

Light Measurement Report

Print date: 27-1-2025

Measurement date and time: 27-1-2025 17:17:25 – Measurement no. VFR-250127-3164-MS

Measurement tracking No. and Link: [n/a](#)

Operator:



Laboratory and Equipment

Laboratory Owner and Location
Goniospectrometer System and Type
Sensor Name, Calibr. Date and Serial No.
Spectrometer Manufacturer and Model

Viso Systems, Copenhagen V, Denmark
LabSpion – Type C, horizontal
LabSensor Model2 – 11-1-2024 – 3130191315
Ibsen Photonics, Denmark – Freedom VIS (Custom Viso)

Measurement Conditions

Number of C-planes and Resolution
 γ (gamma)-Resolution
Test Distance
Input Power, Power and Displ. Factors
Input RMS Voltage and Current
Frequency of Input Power
Warm-up Time and Variation

72 planes – 5°
5°
2,00 m
11,2 W – PF 0,85 – DPF 0,88
230 V – 0,057 A
50 Hz
Lamp stabilized in 15 min 2 sec – 2,0%

Tested Light Source

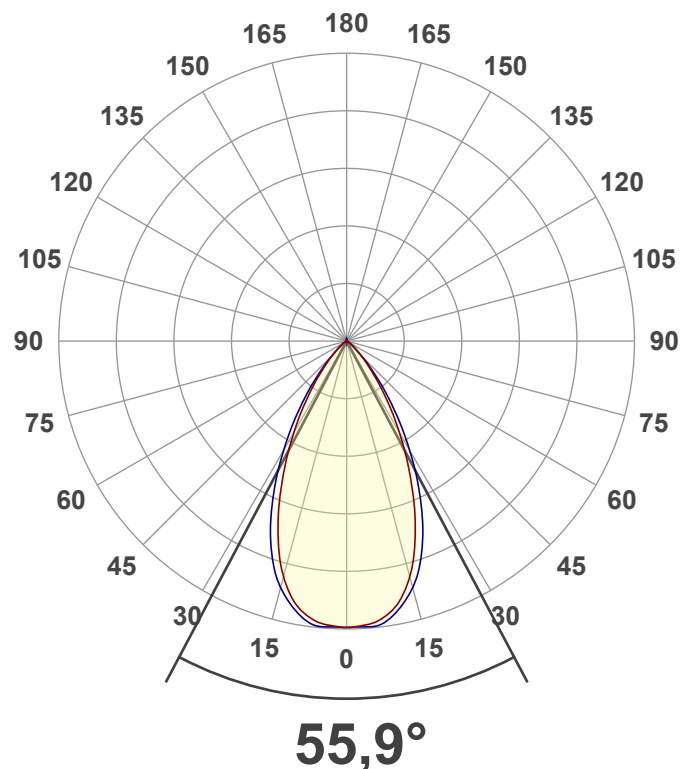
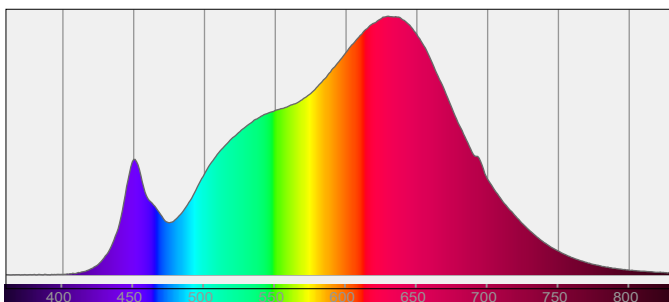
Product Name
Item No. and Manufacturer
Product Description (line 1)

ARW-12DTW-3000K
ARW-12DTW-3000K – Dutchfulfillment
LED | AR111 | SPOT | 12W | DIM TO WARM

Main Light Measurement Results

Output – Total Lumen (Up% / Down%)
Efficiency
Peak Intensity and Beam Angle
Correlated Color Temperature, Target/Measured
Color Rendering Index
Color Rendering TM30-18
Color Shift, CIE duv and MacAdam Steps
Flicker

530 lm – 0,19% / 99,81%
47 lm/W
601 cd – 55,9°
CCT = 3000 K / 3017 K
CRI 96,9
 R_f 95,1 – R_g 100,3
Duv 0,0021 – SDCM 2,1
SVM 0 – PstLM 0,12



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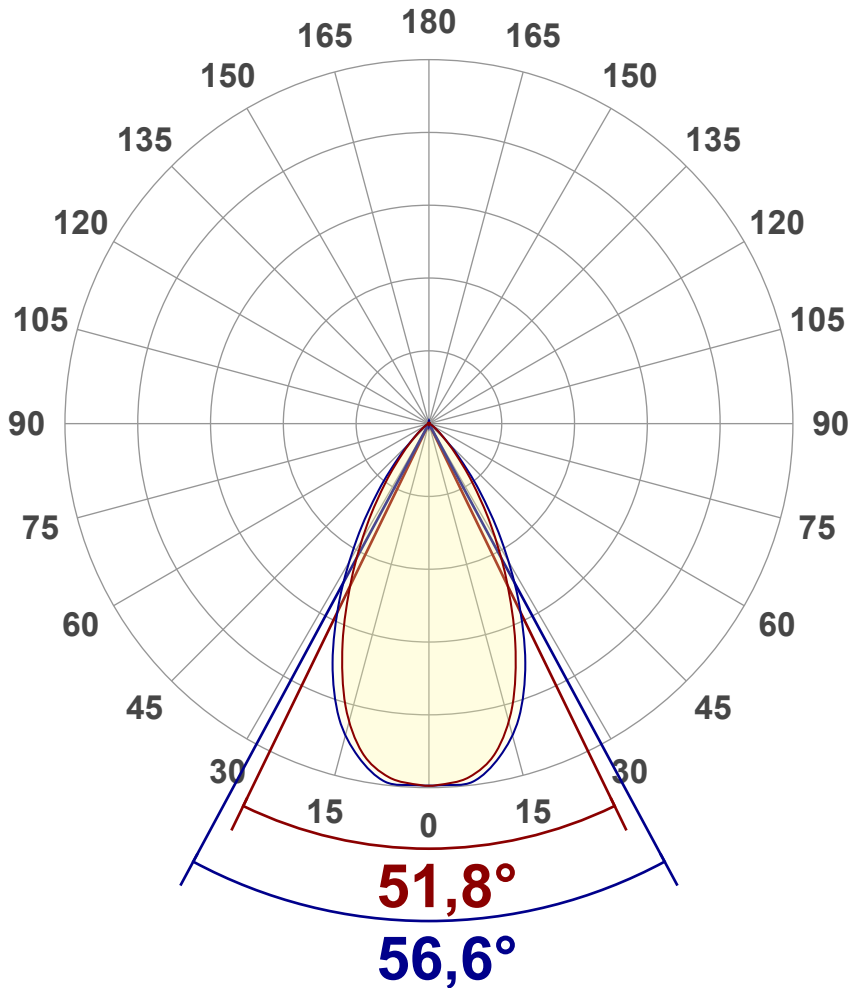
Measurement tracking No. and Link: [n/a](#)

Operator:



Luminous Intensity diagram

Unit: 0-100% of peak intensity



Main Values

| | |
|----------------------|----------------|
| Output (total Lumen) | 530 lm |
| Lumen Up% / Down% | 0,19% / 99,81% |
| Peak Intensity | 601 cd |
| Beam Angle (50%) | 55,9° |
| Beam Angle (90%) | 56,6° |
| Beam Angle (10%) | 52,4° |

Cut-off Angle

| | |
|--------------|--------|
| Average 2,5% | 106,2° |
|--------------|--------|

Field Angle

| | |
|-------------|-------|
| Average 10% | 87,9° |
|-------------|-------|

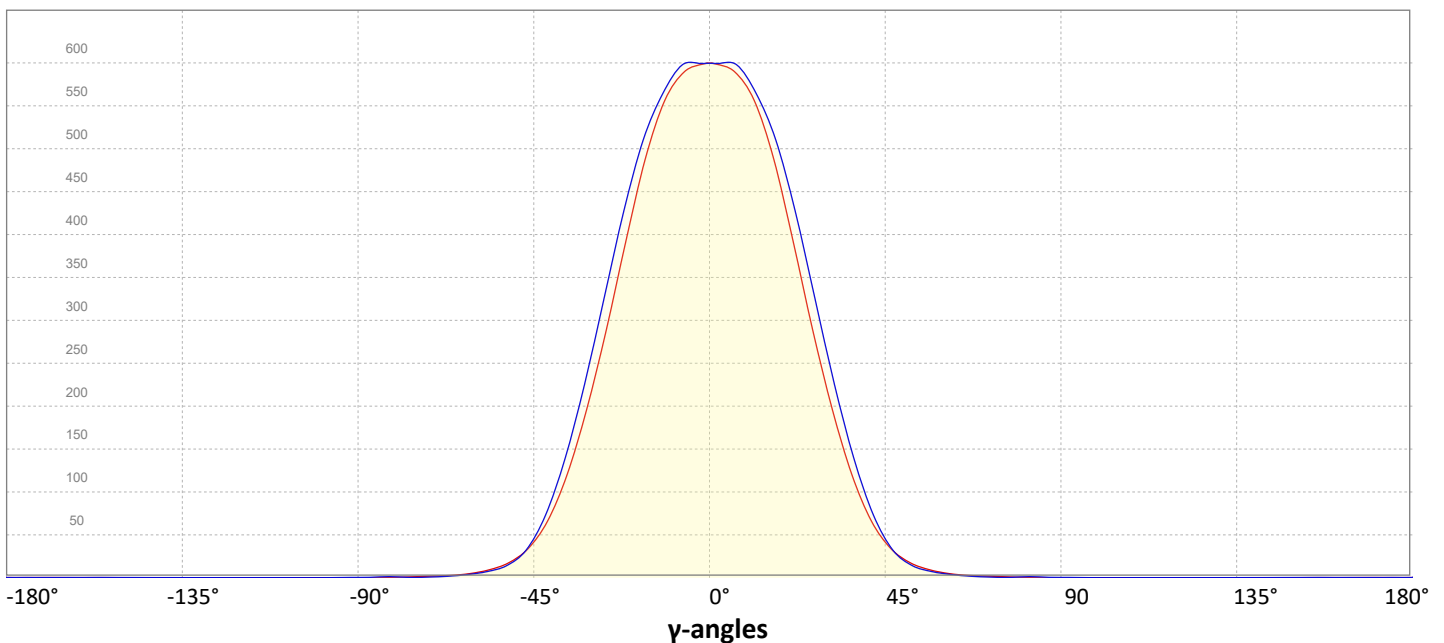
Intensity Ratio

| | |
|--------------|-------|
| In 120° cone | 98,6% |
| In 90° cone | 93,9% |

C000-C180

C090-C270

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



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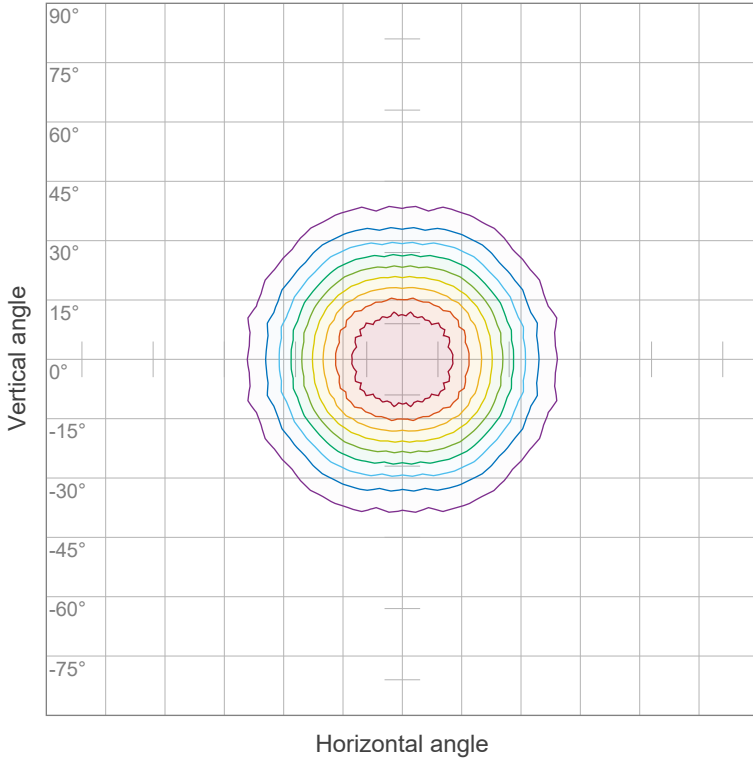
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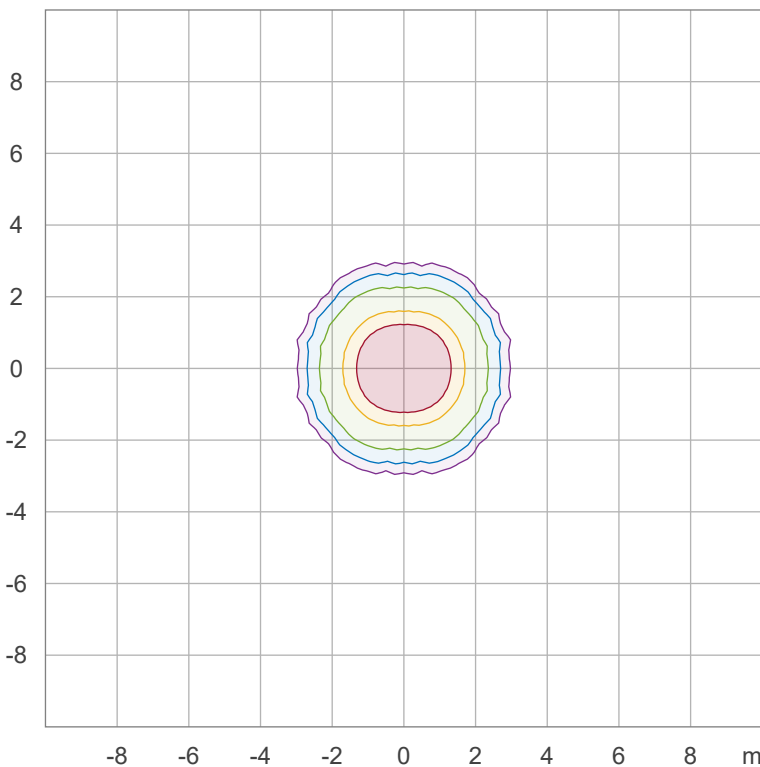
Iso-intensity Diagram (Iso-candela)



| | |
|------|----------|
| 90 % | 541,2 cd |
| 80 % | 481,0 cd |
| 70 % | 420,9 cd |
| 60 % | 360,8 cd |
| 50 % | 300,6 cd |
| 40 % | 240,5 cd |
| 30 % | 180,4 cd |
| 20 % | 120,3 cd |
| 10 % | 60,1 cd |

Peak intensity: 601,3 cd
Number of c-planes: 72

Iso-illuminance Diagram (Iso-lux)



| | |
|--------|---------|
| 50,0 % | 33,4 lx |
| 30,0 % | 20,0 lx |
| 10,0 % | 6,7 lx |
| 5,0 % | 3,3 lx |
| 3,0 % | 2,0 lx |

Peak illuminance: 66,7 lx
Mounting height: 3,0 m
Number of c-planes: 72

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Operator:



Color details

Correlated Color Temperature, Target CCT = 3000 K
 Correlated Color Temperature, Measured CCT = 3017 K
 Color Rendering Index CRI 96,9
 Color Rendering Index, R9 (red component) R9 = 81,6
 Color Rendering TM30-18 R_f 95,1 – R_g 100,3
 Color Quality Scale CQS = 94,9

MacAdam Steps SDCM = 2,1
 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 = 0,0021
 Color coordinate CIEs 1976 (CIELUV) (u';v') = (0,251;0,521)

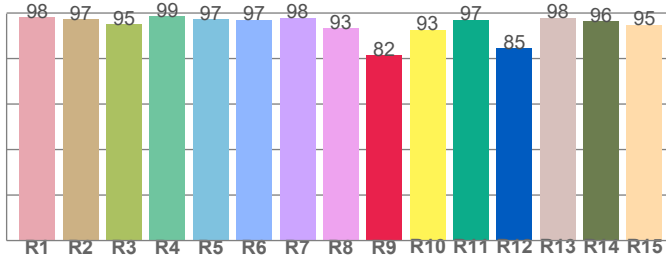
CIE 1931



CIE 1931 – zoomed on Planckian locus



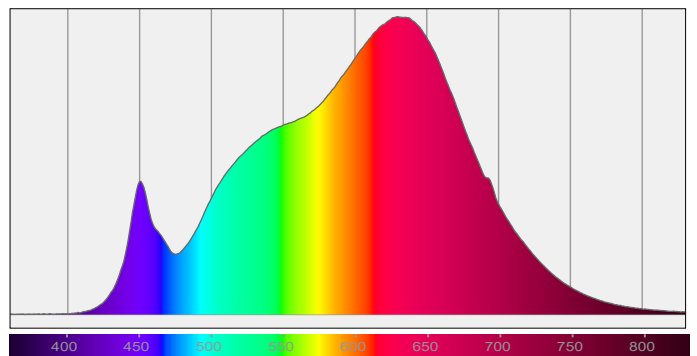
Color Rendering Index per reference color (CIE 1995)



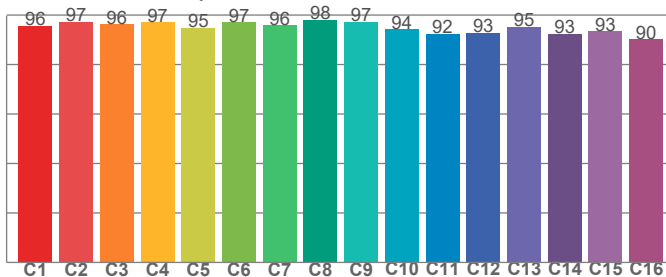
CRI R values, only R1-R8 are used to calculate final CRI value

| R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 | R11 | R12 | R13 | R14 | R15 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 98,1 | 97,4 | 95,1 | 98,7 | 97,4 | 97,1 | 97,9 | 93,2 | 81,6 | 92,7 | 97,0 | 84,6 | 98,0 | 96,4 | 94,9 |

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



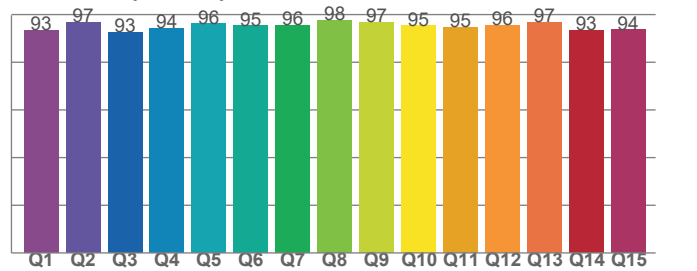
TM30-18 R_f-values per hue bin



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 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 95,7 | 97,2 | 96,2 | 97,1 | 94,9 | 97,0 | 96,0 | 98,1 | 97,2 | 94,1 | 92,4 | 92,8 | 95,2 | 92,5 | 93,4 | 90,2 |

Color Quality Scale by reference color



CQS Q values

| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 93,4 | 96,9 | 92,6 | 94,3 | 96,2 | 95,4 | 95,6 | 97,7 | 96,9 | 95,3 | 94,7 | 95,6 | 96,8 | 93,4 | 93,6 |

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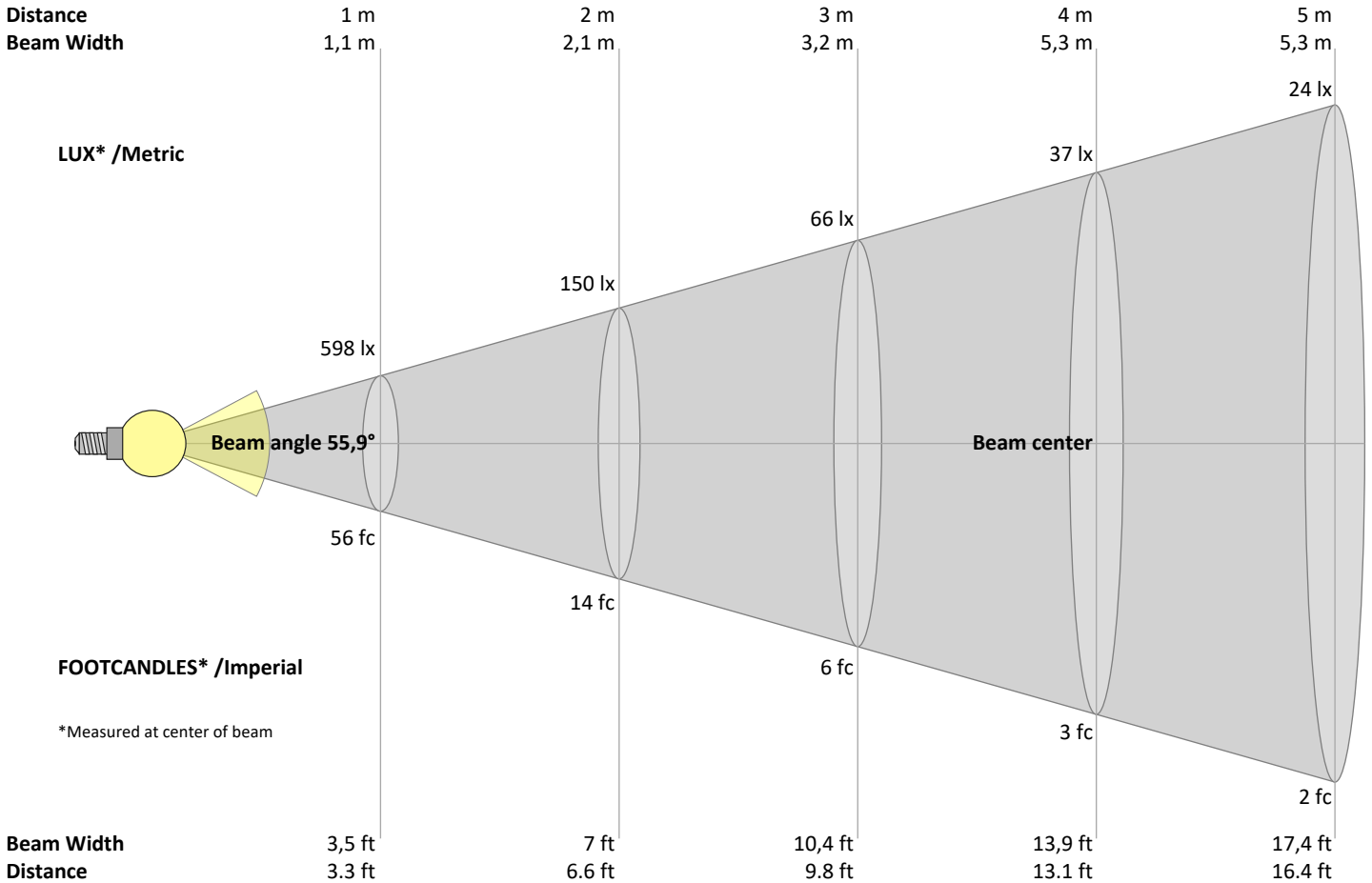
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Operator:



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 |
| 598 | 150 | 66 | 37 | 24 | 17 | 12 | 9 | 7 | 6 | 5 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | lux |
| 55,6 | 13,9 | 6,2 | 3,5 | 2,2 | 1,5 | 1,1 | 0,9 | 0,7 | 0,6 | 0,5 | 0,4 | 0,3 | 0,3 | 0,2 | 0,2 | 0,2 | 0,2 | 0,2 | 0,1 | 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 |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|
| 598 | 598 | 594 | 590 | 579 | 566 | 549 | 521 | 494 | 458 | 419 | 380 | 339 | 297 | 260 | 223 | 188 | 157 | 127 | 103 | cd |
| 100% | 100% | 99% | 99% | 97% | 95% | 92% | 87% | 83% | 77% | 70% | 64% | 57% | 50% | 43% | 37% | 31% | 26% | 21% | 17% | 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 |
|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|
| 598 | 599 | 599 | 598 | 591 | 577 | 564 | 542 | 521 | 493 | 460 | 426 | 386 | 346 | 305 | 265 | 225 | 191 | 156 | 126 | cd |
| 100% | 100% | 100% | 100% | 99% | 97% | 94% | 91% | 87% | 82% | 77% | 71% | 65% | 58% | 51% | 44% | 38% | 32% | 26% | 21% | 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 |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|
| 598 | 598 | 594 | 590 | 579 | 566 | 549 | 521 | 494 | 458 | 419 | 380 | 339 | 297 | 260 | 223 | 188 | 157 | 127 | 103 | cd |
| 100% | 100% | 99% | 99% | 97% | 95% | 92% | 87% | 83% | 77% | 70% | 64% | 57% | 50% | 43% | 37% | 31% | 26% | 21% | 17% | 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 |
|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|
| 598 | 599 | 599 | 598 | 591 | 577 | 564 | 542 | 521 | 493 | 460 | 426 | 386 | 346 | 305 | 265 | 225 | 191 | 156 | 126 | cd |
| 100% | 100% | 100% | 100% | 99% | 97% | 94% | 91% | 87% | 82% | 77% | 71% | 65% | 58% | 51% | 44% | 38% | 32% | 26% | 21% | of 0°val |

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Light Planning – UGR table

Uncorrected, comprehensive UGR table according to 117-1995

| Reflectances | | 70 | 70 | 50 | 50 | 30 | 70 | 70 | 50 | 50 | 30 |
|-------------------------------------|-----------|--|------|------|------|------|--|------|------|------|------|
| | 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 | | Viewed Crosswise | | | | | Viewed Endwise | | | | |
| H = mounting height above eye level | | (Viewing direction orthogonal to lamp length axis) | | | | | (Viewing direction parallel to lamp length axis) | | | | |
| X | Y | | | | | | | | | | |
| 2H | 2H | 15,9 | 16,6 | 16,0 | 16,8 | 17,0 | 16,1 | 16,8 | 16,2 | 17,0 | 17,2 |
| | 3H | 15,7 | 16,5 | 16,1 | 16,7 | 16,9 | 15,8 | 16,6 | 16,2 | 16,9 | 17,0 |
| | 4H | 15,7 | 16,4 | 16,1 | 16,7 | 16,9 | 15,8 | 16,5 | 16,2 | 16,8 | 17,0 |
| | 6H | 15,7 | 16,4 | 16,0 | 16,6 | 17,0 | 15,8 | 16,4 | 16,1 | 16,7 | 17,1 |
| | 8H | 15,7 | 16,3 | 16,0 | 16,6 | 17,0 | 15,7 | 16,3 | 16,1 | 16,7 | 17,1 |
| | 12H | 15,6 | 16,2 | 16,0 | 16,6 | 17,0 | 15,7 | 16,3 | 16,0 | 16,6 | 17,1 |
| 4H | 2H | 15,6 | 16,3 | 16,0 | 16,6 | 16,8 | 15,8 | 16,6 | 16,2 | 16,8 | 17,0 |
| | 3H | 15,6 | 16,2 | 15,9 | 16,5 | 17,0 | 15,7 | 16,3 | 16,1 | 16,7 | 17,1 |
| | 4H | 15,5 | 16,1 | 16,0 | 16,5 | 17,0 | 15,6 | 16,1 | 16,0 | 16,5 | 17,1 |
| | 6H | 15,6 | 16,2 | 16,1 | 16,5 | 16,8 | 15,5 | 16,1 | 16,0 | 16,4 | 16,8 |
| | 8H | 15,6 | 16,1 | 16,1 | 16,4 | 16,8 | 15,5 | 16,0 | 16,0 | 16,3 | 16,7 |
| | 12H | 15,5 | 15,9 | 16,0 | 16,4 | 16,8 | 15,4 | 15,8 | 15,9 | 16,2 | 16,7 |
| 8H | 4H | 15,4 | 15,9 | 15,9 | 16,3 | 16,7 | 15,5 | 16,0 | 16,0 | 16,3 | 16,7 |
| | 6H | 15,5 | 15,9 | 16,0 | 16,3 | 16,9 | 15,4 | 15,8 | 15,9 | 16,2 | 16,8 |
| | 8H | 15,6 | 15,9 | 16,1 | 16,4 | 17,0 | 15,4 | 15,7 | 15,9 | 16,2 | 16,9 |
| | 12H | 15,6 | 15,8 | 16,2 | 16,3 | 16,9 | 15,4 | 15,6 | 16,0 | 16,1 | 16,7 |
| 12H | 4H | 15,4 | 15,8 | 15,9 | 16,2 | 16,7 | 15,4 | 15,8 | 15,9 | 16,2 | 16,7 |
| | 6H | 15,5 | 15,8 | 16,0 | 16,3 | 16,9 | 15,4 | 15,7 | 15,9 | 16,2 | 16,8 |
| | 8H | 15,5 | 15,8 | 16,1 | 16,3 | 16,9 | 15,4 | 15,6 | 16,0 | 16,1 | 16,7 |

Variations with the observer position for the luminaire spacings, S:

| | | |
|----------|------------|-------------|
| S = 1.0H | 3,1 / -4,6 | 4,0 / -7,4 |
| S = 1.5H | 5,4 / -6,3 | 6,5 / -9,6 |
| S = 2.0H | 7,3 / -7,5 | 8,4 / -10,9 |

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 | 98 | 97 | 96 | 95 | 93 |
| 2 | 107 | 102 | 98 | 95 | 105 | 101 | 97 | 94 | 97 | 94 | 92 | 94 | 92 | 90 | 92 | 90 | 88 | 86 |
| 3 | 102 | 95 | 90 | 86 | 100 | 94 | 89 | 85 | 91 | 87 | 84 | 89 | 85 | 83 | 86 | 84 | 81 | 80 |
| 4 | 97 | 89 | 83 | 79 | 95 | 88 | 82 | 78 | 85 | 81 | 77 | 83 | 80 | 76 | 82 | 78 | 76 | 74 |
| 5 | 92 | 83 | 77 | 73 | 90 | 82 | 76 | 72 | 80 | 75 | 72 | 79 | 74 | 71 | 77 | 73 | 70 | 69 |
| 6 | 87 | 78 | 72 | 67 | 85 | 77 | 71 | 67 | 75 | 70 | 67 | 74 | 70 | 66 | 73 | 69 | 66 | 64 |
| 7 | 83 | 73 | 67 | 63 | 81 | 72 | 67 | 62 | 71 | 66 | 62 | 70 | 65 | 62 | 69 | 65 | 61 | 60 |
| 8 | 78 | 69 | 63 | 59 | 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 | 55 | 52 | 70 | 61 | 55 | 51 | 60 | 55 | 51 | 59 | 55 | 51 | 59 | 54 | 51 | 50 |

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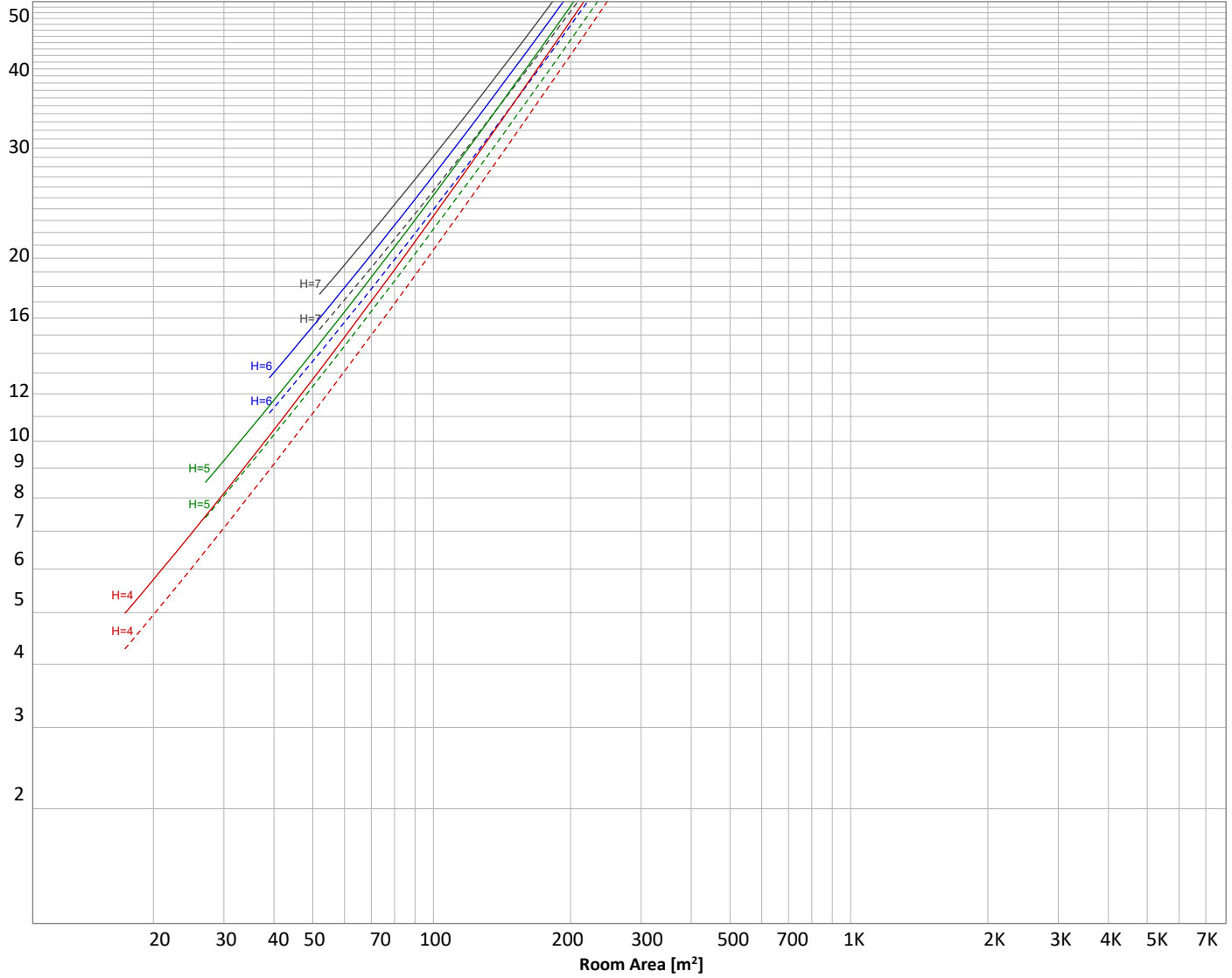
Operator:



Luminaire budgetary diagram

Uncorrected, comprehensive UGR table according to 117-1995

LAMPS (number of lamps)



Conditions

| | | | | | |
|---|---------------|-----------|---------------------|------------------|-------------------|
| H = Room height | Flux = 530 lm | | | | |
| 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° |
|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 56,1 lm | 146 lm | 162 lm | 107 lm | 40,8 lm | 10,7 lm | 3,48 lm | 1,82 lm | 1,08 lm |
| 90°-100° | 100°-110° | 110°-120° | 120°-130° | 130°-140° | 140°-150° | 150°-160° | 160°-170° | 170°-180° |
| 0,305 lm | 0,097 lm | 0,093 lm | 0,093 lm | 0,101 lm | 0,106 lm | 0,100 lm | 0,068 lm | 0,024 lm |

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Outdoor Light Planning

Lumen per Zone

| Zone (γ) | Lumen | % Total |
|--------------|---------------|---------------|
| 0-10° | 56 lm | 10,6% |
| 10-20° | 146 lm | 27,5% |
| 20-30° | 162 lm | 30,6% |
| 30-40° | 107 lm | 20,1% |
| 40-50° | 41 lm | 7,7% |
| 50-60° | 11 lm | 2,0% |
| 60-70° | 3 lm | 0,7% |
| 70-80° | 2 lm | 0,3% |
| 80-90° | 1 lm | 0,2% |
| 90-100° | 0 lm | 0,1% |
| 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 | 530 lm | 100,0% |

Intensity peaks

| | |
|----------------|--------|
| Max intensity | 601 cd |
| Intensity, 90° | 0 cd |
| Intensity, 0° | 598 cd |

Zonal Lumen summary

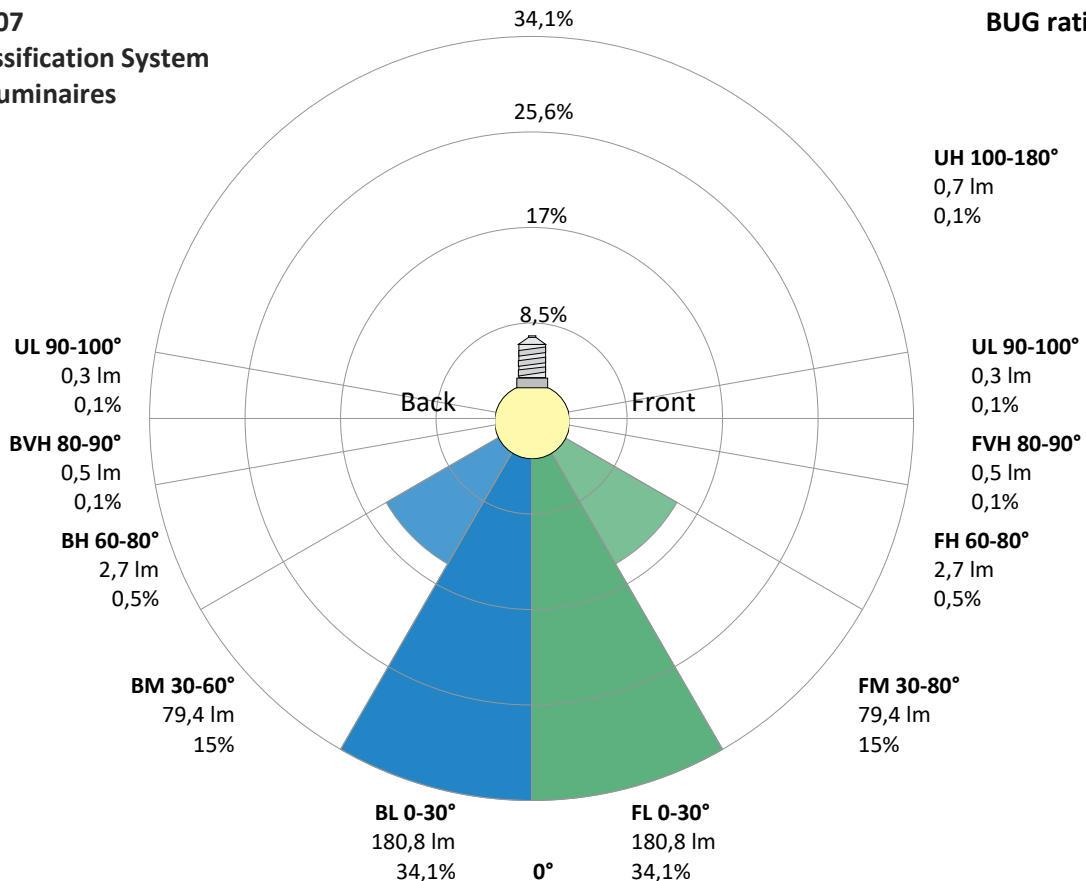
| Zone (γ) | Lumen | % Total |
|----------|--------|---------|
| 0-30° | 365 lm | 68,8% |
| 0-40° | 471 lm | 88,9% |
| 0-60° | 523 lm | 98,6% |
| 60-90° | 6 lm | 1,2% |
| 70-100° | 3 lm | 0,6% |
| 90-120° | 0 lm | 0,1% |
| 0-90° | 529 lm | 99,8% |
| 90-180° | 1 lm | 0,2% |
| 0-180° | 530 lm | 100,0% |

BUG rating

| | Lumen | % Total |
|----------------------|--------|---------|
| Forward light | | |
| Low(0-30°) | 181 lm | 34,1% |
| Medium(30-60°) | 79 lm | 15,0% |
| High(60-80°) | 3 lm | 0,5% |
| Very high(80-90°) | 1 lm | 0,1% |
| Back light | | |
| Low(0-30°) | 181 lm | 34,1% |
| Medium(30-60°) | 79 lm | 15,0% |
| High(60-80°) | 3 lm | 0,5% |
| Very high(80-90°) | 1 lm | 0,1% |
| Uplight | | |
| Low(90-100°) | 0 lm | 0,1% |
| High(100-180°) | 1 lm | 0,1% |

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

BUG rating B1 U1 G0



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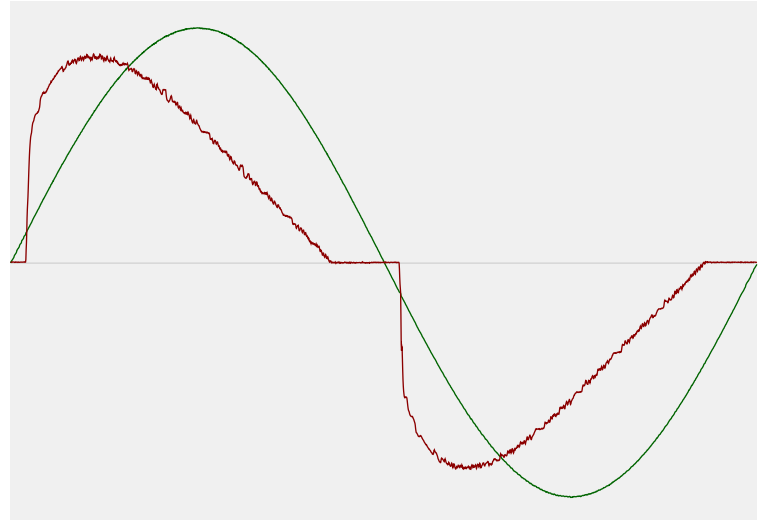


Power Details

Input Power

| | |
|---|----------|
| Power feed to light source | 11,2 W |
| Frequency of input power | 50 Hz |
| RMS Input voltage feed, V_{RMS} | 230 V |
| RMS Input current feed, I_{RMS} | 0,057 A |
| Volt-Ampere or apparent power = $V_{RMS} * I_{RMS}$ | 13,19 VA |
| Displacement factor of AC power feed | 0,88 |
| Power factor of AC current feed | 0,85 |
| Total harmonic distortion of the current | 28,59% |
| Total harmonic distortion of the voltage | 0,07% |

Input Power Curve



Efficiency

| | |
|---------------------------|---------|
| Radiated power efficiency | 17,1% |
| Lumen efficiency | 47 lm/W |

Stabilization Details

Warmup Conditions

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

Color Temperature Change

| | |
|-----------|--------|
| CCT start | 2998 K |
| CCT shift | +2 K |
| CCT end | 3000 K |

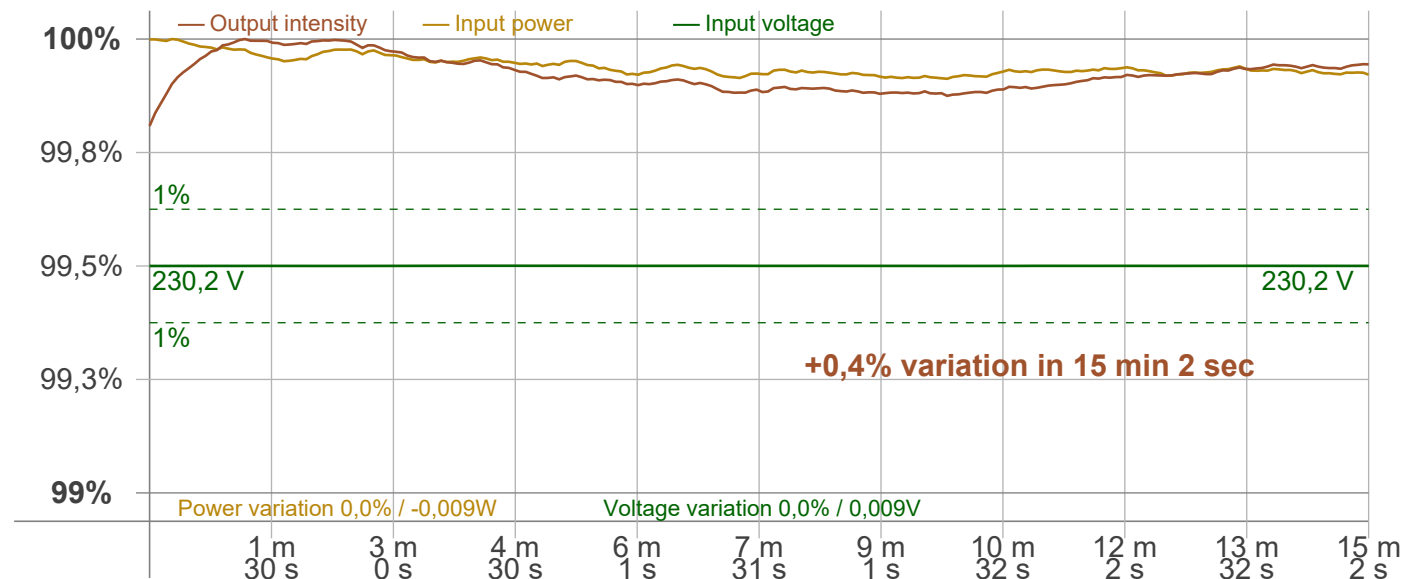
Warmup Result

| | |
|-------------------|---------------------------------|
| Total warmup time | Lamp stabilized in 15 min 2 sec |
| Warmup variation | +0,4% |

Output Change

| | |
|---------------|--------|
| Output start | 529 lm |
| Output change | +1 lm |
| Output end | 530 lm |

Stabilization Curve



Light Measurement Report

Print date: 27-1-2025

Measurement date and time: 27-1-2025 17:17:25 – Measurement no. VFR-250127-3164-MS

Measurement tracking No. and Link: [n/a](#)

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: 101,01 Hz
 Percent Flicker: 0,35 %
 Flicker index: 0

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

JA8/10 40 Hz: 0,24 %
 JA8/10 90 Hz: 0,24 %
 JA8/10 200 Hz: 0,34 %
 JA8/10 400 Hz: 0,34 %
 JA8/10 1000 Hz: 0,34 %

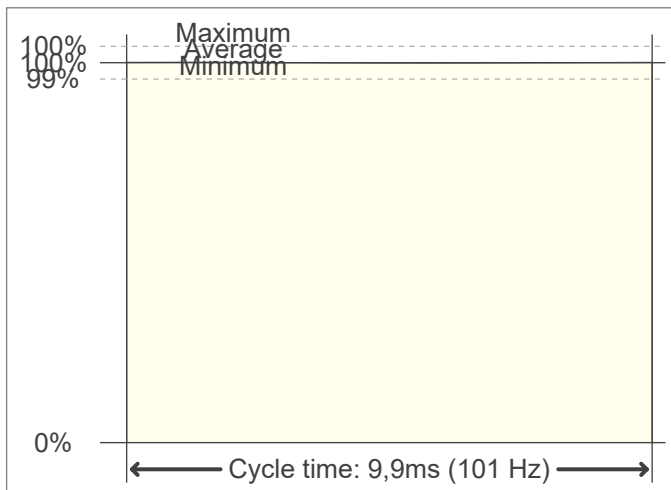
TLA indices (re IEC TR 61547-1, IEC 61000-3-3 and IEC 61000-4-15)

PstLM value (F < 80 Hz): 0,12
 SVM value (80 < F < 2000 Hz): 0

Flicker indices according to Lighting Research Center (2015)

Perception metric, Assist Mp: 0,04

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



Flicker FFT (flicker curve in frequency domain)



IEEE 1789 Frequency/modulation plot

