**Light efficiency:**

**113 Lumen/Watt**

**Light quality:**

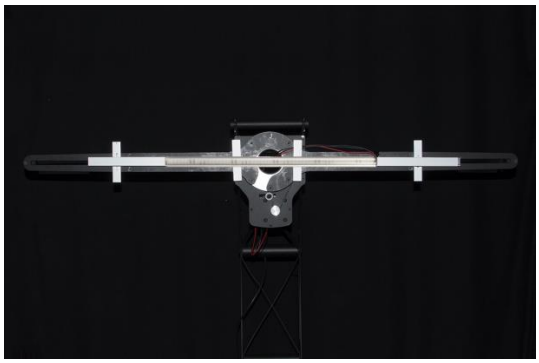
**CRI: 94,5**

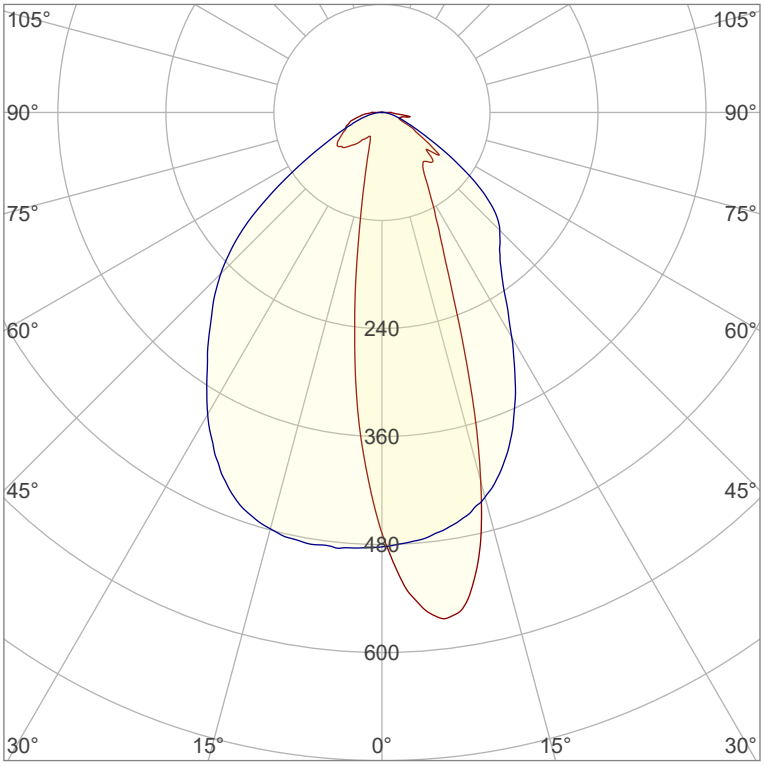
**Color temperature:**

**2700 K**

**Output: 541 lm**
**Peak: 598 cd**

**Power: 4,8 W**
**PF: 1,0**






**Product name:**
**Victory-7_510mm_927_Lens-Asymmetric-Frosted-2**

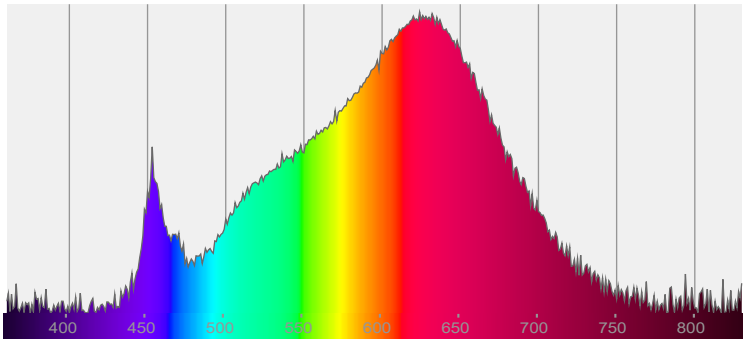
**Item number:**
**NP/L1C/03F/0510/927/LAF-2**

**Date and time:**
**03.06.2022 09:46:31**

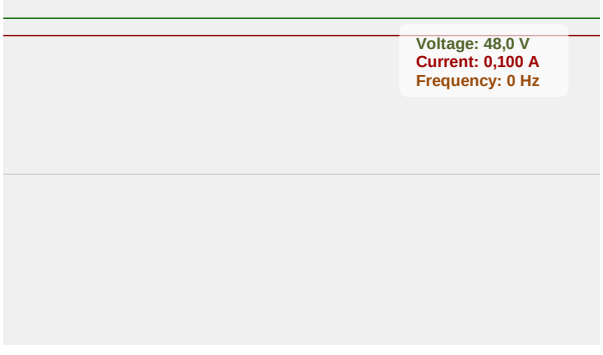
**Description:**
**Tolerances:**
**Lumen +/-4%**
**Candela +/-2,5%**
**Colour Temp +/-35 Kelvin**
**CRI +/-0,7**
**Angular Resolution: 1 Degree Step**
**Last Calibration 20-09-2021**
**Tester: Peter Ulrich**
**Test Site: Lichtlabor**
**Gaustrasse 13**
**55411 Bingen am Rhein**

**CIE 1931**
**x: 0,460**
**y: 0,411**

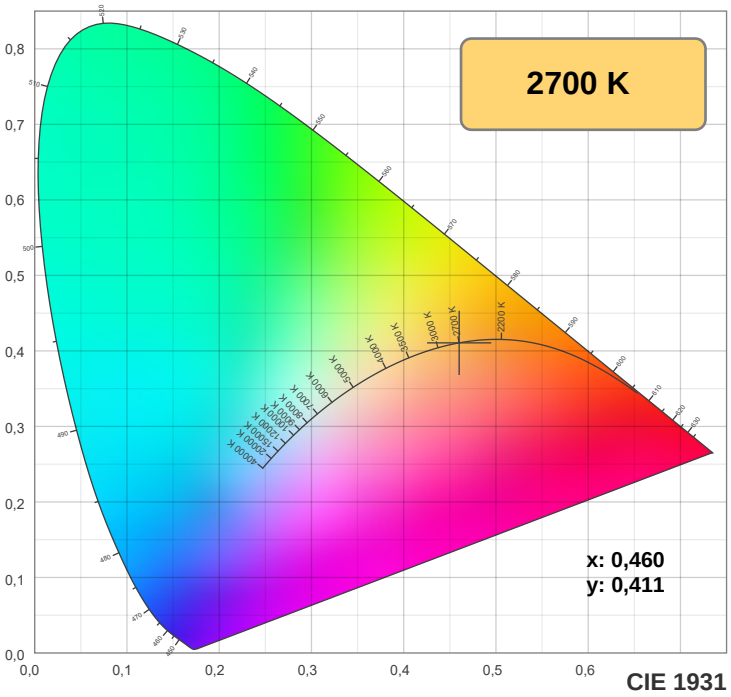
**Spectra**



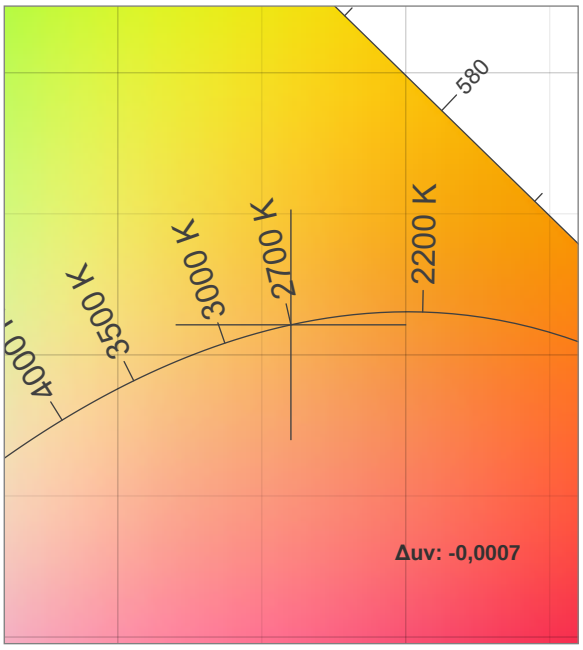

**Power**



# Color details

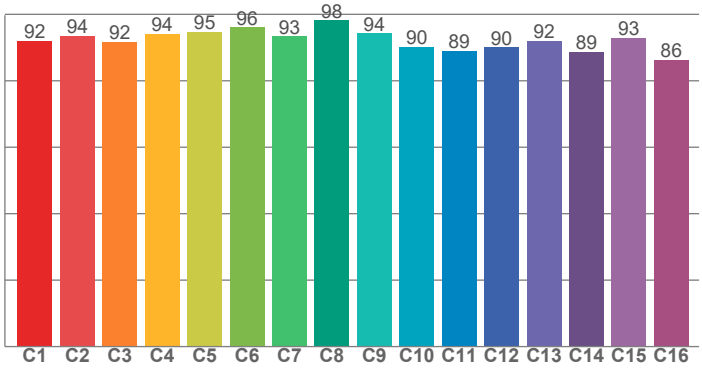



CIE 1931

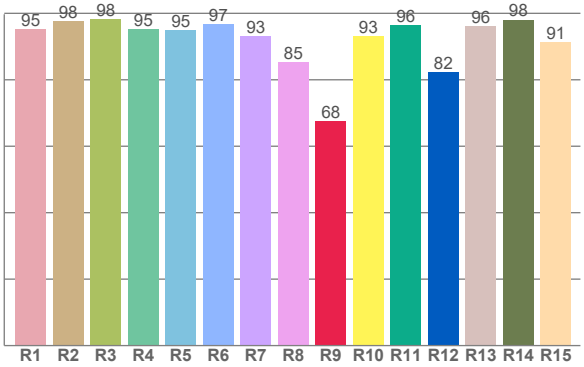



CIE 1931 ZOOM

## TM30: 92,3




## CRI: 94,5 (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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 95,2 | 97,6 | 98,2 | 95,1 | 94,8 | 96,8 | 93,1 | 85,2 | 67,6 | 93,2 | 96,4 | 82,2 | 96,1 | 98,1 | 91,4 |

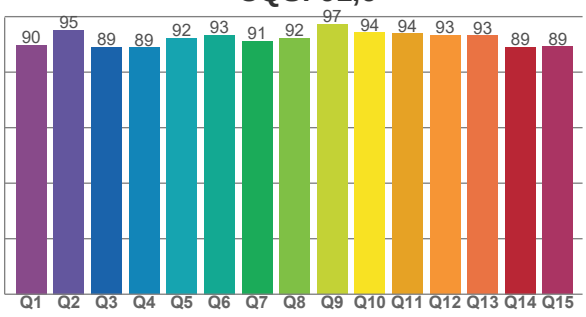
**TM30 C values, 16 binned values out of total of 99 C values**

| C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | C11 | C12 | C13 | C14 | C15 | C16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 92,1 | 93,5 | 91,7 | 94,1 | 94,8 | 96,1 | 93,3 | 98,1 | 94,3 | 90,2 | 89,0 | 90,0 | 92,1 | 88,7 | 93,0 | 86,4 |

**CQS Q values**

| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 89,7 | 95,2 | 89,0 | 88,8 | 92,2 | 93,3 | 91,3 | 92,4 | 97,2 | 94,3 | 93,9 | 93,4 | 93,2 | 89,1 | 89,2 |

## CQS: 91,6




## 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 |
| 2700 K | 94,5 | 67,6 | 92,3 | 99,7 | 91,6 | 0,460 | 0,411 | 0,263 | 0,352 | -0,0007 |

# TM30 details

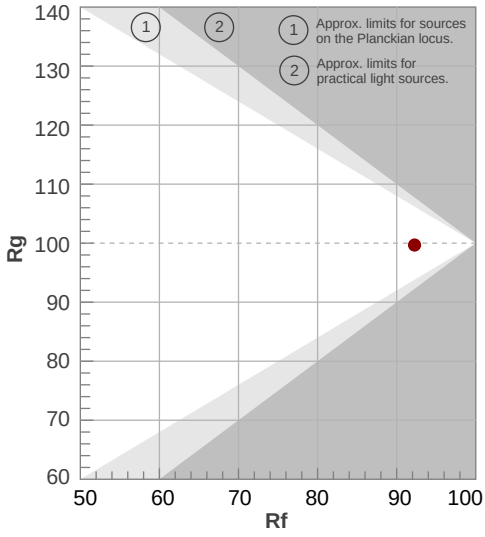
**Rf 92,3**

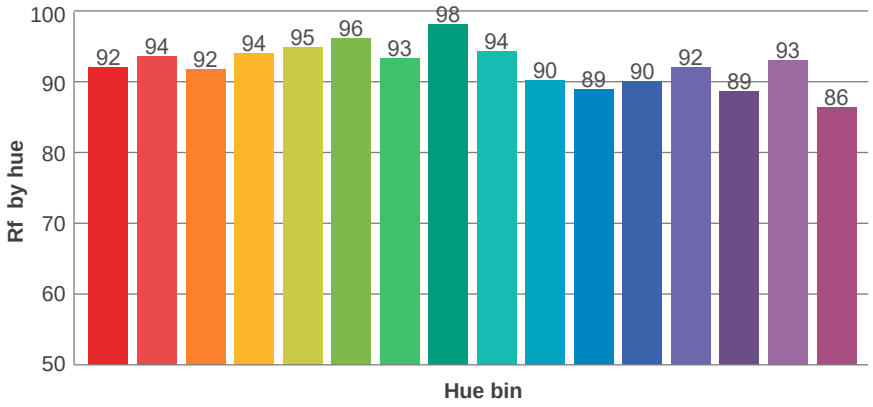
Fidelity index Rf

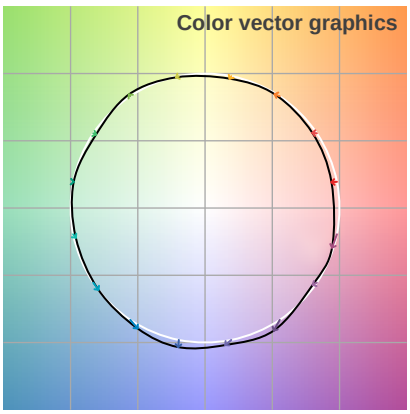
**Rg 99,7**

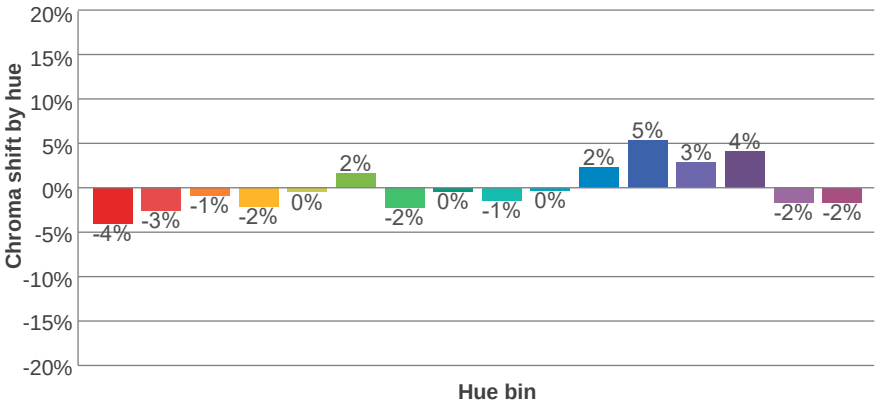
Gammut index Rg

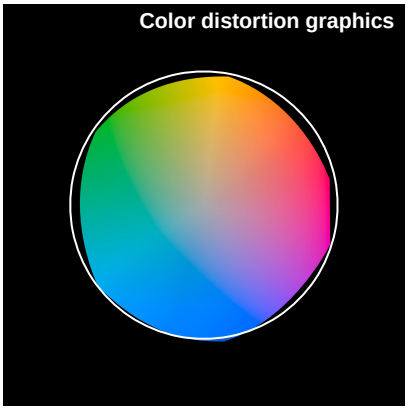
| | | Graphic shifts (%) | |
|---|---|---|---|
| Hue Bin | $R_f$ | Chroma | Hue |
| 1 | 92 | -4% | 0% |
| 2 | 94 | -3% | 2% |
| 3 | 92 | -1% | 4% |
| 4 | 94 | -2% | 1% |
| 5 | 95 | 0% | 2% |
| 6 | 96 | 2% | 0% |
| 7 | 93 | -2% | 0% |
| 8 | 98 | 0% | 0% |
| 9 | 94 | -1% | 3% |
| 10 | 90 | 0% | 6% |
| 11 | 89 | 2% | 8% |
| 12 | 90 | 5% | 1% |
| 13 | 92 | 3% | -5% |
| 14 | 89 | 4% | -8% |
| 15 | 93 | -2% | -3% |
| 16 | 86 | -2% | -10% |

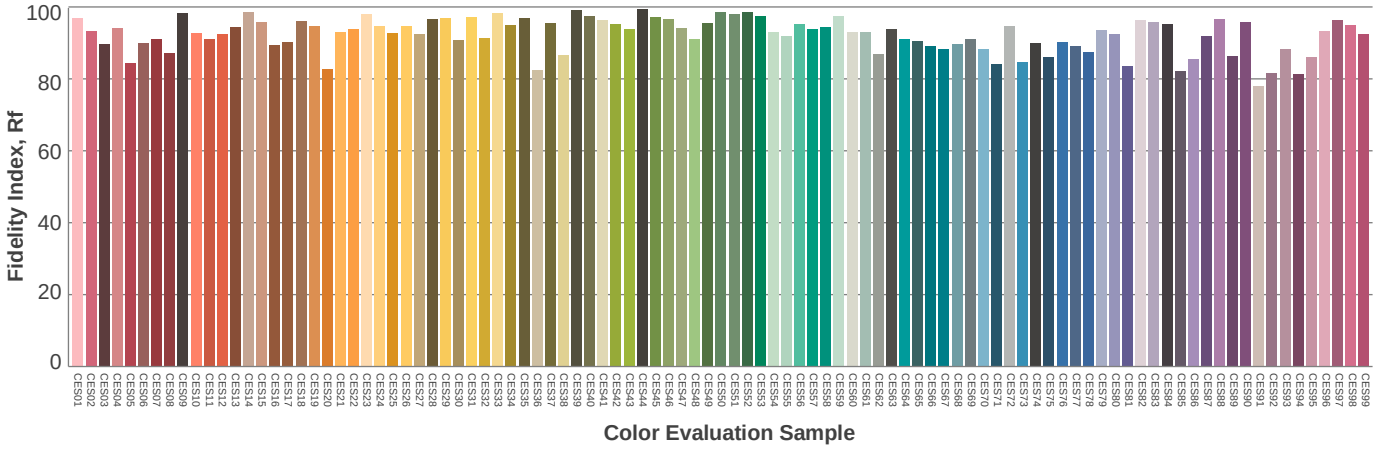


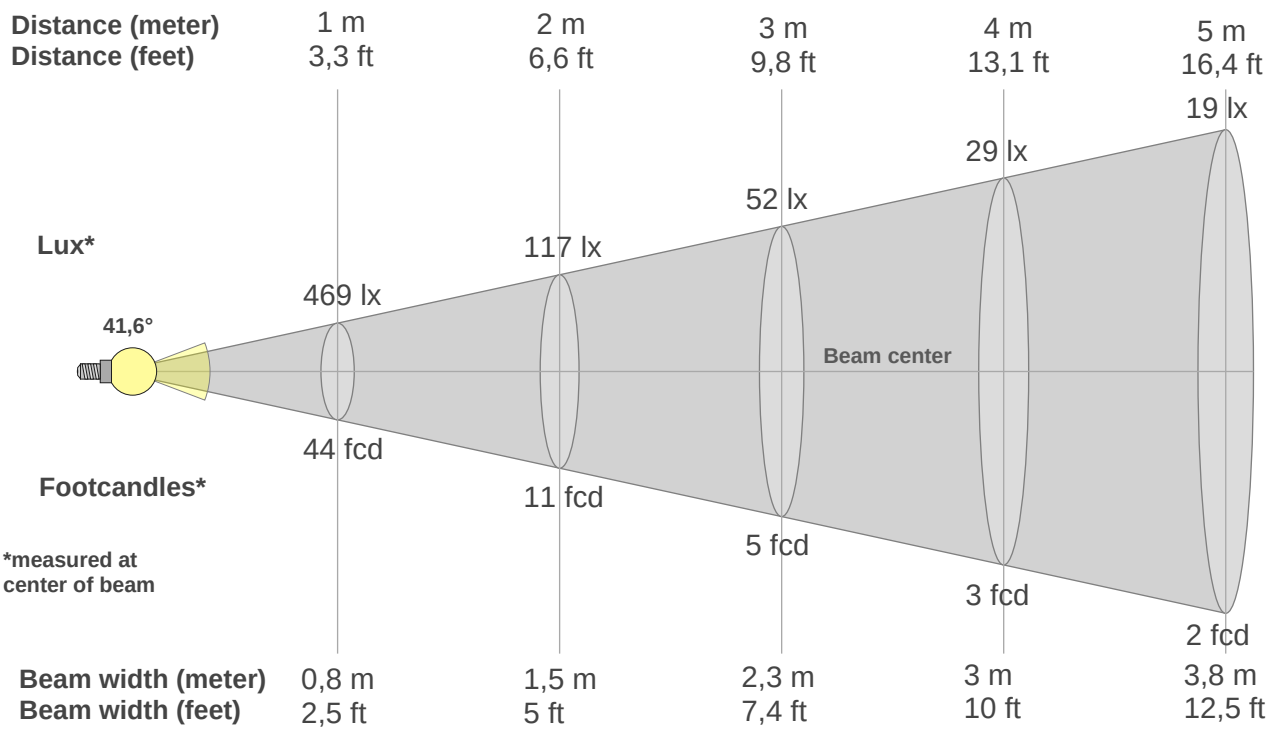



# Beam details




**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 |
| 469lx | 117lx | 52lx | 29lx | 19lx | 13lx | 10lx | 7lx | 6lx | 5lx | 4lx | 3lx | 3lx | 2lx | 2lx | 2lx | 2lx | 1lx | 1lx | 1lx |
| 43,5fcd | 10,9fcd | 4,8fcd | 2,7fcd | 1,7fcd | 1,2fcd | 0,9fcd | 0,7fcd | 0,5fcd | 0,4fcd | 0,4fcd | 0,3fcd | 0,3fcd | 0,2fcd | 0,2fcd | 0,2fcd | 0,2fcd | 0,1fcd | 0,1fcd | 0,1fcd |

**Intensities in 0° c-plane**

| 0° | 2° | 4° | 6° | 8° | 10° | 12° | 14° | 16° | 18° | 20° | 22° | 24° | 26° | 28° | 30° | 32° | 34° | 36° | 38° |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 469 | 512 | 544 | 562 | 564 | 549 | 512 | 457 | 389 | 317 | 252 | 202 | 168 | 144 | 125 | 109 | 96 | 85 | 78 | 74 |
| 100% | 109% | 116% | 120% | 120% | 117% | 109% | 98% | 83% | 68% | 54% | 43% | 36% | 31% | 27% | 23% | 21% | 18% | 17% | 16% |

**Intensities in 90° c-plane**

| 0° | 2° | 4° | 6° | 8° | 10° | 12° | 14° | 16° | 18° | 20° | 22° | 24° | 26° | 28° | 30° | 32° | 34° | 36° | 38° |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 469 | 480 | 478 | 475 | 470 | 464 | 457 | 448 | 437 | 422 | 405 | 385 | 362 | 338 | 313 | 288 | 265 | 244 | 227 | 214 |
| 100% | 102% | 102% | 101% | 100% | 99% | 98% | 95% | 93% | 90% | 86% | 82% | 77% | 72% | 67% | 62% | 57% | 52% | 49% | 46% |

**Intensities in 180° c-plane**

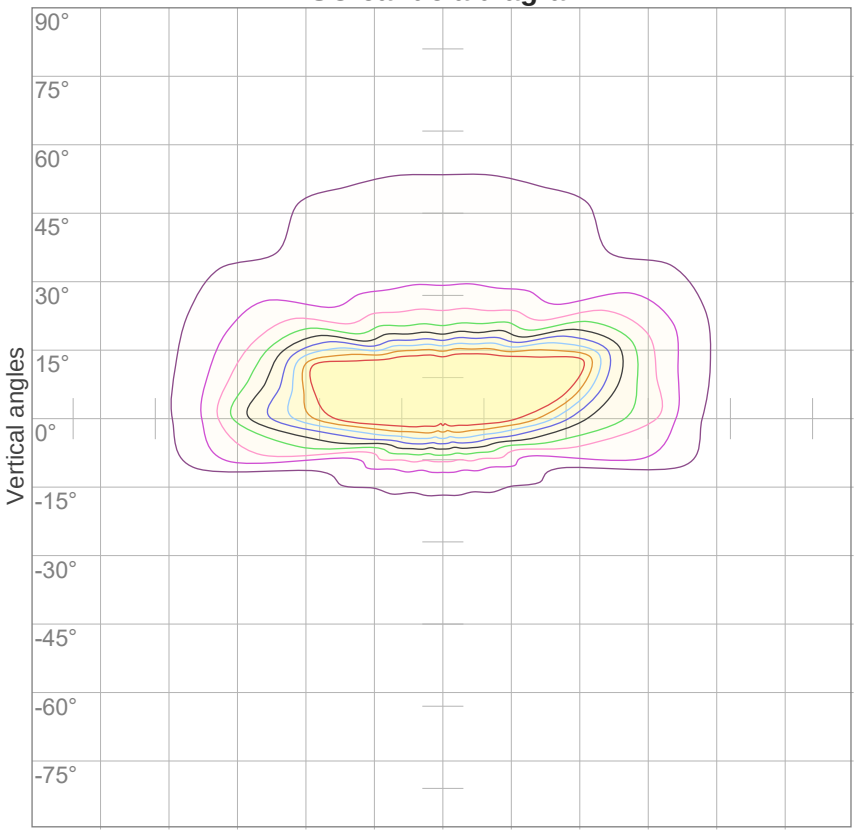
| 0° | 2° | 4° | 6° | 8° | 10° | 12° | 14° | 16° | 18° | 20° | 22° | 24° | 26° | 28° | 30° | 32° | 34° | 36° | 38° |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 469 | 412 | 353 | 285 | 216 | 155 | 111 | 82 | 63 | 51 | 41 | 35 | 32 | 30 | 30 | 32 | 34 | 36 | 39 | 43 |
| 100% | 88% | 75% | 61% | 46% | 33% | 24% | 17% | 13% | 11% | 9% | 8% | 7% | 6% | 6% | 7% | 7% | 8% | 8% | 9% |

**Intensities in 270° c-plane**

| 0° | 2° | 4° | 6° | 8° | 10° | 12° | 14° | 16° | 18° | 20° | 22° | 24° | 26° | 28° | 30° | 32° | 34° | 36° | 38° |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 469 | 484 | 485 | 486 | 485 | 486 | 484 | 481 | 477 | 471 | 463 | 452 | 439 | 423 | 405 | 387 | 367 | 347 | 330 | 312 |
| 100% | 103% | 103% | 104% | 104% | 104% | 103% | 103% | 102% | 100% | 99% | 96% | 94% | 90% | 86% | 83% | 78% | 74% | 70% | 66% |

| Beam angle 50% | Field angle 10% | Cutoff angle 2,5% | Intensity ratio in 120° cone | Intensity ratio in 90° cone |
|---|---|---|---|---|
| **41,6°** | **93,1°** | **172,4°** | **84,0%** | **66,4%** |

## ISO candela diagram



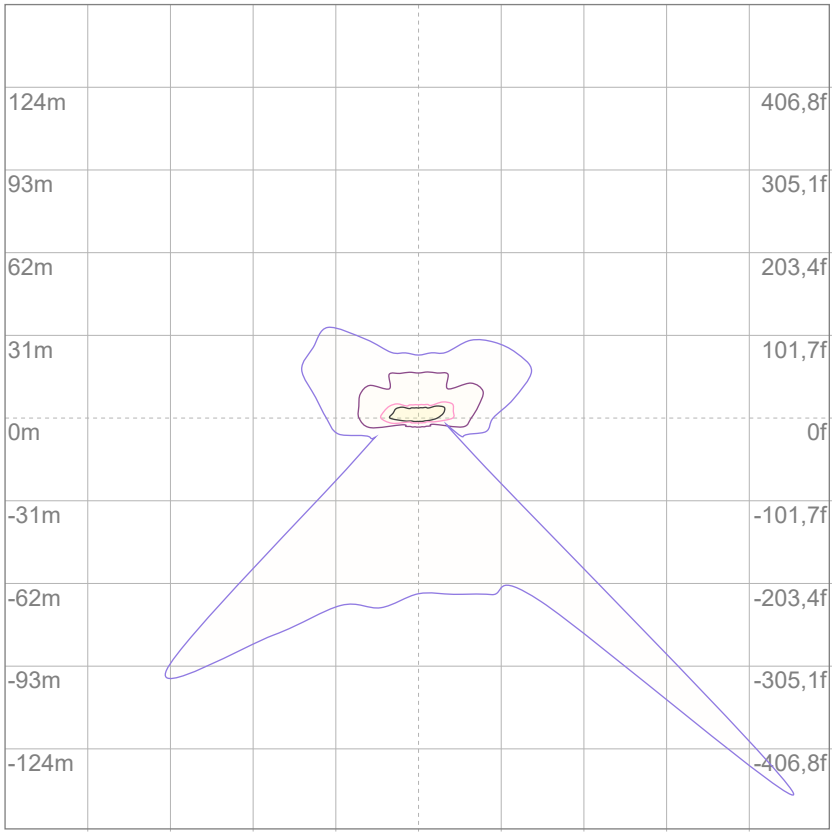

| | |
|---|---|
| 10% | 47 cd |
| 20% | 94 cd |
| 30% | 141 cd |
| 40% | 187 cd |
| 50% | 234 cd |
| 60% | 281 cd |
| 70% | 328 cd |
| 80% | 375 cd |
| 90% | 422 cd |

Conditions:

Number of c-planes: 16

Candela at center: 469 cd

## ISO lux diagram




Mounting height: 10 meters (33 feet)

| | |
|---|---|
| 3% | 0,141 lx |
| 5% | 0,234 lx |
| 10% | 0,469 lx |
| 30% | 1,41 lx |
| 50% | 2,34 lx |

Conditions:

Number of c-planes: 16

Lux at center: 4,69 lx

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

## Glare Evaluation According to UGR

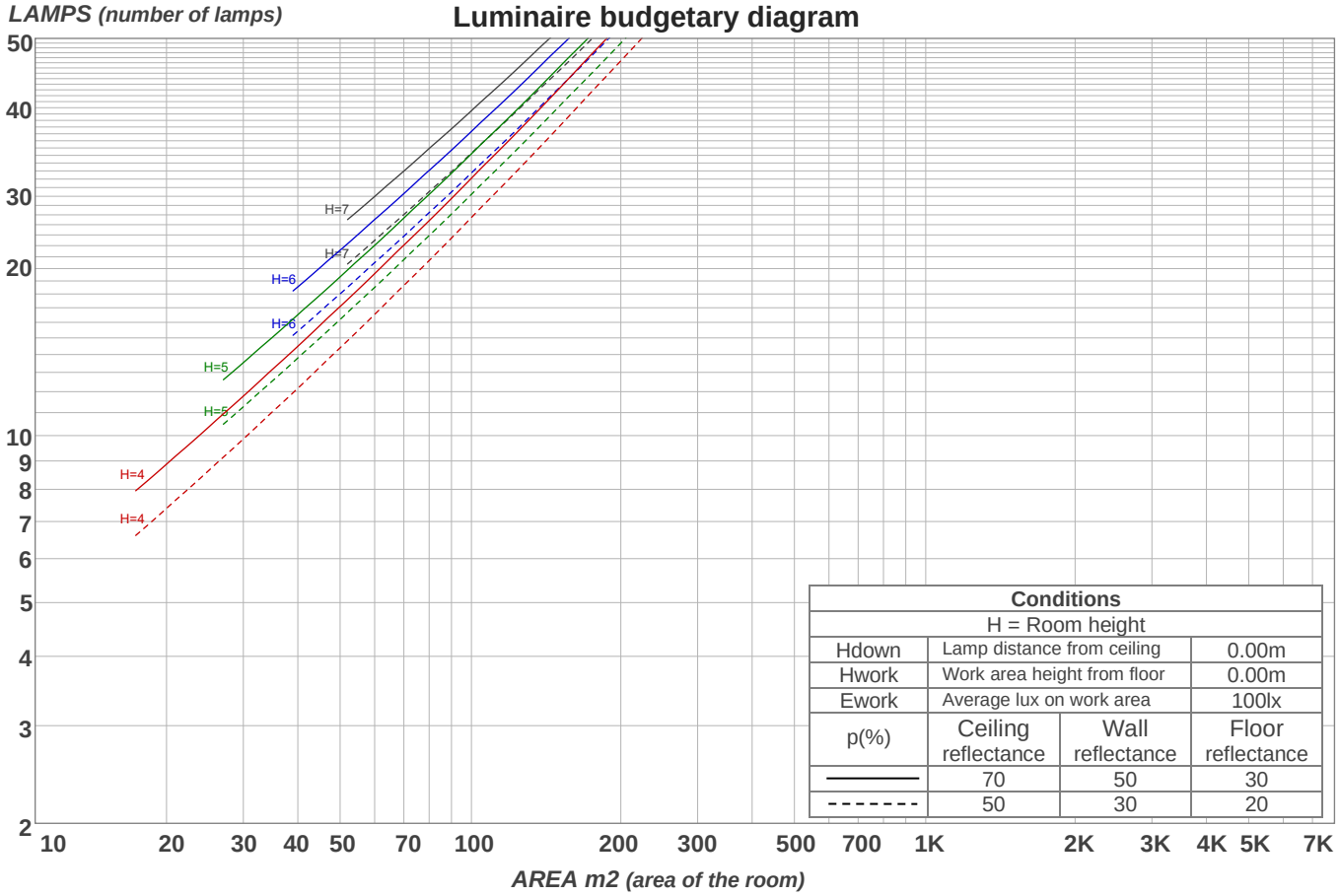
| p Ceiling | 70 | 70 | 50 | 50 | 30 | 70 | 70 | 50 | 50 | 30 |
|---|---|---|---|---|---|---|---|---|---|---|
| p Walls | 50 | 30 | 50 | 30 | 30 | 50 | 30 | 50 | 30 | 30 |
| p Floor | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Room size X Y | Viewing direction at right angles to lamp axis | | | | | Viewing direction parallel to lamp axis | | | | |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Variation of the observer position for the luminaire distance S | | | | | | | | | | |
| n/a | n/a | | | | | n/a | | | | |
| n/a | n/a | | | | | n/a | | | | |
| n/a | n/a | | | | | n/a | | | | |
| Standard table | n/a | | | | | n/a | | | | |
| Correction summand | n/a | | | | | n/a | | | | |
| Corrected glare indices referring to 541 lm total luminous flux | | | | | | | | | | |

UGR data could not be calculated due to missing/wrong symmetry. Go to Edit -> Photometric -> Corrections and select Correct asymmetry (UGR not defined for asymmetrical distributions)..

## 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 | 110 | 105 | 101 | 98 | 107 | 103 | 99 | 96 | 99 | 96 | 93 | 95 | 92 | 90 | 91 | 89 | 87 | 85 |
| 2 | 101 | 94 | 88 | 83 | 99 | 92 | 86 | 82 | 89 | 84 | 80 | 85 | 81 | 78 | 82 | 79 | 76 | 74 |
| 3 | 94 | 84 | 77 | 71 | 91 | 83 | 76 | 71 | 80 | 74 | 70 | 77 | 73 | 68 | 75 | 71 | 67 | 65 |
| 4 | 87 | 77 | 69 | 63 | 85 | 75 | 68 | 63 | 73 | 67 | 62 | 71 | 65 | 61 | 69 | 64 | 60 | 58 |
| 5 | 81 | 70 | 62 | 56 | 79 | 69 | 61 | 56 | 67 | 60 | 55 | 65 | 59 | 55 | 63 | 58 | 54 | 52 |
| 6 | 76 | 64 | 56 | 51 | 74 | 63 | 56 | 51 | 62 | 55 | 50 | 60 | 54 | 50 | 59 | 53 | 49 | 47 |
| 7 | 72 | 59 | 52 | 46 | 70 | 59 | 51 | 46 | 57 | 51 | 46 | 56 | 50 | 45 | 55 | 49 | 45 | 43 |
| 8 | 67 | 55 | 48 | 42 | 66 | 55 | 47 | 42 | 53 | 47 | 42 | 52 | 46 | 42 | 51 | 46 | 42 | 40 |
| 9 | 64 | 52 | 44 | 39 | 62 | 51 | 44 | 39 | 50 | 44 | 39 | 49 | 43 | 39 | 48 | 43 | 39 | 37 |
| 10 | 60 | 48 | 41 | 37 | 59 | 48 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 45 | 40 | 36 | 34 |

## Luminaire budgetary diagram

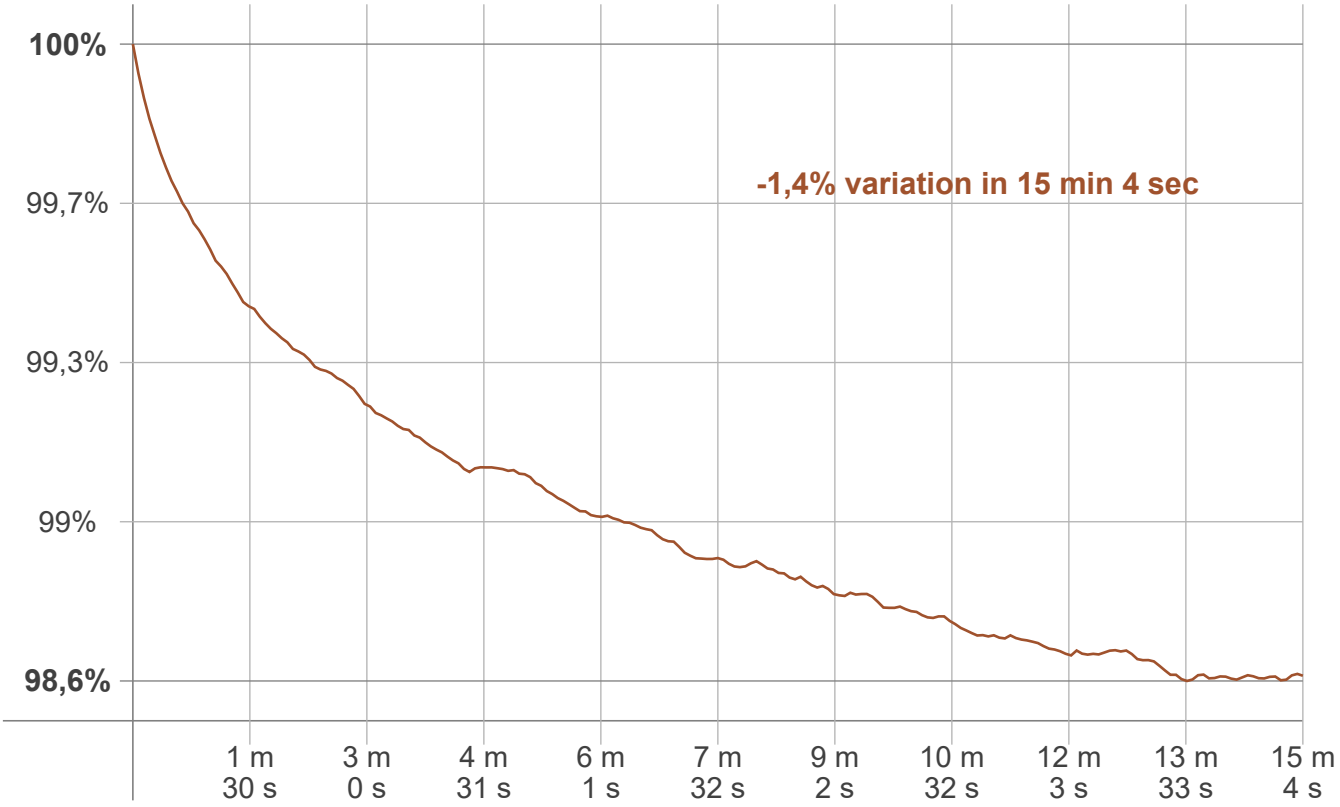



## Zonal Lumen Summary

| 0°-10° | 10°-20° | 20°-30° | 30°-40° | 40°-50° | 50°-60° | 60°-70° | 70°-80° | 80°-90° |
|---|---|---|---|---|---|---|---|---|
| 41,7 lm | 94,9 lm | 98,8 lm | 86,0 lm | 73,3 lm | 60,0 lm | 40,4 lm | 27,0 lm | 18,9 lm |

| 90°-100° | 100°-110° | 110°-120° | 120°-130° | 130°-140° | 140°-150° | 150°-160° | 160°-170° | 170°-180° |
|---|---|---|---|---|---|---|---|---|
| 0,055 lm | 0,000 lm | 0,000 lm | 0,000 lm | 0,000 lm | 0,000 lm | 0,000 lm | 0,000 lm | 0,000 lm |

## Warmup curve




## Warmup result

| | |
|---|---|
| **Warmup time:** | **Lamp stabilized in 15 min 4 sec** |
| **Warmup variation** | **-1,4%** |

## Warmup conditions

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

## Color temperature change

| CCT start | CCT change | CCT end |
|---|---|---|
| 2703 K | -3 K | 2700 K |

## Output change

| Output start | Output change | Output end |
|---|---|---|
| 549 lm | -8 lm | 541 lm |