

Light efficiency:

66 Lumen/Watt

Light quality:

CRI: 93,6

Color temperature:

3005 K

Output: 664 lm

Peak: 2415 cd

Power: 10,1 W

PF: 1,0



Product name:

Focus-4-1CH-Darklite-0258-930-LSOT-10774-BA

Item number:

FLDL-F1C-D0258-930-LSOT-10774-BA

Date and time:

03.02.2021 14:05:38

Description:

Rank: P4-7D2

Toleranzen:

Lumen +/-4%

Candela +/-2,5%

Colour Temp +/-35 Grad K

CRI +/-0,7

Angular Resolution 1 Grad step

Last Calibration 20.05.2020

Pruefer:

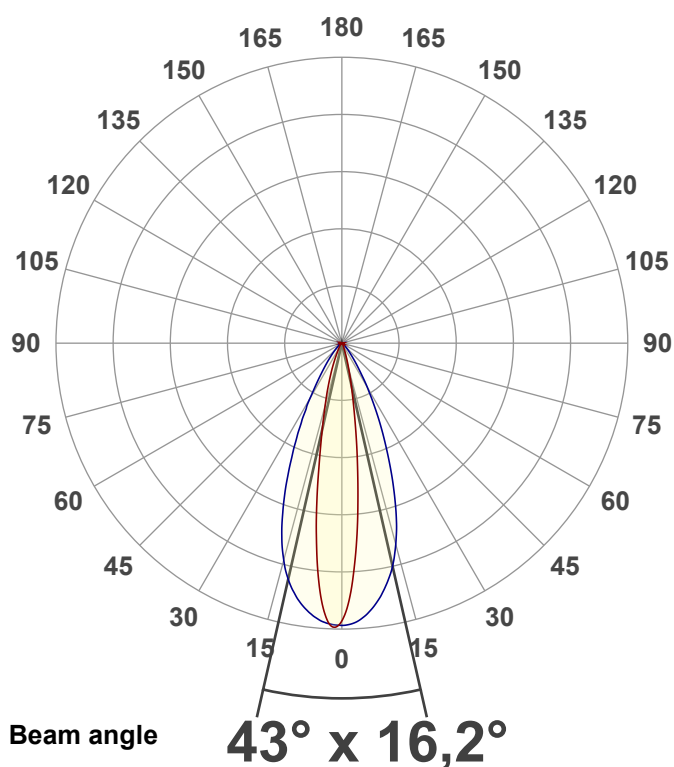
Peter Ulrich

Pruefort:

Lichtlabor

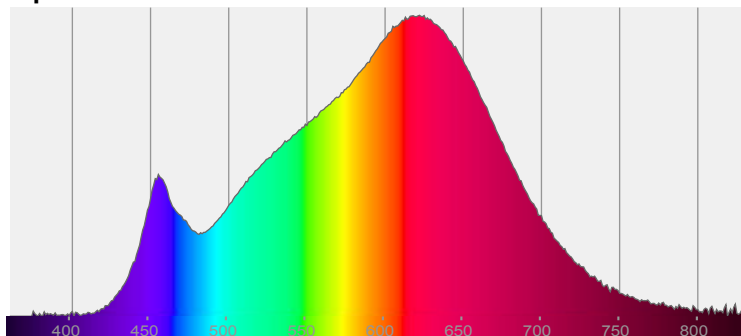
Gaustrasse13-15

55411 Bingen am Rhein

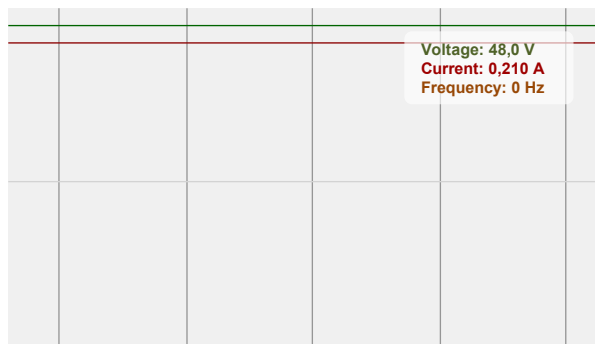


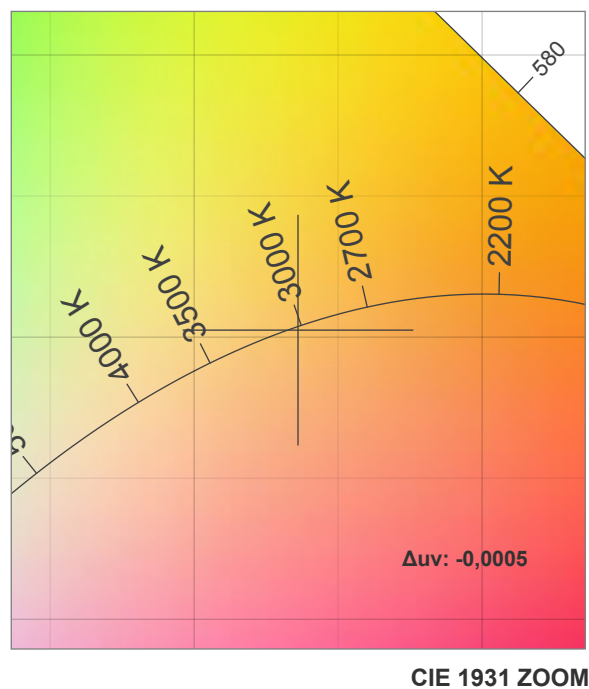
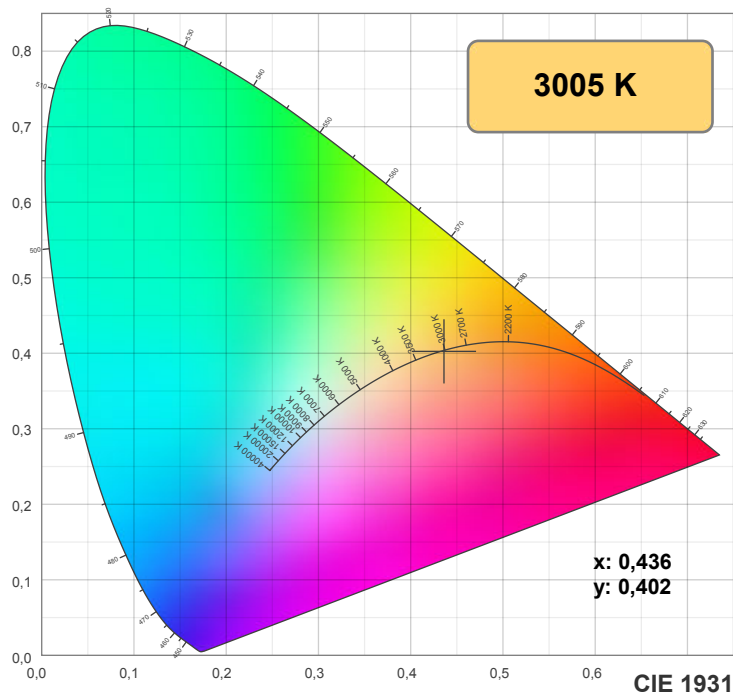
CIE 1931
x: 0,436
y: 0,402

Spectra

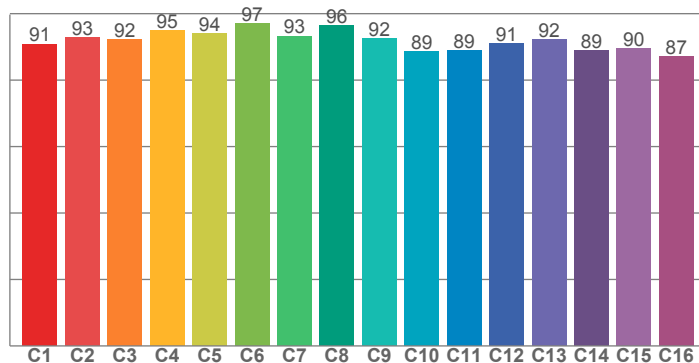


Power

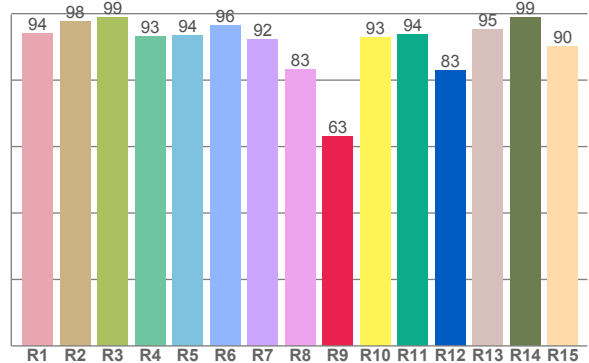




TM30: 92,0



CRI: 93,6 (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 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 94,0 | 97,5 | 98,8 | 93,2 | 93,6 | 96,4 | 92,2 | 83,2 | 62,9 | 92,8 | 93,8 | 83,0 | 95,2 | 98,8 | 90,3 |

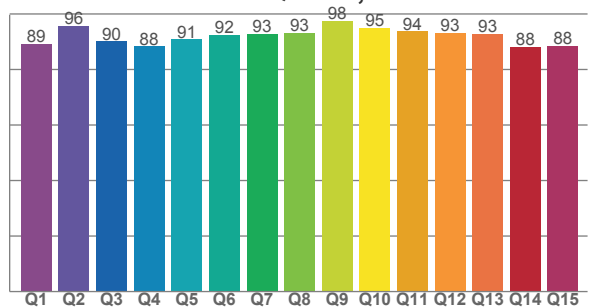
TM30 C values, 16 binned values out of total of 99 C values

| C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | C11 | C12 | C13 | C14 | C15 | C16 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 90,9 | 92,9 | 92,2 | 95,0 | 94,0 | 96,9 | 93,2 | 96,4 | 92,5 | 88,6 | 89,0 | 91,0 | 92,2 | 88,8 | 89,6 | 87,1 |

CQS Q values

| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 89,2 | 95,7 | 90,1 | 88,3 | 90,8 | 92,4 | 92,8 | 93,3 | 97,6 | 94,8 | 93,7 | 93,1 | 92,8 | 88,0 | 88,4 |

CQS: 91,5



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 |
| 3005 K | 93,6 | 62,9 | 92,0 | 98,3 | 91,5 | 0,436 | 0,402 | 0,251 | 0,347 | -0,0005 |

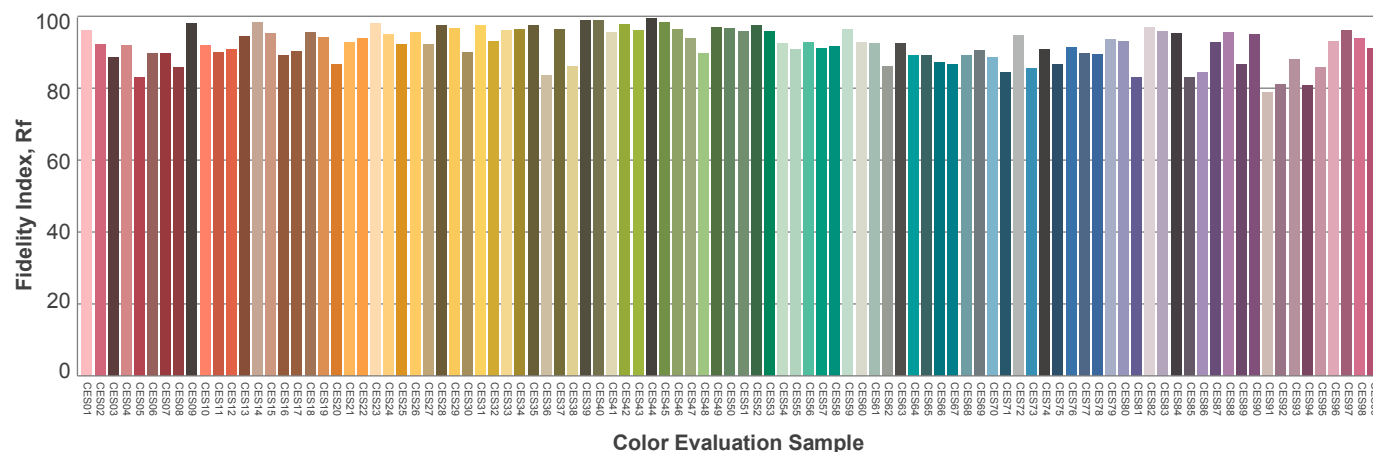
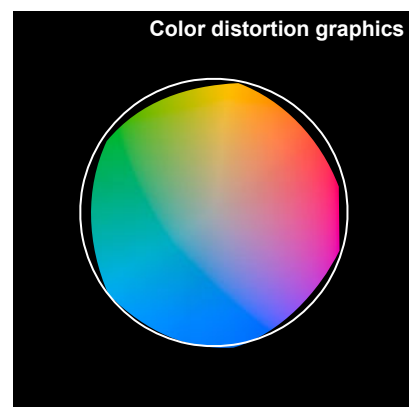
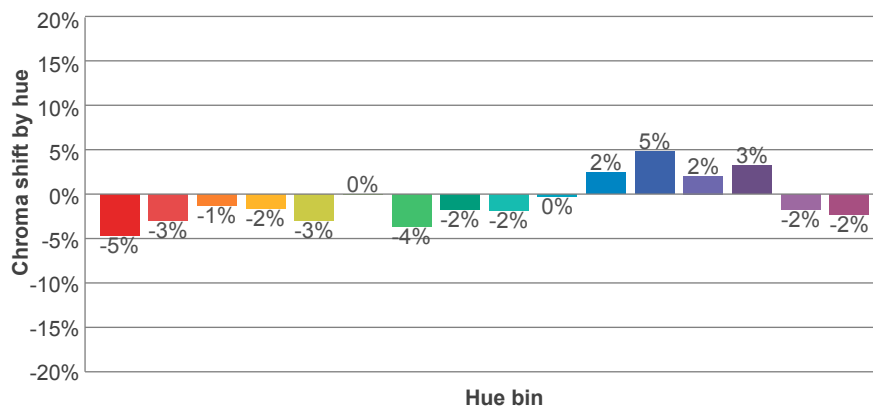
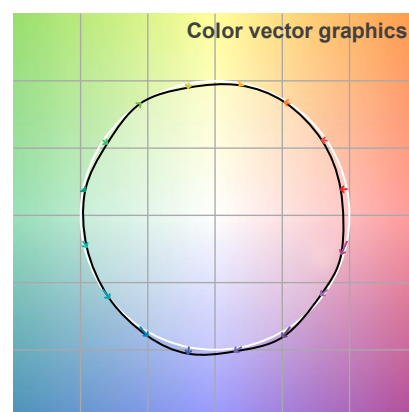
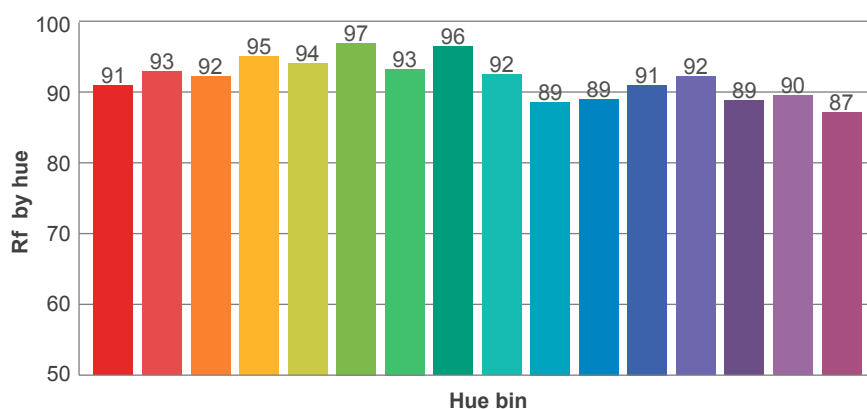
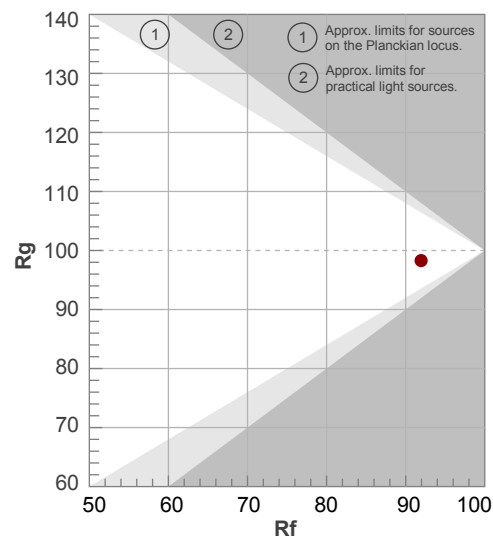
Rf 92,0

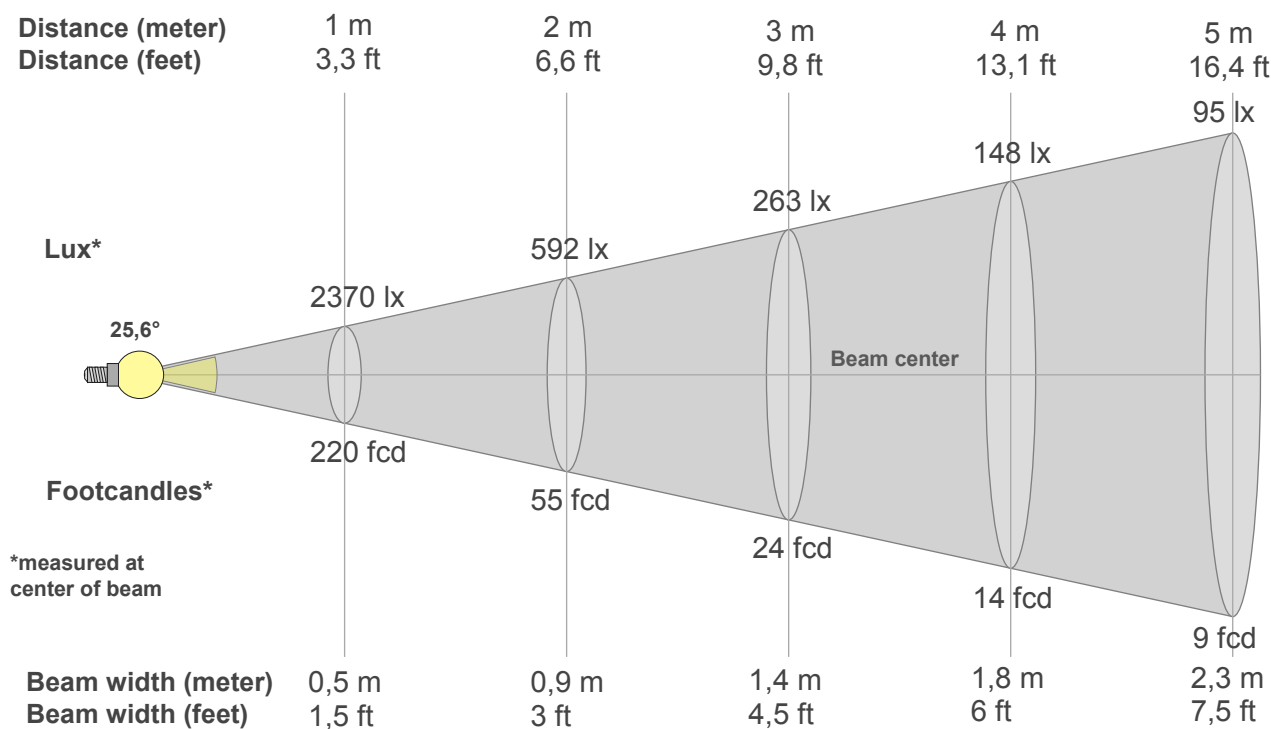
Fidelity index Rf

Rg 98,3

Gammut index Rg

| Hue Bin | R _f | Graphic shifts (%) | |
|---------|----------------|--------------------|------|
| | | Chroma | Hue |
| 1 | 91 | -5% | 1% |
| 2 | 93 | -3% | 2% |
| 3 | 92 | -1% | 4% |
| 4 | 95 | -2% | 1% |
| 5 | 94 | -3% | 1% |
| 6 | 97 | 0% | 0% |
| 7 | 93 | -4% | 0% |
| 8 | 96 | -2% | 1% |
| 9 | 92 | -2% | 4% |
| 10 | 89 | 0% | 7% |
| 11 | 89 | 2% | 8% |
| 12 | 91 | 5% | 0% |
| 13 | 92 | 2% | -5% |
| 14 | 89 | 3% | -8% |
| 15 | 90 | -2% | -6% |
| 16 | 87 | -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 |
| 2370lx | 592lx | 263lx | 148lx | 95lx | 66lx | 48lx | 37lx | 29lx | 24lx | 20lx | 16lx | 14lx | 12lx | 11lx | 9lx | 8lx | 7lx | 7lx | 6lx |
| 220,2fcd | 55fcd | 24,5fcd | 13,8fcd | 8,8fcd | 6,1fcd | 4,5fcd | 3,4fcd | 2,7fcd | 2,2fcd | 1,8fcd | 1,5fcd | 1,3fcd | 1,1fcd | 1fcd | 0,9fcd | 0,8fcd | 0,7fcd | 0,6fcd | 0,6fcd |

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° |
|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2370 | 2124 | 1741 | 1308 | 924 | 618 | 413 | 276 | 184 | 118 | 77 | 52 | 39 | 31 | 25 | 21 | 17 | 14 | 12 | 11 |
| 100% | 90% | 73% | 55% | 39% | 26% | 17% | 12% | 8% | 5% | 3% | 2% | 2% | 1% | 1% | 1% | 1% | 1% | 1% | 0% |

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° |
|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 2370 | 2387 | 2350 | 2288 | 2208 | 2110 | 1997 | 1853 | 1682 | 1485 | 1272 | 1064 | 876 | 708 | 556 | 432 | 320 | 239 | 179 | 133 |
| 100% | 101% | 99% | 97% | 93% | 89% | 84% | 78% | 71% | 63% | 54% | 45% | 37% | 30% | 23% | 18% | 13% | 10% | 8% | 6% |

Intensities in 180° c-plane

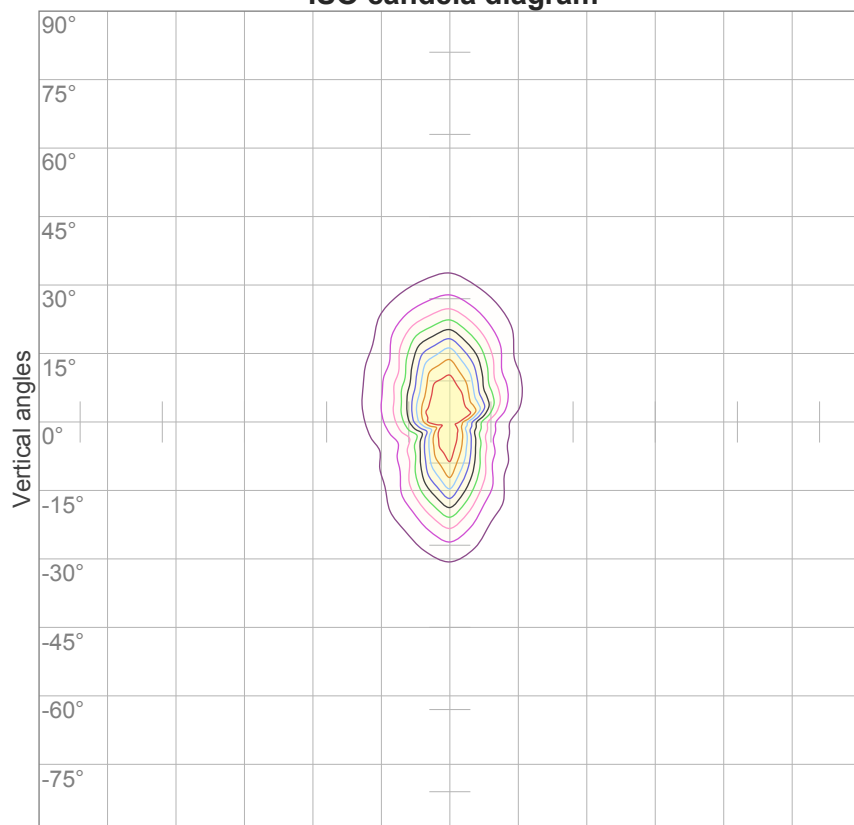
| 0° | 2° | 4° | 6° | 8° | 10° | 12° | 14° | 16° | 18° | 20° | 22° | 24° | 26° | 28° | 30° | 32° | 34° | 36° | 38° |
|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2370 | 2409 | 2260 | 1952 | 1562 | 1162 | 847 | 634 | 480 | 361 | 266 | 192 | 133 | 94 | 69 | 54 | 44 | 36 | 29 | 24 |
| 100% | 102% | 95% | 82% | 66% | 49% | 36% | 27% | 20% | 15% | 11% | 8% | 6% | 4% | 3% | 2% | 2% | 2% | 1% | 1% |

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° |
|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|
| 2370 | 2392 | 2372 | 2331 | 2272 | 2198 | 2102 | 1983 | 1831 | 1651 | 1447 | 1236 | 1031 | 853 | 682 | 543 | 412 | 317 | 245 | 192 |
| 100% | 101% | 100% | 98% | 96% | 93% | 89% | 84% | 77% | 70% | 61% | 52% | 44% | 36% | 29% | 23% | 17% | 13% | 10% | 8% |

| Beam angle 50% | Field angle 10% | Cutoff angle 2,5% | Intensity ratio in 120° cone | Intensity ratio in 90° cone |
|----------------|-----------------|-------------------|------------------------------|-----------------------------|
| 25,6° | 48,6° | 66,7° | 98,6% | 95,9% |

ISO candela diagram



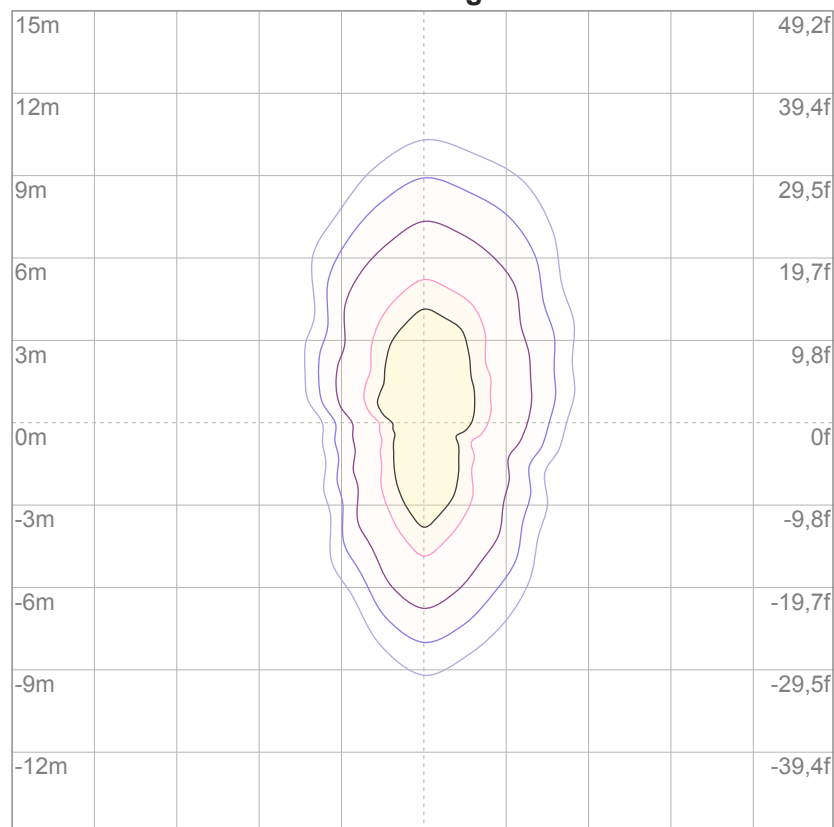
| | |
|-----|---------|
| 10% | 237 cd |
| 20% | 474 cd |
| 30% | 711 cd |
| 40% | 948 cd |
| 50% | 1185 cd |
| 60% | 1422 cd |
| 70% | 1659 cd |
| 80% | 1896 cd |
| 90% | 2133 cd |

Conditions:

Number of c-planes: 16

Candela at center: 2370 cd

ISO lux diagram



| | |
|-----|----------|
| 3% | 0,711 lx |
| 5% | 1,18 lx |
| 10% | 2,37 lx |
| 30% | 7,11 lx |
| 50% | 11,8 lx |

Conditions:

Number of c-planes: 16

Lux at center: 23,7 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 |
| 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 664 lm total luminous flux | | | | | | | | | | |

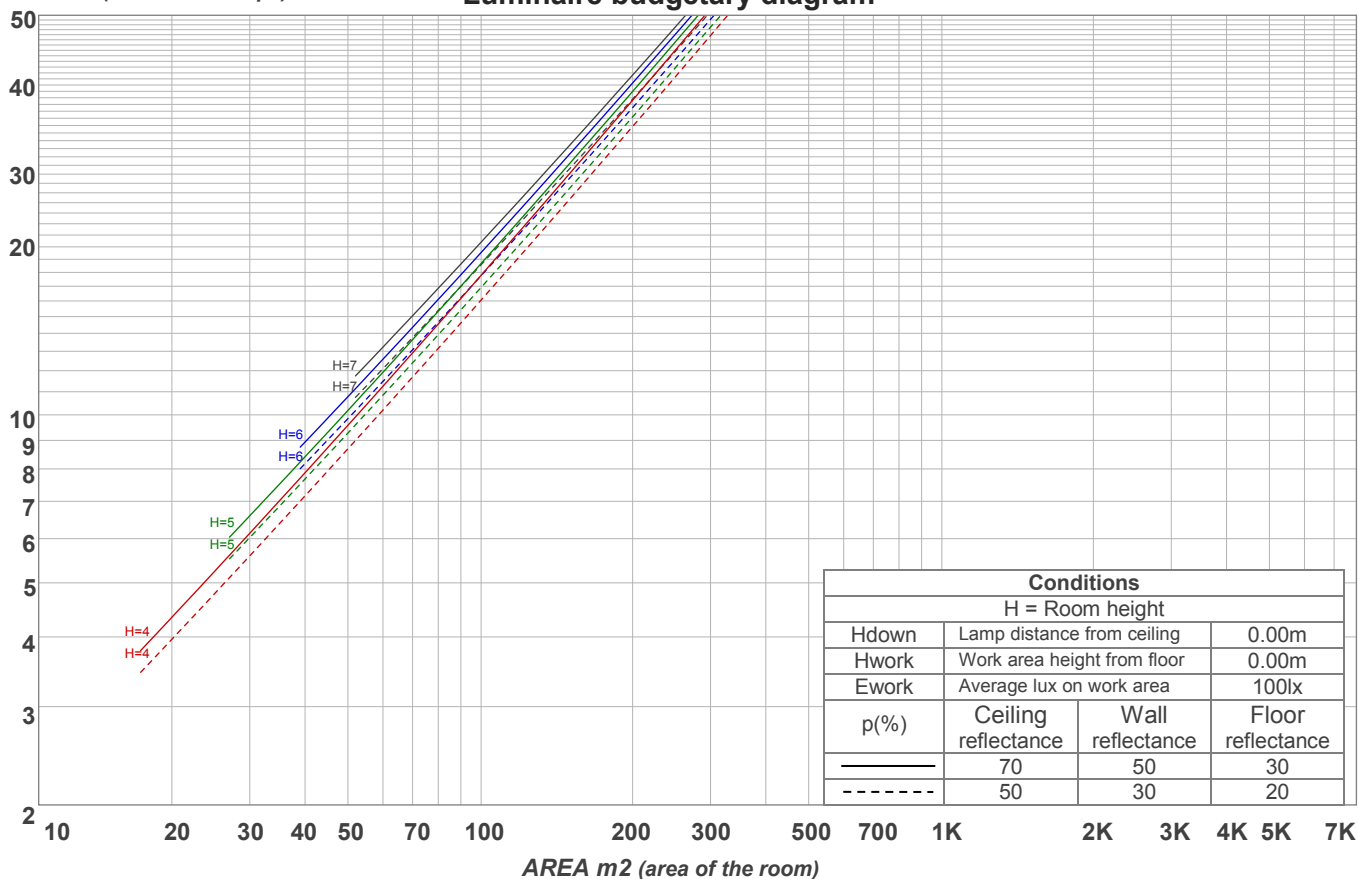
UGR data could not be calculated due to missing/wrong symmetry. Goto Edit->Photometric->Corrections and select Correct asymmetry.

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 | 114 | 112 | 110 | 108 | 112 | 110 | 108 | 106 | 106 | 104 | 103 | 102 | 101 | 100 | 99 | 98 | 97 | 95 |
| 2 | 110 | 105 | 102 | 99 | 108 | 104 | 101 | 98 | 101 | 98 | 96 | 98 | 96 | 94 | 95 | 93 | 92 | 90 |
| 3 | 105 | 100 | 96 | 92 | 103 | 99 | 95 | 92 | 96 | 93 | 90 | 94 | 91 | 89 | 91 | 89 | 87 | 86 |
| 4 | 101 | 95 | 90 | 87 | 100 | 94 | 90 | 86 | 92 | 88 | 85 | 90 | 87 | 84 | 88 | 86 | 83 | 82 |
| 5 | 97 | 91 | 86 | 82 | 96 | 90 | 85 | 82 | 88 | 84 | 81 | 86 | 83 | 80 | 85 | 82 | 80 | 79 |
| 6 | 94 | 87 | 82 | 78 | 93 | 86 | 81 | 78 | 85 | 80 | 77 | 83 | 80 | 77 | 82 | 79 | 76 | 75 |
| 7 | 91 | 83 | 78 | 75 | 89 | 82 | 78 | 75 | 81 | 77 | 74 | 80 | 77 | 74 | 79 | 76 | 73 | 72 |
| 8 | 88 | 80 | 75 | 72 | 86 | 79 | 75 | 71 | 78 | 74 | 71 | 77 | 74 | 71 | 76 | 73 | 71 | 70 |
| 9 | 85 | 77 | 72 | 69 | 84 | 76 | 72 | 69 | 76 | 71 | 69 | 75 | 71 | 68 | 74 | 71 | 68 | 67 |
| 10 | 82 | 74 | 69 | 66 | 81 | 74 | 69 | 66 | 73 | 69 | 66 | 72 | 69 | 66 | 72 | 68 | 66 | 65 |

LAMPS (number of lamps)

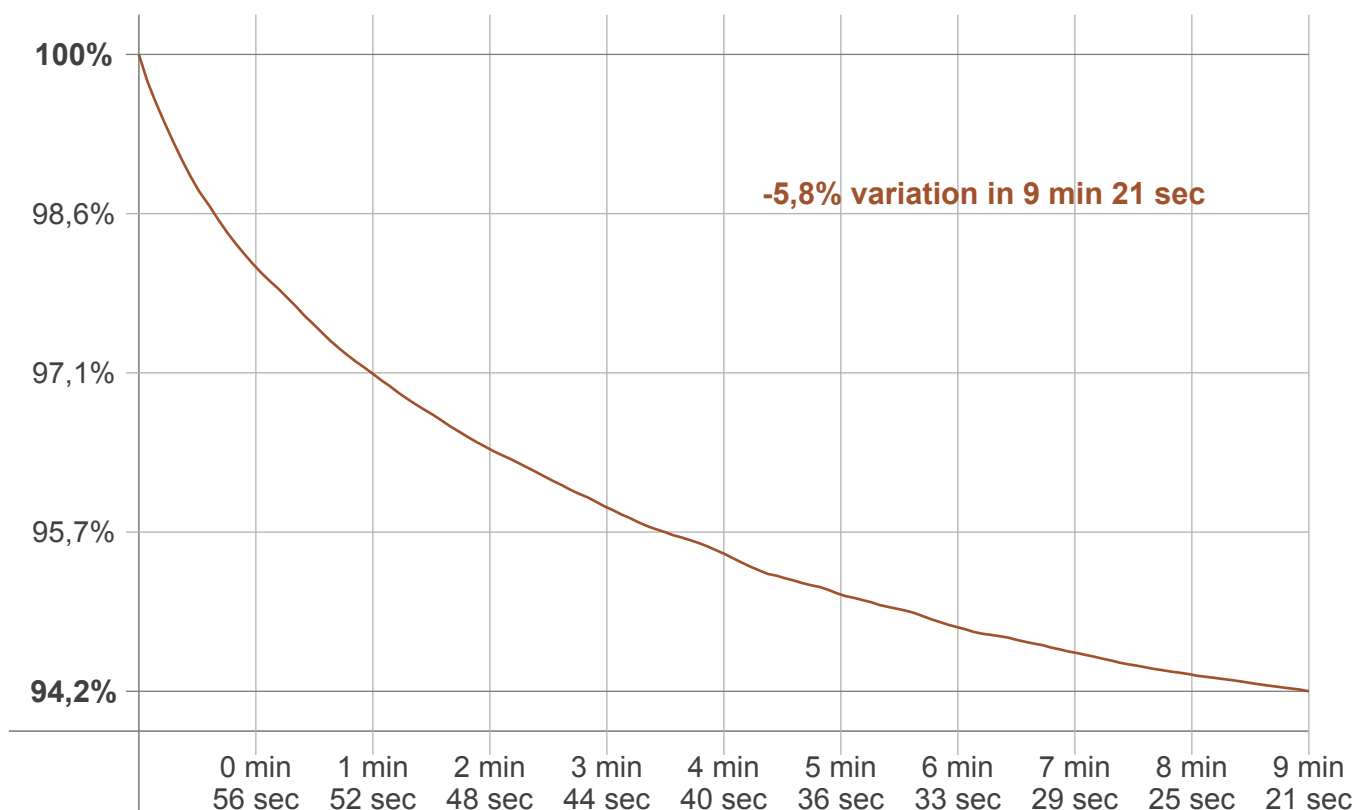
Luminaire budgetary diagram



Zonal Lumen Summary

| 0°-10° | 10°-20° | 20°-30° | 30°-40° | 40°-50° | 50°-60° | 60°-70° | 70°-80° | 80°-90° |
|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 176 lm | 253 lm | 142 lm | 53,1 lm | 20,9 lm | 9,85 lm | 4,54 lm | 2,71 lm | 1,85 lm |
| 90°-100° | 100°-110° | 110°-120° | 120°-130° | 130°-140° | 140°-150° | 150°-160° | 160°-170° | 170°-180° |
| 0,005 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: | Not completed |
| Warmup variation | -5,8% |

Warmup conditions

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

Color temperature change

| CCT start | CCT change | CCT end |
|-----------|------------|---------|
| 3048 K | -43 K | 3005 K |

Output change

| Output start | Output change | Output end |
|--------------|---------------|------------|
| 701 lm | -37 lm | 664 lm |