Test report

Light measurement results

Print date 30-06-2026

Laboratory and Equipment

Test lab	Viso LabSpion - serial: 0099553838 sensor serial: 3130191315 - T
Spectrometer Manufacturer and Model	LabSpion – Type C, horizontal
Measurement date	30-6-2026

Measurement Conditions

Tested c-planes	72 planes – 5,00°
Tested gamma resolution	2,50°
Input Power	32,05 W

Tested Light Source

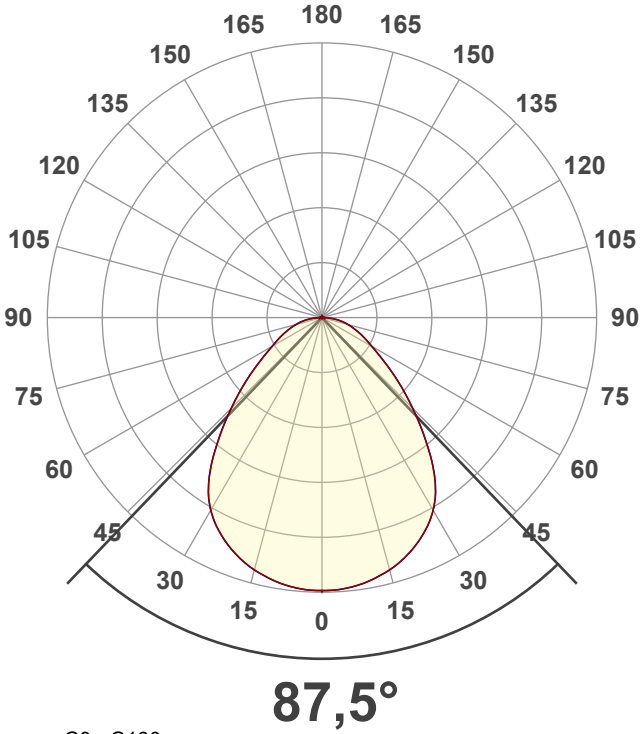
Luminaire	816155 - 3000K - 2606
Basic Luminous Shape	PANEL
Item No.	816155 - 3000K - 2606
Manufacturer	Dutchfulfillment
Description	BACK-LIT LED PANEEL | PONTUS | 120x15 | 30W | CCT-SWITC
Dimensions, luminous surface	H/D = 0, W = 10, L = 115,5, Shape = PANEL
Dimensions, light source housing	H/D = 1, W = 14,5, L = 119,5

Main Light Measurement Results

Output – Total Lumen (Up% / Down%)	3571 lm – 0,8113%% / 99,19%%
Efficiency	111,4 lm/W
Peak Intensity	1658 cd
Correlated Color Temperature, CCT	3001 K
Color Rendering Index	CRI 83,4 TM30Rf 84,6 TM30 Rg 96,1

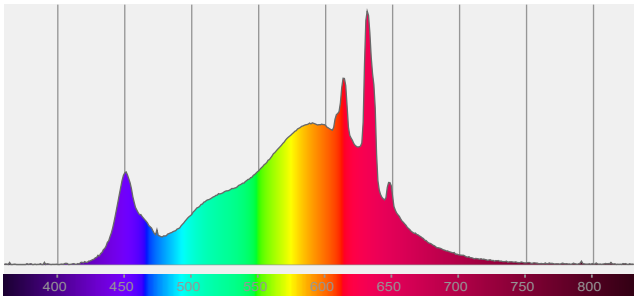
Polar light distribution diagram

Unit: 0-100% of peak intensity



Product photo

Spectral power distribution



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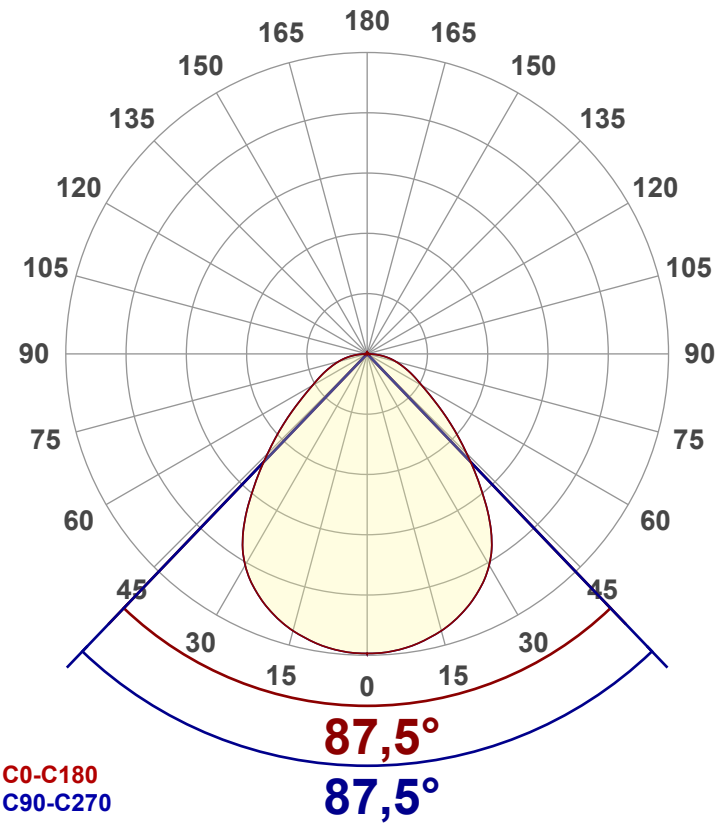
Luminous Intensity diagram

Unit: 0-100% of peak intensity



Main Values

Output (total Lumen)	3571 lm
Lumen Up% / Down%	0,8113% / 99,19%
Peak Intensity	1658 cd
Beam Angle (50%-FWHM)	87,5°

EU Ecodesign parameters

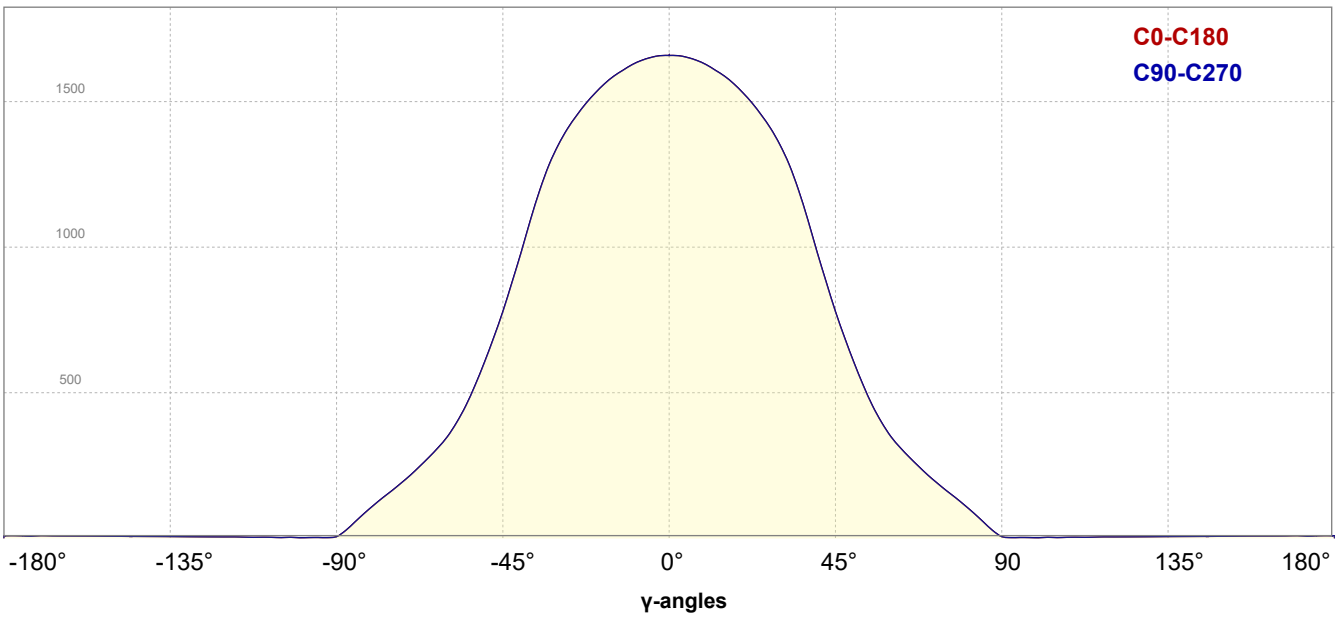
Directionality (DLS or NDLS)	DLS
Ecodesign Useful Luminous Flux	2337 lm
Ecodesign Energy Class	F

Intensity Ratio

In 120° cone	84,84%
In 90° cone	65,45%

Linear distribution diagram

Intensity [cd]



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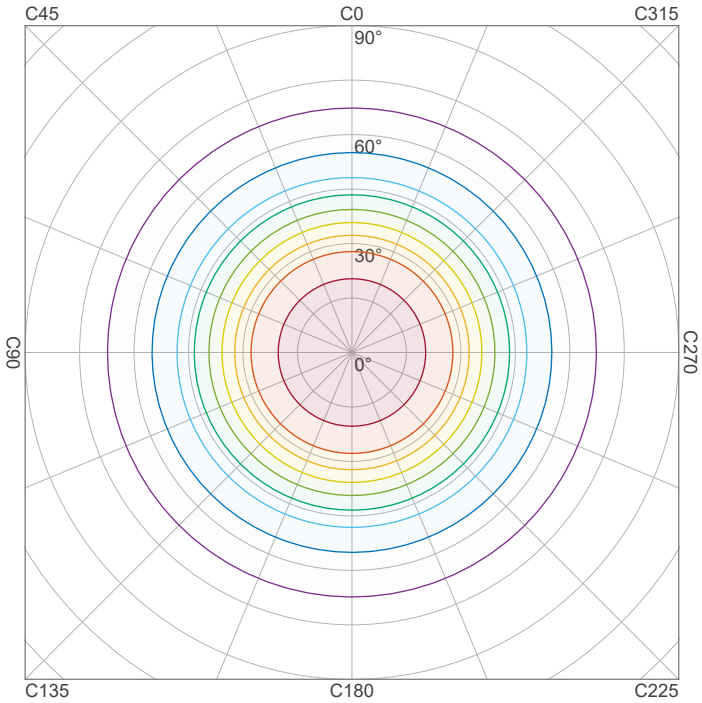
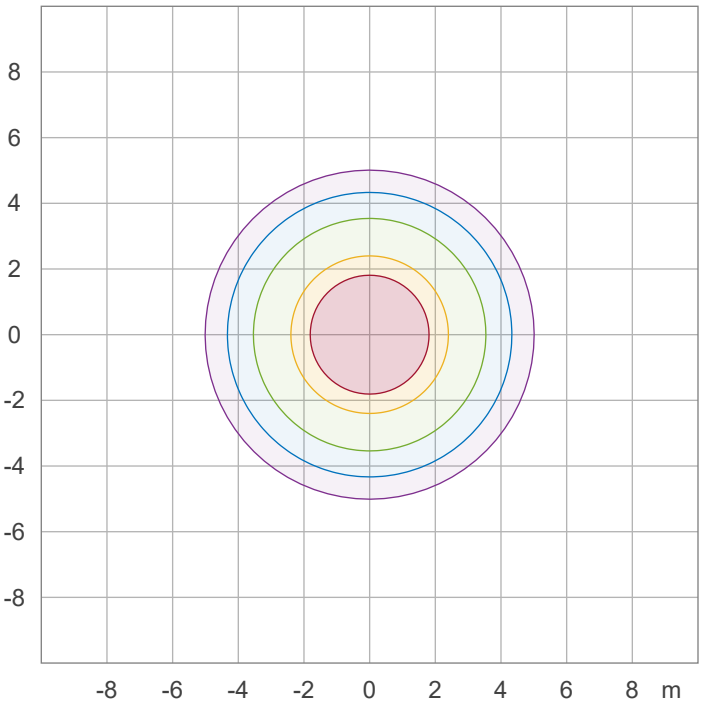
Iso-intensity Diagram (Iso-candela)



90 %	1492,6 cd
80 %	1326,8 cd
70 %	1160,9 cd
60 %	995,1 cd
50 %	829,2 cd
40 %	663,4 cd
30 %	497,5 cd
20 %	331,7 cd
10 %	165,8 cd

Peak intensity: 1658,5 cd
Number of c-planes: 72

Iso-illuminance Diagram (Iso-lux)



50,0 %	92,1 lx
30,0 %	55,3 lx
10,0 %	18,4 lx
5,0 %	9,21 lx
3,0 %	5,53 lx

Peak illuminance: 184 lx
Mounting height: 3 m
Number of c-planes: 72

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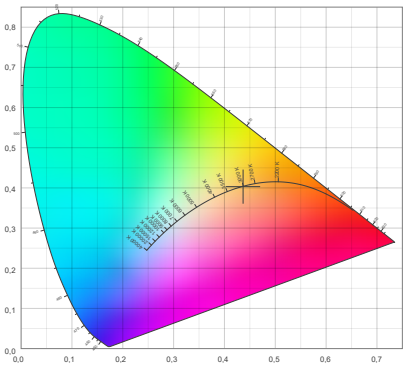
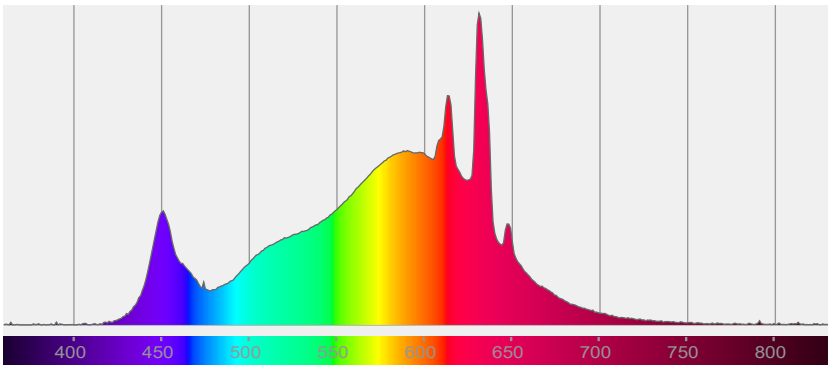
Color details

Correlated Color Temperature, Target	CCT = 3001 K	MacAdam Steps	SDCM = NaN
Correlated Color Temperature, Measured	CCT = 3001 K	Color deviation from BBL	Duv = -0,0003
Color Rendering Index	CRI 83,4	Color coordinates CIE 1931	(x;y) = (0,4367;0,4032)
Color Rendering Index, R9 (red)	R9 = 13,9	Color coordinate CIEs 1960	(u;v) = (0,2508;0,3473)
Color Rendering TM30-18	Rf 84,6	Color coordinate CIEs 1976	(u';v') = (0,2508;0,5210)
	Rg 96,1	Color Quality Scale	CQS = 82,3

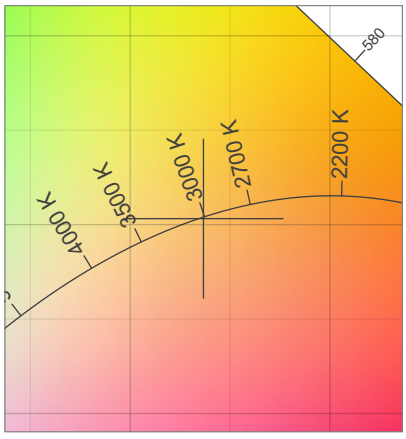
CIE 1931 Chromaticity diagram



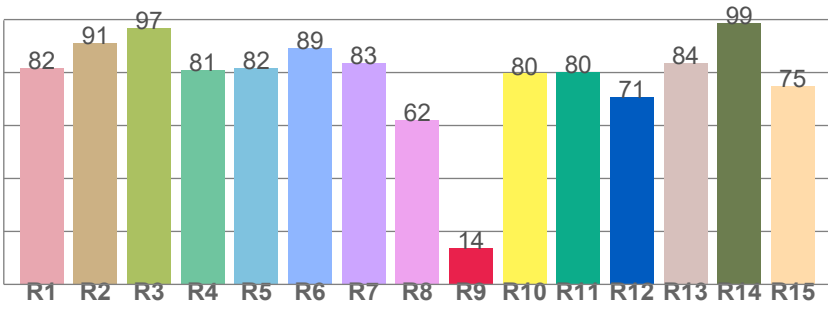
Spectral power distribution



CIE 1931 Chromaticity - zoomed



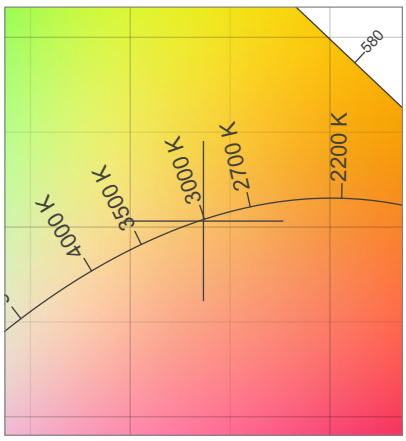
Color Rendering Index per reference color (CIE 1995)



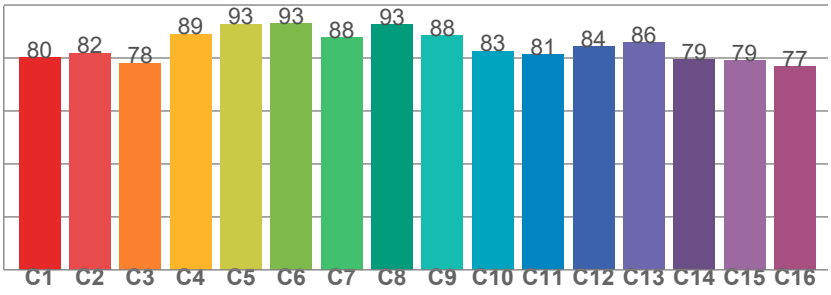
CRI R values, only R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
81,7	91,1	96,7	81,1	81,7	89,4	83,4	62,0	13,9	79,6	80,1	70,7	83,6	98,8	74,9

CIE 1931 Chromaticity - SDCM



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
80,3	81,9	78,2	89,1	92,8	92,9	87,7	92,7	88,5	82,7	81,4	84,3	85,9	79,4	79,2	76,9

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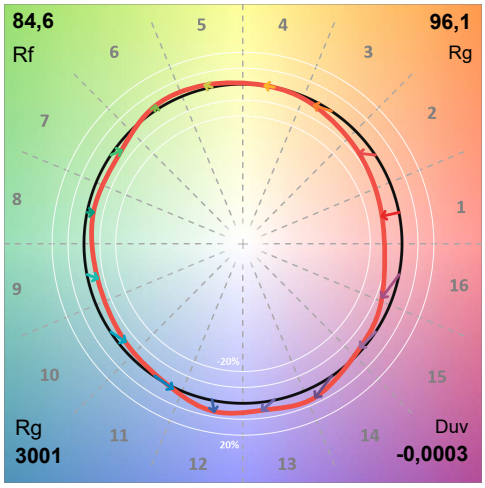
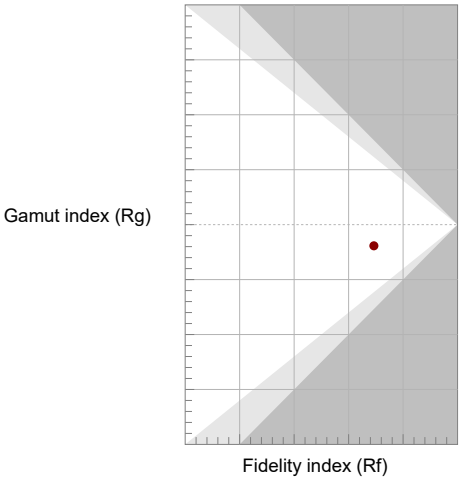
Color details - ANSI/IES TM-30-18 Color Rendition Report

Color Vector Graphic

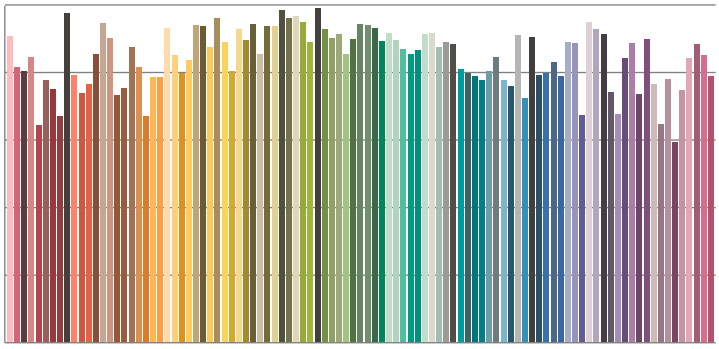


Color Distortion Graphic

Gamut Index vs. Fidelity Index

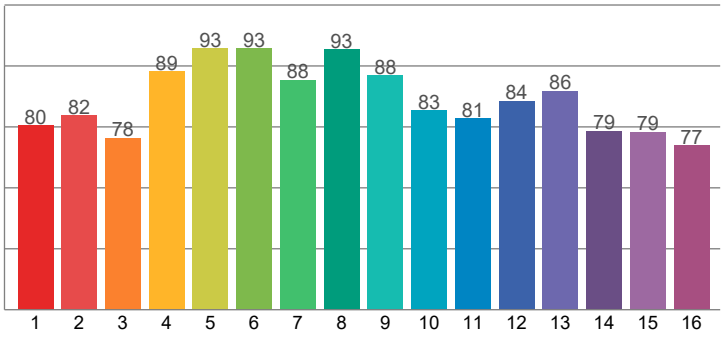


Color Rendition by Color Evaluation Sample (CES)

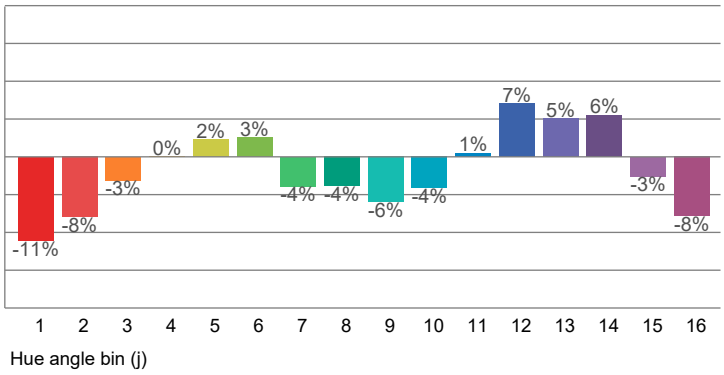


Color evaluation sample CES01 through CES99

Local Color Fidelity (per hue bin)



Local Chroma Shift (per hue bin)



CIE x	0,4367
CIE y	0,4367
CIE u'	0,2508
CIE v'	0,5210

CIE	13.3-1995
Ra	83,4
R9	13,9

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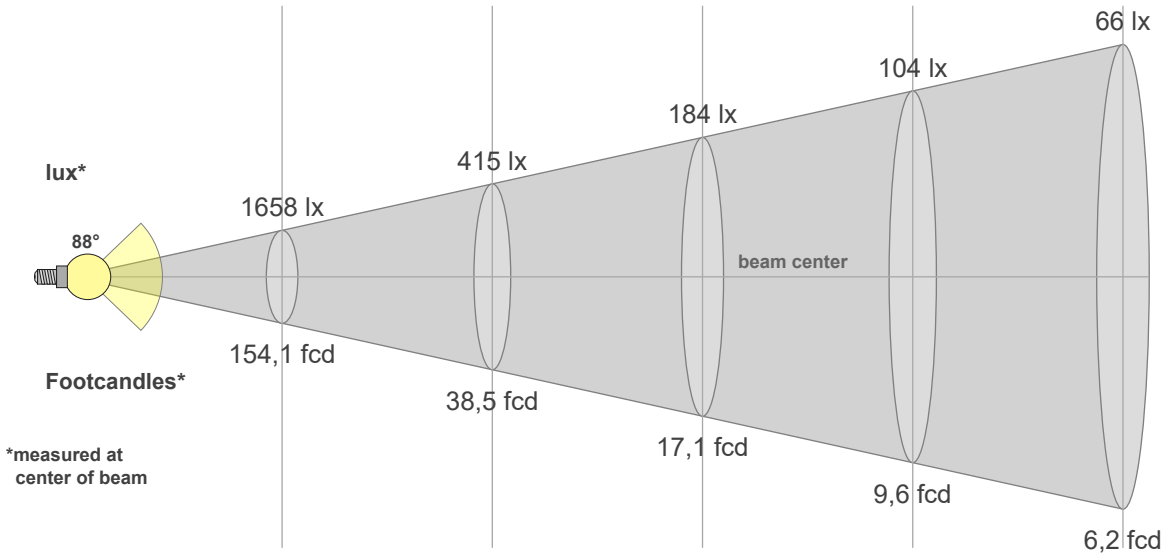
Beam details

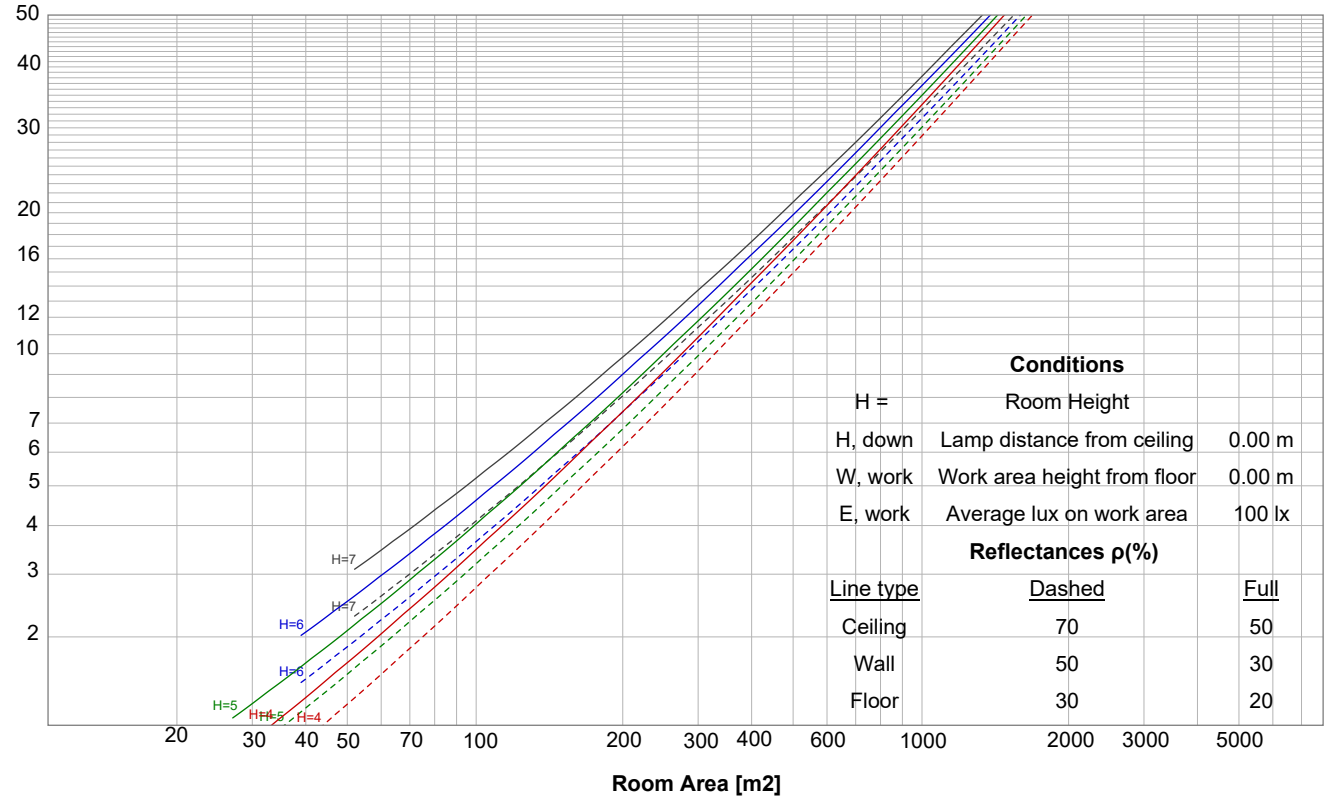
Distance (meter)	1 m	2 m	3 m	4 m	5 m
Distance (feet)	3,3 ft	6,6 ft	9,8 ft	13,1 ft	16,4 ft



Beam width (meter)	1,9 m	3,8 m	5,7 m	7,7 m	9,6 m
Beam width (feet)	6,3 ft	12,6 ft	18,8 ft	25,1 ft	31,4 ft

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
1658	415	184	104	66	46	34	26	20	17	14	12	10	8	7	6	6	5	5	4	lux
154,1	38,5	17,1	9,6	6,2	4,3	3,1	2,4	1,9	1,5	1,3	1,1	0,9	0,8	0,7	0,6	0,5	0,5	0,4	0,4	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
1658	1651	1627	1587	1529	1453	1351	1196	984	779	604	456	349	278	217	164	113	56	6	3	cd
100%	100%	98%	96%	92%	88%	81%	72%	59%	47%	36%	27%	21%	17%	13%	10%	7%	3%	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
1658	1651	1627	1587	1529	1453	1351	1196	984	779	604	456	349	278	217	164	113	56	6	3	cd
100%	100%	98%	96%	92%	88%	81%	72%	59%	47%	36%	27%	21%	17%	13%	10%	7%	3%	0%	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
1658	1651	1627	1587	1529	1453	1351	1196	984	779	604	456	349	278	217	164	113	56	6	3	cd
100%	100%	98%	96%	92%	88%	81%	72%	59%	47%	36%	27%	21%	17%	13%	10%	7%	3%	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
1658	1651	1627	1587	1529	1453	1351	1196	984	779	604	456	349	278	217	164	113	56	6	3	cd
100%	100%	98%	96%	92%	88%	81%	72%	59%	47%	36%	27%	21%	17%	13%	10%	7%	3%	0%	0%	of 0°val

UGR Table

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

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		**Viewed Crosswise**					**Viewed Endwise**				
H = mouting height above eye level		(Viewing direction orthogonal to lamp length axis)					(Viewing direction parallel to lamp length axis)				
X	**Y**										
2H	2H	18,7	19,7	18,9	20,1	20,3	18,7	19,7	18,9	20,1	20,3
	3H	19,7	20,8	20,1	21,1	21,3	19,7	20,8	20,1	21,1	21,3
	4H	20,3	21,3	20,7	21,6	21,9	20,3	21,3	20,7	21,6	21,9
	6H	20,9	21,8	21,2	22,1	22,5	20,9	21,8	21,2	22,1	22,5
	8H	21,1	22,0	21,4	22,3	22,7	21,1	22,0	21,4	22,3	22,7
	12H	21,2	22,1	21,6	22,4	22,9	21,2	22,1	21,6	22,4	22,9
4H	2H	19,0	20,1	19,4	20,4	20,6	19,0	20,1	19,4	20,4	20,6
	3H	20,4	21,3	20,8	21,7	22,1	20,4	21,3	20,8	21,7	22,1
	4H	21,1	21,9	21,5	22,3	22,9	21,1	21,9	21,5	22,3	22,9
	6H	21,8	22,6	22,3	22,9	23,3	21,8	22,6	22,3	22,9	23,3
	8H	22,0	22,8	22,6	23,1	23,5	22,0	22,8	22,6	23,1	23,5
	12H	22,3	22,9	22,8	23,3	23,8	22,3	22,9	22,8	23,3	23,8
8H	4H	21,4	22,1	21,9	22,5	22,9	21,4	22,1	21,9	22,5	22,9
	6H	22,3	22,8	22,8	23,3	23,8	22,3	22,8	22,8	23,3	23,8
	8H	22,7	23,1	23,2	23,7	24,3	22,7	23,1	23,2	23,7	24,3
	12H	23,0	23,4	23,6	23,9	24,5	23,0	23,4	23,6	23,9	24,5
12H	4H	21,4	22,0	21,9	22,4	22,9	21,4	22,0	21,9	22,4	22,9
	6H	22,4	22,8	22,9	23,4	24,0	22,4	22,8	22,9	23,4	24,0
	8H	22,8	23,2	23,4	23,7	24,3	22,8	23,2	23,4	23,7	24,3
Variations with the observer position for the luminaire spacings, S:											
S = 1.0H		0,1 / -0,2					0,1 / -0,2				
S = 1.5H		0,3 / -0,4					0,3 / -0,4				
S = 2.0H		0,7 / -0,6					0,7 / -0,6				

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	20
RCR	(Room Cavity Ratio)				Room values are expressed as percentage of Lumen delivered to the task surface													
0	118,9	118,9	118,9	118,9	116,0	116,0	116,0	116,0	110,7	110,7	110,7	105,8	105,8	105,8	101,3	101,3	101,3	99,2
1	109,7	105,4	101,6	98,1	107,0	103,1	99,6	96,4	98,7	95,9	93,2	94,7	92,4	90,3	91,0	89,2	87,5	85,4
2	100,9	93,5	87,4	82,2	98,3	91,6	86,0	81,2	88,0	83,3	79,2	84,7	80,8	77,3	81,6	78,4	75,5	73,4
3	93,0	83,5	76,1	70,2	90,6	81,9	75,1	69,5	78,9	73,0	68,2	76,1	71,1	67,0	73,5	69,3	65,8	63,7
4	85,9	75,0	67,0	60,9	83,7	73,7	66,2	60,5	71,1	64,7	59,6	68,8	63,2	58,7	66,6	61,8	57,9	55,8
5	79,6	67,8	59,6	53,5	77,6	66,7	59,0	53,2	64,6	57,8	52,6	62,6	56,6	51,9	60,7	55,5	51,3	49,4
6	74,0	61,7	53,4	47,5	72,2	60,8	53,0	47,3	58,9	52,0	46,8	57,2	51,1	46,4	55,6	50,2	45,9	44,0
7	69,0	56,4	48,3	42,6	67,3	55,6	47,9	42,4	54,1	47,1	42,1	52,6	46,4	41,7	51,2	45,6	41,4	39,5
8	64,5	51,9	43,9	38,4	63,0	51,2	43,6	38,3	49,8	42,9	38,0	48,6	42,3	37,8	47,4	41,7	37,5	35,7
9	60,5	47,9	40,2	34,9	59,1	47,3	39,9	34,8	46,1	39,4	34,6	45,0	38,8	34,4	44,0	38,4	34,2	32,5
10	56,9	44,4	36,9	32,0	55,6	43,9	36,7	31,9	42,9	36,3	31,7	41,9	35,8	31,5	41,0	35,4	31,4	29,7

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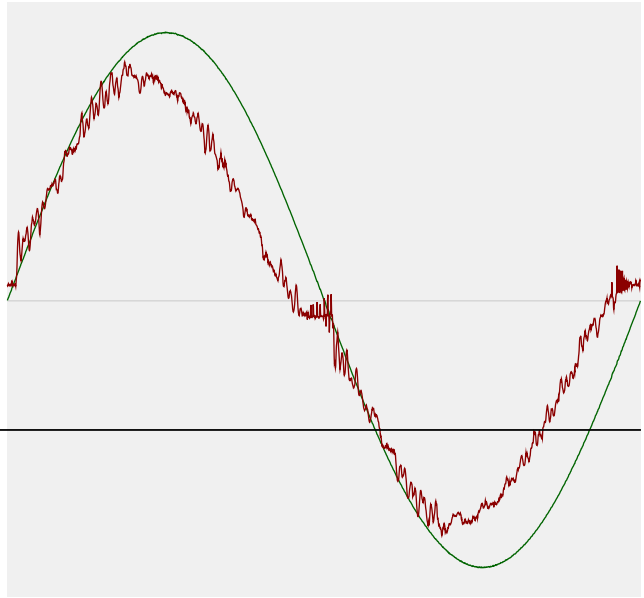
Power details

Input power	
Frequency of input power	50,0 Hz
Power feed to light source	32,05 W
RMS Input voltage feed V,RMS	230,2 V
RMS Input current feed I,RMS	0,14 A
Volt-Amp or apparent power = V,RMS*I,RMS	33,2 VA
Displacement factor of AC power feed	0,97
Power factor of AC current feed	0,97
Total harmonic distortion of the current	11,45%
Total harmonic distortion of the voltage	0,0566%

Input power curve



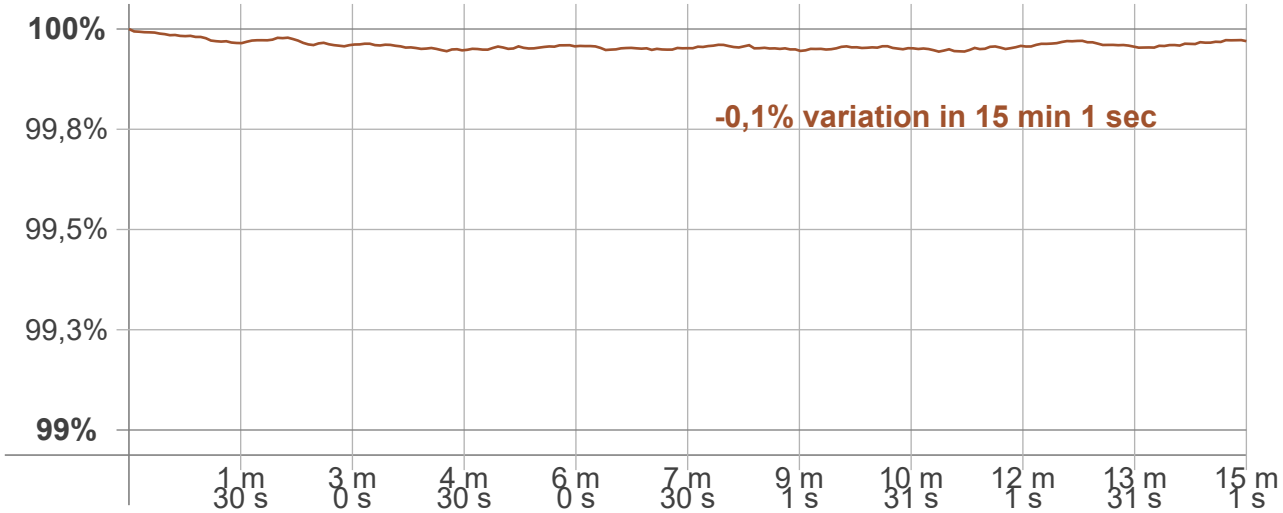
Efficiency

Radiated power efficiency	31,77
Lumen efficiency	111,4 lm/W

Stabilization details

Warmup Conditions		Color Temperature Change	
Stable period	15 min	CCT start	3000 K
Stable change max	2%	CCT shift	1 K
Minimum time	15 min	CCT end	3001 K
Warmup Result		**Output Change**	
Total warmup time	Lamp stabilized in	Output start	3572 lm
Warmup variation	-0,1399%	Output change	-1,5027 lm
		Output end	3571 lm

Stabilization Curve



Flicker TLA details

Flicker Meter Type	Viso Systems LabFlicker
Frequency of input power	50,0 Hz
Flicker/TLA sample rate	20,0 samples/s

Measurement time

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

Flicker indices according to Illuminating Engineering Society (IES)

Flicker frequency	100,0 Hz
Percent Flicker	1,116 %
Flicker index	0,0

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

PstLM value (F < 80 Hz)	0,01
SVM value (80 < F < 2000 Hz)	0,03

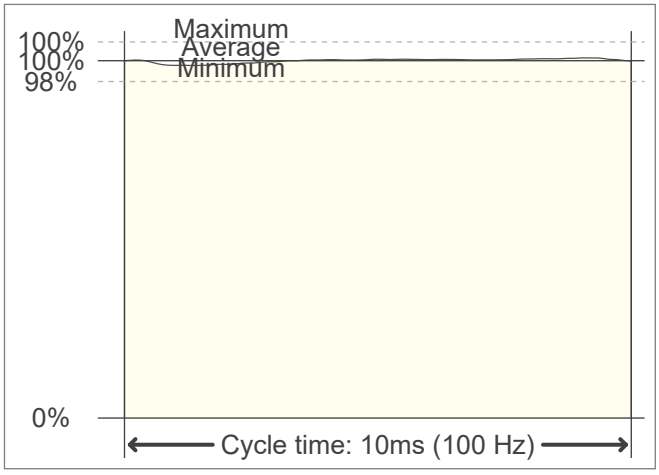
Flicker indices according to California Energy Commission (CEC) 2016b

JA8/10 40 Hz	0,0165 %
JA8/10 90 Hz	0,0321 %
JA8/10 200 Hz	0,7635 %
JA8/10 400 Hz	1,059 %
JA8/10 1000 Hz	1,18 %

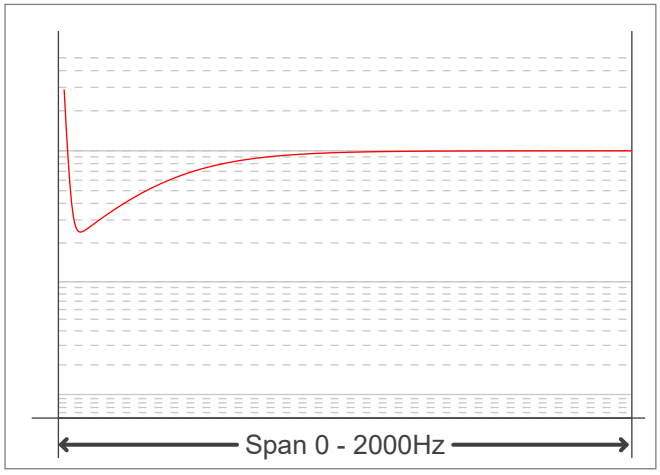
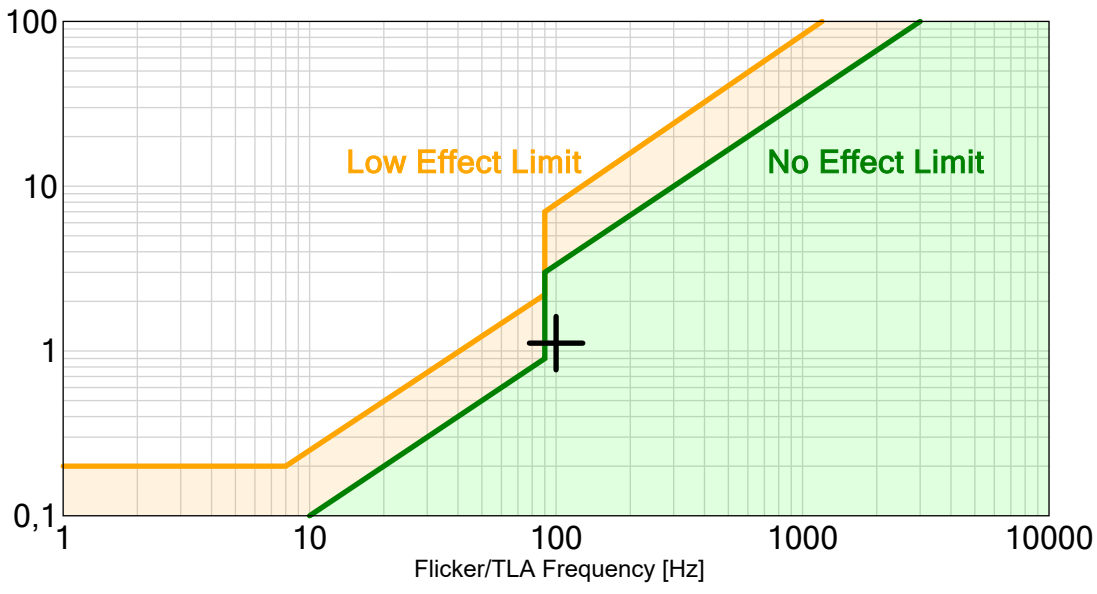
Flicker indices according to Lighting Research Center (2015)

Perception metric, Assist Mp	0,01

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



Flicker FFT (flicker curve in frequency domain)



IEEE 1789 Frequency/modulation plot