

Light efficiency:



Light quality:



Color temperature:

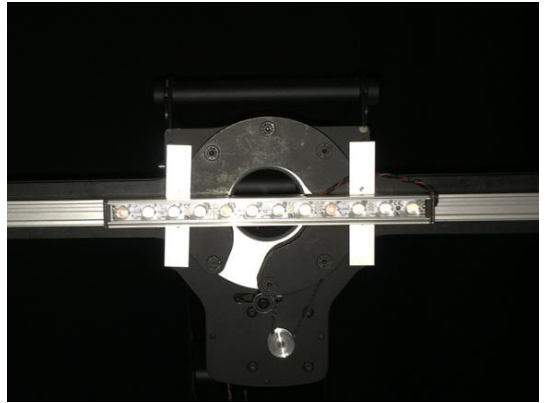


Output: 71,0 lm

Peak: 267 cd

Power: 7,1 W

PF: 0,82



Product name:

FLNP-F4CH-C-258-B-927-10772

Item number:

FLNP-F4CH-C-258-B-927-10772

Date and time:

18.02.2019 09:10:07

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

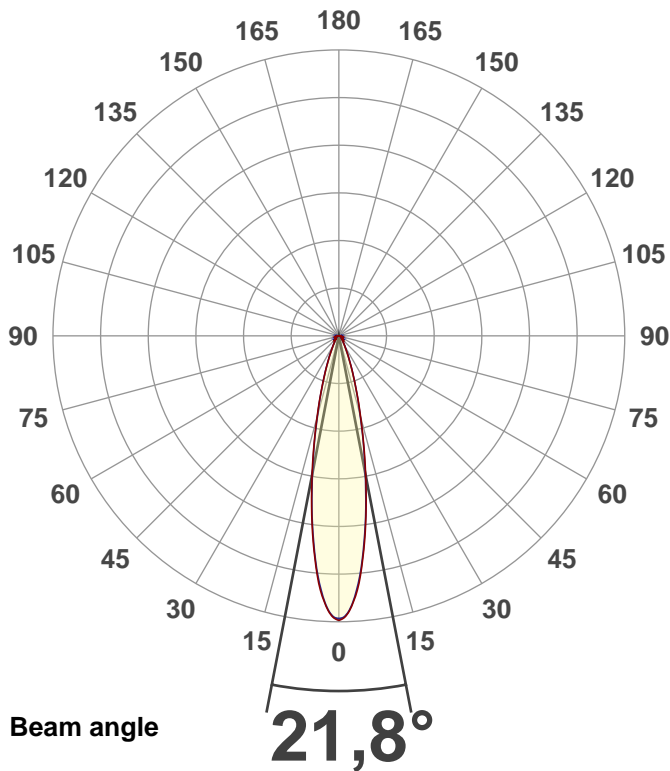
Master of Engineering

Pruefort:

Lichtlabor

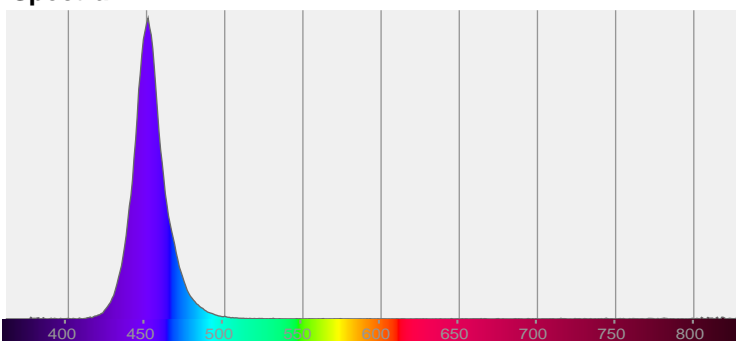
Gaustrasse13-15

55411 Bingen am Rhein

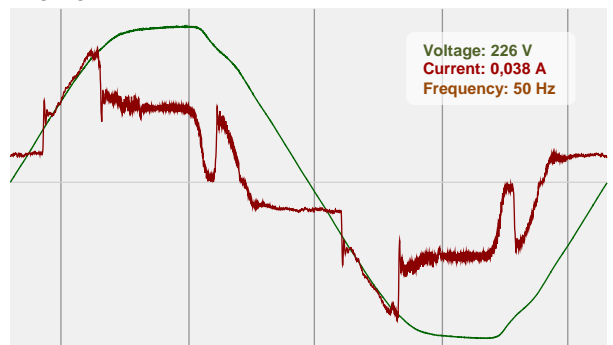


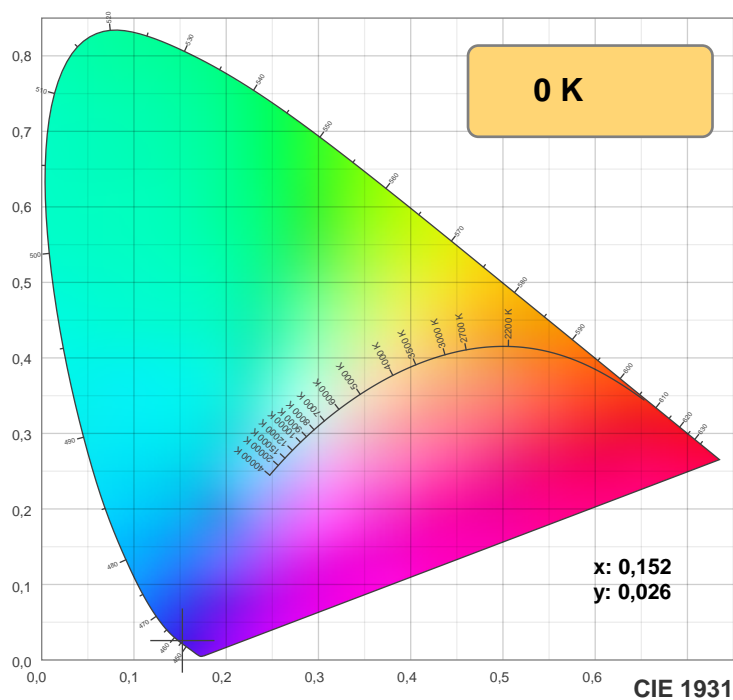
CIE 1931
x: 0,152
y: 0,026

Spectra

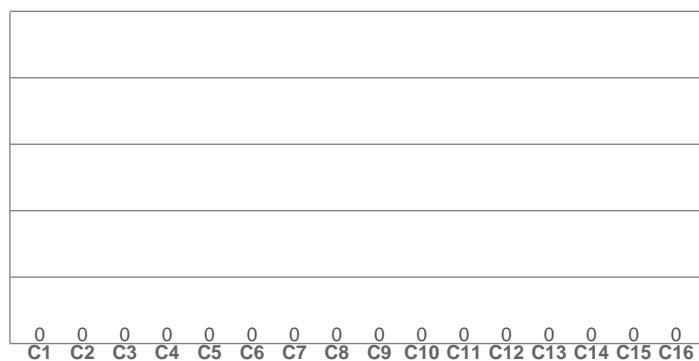


Power





TM30: 0,0



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

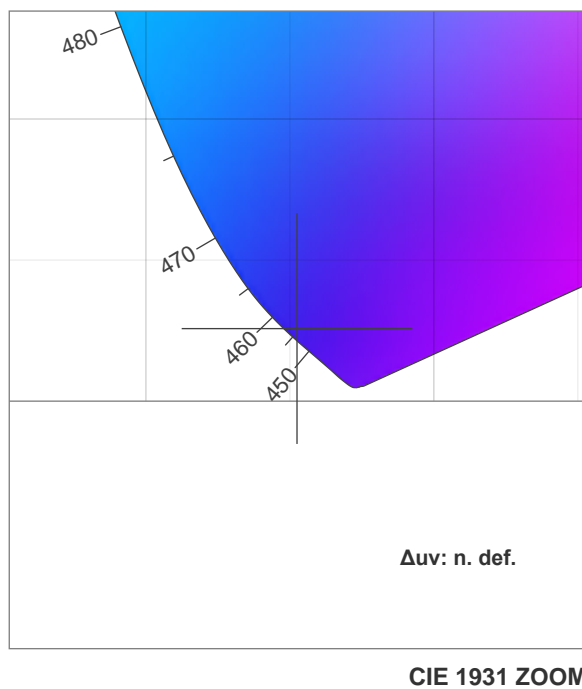
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0

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

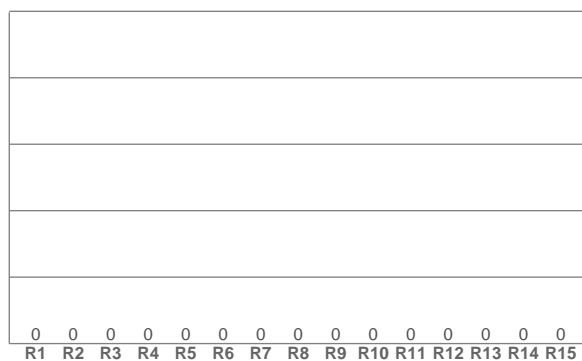
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0

CQS Q values

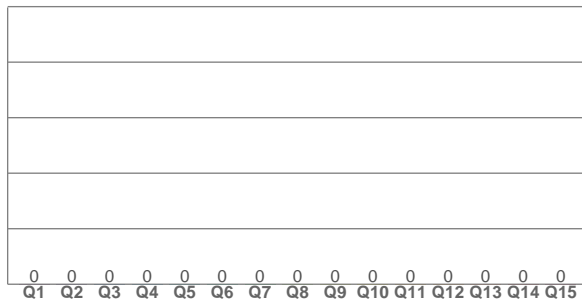
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0



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	0,152	0,026	0,203	0,051	n. def.

TM30 details

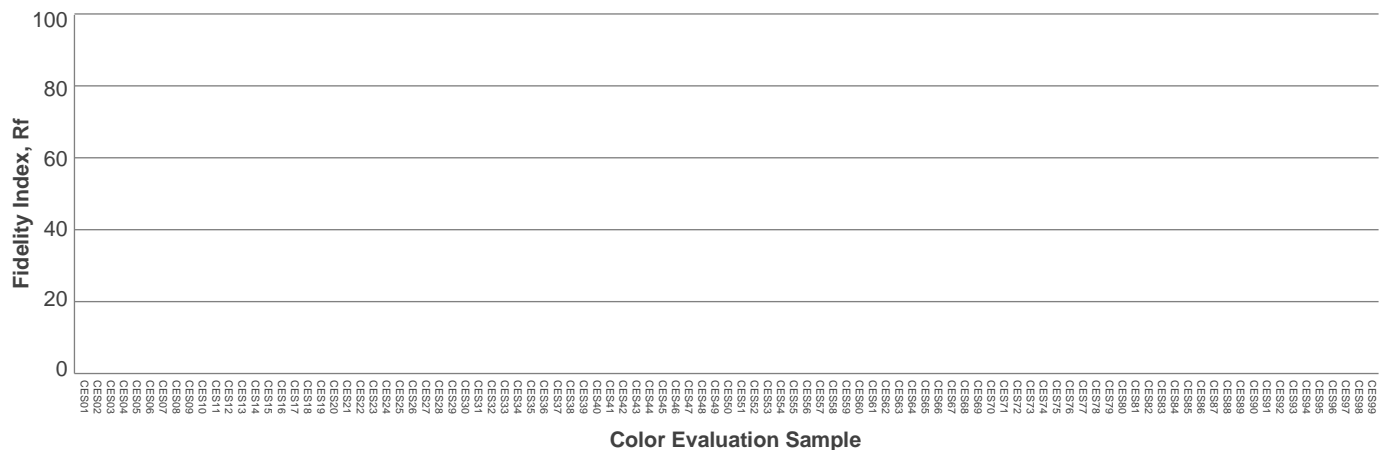
Rf 0,0

Fidelity index Rf

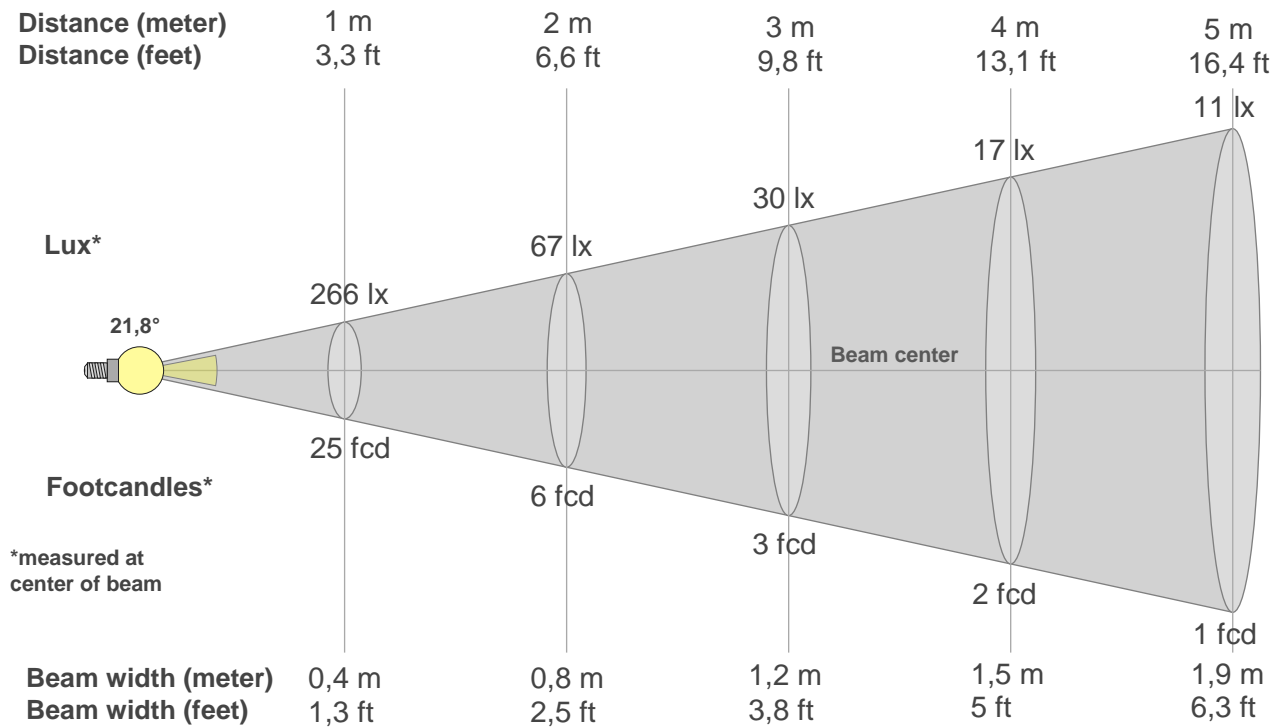
Rg 0,0

Gammut index Rg

Hue Bin	R _f	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
266lx	67lx	30lx	17lx	11lx	7lx	5lx	4lx	3lx	3lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx
24,7fcd	6,2fcd	2,7fcd	1,5fcd	1fcd	0,7fcd	0,5fcd	0,4fcd	0,3fcd	0,2fcd	0,2fcd	0,2fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd

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°
266	260	241	212	180	147	117	91	69	52	39	30	23	18	14	11	9	8	7	6
100%	98%	91%	80%	68%	55%	44%	34%	26%	20%	15%	11%	9%	7%	5%	4%	3%	3%	3%	2%

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°
266	259	239	211	178	145	115	89	68	52	39	30	23	18	14	11	9	7	7	6
100%	97%	90%	79%	67%	54%	43%	33%	26%	19%	15%	11%	9%	7%	5%	4%	3%	3%	2%	2%

Intensities in 180° c-plane

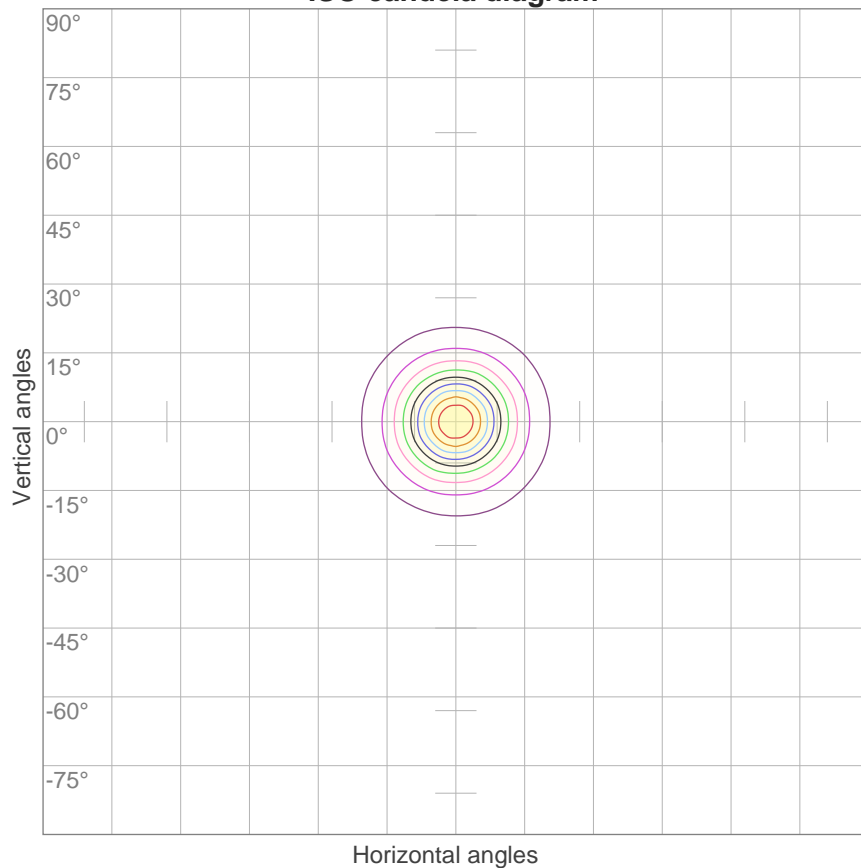
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
266	260	241	212	180	147	117	91	69	52	39	30	23	18	14	11	9	8	7	6
100%	98%	91%	80%	68%	55%	44%	34%	26%	20%	15%	11%	9%	7%	5%	4%	3%	3%	3%	2%

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°
266	259	239	211	178	145	115	89	68	52	39	30	23	18	14	11	9	7	7	6
100%	97%	90%	79%	67%	54%	43%	33%	26%	19%	15%	11%	9%	7%	5%	4%	3%	3%	2%	2%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
21,8°	46,1°	71,5°	87,2%	80,9%

ISO candela diagram



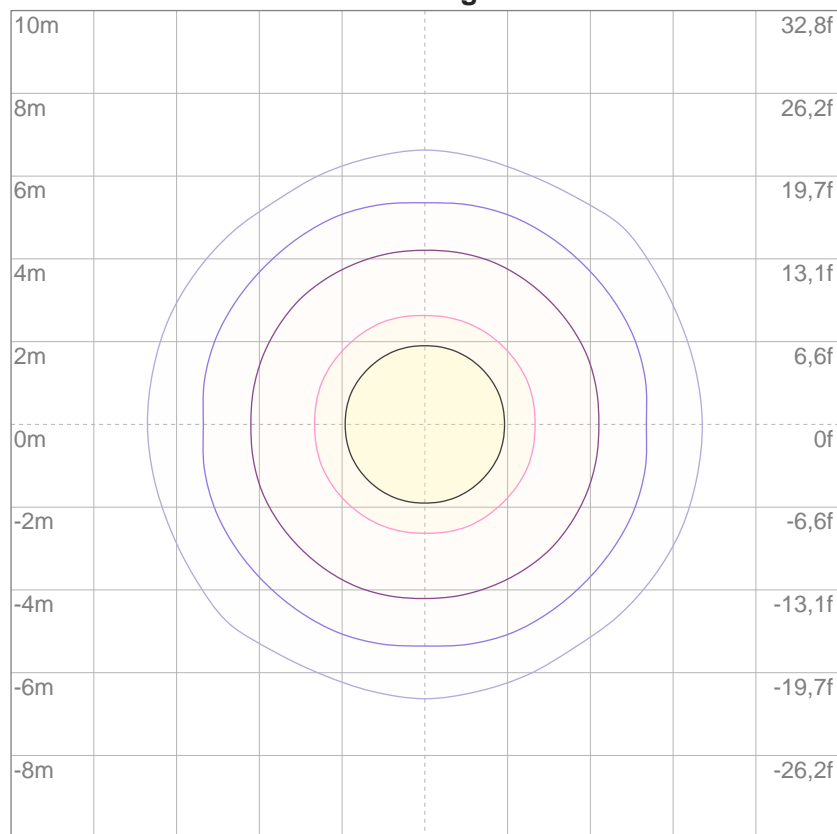
10%	27 cd
20%	53 cd
30%	80 cd
40%	106 cd
50%	133 cd
60%	160 cd
70%	186 cd
80%	213 cd
90%	240 cd

Conditions:

Number of c-planes: 16

Candela at center: 266 cd

ISO lux diagram



3%	79,9m lx
5%	0,133 lx
10%	0,266 lx
30%	0,799 lx
50%	1,33 lx

Conditions:

Number of c-planes: 16

Lux at center: 2,66 lx

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

Glare Evaluation According to UGR

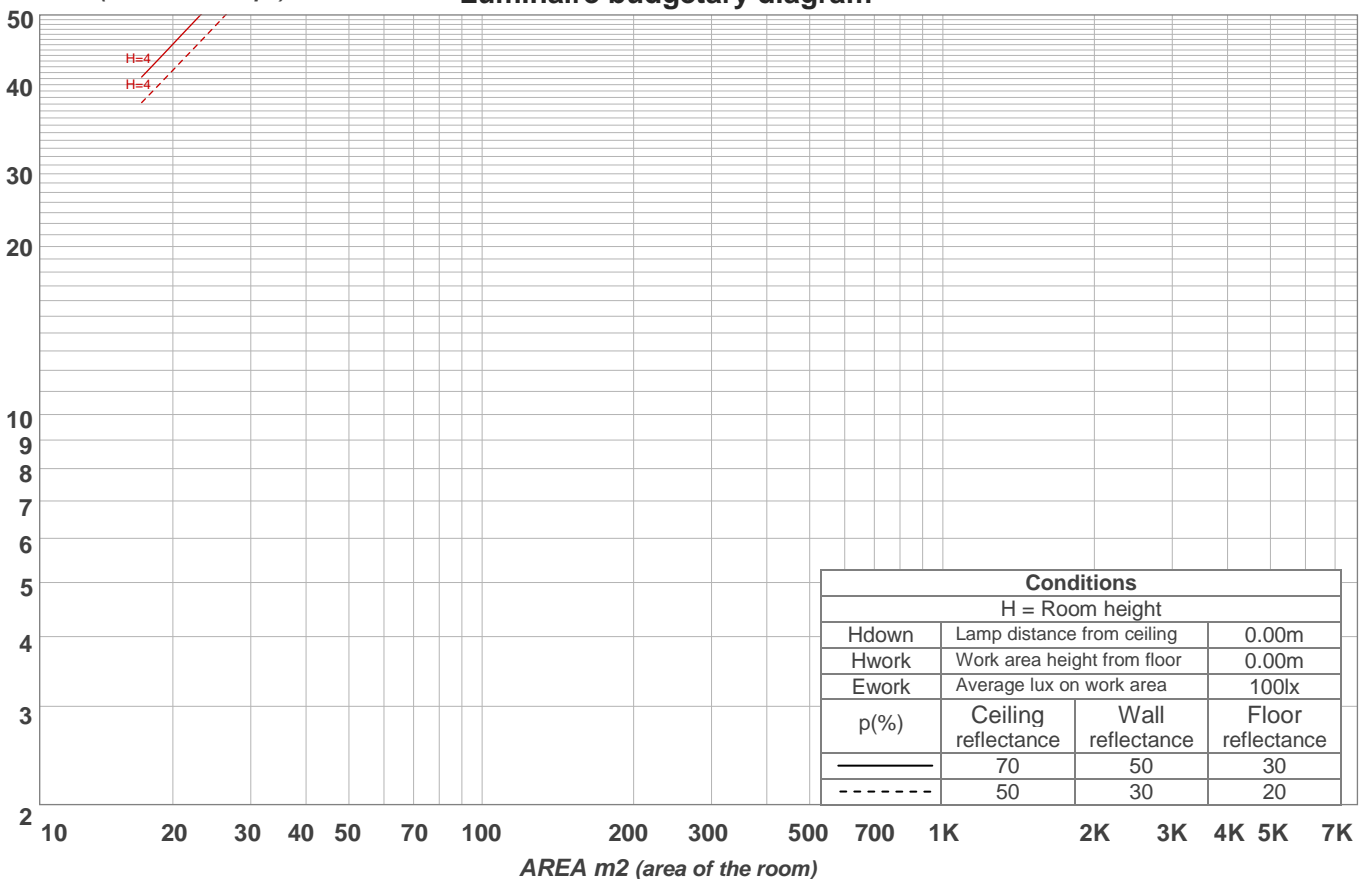
p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	9,2	10,1	9,5	10,3	10,5	8,6	9,4	8,8	9,6	9,9
	3H	11,5	12,3	11,8	12,6	12,8	10,7	11,5	11,0	11,7	12,0
	4H	12,7	13,4	13,0	13,7	14,0	11,9	12,7	12,2	12,9	13,2
	6H	13,7	14,4	14,0	14,7	15,0	13,3	14,0	13,6	14,3	14,6
	8H	14,4	15,0	14,7	15,3	15,6	14,0	14,7	14,4	15,0	15,3
	12H	15,0	15,6	15,3	15,9	16,3	14,9	15,6	15,3	15,9	16,2
4H	2H	9,9	10,7	10,2	10,9	11,2	9,4	10,2	9,8	10,5	10,7
	3H	12,5	13,1	12,8	13,4	13,8	11,8	12,4	12,2	12,8	13,1
	4H	13,9	14,4	14,3	14,8	15,1	13,3	13,9	13,7	14,2	14,5
	6H	15,1	15,6	15,5	15,9	16,3	14,8	15,3	15,2	15,6	16,0
	8H	15,9	16,3	16,3	16,7	17,1	15,6	16,1	16,0	16,5	16,9
	12H	16,7	17,1	17,1	17,5	17,9	16,7	17,1	17,1	17,5	17,9
8H	4H	14,3	14,8	14,8	15,2	15,6	13,9	14,3	14,3	14,7	15,1
	6H	15,9	16,2	16,3	16,6	17,1	15,6	15,9	16,0	16,4	16,8
	8H	16,9	17,2	17,4	17,7	18,1	16,7	17,0	17,1	17,4	17,9
	12H	18,0	18,3	18,5	18,8	19,3	17,9	18,2	18,4	18,7	19,2
12H	4H	14,4	14,8	14,9	15,2	15,7	14,0	14,4	14,4	14,8	15,2
	6H	16,1	16,4	16,6	16,8	17,3	15,8	16,1	16,3	16,6	17,1
	8H	17,2	17,5	17,7	18,0	18,5	17,0	17,3	17,5	17,7	18,2
Variation of the observer position for the luminaire distance S											
S = 1,0H		+0,1 / -0,2					+0,1 / -0,2				
S = 1,5H		+0,2 / -0,2					+0,3 / -0,2				
S = 2,0H		+0,5 / -0,6					+0,5 / -0,5				
Standard table		BK10					BK11				
Correction summand		0,3					0,5				
Corrected glare indices referring to 71,0 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	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	96
1	111	108	105	102	108	106	103	100	101	99	97	96	95	93	92	91	90	88
2	106	100	96	92	103	98	94	91	94	91	88	91	88	86	87	85	83	81
3	101	94	89	84	98	92	87	83	89	85	82	86	83	80	83	80	78	76
4	96	88	83	78	94	87	82	78	84	80	76	82	78	75	80	77	74	72
5	92	84	78	74	90	83	77	73	80	76	72	78	74	71	76	73	70	69
6	88	80	74	70	87	79	73	70	77	72	69	75	71	68	74	70	67	66
7	85	76	71	67	83	75	70	66	74	69	66	72	68	65	71	67	65	63
8	82	73	68	64	81	72	67	64	71	66	63	70	66	63	69	65	62	61
9	79	70	65	61	78	70	65	61	69	64	61	67	63	60	66	63	60	59
10	76	68	63	59	75	67	62	59	66	62	59	65	61	58	64	61	58	57

LAMPS (number of lamps)

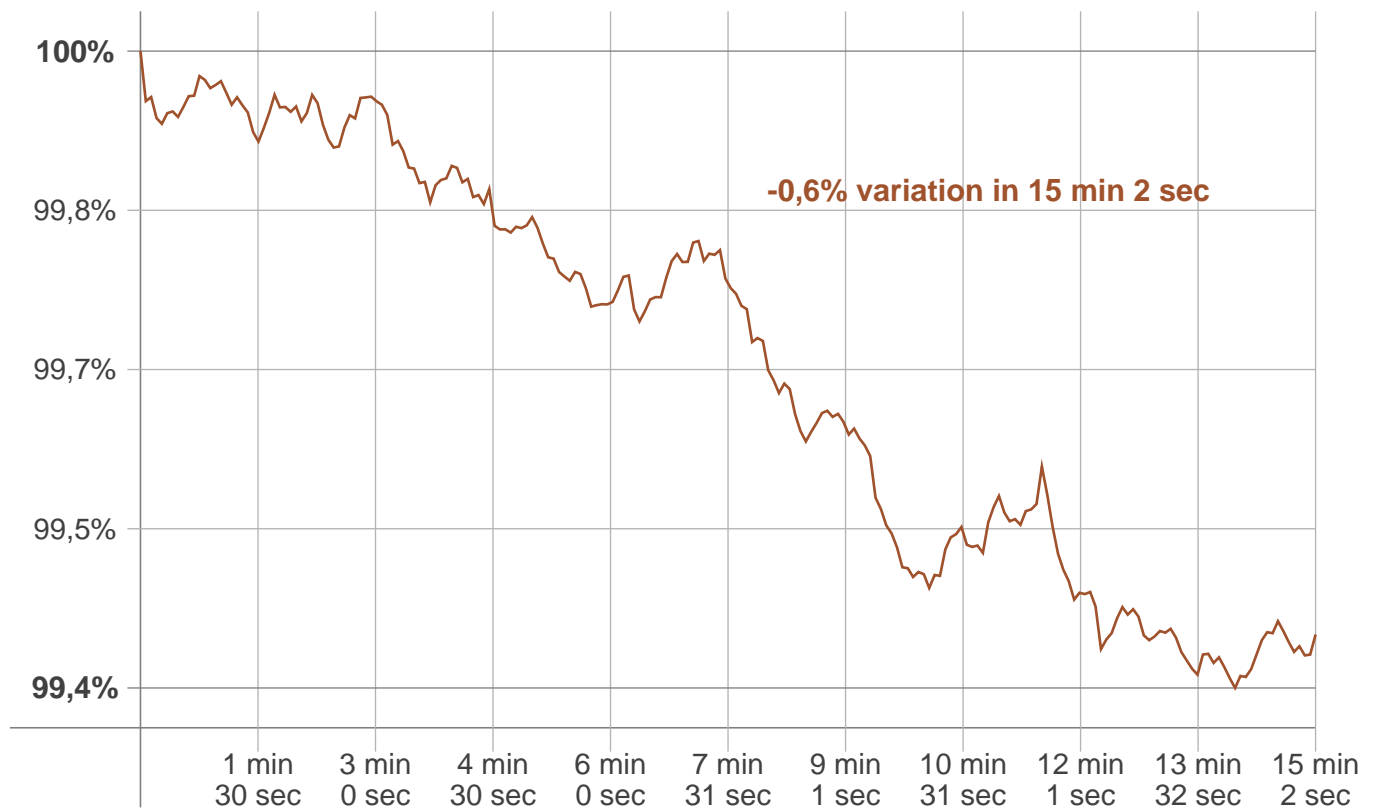
Luminaire budgetary diagram



Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
{LUM0-10}	22,3 lm	9,95 lm	4,56 lm	3,20 lm	2,94 lm	2,60 lm	2,14 lm	1,68 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0,673 lm	0,637 lm	0,598 lm	0,540 lm	0,212 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	-0,6%

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
71,3 lm	-0,3 lm	71,0 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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