

Test report

Print date 4/2/2026
Light measurement results



Laboratory and Equipment

Test lab
Spectrometer Manufacturer and Model
Measurement date
Operator

Viso BaseSpion - serial: 2667583511 sensor serial: 0946748350 - Test lab
BaseSpion — Type C, horizontal
4/2/2026
MJV

Measurement Conditions

Tested c-planes
Tested gamma resolution
Input Power

12 planes — 30.00°
5.00°
3.764 W

Tested Light Source

Luminaire
Basic Luminous Shape
Item No.
Manufacturer
Description

ChannelART 20x20 RB90SWS2203.030
PANEL
CHAART 20x20 RB90SWS2203.030
GENLEDBrands

Main Light Measurement Results

Output — Total Lumen (Up% / Down%)
Efficiency
Peak Intensity
Correlated Color Temperature, CCT
Color Rendering Index
Dominant Wavelength
Peak Wavelength

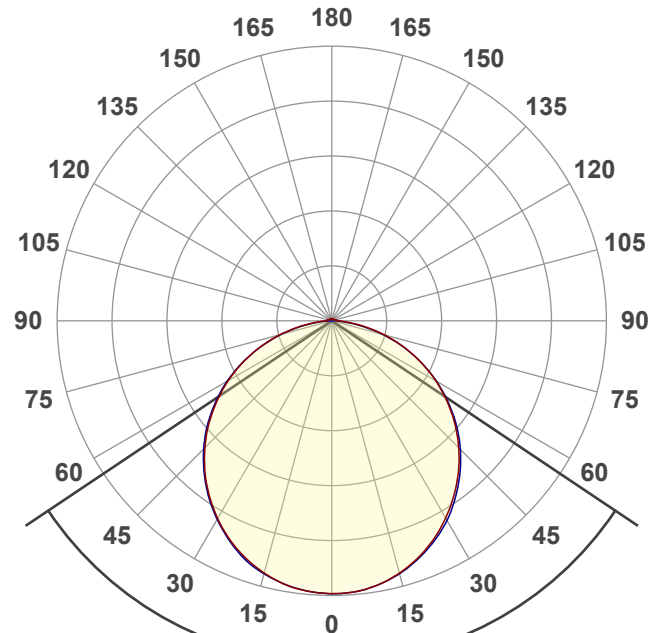
184.3 lm — 1.727% / 98.27%
48.97 lm/W
63.46 cd
2934 K
CRI 96.1
585 nm
623 nm

Lumen per length
Watt per length

460.82	lm/m	140.46	lm/ft
9.41	W/m	2.87	W/ft

Polar light distribution diagram

Unit: 0-100% of peak intensity



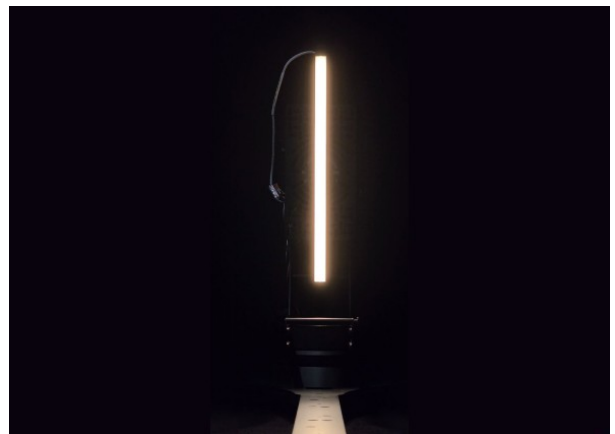
— C0 - C180
— C90 - C270

$\eta = 100\%$

48.97 lm/W

2934 K

Product photo



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Color Parameters

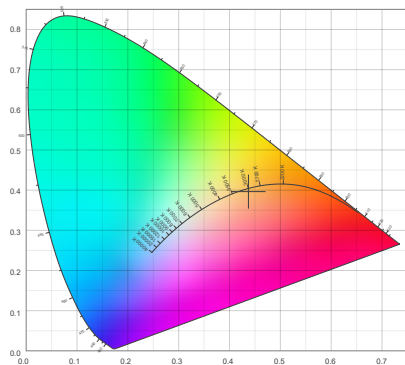
Correlated Color Temperature, Target
Correlated Color Temperature, Measured
Color Rendering Index
Color Rendering Index, R9 (red)
Color Rendering TM30-18

CCT = 2934 K
CCT = 2934 K
CRI 96.1
R9 = 73.7
Rf 92.1
Rg 101.7

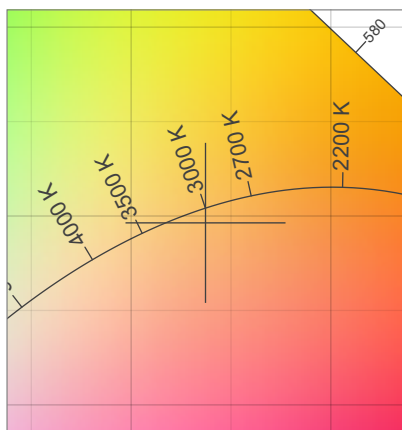
MacAdam Steps
Color deviation from BBL
Color coordinates CIE 1931
Color coordinate CIEs 1960
Color coordinate CIEs 1976
Color Quality Scale

SDCM = NaN
Duv = -0.0031
(x;y) = (0.4372;0.3964)
(u;v) = (0.2541;0.3456)
(u';v') = (0.2541;0.5184)
CQS = 92.2

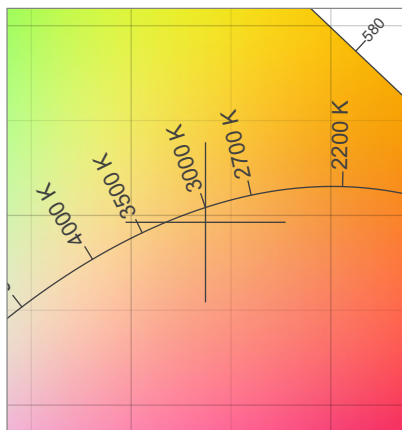
CIE 1931 Chromaticity diagram



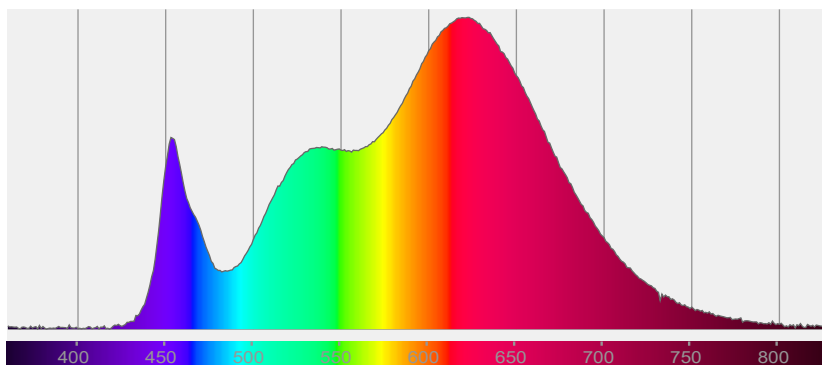
CIE 1931 Chromaticity - zoomed



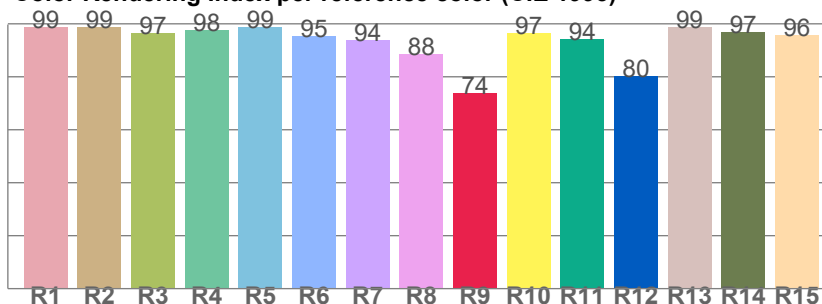
CIE 1931 Chromaticity - SDCM



Spectral power distribution



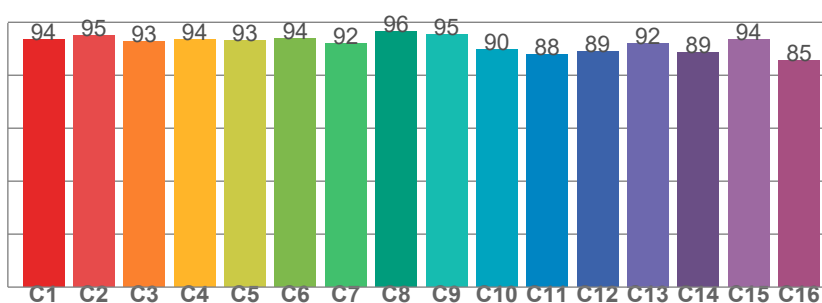
Color Rendering Index per reference color (CIE 1995)



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
98.8	98.9	96.6	97.8	98.9	95.4	93.7	88.5	73.7	96.6	94.2	80.3	98.6	96.7	95.7

TM30-18 Rf-values per hue bin



TM30-18 Rf-values per hue bin

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
93.6	95.0	92.8	93.5	93.1	93.7	92.1	96.5	95.3	89.7	87.7	89.1	92.1	88.7	93.5	85.5

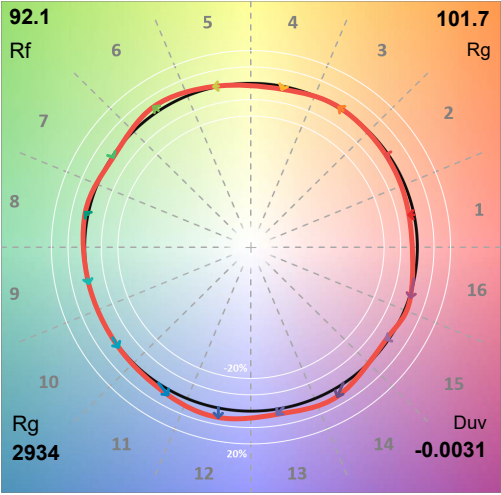
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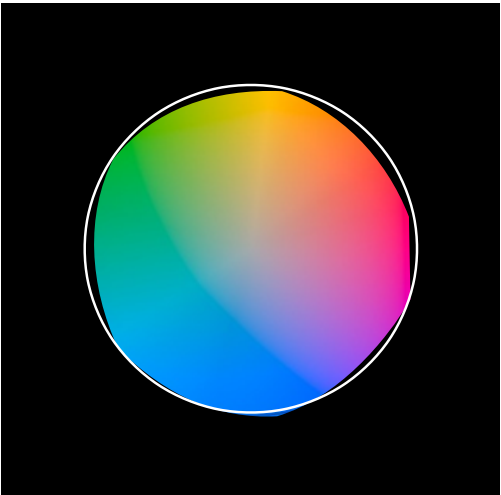


Color details - ANSI/IES TM-30-18 Color Rendition Report

Color Vector Graphic



Color Distortion Graphic



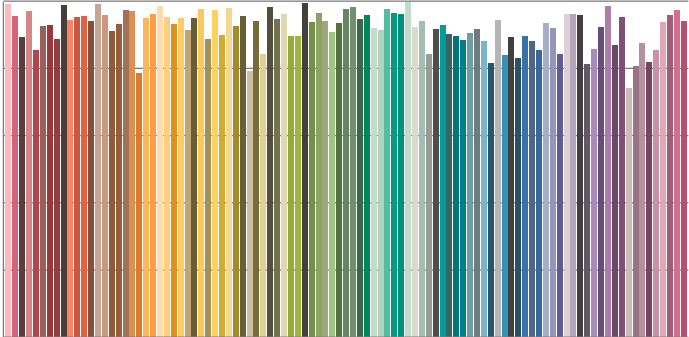
CIE x 0.4372
CIE y 0.4372
CIE u' 0.2541
CIE v' 0.5184

CIE 13.3-1995

Ra 96.1

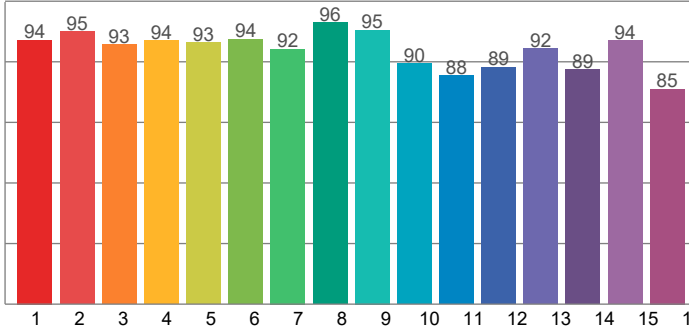
R9 73.7

Color Rendition by Color Evaluation Sample (CES)



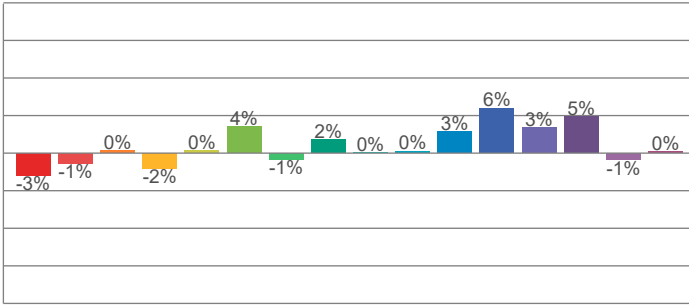
Color evaluation sample CES01 through CES99

Local Color Fidelity (per hue bin)



Hue angle bin (j)

Local Chroma Shift (per hue bin)



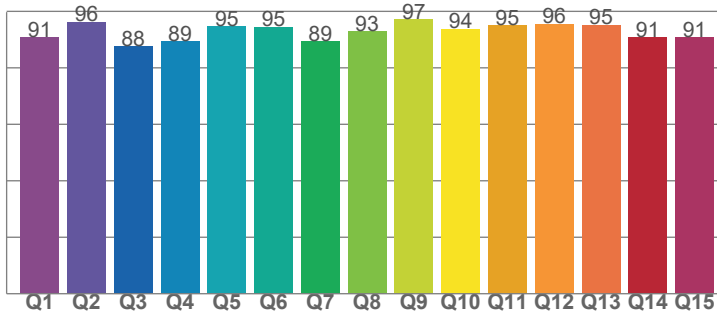
Hue angle bin (j)

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Color Rendering Index (CQS)



Q1	90.8	Q9	97.1
Q2	96.3	Q10	93.8
Q3	87.6	Q11	95.1
Q4	89.4	Q12	95.5
Q5	94.8	Q13	95.2
Q6	94.6	Q14	90.7
Q7	89.5	Q15	90.8
Q8	92.9	CQS	92.2

Hue Bin	Rf	Shifts (%)	
		Chroma	Hue
1	94	-3%	1%
2	95	-1%	2%
3	93	0%	3%
4	94	-2%	0%
5	93	0%	3%
6	94	4%	1%
7	92	-1%	0%
8	96	2%	-1%
9	95	0%	3%
10	90	0%	7%
11	88	3%	9%
12	89	6%	1%
13	92	3%	-4%
14	89	5%	-7%
15	94	-1%	-2%
16	85	0%	-12%

Rg 101.7

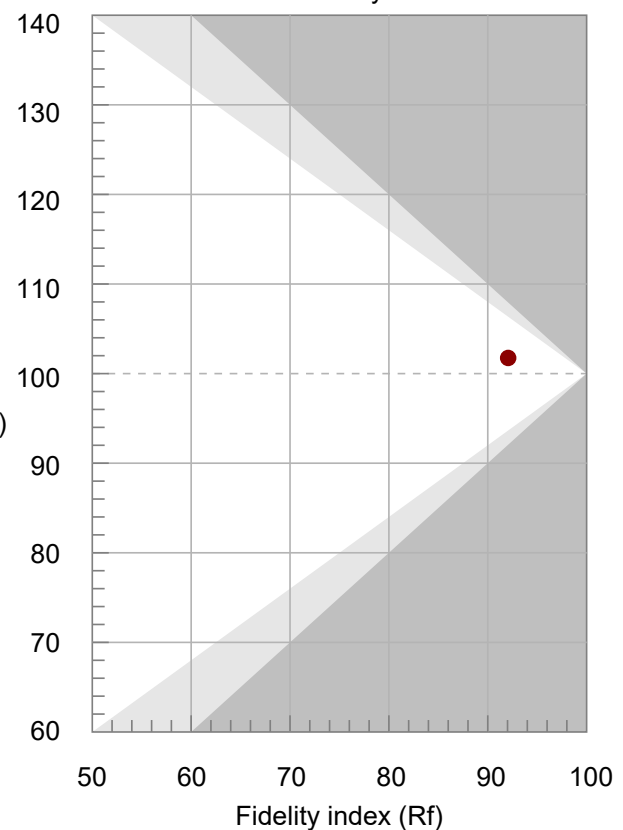
Gamut Index Rf

Gamut index (Rg)

Rf 92.1

Fidelity Index Rf

Gamut Index vs. Fidelity Index



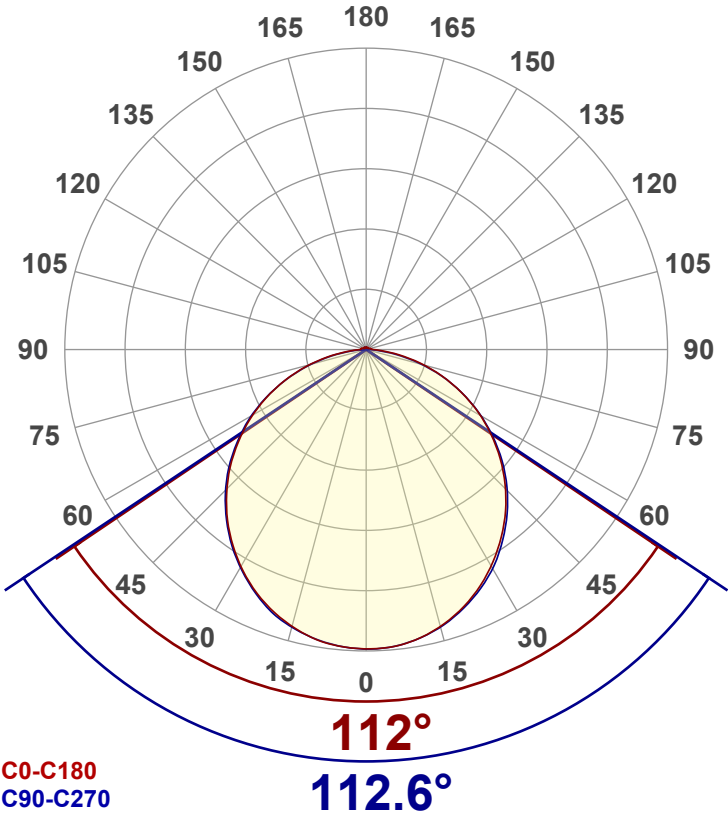
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Luminous Intensity diagram

Unit: 0-100% of peak intensity



Main Values

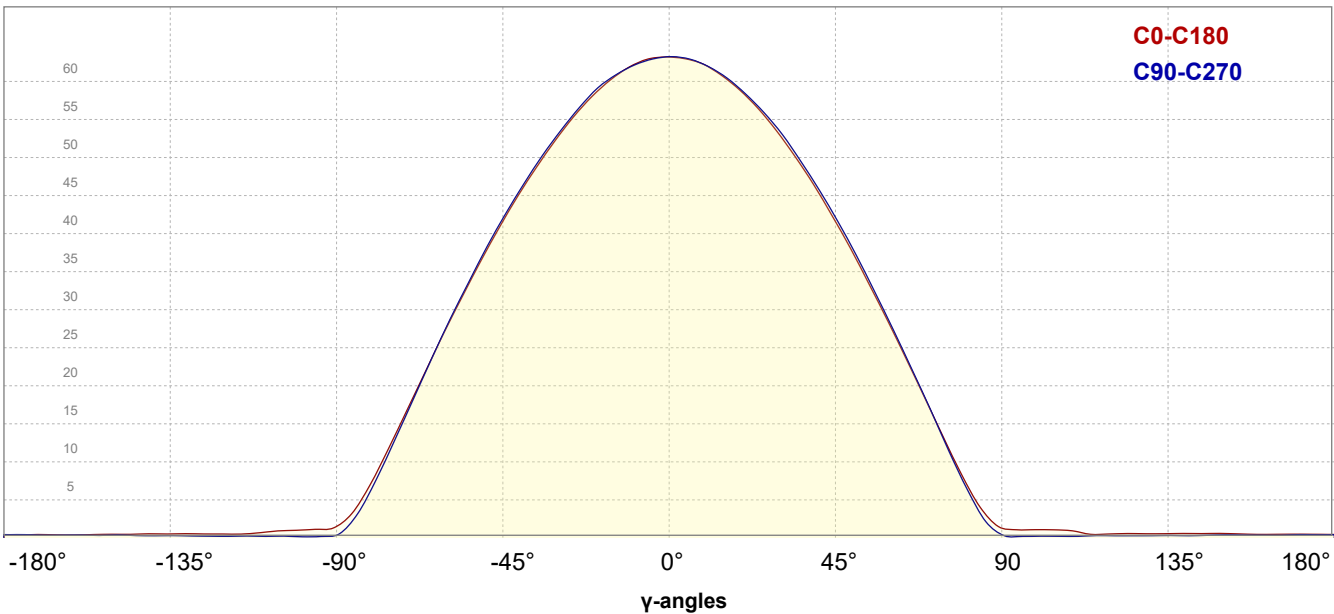
Output (total Lumen)	184.3 lm
Lumen Up% / Down%	1.727% / 98.27%
Peak Intensity	63.46 cd
Beam Angle (50%-FWHM)	112.4°
Field Angle (10%-FWHM)	162.5°
Cutoff Angle (2.5%-FWHM)	{c_ANG/0.00}°

Intensity Ratios

In 120° cone	460.8
In 90° cone	140.5

Linear distribution diagram

Intensity [cd]

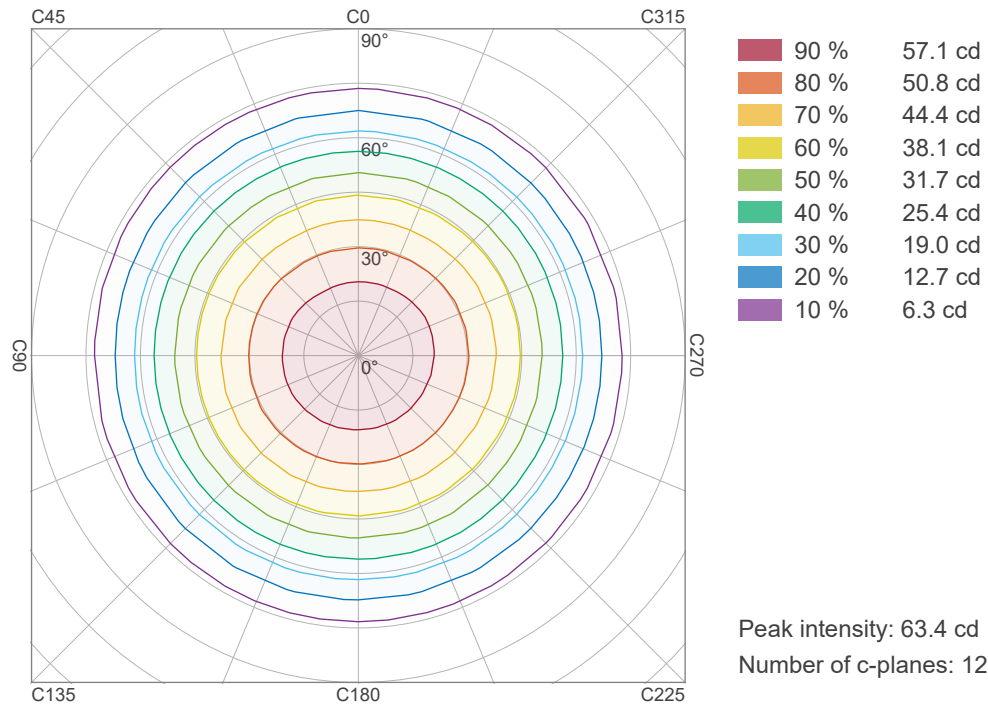


Test report

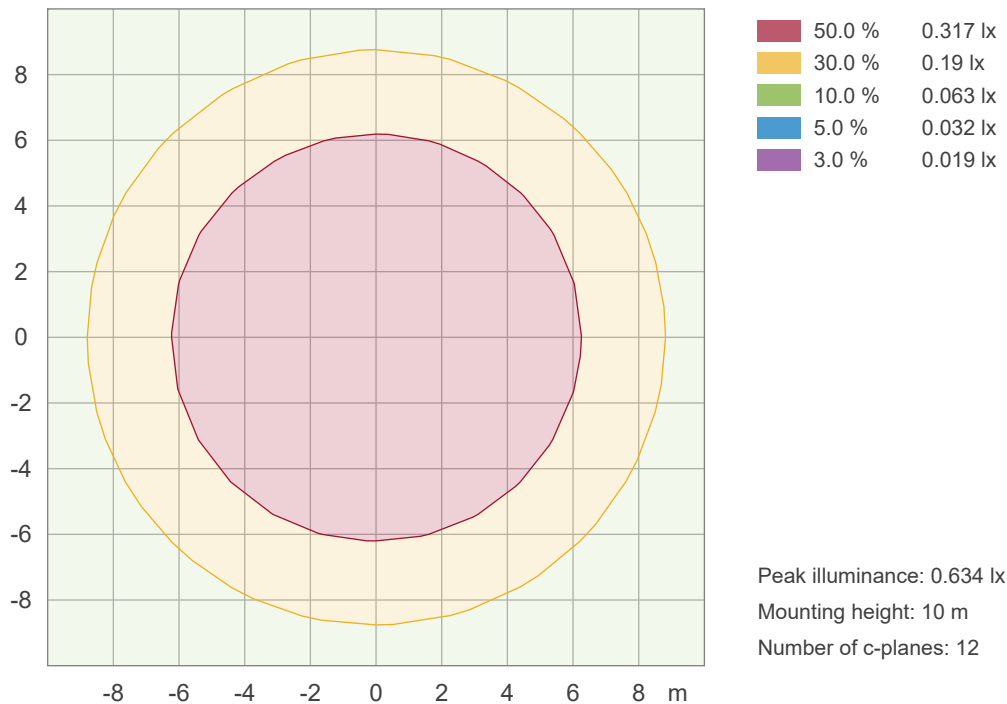
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Iso-intensity Diagram (Iso-candela)



Iso-illuminance Diagram (Iso-lux)

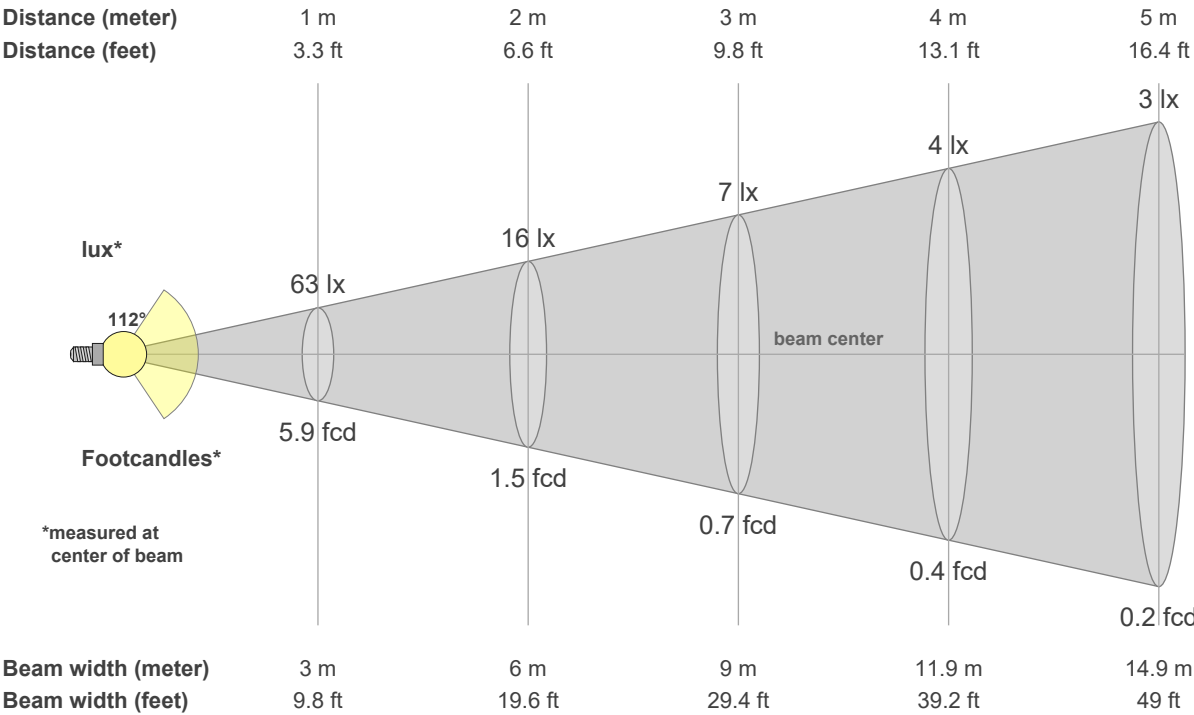


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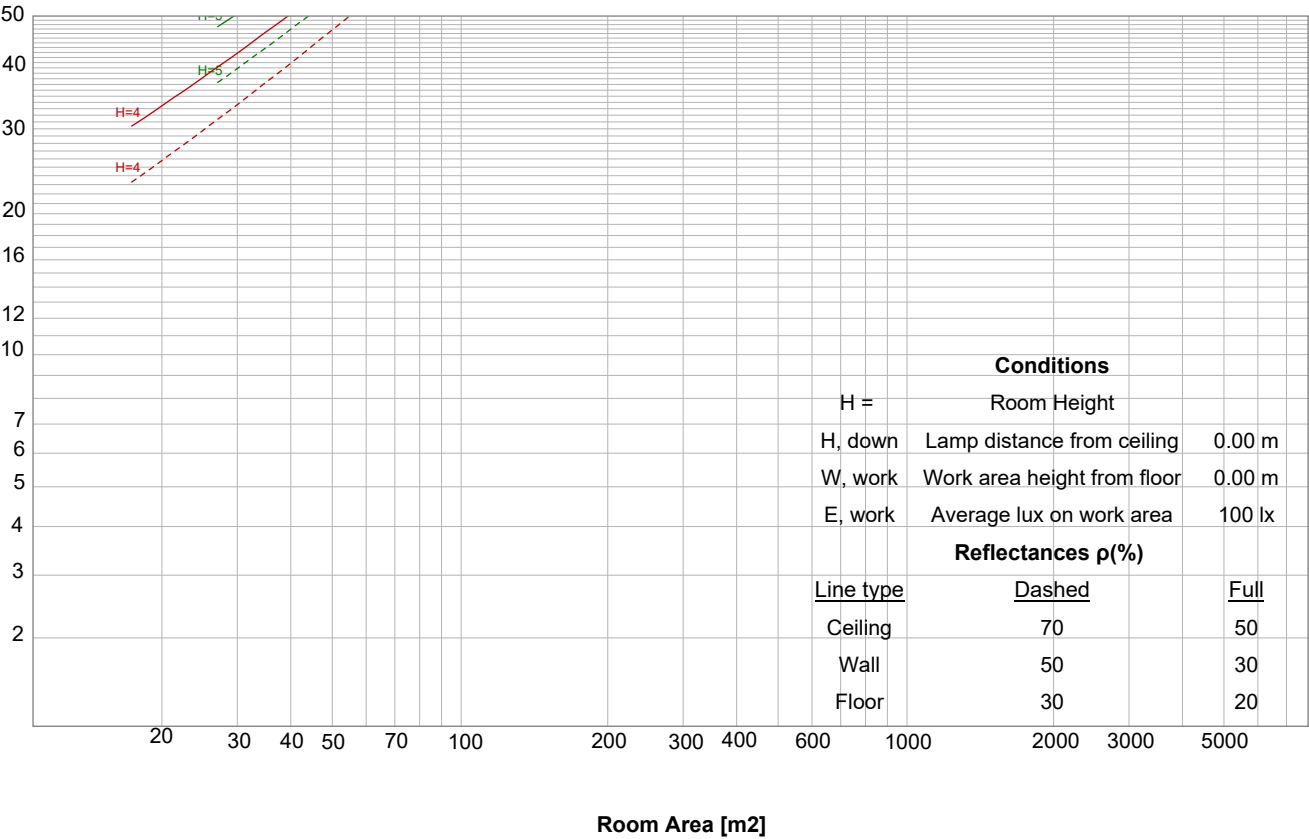


Beam details



Luminaire budgetary diagram

LAMPS (number of lamps)



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Intensity 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
63	16	7	4	3	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	lux
5.9	1.5	0.7	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0	0	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
63.2	63.0	62.1	60.5	58.4	55.8	52.7	49.3	45.6	41.6	37.2	32.6	27.9	22.8	17.7	12.7	7.8	3.9	1.6	1.2	cd
100%	100%	98%	96%	92%	88%	83%	78%	72%	66%	59%	52%	44%	36%	28%	20%	12%	6%	3%	2%	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
63.2	63.0	62.1	60.6	58.6	56.2	53.4	49.9	46.2	42.1	37.7	32.9	28.0	22.9	17.6	12.2	7.0	2.7	0.5	0.2	cd
100%	100%	98%	96%	93%	89%	84%	79%	73%	67%	60%	52%	44%	36%	28%	19%	11%	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
63.2	62.9	62.0	60.5	58.4	55.9	52.9	49.4	45.7	41.6	37.2	32.5	27.7	22.6	17.5	12.4	7.6	3.6	1.4	1.1	cd
100%	99%	98%	96%	92%	88%	84%	78%	72%	66%	59%	51%	44%	36%	28%	20%	12%	6%	2%	2%	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
63.2	62.8	62.0	60.7	58.8	56.1	53.1	49.7	46.0	42.0	37.6	32.9	28.0	22.8	17.4	12.1	7.0	2.8	0.5	0.2	cd
100%	99%	98%	96%	93%	89%	84%	79%	73%	66%	59%	52%	44%	36%	28%	19%	11%	4%	1%	0%	of 0°val

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IESNA TM-15-07 LUMINAIARE CLASSIFICATION SYSTEM FOR OUTDOOR LUMINAIRES

Forward Light

Low (0-30°)	24.4	lm	13.3%
Medium (30-60°)	46.3	lm	25.1%
High (60-80°)	17.9	lm	9.69%
Very High (80-90°)	2.03	lm	1.10%

Back Light

Low (0-30°)	24.4	lm	13.3%
Medium (30-60°)	46.3	lm	25.1%
High (60-80°)	17.8	lm	9.67%
Very High (80-90°)	1.97	lm	1.07%

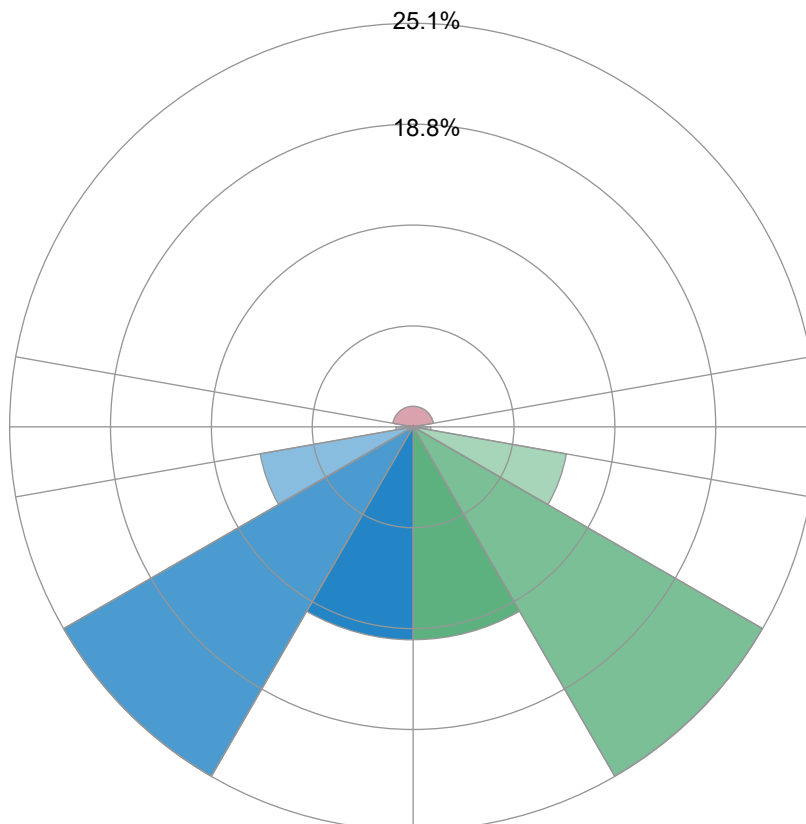
Uplight

Low (90-100°)	0.826	lm	0.448%
High (100-180°)	2.37	lm	1.28%

Total

Sum	184.3	lm	100%
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BUG RATING B0 U1 G0



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Corrected, comprehensive UGR table according to 117-1995, S/H ratio=0.25

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

Rev. Jan 2026

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Power details

Input power

Frequency of input power	0.0 Hz
Power feed to light source	3.764 W
RMS Input voltage feed V,RMS	23.92 V
RMS Input current feed I,RMS	0.16 A
Volt-Amp or apparent power = V,RMS*I,RMS	3.8 VA
Displacement factor of AC power feed	0.00
Power factor of AC current feed	1.00
Total harmonic distortion of the current	0%
Total harmonic distortion of the voltage	0%

Input power curve

Efficiency

Radiated power efficiency 17.21

Lumen efficiency 48.97 lm/W

Stabilization details

Warmup Conditions

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

Color Temperature Change

CCT start	2934 K
CCT shift	0 K
CCT end	2934 K

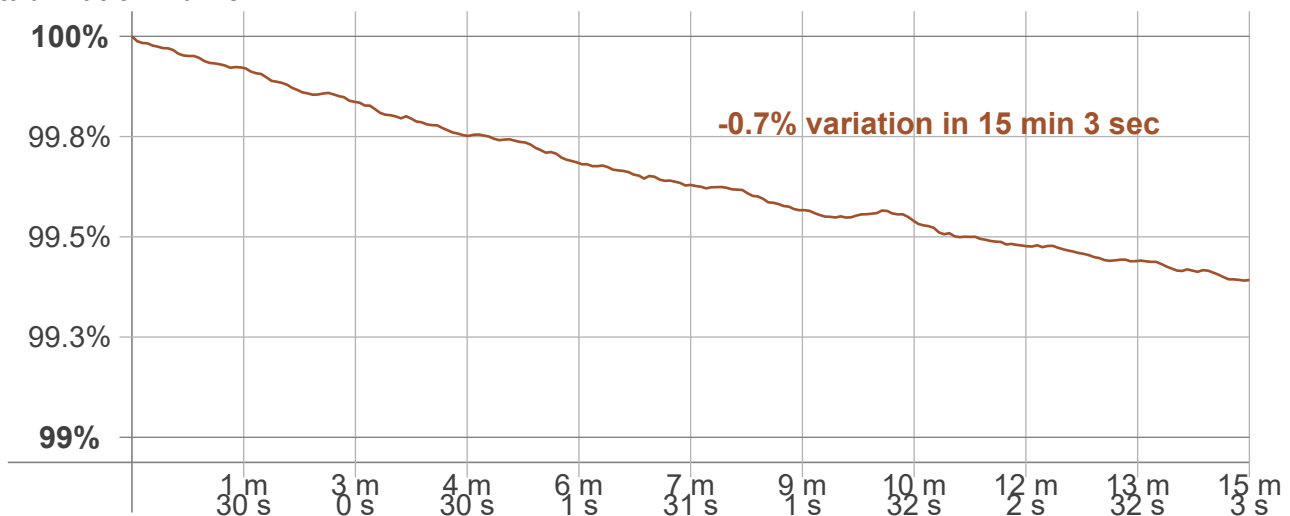
Warmup Result

Total warmup time	Lamp stabilized in 15 min
Warmup variation	-0.7165%

Output Change

Output start	185.4 lm
Output change	-1.1182 lm
Output end	184.3 lm

Stabilization Curve



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Flicker TLA details

Flicker Meter Type Viso Systems LabFlicker
Frequency of input power 0.0 Hz
Flicker/TLA sample rate NaN samples/s

Measurement time
PstLM 180 sec.
All other indices 1,5 sec,

Flicker indices according to Illuminating Engineering Society (IES)

Flicker frequency NaN Hz
Percent Flicker NaN %
Flicker index NaN

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

JA8/10 40 Hz NaN %
JA8/10 90 Hz NaN %
JA8/10 200 Hz NaN %
JA8/10 400 Hz NaN %
JA8/10 1000 Hz NaN %

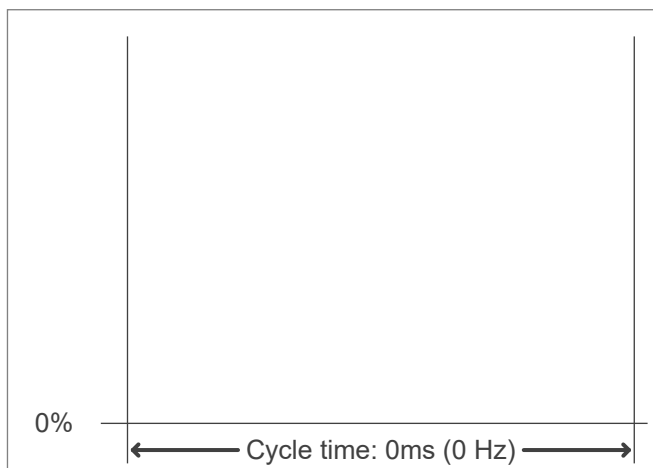
TLA indices (re IEC TR 61547-1, IEC 61000-3-3 and IEC 61000-4-15)

PstLM value ($F < 80$ Hz) NaN
SVM value ($80 < F < 2000$ Hz) NaN

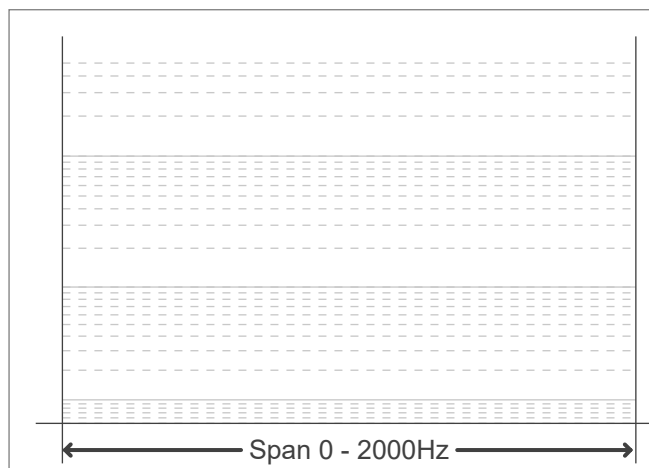
Flicker indices according to Lighting Research Center (2015)

Perception metric, Assist Mp NaN

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



Flicker FFT (flicker curve in frequency domain)



IEEE 1789 Frequency/modulation plot

