NOVA FLEX

# Flexible Grazer Test Report

**Light efficiency:**

98 Lumen/Watt

**Light quality:**

CRI: 70.1

**Color temperature:**

5918 K

**Output:** 788 lm
**Peak:** 2363 cd

**Power:** 8.0 W
**PF:** 1.0

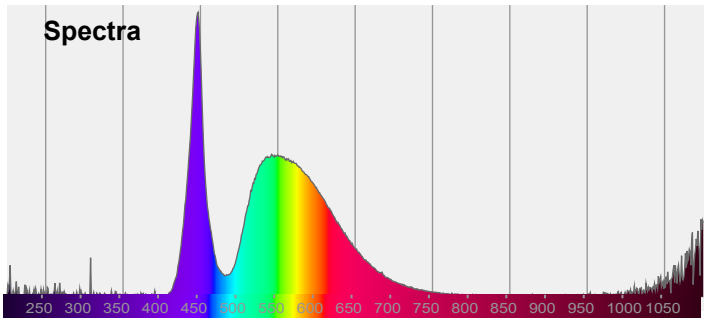
**Tracking number:** VT250723-000410

**Product name:**
GRZ White12 24 57

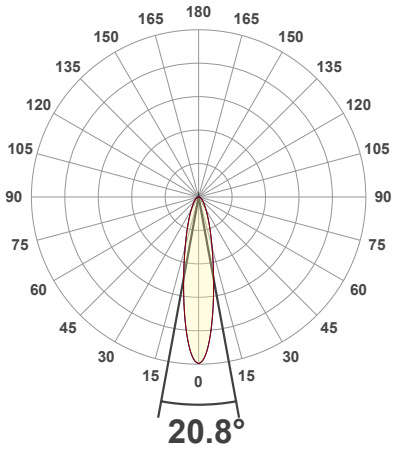
**Item number:**
1 foot Flex Grazer White 5700K 12° Optic

**Date and time:**
7/23/25 2:15:54 PM

**All values scaled to 1 foot**
**From 0.75 M sample tested @ 11 M**

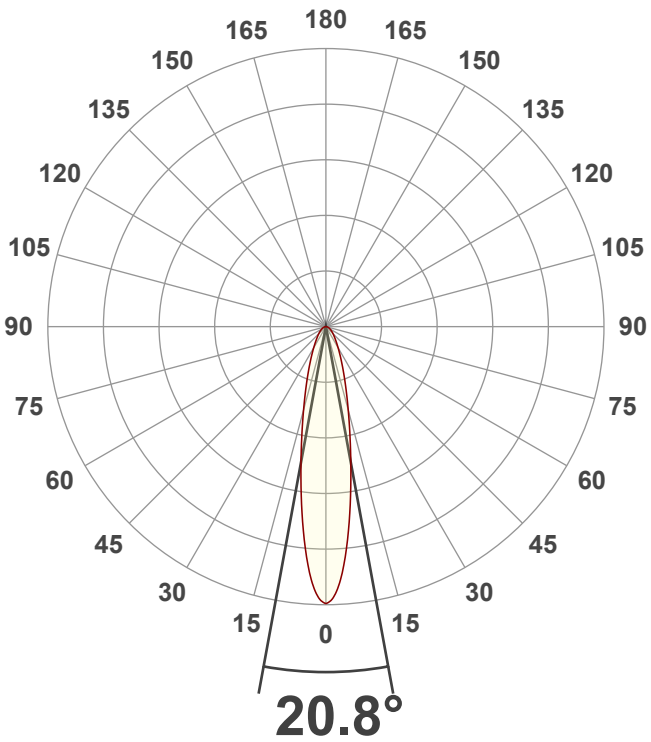



**Average Beam Angle**

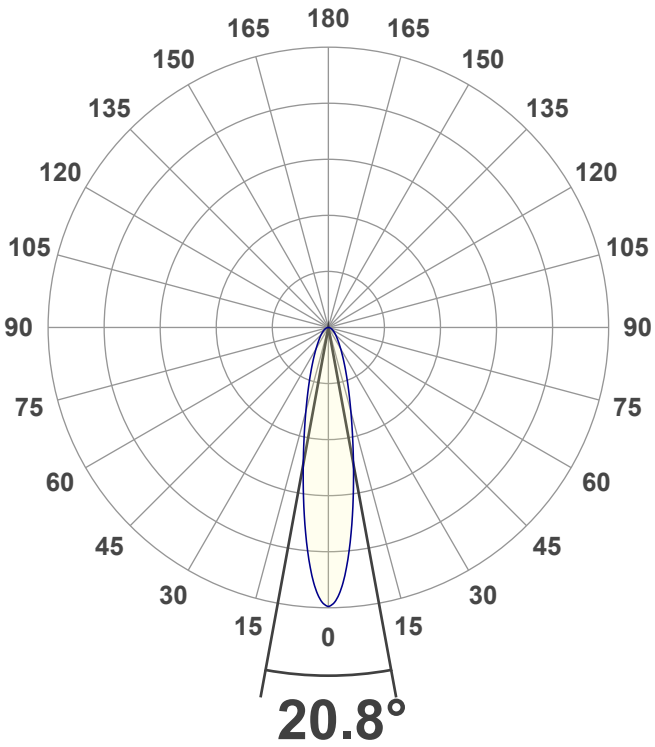



C Plane Resolution: 5°

**Angular Distribution 0 ° Plane**

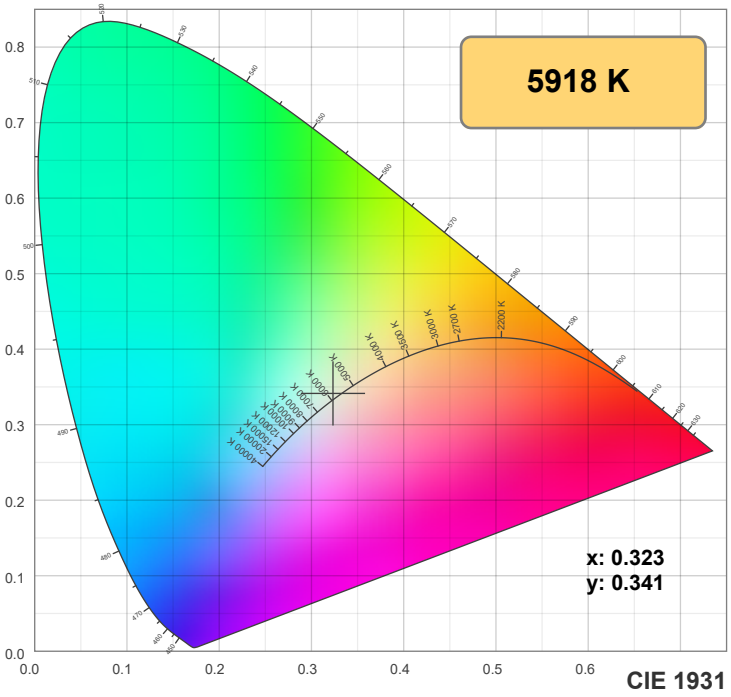


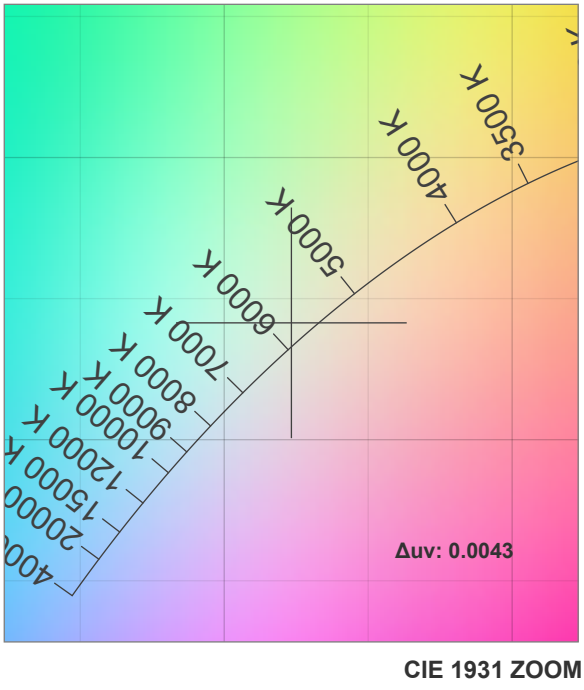

**Angular Distribution 90 ° Plane**



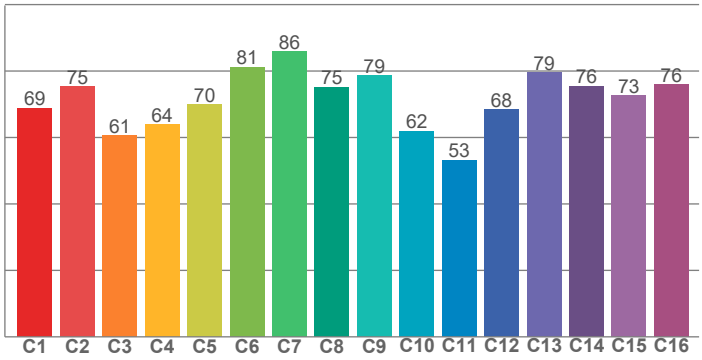
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# Color details

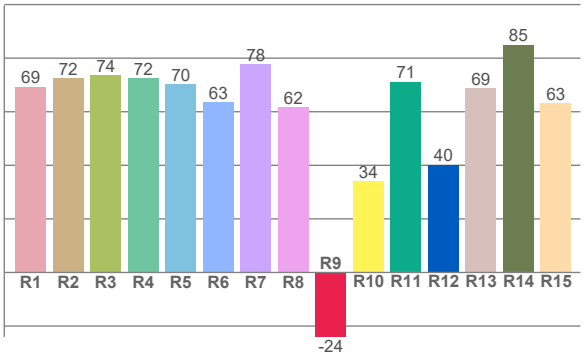



## TM-30: 71.0




## CRI: (R1-R8): 70.1




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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 69.3 | 72.4 | 73.7 | 72.4 | 70.2 | 63.5 | 77.8 | 61.6 | -24.0 | 34.1 | 71.2 | 40.2 | 68.7 | 85.1 | 63.3 |

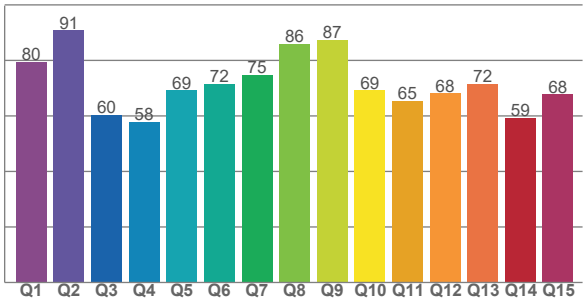
TM30 C values, 16 binned values out of total of 99 C values

| C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | C11 | C12 | C13 | C14 | C15 | C16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 68.9 | 75.5 | 60.6 | 63.9 | 70.0 | 81.3 | 85.9 | 75.2 | 78.7 | 62.0 | 53.2 | 68.4 | 79.5 | 75.5 | 72.6 | 75.9 |

CQS Q values

| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 79.6 | 90.8 | 60.5 | 58.0 | 69.2 | 71.5 | 74.8 | 86.0 | 87.3 | 69.2 | 65.4 | 68.1 | 71.5 | 59.4 | 67.8 |

## CQS: 70.3




## 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 diviation from black body |
|---|---|---|---|---|---|---|---|---|---|---|
| CCT | CRI | CRI R9 | TM30 Rf | TM30 Rg | CQS | x | y | u | v | Δuv |
| 5918 K | 70.1 | -24.0 | 71.0 | 96.0 | 70.3 | 0.323 | 0.341 | 0.201 | 0.318 | 0.0043 |

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# TM-30 details

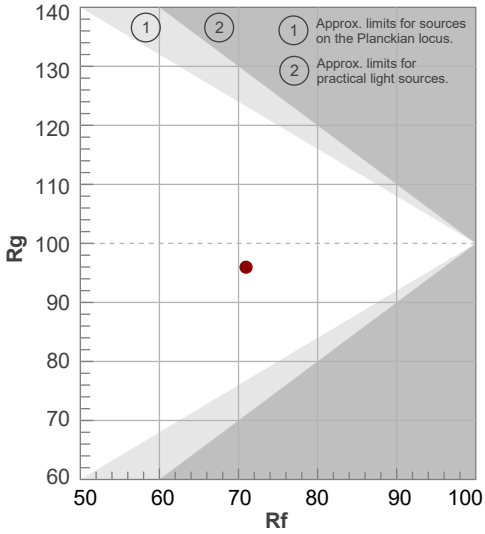
**Rf 71.0**

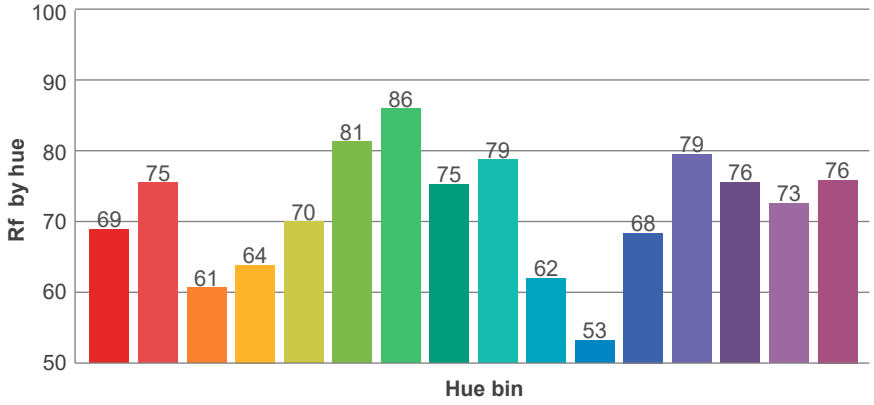
Fidelity index Rf

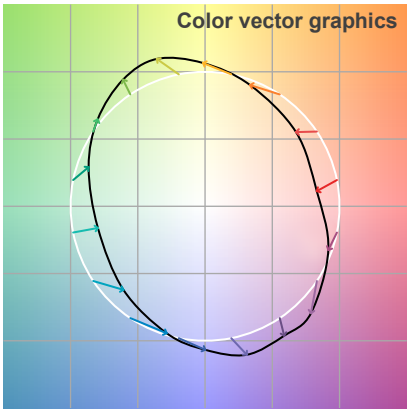
**Rg 96.0**

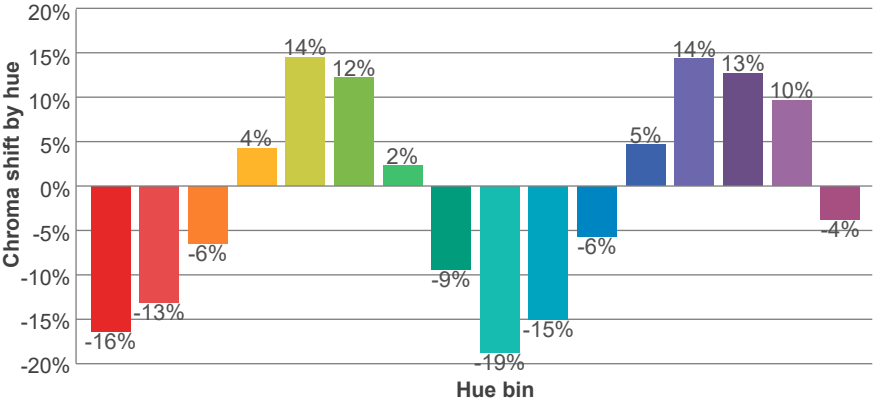
Gamut index Rg

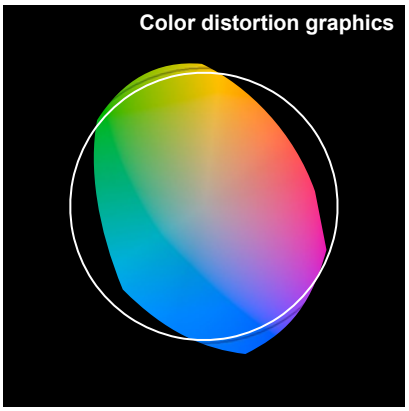
| Hue Bin | $R_f$ | Shifts (%) Chroma | Hue |
|---|---|---|---|
| 1 | 69 | -16% | -5% |
| 2 | 75 | -13% | 8% |
| 3 | 61 | -6% | 22% |
| 4 | 64 | 4% | 22% |
| 5 | 70 | 14% | 14% |
| 6 | 81 | 12% | -2% |
| 7 | 86 | 2% | -9% |
| 8 | 75 | -9% | -12% |
| 9 | 79 | -19% | 0% |
| 10 | 62 | -15% | 18% |
| 11 | 53 | -6% | 29% |
| 12 | 68 | 5% | 21% |
| 13 | 79 | 14% | 9% |
| 14 | 76 | 13% | -5% |
| 15 | 73 | 10% | -22% |
| 16 | 76 | -4% | -14% |

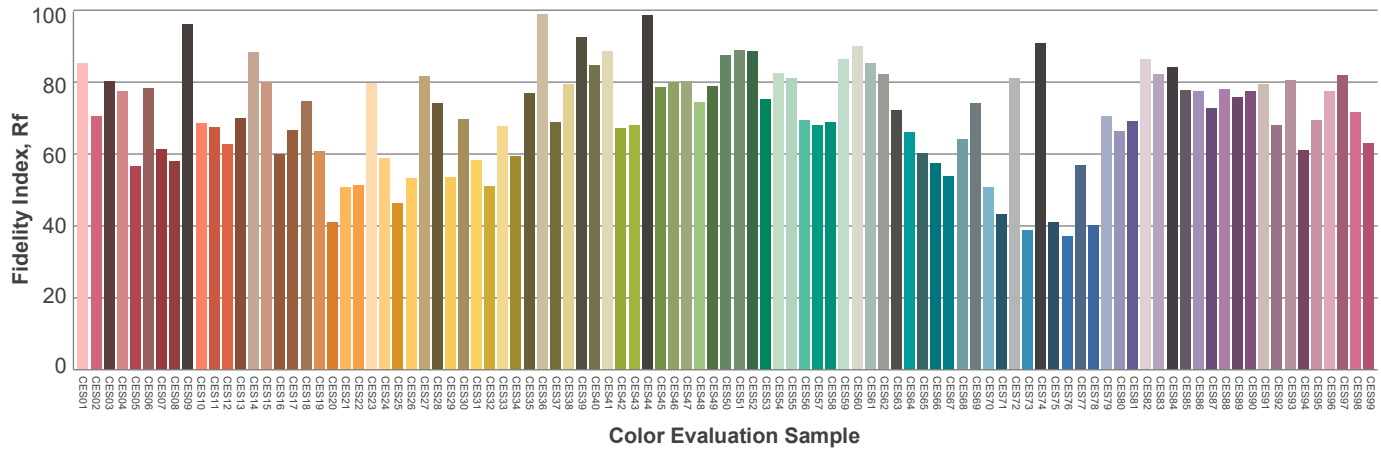


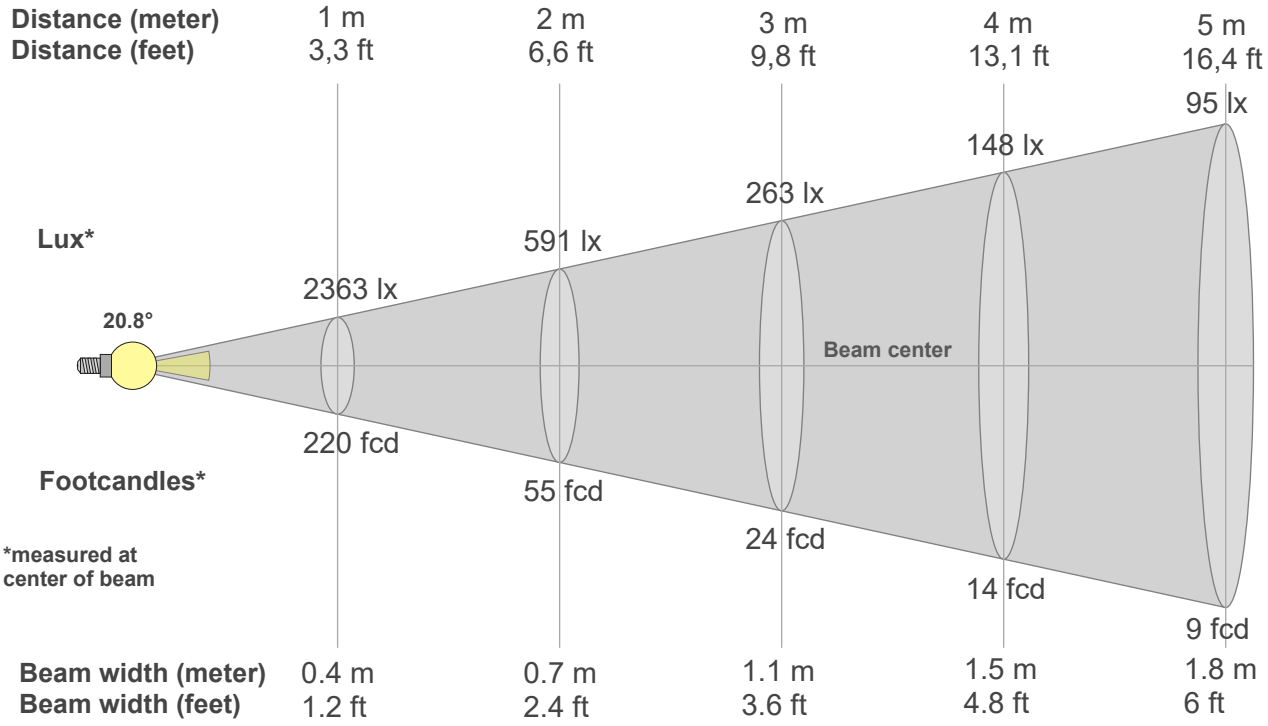



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# Beam details




**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 |
| 2363lx | 591lx | 263lx | 148lx | 95lx | 66lx | 48lx | 37lx | 29lx | 24lx | 20lx | 16lx | 14lx | 12lx | 11lx | 9lx | 8lx | 7lx | 7lx | 6lx |
| 219.5fc | 54.9fcd | 24.4fcd | 13.7fcd | 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 | 0.5fcd |

**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° |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2363 | 2285 | 2081 | 1800 | 1504 | 1230 | 1001 | 816 | 670 | 554 | 462 | 389 | 329 | 281 | 241 | 209 | 182 | 159 | 141 | 125 |
| 100% | 97% | 88% | 76% | 64% | 52% | 42% | 35% | 28% | 23% | 20% | 16% | 14% | 12% | 10% | 9% | 8% | 7% | 6% | 5% |

**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° |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2363 | 2285 | 2081 | 1800 | 1504 | 1230 | 1001 | 816 | 670 | 554 | 462 | 389 | 329 | 281 | 241 | 209 | 182 | 159 | 141 | 125 |
| 100% | 97% | 88% | 76% | 64% | 52% | 42% | 35% | 28% | 23% | 20% | 16% | 14% | 12% | 10% | 9% | 8% | 7% | 6% | 5% |

**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° |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2363 | 2285 | 2081 | 1800 | 1504 | 1230 | 1001 | 816 | 670 | 554 | 462 | 389 | 329 | 281 | 241 | 209 | 182 | 159 | 141 | 125 |
| 100% | 97% | 88% | 76% | 64% | 52% | 42% | 35% | 28% | 23% | 20% | 16% | 14% | 12% | 10% | 9% | 8% | 7% | 6% | 5% |

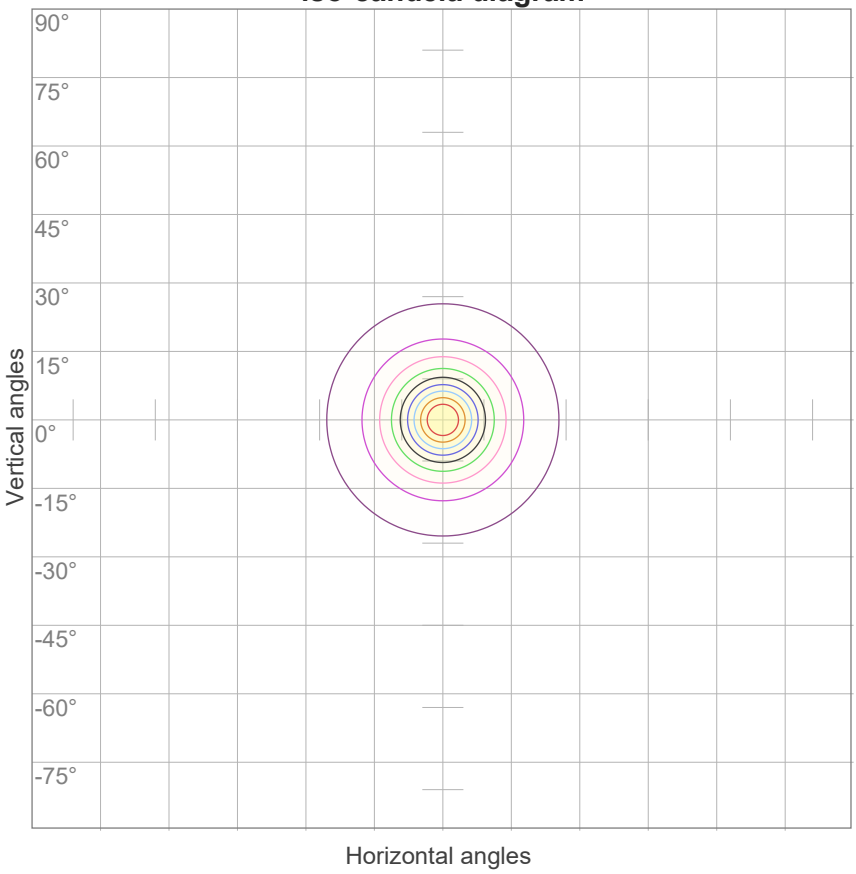
**Intensities in 270° c-plane**

| 0° | 2° | 4° | 6° | 8° | 10° | 12° | 14° | 16° | 18° | 20° | 22° | 24° | 26° | 28° | 30° | 32° | 34° | 36° | 38° |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2363 | 2285 | 2081 | 1800 | 1504 | 1230 | 1001 | 816 | 670 | 554 | 462 | 389 | 329 | 281 | 241 | 209 | 182 | 159 | 141 | 125 |
| 100% | 97% | 88% | 76% | 64% | 52% | 42% | 35% | 28% | 23% | 20% | 16% | 14% | 12% | 10% | 9% | 8% | 7% | 6% | 5% |

| Beam angle 50% | Field angle 10% | Cutoff angle 2,5% | Intensity ratio in 120° cone | Intensity ratio in 90° cone |
|---|---|---|---|---|
| 20.8° | 56.5° | 105.2° | 91.5% | 81.5% |

# Iso Diagrams

## iso-candela diagram



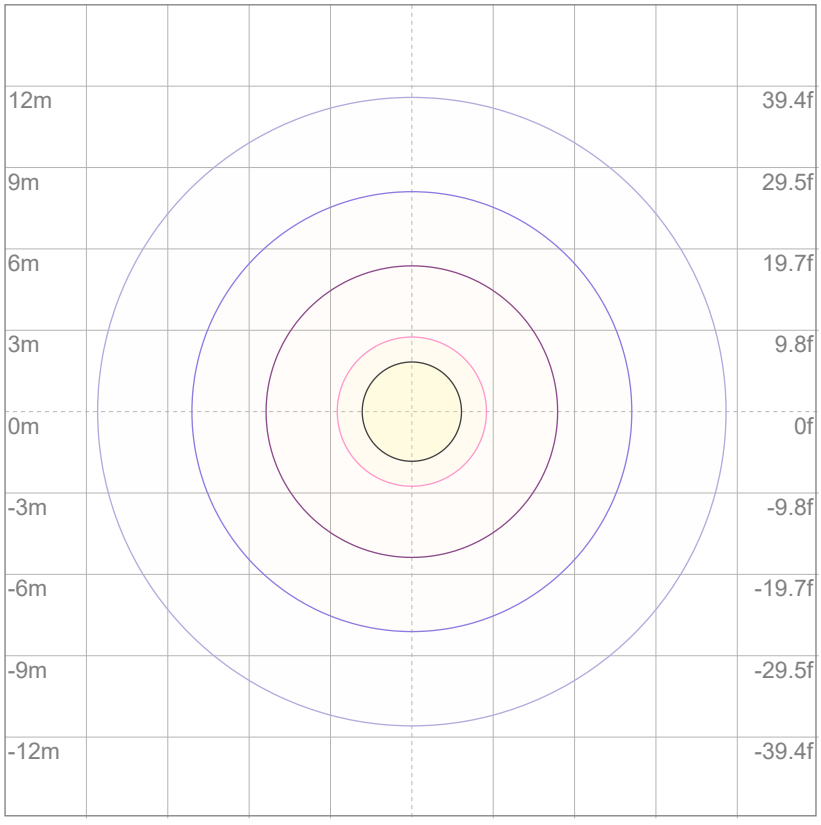

| | | |
|---|---|---|
| 10% | 236 cd |
| 20% | 473 cd |
| 30% | 709 cd |
| 40% | 945 cd |
| 50% | 1181 cd |
| 60% | 1418 cd |
| 70% | 1654 cd |
| 80% | 1890 cd |
| 90% | 2127 cd |

Conditions:

Number of c-planes: 72

Candela at center: 2363 cd

## iso-lux diagram




Mounting height: 10 meters (33 feet)

| | |
|---|---|
| 3% | 0.709 lx |
| 5% | 1.18 lx |
| 10% | 2.36 lx |
| 30% | 7.09 lx |
| 50% | 11.8 lx |

Conditions:

Number of c-planes: 72

Lux at center: 23.6 lx

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

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| 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 | 19.1 | 19.9 | 19.3 | 20.1 | 20.3 | 19.8 | 20.6 | 20.0 | 20.8 | 21.0 |
| | 3H | 19.8 | 20.6 | 20.2 | 20.8 | 21.0 | 20.7 | 21.5 | 21.0 | 21.7 | 21.9 |
| | 4H | 20.1 | 20.9 | 20.5 | 21.1 | 21.4 | 21.1 | 21.9 | 21.5 | 22.2 | 22.4 |
| | 6H | 20.4 | 21.1 | 20.7 | 21.4 | 21.7 | 21.6 | 22.3 | 21.9 | 22.6 | 22.9 |
| | 8H | 20.4 | 21.1 | 20.8 | 21.4 | 21.8 | 21.7 | 22.4 | 22.0 | 22.7 | 23.1 |
| | 12H | 20.5 | 21.1 | 20.8 | 21.5 | 21.9 | 21.8 | 22.5 | 22.2 | 22.8 | 23.3 |
| 4H | 2H | 19.4 | 20.2 | 19.8 | 20.5 | 20.7 | 20.0 | 20.8 | 20.4 | 21.0 | 21.3 |
| | 3H | 20.4 | 21.1 | 20.8 | 21.4 | 21.8 | 21.2 | 21.8 | 21.5 | 22.2 | 22.6 |
| | 4H | 20.8 | 21.4 | 21.2 | 21.8 | 22.3 | 21.7 | 22.3 | 22.1 | 22.7 | 23.2 |
| | 6H | 21.1 | 21.7 | 21.6 | 22.0 | 22.4 | 22.2 | 22.8 | 22.7 | 23.1 | 23.5 |
| | 8H | 21.2 | 21.8 | 21.7 | 22.1 | 22.5 | 22.4 | 23.0 | 22.9 | 23.3 | 23.7 |
| | 12H | 21.2 | 21.7 | 21.7 | 22.1 | 22.6 | 22.5 | 23.0 | 23.0 | 23.4 | 23.9 |
| 8H | 4H | 20.9 | 21.5 | 21.4 | 21.8 | 22.2 | 21.8 | 22.3 | 22.3 | 22.7 | 23.1 |
| | 6H | 21.4 | 21.8 | 21.9 | 22.2 | 22.8 | 22.4 | 22.8 | 22.9 | 23.3 | 23.8 |
| | 8H | 21.6 | 21.9 | 22.1 | 22.4 | 23.1 | 22.7 | 23.1 | 23.2 | 23.6 | 24.2 |
| | 12H | 21.7 | 22.0 | 22.3 | 22.5 | 23.1 | 22.9 | 23.2 | 23.5 | 23.7 | 24.3 |
| 12H | 4H | 20.9 | 21.4 | 21.4 | 21.8 | 22.2 | 21.7 | 22.2 | 22.2 | 22.6 | 23.1 |
| | 6H | 21.5 | 21.8 | 22.0 | 22.3 | 22.9 | 22.5 | 22.8 | 23.0 | 23.3 | 23.9 |
| | 8H | 21.6 | 21.9 | 22.2 | 22.4 | 23.0 | 22.7 | 23.0 | 23.3 | 23.5 | 24.1 |
| Variation of the observer position for the luminaire distance S | | | | | | | | | | | |
| S = 1.0H | | 0.4 / -0.4 | | | | | 0.3 / -0.3 | | | | |
| S = 1.5H | | 1.0 / -0.8 | | | | | 0.8 / -0.6 | | | | |
| S = 2.0H | | 1.7 / -1.3 | | | | | 1.5 / -1.1 | | | | |
| CIE 117-1995. Corrected glare indices referring to 788 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 | 110 | 110 | 110 | 105 | 105 | 105 | 101 | 101 | 101 | 99 |
| 1 | 112 | 109 | 106 | 103 | 109 | 107 | 104 | 102 | 102 | 100 | 98 | 98 | 97 | 95 | 95 | 93 | 92 | 90 |
| 2 | 106 | 100 | 96 | 92 | 103 | 98 | 94 | 91 | 95 | 92 | 89 | 92 | 89 | 86 | 89 | 86 | 84 | 83 |
| 3 | 100 | 93 | 88 | 83 | 98 | 92 | 86 | 82 | 89 | 84 | 81 | 86 | 82 | 79 | 83 | 81 | 78 | 76 |
| 4 | 95 | 87 | 81 | 76 | 93 | 86 | 80 | 76 | 83 | 78 | 75 | 81 | 77 | 74 | 79 | 75 | 73 | 71 |
| 5 | 90 | 81 | 75 | 71 | 88 | 80 | 75 | 70 | 78 | 73 | 69 | 76 | 72 | 69 | 75 | 71 | 68 | 66 |
| 6 | 86 | 77 | 70 | 66 | 84 | 76 | 70 | 66 | 74 | 69 | 65 | 73 | 68 | 65 | 71 | 67 | 64 | 62 |
| 7 | 82 | 73 | 66 | 62 | 81 | 72 | 66 | 62 | 70 | 65 | 61 | 69 | 64 | 61 | 68 | 64 | 61 | 59 |
| 8 | 78 | 69 | 63 | 59 | 77 | 68 | 63 | 59 | 67 | 62 | 58 | 66 | 61 | 58 | 65 | 61 | 58 | 56 |
| 9 | 75 | 66 | 60 | 56 | 74 | 65 | 59 | 56 | 64 | 59 | 55 | 63 | 58 | 55 | 62 | 58 | 55 | 53 |
| 10 | 72 | 63 | 57 | 53 | 71 | 62 | 57 | 53 | 61 | 56 | 53 | 60 | 56 | 53 | 60 | 55 | 52 | 51 |

## Zonal Lumen Summary

| 0°-10° | 10°-20° | 20°-30° | 30°-40° | 40°-50° | 50°-60° | 60°-70° | 70°-80° | 80°-90° |
|---|---|---|---|---|---|---|---|---|
| 161 lm | 208 lm | 142 lm | 95.0 lm | 67.6 lm | 47.7 lm | 31.1 lm | 18.0 lm | 6.71 lm |

| 90°-100° | 100°-110° | 110°-120° | 120°-130° | 130°-140° | 140°-150° | 150°-160° | 160°-170° | 170°-180° |
|---|---|---|---|---|---|---|---|---|
| 0.613 lm | 0.000 lm | 0.000 lm | 0.000 lm | 0.000 lm | 0.000 lm | 0.000 lm | 0.000 lm | 10.4 lm |

## LCS table

| BUG rating: | B1 U0 G0 | |
|---|---|---|
| **Forward light** | Lumens | Lumens % |
| Low(0-30): | 259.1 | 32.9% |
| Medium(30-60): | 106.5 | 13.5% |
| High(60-80): | 25 | 3.2% |
| Very high(80-90): | 3.5 | 0.4% |
| **Back light** | | |
| Low(0-30): | 259.1 | 32.9% |
| Medium(30-60): | 106.5 | 13.5% |
| High(60-80): | 25 | 3.2% |
| Very high(80-90): | 3.5 | 0.4% |
| **Uplight** | | |
| Low(90-100): | 0 | 0% |
| High(100-180): | 0 | 0% |

