# Light Measurement Report

Print date: 19-5-2025
Measurement date and time: 19-5-2025 13:02:56 – Measurement no. VFR-250519-1316-MS
Measurement tracking No. and Link: VT250519-003392
Operator:

## Laboratory and Equipment

| | |
|---|---|
| Laboratory Owner and Location | Viso Systems, Copenhagen V, Denmark |
| Goniospectrometer System and Type | LabSpion – Type C, horizontal |
| Sensor Name, Calibr. Date and Serial No. | LabSensor Model2 – 11-1-2024 – 3130191315 |
| Spectrometer Manufacturer and Model | Ibsen Photonics, Denmark – Freedom VIS (Custom Viso) |

## Measurement Conditions

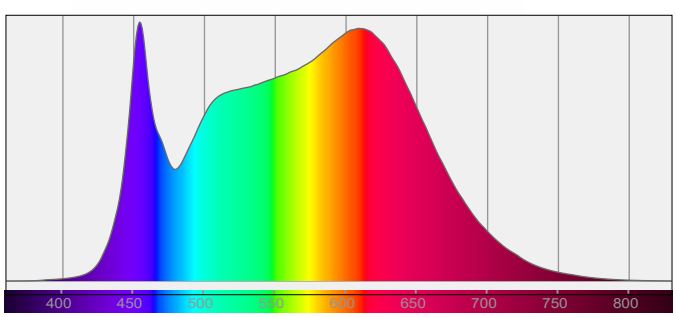
| | |
|---|---|
| Number of C-planes and Resolution | 72 planes – 5° |
| γ (gamma)-Resolution | 5° |
| Test Distance | 1,99 m |
| Input Power, Power and Displ. Factors | 37,7 W – PF 0,96 – DPF 0,97 |
| Input RMS Voltage and Current | 230 V – 0,171 A |
| Frequency of Input Power | 50 Hz |
| Warm-up Time and Variation | Lamp stabilized in 15 min 2 sec – 2,0% |

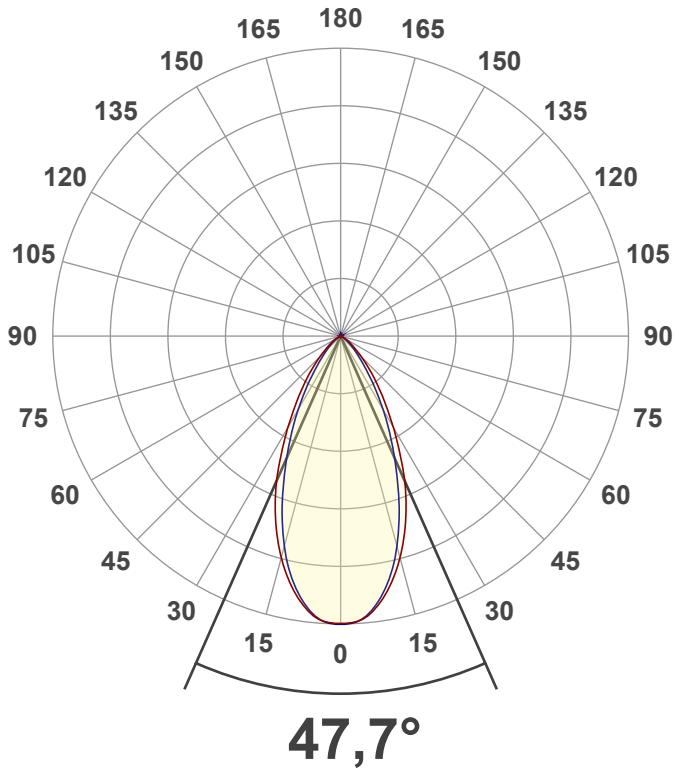
## Tested Light Source

| | |
|---|---|
| Product Name | RP-W40-4000K |
| Item No. and Manufacturer | RP-W40-4000K – Dutchfulfillment |
| Product Description (line 1) | 3-FASE RAILSPOT 40W WIT POWERGEAR |

## Main Light Measurement Results

| | |
|---|---|
| Output – Total Lumen (Up% / Down%) | 3532 lm – 0,05% / 99,95% |
| Efficiency | 94 lm/W |
| Peak Intensity and Beam Angle | 4745 cd – 47,7° |
| Correlated Color Temperature, Target/Measured | CCT = 4000 K / 4048 K |
| Color Rendering Index | CRI 93,1 |
| Color Rendering TM30-18 | $R_f$ 90,2 – $R_g$ 96,0 |
| Color Shift, CIE duv and MacAdam Steps | Duv 0,0028 – SDCM 2,3 |
| Flicker | SVM 0,01 – PstLM 0,03 |



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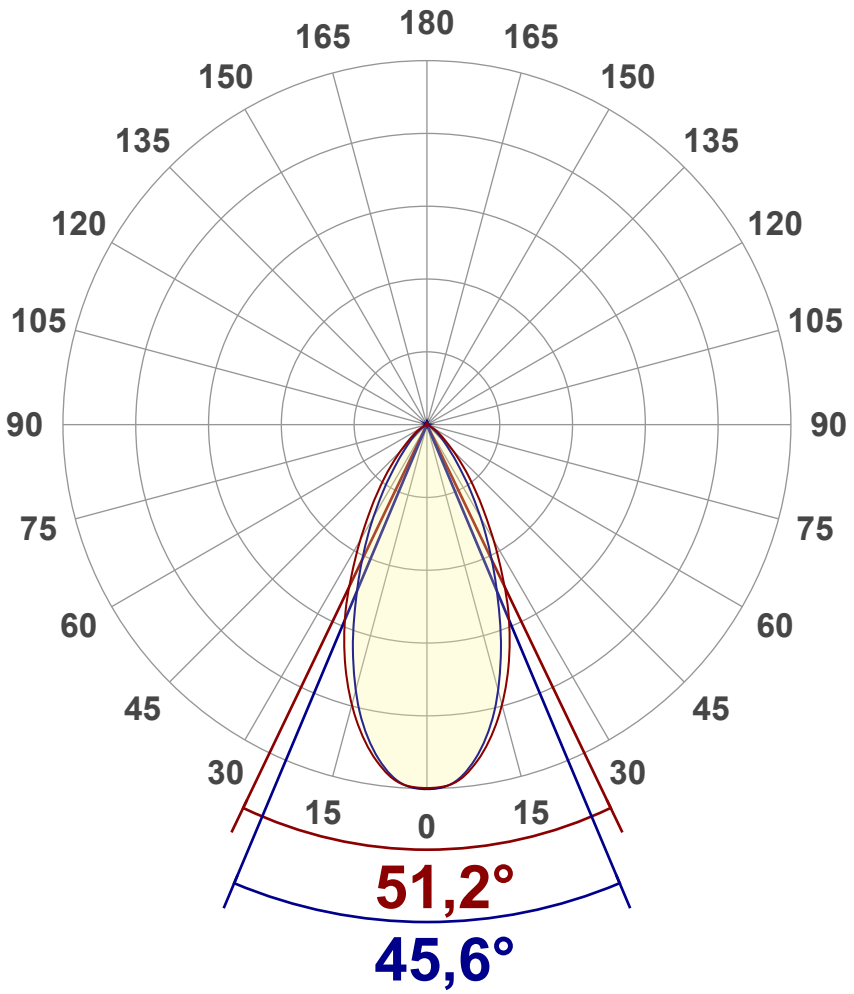
**Luminous Intensity diagram** Unit: 0-100% of peak intensity




## Main Values

| | |
|---|---|
| Output (total Lumen) | 3532 lm |
| Lumen Up% / Down% | 0,05% / 99,95% |
| Peak Intensity | 4745 cd |
| Beam Angle (50%) | 47,7° |
| Beam Angle (90%) | 45,6° |
| Beam Angle (10%) | 49,5° |

## Cut-off Angle

| | |
|---|---|
| Average 2,5% | 111,9° |

## Field Angle

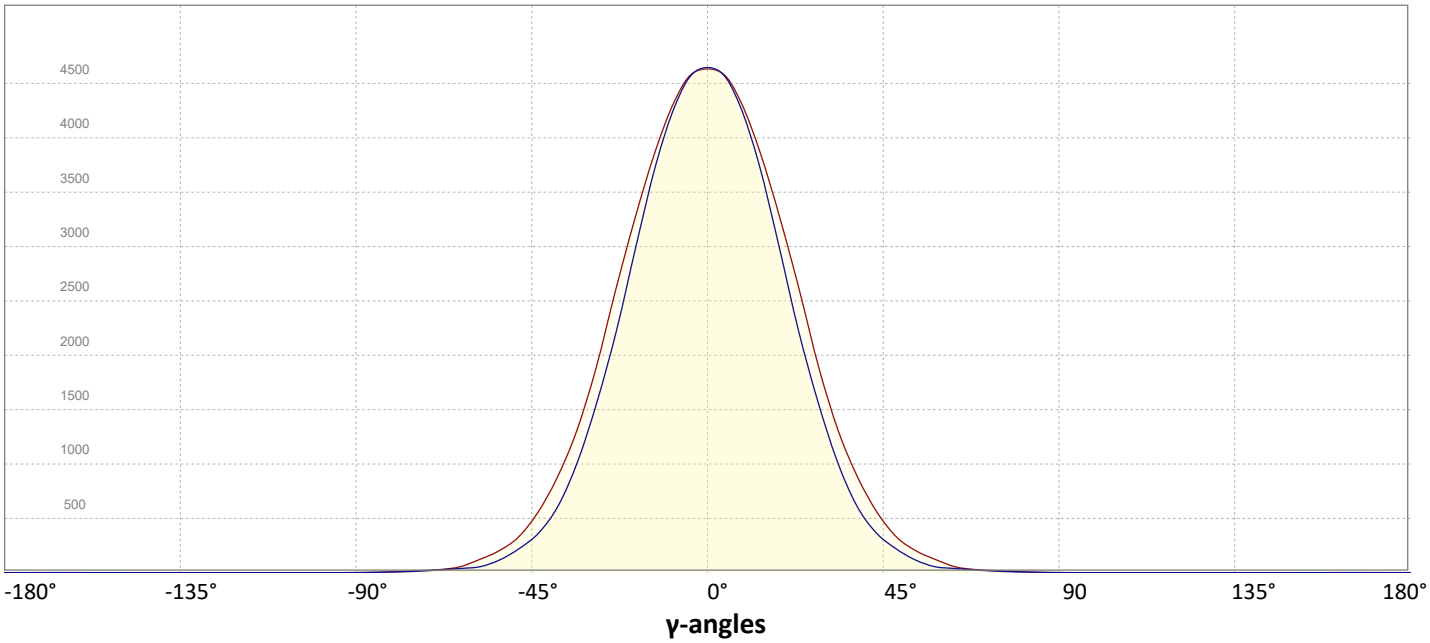
| | |
|---|---|
| Average 10% | 86,6° |

## Intensity Ratio

| | |
|---|---|
| In 120° cone | 98,2% |
| In 90° cone | 91,4% |

**C000-C180**
**C090-C270**

**Linear distribution diagram** - Intensity (candela) vs γ-angle



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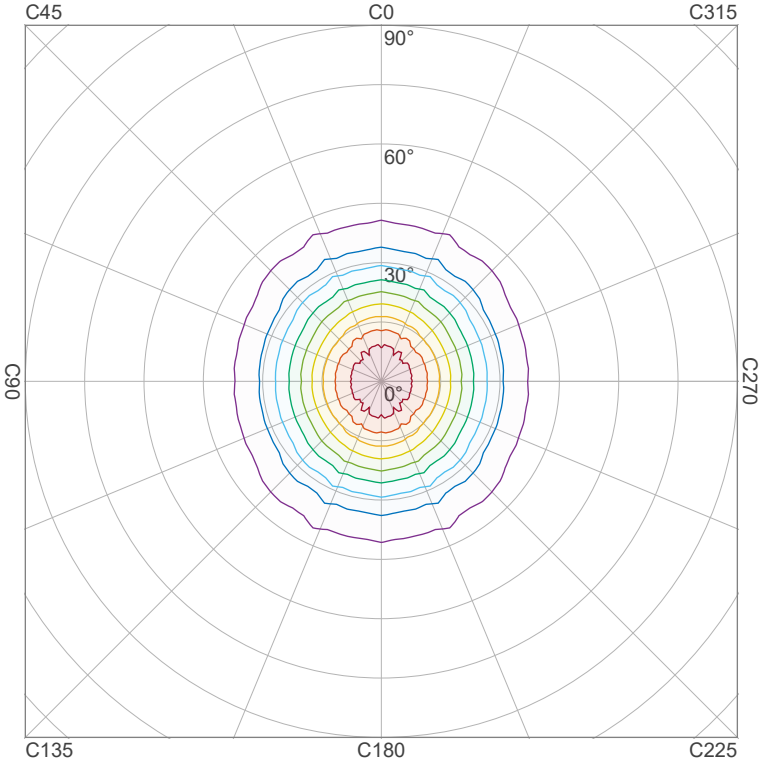
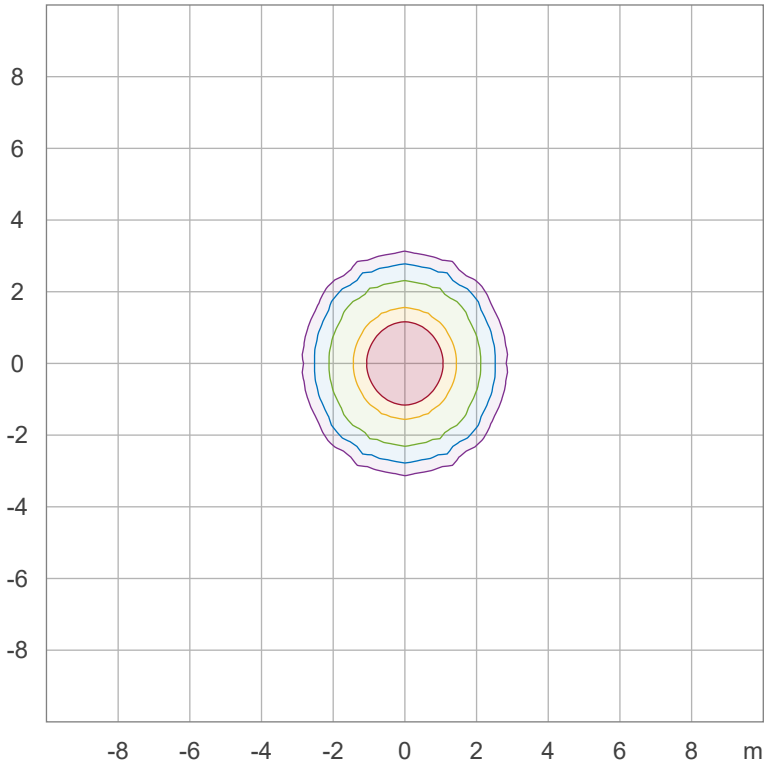
## Iso-intensity Diagram (Iso-candela)




| | | |
|---|---|---|
| 90 % | 4250,1 cd |
| 80 % | 3777,9 cd |
| 70 % | 3305,6 cd |
| 60 % | 2833,4 cd |
| 50 % | 2361,2 cd |
| 40 % | 1888,9 cd |
| 30 % | 1416,7 cd |
| 20 % | 944,5 cd |
| 10 % | 472,2 cd |

Peak intensity: 4722,3 cd
Number of c-planes: 72

## Iso-illuminance Diagram (Iso-lux)




| | |
|---|---|
| 50,0 % | 262,2 lx |
| 30,0 % | 157,3 lx |
| 10,0 % | 52,4 lx |
| 5,0 % | 26,2 lx |
| 3,0 % | 15,7 lx |

Peak illuminance: 524,5 lx
Mounting height: 3,0 m
Number of c-planes: 72

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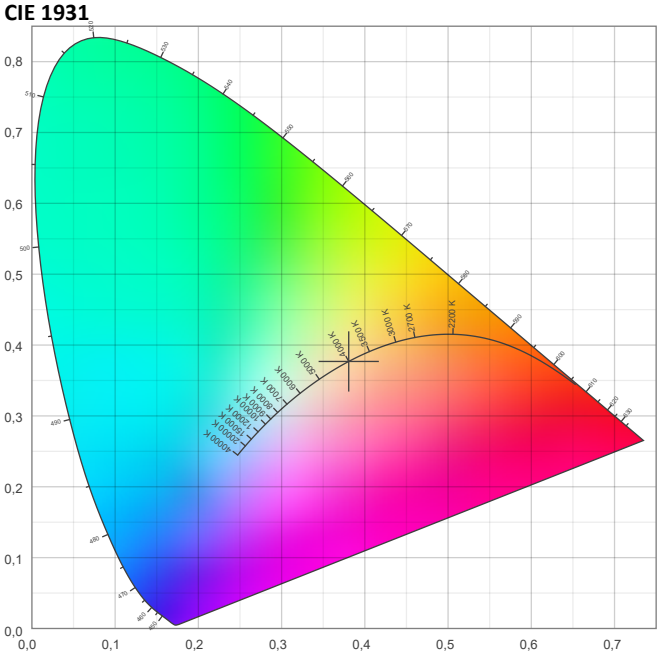
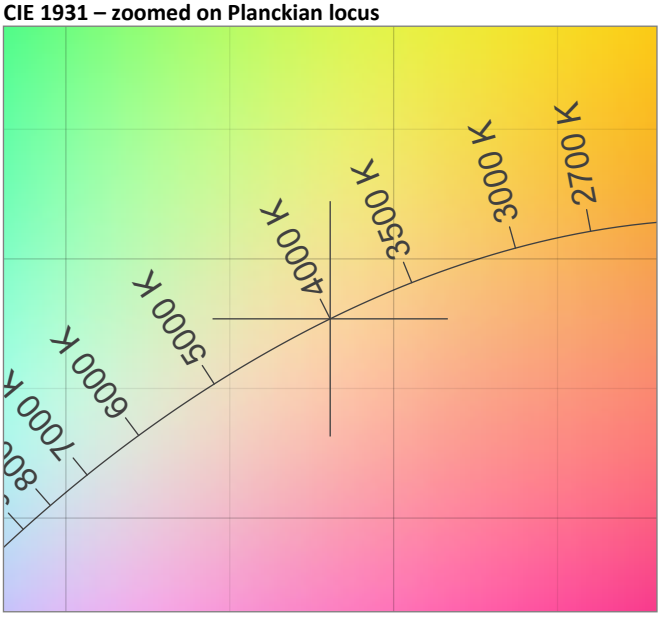
## Color details

| | |
|---|---|
| Correlated Color Temperature, Target | CCT = 4000 K |
| Correlated Color Temperature, Measured | CCT = 4048 K |
| Color Rendering Index | CRI 93,1 |
| Color Rendering Index, R9 (red component) | R9 = 55,8 |
| Color Rendering TM30-18 | $R_f$ 90,2 – $R_g$ 96,0 |
| Color Quality Scale | CQS = 92,4 |
| MacAdam Steps | SDCM = 2,3 |
| Color coordinates CIE 1931 | (x;y) = (0,381;0,377) |
| Color coordinate CIEs 1960 | (u;v) = (0,225;0,334) |
| Color deviation from BBL | Duv = 0,0028 |
| Color coordinate CIEs 1976 (CIELUV) | (u';v') = (0,225;0,502) |

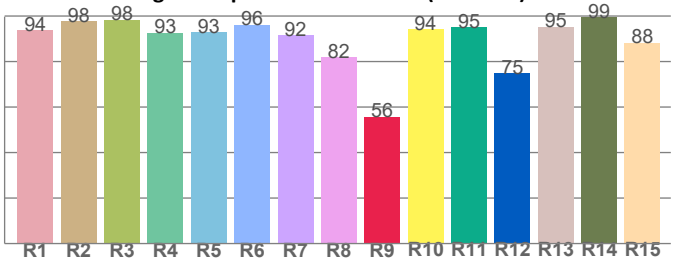
**CIE 1931**



**CIE 1931 – zoomed on Planckian locus**



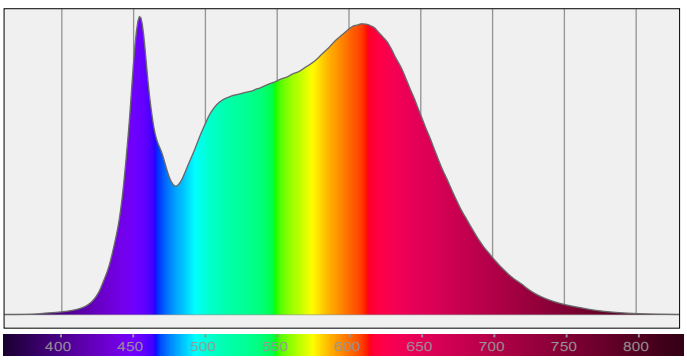

**Color Rendering Index per reference color (CIE 1995)**



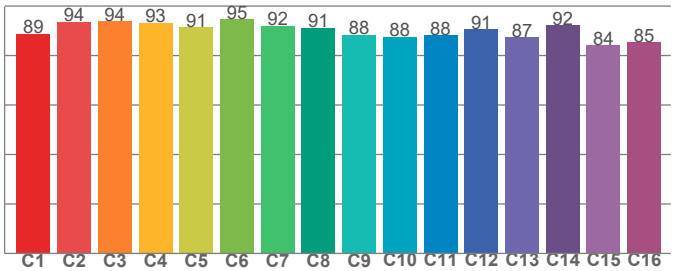

CRI R values, only R1-R8 are used to calculate final CRI value

| R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 | R11 | R12 | R13 | R14 | R15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 93,8 | 97,7 | 98,4 | 92,6 | 93,0 | 96,1 | 91,7 | 81,8 | 55,8 | 94,1 | 95,1 | 75,0 | 95,3 | 99,5 | 88,2 |

**Spectral power distribution (SPD) / W/nm – 0-100%**



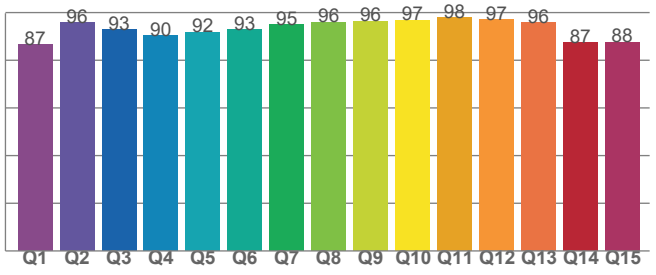

**TM30-18 Rf-values per hue bin**




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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 88,8 | 93,7 | 93,8 | 93,2 | 91,5 | 94,7 | 92,0 | 91,2 | 88,4 | 87,6 | 88,2 | 90,5 | 87,3 | 92,4 | 84,3 | 85,2 |

**Color Quality Scale by reference color**




CQS Q values

| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 86,6 | 95,8 | 92,7 | 90,2 | 91,8 | 92,8 | 94,9 | 95,9 | 96,5 | 96,7 | 97,8 | 97,0 | 95,7 | 87,4 | 87,6 |

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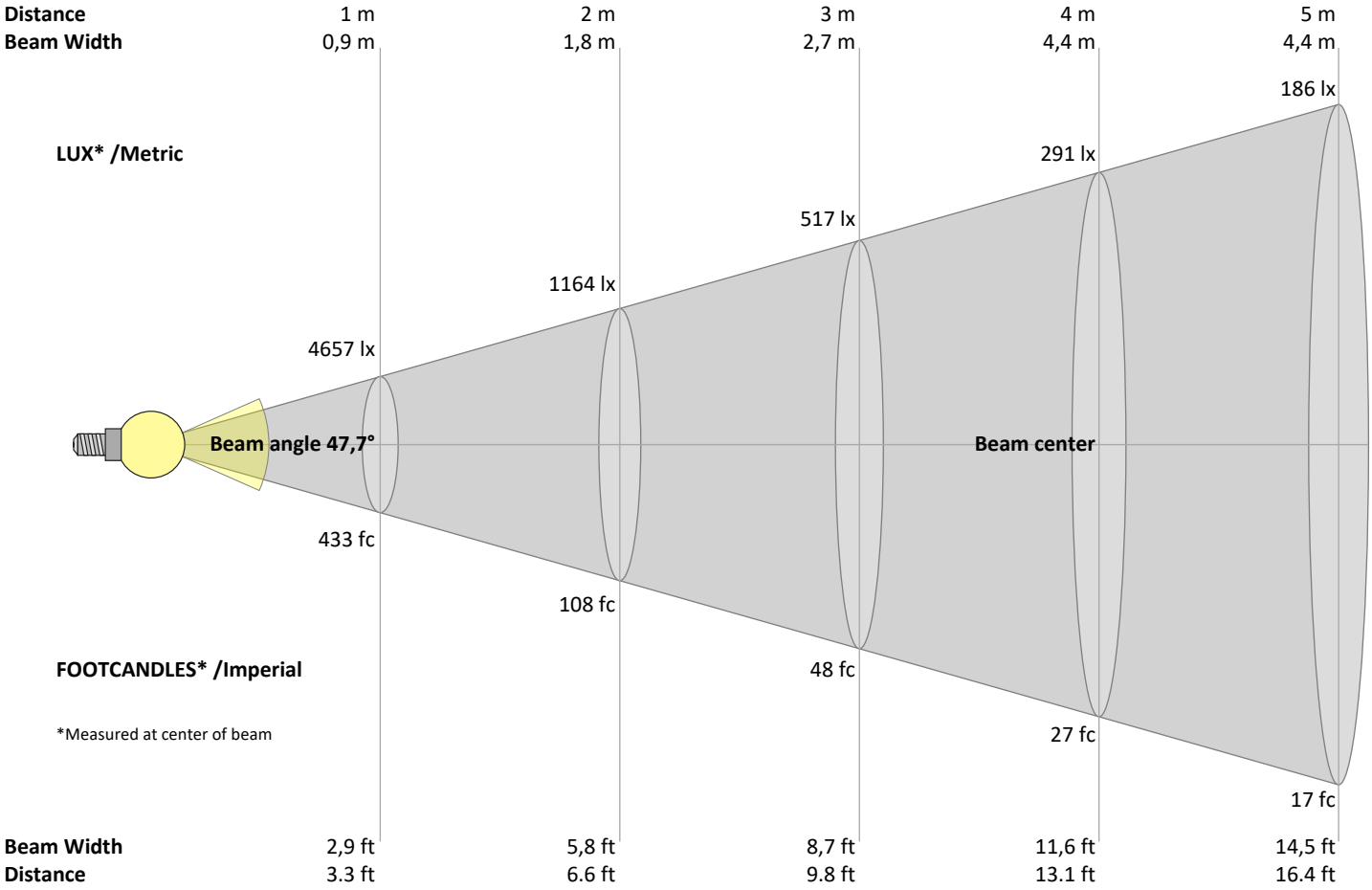
## Beam Details




**Beam intensities from 1 – 20 m**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3,3 | 6,6 | 9,8 | 13,1 | 16,4 | 19,7 | 23 | 26,2 | 29,5 | 32,8 | 36,1 | 39,4 | 42,7 | 45,9 | 49,2 | 52,5 | 55,8 | 59,1 | 62,3 | 65,6 | ft |
| 4657 | 1164 | 517 | 291 | 186 | 129 | 95 | 73 | 57 | 47 | 38 | 32 | 28 | 24 | 21 | 18 | 16 | 14 | 13 | 12 | lux |
| 432,7 | 108,2 | 48,1 | 27 | 17,3 | 12 | 8,8 | 6,8 | 5,3 | 4,3 | 3,6 | 3 | 2,6 | 2,2 | 1,9 | 1,7 | 1,5 | 1,3 | 1,2 | 1,1 | fc |

**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° | γ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4657 | 4599 | 4574 | 4466 | 4358 | 4191 | 4003 | 3803 | 3565 | 3327 | 3068 | 2801 | 2530 | 2244 | 1958 | 1711 | 1479 | 1260 | 1089 | 918 | cd |
| 100% | 99% | 98% | 96% | 94% | 90% | 86% | 82% | 77% | 71% | 66% | 60% | 54% | 48% | 42% | 37% | 32% | 27% | 23% | 20% | of 0°val |

**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° | γ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4657 | 4608 | 4560 | 4438 | 4316 | 4107 | 3887 | 3638 | 3343 | 3048 | 2739 | 2428 | 2135 | 1872 | 1609 | 1382 | 1161 | 961 | 798 | 634 | cd |
| 100% | 99% | 98% | 95% | 93% | 88% | 83% | 78% | 72% | 65% | 59% | 52% | 46% | 40% | 35% | 30% | 25% | 21% | 17% | 14% | of 0°val |

**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° | γ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4657 | 4599 | 4574 | 4466 | 4358 | 4191 | 4003 | 3803 | 3565 | 3327 | 3068 | 2801 | 2530 | 2244 | 1958 | 1711 | 1479 | 1260 | 1089 | 918 | cd |
| 100% | 99% | 98% | 96% | 94% | 90% | 86% | 82% | 77% | 71% | 66% | 60% | 54% | 48% | 42% | 37% | 32% | 27% | 23% | 20% | of 0°val |

**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° | γ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4657 | 4608 | 4560 | 4438 | 4316 | 4107 | 3887 | 3638 | 3343 | 3048 | 2739 | 2428 | 2135 | 1872 | 1609 | 1382 | 1161 | 961 | 798 | 634 | cd |
| 100% | 99% | 98% | 95% | 93% | 88% | 83% | 78% | 72% | 65% | 59% | 52% | 46% | 40% | 35% | 30% | 25% | 21% | 17% | 14% | of 0°val |

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## Light Planning – UGR table

*Uncorrected, comprehensive UGR table according to 117-1995*

| **Reflectances** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ρ Ceiling | | 70 | 70 | 50 | 50 | 30 | 70 | 70 | 50 | 50 | 30 |
| ρ Walls | | 50 | 30 | 50 | 30 | 30 | 50 | 30 | 50 | 30 | 30 |
| ρ Floor | | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| **Room size** H = mounting height above eye level | | **Viewed Crosswise** (Viewing direction orthogonal to lamp length axis) | | | | | **Viewed Endwise** (Viewing direction parallel to lamp length axis) | | | | |
| **X** | **Y** | | | | | | | | | | |
| 2H | 2H | 26,1 | 26,8 | 26,2 | 27,0 | 27,2 | 24,5 | 25,2 | 24,6 | 25,4 | 25,6 |
| | 3H | 25,9 | 26,7 | 26,3 | 26,9 | 27,1 | 24,3 | 25,1 | 24,7 | 25,4 | 25,5 |
| | 4H | 25,8 | 26,6 | 26,2 | 26,8 | 27,1 | 24,3 | 25,1 | 24,7 | 25,3 | 25,5 |
| | 6H | 25,9 | 26,5 | 26,2 | 26,8 | 27,2 | 24,3 | 25,0 | 24,6 | 25,3 | 25,6 |
| | 8H | 25,8 | 26,4 | 26,1 | 26,8 | 27,2 | 24,3 | 24,9 | 24,6 | 25,2 | 25,6 |
| | 12H | 25,8 | 26,4 | 26,1 | 26,7 | 27,2 | 24,2 | 24,8 | 24,6 | 25,2 | 25,6 |
| 4H | 2H | 25,8 | 26,6 | 26,2 | 26,8 | 27,0 | 24,3 | 25,1 | 24,7 | 25,3 | 25,6 |
| | 3H | 25,8 | 26,4 | 26,2 | 26,8 | 27,2 | 24,4 | 25,0 | 24,7 | 25,3 | 25,7 |
| | 4H | 25,7 | 26,3 | 26,2 | 26,7 | 27,2 | 24,3 | 24,8 | 24,7 | 25,3 | 25,8 |
| | 6H | 25,7 | 26,3 | 26,2 | 26,6 | 27,0 | 24,2 | 24,8 | 24,7 | 25,2 | 25,5 |
| | 8H | 25,7 | 26,2 | 26,2 | 26,5 | 26,9 | 24,2 | 24,7 | 24,7 | 25,1 | 25,4 |
| | 12H | 25,6 | 26,0 | 26,1 | 26,4 | 26,9 | 24,2 | 24,6 | 24,7 | 25,0 | 25,4 |
| 8H | 4H | 25,6 | 26,2 | 26,1 | 26,5 | 26,9 | 24,2 | 24,7 | 24,7 | 25,1 | 25,4 |
| | 6H | 25,6 | 26,0 | 26,1 | 26,4 | 27,0 | 24,2 | 24,5 | 24,7 | 25,0 | 25,5 |
| | 8H | 25,6 | 25,9 | 26,1 | 26,4 | 27,1 | 24,2 | 24,5 | 24,7 | 25,0 | 25,6 |
| | 12H | 25,6 | 25,8 | 26,2 | 26,3 | 26,9 | 24,2 | 24,4 | 24,7 | 24,9 | 25,5 |
| 12H | 4H | 25,6 | 26,0 | 26,1 | 26,4 | 26,9 | 24,1 | 24,5 | 24,6 | 25,0 | 25,4 |
| | 6H | 25,6 | 25,9 | 26,1 | 26,4 | 27,1 | 24,2 | 24,5 | 24,7 | 25,0 | 25,6 |
| | 8H | 25,6 | 25,8 | 26,2 | 26,3 | 26,9 | 24,1 | 24,4 | 24,7 | 24,9 | 25,5 |

| **Variations with the observer position for the luminaire spacings, S:** | | |
|---|---|---|
| S = 1.0H | 2,8 / -3,6 | 3,0 / -4,1 |
| S = 1.5H | 5,0 / -6,3 | 5,2 / -6,1 |
| S = 2.0H | 6,8 / -7,8 | 7,0 / -7,0 |

## 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 Lumen 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 | 113 | 110 | 108 | 105 | 111 | 108 | 106 | 104 | 104 | 102 | 101 | 100 | 99 | 97 | 97 | 96 | 95 | 93 |
| 2 | 107 | 102 | 98 | 94 | 105 | 101 | 97 | 93 | 97 | 94 | 91 | 94 | 92 | 89 | 91 | 89 | 88 | 86 |
| 3 | 102 | 95 | 90 | 86 | 100 | 94 | 89 | 85 | 91 | 87 | 84 | 88 | 85 | 82 | 86 | 83 | 81 | 79 |
| 4 | 96 | 89 | 83 | 78 | 95 | 87 | 82 | 78 | 85 | 81 | 77 | 83 | 79 | 76 | 81 | 78 | 75 | 74 |
| 5 | 91 | 83 | 77 | 72 | 90 | 82 | 76 | 72 | 80 | 75 | 71 | 78 | 74 | 71 | 77 | 73 | 70 | 69 |
| 6 | 87 | 78 | 71 | 67 | 85 | 77 | 71 | 67 | 75 | 70 | 66 | 74 | 69 | 66 | 72 | 69 | 65 | 64 |
| 7 | 82 | 73 | 67 | 62 | 81 | 72 | 66 | 62 | 71 | 66 | 62 | 70 | 65 | 62 | 69 | 64 | 61 | 60 |
| 8 | 78 | 69 | 63 | 58 | 77 | 68 | 62 | 58 | 67 | 62 | 58 | 66 | 61 | 58 | 65 | 61 | 58 | 56 |
| 9 | 75 | 65 | 59 | 55 | 74 | 64 | 59 | 55 | 63 | 58 | 55 | 63 | 58 | 54 | 62 | 57 | 54 | 53 |
| 10 | 71 | 61 | 56 | 52 | 70 | 61 | 55 | 52 | 60 | 55 | 51 | 59 | 55 | 51 | 59 | 54 | 51 | 50 |

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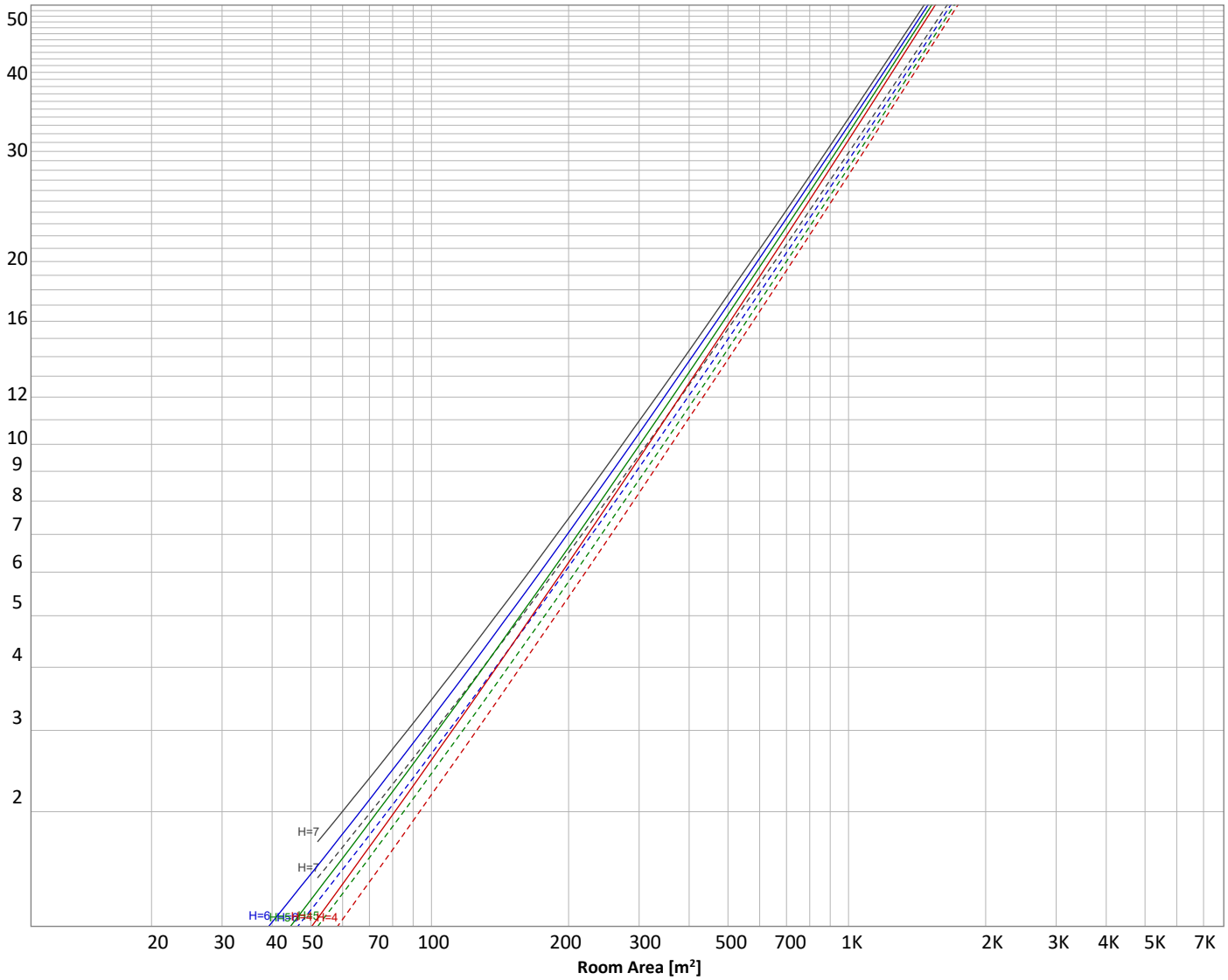
## Luminaire budgetary diagram

*Uncorrected, comprehensive UGR table according to 117-1995*

**LAMPS (number of lamps)**




**Conditions**

| | | | | | |
|---|---|---|---|---|---|
| H = Room height | Flux = 3532 lm | | ρ(%) | | |
| $H_{down}$ = Lamp distance from ceiling = | 0.00 m | Line type | Ceiling reflectance | Wall reflectance | Floor reflectance |
| $H_{work}$ = Work area height from floor = | 0.00 m | ---------- | 70 | 50 | 30 |
| $E_{work}$ = Average lux on work area = | 100 lx | ———— | 50 | 30 | 20 |

## Zonal Lumen Summary

| 0°-10° | 10°-20° | 20°-30° | 30°-40° | 40°-50° | 50°-60° | 60°-70° | 70°-80° | 80°-90° |
|---|---|---|---|---|---|---|---|---|
| 422 lm | 991 lm | 988 lm | 638 lm | 309 lm | 120 lm | 40,5 lm | 16,5 lm | 4,68 lm |

| 90°-100° | 100°-110° | 110°-120° | 120°-130° | 130°-140° | 140°-150° | 150°-160° | 160°-170° | 170°-180° |
|---|---|---|---|---|---|---|---|---|
| 0,417 lm | 0,014 lm | 0,020 lm | 0,049 lm | 0,147 lm | 0,322 lm | 0,444 lm | 0,344 lm | 0,111 lm |

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## Outdoor Light Planning

### Lumen per Zone

| Zone (γ) | Lumen | % Total |
|---|---|---|
| 0-10° | 422 lm | 12,0% |
| 10-20° | 991 lm | 28,1% |
| 20-30° | 988 lm | 28,0% |
| 30-40° | 638 lm | 18,1% |
| 40-50° | 309 lm | 8,7% |
| 50-60° | 120 lm | 3,4% |
| 60-70° | 40 lm | 1,1% |
| 70-80° | 16 lm | 0,5% |
| 80-90° | 5 lm | 0,1% |
| 90-100° | 0 lm | 0,0% |
| 100-110° | 0 lm | 0,0% |
| 110-120° | 0 lm | 0,0% |
| 120-130° | 0 lm | 0,0% |
| 130-140° | 0 lm | 0,0% |
| 140-150° | 0 lm | 0,0% |
| 150-160° | 0 lm | 0,0% |
| 160-170° | 0 lm | 0,0% |
| 170-180° | 0 lm | 0,0% |
| Total | 3532 lm | 100,0% |

### Zonal Lumen summary

| Zone (γ) | Lumen | % Total |
|---|---|---|
| 0-30° | 2402 lm | 68,0% |
| 0-40° | 3040 lm | 86,1% |
| 0-60° | 3468 lm | 98,2% |
| 60-90° | 62 lm | 1,7% |
| 70-100° | 22 lm | 0,6% |
| 90-120° | 0 lm | 0,0% |
| 0-90° | 3530 lm | 99,9% |
| 90-180° | 2 lm | 0,1% |
| 0-180° | 3532 lm | 100,0% |

### Intensity peaks

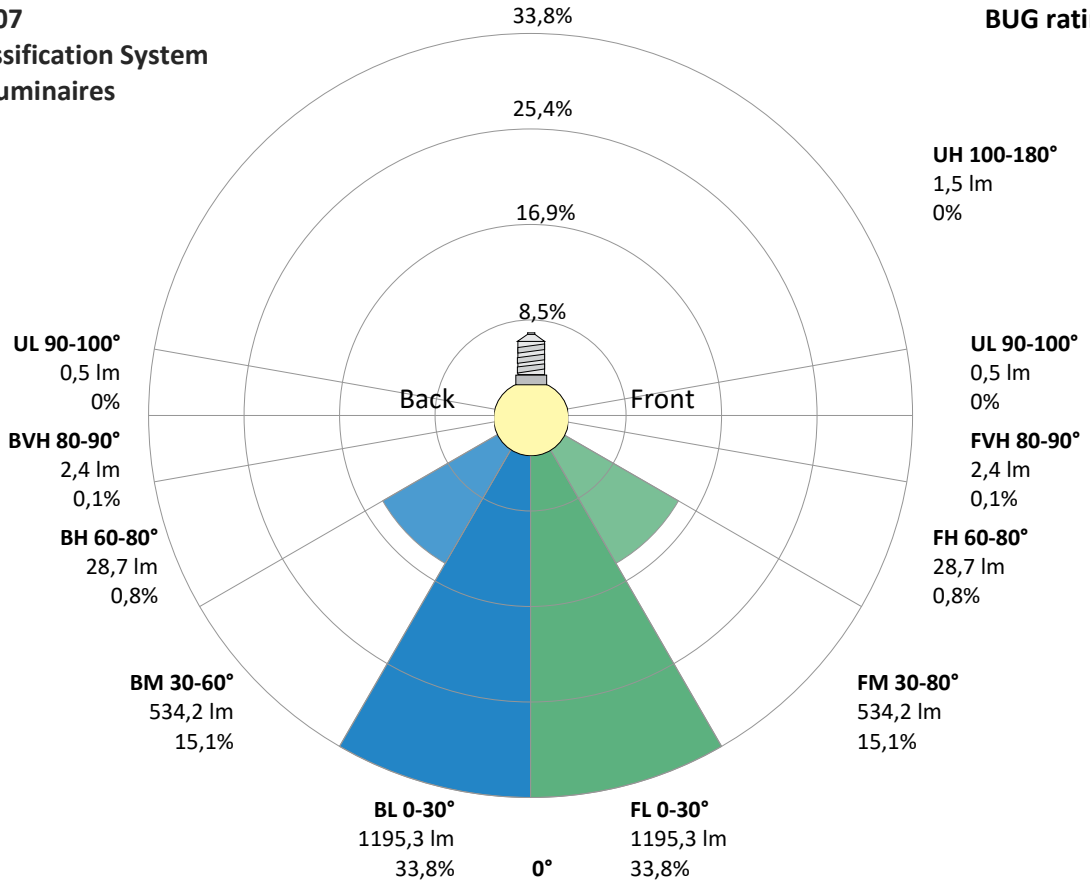
| | |
|---|---|
| Max intensity | 4745 cd |
| Intensity, 90° | 3 cd |
| Intensity, 0° | 4657 cd |

### BUG rating

| | Lumen | % Total |
|---|---|---|
| **Forward light** | | |
| Low(0-30°) | 1195 lm | 33,8% |
| Medium(30-60°) | 534 lm | 15,1% |
| High(60-80°) | 29 lm | 0,8% |
| Very high(80-90°) | 2 lm | 0,1% |
| **Back light** | | |
| Low(0-30°) | 1195 lm | 33,8% |
| Medium(30-60°) | 534 lm | 15,1% |
| High(60-80°) | 29 lm | 0,8% |
| Very high(80-90°) | 2 lm | 0,1% |
| **Uplight** | | |
| Low(90-100°) | 0 lm | 0,0% |
| High(100-180°) | 1 lm | 0,0% |

## IESNA TM-15-07
## Luminaire Classification System
## For Outdoor Luminaires

**BUG rating B3 U1 G0**



# Light Measurement Report

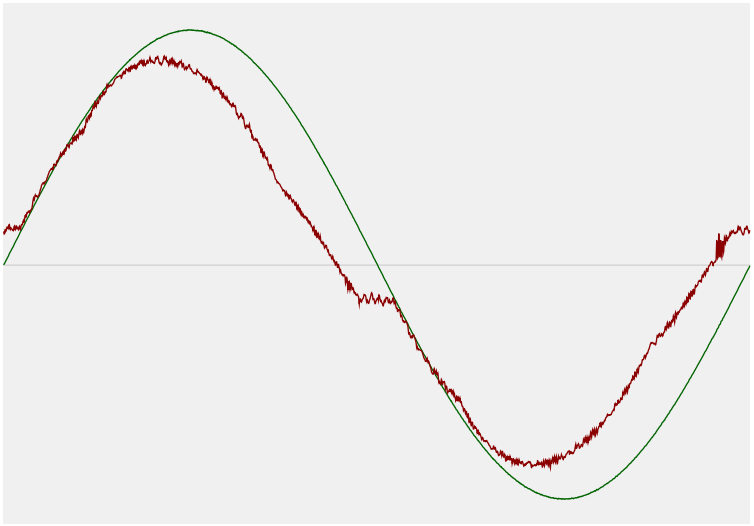
Print date: 19-5-2025
Measurement date and time: 19-5-2025 13:02:56 – Measurement no. VFR-250519-1316-MS
Measurement tracking No. and Link: VT250519-003392
Operator:

## Power Details

### Input Power

| | |
|---|---|
| Power feed to light source | 37,7 W |
| Frequency of input power | 50 Hz |
| RMS Input voltage feed, $V_{RMS}$ | 230 V |
| RMS Input current feed, $I_{RMS}$ | 0,171 A |
| Volt-Ampere or apparent power = $V_{RMS}$*$I_{RMS}$ | 39,26 VA |
| Displacement factor of AC power feed | 0,97 |
| Power factor of AC current feed | 0,96 |
| Total harmonic distortion of the current | 11,81% |
| Total harmonic distortion of the voltage | 0,07% |

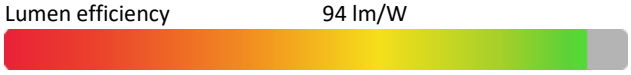
### Input Power Curve



### Efficiency

Radiated power efficiency 30,3%

Lumen efficiency 94 lm/W



## Stabilization Details

### Warmup Conditions

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

### Color Temperature Change

| | |
|---|---|
| CCT start | 3998 K |
| CCT shift | +2 K |
| CCT end | 4000 K |

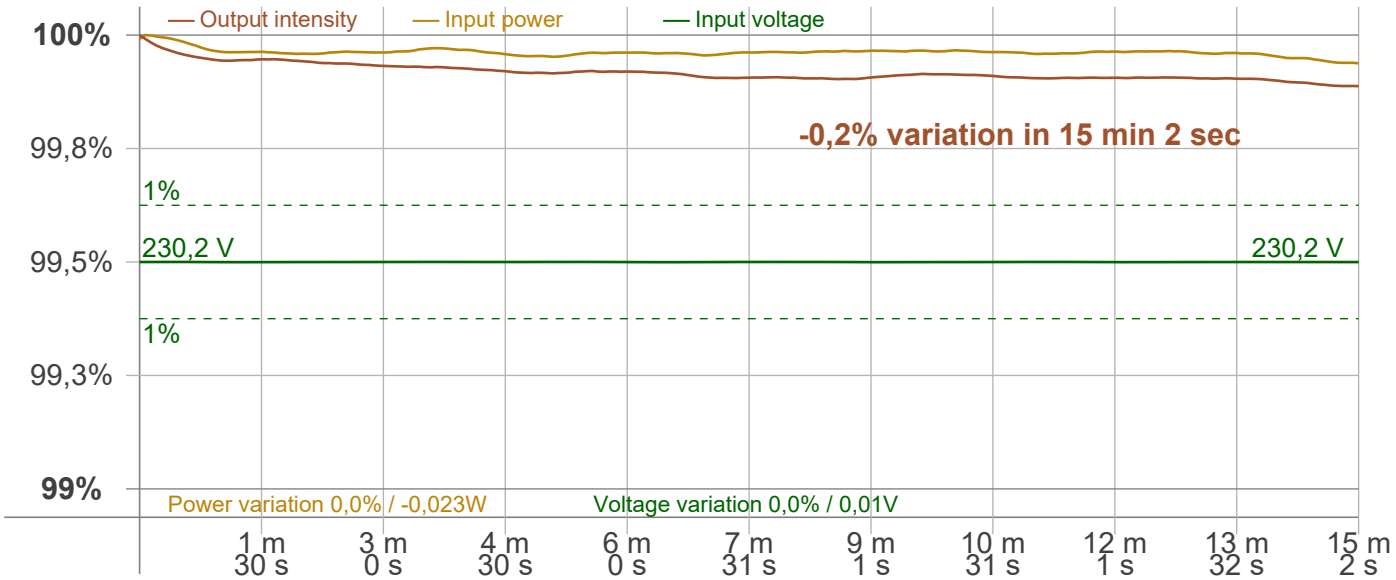
### Warmup Result

| | |
|---|---|
| Total warmup time | Lamp stabilized in 15 min 2 sec |
| Warmup variation | -0,2% |

### Output Change

| | |
|---|---|
| Output start | 3536 lm |
| Output change | -5 lm |
| Output end | 3532 lm |

### Stabilization Curve



# Light Measurement Report

Print date: 19-5-2025
Measurement date and time: 19-5-2025 13:02:56 – Measurement no. VFR-250519-1316-MS
Measurement tracking No. and Link: VT250519-003392
Operator:

## Flicker /TLA details

| | |
|---|---|
| Flicker Meter Type | Viso Systems LabFlicker |
| Frequency of input power | 50 Hz |
| Flicker/TLA sample rate | 40000 samples/s |

**Measurement time**

| | |
|---|---|
| PstLM | 180 sec |
| All other indices | 1,2 sec |

**Flicker indices according to Illuminating Engineering Society (IES)**

| | |
|---|---|
| Flicker frequency | 100,25 Hz |
| Percent Flicker | 0,34 % |
| Flicker index | 0 |

**Flicker indices according to California Energy Commission (CEC) 2016b**

| | |
|---|---|
| JA8/10 40 Hz | n/a % |
| JA8/10 90 Hz | n/a % |
| JA8/10 200 Hz | n/a % |
| JA8/10 400 Hz | n/a % |
| JA8/10 1000 Hz | n/a % |

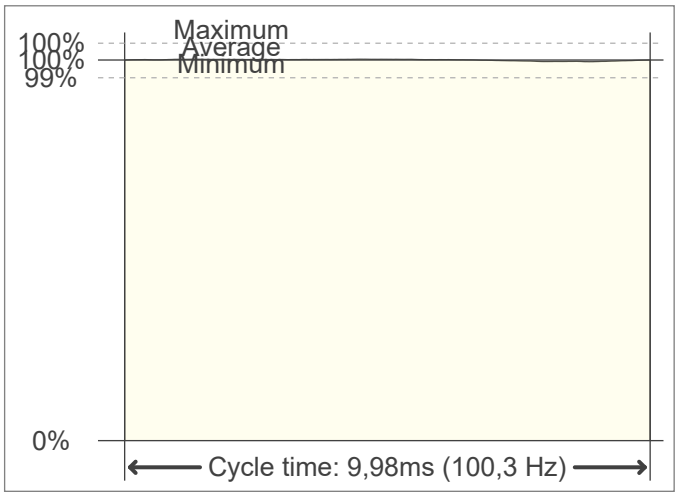
**TLA indices (re IEC TR 61547-1, IEC 61000-3-3 and IEC 61000-4-15)**

| | |
|---|---|
| PstLM value (F < 80 Hz) | 0,03 |
| SVM value (80 < F < 2000 Hz) | 0,01 |

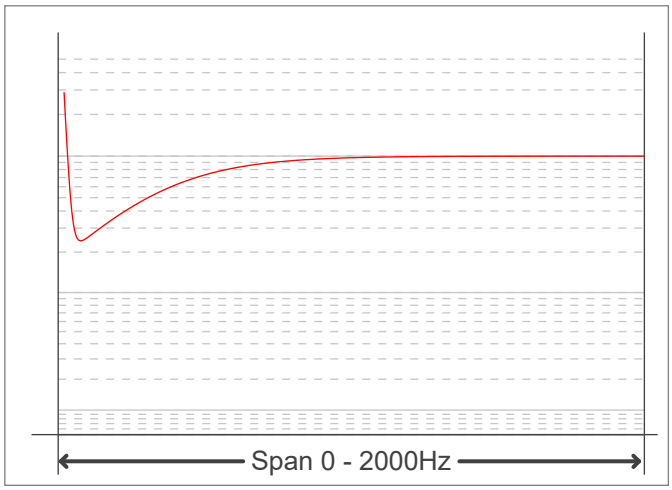
**Flicker indices according to Lighting Research Center (2015)**

| | |
|---|---|
| Perception metric, Assist Mp | n/a |

**Flicker frame (frame of one flicker period in time domain)**




**Flicker FFT (flicker curve in frequency domain)**




**IEEE 1789 Frequency/modulation plot**