# Light Measurement Report

Print date: 7-5-2025
Measurement date and time: 6-5-2025 15:56:39 – Measurement no. VFR-250506-1113-MS
Measurement tracking No. and Link: VT250506-003258
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

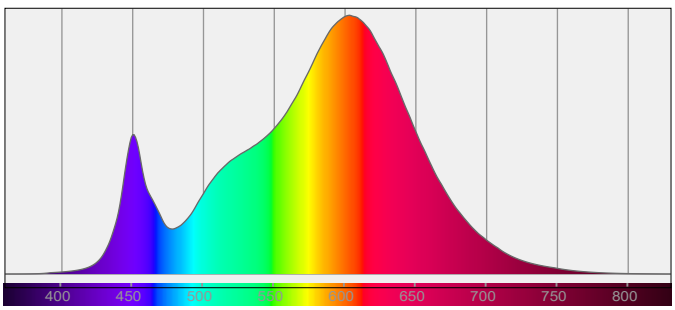
| | |
|---|---|
| Number of C-planes and Resolution | 16 planes – 22,5° |
| γ (gamma)-Resolution | 5° |
| Test Distance | 2,00 m |
| Input Power, Power and Displ. Factors | 9,4 W – PF 0,9 – DPF 0,97 |
| Input RMS Voltage and Current | 230 V – 0,045 A |
| Frequency of Input Power | 50 Hz |
| Warm-up Time and Variation | Lamp stabilized in 18 min 7 sec – 2,0% |

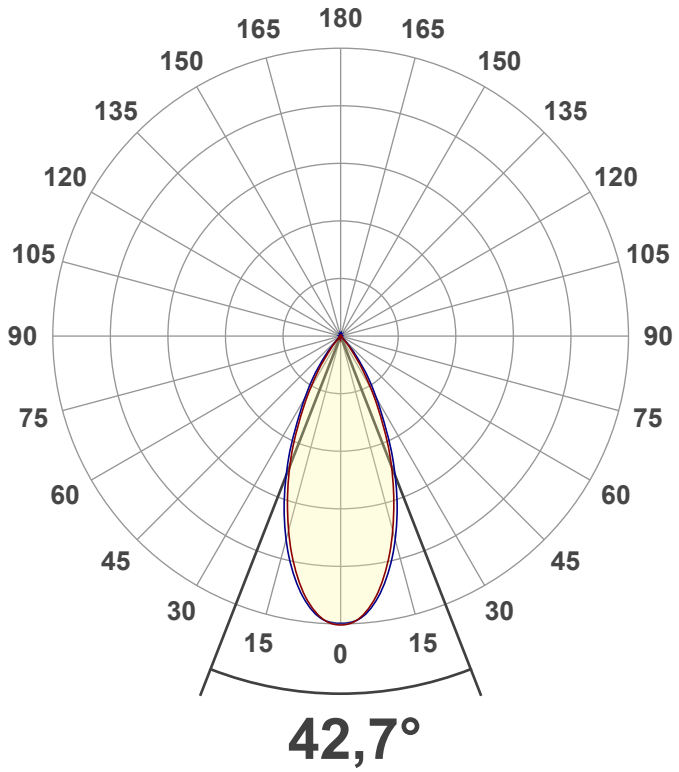
## Tested Light Source

| | |
|---|---|
| Product Name | 845642-3000K |
| Item No. and Manufacturer | 845642-3000K – Dutchfulfillment |
| Product Description (line 1) | 3-FASE RAILSPOT ELARA 10W WIT |

## Main Light Measurement Results

| | |
|---|---|
| Output – Total Lumen (Up% / Down%) | 851 lm – 0,03% / 99,97% |
| Efficiency | 91 lm/W |
| Peak Intensity and Beam Angle | 1576 cd – 42,7° |
| Correlated Color Temperature, Target/Measured | CCT = 3000 K / 2942 K |
| Color Rendering Index | CRI 82,4 |
| Color Rendering TM30-18 | $R_f$ 84,4 – $R_g$ 96,7 |
| Color Shift, CIE duv and MacAdam Steps | Duv -0,0022 – SDCM 2,7 |
| Flicker | SVM 0,04 – PstLM 0,04 |



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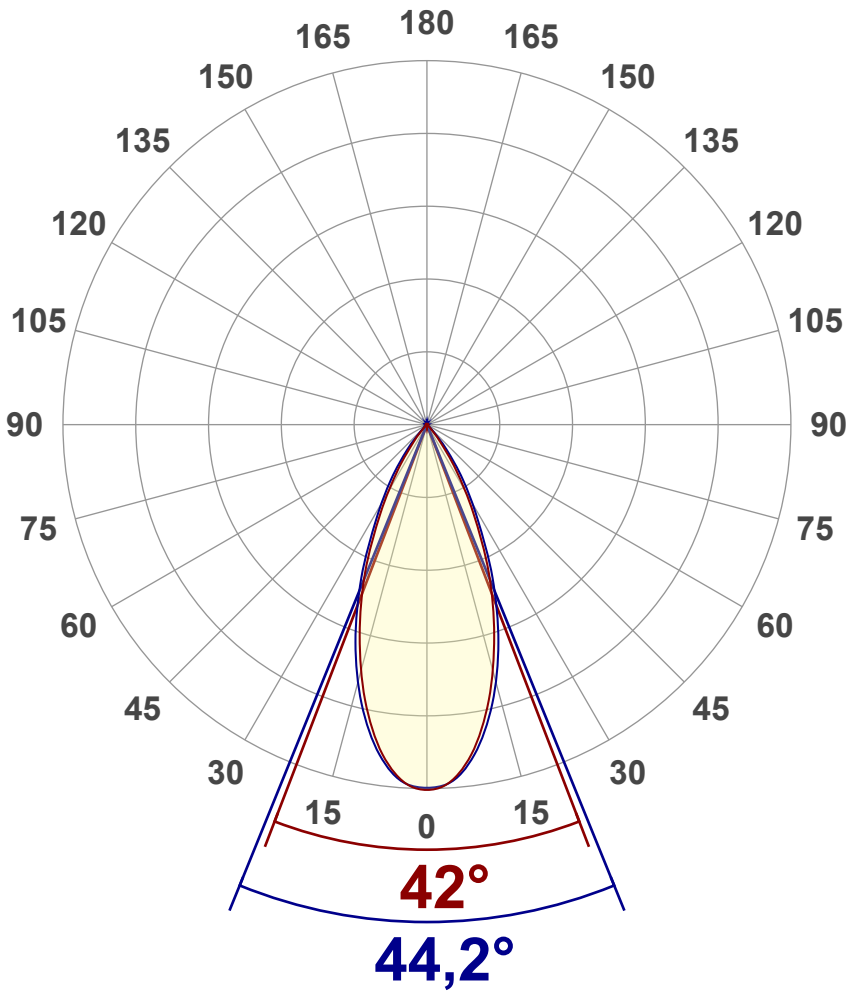
**Luminous Intensity diagram** Unit: 0-100% of peak intensity




## Main Values

| | |
|---|---|
| Output (total Lumen) | 851 lm |
| Lumen Up% / Down% | 0,03% / 99,97% |
| Peak Intensity | 1576 cd |
| Beam Angle (50%) | 42,7° |
| Beam Angle (90%) | 44,2° |
| Beam Angle (10%) | 42° |

## Cut-off Angle

| | |
|---|---|
| Average 2,5% | 84,5° |

## Field Angle

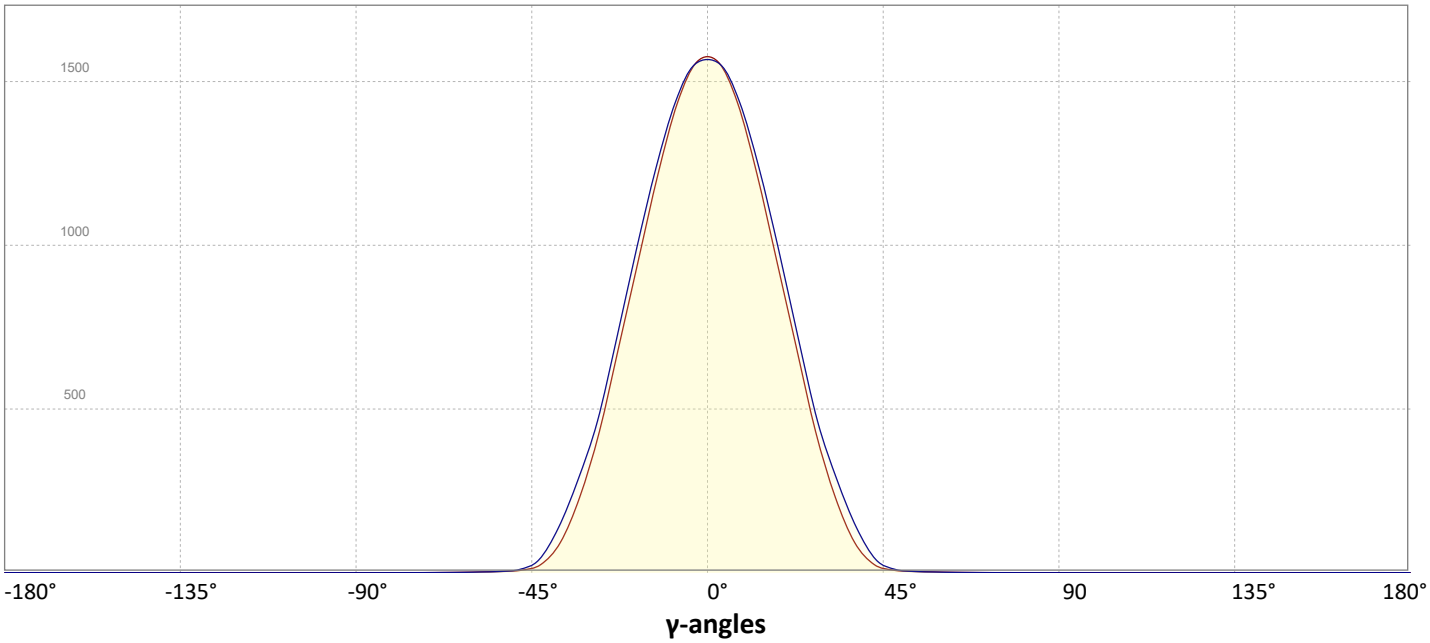
| | |
|---|---|
| Average 10% | 72° |

## Intensity Ratio

| | |
|---|---|
| In 120° cone | 99,8% |
| In 90° cone | 99,0% |

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

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



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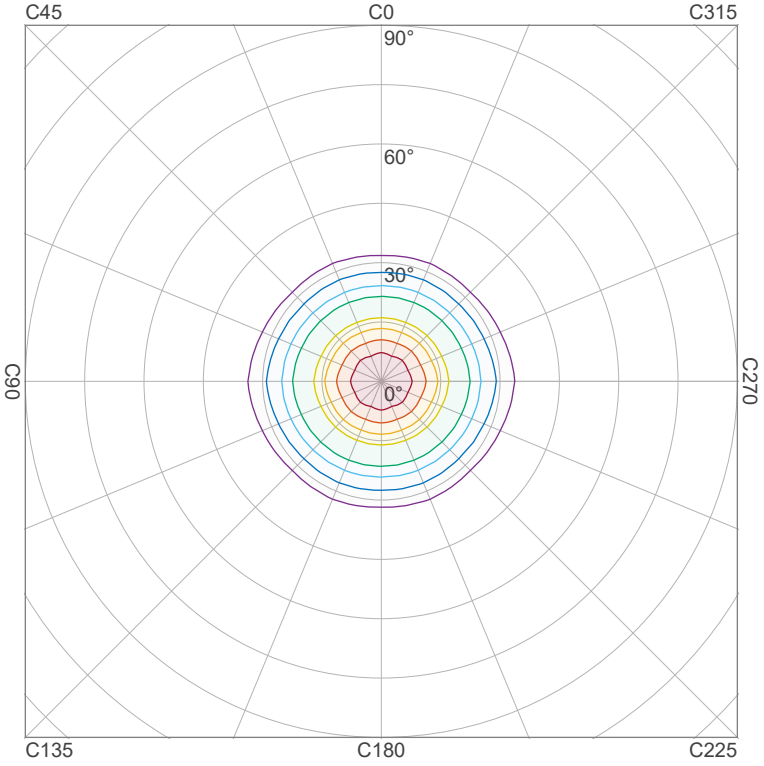
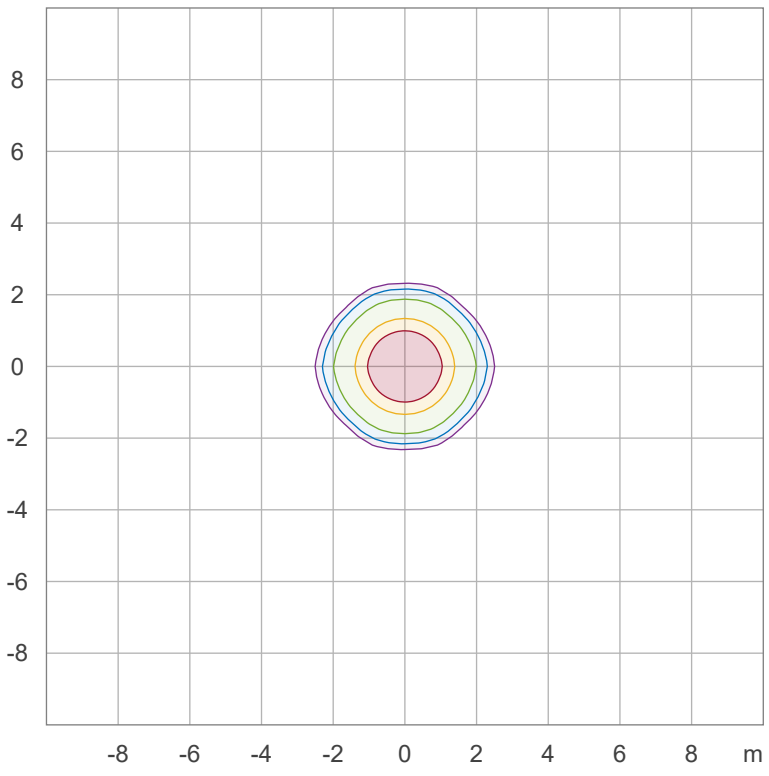
## Iso-intensity Diagram (Iso-candela)




| | | |
|---|---|---|
| 90 % | 1418,0 cd |
| 80 % | 1260,4 cd |
| 70 % | 1102,9 cd |
| 60 % | 945,3 cd |
| 50 % | 787,8 cd |
| 40 % | 630,2 cd |
| 30 % | 472,7 cd |
| 20 % | 315,1 cd |
| 10 % | 157,6 cd |

Peak intensity: 1575,5 cd
Number of c-planes: 16

## Iso-illuminance Diagram (Iso-lux)




| | | |
|---|---|---|
| 50,0 % | 87,5 lx |
| 30,0 % | 52,5 lx |
| 10,0 % | 17,5 lx |
| 5,0 % | 8,7 lx |
| 3,0 % | 5,2 lx |

Peak illuminance: 175,0 lx
Mounting height: 3,0 m
Number of c-planes: 16

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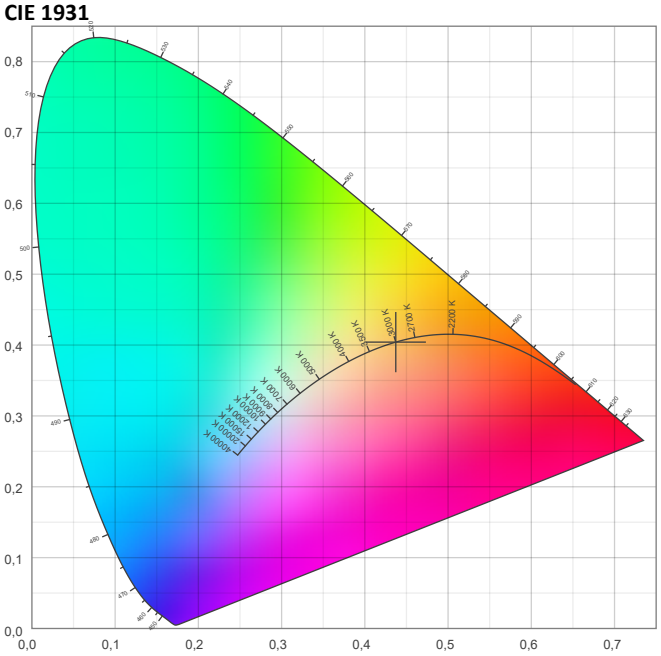
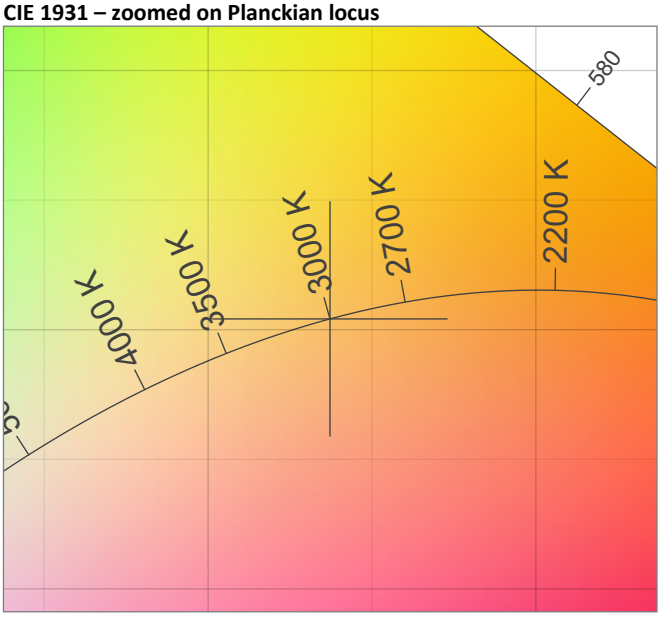
## Color details

| | |
|---|---|
| Correlated Color Temperature, Target | CCT = 3000 K |
| Correlated Color Temperature, Measured | CCT = 2942 K |
| Color Rendering Index | CRI 82,4 |
| Color Rendering Index, R9 (red component) | R9 = 3,7 |
| Color Rendering TM30-18 | $R_f$ 84,4 – $R_g$ 96,7 |
| Color Quality Scale | CQS = 81,3 |
| MacAdam Steps | SDCM = 2,7 |
| Color coordinates CIE 1931 | (x;y) = (0,437;0,404) |
| Color coordinate CIEs 1960 | (u;v) = (0,251;0,348) |
| Color deviation from BBL | Duv = -0,0022 |
| Color coordinate CIEs 1976 (CIELUV) | (u';v') = (0,251;0,521) |

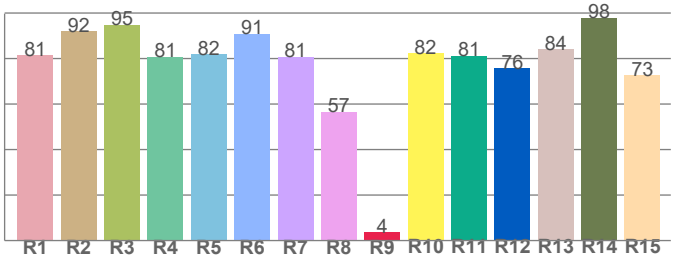
### CIE 1931



### CIE 1931 – zoomed on Planckian locus



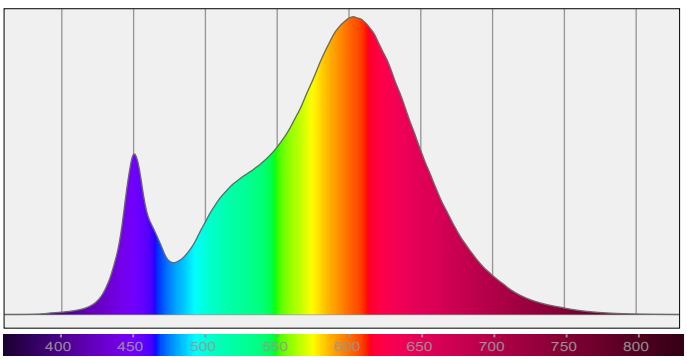

### Color Rendering Index per reference color (CIE 1995)



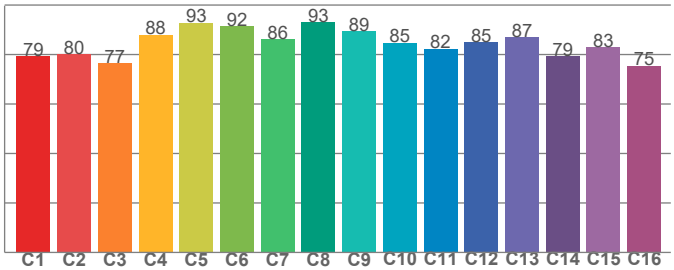

CRI R values, only R1-R8 are used to calculate final CRI value

| R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 | R11 | R12 | R13 | R14 | R15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81,3 | 92,0 | 94,9 | 80,8 | 82,0 | 90,9 | 80,7 | 56,6 | 3,7 | 82,2 | 81,2 | 75,8 | 84,1 | 97,9 | 72,7 |

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



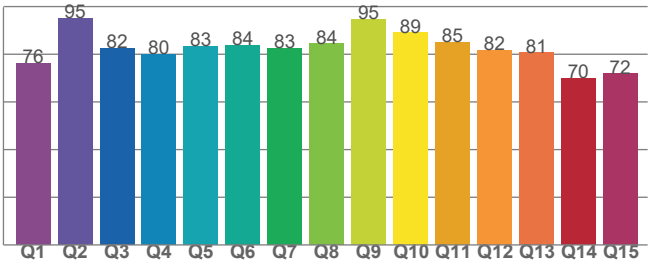

### TM30-18 Rf-values per hue bin




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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 79,3 | 80,1 | 76,5 | 88,0 | 92,8 | 91,5 | 86,2 | 93,1 | 89,4 | 84,8 | 82,4 | 84,9 | 87,0 | 79,3 | 82,9 | 75,4 |

### Color Quality Scale by reference color




CQS Q values

| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 76,1 | 95,0 | 82,5 | 80,1 | 83,3 | 83,7 | 82,6 | 84,4 | 94,6 | 89,0 | 85,1 | 81,6 | 80,6 | 69,9 | 71,8 |

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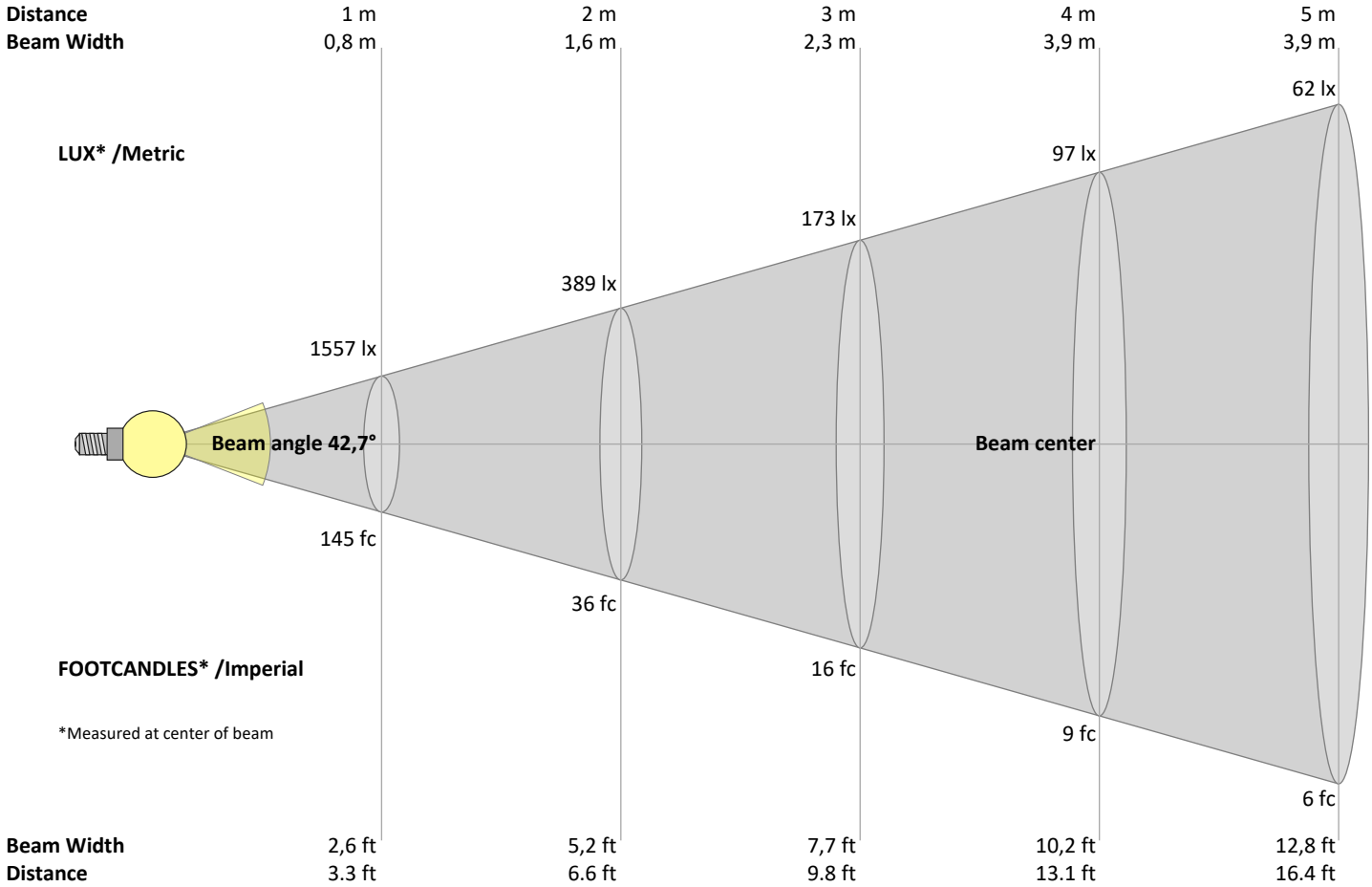
## Beam Details




**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 |
| 1557 | 389 | 173 | 97 | 62 | 43 | 32 | 24 | 19 | 16 | 13 | 11 | 9 | 8 | 7 | 6 | 5 | 5 | 4 | 4 | lux |
| 144,7 | 36,2 | 16,1 | 9 | 5,8 | 4 | 3 | 2,3 | 1,8 | 1,4 | 1,2 | 1 | 0,9 | 0,7 | 0,6 | 0,6 | 0,5 | 0,4 | 0,4 | 0,4 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1557 | 1560 | 1527 | 1477 | 1421 | 1334 | 1246 | 1148 | 1043 | 938 | 833 | 727 | 623 | 519 | 418 | 339 | 259 | 195 | 139 | 88 | cd |
| 100% | 100% | 98% | 95% | 91% | 86% | 80% | 74% | 67% | 60% | 53% | 47% | 40% | 33% | 27% | 22% | 17% | 13% | 9% | 6% | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1557 | 1553 | 1534 | 1488 | 1442 | 1365 | 1284 | 1196 | 1096 | 997 | 890 | 783 | 677 | 574 | 472 | 397 | 325 | 259 | 201 | 142 | cd |
| 100% | 100% | 99% | 96% | 93% | 88% | 82% | 77% | 70% | 64% | 57% | 50% | 43% | 37% | 30% | 26% | 21% | 17% | 13% | 9% | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1557 | 1560 | 1527 | 1477 | 1421 | 1334 | 1246 | 1148 | 1043 | 938 | 833 | 727 | 623 | 519 | 418 | 339 | 259 | 195 | 139 | 88 | cd |
| 100% | 100% | 98% | 95% | 91% | 86% | 80% | 74% | 67% | 60% | 53% | 47% | 40% | 33% | 27% | 22% | 17% | 13% | 9% | 6% | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1557 | 1553 | 1534 | 1488 | 1442 | 1365 | 1284 | 1196 | 1096 | 997 | 890 | 783 | 677 | 574 | 472 | 397 | 325 | 259 | 201 | 142 | cd |
| 100% | 100% | 99% | 96% | 93% | 88% | 82% | 77% | 70% | 64% | 57% | 50% | 43% | 37% | 30% | 26% | 21% | 17% | 13% | 9% | of 0°val |

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Operator:

## 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 | 16,6 | 17,1 | 16,6 | 17,3 | 17,5 | 17,4 | 18,0 | 17,5 | 18,2 | 18,4 |
| | 3H | 16,2 | 16,9 | 16,6 | 17,1 | 17,3 | 17,1 | 17,8 | 17,5 | 18,0 | 18,2 |
| | 4H | 16,2 | 16,8 | 16,6 | 17,1 | 17,3 | 17,0 | 17,7 | 17,4 | 17,9 | 18,2 |
| | 6H | 16,2 | 16,7 | 16,5 | 17,0 | 17,4 | 17,0 | 17,6 | 17,3 | 17,9 | 18,2 |
| | 8H | 16,1 | 16,7 | 16,4 | 17,0 | 17,4 | 17,0 | 17,5 | 17,3 | 17,8 | 18,2 |
| | 12H | 16,1 | 16,6 | 16,4 | 16,9 | 17,4 | 16,9 | 17,4 | 17,3 | 17,8 | 18,2 |
| 4H | 2H | 16,2 | 16,8 | 16,6 | 17,1 | 17,3 | 17,0 | 17,7 | 17,4 | 17,9 | 18,2 |
| | 3H | 16,1 | 16,6 | 16,4 | 16,9 | 17,4 | 16,9 | 17,4 | 17,3 | 17,8 | 18,2 |
| | 4H | 15,9 | 16,4 | 16,3 | 16,8 | 17,3 | 16,8 | 17,3 | 17,2 | 17,7 | 18,2 |
| | 6H | 15,8 | 16,4 | 16,3 | 16,7 | 17,0 | 16,7 | 17,2 | 17,2 | 17,6 | 17,9 |
| | 8H | 15,8 | 16,3 | 16,3 | 16,6 | 17,0 | 16,6 | 17,1 | 17,2 | 17,5 | 17,8 |
| | 12H | 15,7 | 16,1 | 16,2 | 16,5 | 17,0 | 16,6 | 17,0 | 17,1 | 17,4 | 17,8 |
| 8H | 4H | 15,8 | 16,3 | 16,3 | 16,6 | 17,0 | 16,6 | 17,1 | 17,2 | 17,5 | 17,8 |
| | 6H | 15,7 | 16,0 | 16,2 | 16,5 | 17,0 | 16,6 | 16,9 | 17,1 | 17,3 | 17,9 |
| | 8H | 15,7 | 16,0 | 16,2 | 16,5 | 17,1 | 16,6 | 16,8 | 17,1 | 17,3 | 18,0 |
| | 12H | 15,6 | 15,8 | 16,2 | 16,4 | 17,0 | 16,5 | 16,7 | 17,1 | 17,2 | 17,8 |
| 12H | 4H | 15,7 | 16,1 | 16,2 | 16,5 | 17,0 | 16,6 | 17,0 | 17,1 | 17,4 | 17,8 |
| | 6H | 15,7 | 16,0 | 16,2 | 16,5 | 17,1 | 16,6 | 16,8 | 17,1 | 17,3 | 18,0 |
| | 8H | 15,6 | 15,8 | 16,2 | 16,4 | 17,0 | 16,5 | 16,7 | 17,1 | 17,2 | 17,8 |

| **Variations with the observer position for the luminaire spacings, S:** | | |
|---|---|---|
| S = 1.0H | 5,8 / -16,2 | 5,8 / -17,5 |
| S = 1.5H | 8,5 / -18,3 | 8,5 / -20,1 |
| S = 2.0H | 10,5 / -20,1 | 10,5 / -22,3 |

## 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 | 114 | 112 | 109 | 107 | 112 | 109 | 107 | 106 | 105 | 104 | 102 | 102 | 100 | 99 | 98 | 97 | 96 | 95 |
| 2 | 109 | 105 | 101 | 98 | 107 | 103 | 100 | 97 | 100 | 97 | 95 | 97 | 95 | 93 | 94 | 93 | 91 | 90 |
| 3 | 105 | 99 | 94 | 91 | 103 | 98 | 93 | 90 | 95 | 92 | 89 | 93 | 90 | 87 | 90 | 88 | 86 | 85 |
| 4 | 100 | 93 | 89 | 85 | 98 | 92 | 88 | 84 | 90 | 86 | 83 | 88 | 85 | 82 | 87 | 84 | 81 | 80 |
| 5 | 96 | 89 | 83 | 80 | 94 | 88 | 83 | 79 | 86 | 82 | 79 | 84 | 81 | 78 | 83 | 80 | 77 | 76 |
| 6 | 92 | 84 | 79 | 75 | 90 | 83 | 78 | 75 | 82 | 77 | 74 | 80 | 77 | 74 | 79 | 76 | 73 | 72 |
| 7 | 88 | 80 | 75 | 71 | 87 | 79 | 74 | 71 | 78 | 74 | 70 | 77 | 73 | 70 | 76 | 72 | 70 | 68 |
| 8 | 84 | 76 | 71 | 67 | 83 | 76 | 71 | 67 | 75 | 70 | 67 | 74 | 69 | 67 | 73 | 69 | 66 | 65 |
| 9 | 81 | 73 | 67 | 64 | 80 | 72 | 67 | 64 | 71 | 67 | 64 | 70 | 66 | 63 | 70 | 66 | 63 | 62 |
| 10 | 78 | 69 | 64 | 61 | 77 | 69 | 64 | 61 | 68 | 64 | 61 | 68 | 63 | 60 | 67 | 63 | 60 | 59 |

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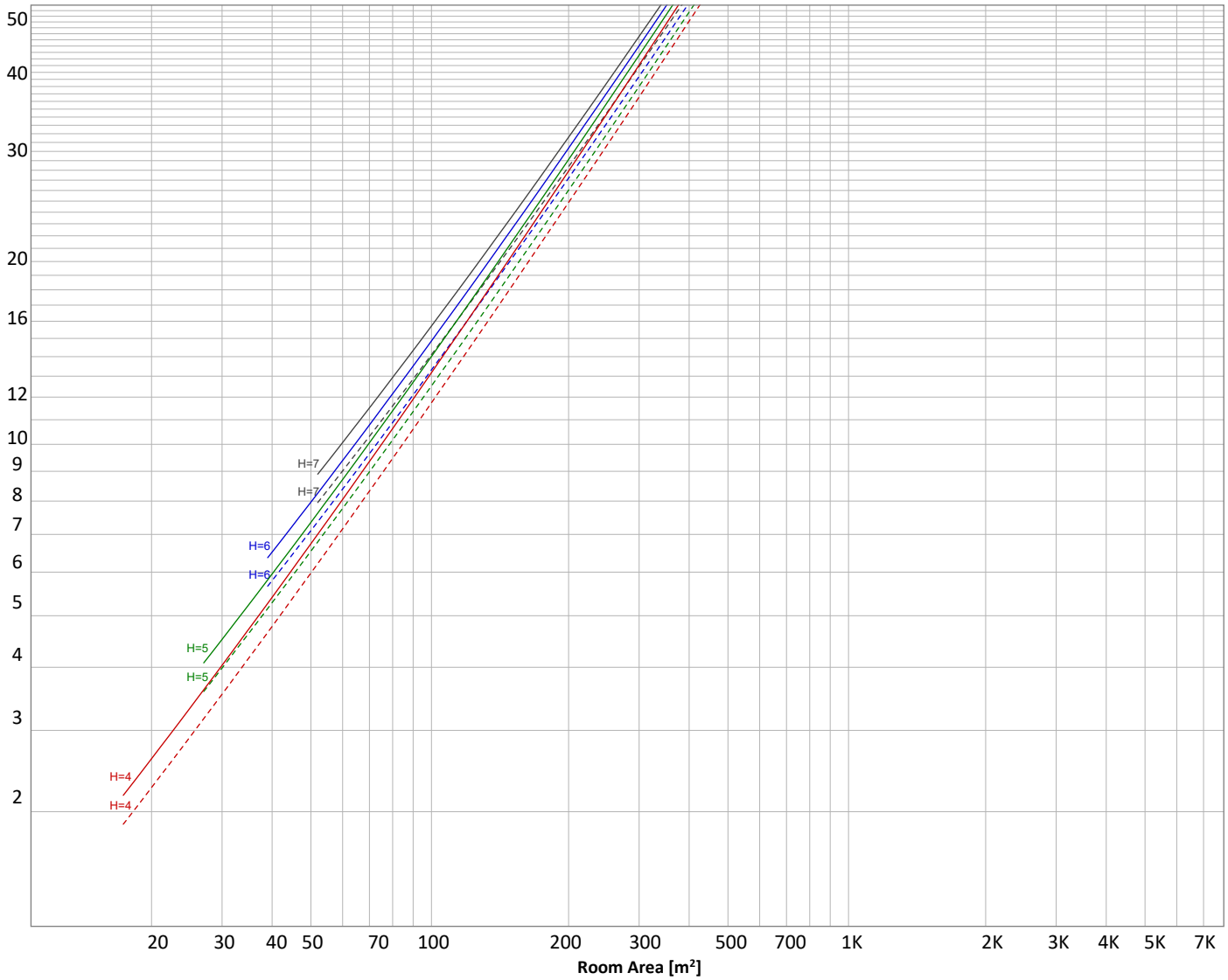
## Luminaire budgetary diagram

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

**LAMPS (number of lamps)**




**Conditions**

| | | | | | |
|---|---|---|---|---|---|
| H = Room height | Flux = 851 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° |
|---|---|---|---|---|---|---|---|---|
| 140 lm | 308 lm | 267 lm | 113 lm | 17,2 lm | 2,89 lm | 1,09 lm | 0,365 lm | 0,135 lm |

| 90°-100° | 100°-110° | 110°-120° | 120°-130° | 130°-140° | 140°-150° | 150°-160° | 160°-170° | 170°-180° |
|---|---|---|---|---|---|---|---|---|
| 0,030 lm | 0,002 lm | 0,002 lm | 0,005 lm | 0,011 lm | 0,034 lm | 0,074 lm | 0,069 lm | 0,025 lm |

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## Outdoor Light Planning

### Lumen per Zone

| Zone (γ) | Lumen | % Total |
|---|---|---|
| 0-10° | 140 lm | 16,5% |
| 10-20° | 308 lm | 36,2% |
| 20-30° | 267 lm | 31,4% |
| 30-40° | 113 lm | 13,3% |
| 40-50° | 17 lm | 2,0% |
| 50-60° | 3 lm | 0,3% |
| 60-70° | 1 lm | 0,1% |
| 70-80° | 0 lm | 0,0% |
| 80-90° | 0 lm | 0,0% |
| 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 | 851 lm | 100,0% |

### Intensity peaks

| | |
|---|---|
| Max intensity | 1576 cd |
| Intensity, 90° | 0 cd |
| Intensity, 0° | 1557 cd |

### Zonal Lumen summary

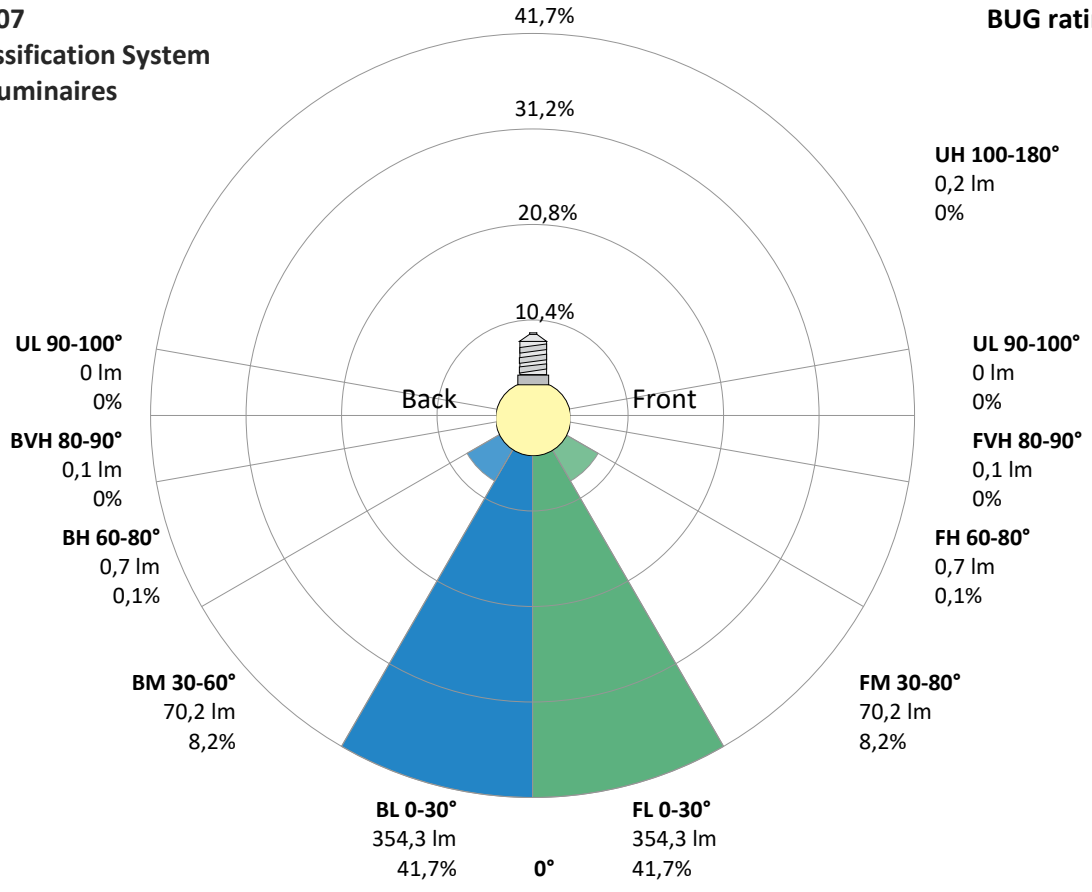
| Zone (γ) | Lumen | % Total |
|---|---|---|
| 0-30° | 715 lm | 84,1% |
| 0-40° | 829 lm | 97,4% |
| 0-60° | 849 lm | 99,8% |
| 60-90° | 2 lm | 0,2% |
| 70-100° | 1 lm | 0,1% |
| 90-120° | 0 lm | 0,0% |
| 0-90° | 850 lm | 100,0% |
| 90-180° | 0 lm | 0,0% |
| 0-180° | 851 lm | 100,0% |

### BUG rating

| | Lumen | % Total |
|---|---|---|
| **Forward light** | | |
| Low(0-30°) | 354 lm | 41,7% |
| Medium(30-60°) | 70 lm | 8,2% |
| High(60-80°) | 1 lm | 0,1% |
| Very high(80-90°) | 0 lm | 0,0% |
| **Back light** | | |
| Low(0-30°) | 354 lm | 41,7% |
| Medium(30-60°) | 70 lm | 8,2% |
| High(60-80°) | 1 lm | 0,1% |
| Very high(80-90°) | 0 lm | 0,0% |
| **Uplight** | | |
| Low(90-100°) | 0 lm | 0,0% |
| High(100-180°) | 0 lm | 0,0% |

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

**BUG rating B1 U0 G0**



# Light Measurement Report

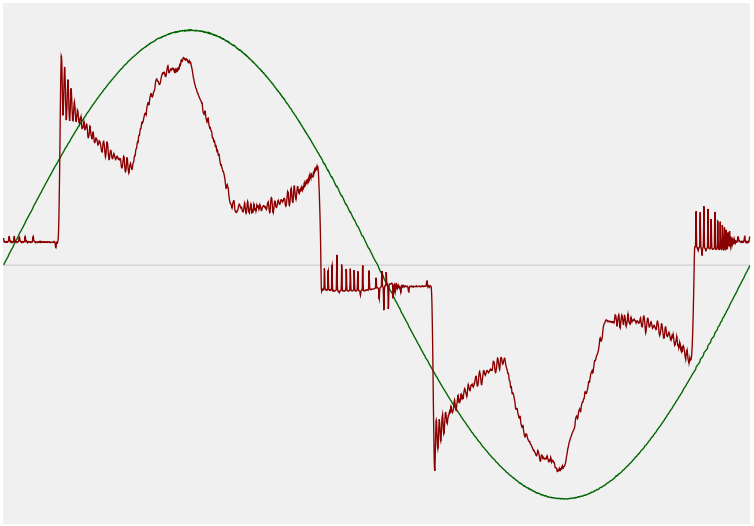
Print date: 7-5-2025
Measurement date and time: 6-5-2025 15:56:39 – Measurement no. VFR-250506-1113-MS
Measurement tracking No. and Link: VT250506-003258
Operator:

## Power Details

### Input Power

| | |
|---|---|
| Power feed to light source | 9,4 W |
| Frequency of input power | 50 Hz |
| RMS Input voltage feed, $V_{RMS}$ | 230 V |
| RMS Input current feed, $I_{RMS}$ | 0,045 A |
| Volt-Ampere or apparent power = $V_{RMS}$*$I_{RMS}$ | 10,4 VA |
| Displacement factor of AC power feed | 0,97 |
| Power factor of AC current feed | 0,9 |
| Total harmonic distortion of the current | 37,6% |
| Total harmonic distortion of the voltage | 0,07% |

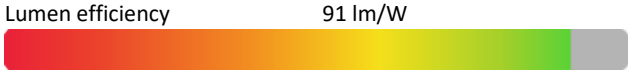
### Input Power Curve



### Efficiency

Radiated power efficiency 27,5%

Lumen efficiency 91 lm/W



## Stabilization Details

### Warmup Conditions

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

### Color Temperature Change

| | |
|---|---|
| CCT start | 2988 K |
| CCT shift | +12 K |
| CCT end | 3000 K |

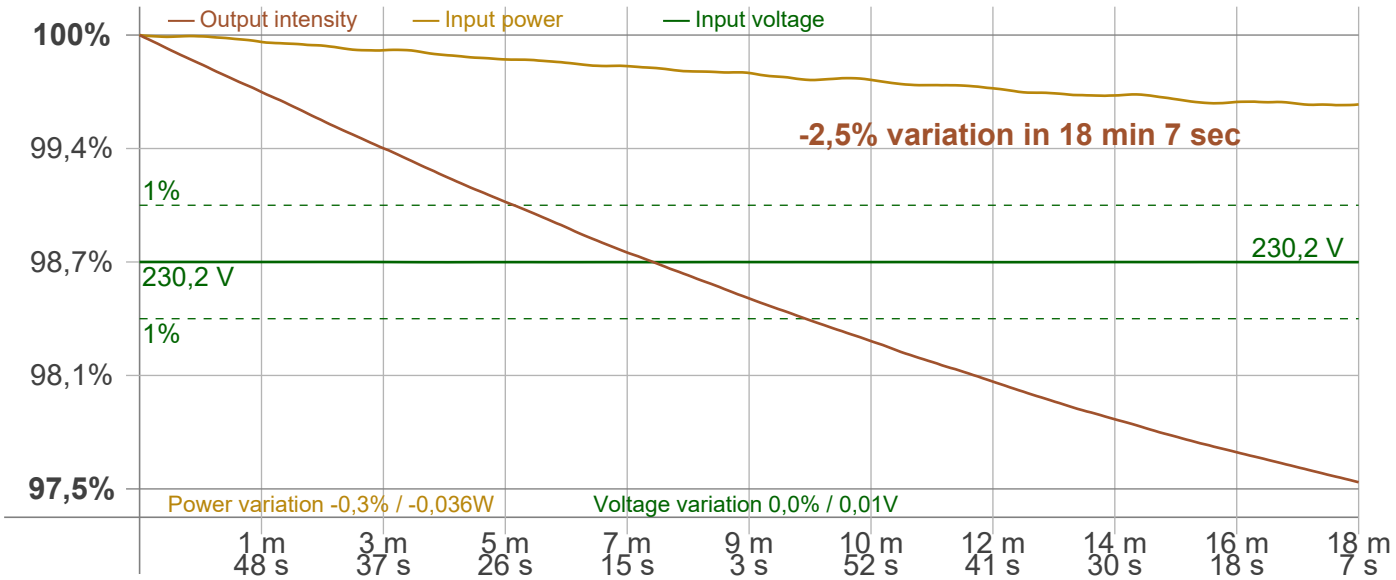
### Warmup Result

| | |
|---|---|
| Total warmup time | Lamp stabilized in 18 min 7 sec |
| Warmup variation | -2,5% |

### Output Change

| | |
|---|---|
| Output start | 872 lm |
| Output change | -22 lm |
| Output end | 851 lm |

### Stabilization Curve



# Light Measurement Report

Print date: 7-5-2025
Measurement date and time: 6-5-2025 15:56:39 – Measurement no. VFR-250506-1113-MS
Measurement tracking No. and Link: VT250506-003258
Operator:

## Flicker /TLA details

| | |
|---|---|
| Flicker Meter Type | Viso Systems LabFlicker |
| Frequency of input power | 50 Hz |
| Flicker/TLA sample rate | 20000 samples/s |

**Measurement time**

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

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

| | |
|---|---|
| Flicker frequency | 100 Hz |
| Percent Flicker | 0,97 % |
| Flicker index | 0 |

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

| | |
|---|---|
| PstLM value (F < 80 Hz) | 0,04 |
| SVM value (80 < F < 2000 Hz) | 0,04 |

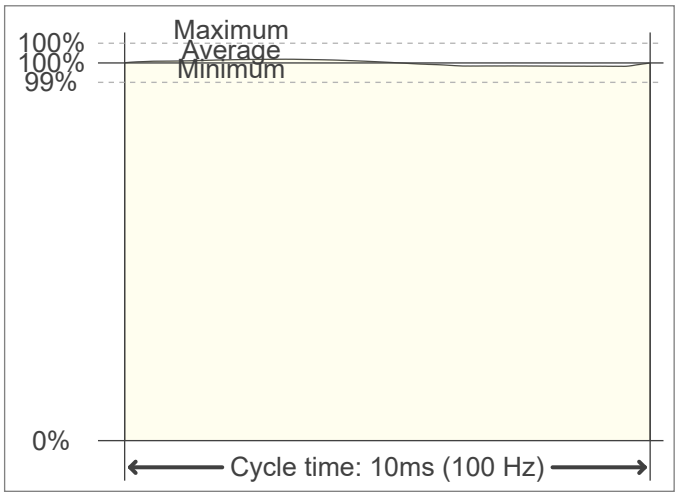
**Flicker indices according to California Energy Commission (CEC) 2016b**

| | |
|---|---|
| JA8/10 40 Hz | 0,02 % |
| JA8/10 90 Hz | 0,03 % |
| JA8/10 200 Hz | 1,02 % |
| JA8/10 400 Hz | 0,98 % |
| JA8/10 1000 Hz | 0,98 % |

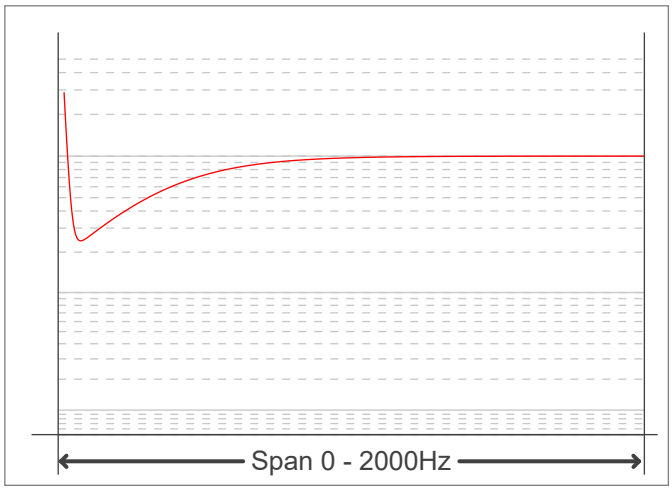
**Flicker indices according to Lighting Research Center (2015)**

| | |
|---|---|
| Perception metric, Assist Mp | 0,02 |

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




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




**IEEE 1789 Frequency/modulation plot**