

Light efficiency:

127 Lumen/Watt

Light quality:

CRI: 94,1

Color temperature:

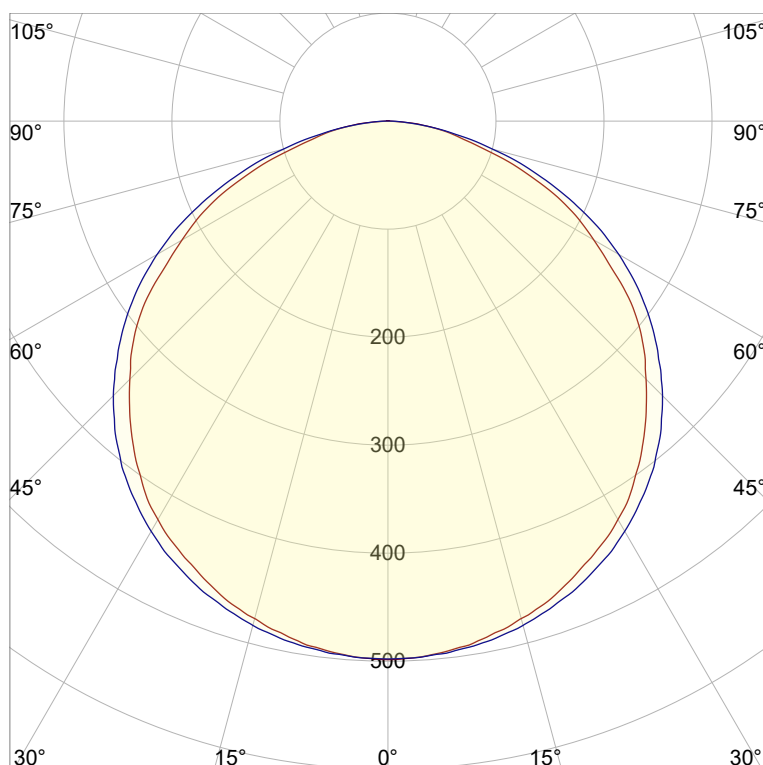
2724 K

Output: 1463 lm

Peak: 499 cd

Power: 11,5 W

PF: 1,0



Product name:

Jago-2_510mm_927_Cover-Round-Transparent

Item number:

NP/L1C/19B/G1/L1C/0510/927/CRT

Date and time:

19.07.2022 13:05:46

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

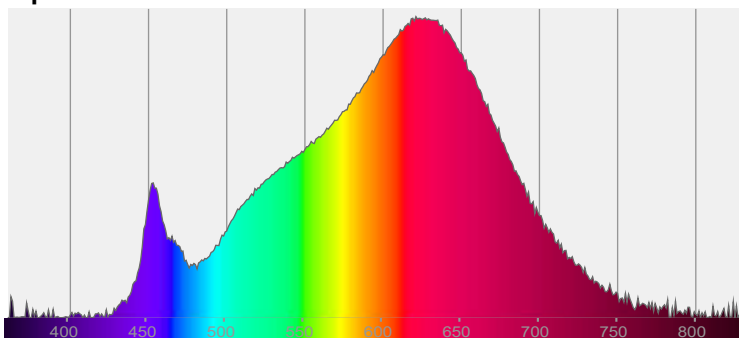


CIE 1931

x: 0,457

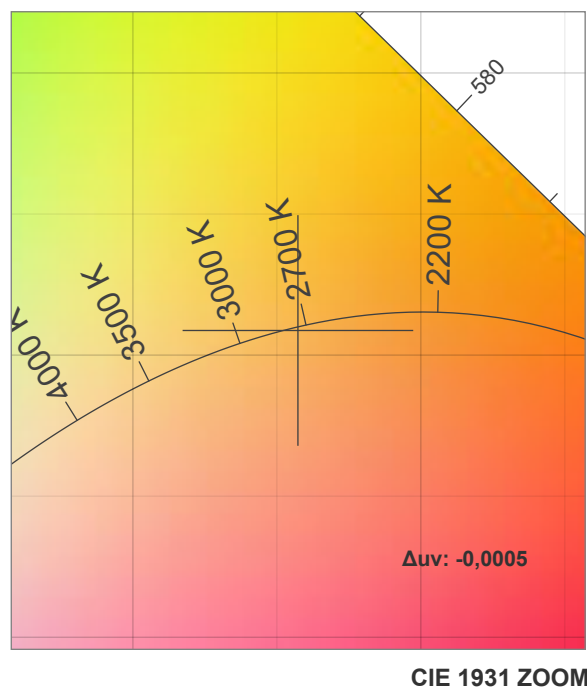
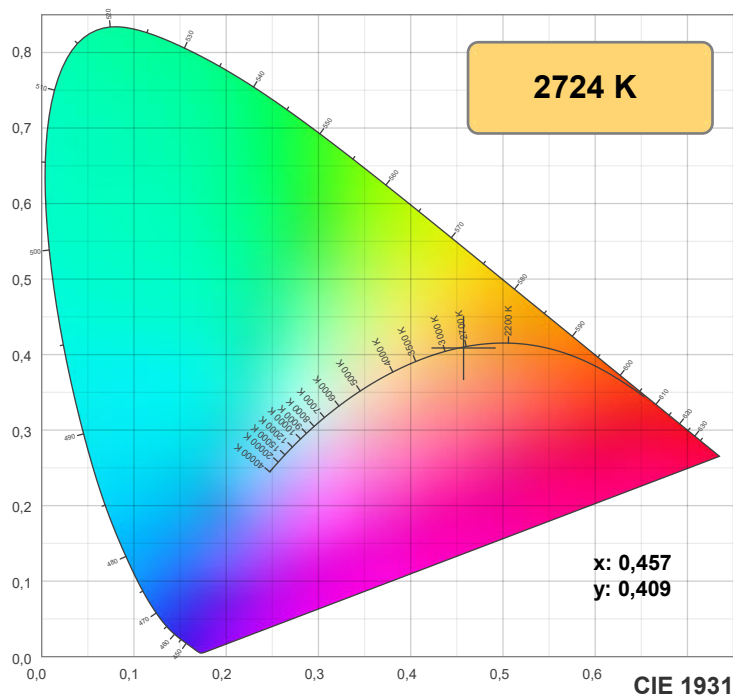
y: 0,409

Spectra

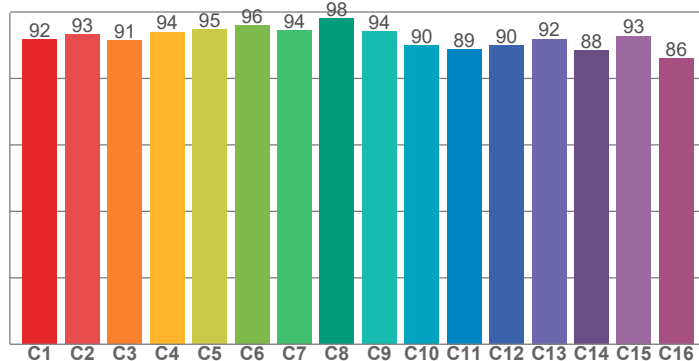


Power

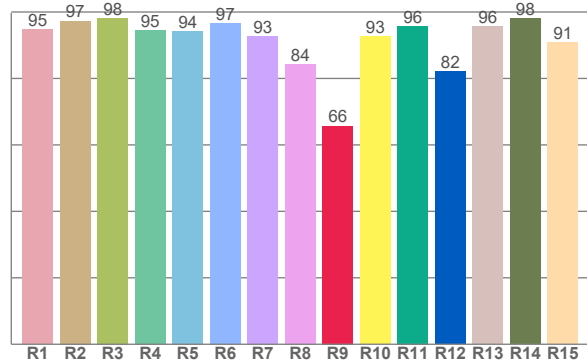
Voltage: 48,0 V
Current: 0,240 A
Frequency: 0 Hz



TM30: 92,1



CRI: 94,1 (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 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 94,8 | 97,4 | 98,2 | 94,6 | 94,3 | 96,6 | 92,8 | 84,3 | 65,7 | 92,6 | 95,8 | 82,1 | 95,6 | 98,1 | 90,8 |

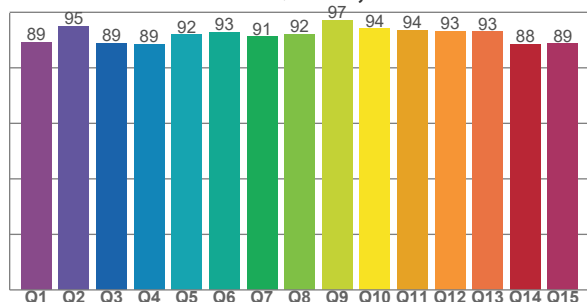
TM30 C values, 16 binned values out of total of 99 C values

| C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | C11 | C12 | C13 | C14 | C15 | C16 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 91,7 | 93,2 | 91,5 | 94,0 | 94,8 | 96,0 | 94,4 | 98,0 | 94,1 | 90,0 | 88,8 | 89,9 | 91,9 | 88,4 | 92,7 | 86,0 |

CQS Q values

| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 89,3 | 95,1 | 88,9 | 88,5 | 91,9 | 92,9 | 91,2 | 92,2 | 97,1 | 94,1 | 93,6 | 93,2 | 93,0 | 88,5 | 88,6 |

CQS: 91,3



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 |
| 2724 K | 94,1 | 65,7 | 92,1 | 99,6 | 91,3 | 0,457 | 0,409 | 0,262 | 0,351 | -0,0005 |

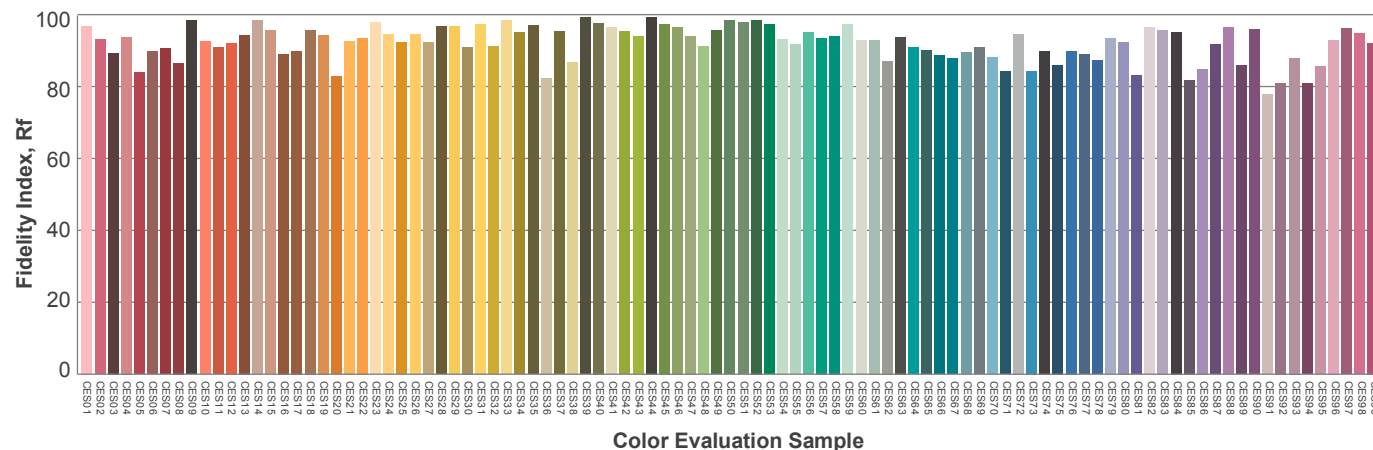
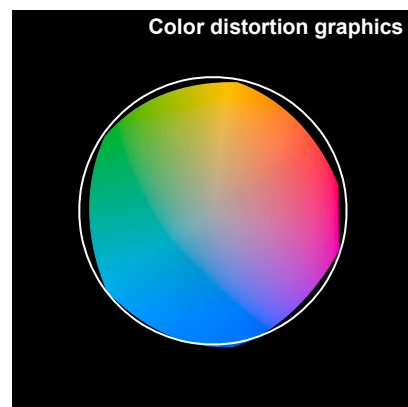
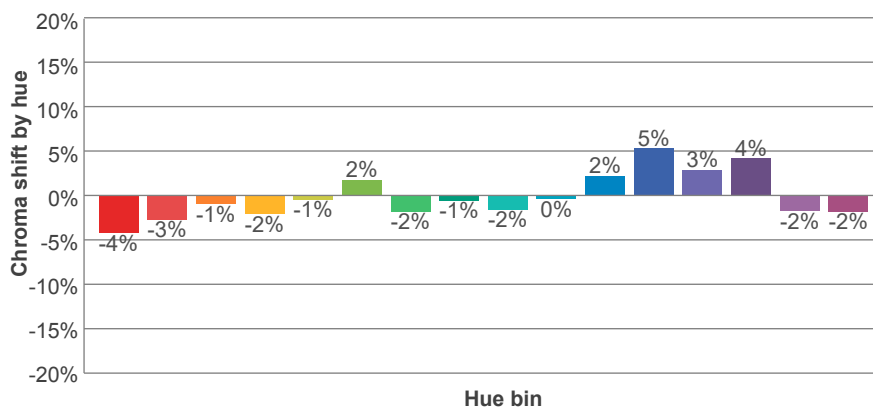
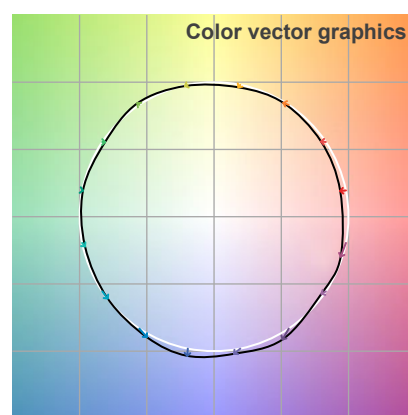
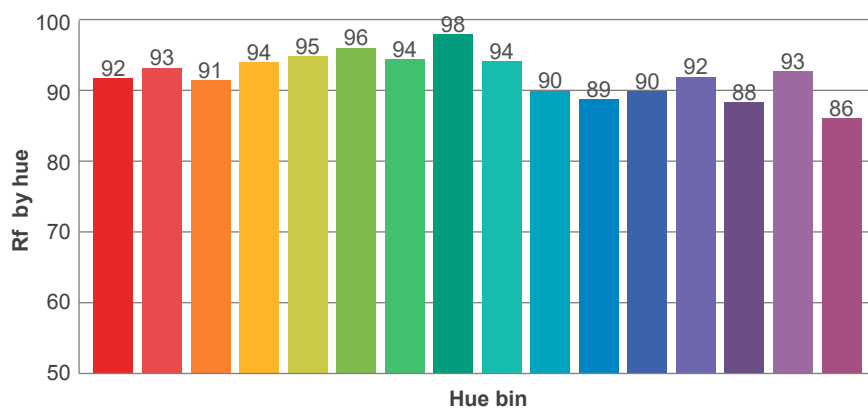
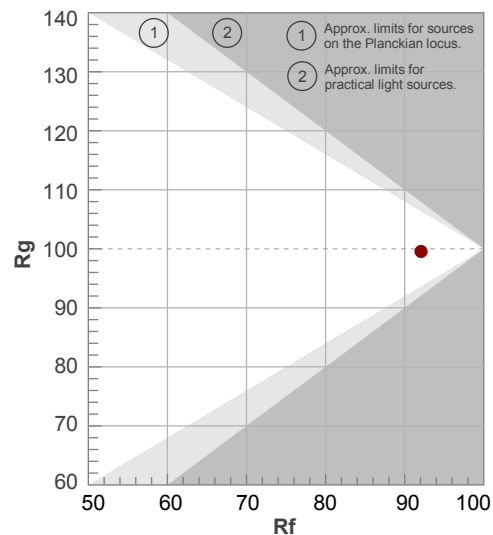
Rf 92,1

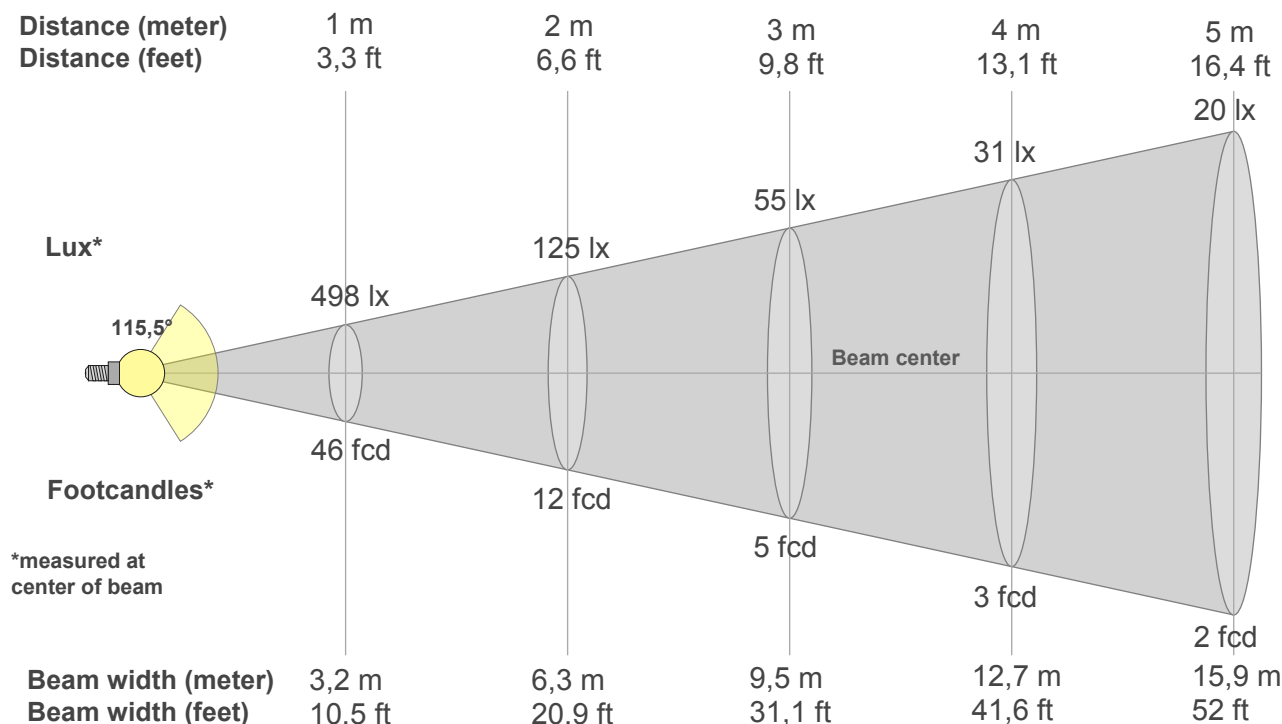
Fidelity index Rf

Rg 99,6

Gammut index Rg

| Hue Bin | R _f | Graphic shifts (%) | |
|---------|----------------|--------------------|------|
| | | Chroma | Hue |
| 1 | 92 | -4% | 0% |
| 2 | 93 | -3% | 2% |
| 3 | 91 | -1% | 4% |
| 4 | 94 | -2% | 1% |
| 5 | 95 | -1% | 2% |
| 6 | 96 | 2% | 1% |
| 7 | 94 | -2% | -1% |
| 8 | 98 | -1% | 0% |
| 9 | 94 | -2% | 3% |
| 10 | 90 | 0% | 7% |
| 11 | 89 | 2% | 8% |
| 12 | 90 | 5% | 1% |
| 13 | 92 | 3% | -5% |
| 14 | 88 | 4% | -8% |
| 15 | 93 | -2% | -3% |
| 16 | 86 | -2% | -11% |





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 |
| 498lx | 125lx | 55lx | 31lx | 20lx | 14lx | 10lx | 8lx | 6lx | 5lx | 4lx | 3lx | 3lx | 3lx | 2lx | 2lx | 2lx | 2lx | 1lx | 1lx |
| 46,3fcd | 11,6fcd | 5,1fcd | 2,9fcd | 1,9fcd | 1,3fcd | 0,9fcd | 0,7fcd | 0,6fcd | 0,5fcd | 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° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° | 95° |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 498 | 495 | 488 | 477 | 463 | 446 | 426 | 400 | 370 | 338 | 306 | 264 | 220 | 180 | 131 | 83 | 53 | 23 | 1 | 0 |
| 100% | 99% | 98% | 96% | 93% | 89% | 85% | 80% | 74% | 68% | 61% | 53% | 44% | 36% | 26% | 17% | 11% | 5% | 0% | 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° |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 498 | 496 | 491 | 483 | 471 | 457 | 438 | 416 | 390 | 359 | 325 | 288 | 247 | 200 | 150 | 100 | 56 | 20 | 2 | 0 |
| 100% | 100% | 99% | 97% | 95% | 92% | 88% | 84% | 78% | 72% | 65% | 58% | 49% | 40% | 30% | 20% | 11% | 4% | 0% | 0% |

Intensities in 180° c-plane

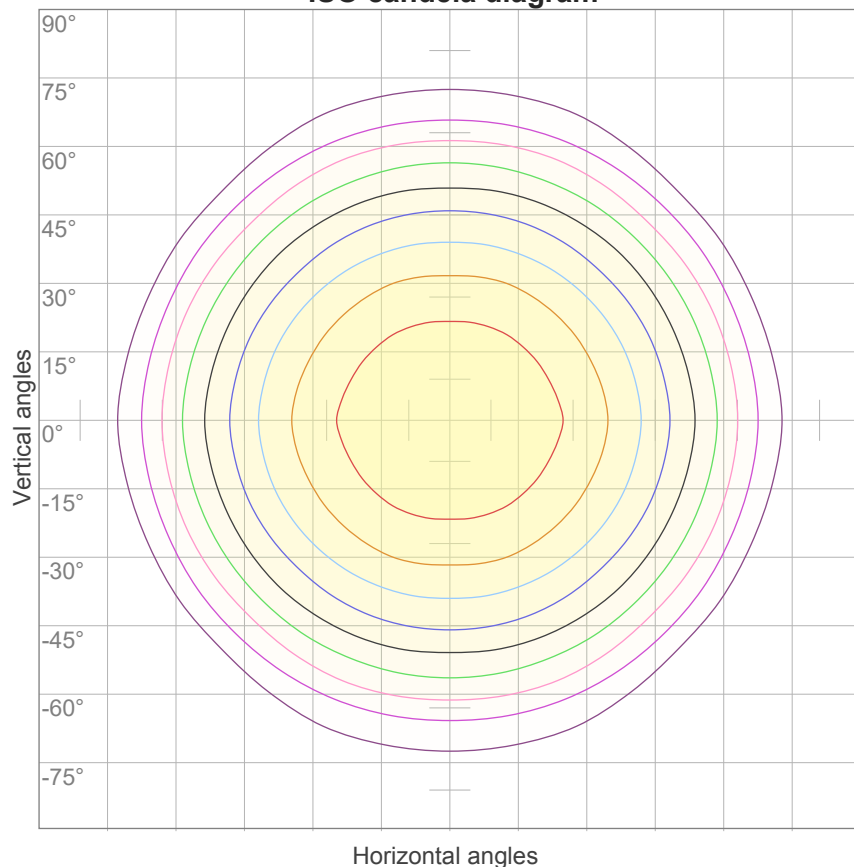
| 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° | 95° |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 498 | 495 | 488 | 477 | 463 | 446 | 426 | 400 | 370 | 338 | 306 | 264 | 220 | 180 | 131 | 83 | 53 | 23 | 1 | 0 |
| 100% | 99% | 98% | 96% | 93% | 89% | 85% | 80% | 74% | 68% | 61% | 53% | 44% | 36% | 26% | 17% | 11% | 5% | 0% | 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° |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 498 | 496 | 491 | 483 | 471 | 457 | 438 | 416 | 390 | 359 | 325 | 288 | 247 | 200 | 150 | 100 | 56 | 20 | 2 | 0 |
| 100% | 100% | 99% | 97% | 95% | 92% | 88% | 84% | 78% | 72% | 65% | 58% | 49% | 40% | 30% | 20% | 11% | 4% | 0% | 0% |

| Beam angle 50% | Field angle 10% | Cutoff angle 2,5% | Intensity ratio in 120° cone | Intensity ratio in 90° cone |
|----------------|-----------------|-------------------|------------------------------|-----------------------------|
| 115,5° | 160° | 173,2° | 78,8% | 53,2% |

ISO candela diagram



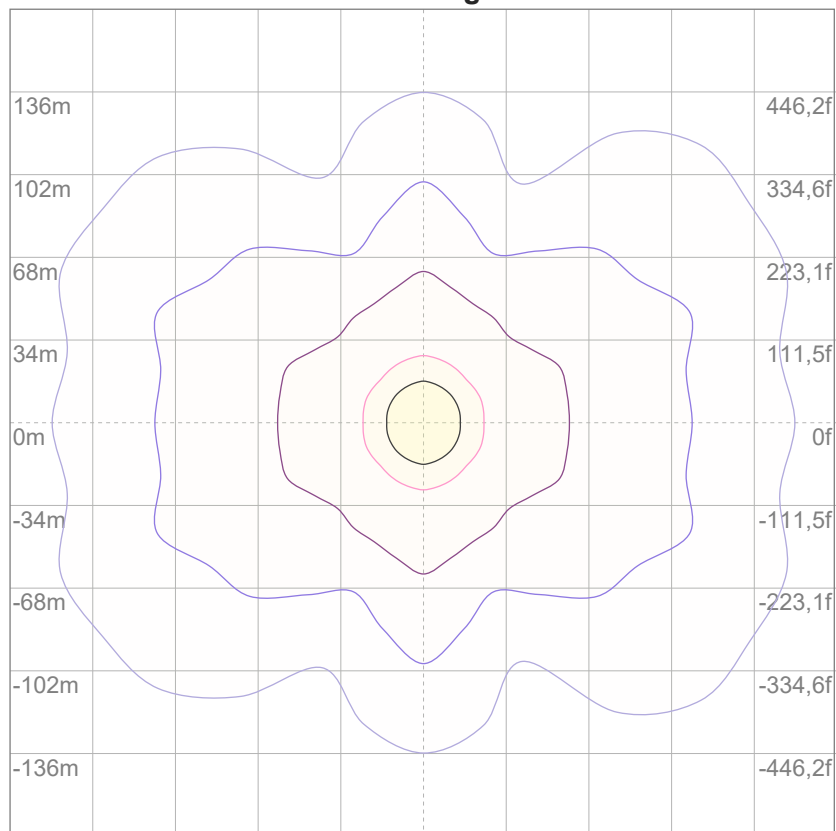
| | |
|-----|--------|
| 10% | 50 cd |
| 20% | 100 cd |
| 30% | 149 cd |
| 40% | 199 cd |
| 50% | 249 cd |
| 60% | 299 cd |
| 70% | 349 cd |
| 80% | 399 cd |
| 90% | 448 cd |

Conditions:

Number of c-planes: 16

Candela at center: 498 cd

ISO lux diagram



| | |
|-----|----------|
| 3% | 0,149 lx |
| 5% | 0,249 lx |
| 10% | 0,498 lx |
| 30% | 1,49 lx |
| 50% | 2,49 lx |

Conditions:

Number of c-planes: 16

Lux at center: 4,98 lx

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

Glare Evaluation According to UGR

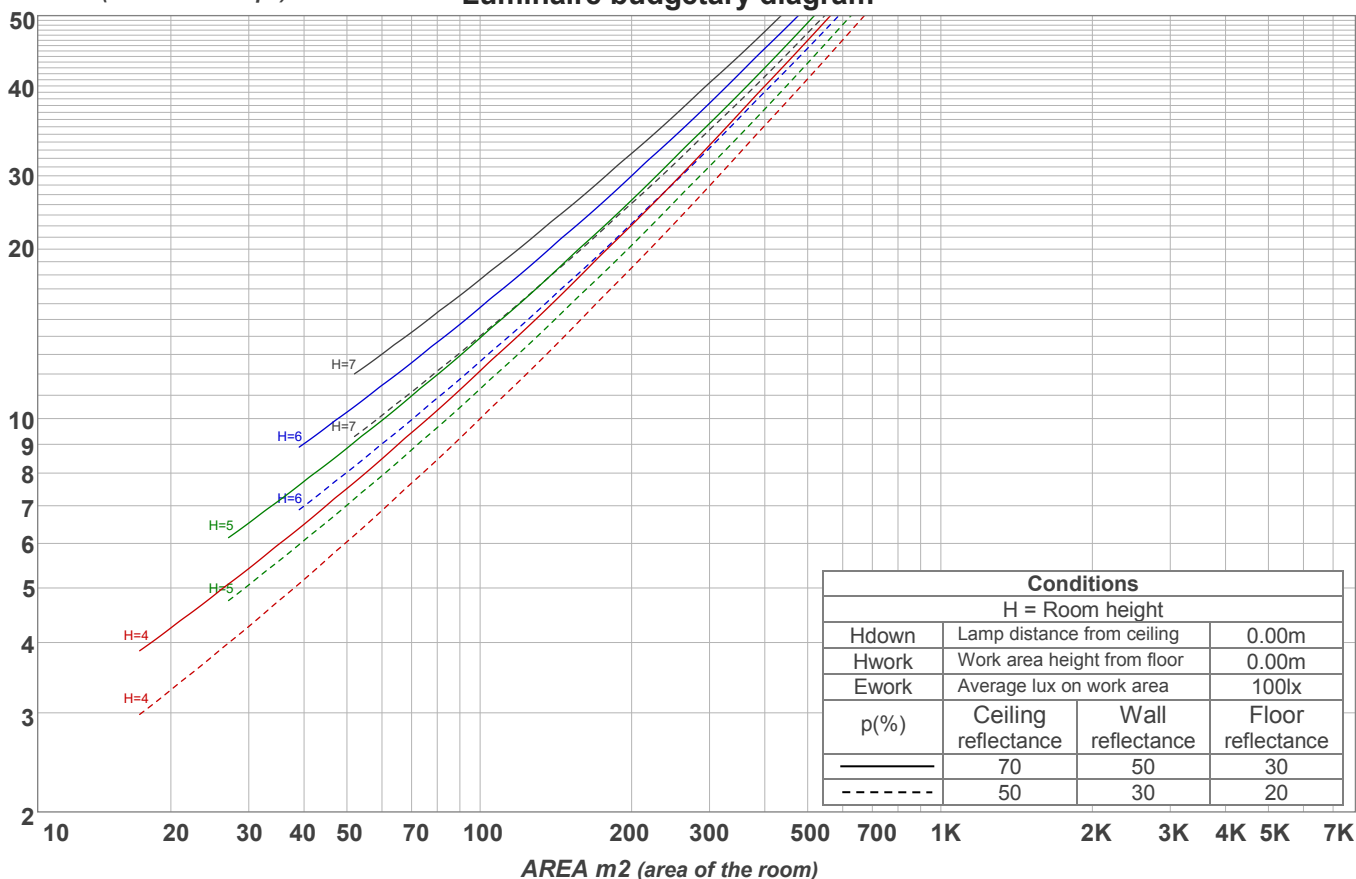
| | | | | | | | | | | | |
|--|-----|---|------|------|------|------|---|------|------|------|------|
| p Ceiling | | 70 | 70 | 50 | 50 | 30 | 70 | 70 | 50 | 50 | 30 |
| p Walls | | 50 | 30 | 50 | 30 | 30 | 50 | 30 | 50 | 30 | 30 |
| p Floor | | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Room size X Y | | Viewing direction at right angles to lamp axis | | | | | Viewing direction parallel to lamp axis | | | | |
| 2H | 2H | 23,7 | 25,0 | 24,0 | 25,3 | 25,5 | 25,2 | 26,4 | 25,4 | 26,7 | 26,9 |
| | 3H | 24,8 | 26,0 | 25,2 | 26,3 | 26,5 | 26,6 | 27,9 | 27,0 | 28,2 | 28,4 |
| | 4H | 25,1 | 26,3 | 25,5 | 26,6 | 26,8 | 27,2 | 28,4 | 27,6 | 28,6 | 28,9 |
| | 6H | 25,3 | 26,4 | 25,6 | 26,7 | 27,1 | 27,6 | 28,6 | 27,9 | 28,9 | 29,3 |
| | 8H | 25,4 | 26,4 | 25,7 | 26,7 | 27,1 | 27,6 | 28,7 | 28,0 | 29,0 | 29,4 |
| | 12H | 25,4 | 26,3 | 25,7 | 26,7 | 27,1 | 27,7 | 28,7 | 28,0 | 29,0 | 29,4 |
| 4H | 2H | 24,3 | 25,6 | 24,7 | 25,8 | 26,1 | 25,5 | 26,7 | 25,9 | 27,0 | 27,2 |
| | 3H | 25,7 | 26,6 | 26,0 | 27,0 | 27,4 | 27,2 | 28,2 | 27,6 | 28,5 | 29,0 |
| | 4H | 26,0 | 26,9 | 26,4 | 27,3 | 27,8 | 27,7 | 28,6 | 28,2 | 29,1 | 29,6 |
| | 6H | 26,2 | 27,1 | 26,7 | 27,4 | 27,8 | 28,1 | 29,0 | 28,6 | 29,4 | 29,7 |
| | 8H | 26,3 | 27,1 | 26,8 | 27,4 | 27,8 | 28,2 | 29,0 | 28,7 | 29,4 | 29,8 |
| | 12H | 26,3 | 27,0 | 26,8 | 27,4 | 27,9 | 28,3 | 28,9 | 28,8 | 29,4 | 29,8 |
| 8H | 4H | 26,2 | 26,9 | 26,7 | 27,3 | 27,7 | 27,8 | 28,6 | 28,3 | 29,0 | 29,3 |
| | 6H | 26,5 | 27,1 | 27,0 | 27,6 | 28,1 | 28,2 | 28,9 | 28,8 | 29,3 | 29,9 |
| | 8H | 26,6 | 27,2 | 27,1 | 27,7 | 28,3 | 28,4 | 28,9 | 28,9 | 29,4 | 30,1 |
| | 12H | 26,7 | 27,1 | 27,3 | 27,6 | 28,2 | 28,5 | 28,9 | 29,1 | 29,4 | 30,0 |
| 12H | 4H | 26,1 | 26,8 | 26,6 | 27,2 | 27,7 | 27,8 | 28,4 | 28,3 | 28,8 | 29,3 |
| | 6H | 26,5 | 27,1 | 27,0 | 27,6 | 28,2 | 28,3 | 28,8 | 28,8 | 29,3 | 30,0 |
| | 8H | 26,7 | 27,1 | 27,2 | 27,6 | 28,2 | 28,4 | 28,8 | 29,0 | 29,3 | 30,0 |
| 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 / -0,6 | | | | | 0,4 / -0,5 | | | | |
| S = 2.0H | | 0,7 / -1,0 | | | | | 0,9 / -1,1 | | | | |
| Standard table | | n/a | | | | | n/a | | | | |
| Correction summand | | n/a | | | | | n/a | | | | |
| Corrected glare indices referring to 1463 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 | 102 | 102 | 102 | 100 |
| 1 | 109 | 104 | 100 | 96 | 106 | 102 | 98 | 94 | 97 | 94 | 91 | 93 | 91 | 88 | 90 | 88 | 86 | 84 |
| 2 | 99 | 90 | 84 | 78 | 96 | 89 | 82 | 77 | 85 | 80 | 75 | 82 | 77 | 73 | 79 | 75 | 72 | 69 |
| 3 | 90 | 79 | 71 | 65 | 87 | 78 | 70 | 64 | 75 | 68 | 63 | 72 | 66 | 62 | 69 | 65 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 80 | 69 | 60 | 54 | 66 | 59 | 53 | 64 | 58 | 53 | 62 | 56 | 52 | 50 |
| 5 | 76 | 63 | 53 | 47 | 73 | 61 | 53 | 46 | 59 | 52 | 46 | 57 | 51 | 45 | 55 | 50 | 45 | 43 |
| 6 | 70 | 56 | 47 | 41 | 68 | 55 | 47 | 41 | 53 | 46 | 40 | 52 | 45 | 40 | 50 | 44 | 39 | 37 |
| 7 | 65 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 48 | 41 | 35 | 47 | 40 | 35 | 46 | 40 | 35 | 33 |
| 8 | 60 | 46 | 38 | 32 | 58 | 46 | 37 | 32 | 44 | 37 | 32 | 43 | 36 | 31 | 42 | 36 | 31 | 29 |
| 9 | 56 | 43 | 34 | 29 | 55 | 42 | 34 | 29 | 41 | 33 | 28 | 40 | 33 | 28 | 39 | 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)

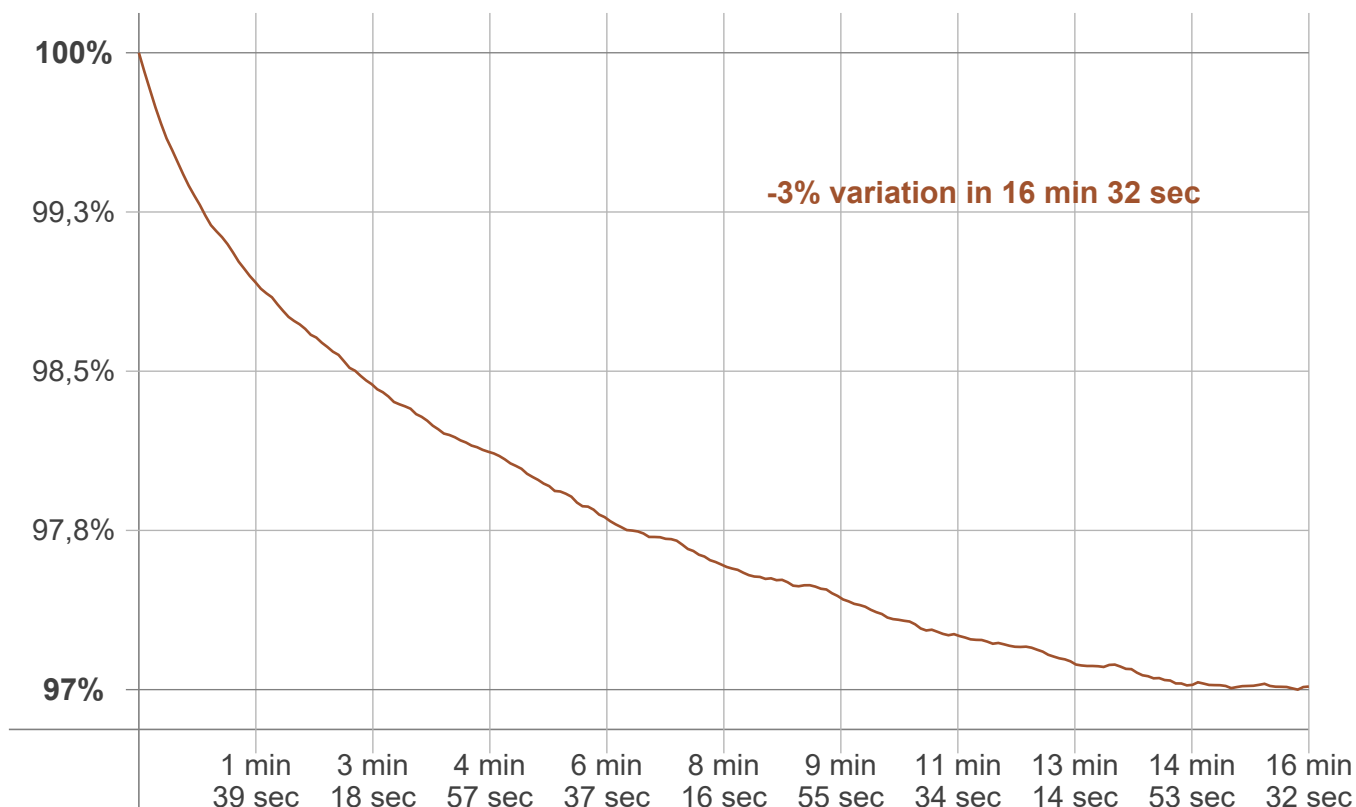
Luminaire budgetary diagram



Zonal Lumen Summary

| 0°-10° | 10°-20° | 20°-30° | 30°-40° | 40°-50° | 50°-60° | 60°-70° | 70°-80° | 80°-90° |
|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 46,2 lm | 135 lm | 204 lm | 259 lm | 269 lm | 240 lm | 185 lm | 97,5 lm | 24,0 lm |
| 90°-100° | 100°-110° | 110°-120° | 120°-130° | 130°-140° | 140°-150° | 150°-160° | 160°-170° | 170°-180° |
| 1,09 lm | 0,690 lm | 0,228 lm | 0,206 lm | 0,178 lm | 0,144 lm | 0,106 lm | 0,065 lm | 1,35 lm |

Warmup curve



Warmup result

| | |
|------------------|----------------------------------|
| Warmup time: | Lamp stabilized in 16 min 32 sec |
| Warmup variation | -3,0% |

Warmup conditions

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

Color temperature change

| CCT start | CCT change | CCT end |
|-----------|------------|---------|
| 2732 K | -8 K | 2724 K |

Output change

| Output start | Output change | Output end |
|--------------|---------------|------------|
| 1504 lm | -41 lm | 1463 lm |