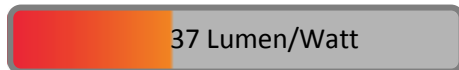


PHOTOMETRIC TEST REPORT

NAPOLI READER LED

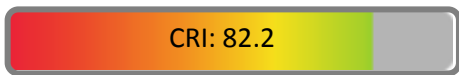
astro

LIGHT EFFICIENCY:



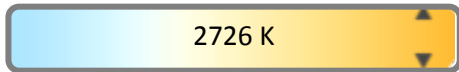
OUTPUT: 142 lm

LIGHT QUALITY:



PEAK: 869 cd

COLOR TEMPERATURE:



POWER: 3.9 W

PF: 0.42

Tracking number: [n/a](#)

Product name:

Napoli Reader LED

Item number:

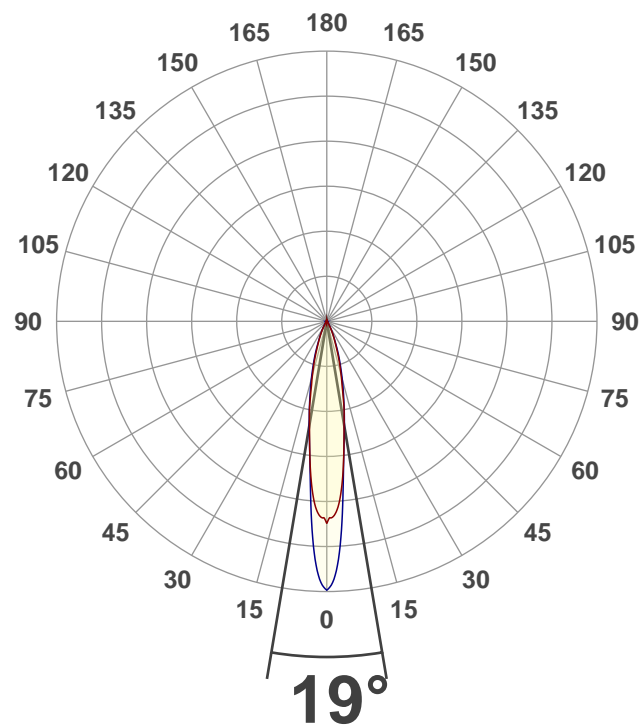
1185003

Date and time:

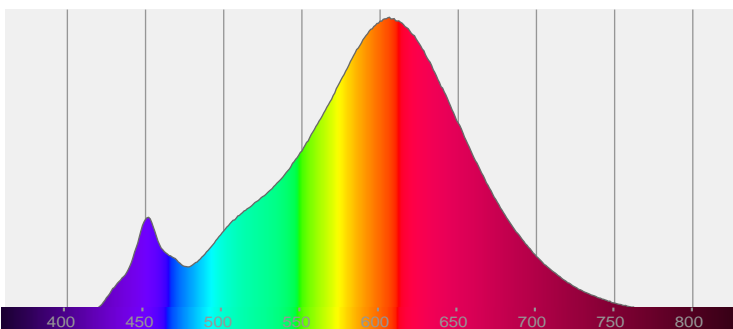
03/10/2019 15:05:45

Description:

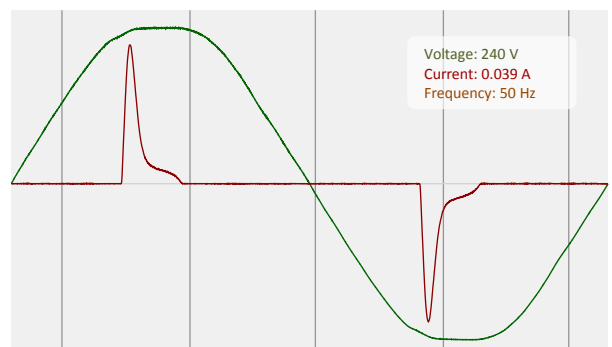
.E27 Wall Light with LED Reader Head

CIE 1931
x: 0.459
y: 0.411

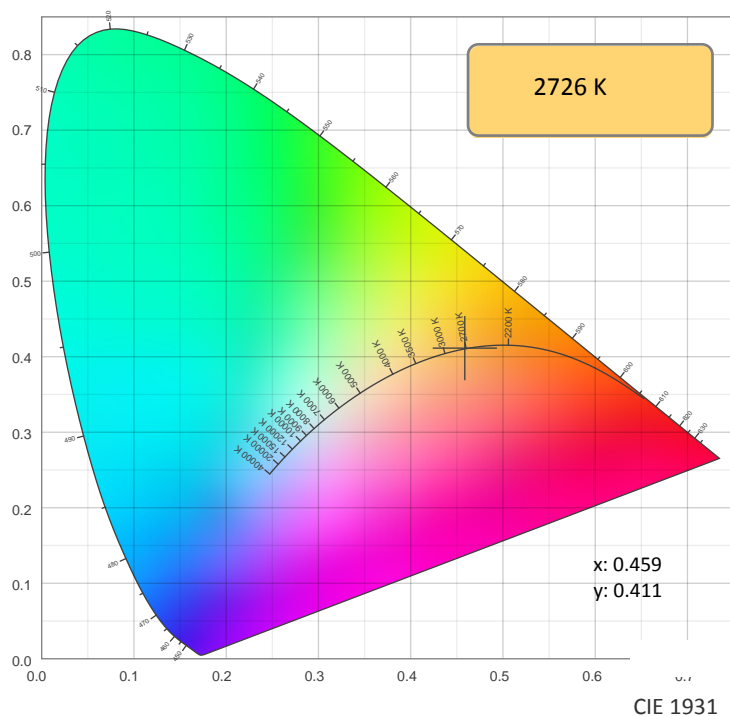
SPECTRA



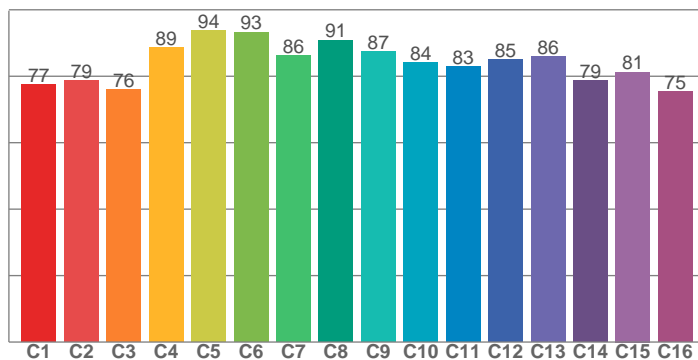
POWER



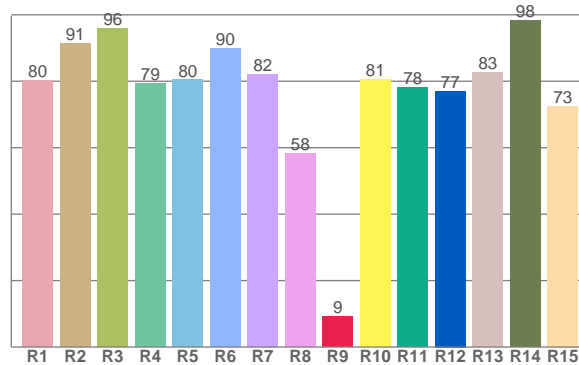
COLOR DETAILS



TM30: 83.9



CRI: 82.2 (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 |
|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|
| 80.2 | 91.2 | 95.8 | 79.4 | 80.4 | 90.0 | 82.1 | 58.2 | 9.3 | 80.7 | 78.0 | 77.1 | 82.6 | 98.3 | 72.6 |

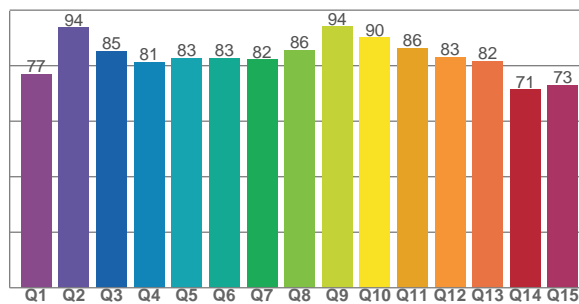
TM30 C values, 16 binned values out of total of 99 C values

| C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | C11 | C12 | C13 | C14 | C15 | C16 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 77.5 | 78.7 | 76.1 | 88.6 | 93.8 | 93.3 | 86.1 | 90.9 | 87.5 | 84.2 | 83.0 | 85.0 | 85.9 | 78.7 | 81.3 | 75.5 |

CQS Q values

| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 76.9 | 93.8 | 85.3 | 81.3 | 82.7 | 82.7 | 82.3 | 85.7 | 94.1 | 90.1 | 86.3 | 83.2 | 81.7 | 71.3 | 73.1 |

CQS: 82.1



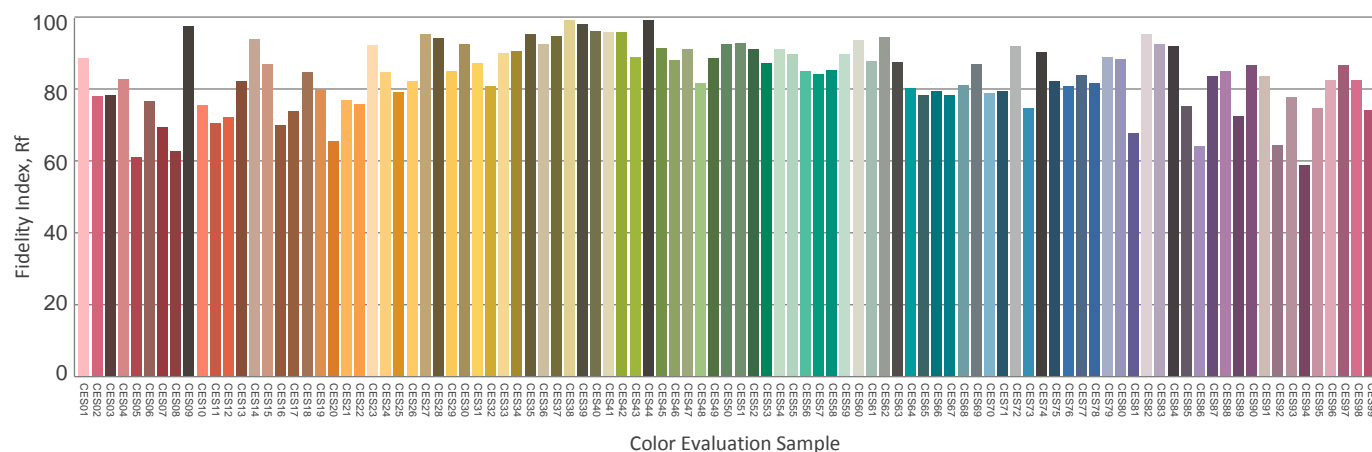
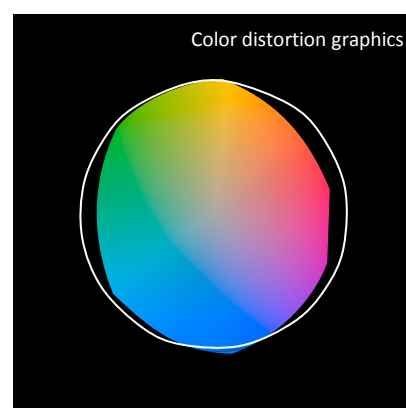
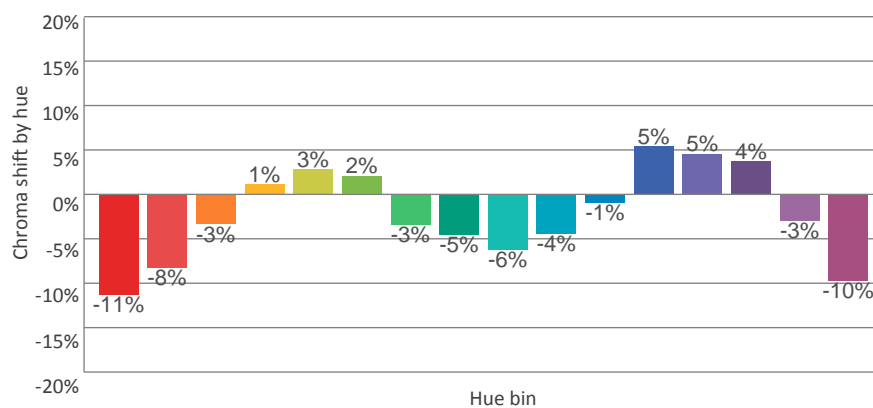
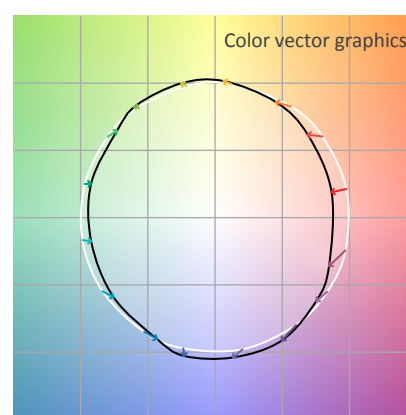
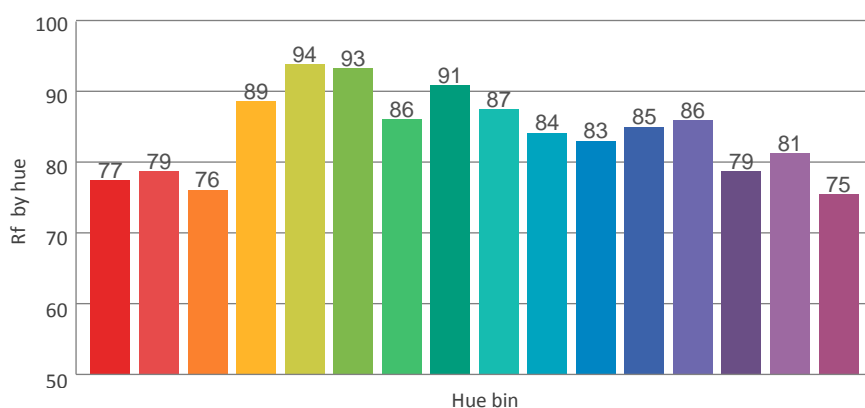
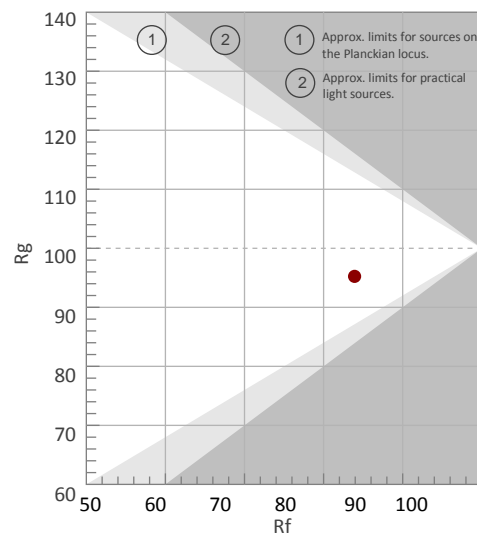
COLOR PARAMETERS

| 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 |
| 2726 K | 82.2 | 9.3 | 83.9 | 95.2 | 82.1 | 0.459 | 0.411 | 0.261 | 0.352 | 0.0004 |

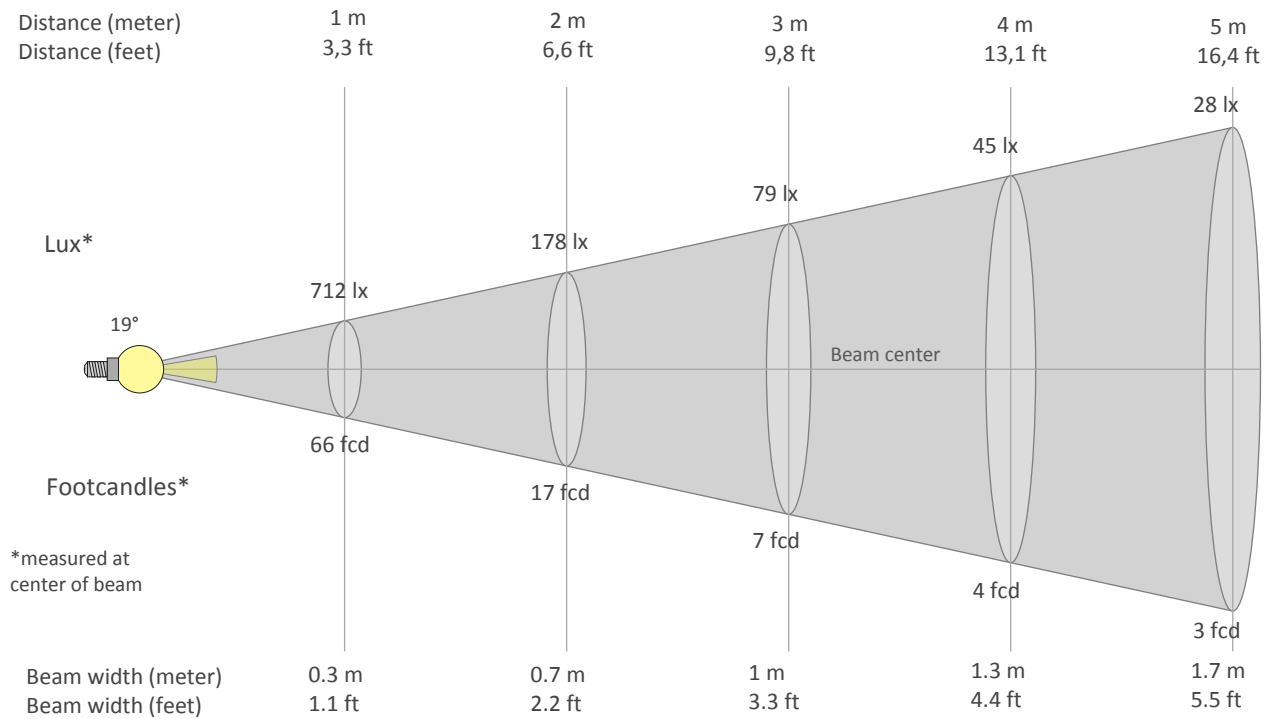
Rf 83.9
Fidelity index Rf

Rg 95.2
Gammut index Rg

| Hue Bin | Graphic shifts (%) | | |
|---------|--------------------|--------|------|
| | R _f | Chroma | Hue |
| 1 | 77 | -11% | 0% |
| 2 | 79 | -8% | 7% |
| 3 | 76 | -3% | 11% |
| 4 | 89 | 1% | 6% |
| 5 | 94 | 3% | 4% |
| 6 | 93 | 2% | -2% |
| 7 | 86 | -3% | -7% |
| 8 | 91 | -5% | -1% |
| 9 | 87 | -6% | 2% |
| 10 | 84 | -4% | 8% |
| 11 | 83 | -1% | 11% |
| 12 | 85 | 5% | 2% |
| 13 | 86 | 5% | -8% |
| 14 | 79 | 4% | -15% |
| 15 | 81 | -3% | -10% |
| 16 | 75 | -10% | -14% |



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 |
| 712lx | 178lx | 79lx | 45lx | 28lx | 20lx | 15lx | 11lx | 9lx | 7lx | 6lx | 5lx | 4lx | 4lx | 3lx | 3lx | 2lx | 2lx | 2lx | 2lx |
| 66.2fcd | 16.5fcd | 7.4fcd | 4.1fcd | 2.6fcd | 1.8fcd | 1.4fcd | 1fcd | 0.8fcd | 0.7fcd | 0.5fcd | 0.5fcd | 0.4fcd | 0.3fcd | 0.3fcd | 0.3fcd | 0.2fcd | 0.2fcd | 0.2fcd | 0.2fcd |

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° |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 712 | 631 | 584 | 498 | 399 | 323 | 259 | 200 | 159 | 123 | 92 | 70 | 54 | 40 | 29 | 21 | 15 | 12 | 10 | 8 |
| 100% | 89% | 82% | 70% | 56% | 45% | 36% | 28% | 22% | 17% | 13% | 10% | 8% | 6% | 4% | 3% | 2% | 2% | 1% | 1% |

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° |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 712 | 817 | 679 | 513 | 401 | 328 | 267 | 216 | 172 | 135 | 103 | 75 | 56 | 41 | 30 | 22 | 17 | 13 | 11 | 9 |
| 100% | 115% | 95% | 72% | 56% | 46% | 37% | 30% | 24% | 19% | 15% | 11% | 8% | 6% | 4% | 3% | 2% | 2% | 1% | 1% |

Intensities in 180° c-plane

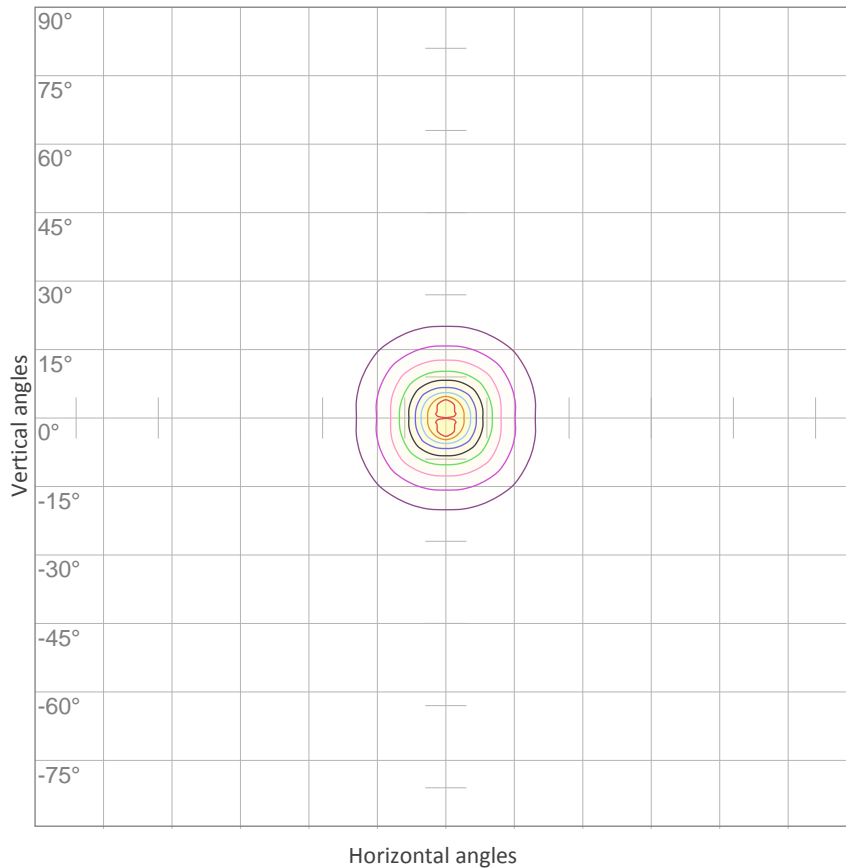
| 0° | 2° | 4° | 6° | 8° | 10° | 12° | 14° | 16° | 18° | 20° | 22° | 24° | 26° | 28° | 30° | 32° | 34° | 36° | 38° |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 712 | 631 | 584 | 498 | 399 | 323 | 259 | 200 | 159 | 123 | 92 | 70 | 54 | 40 | 29 | 21 | 15 | 12 | 10 | 8 |
| 100% | 89% | 82% | 70% | 56% | 45% | 36% | 28% | 22% | 17% | 13% | 10% | 8% | 6% | 4% | 3% | 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° |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 712 | 817 | 679 | 513 | 401 | 328 | 267 | 216 | 172 | 135 | 103 | 75 | 56 | 41 | 30 | 22 | 17 | 13 | 11 | 9 |
| 100% | 115% | 95% | 72% | 56% | 46% | 37% | 30% | 24% | 19% | 15% | 11% | 8% | 6% | 4% | 3% | 2% | 2% | 1% | 1% |

| Beam angle 50% | Field angle 10% | Cutoff angle 2,5% | Intensity ratio in 120° cone | Intensity ratio in 90° cone |
|----------------|-----------------|-------------------|------------------------------|-----------------------------|
| 19° | 45.4° | 63.2° | 97.6% | 94.5% |

ISO CANDELA DIAGRAM



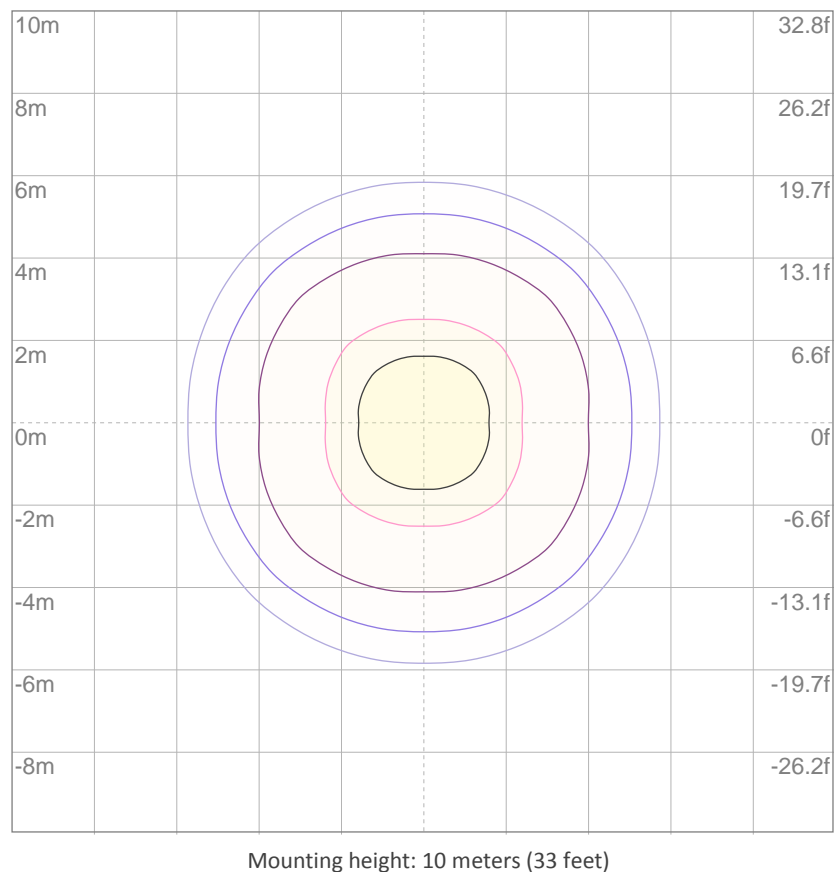
| | |
|-----|--------|
| 10% | 71 cd |
| 20% | 142 cd |
| 30% | 214 cd |
| 40% | 285 cd |
| 50% | 356 cd |
| 60% | 427 cd |
| 70% | 499 cd |
| 80% | 570 cd |
| 90% | 641 cd |

Conditions:

Number of c-planes: 8

Candela at center: 712 cd

ISO LUX DIAGRAM



| | |
|-----|----------------|
| 3% | 0.214 lx |
| 5% | 0.356 lx |
| 10% | 0.712 lx |
| 30% | 2.14 lx |
| 50% | {LUX_10M50} lx |

Conditions:

Number of c-planes: 8

Lux at center: 7.12 lx

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

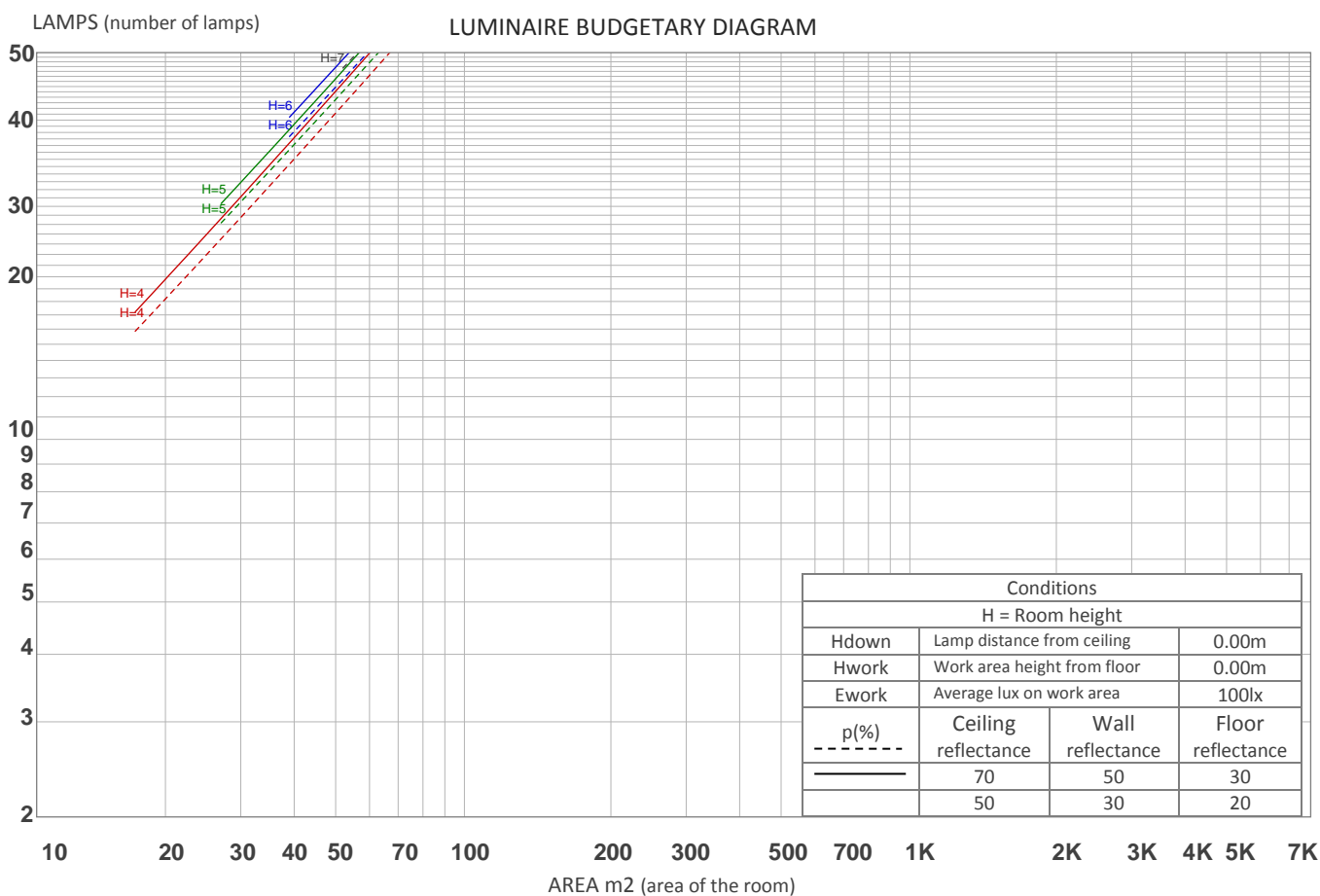
UGR

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 | 14.0 | 14.7 | 14.2 | 14.9 | 15.1 | 14.2 | 14.9 | 14.5 | 15.1 | 15.3 |
| | 3H | 14.8 | 15.4 | 15.1 | 15.7 | 15.9 | 14.9 | 15.6 | 15.2 | 15.8 | 16.1 |
| | 4H | 15.2 | 15.8 | 15.5 | 16.0 | 16.3 | 15.2 | 15.8 | 15.5 | 16.1 | 16.4 |
| | 6H | 15.4 | 16.0 | 15.8 | 16.3 | 16.6 | 15.4 | 15.9 | 15.7 | 16.2 | 16.5 |
| | 8H | 15.6 | 16.1 | 15.9 | 16.4 | 16.7 | 15.4 | 16.0 | 15.8 | 16.3 | 16.6 |
| | 12H | 15.7 | 16.2 | 16.0 | 16.5 | 16.8 | 15.5 | 16.0 | 15.8 | 16.3 | 16.6 |
| 4H | 2H | 14.2 | 14.8 | 14.6 | 15.1 | 15.4 | 14.4 | 15.0 | 14.8 | 15.3 | 15.6 |
| | 3H | 15.2 | 15.7 | 15.6 | 16.1 | 16.4 | 15.4 | 15.9 | 15.7 | 16.2 | 16.5 |
| | 4H | 15.7 | 16.2 | 16.1 | 16.5 | 16.9 | 15.8 | 16.2 | 16.1 | 16.5 | 16.9 |
| | 6H | 16.2 | 16.5 | 16.6 | 16.9 | 17.3 | 16.0 | 16.4 | 16.4 | 16.8 | 17.2 |
| | 8H | 16.3 | 16.7 | 16.8 | 17.0 | 17.5 | 16.1 | 16.5 | 16.6 | 16.8 | 17.3 |
| | 12H | 16.5 | 16.8 | 17.0 | 17.2 | 17.6 | 16.2 | 16.5 | 16.7 | 16.9 | 17.3 |
| 8H | 4H | 15.9 | 16.2 | 16.3 | 16.6 | 17.0 | 15.9 | 16.2 | 16.3 | 16.6 | 17.0 |
| | 6H | 16.4 | 16.7 | 16.9 | 17.1 | 17.6 | 16.3 | 16.5 | 16.7 | 17.0 | 17.4 |
| | 8H | 16.7 | 16.9 | 17.2 | 17.3 | 17.8 | 16.5 | 16.7 | 16.9 | 17.1 | 17.6 |
| | 12H | 17.0 | 17.1 | 17.5 | 17.6 | 18.1 | 16.6 | 16.8 | 17.1 | 17.2 | 17.7 |
| 12H | 4H | 15.9 | 16.2 | 16.3 | 16.6 | 17.0 | 15.9 | 16.2 | 16.4 | 16.6 | 17.0 |
| | 6H | 16.5 | 16.7 | 16.9 | 17.1 | 17.6 | 16.3 | 16.5 | 16.8 | 17.0 | 17.5 |
| | 8H | 16.8 | 16.9 | 17.2 | 17.4 | 17.9 | 16.5 | 16.7 | 17.0 | 17.2 | 17.7 |
| Variation of the observer position for the luminaire distance S | | | | | | | | | | | |
| S = 1.0H | | +0.7 / -0.5 | | | | | +0.9 / -0.6 | | | | |
| S = 1.5H | | +1.7 / -1.0 | | | | | +2.1 / -1.1 | | | | |
| S = 2.0H | | +2.9 / -1.3 | | | | | +3.4 / -1.5 | | | | |
| Standard table | | BK04 | | | | | BK03 | | | | |
| Correction summand | | -1.1 | | | | | -1.6 | | | | |
| Corrected glare indices referring to 142 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 | 99 |
| 1 | 114 | 112 | 110 | 108 | 112 | 110 | 108 | 106 | 106 | 104 | 103 | 102 | 101 | 100 | 98 | 97 | 97 | 95 |
| 2 | 110 | 106 | 102 | 99 | 108 | 104 | 101 | 98 | 101 | 98 | 96 | 98 | 96 | 94 | 95 | 93 | 92 | 90 |
| 3 | 106 | 100 | 96 | 93 | 104 | 99 | 95 | 92 | 96 | 93 | 91 | 94 | 92 | 89 | 92 | 90 | 88 | 87 |
| 4 | 102 | 96 | 91 | 88 | 100 | 95 | 91 | 87 | 93 | 89 | 86 | 91 | 88 | 85 | 89 | 86 | 84 | 83 |
| 5 | 98 | 92 | 87 | 84 | 97 | 91 | 87 | 83 | 89 | 85 | 83 | 88 | 84 | 82 | 86 | 83 | 81 | 80 |
| 6 | 95 | 88 | 83 | 80 | 94 | 87 | 83 | 80 | 86 | 82 | 79 | 85 | 81 | 79 | 83 | 80 | 78 | 77 |
| 7 | 92 | 85 | 80 | 77 | 91 | 84 | 80 | 77 | 83 | 79 | 76 | 82 | 79 | 76 | 81 | 78 | 76 | 74 |
| 8 | 89 | 82 | 77 | 74 | 88 | 81 | 77 | 74 | 80 | 76 | 74 | 79 | 76 | 73 | 79 | 75 | 73 | 72 |
| 9 | 87 | 79 | 75 | 72 | 86 | 79 | 74 | 72 | 78 | 74 | 71 | 77 | 74 | 71 | 76 | 73 | 71 | 70 |
| 10 | 84 | 77 | 72 | 69 | 83 | 76 | 72 | 69 | 76 | 72 | 69 | 75 | 71 | 69 | 74 | 71 | 69 | 68 |



ZONAL LUMEN SUMMARY

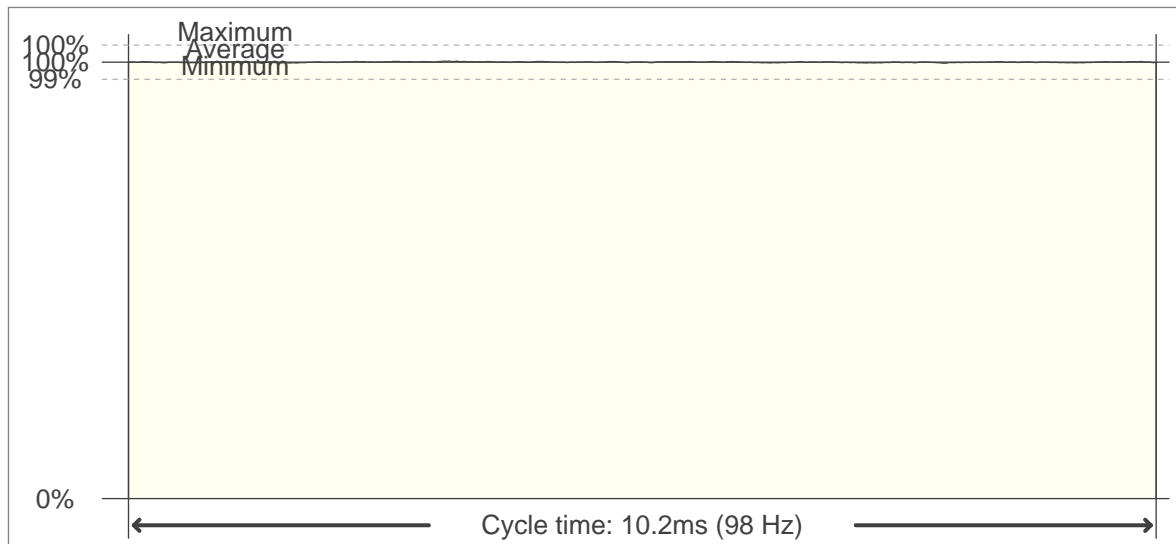
| 0°-10° | 10°-20° | 20°-30° | 30°-40° | 40°-50° | 50°-60° | 60°-70° | 70°-80° | 80°-90° |
|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 45.8 lm | 54.6 lm | 24.1 lm | 7.71 lm | 4.07 lm | 2.59 lm | 1.57 lm | 0.838 lm | 0.313 lm |
| 90°-100° | 100°-110° | 110°-120° | 120°-130° | 130°-140° | 140°-150° | 150°-160° | 160°-170° | 170°-180° |
| 0.100 lm | 0.078 lm | 0.072 lm | 0.082 lm | 0.099 lm | 0.117 lm | 0.113 lm | 0.074 lm | 0.021 lm |

FLICKER

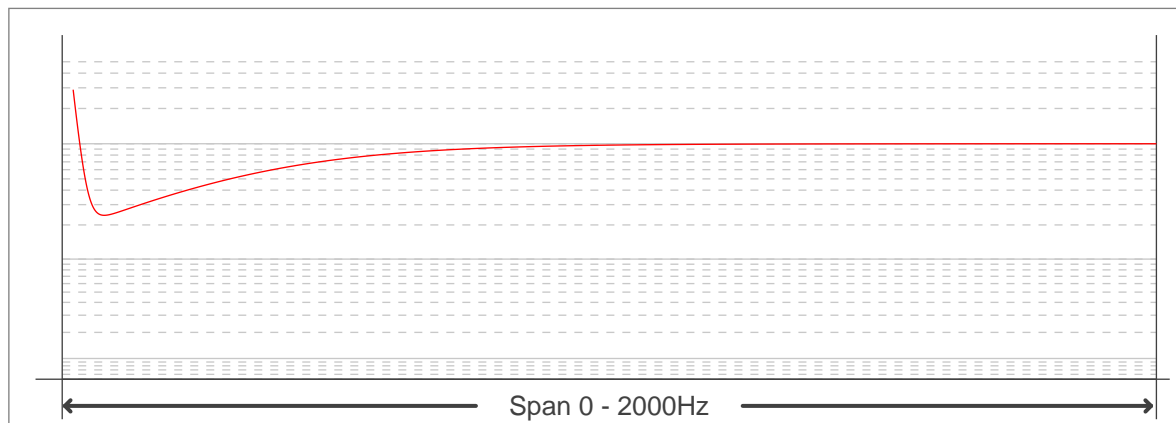
FLICKER CURVE (COMPLETE SAMPLED FLICKER)



FLICKER FRAME (FRAME OF ONE FLICKER PERIOD)



FLICKER FFT (FREQUENCY SCOPE OF FLICKER CURVE)



FLICKER RESULTS:

| | |
|-----------------------|----------|
| Flicker frequency: | 98.04 Hz |
| Flicker index: | 0 |
| Flicker percentage: | 0.29 % |
| SVM: (Visual flicker) | 0 |

FLICKER CONDITIONS:

| | |
|--------------|----------------------|
| Sample rate: | 40000 samples/second |
|--------------|----------------------|