

PHOTOMETRIC TEST REPORT

VERSAILLES 600 LED POLISHED
CHROME

astro

LIGHT EFFICIENCY:

51 Lumen/Watt

OUTPUT: 945 lm

LIGHT QUALITY:

CRI: 94.0

PEAK: 222 cd

COLOR TEMPERATURE:

2989 K

POWER: 18.4 W

PF: 0.78

Tracking number: [n/a](#)

Product name:

Versailles 600 LED Polished Chrome

Item number:

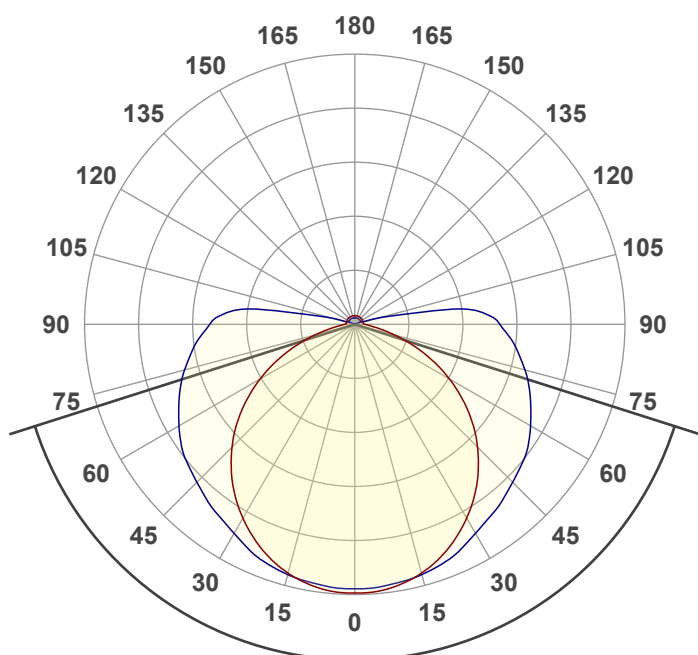
1380084

Date and time:

22/06/2022 09:17:16

Description:

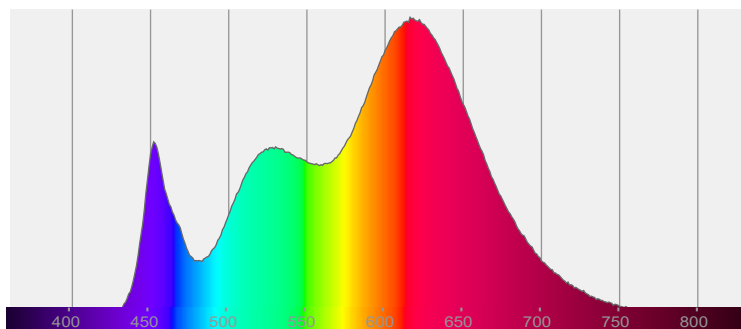
LED IP44 Bathroom Wall Light



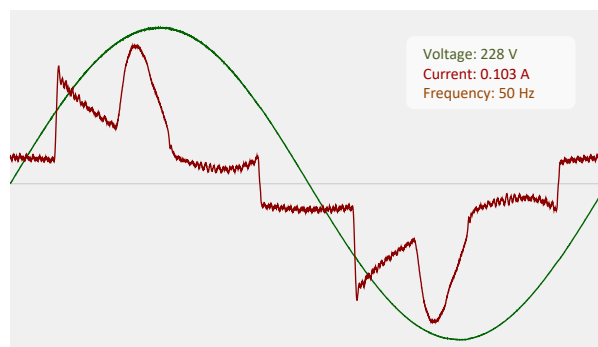
144.7°

CIE 1931
x: 0.434
y: 0.395

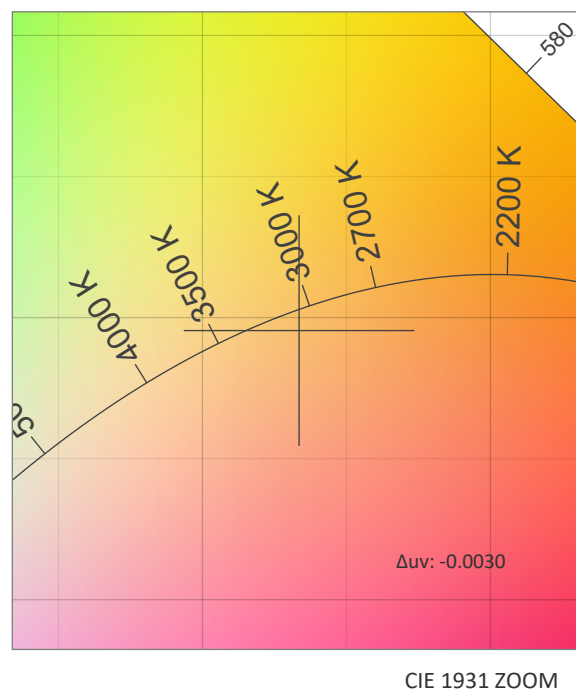
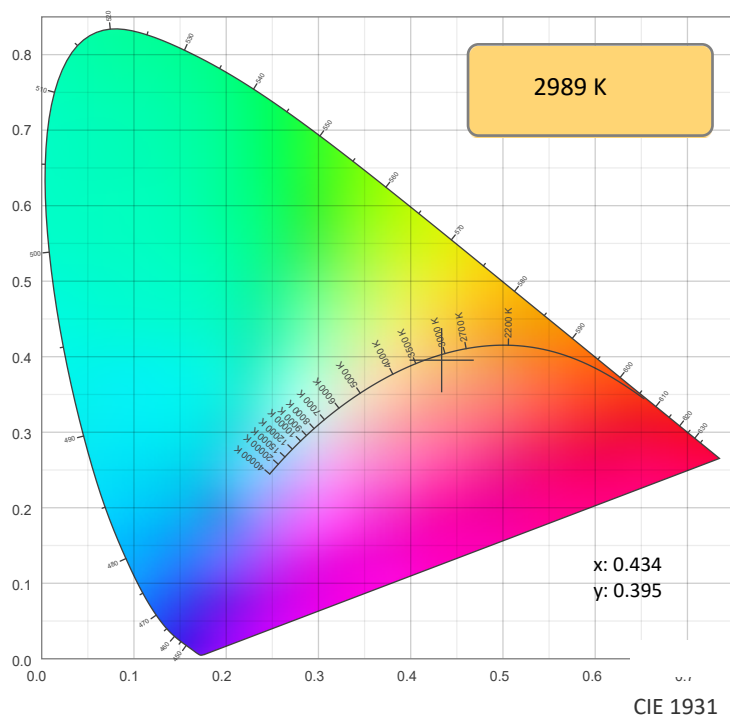
SPECTRA



POWER

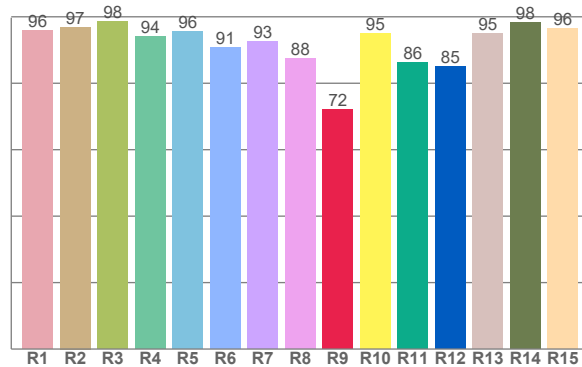
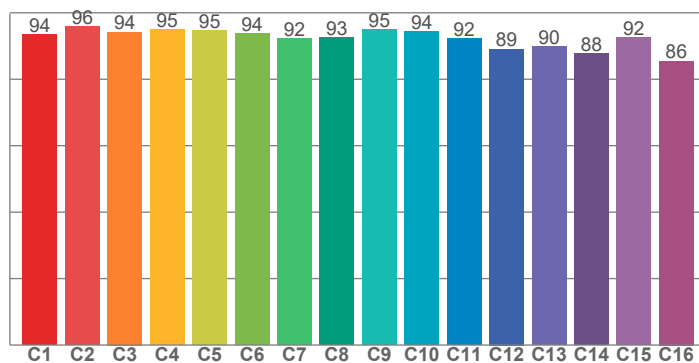


COLOR DETAILS



TM30: 92.8

CRI: 94.0 (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 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 95.8 | 96.9 | 98.5 | 94.1 | 95.6 | 90.7 | 92.6 | 87.5 | 72.1 | 95.0 | 86.3 | 85.0 | 94.9 | 98.4 | 96.4 |

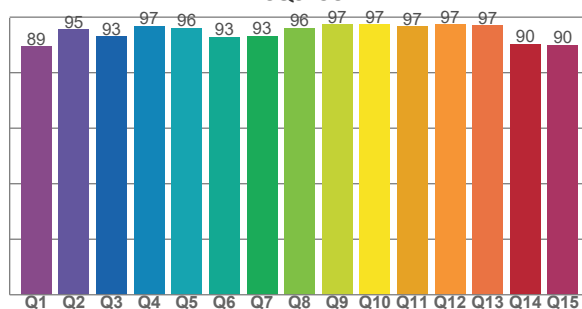
TM30 C values, 16 binned values out of total of 99 C values

| C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | C11 | C12 | C13 | C14 | C15 | C16 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 93.5 | 95.9 | 94.2 | 95.0 | 94.6 | 93.7 | 92.3 | 92.6 | 95.0 | 94.5 | 92.3 | 89.1 | 89.9 | 87.7 | 92.5 | 85.5 |

CQS Q values

| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 89.5 | 95.5 | 93.1 | 96.8 | 96.1 | 92.8 | 93.1 | 96.0 | 97.4 | 97.4 | 96.6 | 97.3 | 97.0 | 90.2 | 89.9 |

CQS: 93.7



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 |
| 2989 K | 94.0 | 72.1 | 92.8 | 102.0 | 93.7 | 0.434 | 0.395 | 0.252 | 0.345 | -0.0030 |

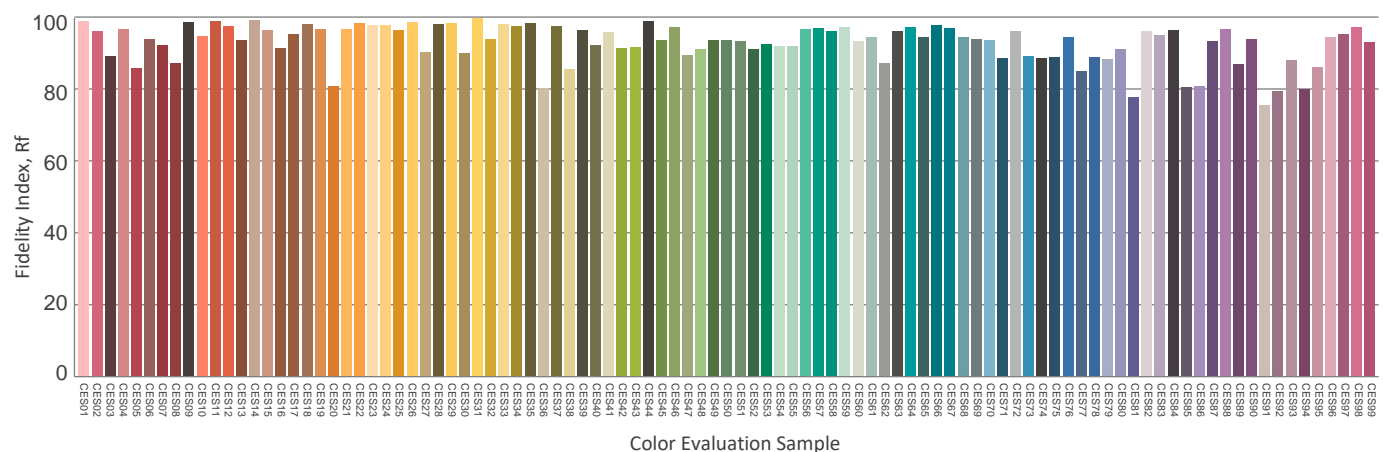
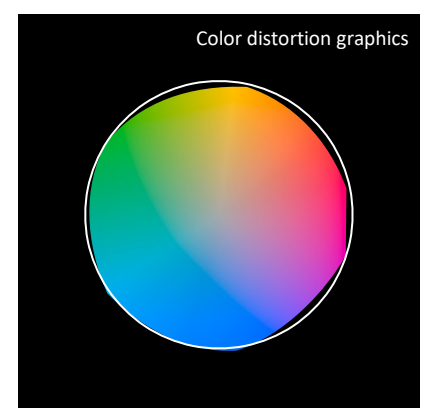
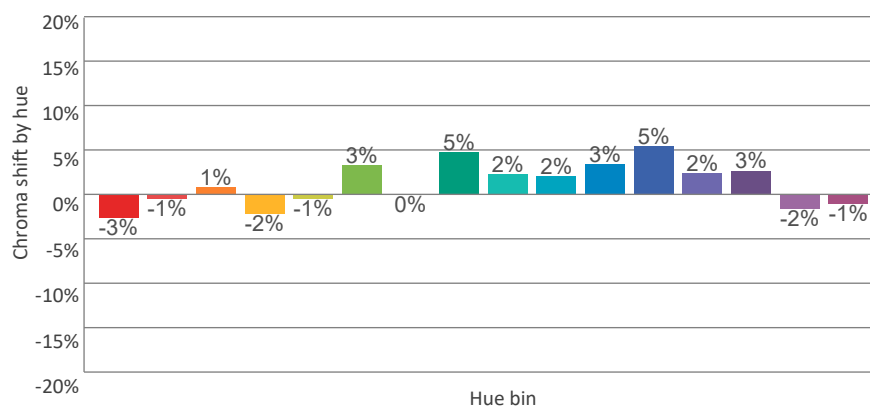
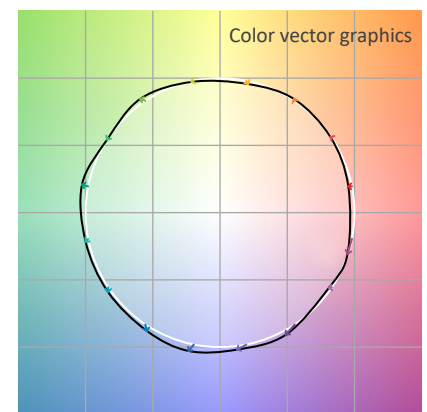
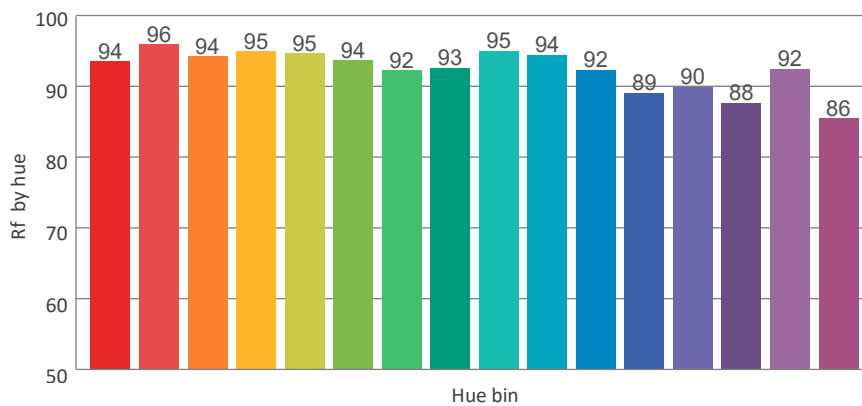
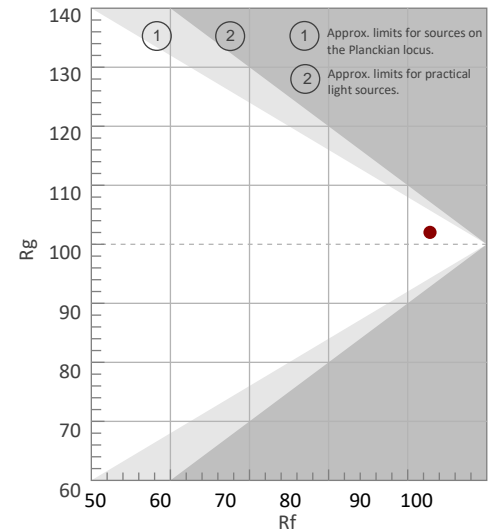
Rf 92.8

Fidelity index Rf

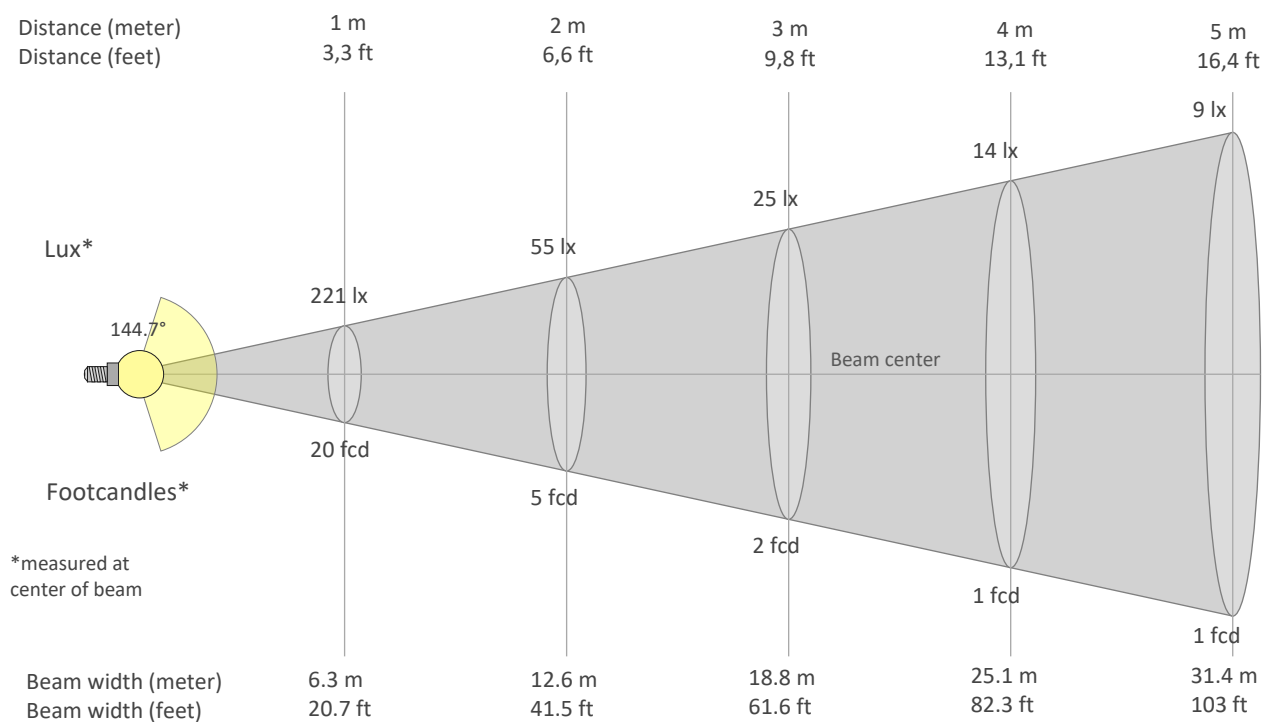
Rg 102.0

Gammut index Rg

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



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 |
| 221lx | 55lx | 25lx | 14lx | 9lx | 6lx | 5lx | 3lx | 3lx | 2lx | 2lx | 2lx | 1lx | 1lx | 1lx | 1lx | 1lx | 1lx | 1lx | 1lx |
| 20.5fcd | 5.1fcd | 2.3fcd | 1.3fcd | 0.8fcd | 0.6fcd | 0.4fcd | 0.3fcd | 0.3fcd | 0.2fcd | 0.2fcd | 0.1fcd | 0.1fcd | 0.1fcd | 0.1fcd | 0.1fcd | 0.1fcd | 0.1fcd | 0.1fcd | 0.1fcd |

Intensities in 0° c-plane

| 0° | 9° | 18° | 27° | 36° | 45° | 54° | 63° | 72° | 81° | 90° | 99° | 108° | 117° | 126° | 135° | 144° | 153° | 162° | 171° |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 221 | 219 | 209 | 192 | 170 | 144 | 113 | 79 | 45 | 19 | 9 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 100% | 99% | 95% | 87% | 77% | 65% | 51% | 36% | 20% | 9% | 4% | 3% | 3% | 3% | 3% | 3% | 3% | 3% | 3% | 3% |

Intensities in 90° c-plane

| 0° | 9° | 18° | 27° | 36° | 45° | 54° | 63° | 72° | 81° | 90° | 99° | 108° | 117° | 126° | 135° | 144° | 153° | 162° | 171° |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 221 | 217 | 213 | 204 | 194 | 185 | 176 | 164 | 151 | 136 | 120 | 80 | 7 | 6 | 6 | 5 | 6 | 6 | 5 | 5 |
| 100% | 98% | 96% | 92% | 88% | 84% | 80% | 74% | 68% | 62% | 54% | 36% | 3% | 3% | 3% | 2% | 3% | 2% | 2% | 2% |

Intensities in 180° c-plane

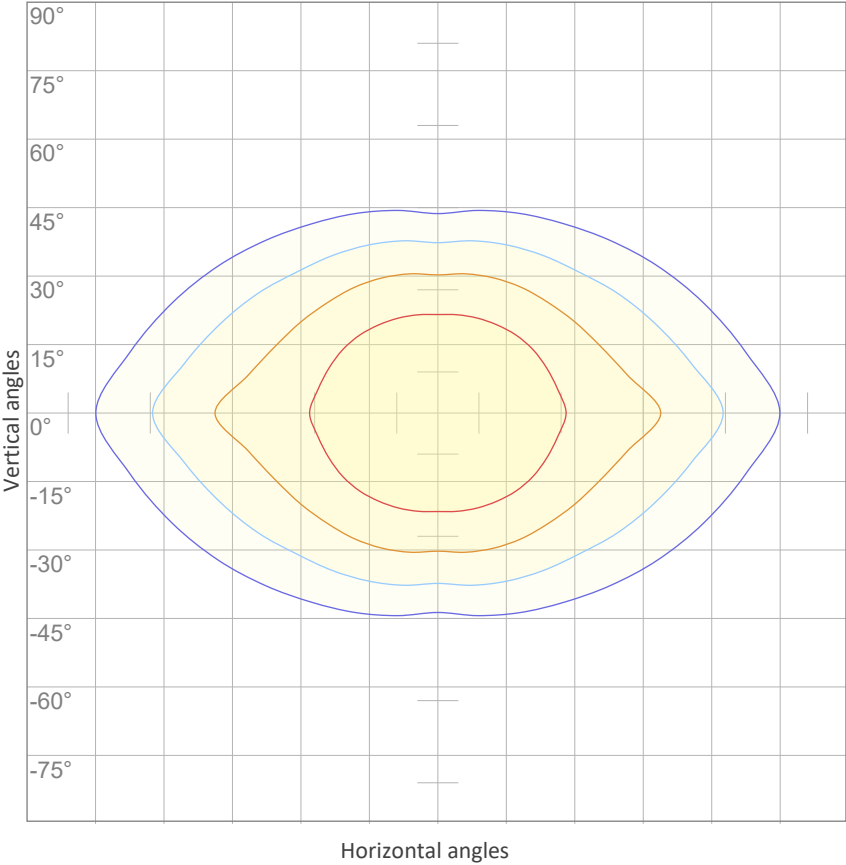
| 0° | 9° | 18° | 27° | 36° | 45° | 54° | 63° | 72° | 81° | 90° | 99° | 108° | 117° | 126° | 135° | 144° | 153° | 162° | 171° |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 221 | 219 | 209 | 192 | 170 | 144 | 113 | 79 | 45 | 19 | 9 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 100% | 99% | 95% | 87% | 77% | 65% | 51% | 36% | 20% | 9% | 4% | 3% | 3% | 3% | 3% | 3% | 3% | 3% | 3% | 3% |

Intensities in 270° c-plane

| 0° | 9° | 18° | 27° | 36° | 45° | 54° | 63° | 72° | 81° | 90° | 99° | 108° | 117° | 126° | 135° | 144° | 153° | 162° | 171° |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 221 | 217 | 213 | 204 | 194 | 185 | 176 | 164 | 151 | 136 | 120 | 80 | 7 | 6 | 6 | 5 | 6 | 6 | 5 | 5 |
| 100% | 98% | 96% | 92% | 88% | 84% | 80% | 74% | 68% | 62% | 54% | 36% | 3% | 3% | 3% | 2% | 3% | 2% | 2% | 2% |

| Beam angle 50% | Field angle 10% | Cutoff angle 2,5% | Intensity ratio in 120° cone | Intensity ratio in 90° cone |
|----------------|-----------------|-------------------|------------------------------|-----------------------------|
| 144.7° | 192.9° | 354.3° | 57.4% | 37.2% |

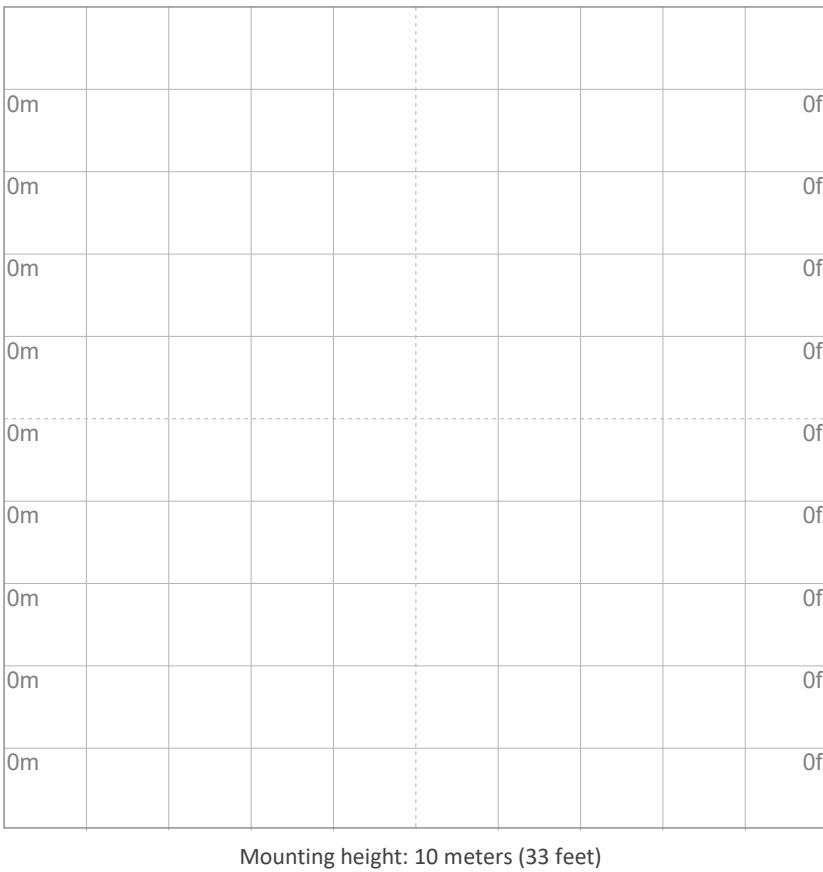
ISO CANDELA DIAGRAM



| | |
|-----|--------|
| 10% | 22 cd |
| 20% | 44 cd |
| 30% | 66 cd |
| 40% | 88 cd |
| 50% | 110 cd |
| 60% | 132 cd |
| 70% | 154 cd |
| 80% | 177 cd |
| 90% | 199 cd |

Conditions:
Number of c-planes: 8
Candela at center: 221 cd

ISO LUX DIAGRAM



| | |
|-----|----------------|
| 3% | 66.2m lx |
| 5% | 0.110 lx |
| 10% | 0.221 lx |
| 30% | 0.662 lx |
| 50% | {LUX_10M50} lx |

Conditions:
Number of c-planes: 8
Lux at center: 2.21 lx

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

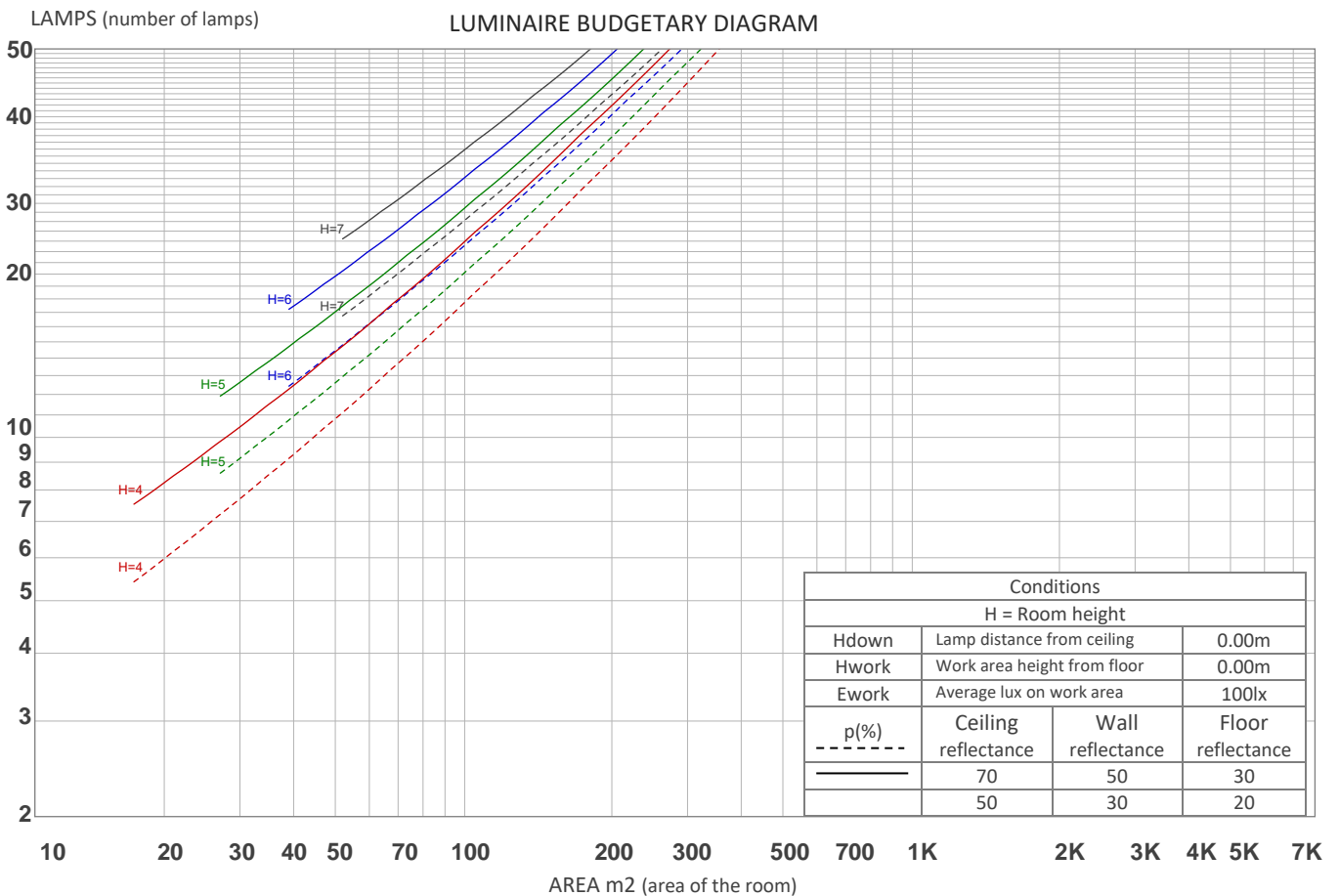
UGR

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 | 13.5 | 14.8 | 13.9 | 15.3 | 15.7 | 17.0 | 18.3 | 17.4 | 18.8 | 19.2 |
| | 3H | 14.5 | 15.8 | 15.1 | 16.3 | 16.7 | 19.7 | 21.0 | 20.3 | 21.4 | 21.9 |
| | 4H | 14.9 | 16.1 | 15.5 | 16.6 | 17.1 | 21.2 | 22.4 | 21.7 | 22.9 | 23.4 |
| | 6H | 15.2 | 16.3 | 15.6 | 16.7 | 17.3 | 22.9 | 23.9 | 23.3 | 24.4 | 25.0 |
| | 8H | 15.2 | 16.3 | 15.7 | 16.8 | 17.4 | 23.7 | 24.8 | 24.2 | 25.2 | 25.8 |
| | 12H | 15.2 | 16.3 | 15.7 | 16.8 | 17.4 | 24.5 | 25.6 | 25.1 | 26.1 | 26.7 |
| 4H | 2H | 14.6 | 15.9 | 15.2 | 16.3 | 16.8 | 17.3 | 18.5 | 17.9 | 19.0 | 19.5 |
| | 3H | 16.0 | 17.1 | 16.6 | 17.6 | 18.2 | 20.2 | 21.3 | 20.8 | 21.8 | 22.4 |
| | 4H | 16.5 | 17.6 | 17.1 | 18.1 | 18.8 | 21.8 | 22.9 | 22.4 | 23.4 | 24.1 |
| | 6H | 16.9 | 17.8 | 17.5 | 18.3 | 18.9 | 23.6 | 24.5 | 24.2 | 25.0 | 25.6 |
| | 8H | 17.0 | 17.8 | 17.6 | 18.4 | 19.0 | 24.5 | 25.3 | 25.1 | 25.9 | 26.5 |
| | 12H | 17.1 | 17.8 | 17.7 | 18.4 | 19.0 | 25.5 | 26.2 | 26.1 | 26.8 | 27.5 |
| 8H | 4H | 17.5 | 18.3 | 18.1 | 18.9 | 19.5 | 21.9 | 22.8 | 22.6 | 23.3 | 23.9 |
| | 6H | 18.2 | 18.8 | 18.8 | 19.5 | 20.2 | 23.9 | 24.5 | 24.5 | 25.2 | 25.9 |
| | 8H | 18.4 | 19.0 | 19.1 | 19.7 | 20.5 | 25.0 | 25.6 | 25.6 | 26.2 | 27.0 |
| | 12H | 18.6 | 19.2 | 19.3 | 19.8 | 20.6 | 26.1 | 26.6 | 26.8 | 27.3 | 28.1 |
| 12H | 4H | 17.8 | 18.5 | 18.4 | 19.1 | 19.8 | 21.9 | 22.6 | 22.5 | 23.2 | 23.9 |
| | 6H | 18.6 | 19.2 | 19.3 | 19.9 | 20.7 | 23.9 | 24.5 | 24.6 | 25.2 | 26.0 |
| | 8H | 19.0 | 19.5 | 19.7 | 20.2 | 21.0 | 25.0 | 25.6 | 25.7 | 26.2 | 27.0 |
| 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 / -0.2 | | | | | |
| S = 2.0H | 0.3 / -0.7 | | | | | 0.5 / -0.4 | | | | | |
| Standard table | n/a | | | | | n/a | | | | | |
| Correction summand | n/a | | | | | n/a | | | | | |
| Corrected glare indices referring to 945 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 | 117 | 117 | 117 | 117 | 113 | 113 | 113 | 113 | 105 | 105 | 105 | 99 | 99 | 99 | 92 | 92 | 92 | 89 |
| 1 | 103 | 96 | 91 | 86 | 99 | 93 | 88 | 83 | 87 | 82 | 79 | 81 | 77 | 74 | 75 | 73 | 70 | 67 |
| 2 | 92 | 82 | 74 | 67 | 88 | 79 | 72 | 65 | 74 | 68 | 62 | 69 | 64 | 59 | 64 | 60 | 56 | 53 |
| 3 | 83 | 71 | 62 | 54 | 80 | 69 | 60 | 53 | 64 | 57 | 51 | 60 | 54 | 48 | 56 | 51 | 46 | 43 |
| 4 | 76 | 62 | 53 | 45 | 72 | 60 | 51 | 44 | 56 | 49 | 42 | 53 | 46 | 41 | 49 | 44 | 39 | 36 |
| 5 | 69 | 55 | 46 | 38 | 66 | 54 | 44 | 38 | 50 | 42 | 36 | 47 | 40 | 35 | 44 | 38 | 33 | 31 |
| 6 | 64 | 50 | 40 | 33 | 61 | 48 | 39 | 32 | 45 | 37 | 31 | 42 | 35 | 30 | 40 | 34 | 29 | 27 |
| 7 | 59 | 45 | 35 | 29 | 57 | 43 | 35 | 28 | 41 | 33 | 27 | 38 | 32 | 27 | 36 | 30 | 26 | 23 |
| 8 | 55 | 41 | 32 | 26 | 53 | 39 | 31 | 25 | 37 | 30 | 24 | 35 | 28 | 24 | 33 | 27 | 23 | 21 |
| 9 | 51 | 37 | 29 | 23 | 49 | 36 | 28 | 22 | 34 | 27 | 22 | 32 | 26 | 21 | 31 | 25 | 20 | 18 |
| 10 | 48 | 34 | 26 | 21 | 46 | 33 | 26 | 20 | 32 | 25 | 20 | 30 | 24 | 19 | 28 | 23 | 19 | 17 |



ZONAL LUMEN SUMMARY

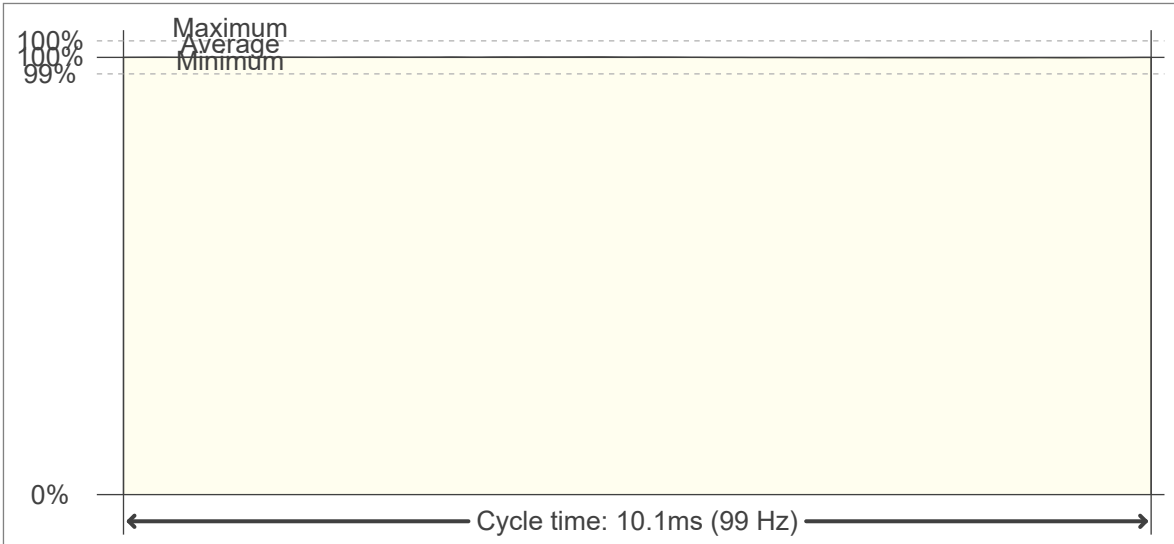
| 0°-10° | 10°-20° | 20°-30° | 30°-40° | 40°-50° | 50°-60° | 60°-70° | 70°-80° | 80°-90° |
|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 20.9 lm | 60.4 lm | 92.9 lm | 115 lm | 126 lm | 127 lm | 118 lm | 101 lm | 84.1 lm |
| 90°-100° | 100°-110° | 110°-120° | 120°-130° | 130°-140° | 140°-150° | 150°-160° | 160°-170° | 170°-180° |
| 60.6 lm | 13.0 lm | 6.31 lm | 5.70 lm | 4.87 lm | 3.98 lm | 2.92 lm | 1.79 lm | 0.596 lm |

FLICKER

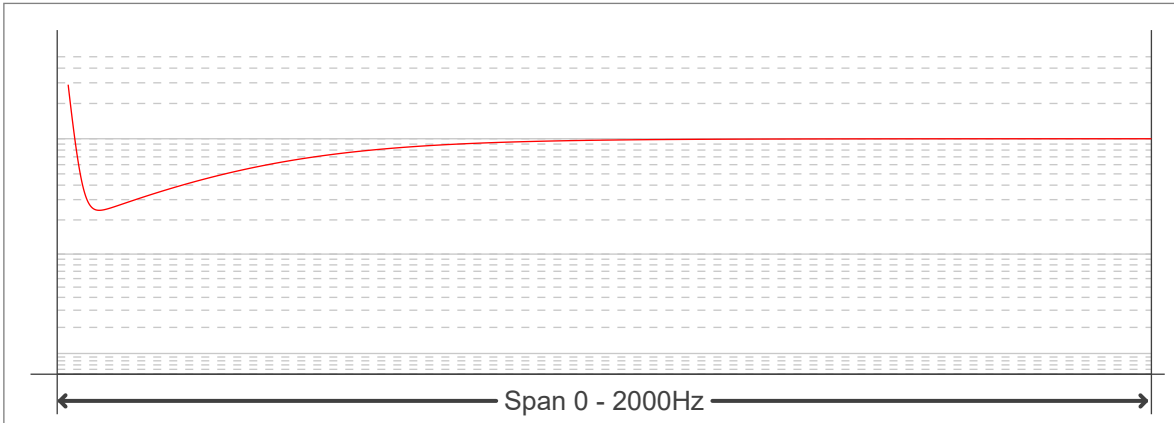
FLICKER CURVE (COMPLETE SAMPLED FLICKER)



FLICKER FRAME (FRAME OF ONE FLICKER PERIOD)



FLICKER FFT (FREQUENCY SCOPE OF FLICKER CURVE)



FLICKER RESULTS:

| | |
|-----------------------|----------|
| Flicker frequency: | 99.01 Hz |
| Flicker index: | 0 |
| Flicker percentage: | 0.14 % |
| SVM: (Visual flicker) | 0 |

FLICKER CONDITIONS:

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