Light Measurement Report

Print date: 3-2-2026
Measurement date and time: 3-2-2026 10:18:57 – Measurement no. VFR-260203-4181-MS
Measurement tracking No. and Link: VT260203-008313
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

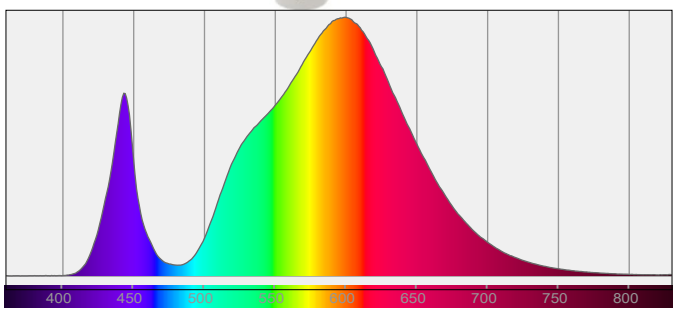
Number of C-planes and Resolution	72 planes – 5°
γ (gamma)-Resolution	5°
Test Distance	1,99 m
Input Power, Power and Displ. Factors	41,2 W – PF 0,94 – DPF 0,95
Input RMS Voltage and Current	230 V – 0,190 A
Frequency of Input Power	50 Hz
Warm-up Time and Variation	Lamp stabilized in 15 min 1 sec – 2,0%

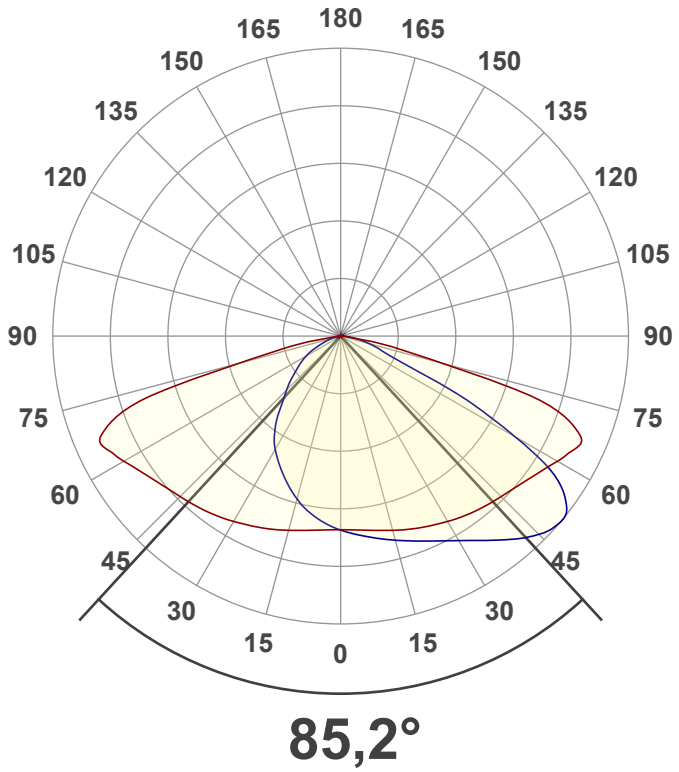
Tested Light Source

Product Name	814243 - 3000K
Item No. and Manufacturer	814243 - 3000K – Dutchfulfillment
Product Description (line 1)	LED STRAATLAMP | BLAZE | 40W | CCT-SWITCH

Main Light Measurement Results

Output – Total Lumen (Up% / Down%)	5288 lm – 0,04% / 99,96%
Efficiency	128 lm/W
Peak Intensity and Beam Angle	2751 cd – 85,2°
Correlated Color Temperature, Target/Measured	CCT = 2999 K / 2999 K
Color Rendering Index	CRI 71,8
Color Rendering TM30-18	R_f 70,4 – R_g 98,7
Color Shift, CIE duv and MacAdam Steps	Duv -0,0014 – SDCM n/a
Flicker	SVM 0,01 – PstLM 0,04

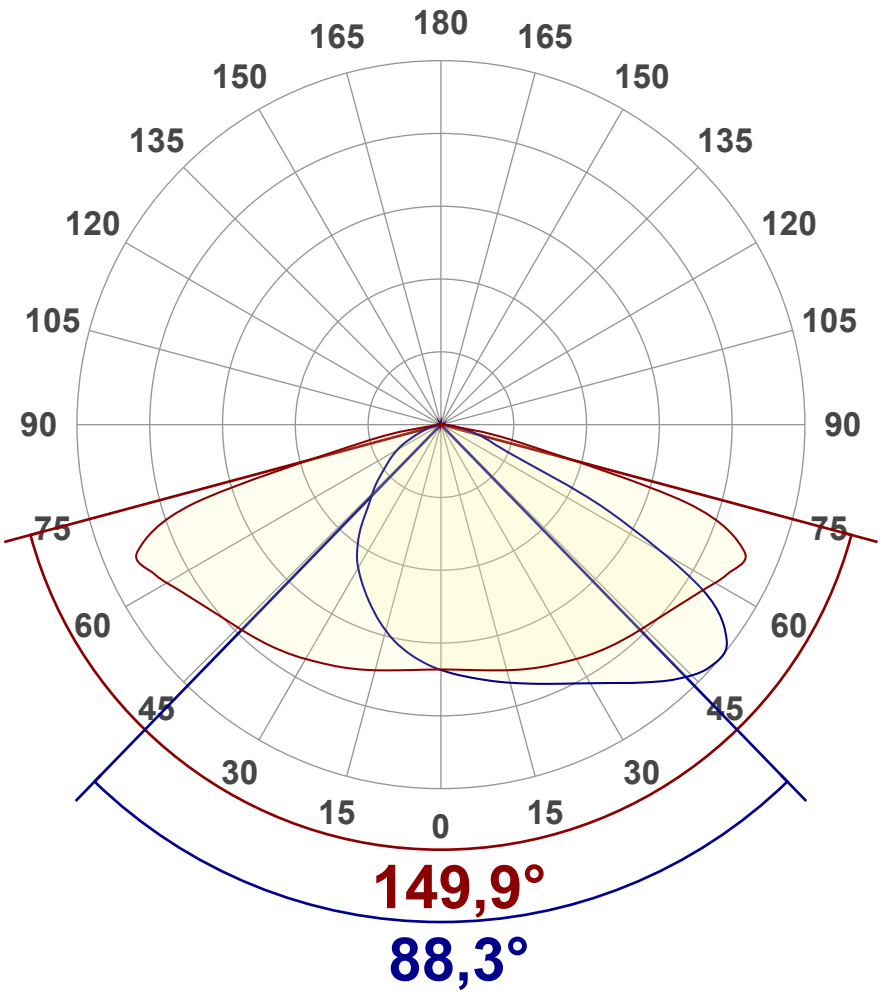




Light Measurement Report

Print date: 3-2-2026
Measurement date and time: 3-2-2026 10:18:57 – Measurement no. VFR-260203-4181-MS
Measurement tracking No. and Link: VT260203-008313
Operator:

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



Main Values

Output (total Lumen)	5288 lm
Lumen Up% / Down%	0,04% / 99,96%
Peak Intensity	2751 cd
Beam Angle (50%)	85,2°
Beam Angle (90%)	88,3°
Beam Angle (10%)	140,9°

Cut-off Angle

Average 2,5%	162,6°

Field Angle

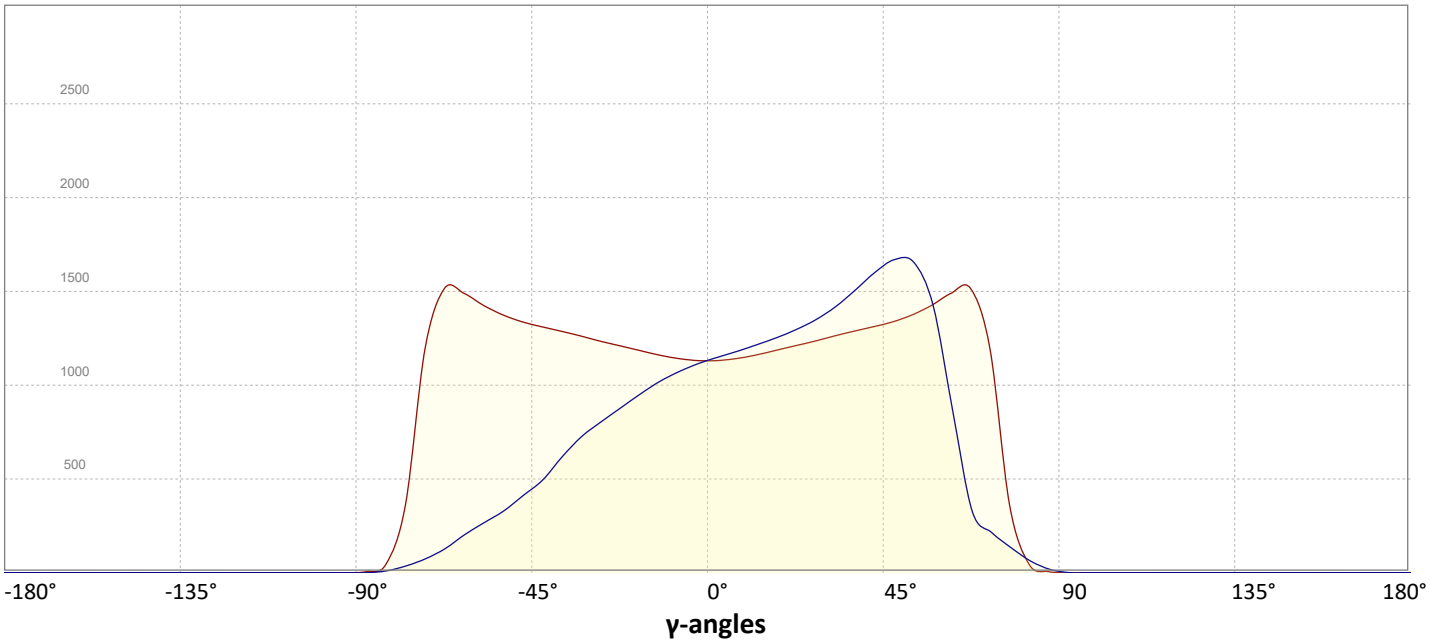
Average 10%	146,7°

Intensity Ratio

In 120° cone	69,8%
In 90° cone	40,4%

C000-C180
C090-C270

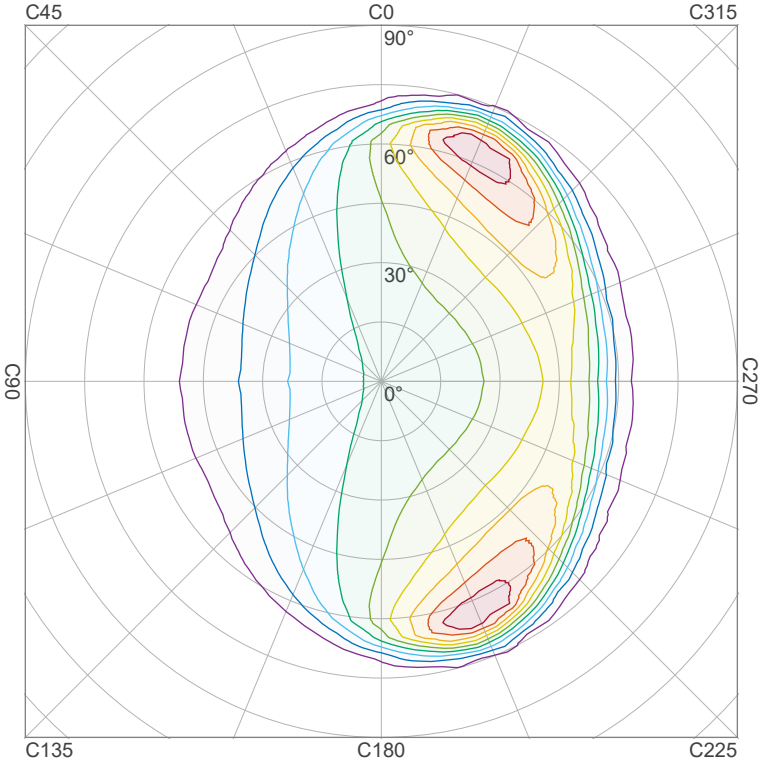
Linear distribution diagram - Intensity (candela) vs γ-angle



Light Measurement Report

Print date: 3-2-2026
Measurement date and time: 3-2-2026 10:18:57 – Measurement no. VFR-260203-4181-MS
Measurement tracking No. and Link: VT260203-008313
Operator:

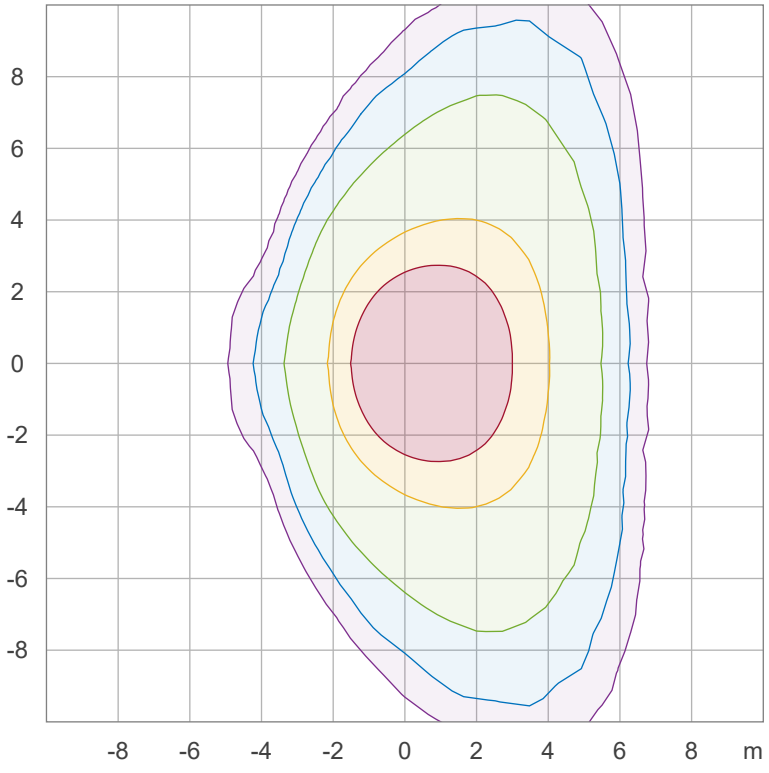
Iso-intensity Diagram (Iso-candela)



	90 %	2454,9 cd
	80 %	2182,1 cd
	70 %	1909,4 cd
	60 %	1636,6 cd
	50 %	1363,8 cd
	40 %	1091,1 cd
	30 %	818,3 cd
	20 %	545,5 cd
	10 %	272,8 cd

Peak intensity: 2727,7 cd
Number of c-planes: 72

Iso-illuminance Diagram (Iso-lux)



	50,0 %	64,1 lx
	30,0 %	38,4 lx
	10,0 %	12,8 lx
	5,0 %	6,4 lx
	3,0 %	3,8 lx

Peak illuminance: 128,2 lx
Mounting height: 3,0 m
Number of c-planes: 72

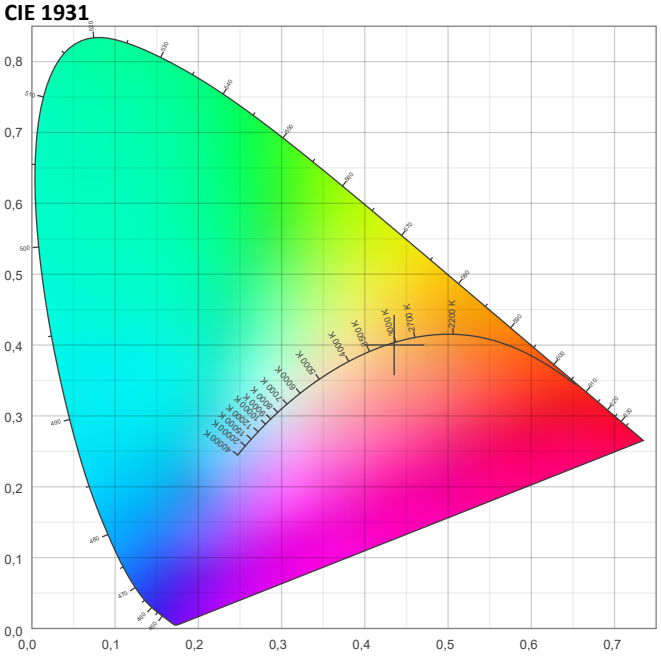
Light Measurement Report

Print date: 3-2-2026
Measurement date and time: 3-2-2026 10:18:57 – Measurement no. VFR-260203-4181-MS
Measurement tracking No. and Link: VT260203-008313
Operator:

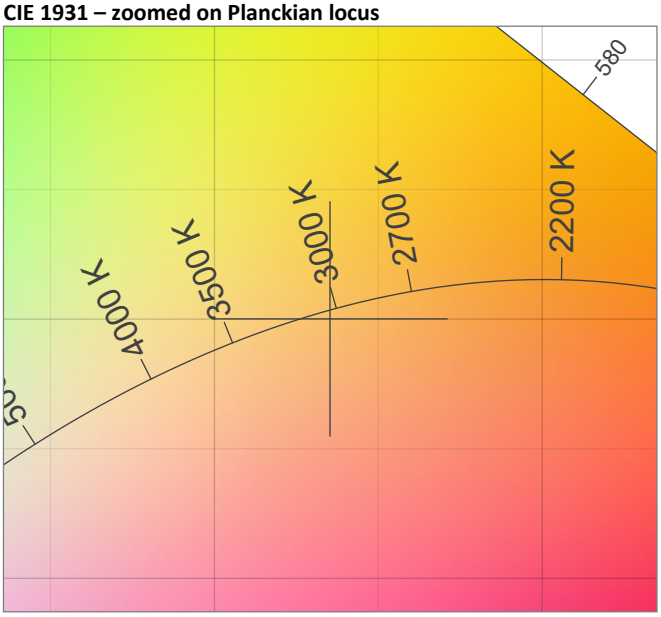
Color details

Correlated Color Temperature, Target	CCT = 2999 K
Correlated Color Temperature, Measured	CCT = 2999 K
Color Rendering Index	CRI 71,8
Color Rendering Index, R9 (red component)	R9 = -22,8
Color Rendering TM30-18	R_f 70,4 – R_g 98,7
Color Quality Scale	CQS = 69,8
MacAdam Steps	SDCM = n/a
Color coordinates CIE 1931	(x;y) = (0,435;0,400)
Color coordinate CIEs 1960	(u;v) = (0,251;0,346)
Color deviation from BBL	Duv = -0,0014
Color coordinate CIEs 1976 (CIELUV)	(u';v') = (0,251;0,520)

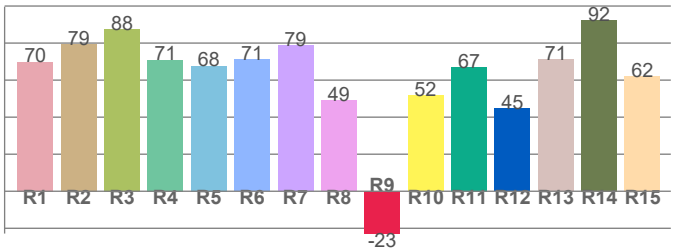
CIE 1931



CIE 1931 – zoomed on Planckian locus



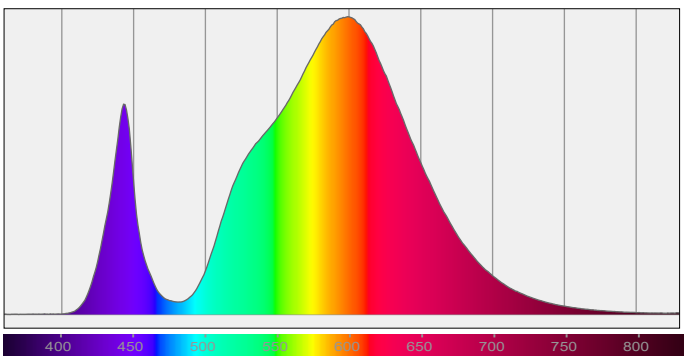
Color Rendering Index per reference color (CIE 1995)



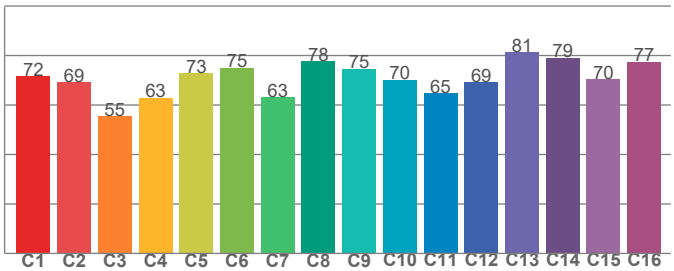
CRI R values, only R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
69,8	79,4	87,5	71,0	67,8	71,0	78,6	49,1	-22,8	51,7	67,0	44,6	71,1	92,4	62,2

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



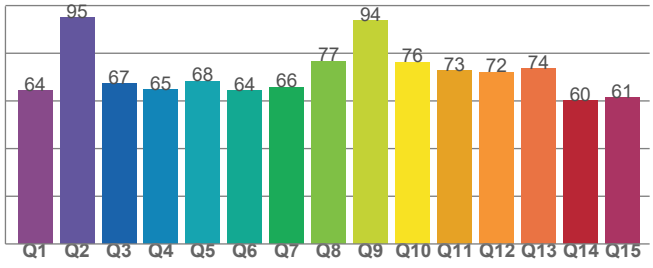
TM30-18 Rf-values per hue bin



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
71,7	69,2	55,3	62,9	72,8	75,0	63,1	77,7	74,6	70,3	64,7	69,2	81,4	79,1	70,3	77,5

Color Quality Scale by reference color



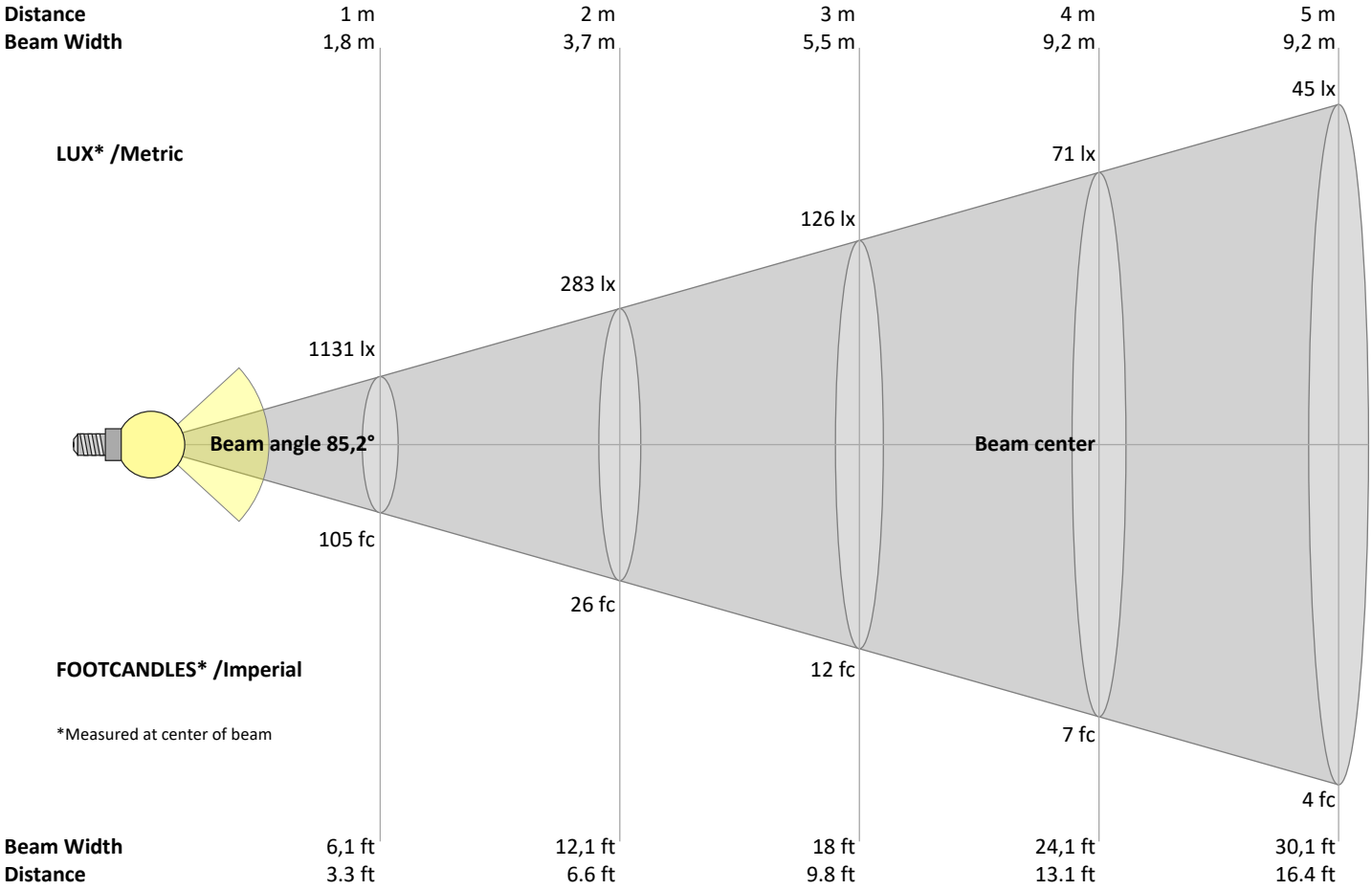
CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
64,3	94,8	67,2	64,8	68,2	64,2	65,7	76,6	93,6	76,3	72,7	72,0	73,5	60,1	61,4

Light Measurement Report

Print date: 3-2-2026
Measurement date and time: 3-2-2026 10:18:57 – Measurement no. VFR-260203-4181-MS
Measurement tracking No. and Link: VT260203-008313
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
1131	283	126	71	45	31	23	18	14	11	9	8	7	6	5	4	4	3	3	3	lux
105,1	26,3	11,7	6,6	4,2	2,9	2,1	1,6	1,3	1,1	0,9	0,7	0,6	0,5	0,5	0,4	0,4	0,3	0,3	0,3	fc

Intensities in 0° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	γ
1131	1137	1152	1173	1198	1222	1248	1275	1300	1325	1357	1401	1459	1504	1344	751	194	24	3	0	cd
100%	100%	102%	104%	106%	108%	110%	113%	115%	117%	120%	124%	129%	133%	119%	66%	17%	2%	0%	0%	of 0°val

Intensities in 90° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	γ
1131	1164	1197	1233	1273	1320	1380	1457	1547	1630	1663	1553	1176	626	278	178	101	42	10	0	cd
100%	103%	106%	109%	113%	117%	122%	129%	137%	144%	147%	137%	104%	55%	25%	16%	9%	4%	1%	0%	of 0°val

Intensities in 180° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	γ
1131	1137	1152	1173	1198	1222	1248	1275	1300	1325	1357	1401	1459	1504	1344	751	194	24	3	0	cd
100%	100%	102%	104%	106%	108%	110%	113%	115%	117%	120%	124%	129%	133%	119%	66%	17%	2%	0%	0%	of 0°val

Intensities in 270° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	γ
1131	1092	1043	982	912	838	761	666	549	448	365	294	231	161	98	53	22	4	0	0	cd
100%	97%	92%	87%	81%	74%	67%	59%	49%	40%	32%	26%	20%	14%	9%	5%	2%	0%	0%	0%	of 0°val

Light Measurement Report

Print date: 3-2-2026
Measurement date and time: 3-2-2026 10:18:57 – Measurement no. VFR-260203-4181-MS
Measurement tracking No. and Link: [VT260203-008313]
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 **X** **Y**	**Viewed Crosswise** (Viewing direction orthogonal to lamp length axis)					**Viewed Endwise** (Viewing direction parallel to lamp length axis)				
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Variations with the observer position for the luminaire spacings, S:										
n/a	n/a					n/a				
n/a	n/a					n/a				
n/a	n/a					n/a				

UGR data could not be calculated due to missing/wrong symmetry. Go to Edit -> Photometric -> Corrections and select Correct asymmetry (UGR not defined for asymmetrical distributions)..

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	108	102	97	93	105	100	96	92	96	92	89	92	89	86	88	86	83	81
2	96	87	79	73	93	85	78	72	81	75	70	78	73	68	75	71	67	65
3	86	75	65	58	84	73	64	58	70	62	56	67	61	55	64	59	54	52
4	78	65	55	47	76	63	54	47	61	53	46	58	51	46	56	50	45	43
5	71	57	47	40	69	56	46	39	53	45	39	51	44	38	49	43	38	36
6	65	50	41	34	63	49	40	33	48	39	33	46	38	33	44	38	32	30
7	60	45	36	29	58	44	35	29	43	35	29	41	34	28	40	33	28	26
8	55	41	32	25	54	40	31	25	39	31	25	37	30	25	36	30	25	23
9	52	37	28	22	50	37	28	22	35	28	22	34	27	22	33	27	22	20
10	48	34	26	20	47	34	25	20	32	25	20	31	25	20	31	24	20	18

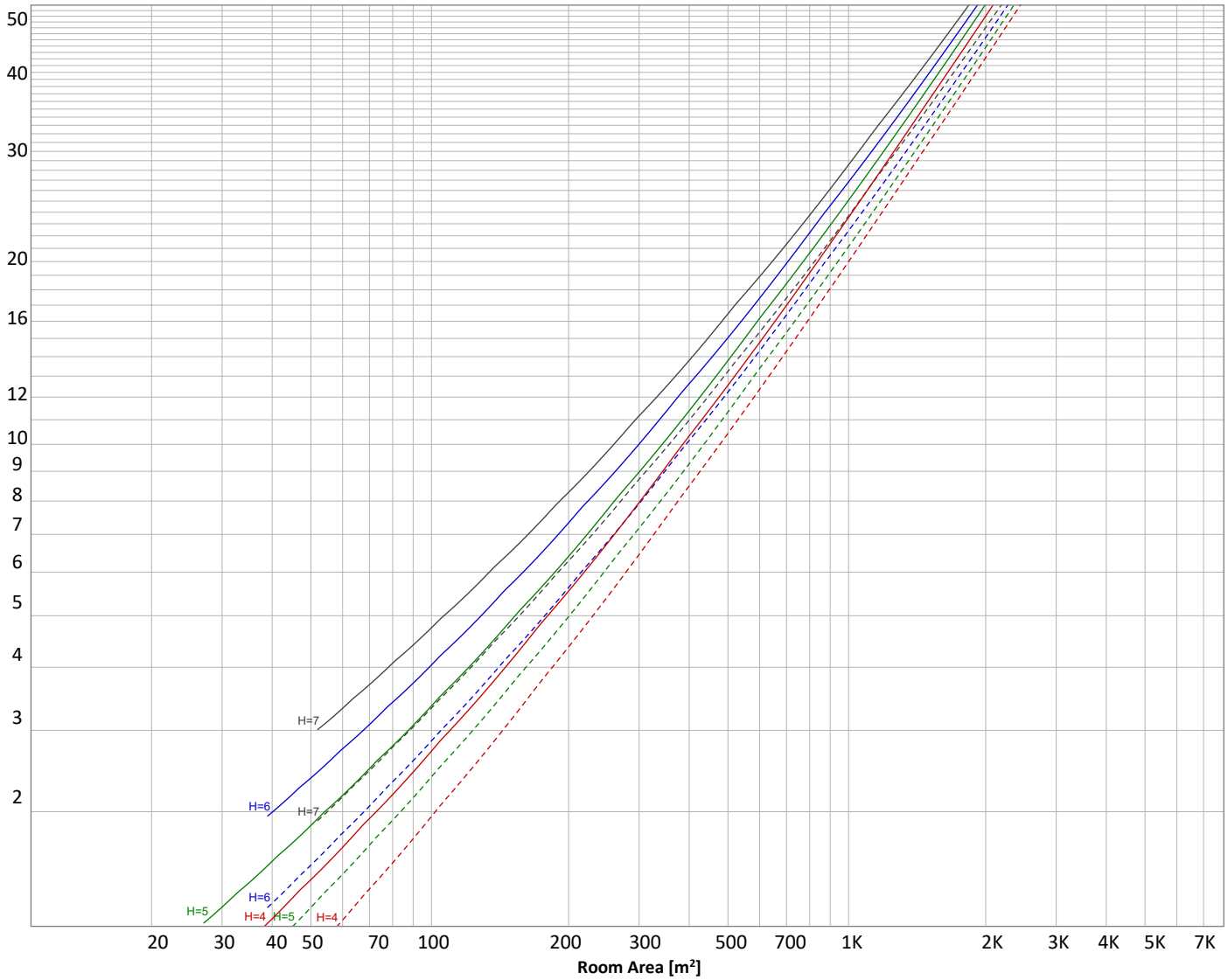
Light Measurement Report

Print date: 3-2-2026
Measurement date and time: 3-2-2026 10:18:57 – Measurement no. VFR-260203-4181-MS
Measurement tracking No. and Link: VT260203-008313
Operator:

Luminaire budgetary diagram

Uncorrected, comprehensive UGR table according to 117-1995

LAMPS (number of lamps)



Conditions

H = Room height	Flux = 5288 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°
108 lm	323 lm	531 lm	734 lm	922 lm	1071 lm	1007 lm	539 lm	49,9 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0,727 lm	0,205 lm	0,247 lm	0,248 lm	0,205 lm	0,157 lm	0,103 lm	0,064 lm	0,022 lm

Light Measurement Report

Print date: 3-2-2026
Measurement date and time: 3-2-2026 10:18:57 – Measurement no. VFR-260203-4181-MS
Measurement tracking No. and Link: VT260203-008313
Operator:

Outdoor Light Planning

Lumen per Zone

Zone (γ)	Lumen	% Total
0-10°	{LUM00-10} lm	#VALUE!
10-20°	{LUM10-20} lm	#VALUE!
20-30°	{LUM20-30} lm	#VALUE!
30-40°	{LUM30-40} lm	#VALUE!
40-50°	{LUM40-50} lm	#VALUE!
50-60°	{LUM50-60} lm	#VALUE!
60-70°	{LUM60-70} lm	#VALUE!
70-80°	{LUM70-80} lm	#VALUE!
80-90°	{LUM80-90} lm	#VALUE!
90-100°	{LUM90-100} lm	#VALUE!
100-110°	{LUM100-110} lm	#VALUE!
110-120°	{LUM110-120} lm	#VALUE!
120-130°	{LUM120-130} lm	#VALUE!
130-140°	{LUM130-140} lm	#VALUE!
140-150°	{LUM140-150} lm	#VALUE!
150-160°	{LUM150-160} lm	#VALUE!
160-170°	{LUM160-170} lm	#VALUE!
170-180°	{LUM170-180} lm	#VALUE!
Total	0 lm	#VALUE!

Intensity peaks

Max intensity	{PEAK}	cd
Intensity, 90°	{INT90}	cd
Intensity, 0°	{INT0}	cd

Zonal Lumen summary

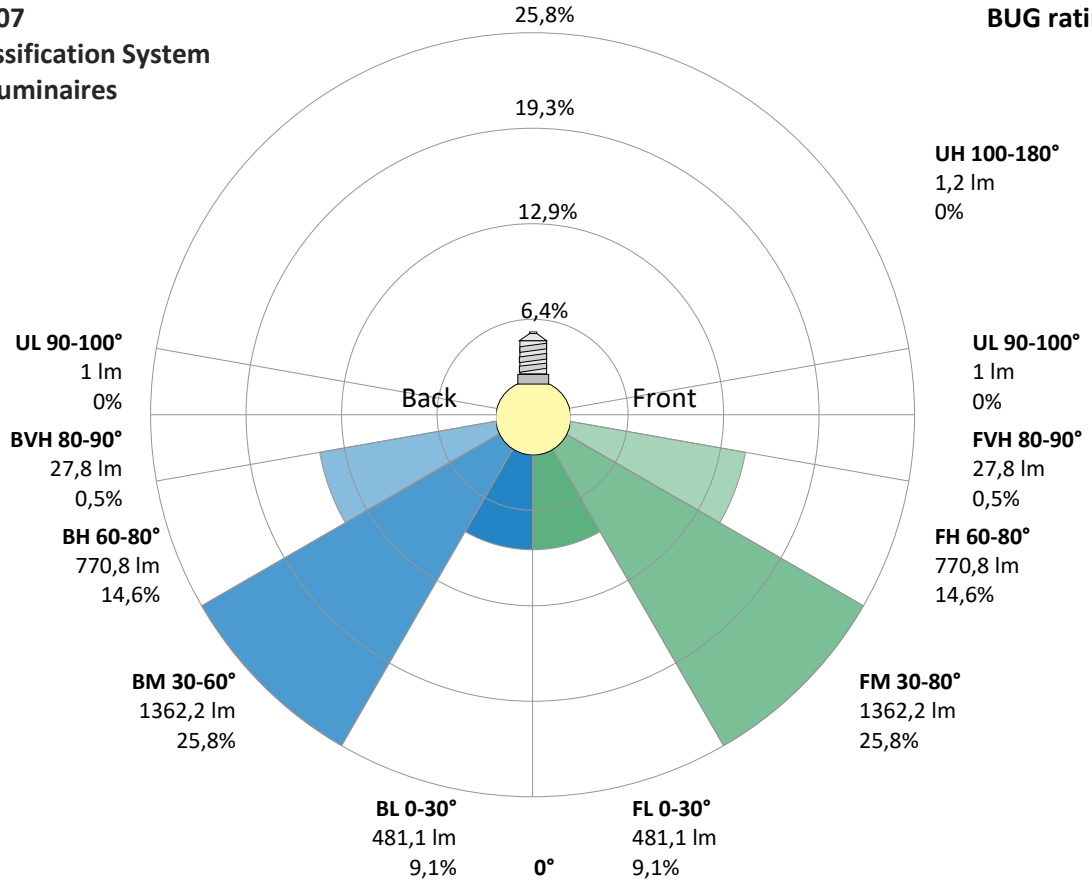
Zone (γ)	Lumen	% Total
0-30°	{LUM00-30} lm	#VALUE!
0-40°	{LUM00-40} lm	#VALUE!
0-60°	{LUM00-60} lm	#VALUE!
60-90°	{LUM60-90} lm	#VALUE!
70-100°	{LUM70-100} lm	#VALUE!
90-120°	{LUM90-120} lm	#VALUE!
0-90°	{LUM00-90} lm	#VALUE!
90-180°	{LUM90-180} lm	#VALUE!
0-180°	{LUM00-180} lm	#VALUE!

BUG rating

	Lumen	% Total
Forward light		
Low(0-30°)	{BUG0} lm	#VALUE!
Medium(30-60°)	{BUG1} lm	#VALUE!
High(60-80°)	{BUG2} lm	#VALUE!
Very high(80-90°)	{BUG3} lm	#VALUE!
Back light		
Low(0-30°)	{BUG4} lm	#VALUE!
Medium(30-60°)	{BUG5} lm	#VALUE!
High(60-80°)	{BUG6} lm	#VALUE!
Very high(80-90°)	{BUG7} lm	#VALUE!
Uplight		
Low(90-100°)	{BUG8} lm	#VALUE!
High(100-180°)	{BUG9} lm	#VALUE!

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

BUG rating B2 U1 G2



Light Measurement Report

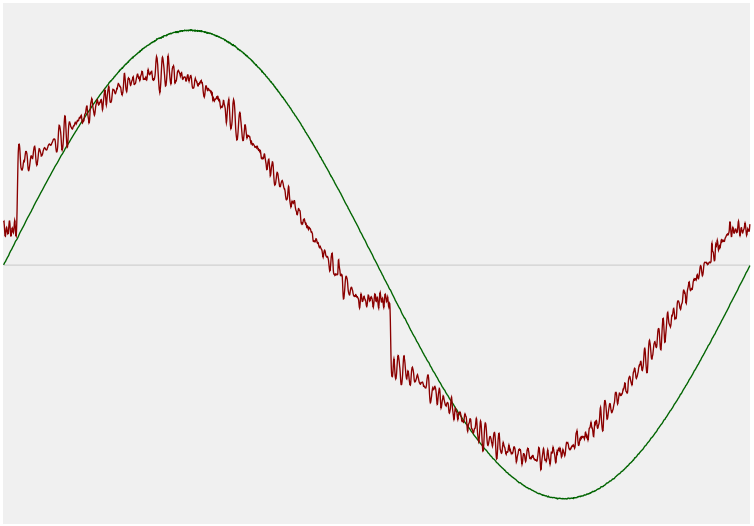
Print date: 3-2-2026
Measurement date and time: 3-2-2026 10:18:57 – Measurement no. VFR-260203-4181-MS
Measurement tracking No. and Link: VT260203-008313
Operator:

Power Details

Input Power

Power feed to light source	41,2 W
Frequency of input power	50 Hz
RMS Input voltage feed, V_{RMS}	230 V
RMS Input current feed, I_{RMS}	0,190 A
Volt-Ampere or apparent power = V_{RMS}*I_{RMS}	43,72 VA
Displacement factor of AC power feed	0,95
Power factor of AC current feed	0,94
Total harmonic distortion of the current	7,15%
Total harmonic distortion of the voltage	0,07%

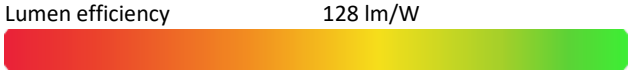
Input Power Curve



Efficiency

Radiated power efficiency 37,3%

Lumen efficiency 128 lm/W



Stabilization Details

Warmup Conditions

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

Color Temperature Change

CCT start	2996 K
CCT shift	+3 K
CCT end	2999 K

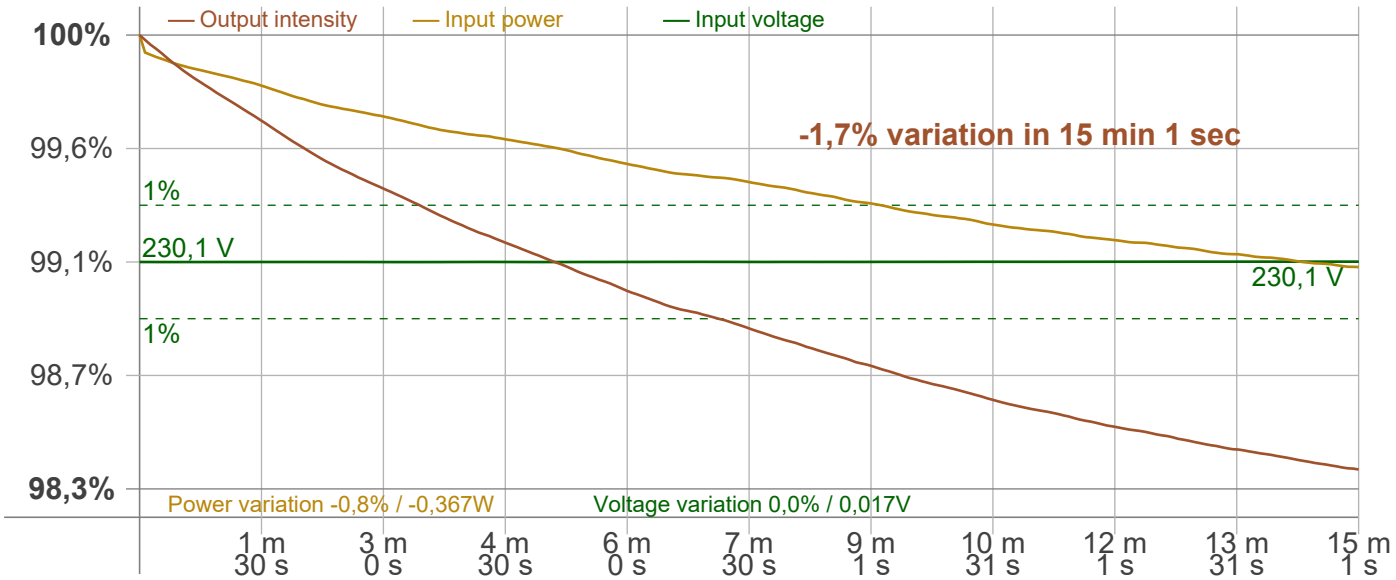
Warmup Result

Total warmup time	Lamp stabilized in 15 min 1 sec
Warmup variation	-1,7%

Output Change

Output start	5378 lm
Output change	-90 lm
Output end	5288 lm

Stabilization Curve



Light Measurement Report

Print date: 3-2-2026
Measurement date and time: 3-2-2026 10:18:57 – Measurement no. VFR-260203-4181-MS
Measurement tracking No. and Link: VT260203-008313
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	88,5 Hz
Percent Flicker	0,3 %
Flicker index	0

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

JA8/10 40 Hz	0,1 %
JA8/10 90 Hz	0,1 %
JA8/10 200 Hz	0,24 %
JA8/10 400 Hz	0,25 %
JA8/10 1000 Hz	0,29 %

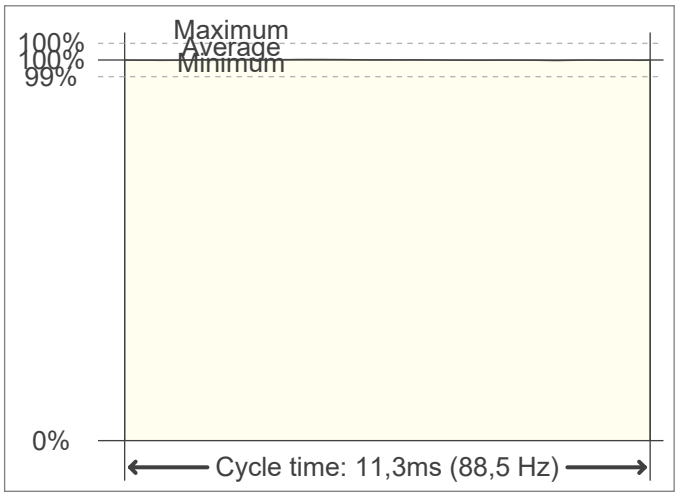
TLA indices (re IEC TR 61547-1, IEC 61000-3-3 and IEC 61000-4-15)

PstLM value (F < 80 Hz)	0,04
SVM value (80 < F < 2000 Hz)	0,01

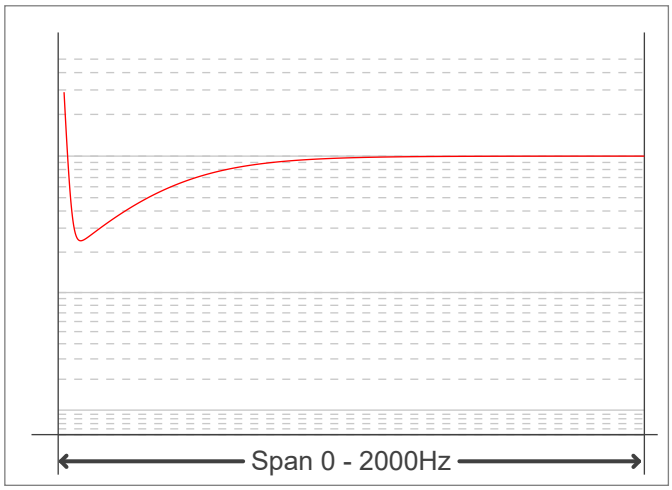
Flicker indices according to Lighting Research Center (2015)

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