

Laboratory and Equipment

Test lab
Spectrometer Manufacturer and Model
Measurement date
Report Number

Viso LabSpion - serial: 1996407700 sensor serial: 1118720440 -
LabSpion - Type C, horizontal
11/07/2025
VT250711-002650

Tested Light Source

Luminaire
Basic Luminous Shape
Item No.
Manufacturer
Description

NLS3.030E
Linear LED Product
SO20250617-22063
Acolyte
0.6*101*1.2CM

Main Light Measurement Results

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

416 lm - 2,39% / 97,61%
44 lm/W
142 cd
3158 K
CRI 95,9
584 nm
631 nm
411,98 lm/m
9,39 W/m
125,57 lm/ft
2,86 W/ft

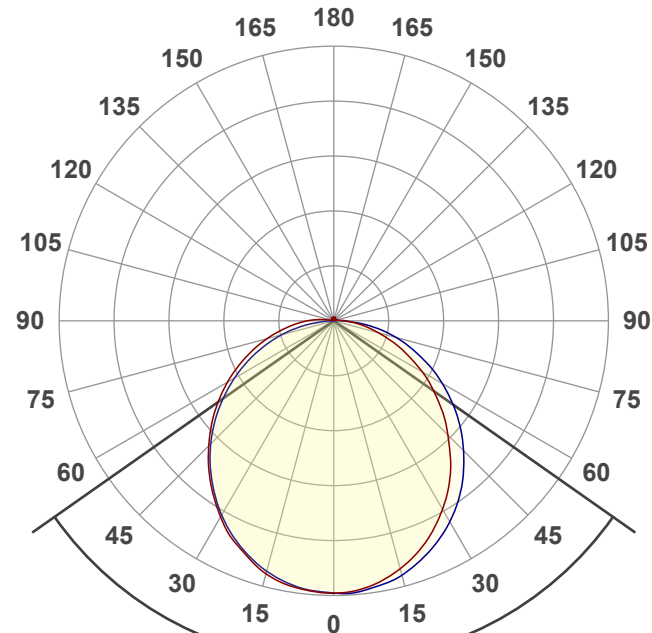
Measurement Conditions

Tested c-planes
Tested gamma resolution
Input Power

12 planes - 30°
5°
9,5 W

Polar light distribution diagram

Unit: 0-100% of peak intensity



109,8°

— C0 - C180
— C90 - C270

$\eta = 100.0\%$

44 lm/W

3158 K

Product photo



Color Parameters

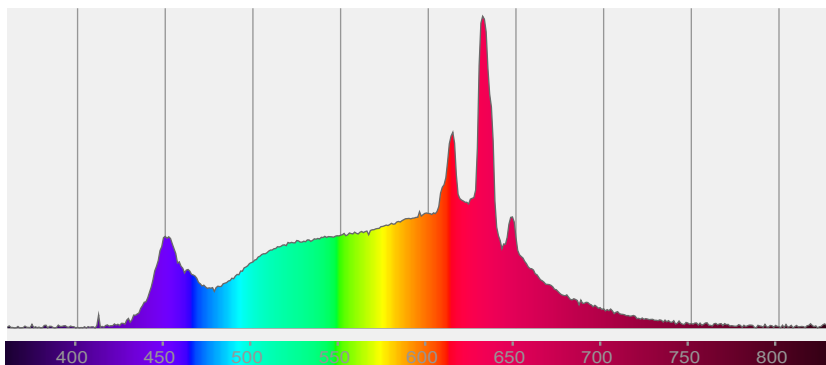
Correlated Color Temperature, Measured
Color Rendering Index
Color Rendering Index, R9 (red)
Color Rendering TM30-18

CCT = 3158 K
CRI 95,9
R9 = 90,4
Rf 93,7
Rg 101,6

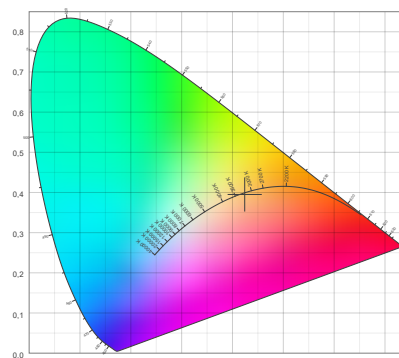
Color deviation from BBL
Color coordinates CIE 1931
Color coordinate CIEs 1960
Color coordinate CIEs 1976
Color Quality Scale

Duv = -0,0018
(x;y) = (0,424;0,395)
(u;v) = (0,246;0,344)
(u';v') = (0,246;0,516)
CQS = 95,5

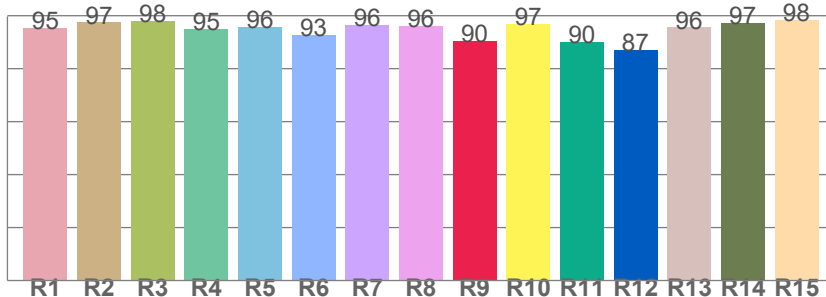
Spectral power distribution



CIE 1931 Chromaticity diagram



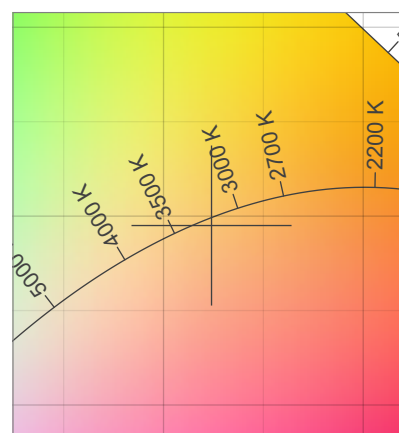
Color Rendering Index per reference color (CIE 1995)



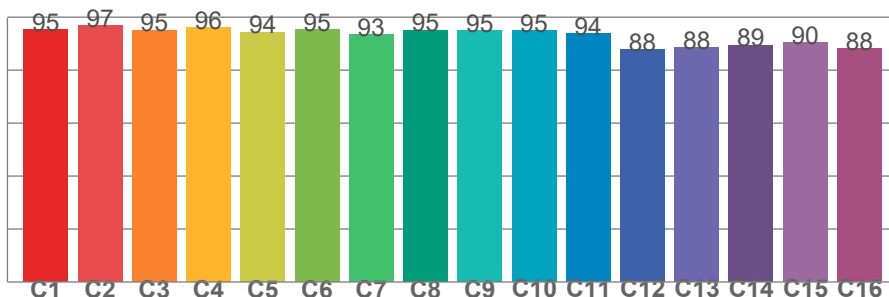
CRI R values, only R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
95,4	97,5	98,0	95,0	95,7	92,8	96,4	96,2	90,4	96,7	90,2	87,1	95,6	97,3	98,4

CIE 1931 Chromaticity - zoomed



TM30-18 Rf-values per hue bin

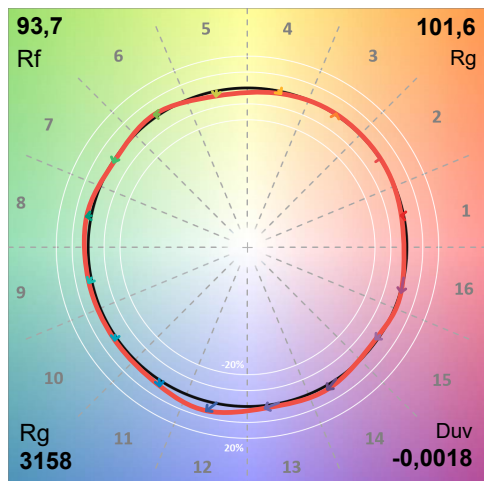


TM30-18 Rf-values per hue bin

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
95,2	96,8	95,1	96,1	94,3	95,2	93,5	95,1	95,0	94,8	93,9	87,8	88,4	89,4	90,5	88,2

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

Color Vector Graphic



Color Distortion Graphic

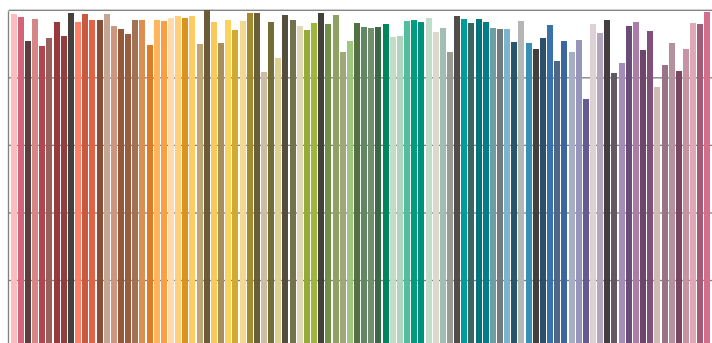


CIE x 0,424
CIE y 0,424
CIE u' 0,246
CIE v' 0,516

CIE 13.3-1995

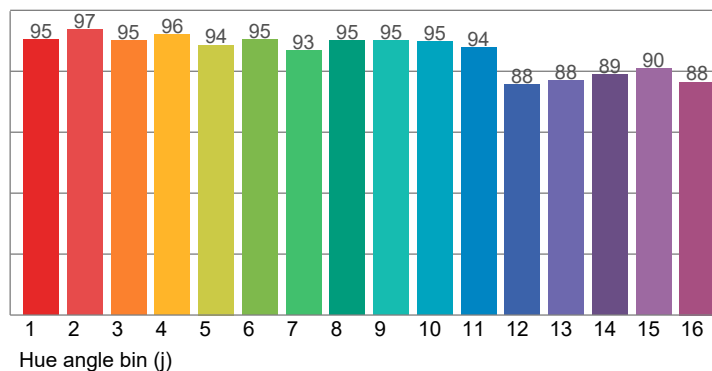
Ra 95,9
R9 90,4

Color Rendition by Color Evaluation Sample (CES)

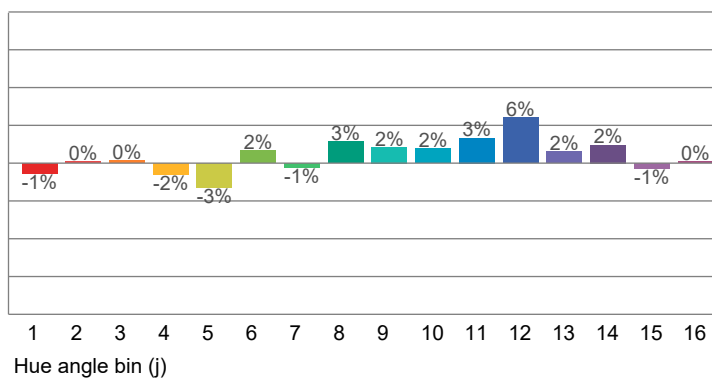


Color evaluation sample CES01 through CES99

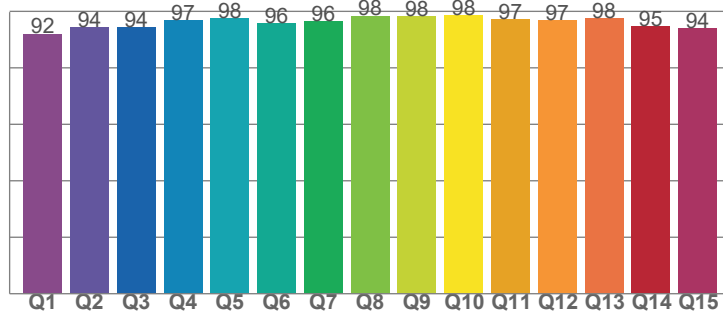
Local Color Fidelity (per hue bin)



Local Chroma Shift (per hue bin)



Color Rendering Index (CQS)



Q1	92,04	Q9	98,20
Q2	94,38	Q10	98,49
Q3	94,37	Q11	97,15
Q4	96,81	Q12	96,75
Q5	97,55	Q13	97,60
Q6	95,70	Q14	94,57
Q7	96,48	Q15	93,91
Q8	98,42	CQS	95,54

Hue Bin	Rf	Shifts (%)	
		Chroma	Hue
1	95	-1%	0%
2	97	0%	0%
3	95	0%	0%
4	96	-2%	-2%
5	94	-3%	1%
6	95	2%	3%
7	93	-1%	2%
8	95	3%	1%
9	95	2%	3%
10	95	2%	2%
11	94	3%	3%
12	88	6%	-5%
13	88	2%	-9%
14	89	2%	-8%
15	90	-1%	-3%
16	88	0%	-9%

Rg 101,6

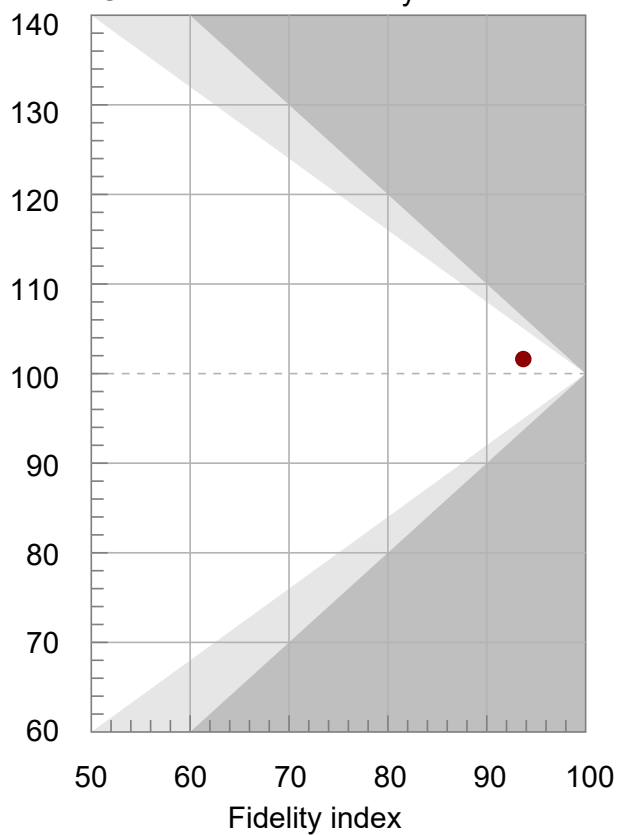
Gamut Index Rf

Gamut index

Rf 93,7

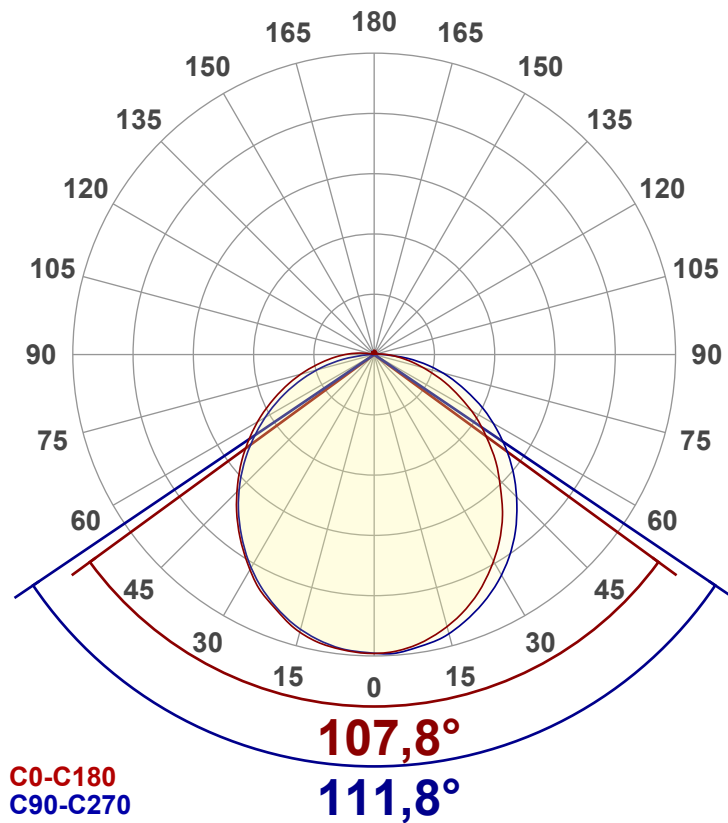
Fidelity Index Rf

Gamut Index vs. Fidelity



Luminous Intensity diagram

Unit: 0-100% of peak intensity



Main Values

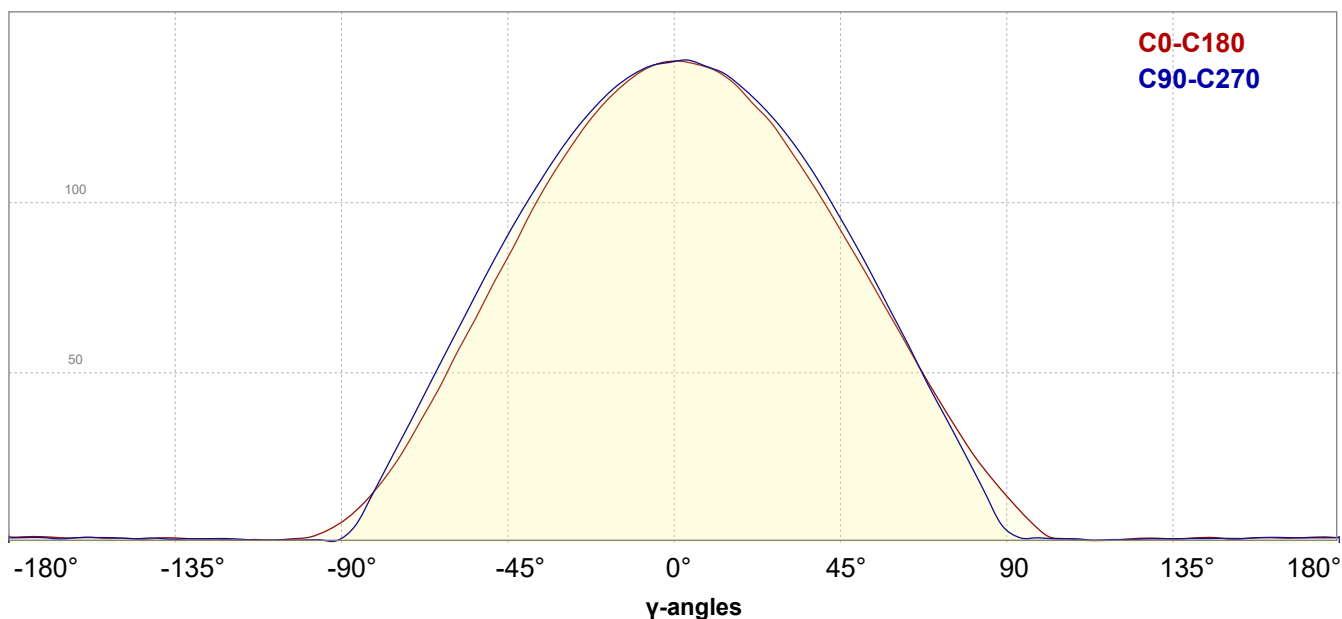
Output (total Lumen)	416 lm
Lumen Up% / Down%	2,39% / 97,61%
Peak Intensity	142 cd
Beam Angle (50%-FWHM)	109,84°
Field Angle (10%-FWHM)	168,69°
Cutoff Angle (2.5%-FWHM)	{c_ANG/0.00}°

Intensity Ratios

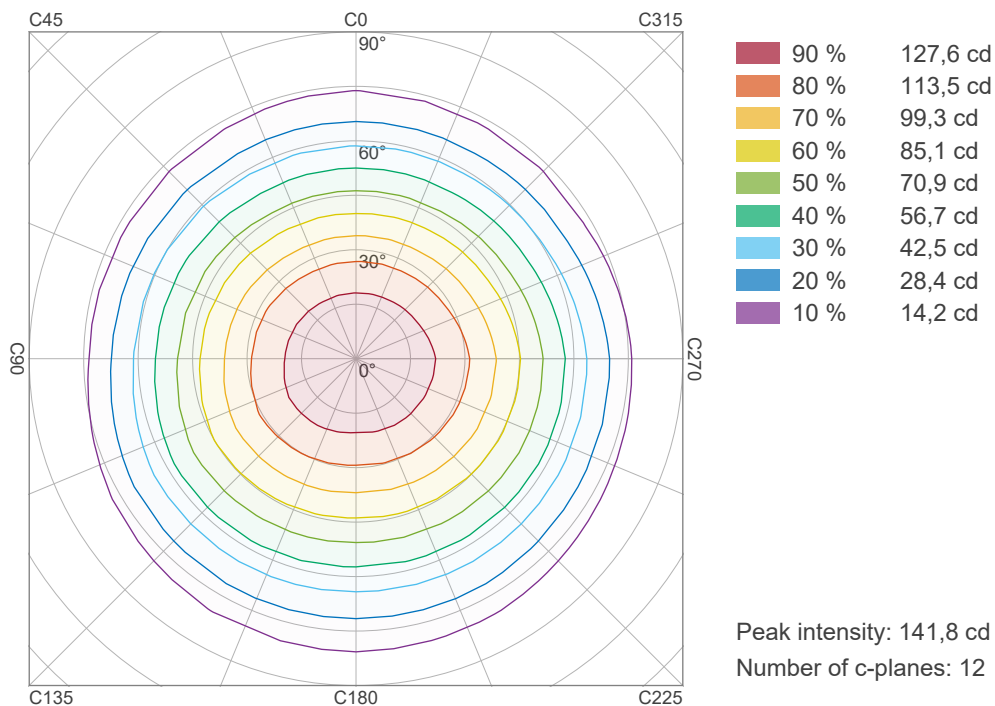
In 120° cone	412,0
In 90° cone	125,6

Linear distribution diagram

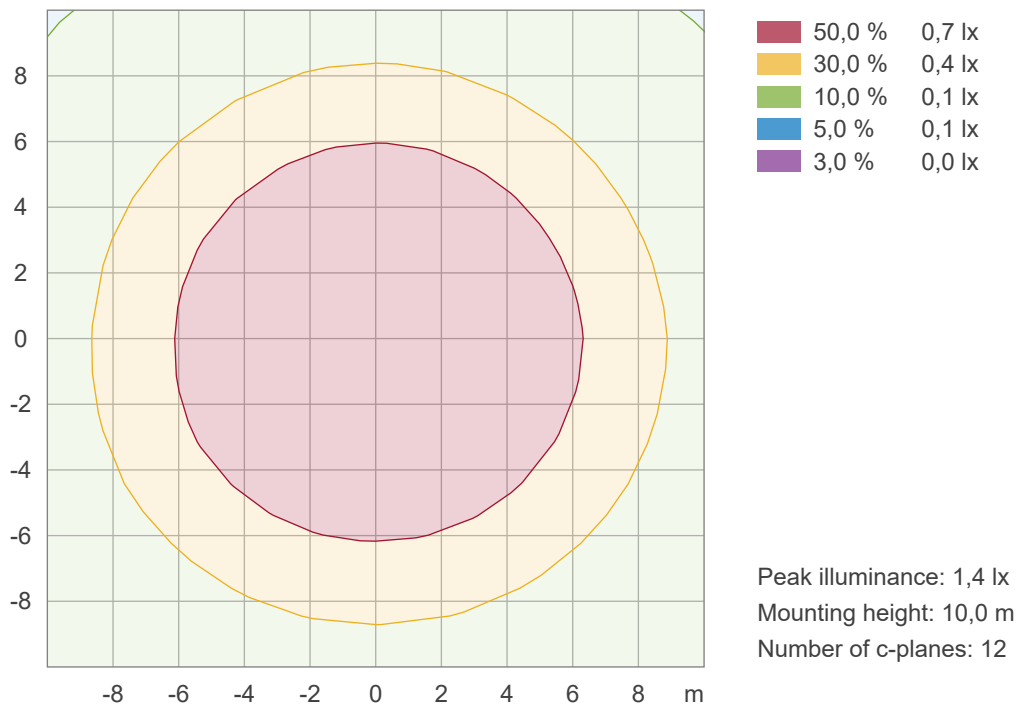
Intensity [cd]



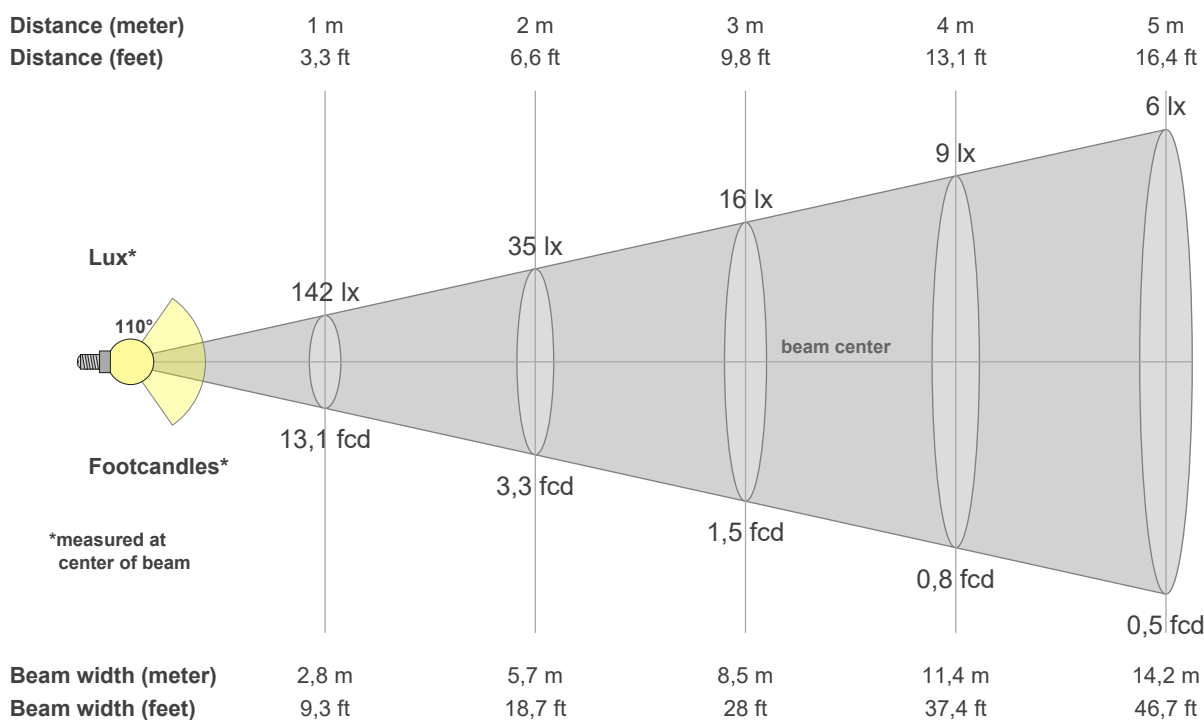
Iso-intensity Diagram (Iso-candela)



Iso-illuminance Diagram (Iso-lux)

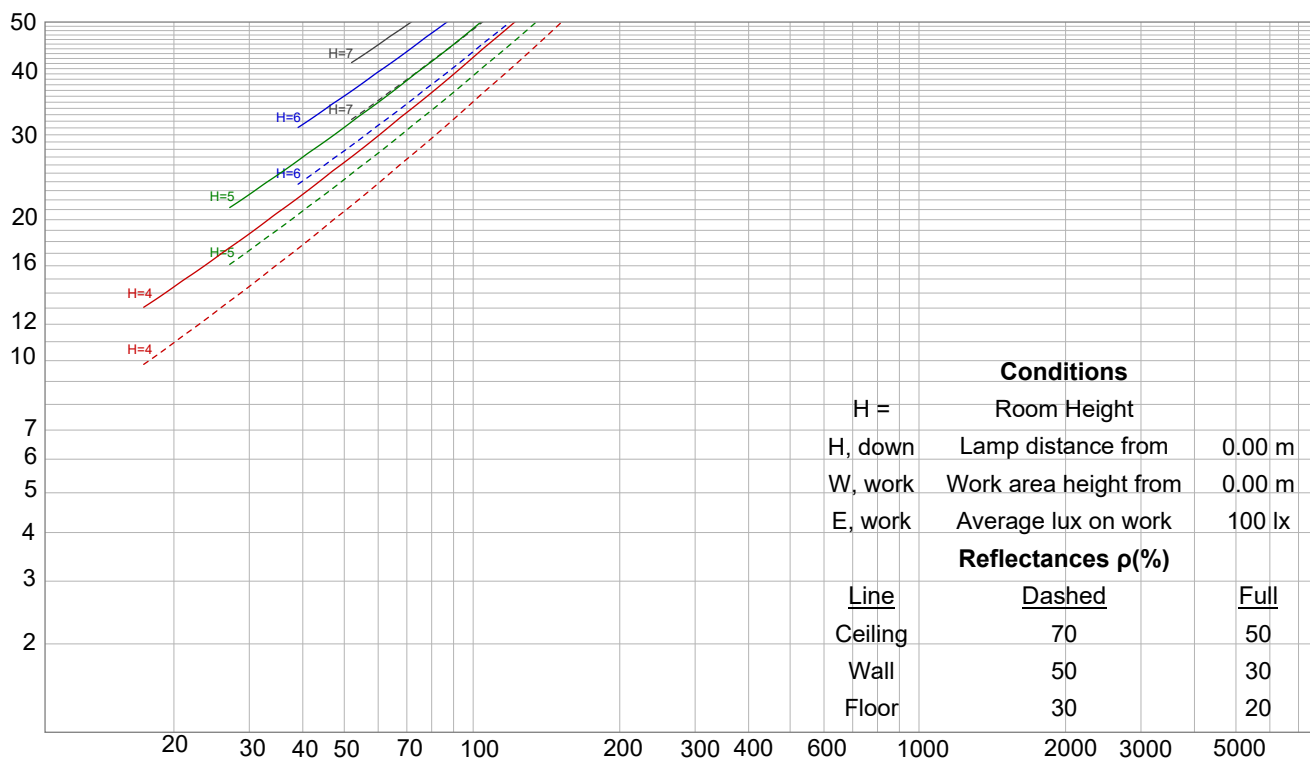


Beam details



Luminaire budgetary diagram

LAMPS (number of lamps)



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
142	35	16	9	6	4	3	2	2	1	1	1	1	1	1	1	0	0	0	0	lux
13,1	3,3	1,5	0,8	0,5	0,4	0,3	0,2	0,2	0,1	0,1	0,1	0,1	0,1	0,1	0,1	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
142	140	138	133	128	121	113	104	94	84	74	63	53	43	33	24	17	11	6	3	cd
100%	99%	97%	94%	90%	85%	80%	74%	67%	59%	52%	45%	38%	30%	23%	17%	12%	8%	4%	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
142	141	139	137	132	127	121	113	105	95	86	76	65	55	44	34	23	13	4	2	cd
100%	100%	99%	97%	93%	90%	85%	80%	74%	67%	61%	53%	46%	39%	31%	24%	17%	9%	3%	1%	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
142	141	139	136	131	125	118	110	101	92	83	73	64	54	45	36	28	20	14	8	cd
100%	100%	98%	96%	92%	88%	83%	77%	71%	65%	58%	52%	45%	38%	32%	25%	20%	14%	10%	6%	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
142	140	138	135	130	124	116	108	100	90	81	70	60	49	38	28	18	8	2	1	cd
100%	99%	98%	95%	92%	87%	82%	77%	70%	64%	57%	50%	42%	35%	27%	20%	12%	5%	1%	1%	of 0°val

Flicker TLA details

Flicker Meter Type	Viso Systems LabFlicker
Frequency of input power	0 Hz
Flicker/TLA sample rate	n/a samples/s

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

Flicker indices according to Illuminating Engineering Society

Flicker frequency	n/a Hz
Percent Flicker	n/a %
Flicker index	n/a

Flicker indices according to California Energy Commission (CEC)

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 %

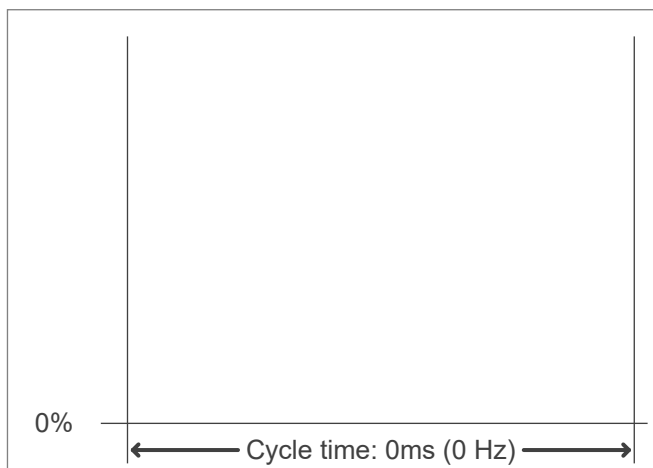
TLA indices (re IEC TR 61547-1, IEC 61000-3-3 and IEC

PstLM value ($F < 80$ Hz)	n/a
SVM value ($80 < F < 2000$ Hz)	n/a

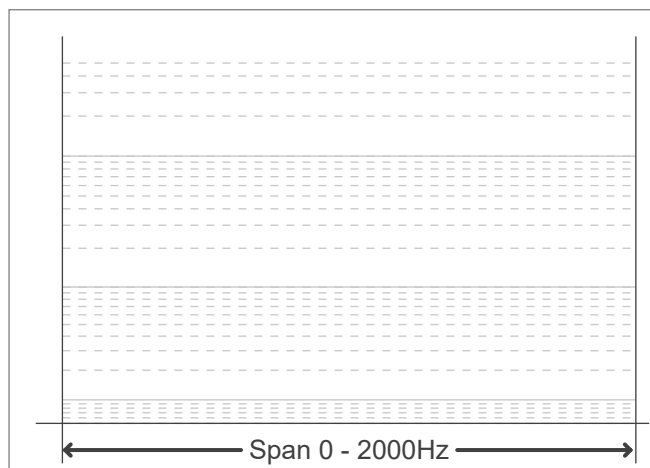
Flicker indices according to Lighting Research Center (2015)

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

