

Light efficiency:



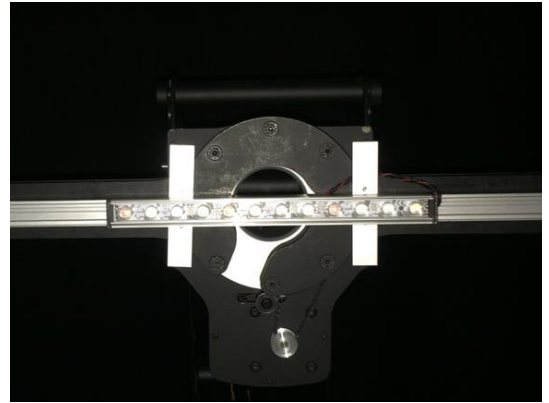
Light quality:



Color temperature:



Output: 216 lm  
Peak: 1351 cd  
Power: 6,3 W  
PF: 0,79



Product name:

FLNP-F4CH-C-258-R-927-10771

Item number:

FLNP-F4CH-C-258-R-927-10771

Date and time:

14.02.2019 10:56:11

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

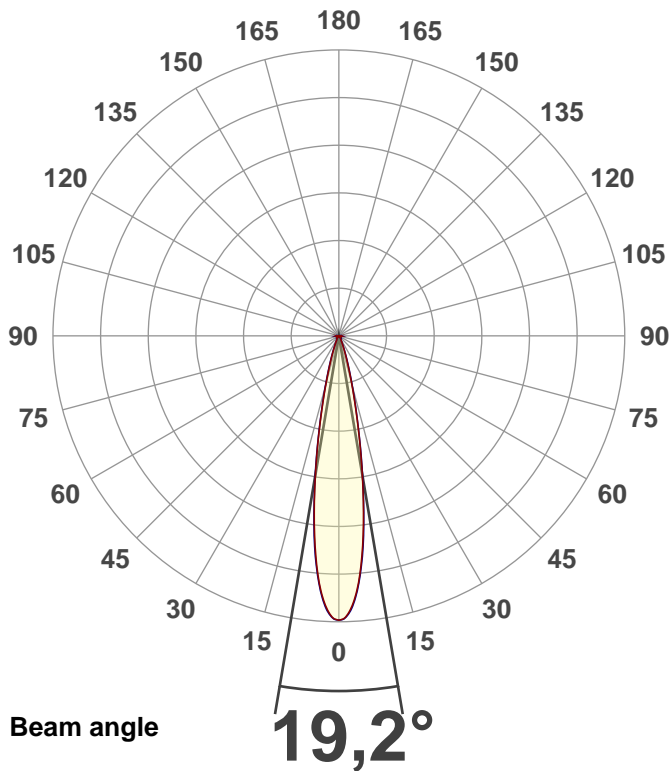
Master of Engineering

Pruefort:

Lichtlabor

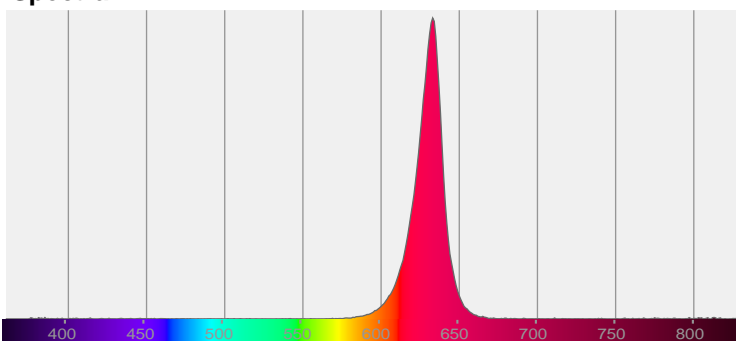
Gaustasse13-15

55411 Bingen am Rhein

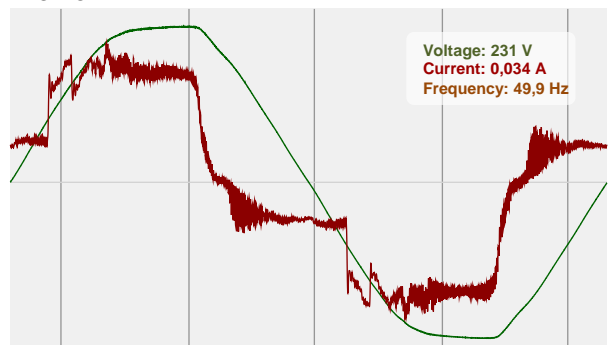


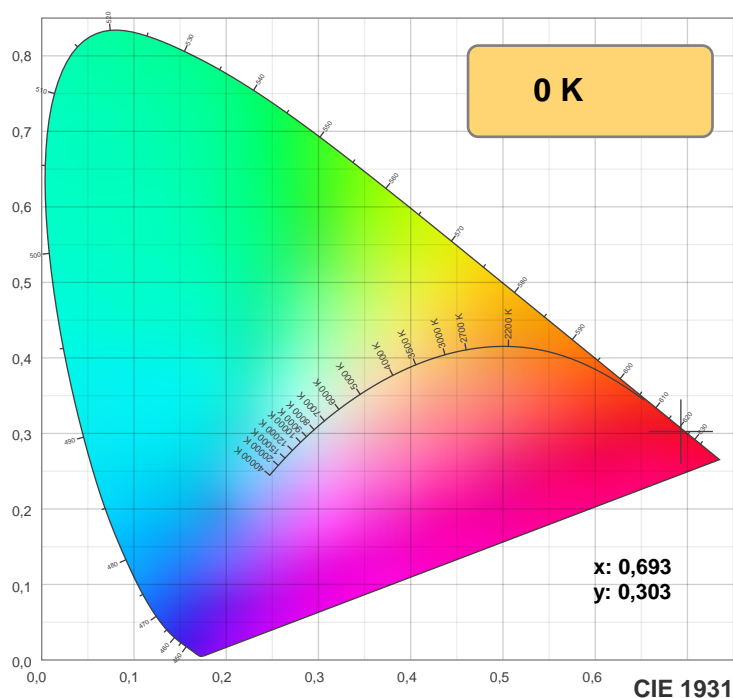
CIE 1931  
x: 0,693  
y: 0,303

Spectra



Power





TM30: 0,0



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

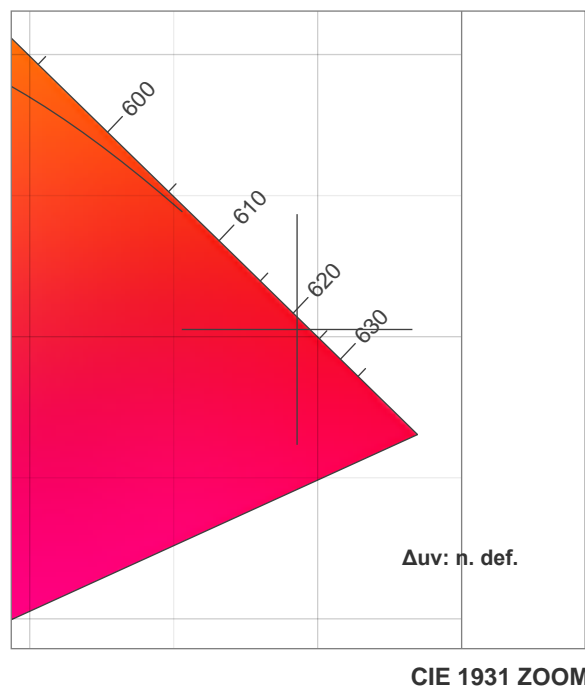
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0

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

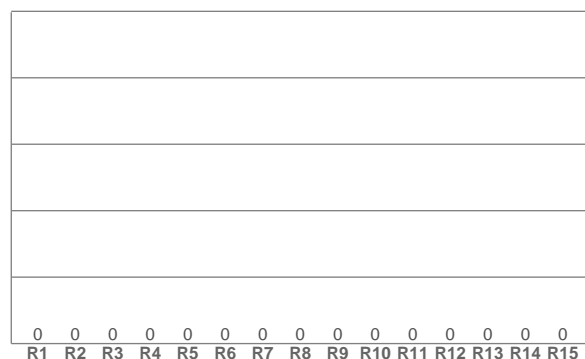
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0

CQS Q values

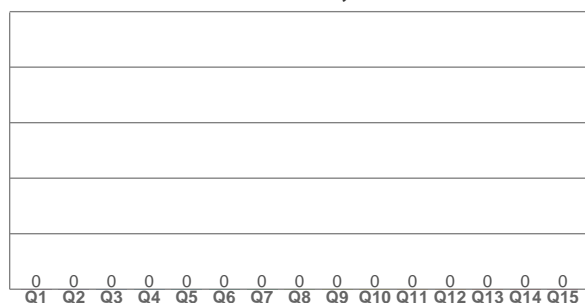
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0



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	0,693	0,303	0,528	0,346	n. def.

## TM30 details

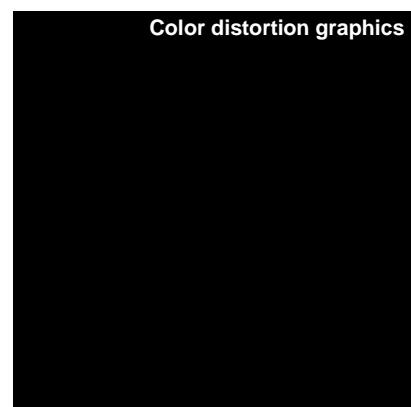
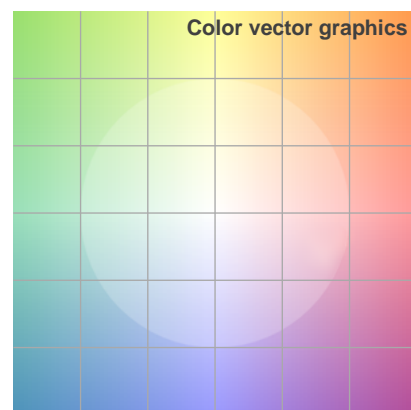
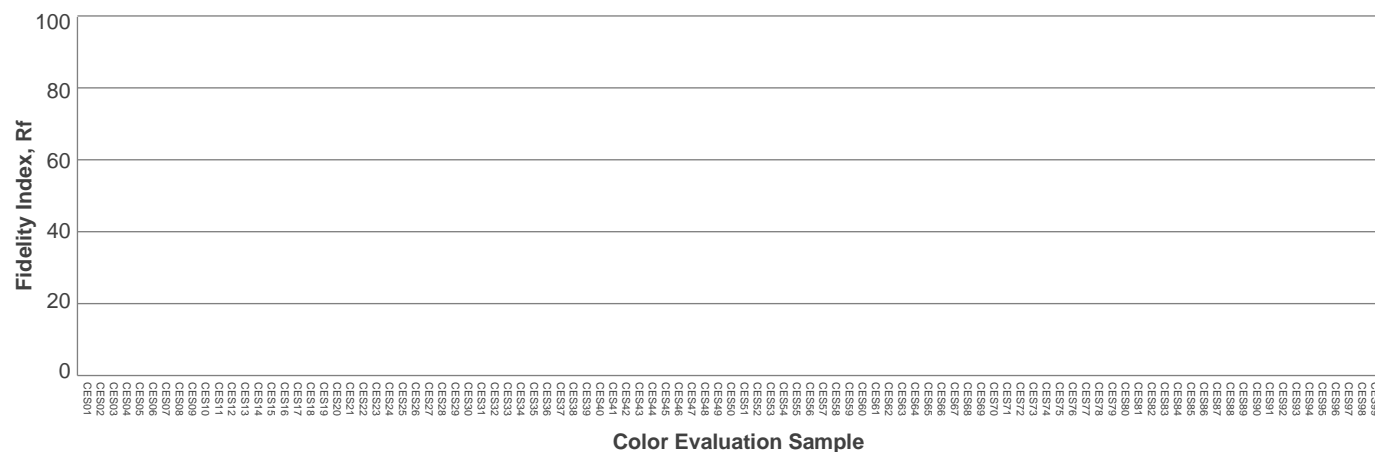
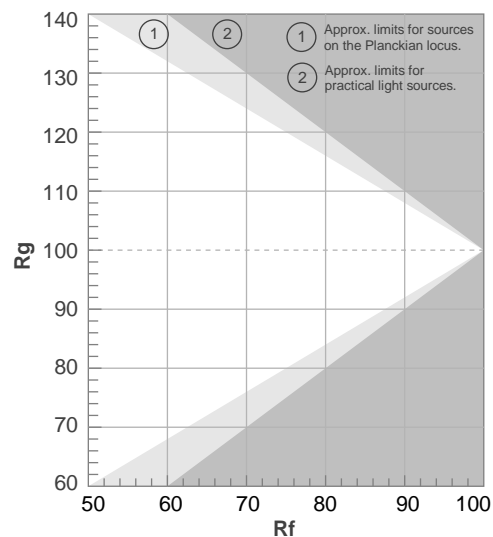
**Rf 0,0**

Fidelity index Rf

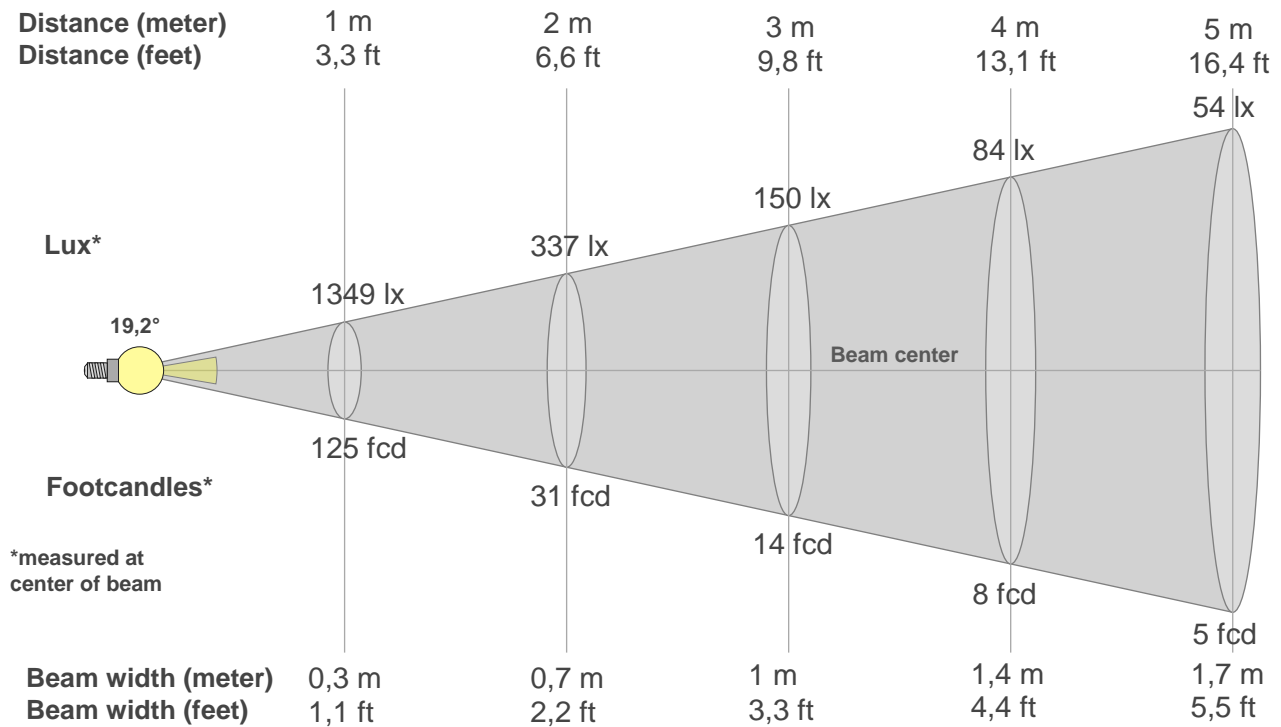
**Rg 0,0**

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
1349lx	337lx	150lx	84lx	54lx	37lx	28lx	21lx	17lx	13lx	11lx	9lx	8lx	7lx	6lx	5lx	5lx	4lx	4lx	3lx
125,3fc	31,3fcd	13,9fcd	7,8fcd	5fcd	3,5fcd	2,6fcd	2fcd	1,5fcd	1,3fcd	1fcd	0,9fcd	0,7fcd	0,6fcd	0,6fcd	0,5fcd	0,4fcd	0,4fcd	0,3fcd	0,3fcd

### 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°
1349	1341	1315	1273	1214	1139	1048	947	840	731	625	526	437	359	293	238	193	156	126	103
100%	99%	98%	94%	90%	84%	78%	70%	62%	54%	46%	39%	32%	27%	22%	18%	14%	12%	9%	8%

### 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°
1349	1342	1319	1279	1220	1145	1058	959	849	738	633	534	443	366	302	248	203	166	136	112
100%	100%	98%	95%	90%	85%	78%	71%	63%	55%	47%	40%	33%	27%	22%	18%	15%	12%	10%	8%

### Intensities in 180° c-plane

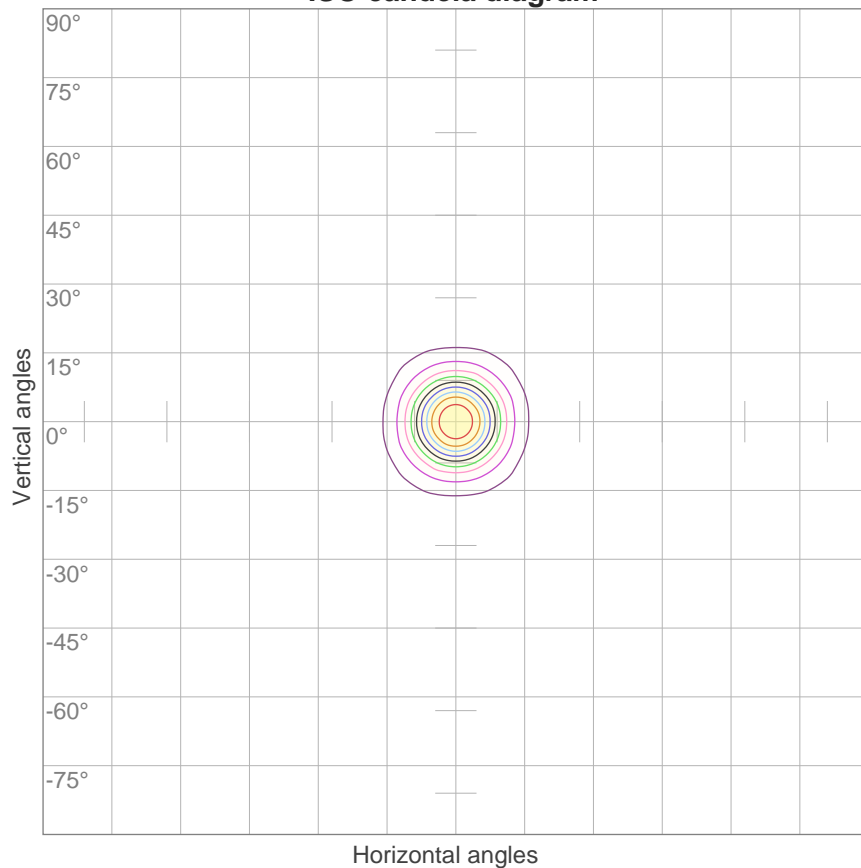
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
1349	1341	1315	1273	1214	1139	1048	947	840	731	625	526	437	359	293	238	193	156	126	103
100%	99%	98%	94%	90%	84%	78%	70%	62%	54%	46%	39%	32%	27%	22%	18%	14%	12%	9%	8%

### 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°
1349	1342	1319	1279	1220	1145	1058	959	849	738	633	534	443	366	302	248	203	166	136	112
100%	100%	98%	95%	90%	85%	78%	71%	63%	55%	47%	40%	33%	27%	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
19,2°	36,5°	51,8°	94,3%	90,5%

ISO candela diagram



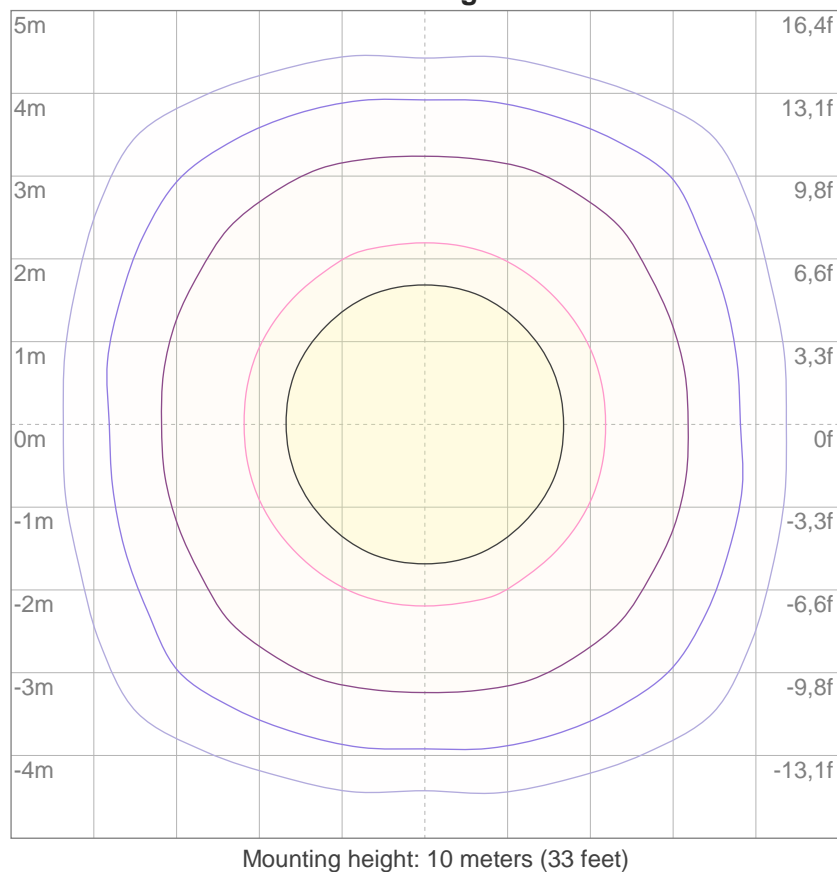
10%	135 cd
20%	270 cd
30%	405 cd
40%	539 cd
50%	674 cd
60%	809 cd
70%	944 cd
80%	1079 cd
90%	1214 cd

Conditions:

Number of c-planes: 16

Candela at center: 1349 cd

ISO lux diagram



3%	0,405 lx
5%	0,674 lx
10%	1,35 lx
30%	4,05 lx
50%	6,74 lx

Conditions:

Number of c-planes: 16

Lux at center: 13,5 lx

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

## Glare Evaluation According to UGR

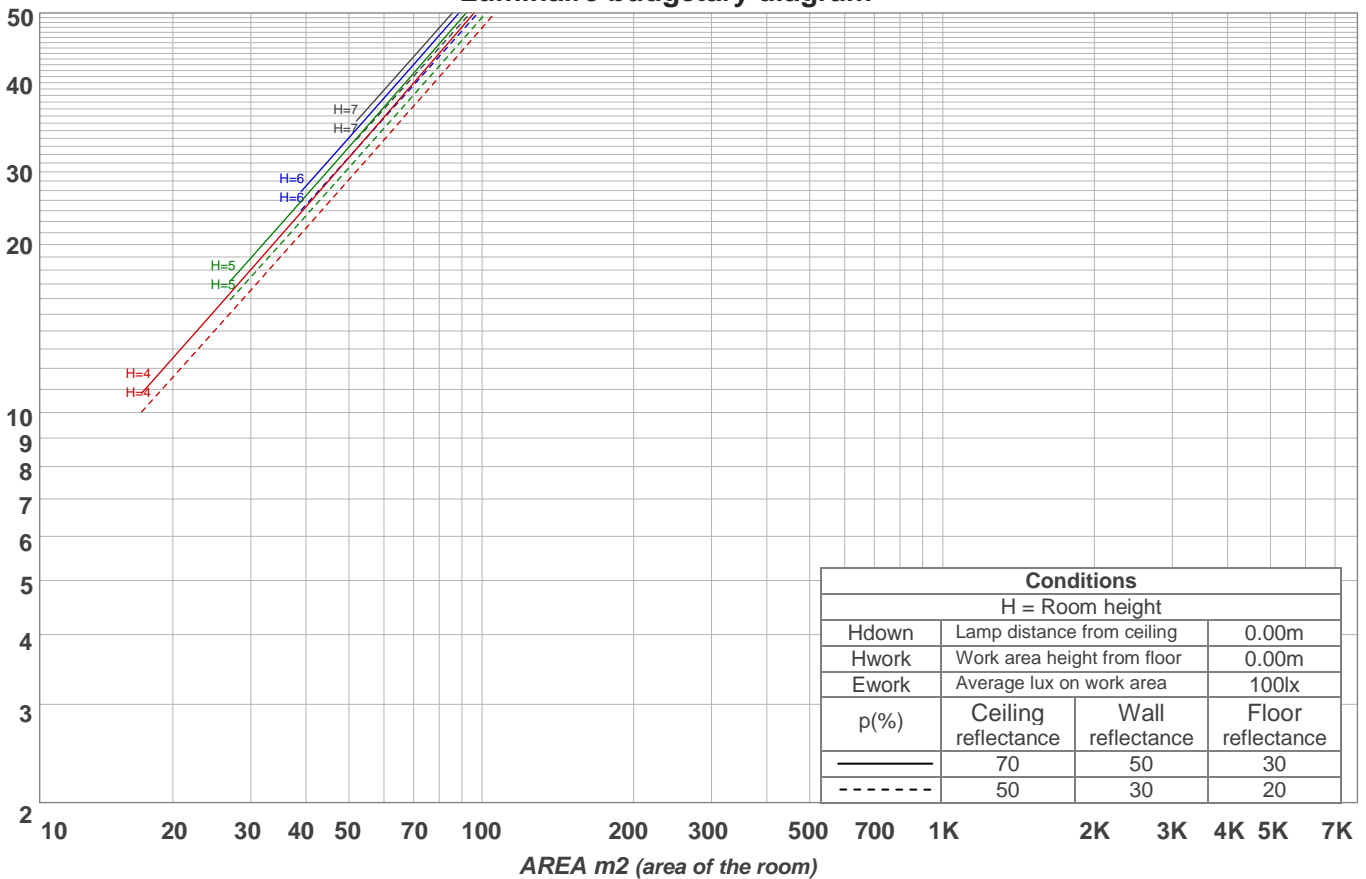
p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X      Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	9,4	10,2	9,7	10,4	10,6	8,1	8,8	8,3	9,0	9,2
	3H	11,5	12,2	11,8	12,4	12,6	10,2	10,9	10,5	11,1	11,4
	4H	12,3	13,0	12,6	13,2	13,5	11,3	11,9	11,6	12,2	12,5
	6H	13,1	13,7	13,5	14,0	14,3	12,4	13,0	12,7	13,3	13,5
	8H	13,7	14,3	14,1	14,6	14,9	13,0	13,6	13,4	13,9	14,2
	12H	14,2	14,8	14,6	15,1	15,4	13,7	14,2	14,0	14,6	14,9
4H	2H	10,1	10,8	10,4	11,0	11,3	9,1	9,8	9,4	10,0	10,3
	3H	12,4	12,9	12,7	13,3	13,6	11,4	12,0	11,8	12,3	12,6
	4H	13,4	13,9	13,8	14,2	14,6	12,7	13,2	13,1	13,5	13,8
	6H	14,5	14,9	14,9	15,2	15,6	13,9	14,3	14,3	14,7	15,1
	8H	15,1	15,5	15,5	15,9	16,3	14,6	15,0	15,1	15,4	15,8
	12H	15,7	16,1	16,2	16,5	16,9	15,4	15,7	15,8	16,1	16,5
8H	4H	13,8	14,2	14,3	14,6	15,0	13,2	13,6	13,7	14,0	14,4
	6H	15,2	15,4	15,6	15,9	16,3	14,7	15,0	15,1	15,4	15,8
	8H	16,0	16,2	16,4	16,6	17,1	15,6	15,8	16,0	16,3	16,7
	12H	16,8	17,0	17,2	17,4	17,9	16,5	16,7	17,0	17,2	17,7
12H	4H	13,9	14,2	14,4	14,6	15,1	13,4	13,7	13,8	14,1	14,5
	6H	15,3	15,6	15,8	16,0	16,5	14,9	15,1	15,4	15,6	16,1
	8H	16,2	16,4	16,7	16,9	17,4	15,9	16,1	16,4	16,5	17,0
Variation of the observer position for the luminaire distance S											
S = 1,0H		+0,1 / -0,1					+0,1 / -0,1				
S = 1,5H		+0,3 / -0,2					+0,2 / -0,2				
S = 2,0H		+0,4 / -0,4					+0,4 / -0,5				
Standard table		BK09					BK10				
Correction summand		-0,7					-0,9				
Corrected glare indices referring to 216 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	109	107	111	109	107	105	105	103	102	101	100	99	97	96	95	94
2	109	105	102	99	107	103	100	98	100	98	95	97	95	93	94	93	91	89
3	105	100	96	93	104	99	95	92	96	93	90	94	91	89	91	89	87	86
4	102	96	92	88	100	95	91	88	93	89	86	91	88	85	89	86	84	83
5	99	92	88	84	97	91	87	84	90	86	83	88	85	82	86	84	82	80
6	96	89	85	81	95	88	84	81	87	83	80	86	82	80	84	82	79	78
7	93	86	82	79	92	86	82	79	85	81	78	83	80	78	82	79	77	76
8	91	84	80	77	90	83	79	76	82	79	76	81	78	76	80	78	75	74
9	89	82	77	75	88	81	77	74	80	77	74	80	76	74	79	76	74	73
10	87	80	76	73	86	79	75	73	78	75	72	78	75	72	77	74	72	71

LAMPS (number of lamps)

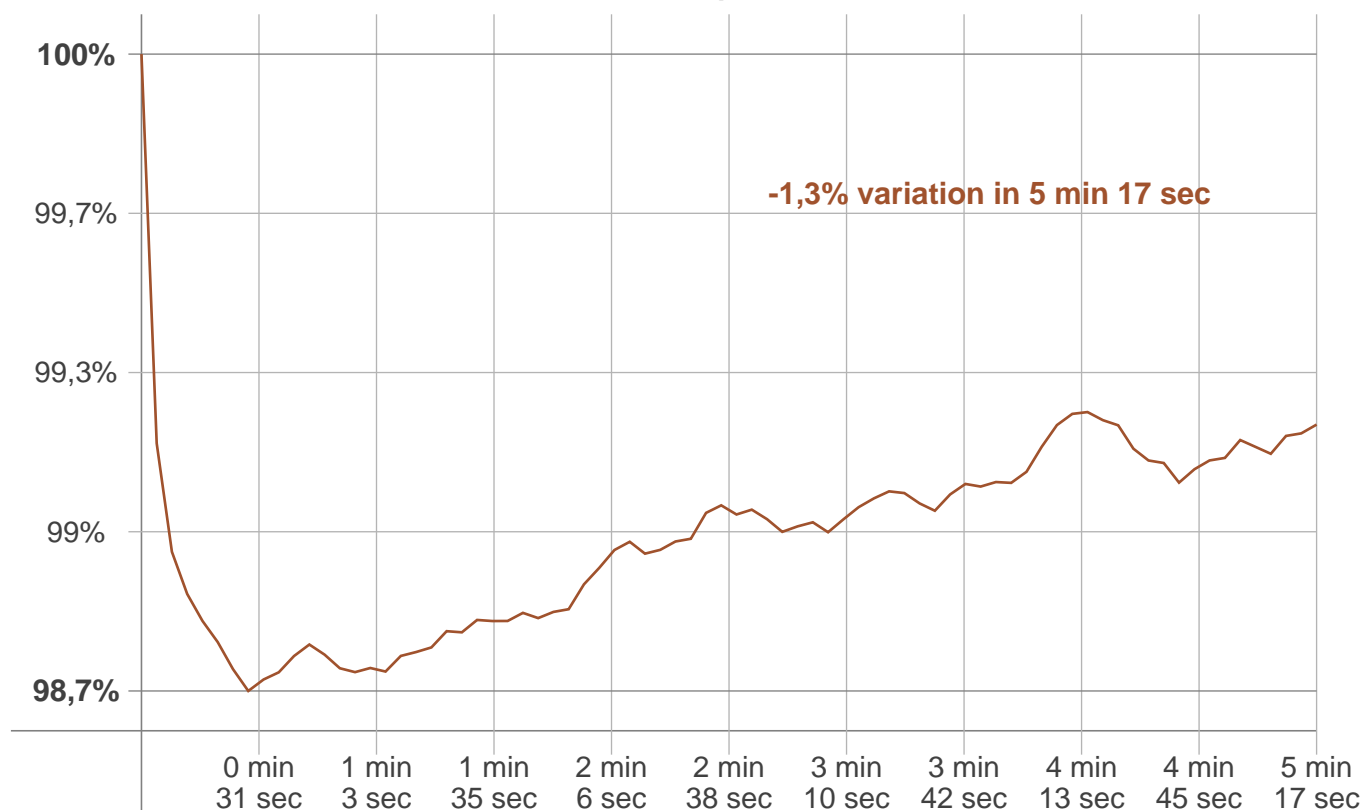
## Luminaire budgetary diagram



## Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
{LUM0-10}	73,9 lm	20,0 lm	7,46 lm	5,53 lm	5,39 lm	4,64 lm	3,34 lm	2,23 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0,631 lm	0,512 lm	0,481 lm	0,435 lm	0,171 lm	0,000 lm	0,000 lm	0,000 lm	0,000 lm

Warmup curve



Warmup result

Warmup time:	Not completed
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

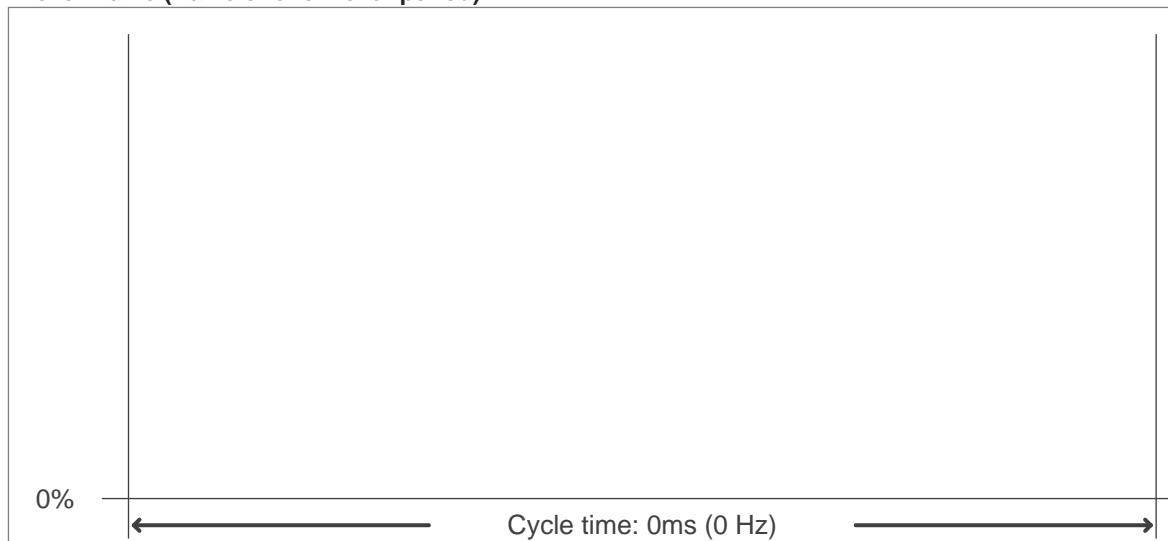
Output start	Output change	Output end
217 lm	lm	216 lm



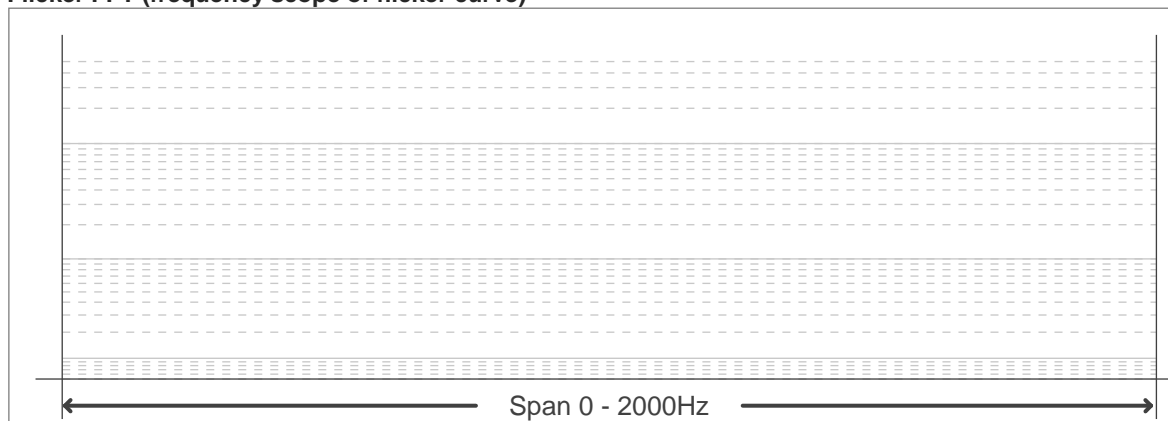
## Flicker curve (complete sampled flicker signal)



## 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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