

Light efficiency:



Light quality:



Color temperature:

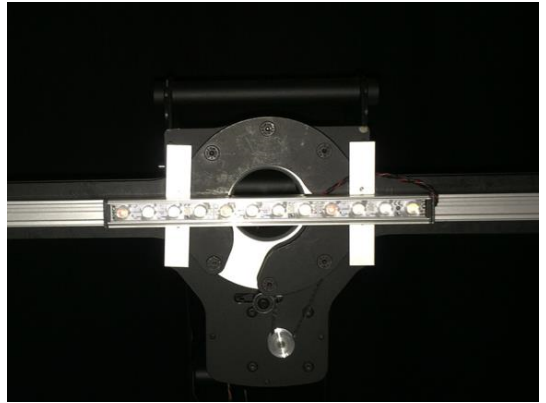


Output: 204 lm

Peak: 847 cd

Power: 6,2 W

PF: 0,78



Product name:

FLNP-F4CH-C-258-R-927-10772

Item number:

FLNP-F4CH-C-258-R-927-10772

Date and time:

15.02.2019 15:07:12

Description:

Toleranzen:

Lumen +/-4%

Candela +/-2,5%

Colour Temp +/-35 Grad K

CRI +/-0,7

Angular Resolution 1 Grad step

Last Calibration 06-06-2018

Pruefer:

Mourad Benzineb

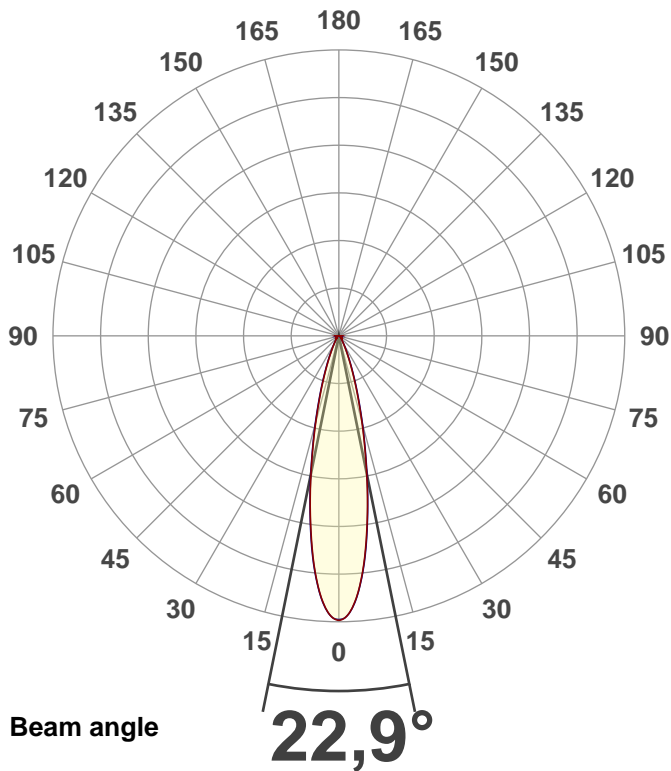
Master of Engineering

Pruefort:

Lichtlabor

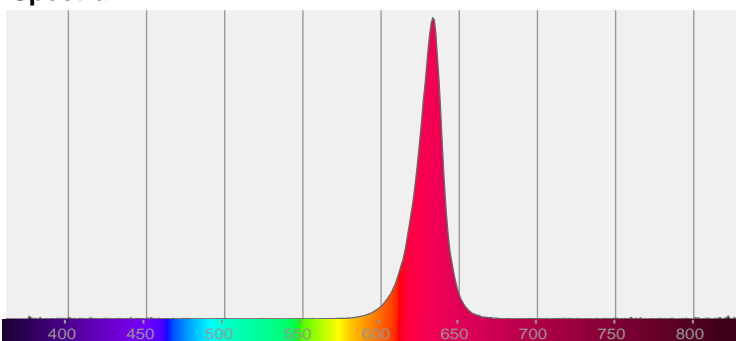
Gaustrasse13-15

55411 Bingen am Rhein

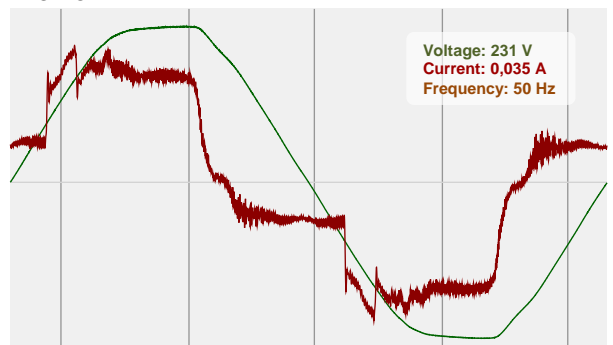


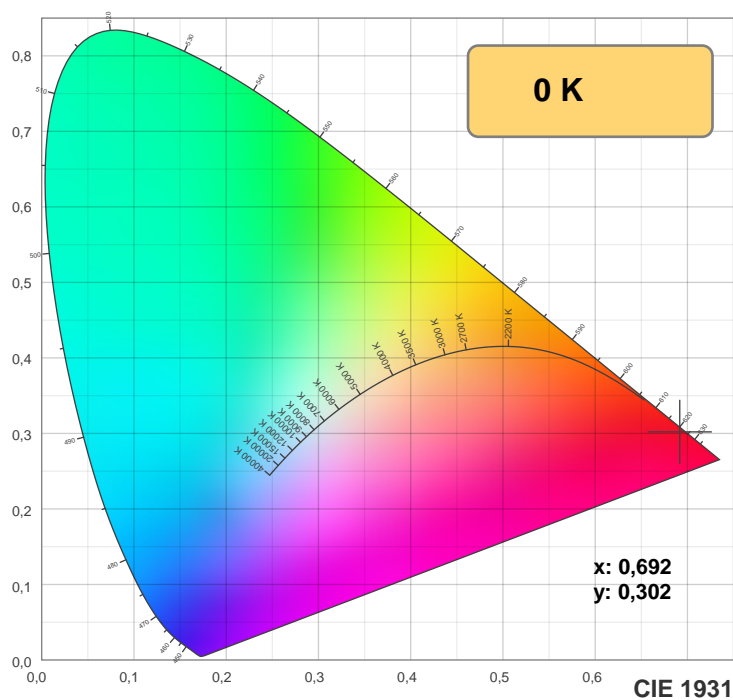
CIE 1931  
x: 0,692  
y: 0,302

Spectra

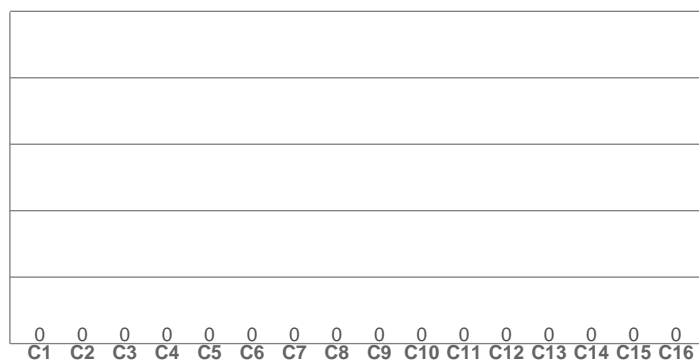


Power





TM30: 0,0



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

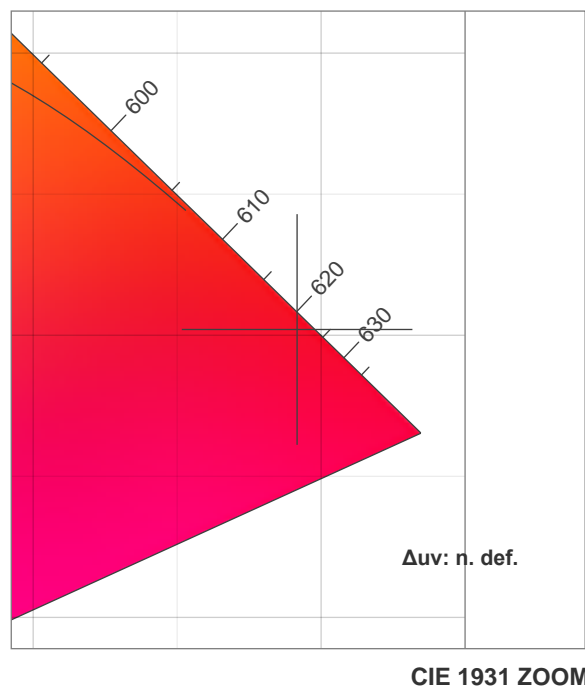
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0

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

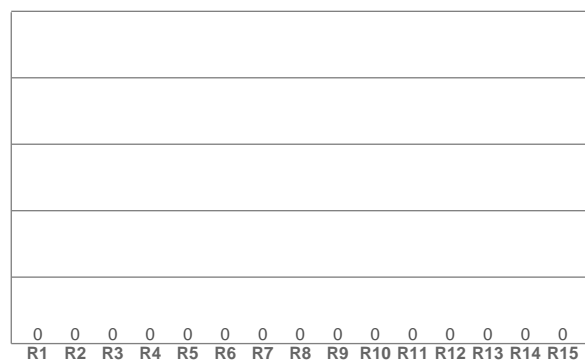
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0

CQS Q values

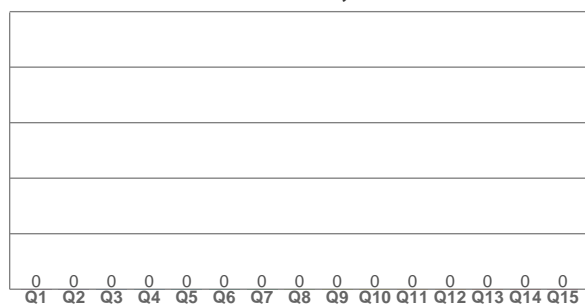
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0



CRI: 0,0 (R1-R8)



CQS: 0,0



## 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 deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
0 K	0,0	0,0	0,0	0,0	0,0	0,692	0,302	0,528	0,346	n. def.

## TM30 details

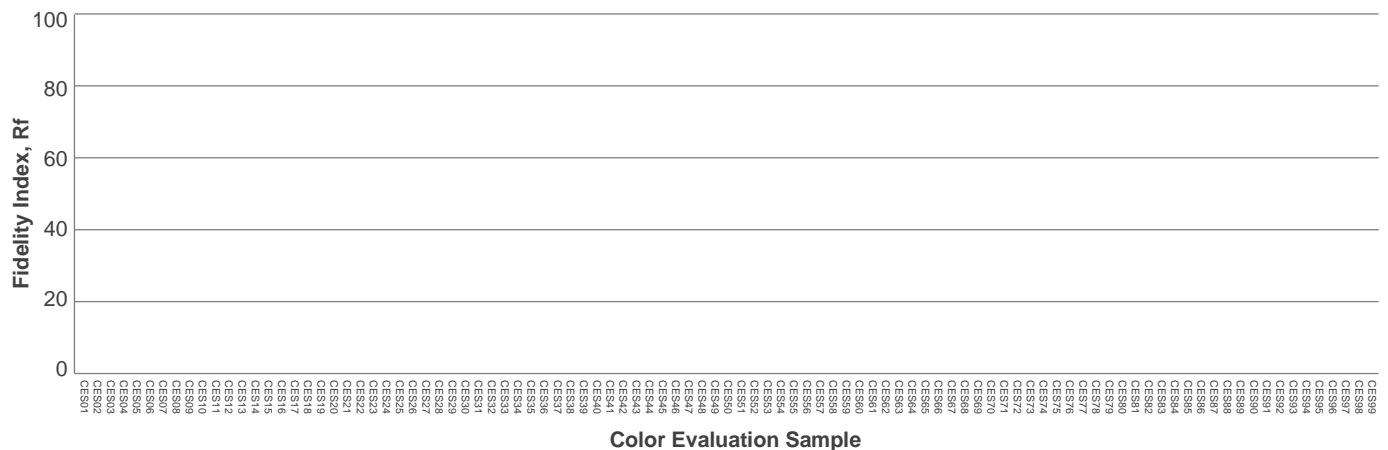
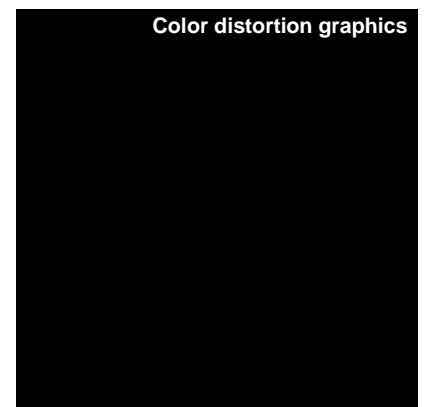
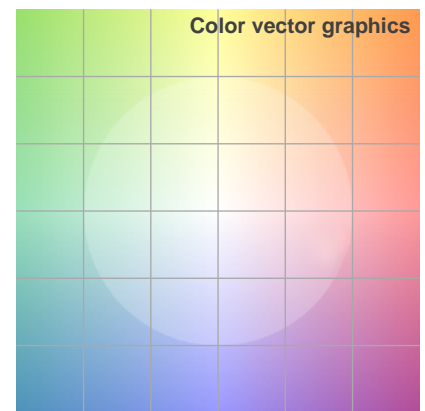
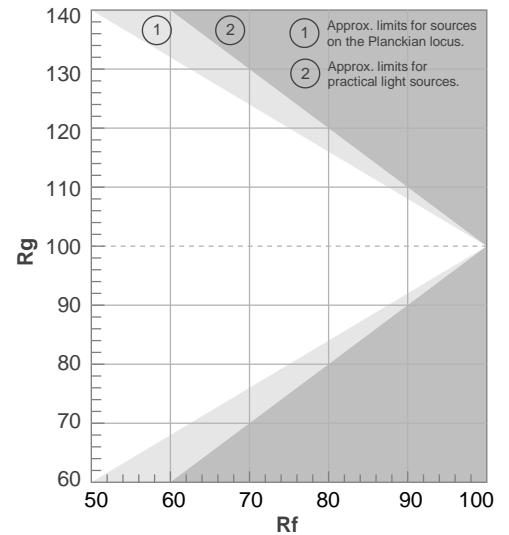
**Rf 0,0**

Fidelity index Rf

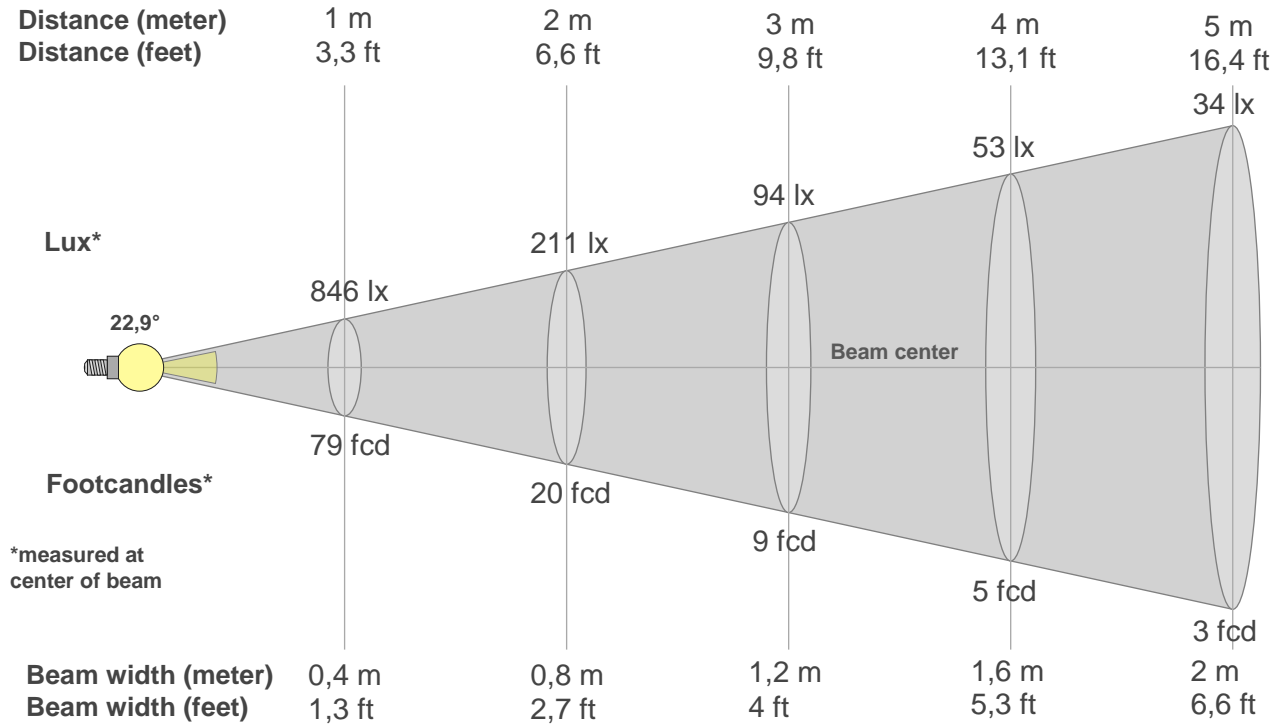
**Rg 0,0**

Gammut index Rg

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	0	0%	0%
2	0	0%	0%
3	0	0%	0%
4	0	0%	0%
5	0	0%	0%
6	0	0%	0%
7	0	0%	0%
8	0	0%	0%
9	0	0%	0%
10	0	0%	0%
11	0	0%	0%
12	0	0%	0%
13	0	0%	0%
14	0	0%	0%
15	0	0%	0%
16	0	0%	0%



## 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
846lx	211lx	94lx	53lx	34lx	23lx	17lx	13lx	10lx	8lx	7lx	6lx	5lx	4lx	4lx	3lx	3lx	3lx	2lx	2lx
78,6fcd	19,6fcd	8,7fcd	4,9fcd	3,1fcd	2,2fcd	1,6fcd	1,2fcd	1fcd	0,8fcd	0,6fcd	0,5fcd	0,5fcd	0,4fcd	0,3fcd	0,3fcd	0,3fcd	0,2fcd	0,2fcd	0,2fcd

### Intensities in 0° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
846	828	776	695	595	491	391	304	231	173	128	94	70	52	39	30	24	19	15	13
100%	98%	92%	82%	70%	58%	46%	36%	27%	20%	15%	11%	8%	6%	5%	4%	3%	2%	2%	1%

### Intensities in 90° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
846	829	778	698	599	495	396	310	237	179	134	99	73	53	40	31	23	19	15	13
100%	98%	92%	82%	71%	59%	47%	37%	28%	21%	16%	12%	9%	6%	5%	4%	3%	2%	2%	1%

### Intensities in 180° c-plane

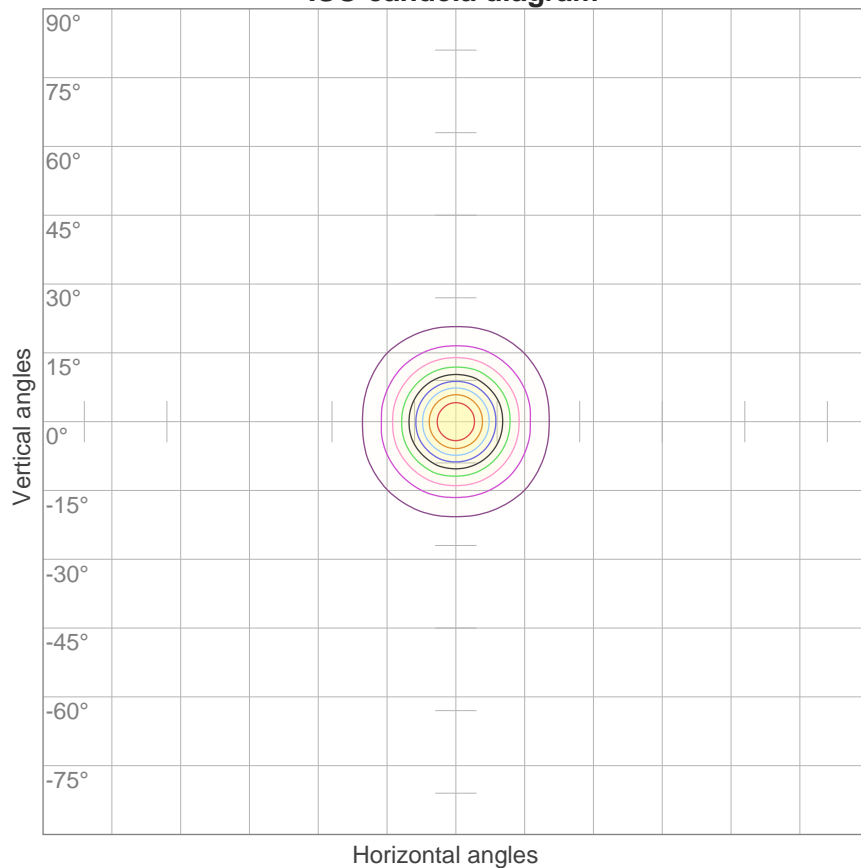
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
846	828	776	695	595	491	391	304	231	173	128	94	70	52	39	30	24	19	15	13
100%	98%	92%	82%	70%	58%	46%	36%	27%	20%	15%	11%	8%	6%	5%	4%	3%	2%	2%	1%

### Intensities in 270° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
846	829	778	698	599	495	396	310	237	179	134	99	73	53	40	31	23	19	15	13
100%	98%	92%	82%	71%	59%	47%	37%	28%	21%	16%	12%	9%	6%	5%	4%	3%	2%	2%	1%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
22,9°	46,4°	66,7°	94,8%	90,5%

ISO candela diagram



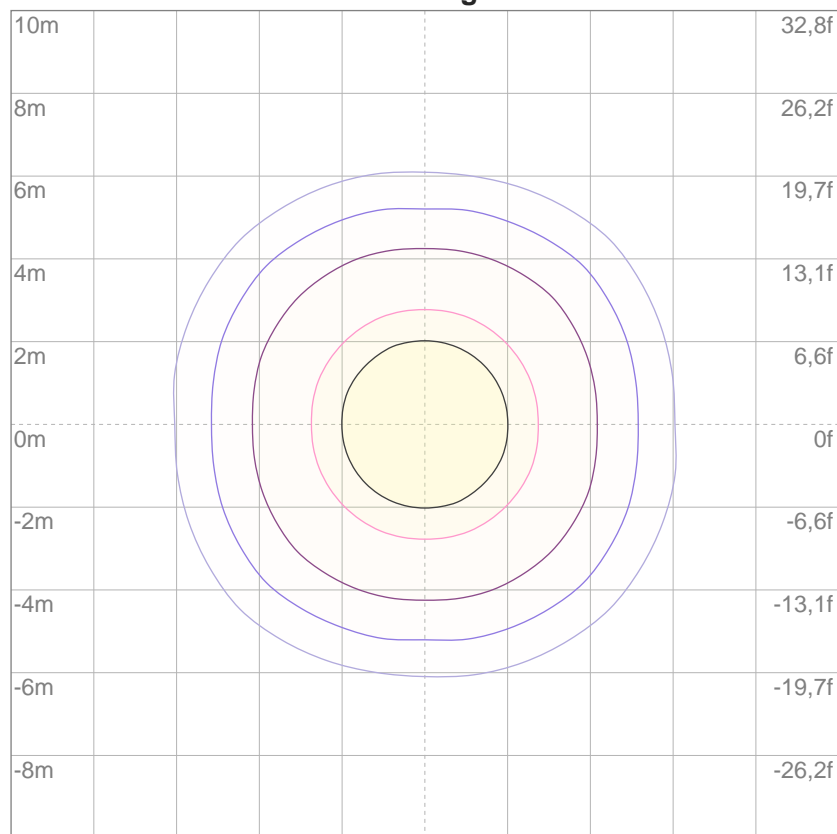
10%	85 cd
20%	169 cd
30%	254 cd
40%	338 cd
50%	423 cd
60%	508 cd
70%	592 cd
80%	677 cd
90%	761 cd

Conditions:

Number of c-planes: 16

Candela at center: 846 cd

ISO lux diagram



3%	0,254 lx
5%	0,423 lx
10%	0,846 lx
30%	2,54 lx
50%	4,23 lx

Conditions:

Number of c-planes: 16

Lux at center: 8,46 lx

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

## Glare Evaluation According to UGR

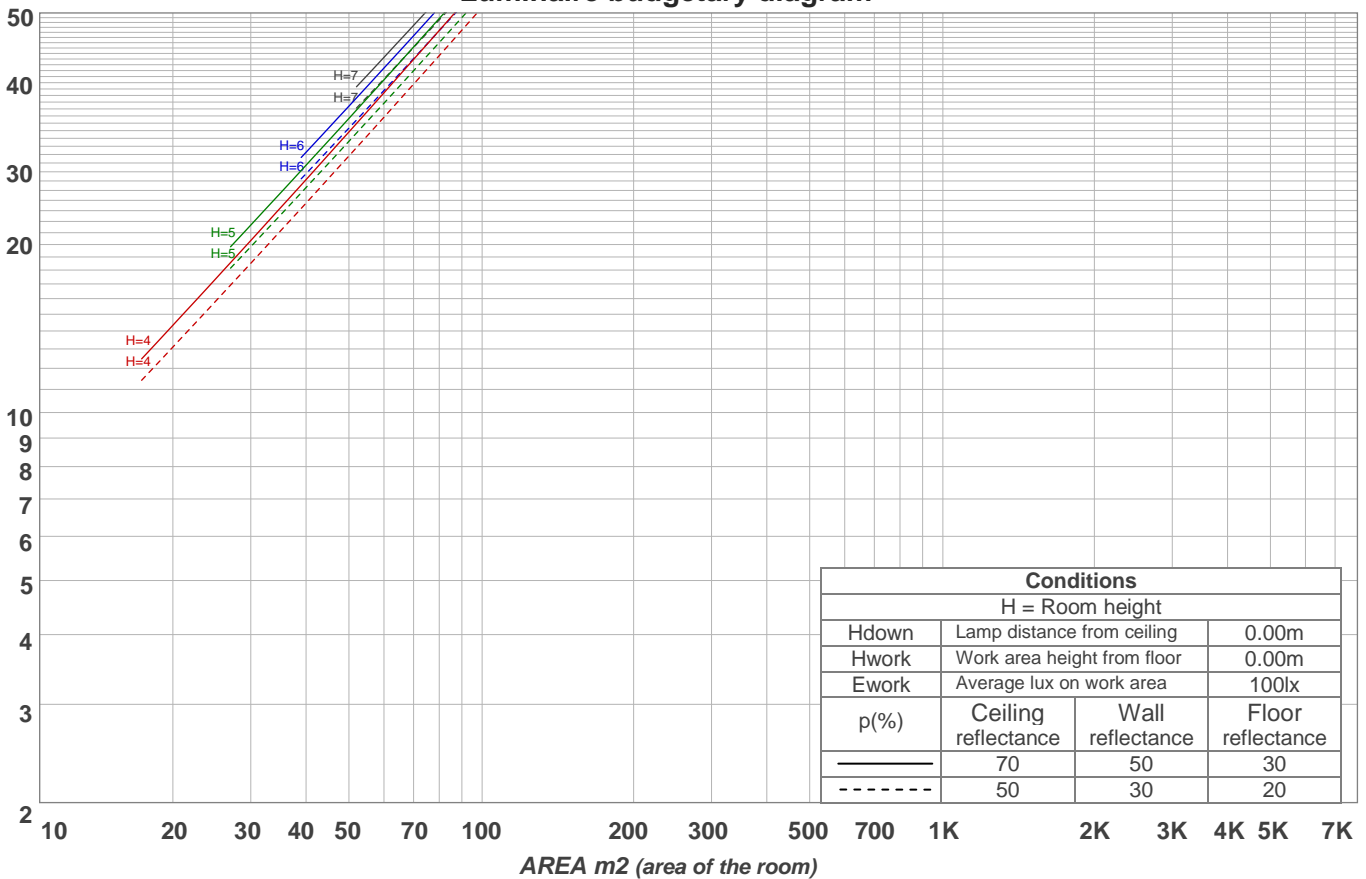
p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X      Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	10,0	10,7	10,2	10,9	11,1	9,0	9,8	9,3	10,0	10,2
	3H	11,7	12,4	12,0	12,7	12,9	10,5	11,2	10,8	11,5	11,7
	4H	12,4	13,1	12,8	13,4	13,6	11,5	12,1	11,8	12,4	12,7
	6H	13,0	13,6	13,4	13,9	14,2	12,3	12,9	12,6	13,2	13,5
	8H	13,3	13,9	13,7	14,2	14,5	12,7	13,2	13,0	13,5	13,8
	12H	13,7	14,2	14,0	14,5	14,8	13,2	13,8	13,6	14,1	14,4
4H	2H	10,5	11,2	10,8	11,4	11,7	9,8	10,4	10,1	10,7	10,9
	3H	12,5	13,0	12,8	13,3	13,7	11,6	12,1	11,9	12,4	12,7
	4H	13,4	13,8	13,7	14,2	14,5	12,6	13,1	13,0	13,4	13,8
	6H	14,1	14,5	14,5	14,9	15,3	13,6	14,0	14,0	14,4	14,8
	8H	14,5	14,9	15,0	15,3	15,7	14,1	14,4	14,5	14,8	15,2
	12H	15,0	15,3	15,4	15,7	16,1	14,7	15,0	15,2	15,4	15,9
8H	4H	13,7	14,1	14,1	14,4	14,8	13,1	13,4	13,5	13,8	14,2
	6H	14,7	15,0	15,2	15,4	15,9	14,3	14,5	14,7	15,0	15,4
	8H	15,3	15,5	15,7	16,0	16,4	14,9	15,1	15,3	15,5	16,0
	12H	15,9	16,1	16,4	16,6	17,1	15,7	15,9	16,2	16,4	16,9
12H	4H	13,8	14,1	14,2	14,5	14,9	13,1	13,5	13,6	13,9	14,3
	6H	14,9	15,1	15,3	15,5	16,0	14,4	14,7	14,9	15,1	15,6
	8H	15,5	15,7	16,0	16,1	16,6	15,1	15,3	15,6	15,7	16,2
Variation of the observer position for the luminaire distance S											
S = 1,0H		+0,2 / -0,1					+0,2 / -0,2				
S = 1,5H		+0,4 / -0,3					+0,3 / -0,3				
S = 2,0H		+0,7 / -0,5					+0,7 / -0,7				
Standard table		BK07					BK08				
Correction summand		-2,0					-2,1				
Corrected glare indices referring to 204 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	101	101	101	99
1	114	111	108	106	111	109	106	105	104	103	101	101	99	98	97	96	95	93
2	109	104	100	97	106	102	99	96	99	96	94	96	94	92	93	91	90	88
3	104	99	94	91	102	97	93	90	94	91	88	92	89	87	90	87	85	84
4	100	94	89	85	99	93	88	85	90	87	84	88	85	83	86	84	82	80
5	97	89	85	81	95	89	84	80	87	83	80	85	82	79	84	81	78	77
6	93	86	81	77	92	85	80	77	84	79	76	82	79	76	81	78	75	74
7	90	82	77	74	89	82	77	74	81	76	73	79	76	73	78	75	73	71
8	87	79	75	71	86	79	74	71	78	74	71	77	73	70	76	73	70	69
9	85	77	72	69	84	76	72	69	75	71	68	75	71	68	74	70	68	67
10	82	74	70	67	81	74	69	66	73	69	66	72	69	66	72	68	66	65

LAMPS (number of lamps)

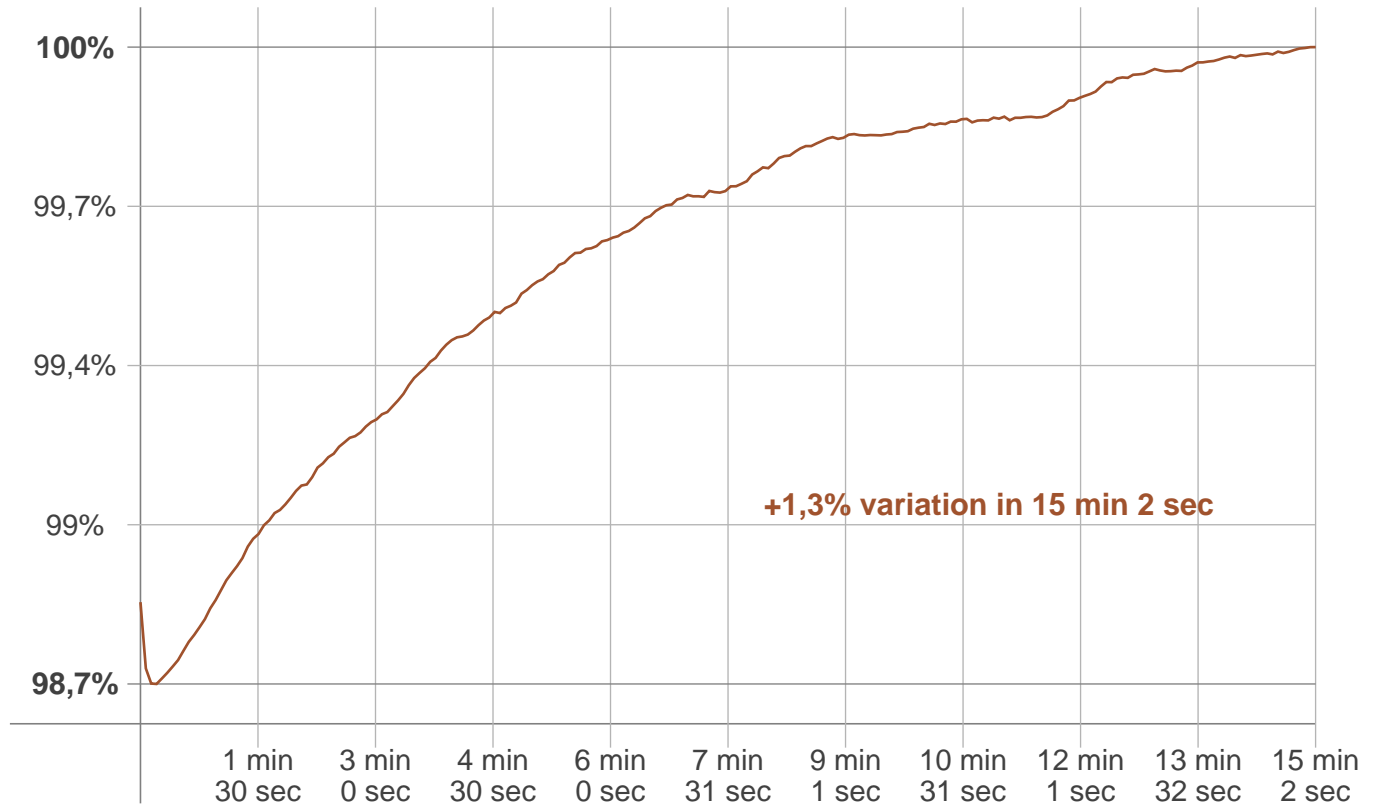
## Luminaire budgetary diagram



## Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
{LUM0-10}	75,8 lm	31,5 lm	11,6 lm	6,59 lm	5,50 lm	4,43 lm	3,03 lm	1,66 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0,444 lm	0,354 lm	0,332 lm	0,300 lm	0,117 lm	0,000 lm	0,000 lm	0,000 lm	0,000 lm

Warmup curve



Warmup result

Warmup time:	15 min 2 sec
Warmup variation	+1,3%

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
0 K	0 K	0 K

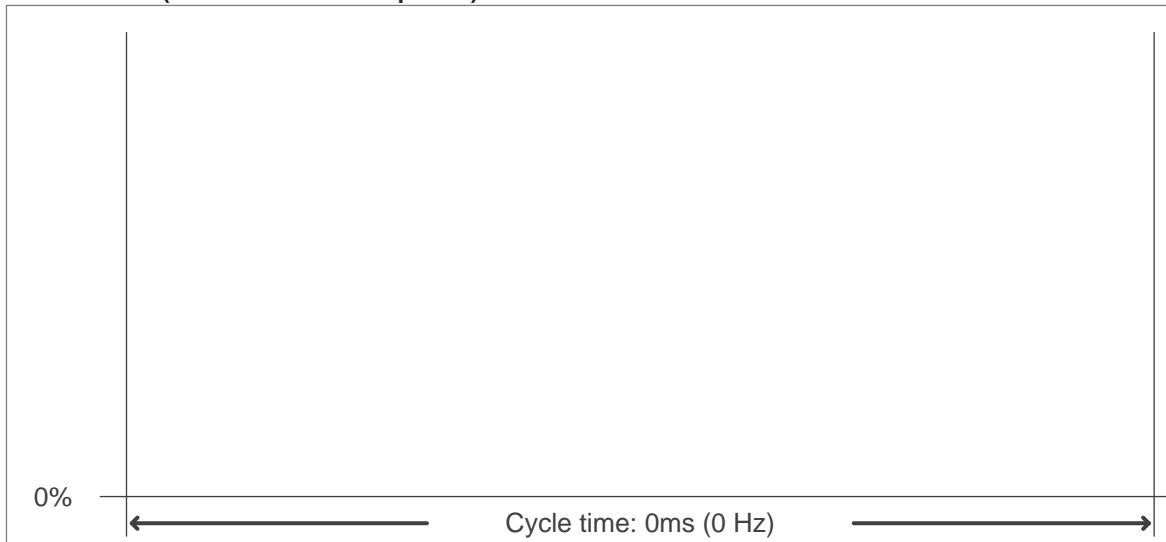
Output change

Output start	Output change	Output end
202 lm	+2 lm	204 lm

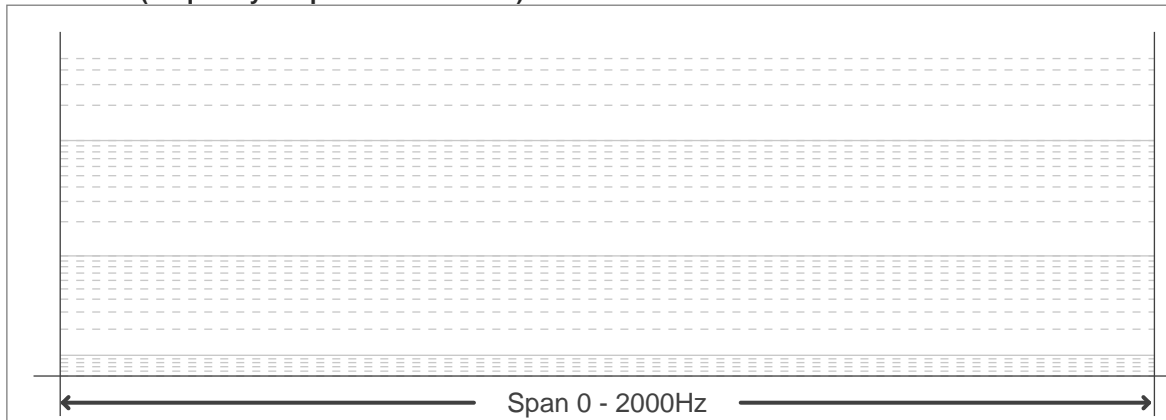
## Flicker curve (complete sampled flicker signal)



## 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
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