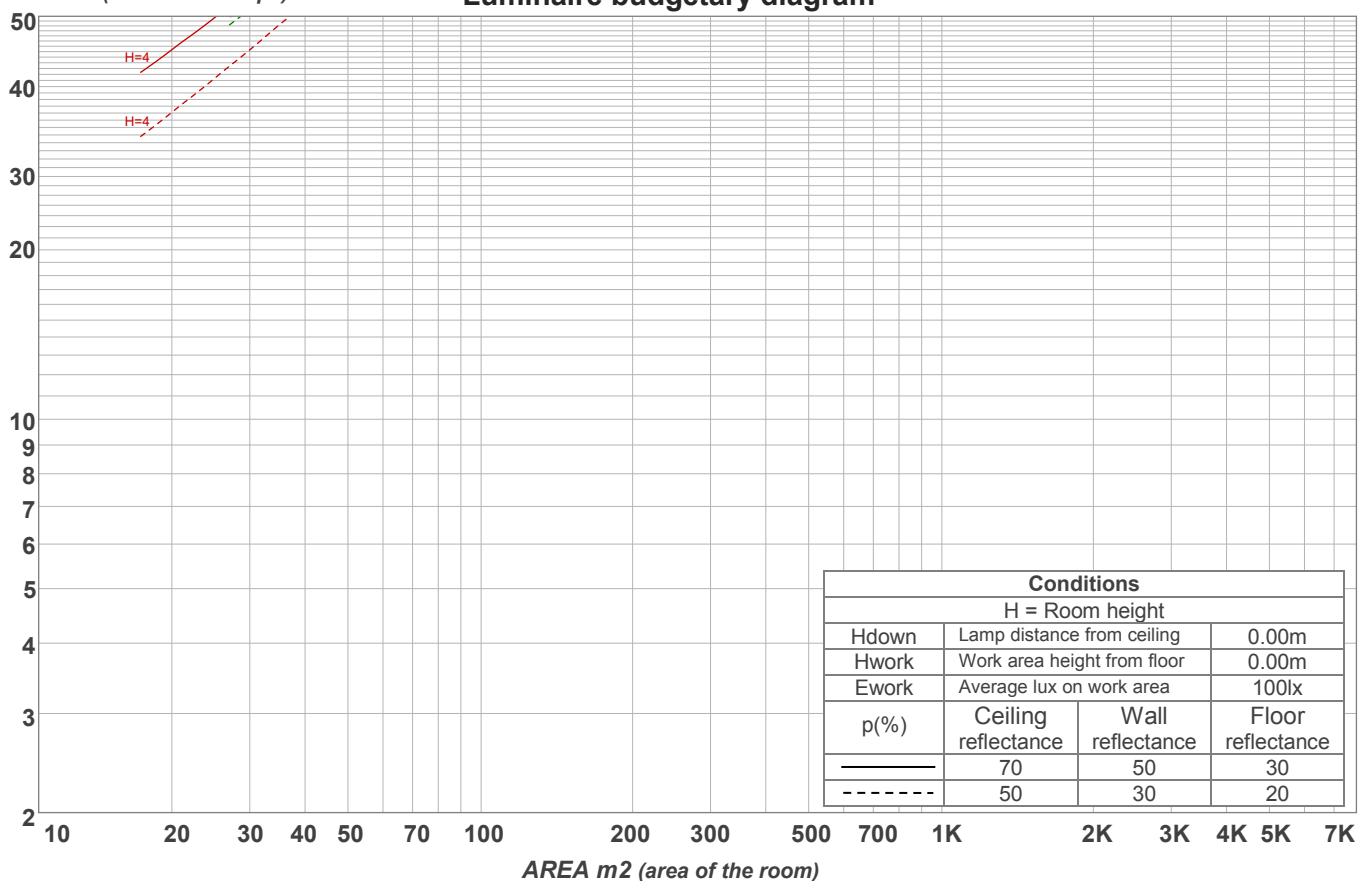
|   |     |   |      |      |      |      |   |      |      |      |      |
|---|-----|---|------|------|------|------|---|------|------|------|------|
| p Ceiling   |     | 70  | 70   | 50   | 50   | 30   | 70                                      | 70   | 50   | 50   | 30   |
| p Walls   |     | 50  | 30   | 50   | 30   | 30   | 50                                      | 30   | 50   | 30   | 30   |
| p Floor   |     | 20  | 20   | 20   | 20   | 20   | 20                                      | 20   | 20   | 20   | 20   |
| Room size<br>X      Y   |     | Viewing direction at right angles to<br>lamp axis |      |      |      |      | Viewing direction parallel to lamp axis |      |      |      |      |
| 2H  | 2H  | 15,6  | 16,8 | 15,8 | 17,1 | 17,3 | 15,9                                    | 17,1 | 16,1 | 17,5 | 17,7 |
|   | 3H  | 16,8  | 18,1 | 17,2 | 18,4 | 18,6 | 17,1                                    | 18,4 | 17,5 | 18,7 | 18,9 |
|   | 4H  | 17,4  | 18,6 | 17,8 | 18,9 | 19,1 | 17,7                                    | 18,9 | 18,1 | 19,2 | 19,4 |
|   | 6H  | 17,8  | 18,9 | 18,2 | 19,2 | 19,6 | 18,1                                    | 19,2 | 18,4 | 19,5 | 19,8 |
|   | 8H  | 18,0  | 19,1 | 18,3 | 19,4 | 19,8 | 18,2                                    | 19,3 | 18,5 | 19,6 | 20,0 |
|   | 12H | 18,1  | 19,1 | 18,5 | 19,5 | 19,9 | 18,3                                    | 19,3 | 18,6 | 19,6 | 20,1 |
| 4H  | 2H  | 16,1  | 17,4 | 16,5 | 17,6 | 17,9 | 16,4                                    | 17,6 | 16,8 | 17,9 | 18,2 |
|   | 3H  | 17,7  | 18,7 | 18,1 | 19,1 | 19,5 | 17,9                                    | 19,0 | 18,3 | 19,3 | 19,7 |
|   | 4H  | 18,3  | 19,2 | 18,7 | 19,7 | 20,2 | 18,5                                    | 19,4 | 18,9 | 19,9 | 20,4 |
|   | 6H  | 18,8  | 19,8 | 19,3 | 20,1 | 20,5 | 19,0                                    | 19,9 | 19,5 | 20,3 | 20,6 |
|   | 8H  | 19,1  | 19,9 | 19,6 | 20,3 | 20,6 | 19,2                                    | 20,0 | 19,7 | 20,4 | 20,8 |
|   | 12H | 19,2  | 19,9 | 19,7 | 20,4 | 20,8 | 19,3                                    | 20,0 | 19,8 | 20,4 | 20,9 |
| 8H  | 4H  | 18,6  | 19,4 | 19,1 | 19,8 | 20,2 | 18,8                                    | 19,6 | 19,3 | 20,0 | 20,4 |
|   | 6H  | 19,3  | 19,9 | 19,8 | 20,4 | 21,0 | 19,4                                    | 20,1 | 19,9 | 20,5 | 21,1 |
|   | 8H  | 19,6  | 20,2 | 20,1 | 20,7 | 21,4 | 19,7                                    | 20,3 | 20,2 | 20,8 | 21,5 |
|   | 12H | 19,9  | 20,4 | 20,5 | 20,9 | 21,5 | 20,0                                    | 20,4 | 20,5 | 20,9 | 21,6 |
| 12H   | 4H  | 18,6  | 19,3 | 19,1 | 19,7 | 20,2 | 18,8                                    | 19,5 | 19,3 | 19,9 | 20,4 |
|   | 6H  | 19,4  | 20,0 | 19,9 | 20,5 | 21,1 | 19,5                                    | 20,1 | 20,0 | 20,6 | 21,3 |
|   | 8H  | 19,8  | 20,2 | 20,3 | 20,7 | 21,4 | 19,9                                    | 20,3 | 20,4 | 20,8 | 21,5 |
| Variation of the observer position for the luminaire distance S |     |   |      |      |      |      |   |      |      |      |      |
| S = 1.0H  |     | 0,1 / -0,1  |      |      |      |      | 0,1 / -0,1                              |      |      |      |      |
| S = 1.5H  |     | 0,2 / -0,3  |      |      |      |      | 0,2 / -0,3                              |      |      |      |      |
| S = 2.0H  |     | 0,4 / -0,6  |      |      |      |      | 0,5 / -0,6                              |      |      |      |      |
| Standard table  |     | n/a   |      |      |      |      | n/a                                     |      |      |      |      |
| Correction<br>summand   |     | n/a   |      |      |      |      | n/a                                     |      |      |      |      |
| Corrected glare indices referring to 143 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                   | 118  | 118 | 118 | 118 | 115 | 115 | 115 | 115 | 110 | 110 | 110 | 104 | 104 | 104 | 100 | 100 | 100 | 97 |
| 1                   | 107  | 102 | 98  | 94  | 104 | 100 | 96  | 92  | 95  | 92  | 88  | 91  | 88  | 85  | 87  | 84  | 82  | 80 |
| 2                   | 97   | 89  | 82  | 76  | 94  | 87  | 80  | 75  | 83  | 77  | 72  | 79  | 74  | 70  | 76  | 72  | 68  | 66 |
| 3                   | 89   | 78  | 69  | 63  | 86  | 76  | 68  | 62  | 73  | 66  | 61  | 70  | 64  | 59  | 67  | 62  | 58  | 55 |
| 4                   | 81   | 69  | 60  | 53  | 79  | 67  | 59  | 52  | 64  | 57  | 51  | 62  | 56  | 50  | 59  | 54  | 50  | 47 |
| 5                   | 75   | 61  | 52  | 46  | 72  | 60  | 52  | 45  | 58  | 50  | 44  | 55  | 49  | 44  | 53  | 48  | 43  | 41 |
| 6                   | 69   | 55  | 46  | 40  | 67  | 54  | 46  | 39  | 52  | 45  | 39  | 50  | 43  | 38  | 48  | 42  | 38  | 36 |
| 7                   | 64   | 50  | 41  | 35  | 62  | 49  | 41  | 35  | 47  | 40  | 34  | 46  | 39  | 34  | 44  | 38  | 34  | 31 |
| 8                   | 59   | 46  | 37  | 31  | 58  | 45  | 37  | 31  | 43  | 36  | 31  | 42  | 35  | 30  | 41  | 34  | 30  | 28 |
| 9                   | 55   | 42  | 34  | 28  | 54  | 41  | 33  | 28  | 40  | 33  | 28  | 39  | 32  | 27  | 37  | 31  | 27  | 25 |
| 10                  | 52   | 39  | 31  | 25  | 51  | 38  | 30  | 25  | 37  | 30  | 25  | 36  | 29  | 25  | 35  | 29  | 25  | 23 |

LAMPS (number of lamps)

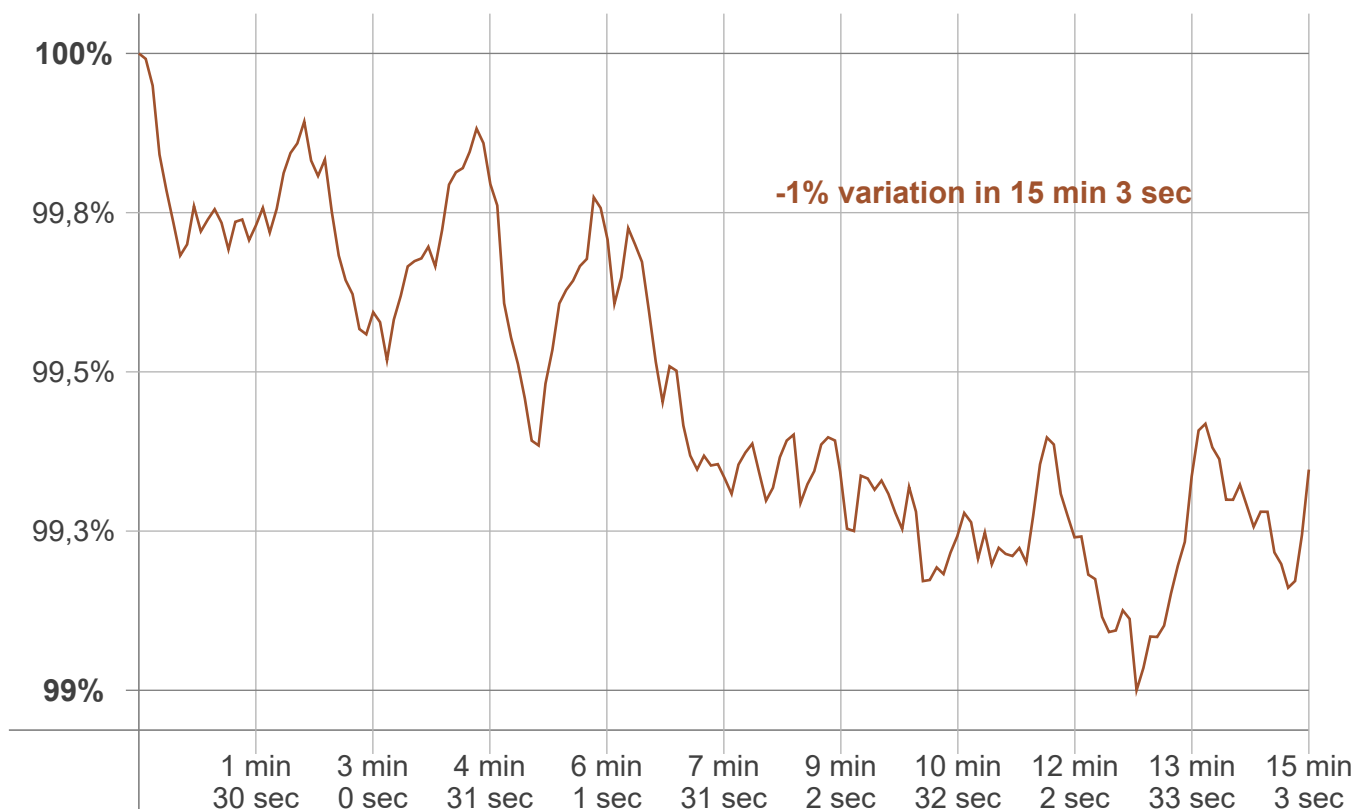
## Luminaire budgetary diagram



## Zonal Lumen Summary

| 0°-10°   | 10°-20°   | 20°-30°   | 30°-40°   | 40°-50°   | 50°-60°   | 60°-70°   | 70°-80°   | 80°-90°   |
|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 4,47 lm  | 12,8 lm   | 19,5 lm   | 23,5 lm   | 24,4 lm   | 21,9 lm   | 16,8 lm   | 10,6 lm   | 5,15 lm   |
| 90°-100° | 100°-110° | 110°-120° | 120°-130° | 130°-140° | 140°-150° | 150°-160° | 160°-170° | 170°-180° |
| 1,66 lm  | 0,452 lm  | 0,371 lm  | 0,335 lm  | 0,289 lm  | 0,235 lm  | 0,173 lm  | 0,106 lm  | 0,036 lm  |

## Warmup curve



## Warmup result

|                  |                                 |
|------------------|---------------------------------|
| Warmup time:     | Lamp stabilized in 15 min 3 sec |
| Warmup variation | -1,0%                           |

## Warmup conditions

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

## Color temperature change

| CCT start | CCT change | CCT end |
|-----------|------------|---------|
| 2722 K    | -4 K       | 2718 K  |

## Output change

| Output start | Output change | Output end |
|--------------|---------------|------------|
| 143 lm       | -1 lm         | 143 lm     |