Light efficiency:

94 Lumen/Watt

Light quality:

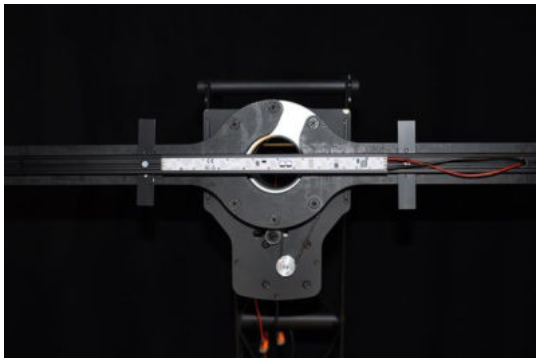
CRI: 92,9

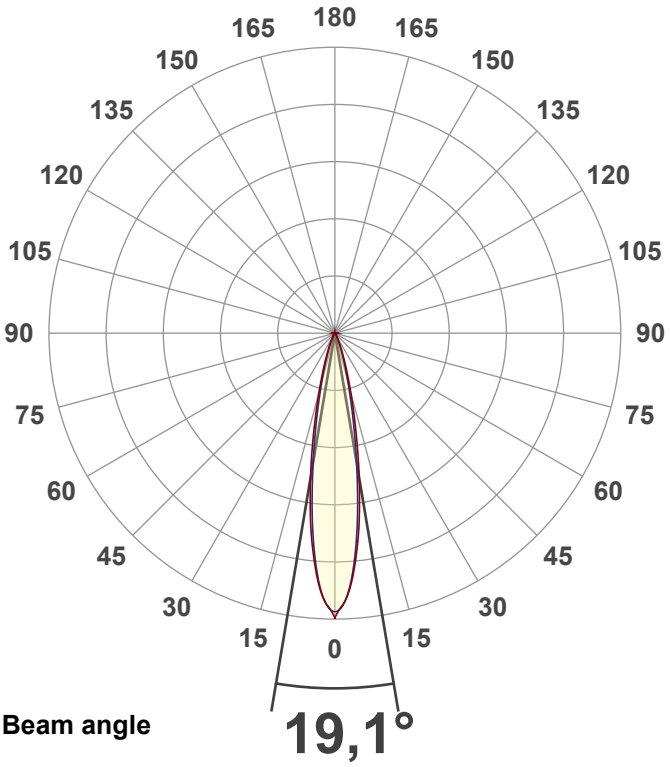
Color temperature:

2969 K

Output: 588 lm
Peak: 3742 cd

Power: 6,2 W
PF: 1,0



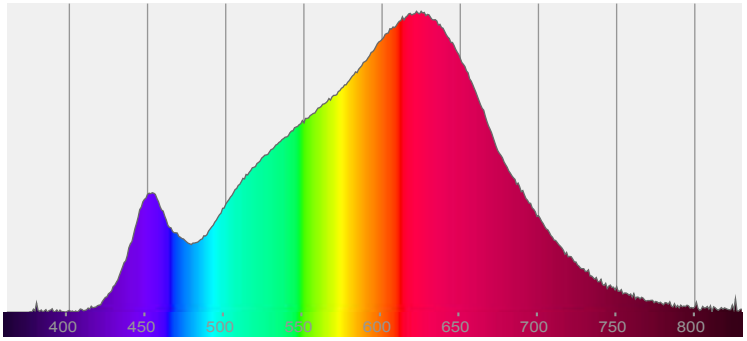


Beam angle 19,1°

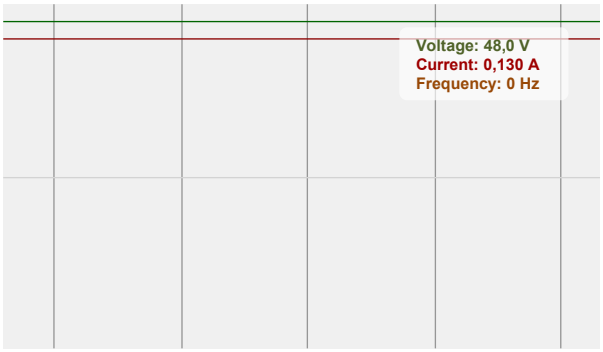
CIE 1931
x: 0,440
y: 0,406

Product name:
Focus-4-F1C-D0258-930-LSNF-10771
Item number:
FLNP-F1C-D0258-930-LSNF-10771
Date and time:
08.12.2020 11:07:34
Description:
Rank: P4-7D2
Bestromung: 220mA
Toleranzen:
Lumen +/-4%
Candela +/-2,5%
Colour Temp +/-35 Grad K
CRI +/-0,7
Angular Resolution 1 Grad Step
Last Calibration 20.05.2019
Abstand:248mm
Pruefer:
Peter Ulrich
Pruefort:
Lichtlabor
Gaustrasse13
55411 Bingen am Rhein

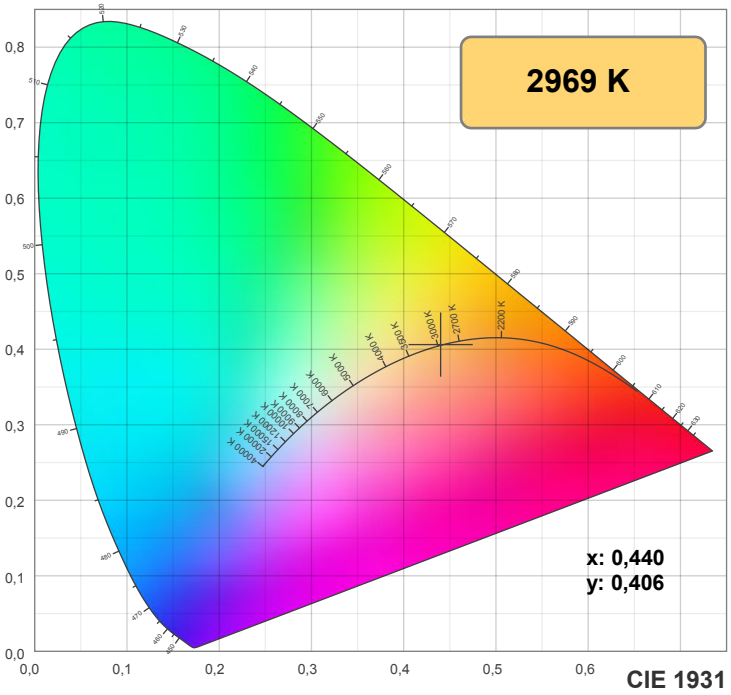
Spectra



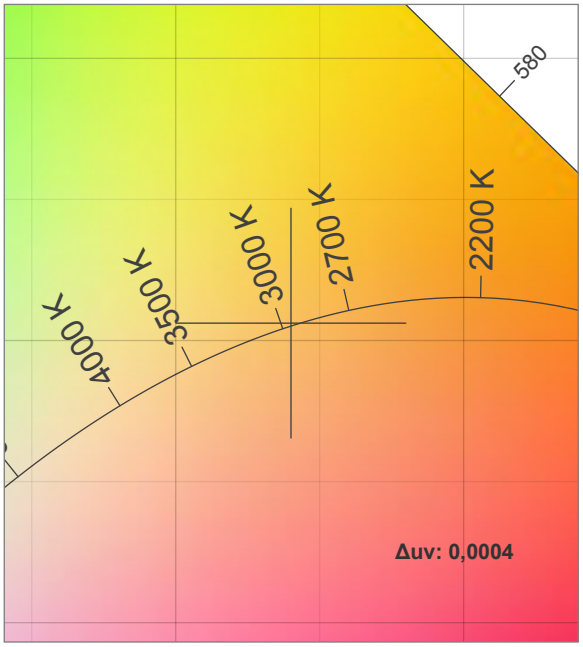
Power



Color details

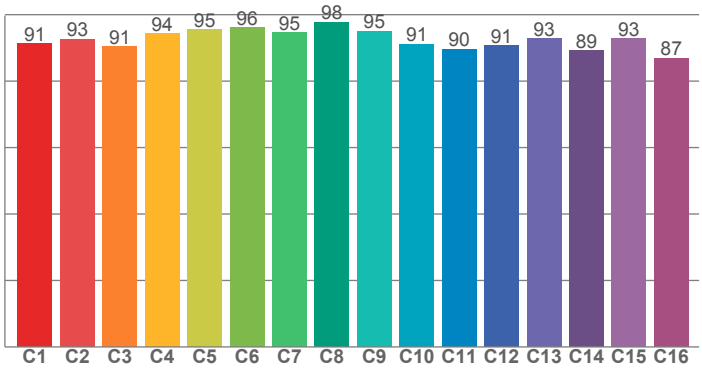


CIE 1931

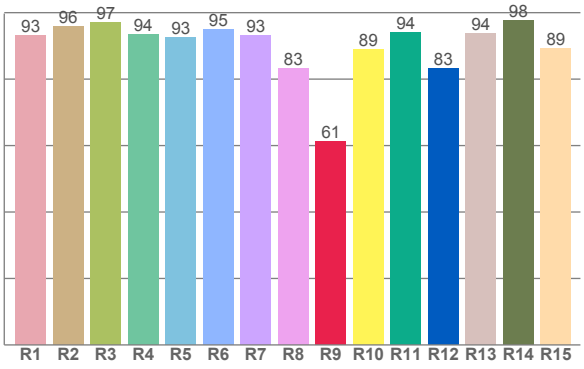


CIE 1931 ZOOM

TM30: 92,5



CRI: 92,9 (R1-R8)



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
93,1	95,8	97,0	93,5	92,6	94,9	93,1	83,3	61,2	89,0	94,1	83,1	93,8	97,6	89,1

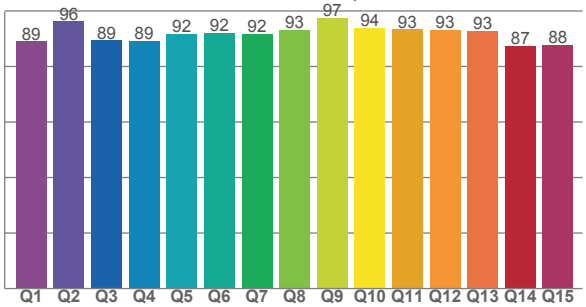
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
91,4	92,7	90,5	94,3	95,5	96,0	94,5	97,8	95,1	91,1	89,6	90,7	92,8	89,3	92,8	87,0

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
89,0	96,2	89,4	89,2	91,7	92,0	91,8	93,3	97,5	93,8	93,4	93,1	92,9	87,3	87,8

CQS: 91,3



Color parameters

Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color diviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2969 K	92,9	61,2	92,5	99,3	91,3	0,440	0,406	0,252	0,348	0,0004

TM30 details

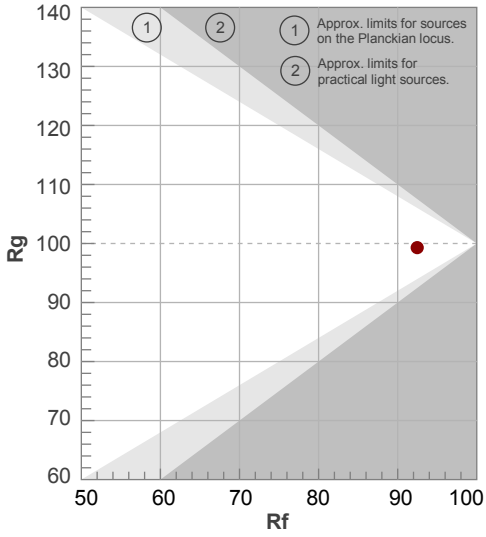
Rf 92,5

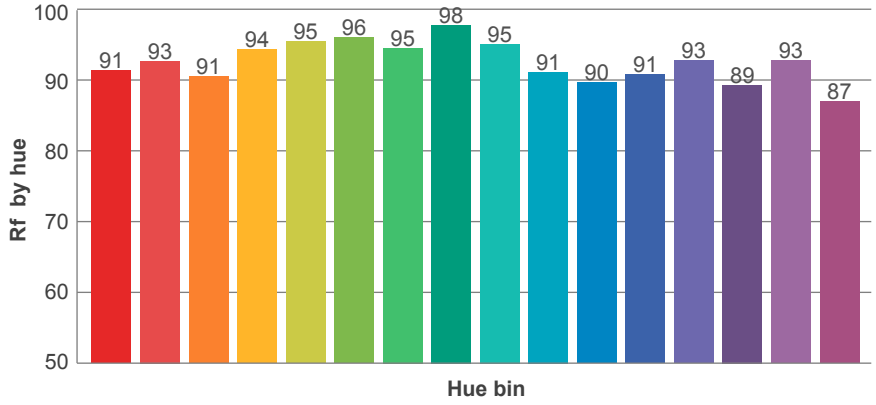
Fidelity index Rf

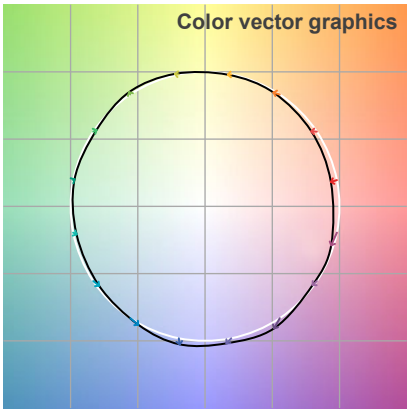
Rg 99,3

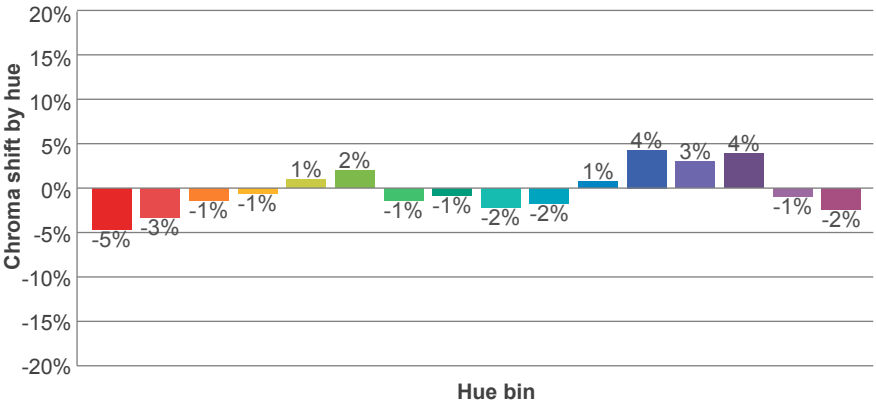
Gammut index Rg

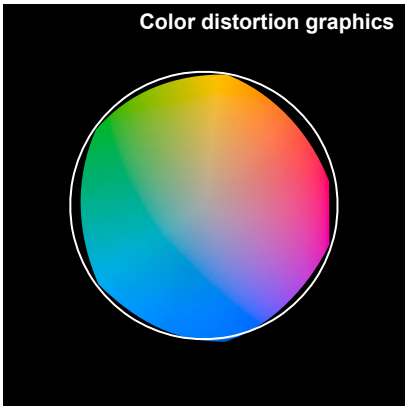
Hue Bin	R_f	Graphic shifts (%) Chroma	Hue
1	91	-5%	0%
2	93	-3%	2%
3	91	-1%	5%
4	94	-1%	2%
5	95	1%	3%
6	96	2%	0%
7	95	-1%	-2%
8	98	-1%	-1%
9	95	-2%	2%
10	91	-2%	5%
11	90	1%	8%
12	91	4%	1%
13	93	3%	-4%
14	89	4%	-8%
15	93	-1%	-4%
16	87	-2%	-10%

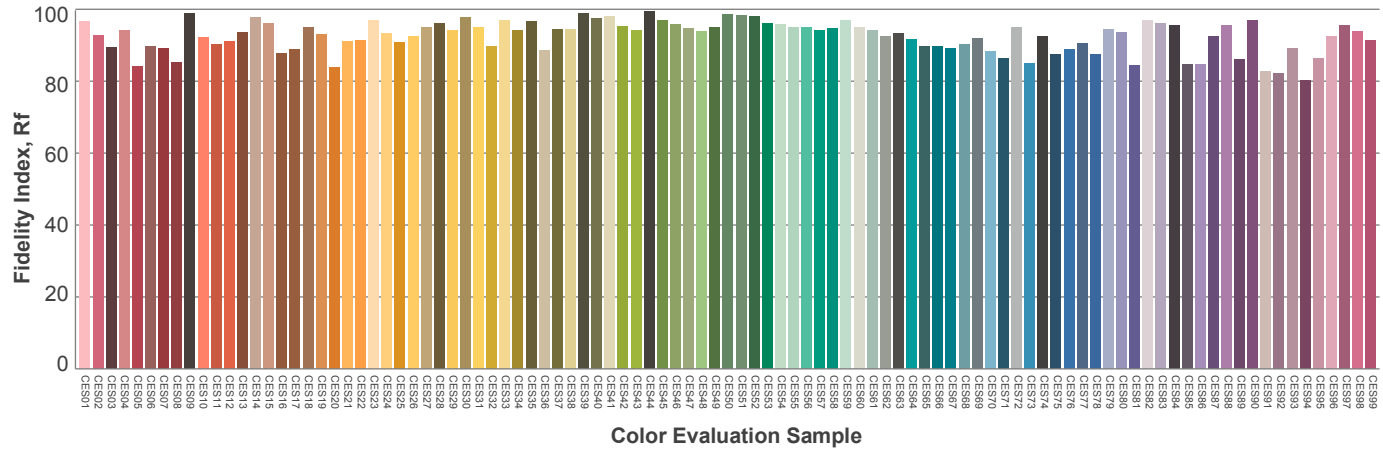




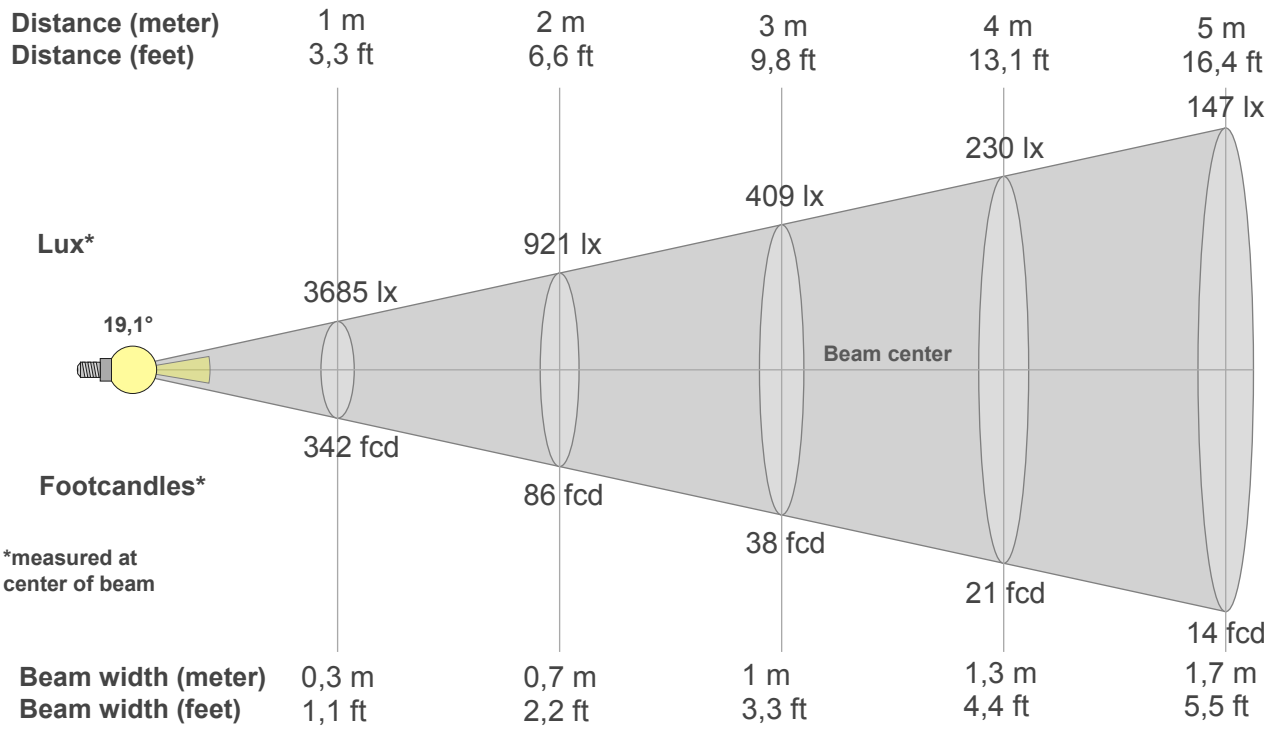








Beam details



Beam intensities from 1-20m

1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	19,7ft	23ft	26,2ft	29,5ft	32,8ft	36,1ft	39,4ft	42,7ft	45,9ft	49,2ft	52,5ft	55,8ft	59,1ft	62,3ft	65,6ft
3685lx	921lx	409lx	230lx	147lx	102lx	75lx	58lx	45lx	37lx	30lx	26lx	22lx	19lx	16lx	14lx	13lx	11lx	10lx	9lx
342,4fc	85,6fcd	38fcd	21,4fcd	13,7fcd	9,5fcd	7fcd	5,3fcd	4,2fcd	3,4fcd	2,8fcd	2,4fcd	2fcd	1,7fcd	1,5fcd	1,3fcd	1,2fcd	1,1fcd	0,9fcd	0,9fcd

Intensities in 0° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
3685	3632	3550	3424	3253	3048	2825	2588	2329	2068	1819	1577	1348	1146	970	815	679	566	475	397
100%	99%	96%	93%	88%	83%	77%	70%	63%	56%	49%	43%	37%	31%	26%	22%	18%	15%	13%	11%

Intensities in 90° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
3685	3632	3545	3404	3213	2980	2720	2443	2150	1869	1609	1369	1152	963	802	665	550	454	373	307
100%	99%	96%	92%	87%	81%	74%	66%	58%	51%	44%	37%	31%	26%	22%	18%	15%	12%	10%	8%

Intensities in 180° c-plane

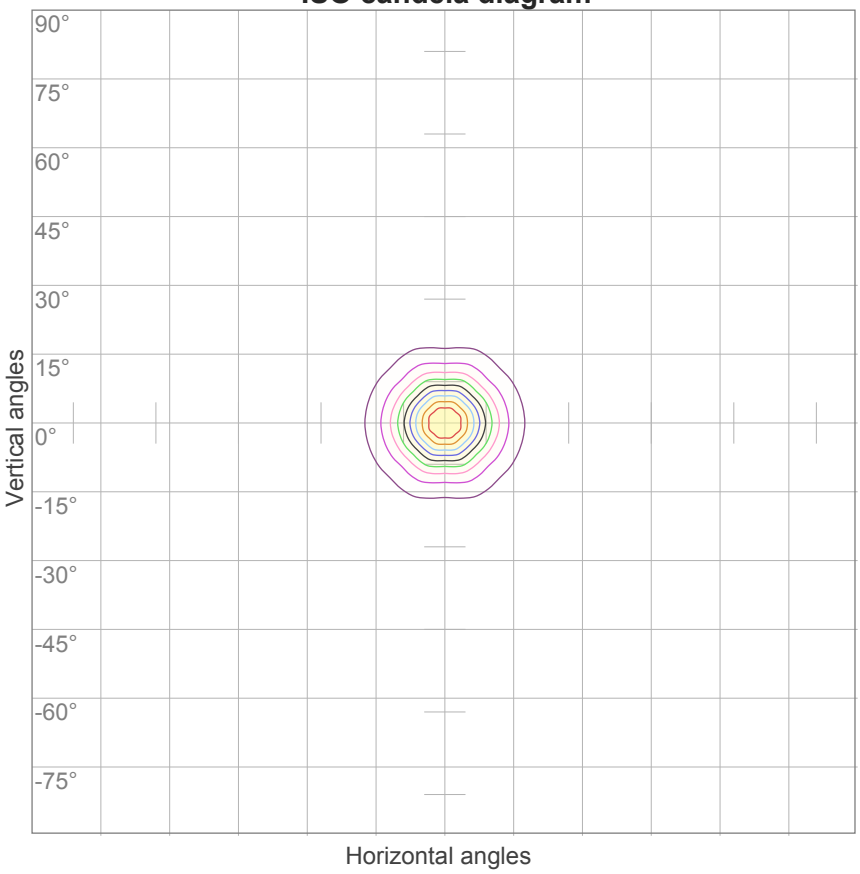
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
3685	3632	3550	3424	3253	3048	2825	2588	2329	2068	1819	1577	1348	1146	970	815	679	566	475	397
100%	99%	96%	93%	88%	83%	77%	70%	63%	56%	49%	43%	37%	31%	26%	22%	18%	15%	13%	11%

Intensities in 270° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
3685	3632	3545	3404	3213	2980	2720	2443	2150	1869	1609	1369	1152	963	802	665	550	454	373	307
100%	99%	96%	92%	87%	81%	74%	66%	58%	51%	44%	37%	31%	26%	22%	18%	15%	12%	10%	8%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
19,1°	38,1°	54°	97,3%	94,6%

ISO candela diagram



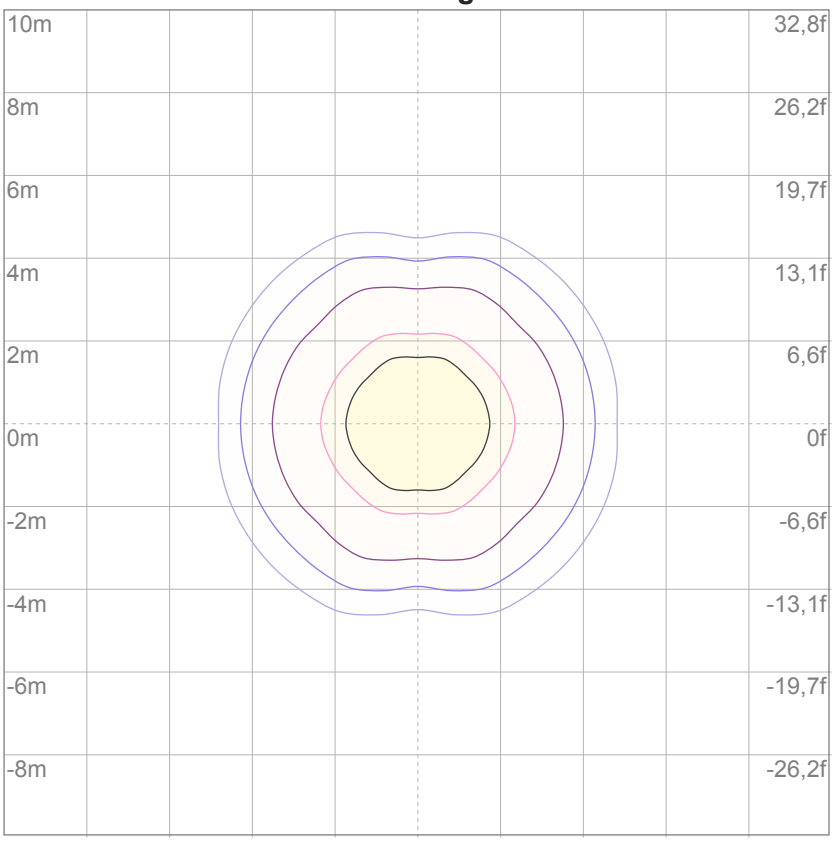
10%	369 cd
20%	737 cd
30%	1106 cd
40%	1474 cd
50%	1843 cd
60%	2211 cd
70%	2580 cd
80%	2948 cd
90%	3317 cd

Conditions:

Number of c-planes: 16

Candela at center: 3685 cd

ISO lux diagram



3%	1,11 lx
5%	1,84 lx
10%	3,69 lx
30%	11,1 lx
50%	18,4 lx

Conditions:

Number of c-planes: 16

Lux at center: 36,9 lx

Lux distribution on a surface when lamp is mounted at 10 meters from the surface.

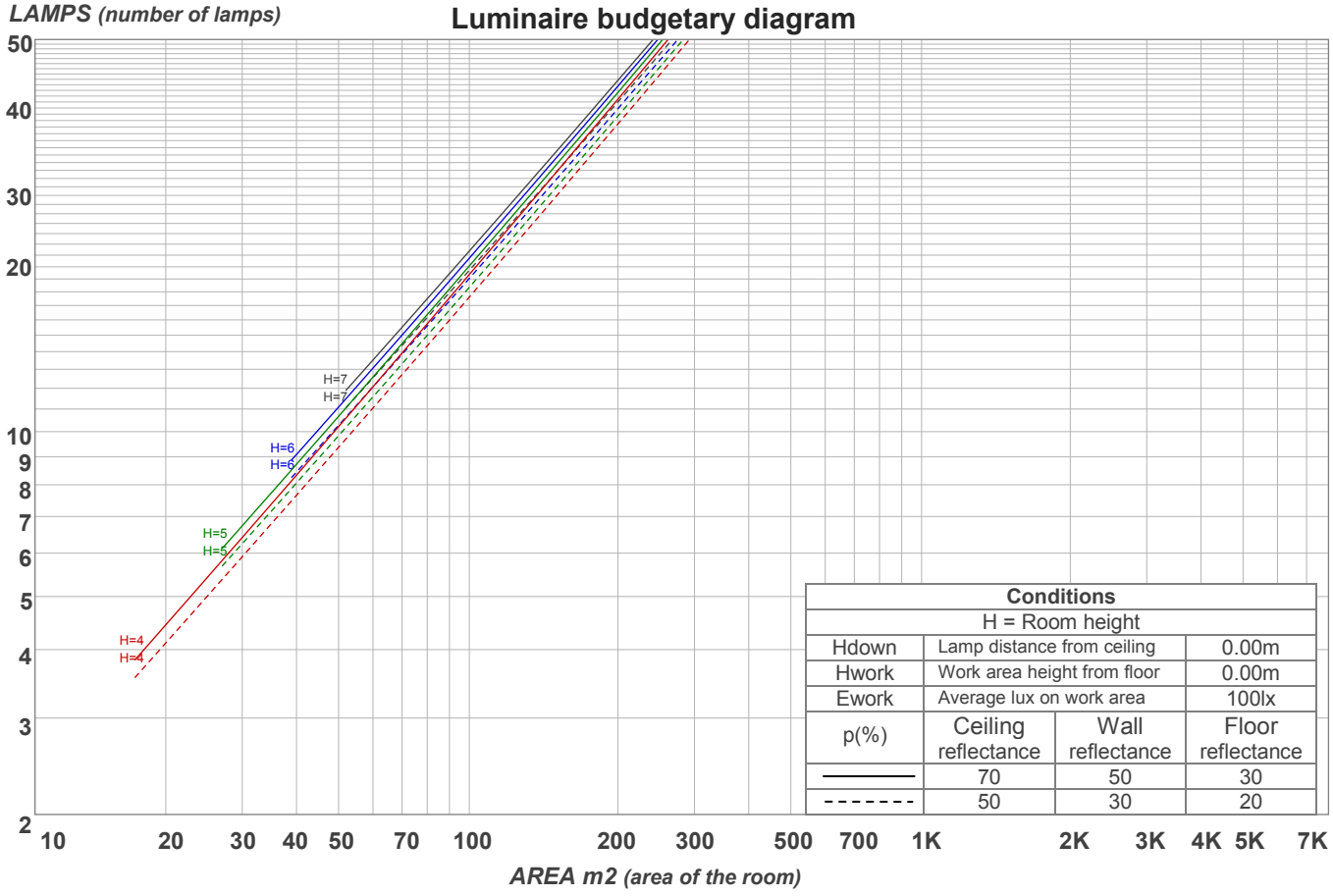
Glare Evaluation According to UGR

p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X	Y	Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	8,6	9,0	8,7	9,2	9,4	11,3	11,7	11,4	11,9	12,1
	3H	9,3	9,9	9,6	10,1	10,2	12,7	13,3	13,1	13,5	13,6
	4H	9,6	10,2	10,0	10,4	10,6	13,3	13,9	13,7	14,1	14,3
	6H	9,9	10,4	10,2	10,7	11,0	13,7	14,2	14,0	14,5	14,8
	8H	10,0	10,5	10,3	10,8	11,2	13,8	14,3	14,1	14,6	15,0
	12H	10,1	10,5	10,4	10,9	11,3	13,9	14,3	14,2	14,7	15,1
4H	2H	9,0	9,6	9,4	9,8	10,0	11,3	11,9	11,7	12,1	12,3
	3H	10,1	10,5	10,4	10,9	11,3	13,0	13,5	13,4	13,8	14,3
	4H	10,4	10,8	10,8	11,3	11,8	13,7	14,1	14,1	14,5	15,0
	6H	10,8	11,2	11,2	11,6	11,9	14,2	14,6	14,7	15,0	15,3
	8H	10,9	11,3	11,4	11,6	12,0	14,3	14,7	14,8	15,0	15,4
	12H	11,0	11,3	11,5	11,7	12,2	14,4	14,7	14,9	15,1	15,6
8H	4H	10,7	11,1	11,2	11,5	11,8	13,7	14,1	14,2	14,4	14,8
	6H	11,1	11,4	11,6	11,9	12,4	14,3	14,6	14,8	15,0	15,5
	8H	11,4	11,6	11,9	12,1	12,7	14,5	14,7	15,0	15,2	15,9
	12H	11,5	11,7	12,1	12,2	12,8	14,7	14,9	15,3	15,4	16,0
12H	4H	10,7	11,0	11,2	11,4	11,9	13,6	14,0	14,1	14,4	14,8
	6H	11,2	11,5	11,7	12,0	12,6	14,3	14,5	14,8	15,0	15,7
	8H	11,4	11,6	12,0	12,1	12,7	14,5	14,7	15,1	15,2	15,8
Variation of the observer position for the luminaire distance S											
S = 1.0H		0,6 / -0,5					0,6 / -0,3				
S = 1.5H		1,7 / -0,7					1,1 / -0,7				
S = 2.0H		2,6 / -1,1					1,6 / -1,2				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 588 lm total luminous flux											

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 Lumens 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	115	112	110	108	112	110	108	107	106	105	103	102	101	100	99	98	97	96
2	111	107	103	101	108	105	102	100	102	99	97	99	97	95	96	95	93	92
3	107	102	98	95	105	101	97	94	98	95	93	96	93	91	93	92	90	89
4	103	98	94	91	102	97	93	90	95	91	89	93	90	88	91	89	87	86
5	100	94	90	87	99	93	89	86	92	88	86	90	87	85	89	86	84	83
6	98	91	87	84	96	90	86	83	89	86	83	88	85	82	87	84	82	81
7	95	88	84	81	94	88	84	81	87	83	80	86	82	80	85	82	80	79
8	92	86	82	79	91	85	81	79	84	81	78	83	80	78	83	80	78	77
9	90	83	79	77	89	83	79	77	82	79	76	81	78	76	81	78	76	75
10	88	81	77	75	87	81	77	75	80	77	74	80	77	74	79	76	74	73

Luminaire budgetary diagram

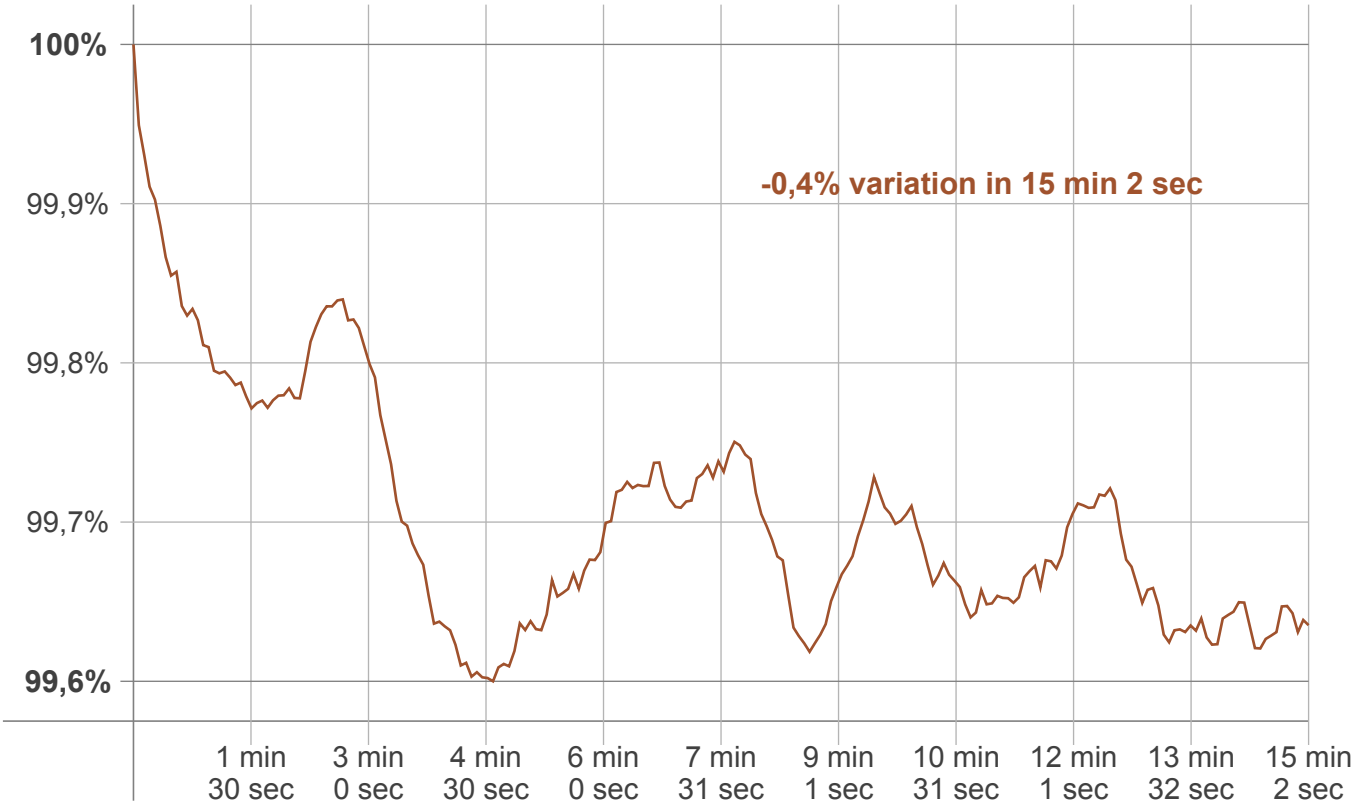


Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
245 lm	218 lm	64,6 lm	21,3 lm	12,1 lm	10,1 lm	7,48 lm	4,49 lm	1,89 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0,707 lm	0,352 lm	0,313 lm	0,283 lm	0,168 lm	0,100 lm	0,073 lm	0,045 lm	0,015 lm

Warmup curve



Warmup result

Warmup time:	**15 min 2 sec**
Warmup variation	**-0,4%**

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
2972 K	**-3 K**	**2969 K**

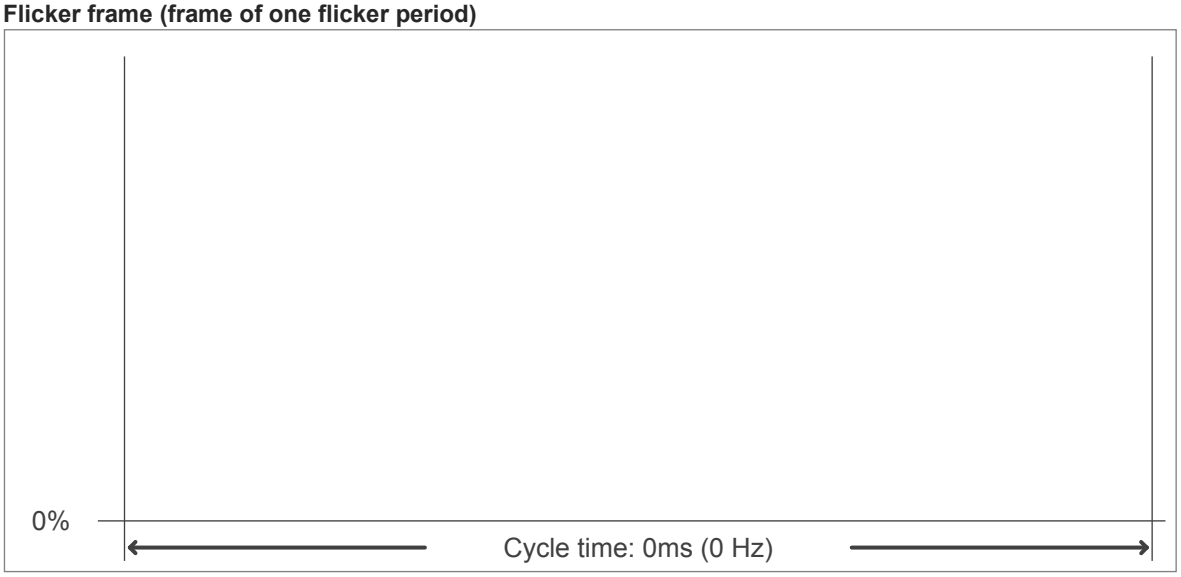
Output change

Output start	Output change	Output end
589 lm	**-1 lm**	**588 lm**

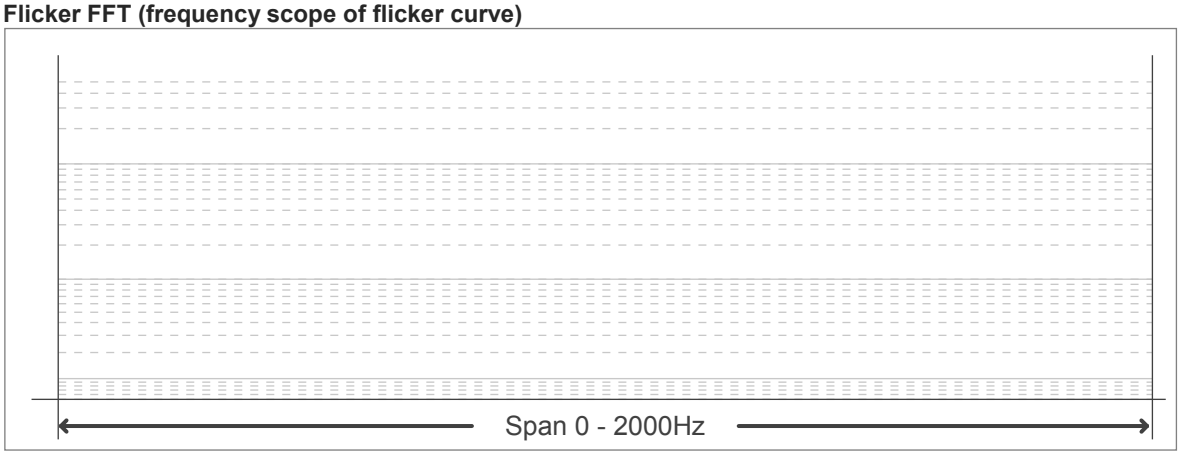
Flicker

Flicker curve (complete sampled flicker signal)

Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

Flicker frequency:	**n/a Hz**
Flicker index:	**n/a**
Flicker percentage:	**n/a %**
SVM: (Visual flicker)	**n/a**

Flicker conditions:

Sample rate:	**60.000 samples/second**