

Light efficiency:



Light quality:



Color temperature:

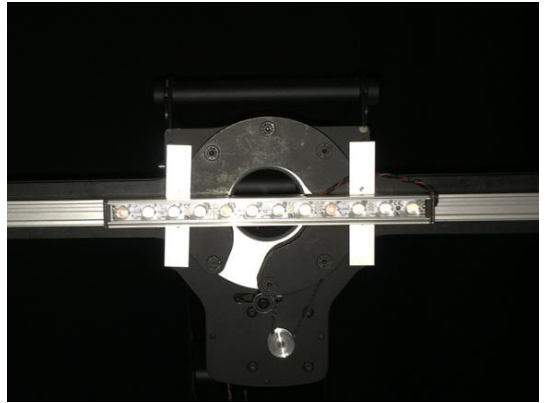


Output: 187 lm

Peak: 324 cd

Power: 6,2 W

PF: 0,78



Product name:

FLNP-F4CH-C-258-R-927-10773

Item number:

FLNP-F4CH-C-258-R-927-10773

Date and time:

15.02.2019 11:43:44

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

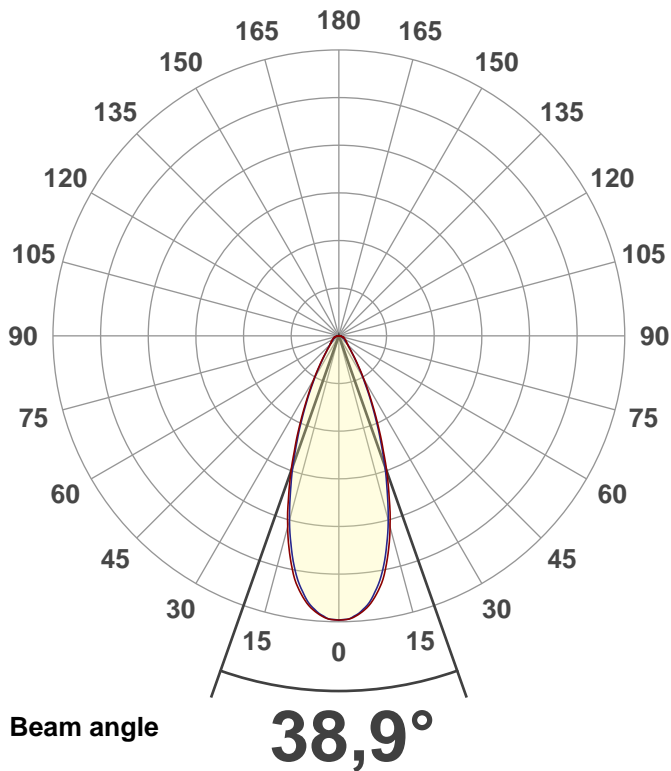
Master of Engineering

Pruefort:

Lichtlabor

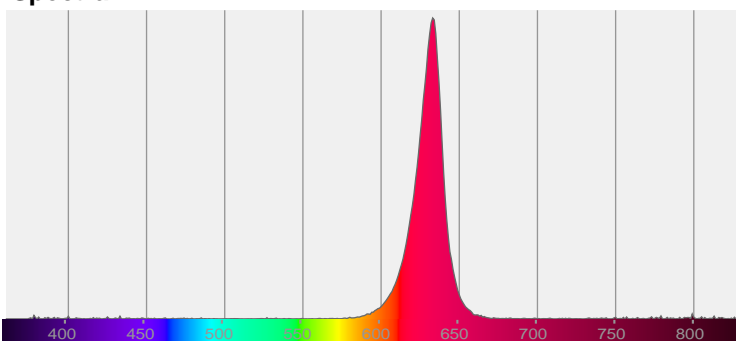
Gaustrasse13-15

55411 Bingen am Rhein

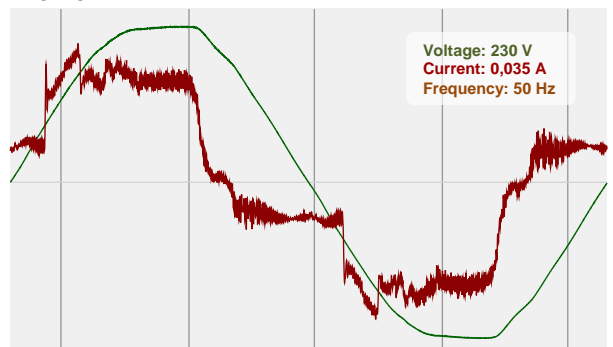


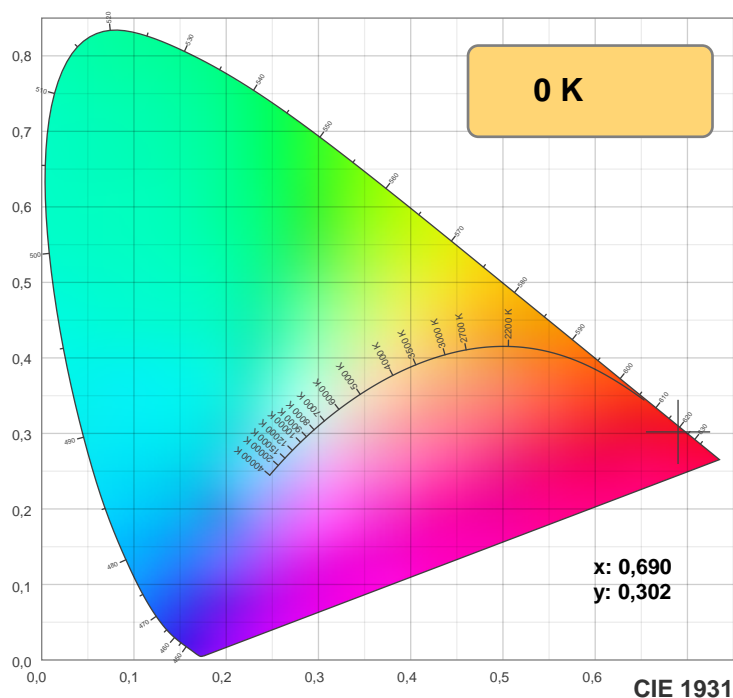
CIE 1931
x: 0,690
y: 0,302

Spectra



Power





TM30: 0,0



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

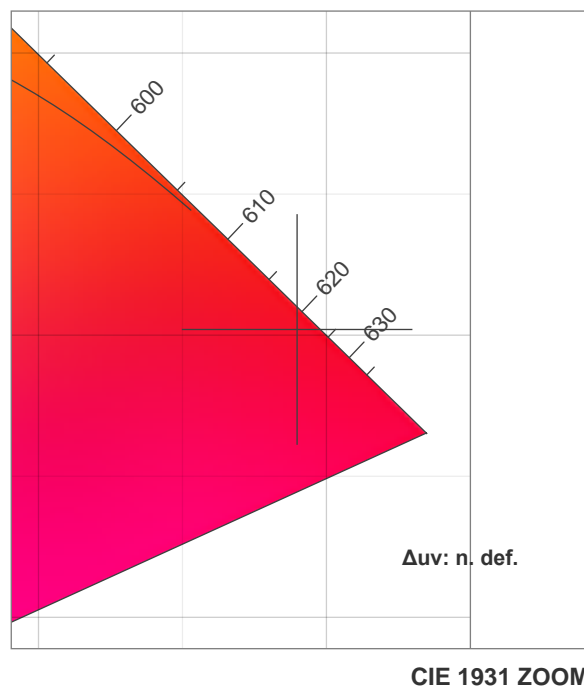
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0

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

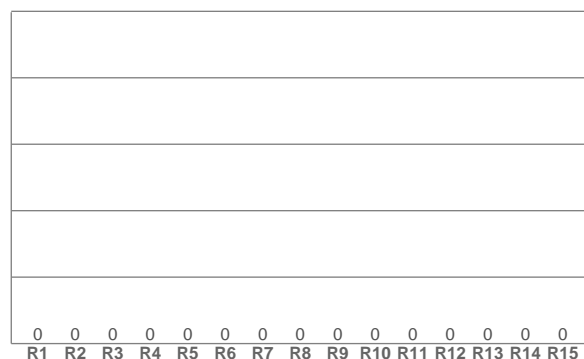
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0

CQS Q values

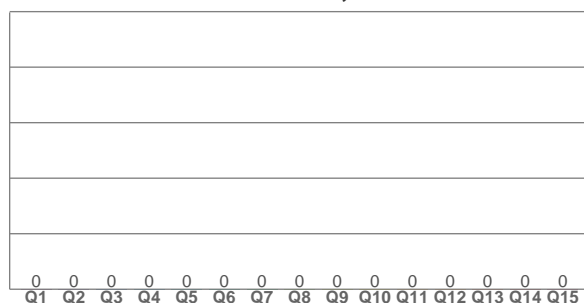
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0



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	0,690	0,302	0,526	0,346	n. def.

TM30 details

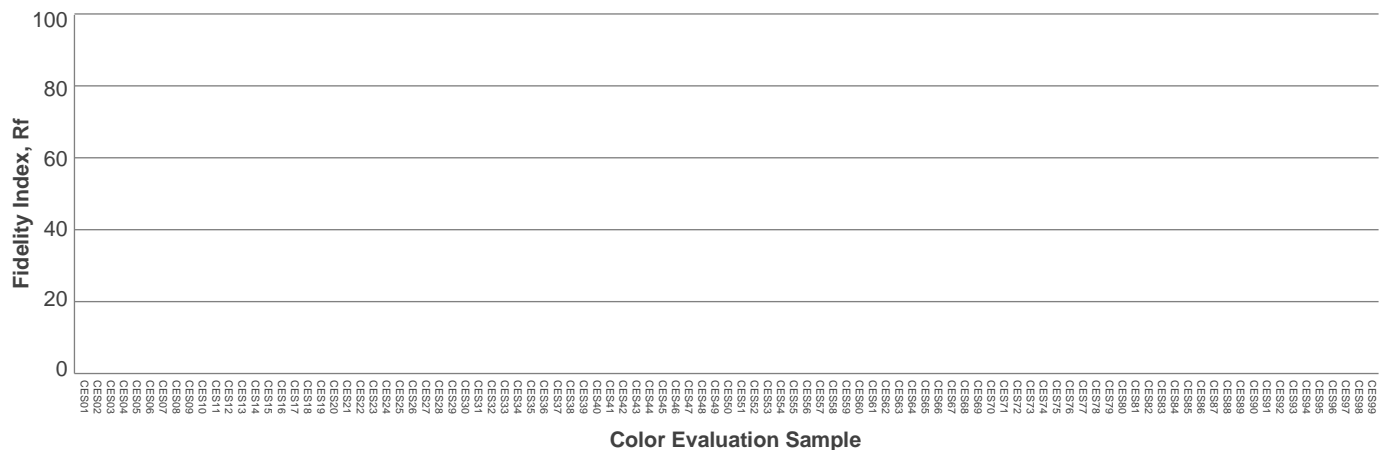
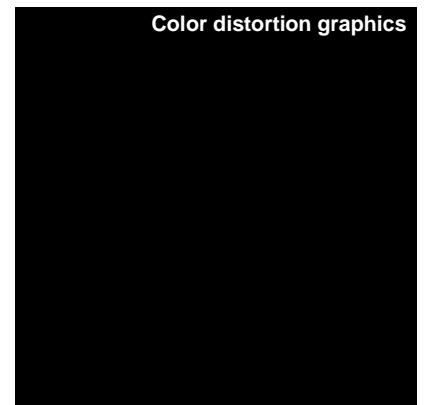
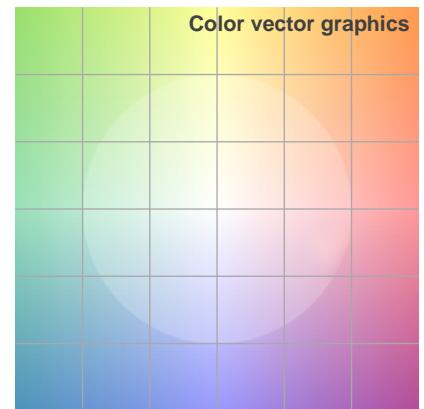
Rf 0,0

Fidelity index Rf

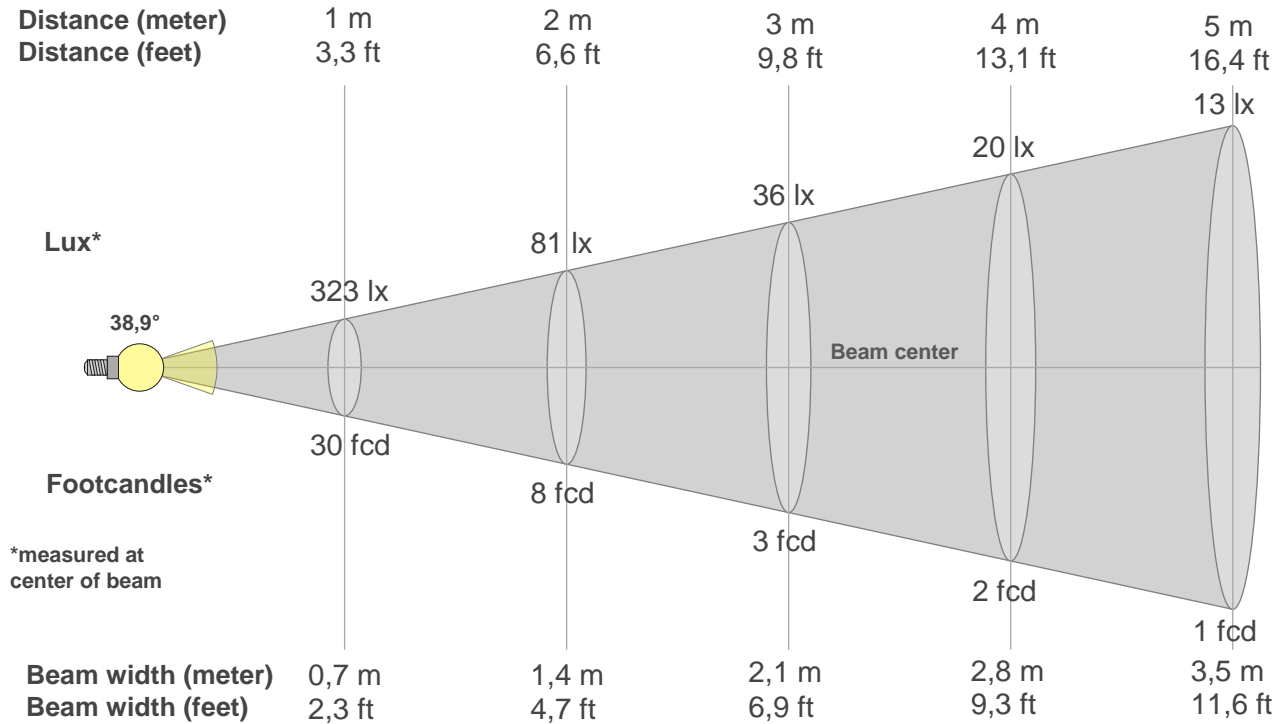
Rg 0,0

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
323lx	81lx	36lx	20lx	13lx	9lx	7lx	5lx	4lx	3lx	3lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx
30fcd	7,5fcd	3,3fcd	1,9fcd	1,2fcd	0,8fcd	0,6fcd	0,5fcd	0,4fcd	0,3fcd	0,2fcd	0,2fcd	0,2fcd	0,2fcd	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°
323	322	318	310	299	284	263	238	212	183	156	130	107	87	71	57	46	37	30	24
100%	100%	98%	96%	92%	88%	81%	74%	65%	57%	48%	40%	33%	27%	22%	18%	14%	11%	9%	8%

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°
323	322	317	308	294	277	255	230	203	176	150	125	103	84	68	54	43	35	28	23
100%	100%	98%	95%	91%	86%	79%	71%	63%	54%	46%	39%	32%	26%	21%	17%	13%	11%	9%	7%

Intensities in 180° c-plane

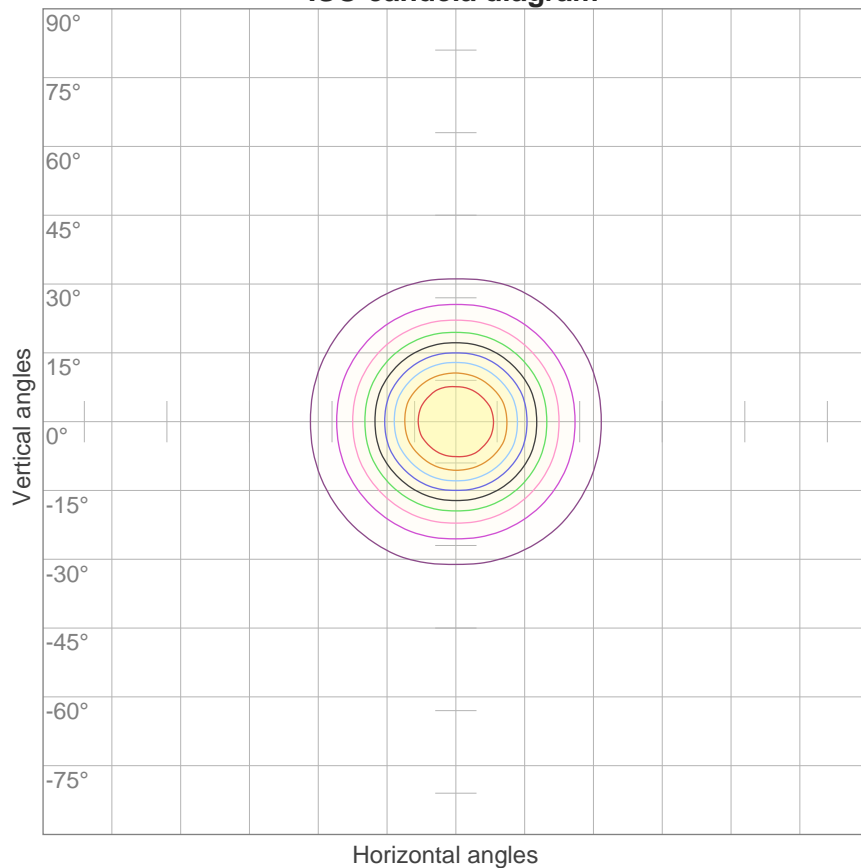
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
323	322	318	310	299	284	263	238	212	183	156	130	107	87	71	57	46	37	30	24
100%	100%	98%	96%	92%	88%	81%	74%	65%	57%	48%	40%	33%	27%	22%	18%	14%	11%	9%	8%

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°
323	322	317	308	294	277	255	230	203	176	150	125	103	84	68	54	43	35	28	23
100%	100%	98%	95%	91%	86%	79%	71%	63%	54%	46%	39%	32%	26%	21%	17%	13%	11%	9%	7%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
38,9°	70,5°	112,9°	93,3%	86,6%

ISO candela diagram



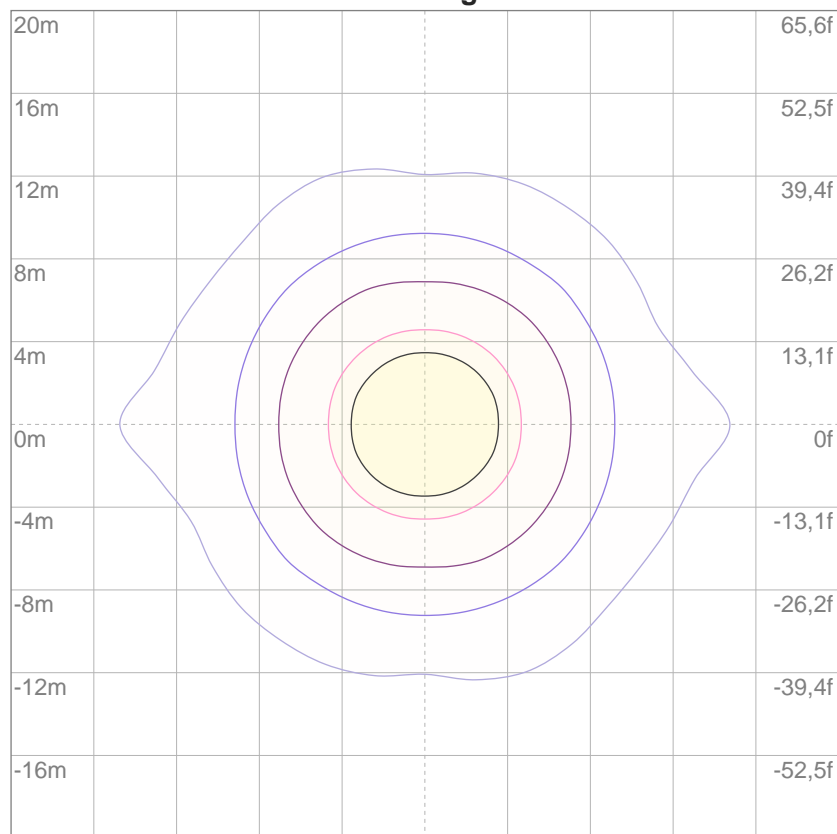
10%	32 cd
20%	65 cd
30%	97 cd
40%	129 cd
50%	162 cd
60%	194 cd
70%	226 cd
80%	259 cd
90%	291 cd

Conditions:

Number of c-planes: 16

Candela at center: 323 cd

ISO lux diagram



3%	97,0m lx
5%	0,162 lx
10%	0,323 lx
30%	0,970 lx
50%	1,62 lx

Conditions:

Number of c-planes: 16

Lux at center: 3,23 lx

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

Glare Evaluation According to UGR

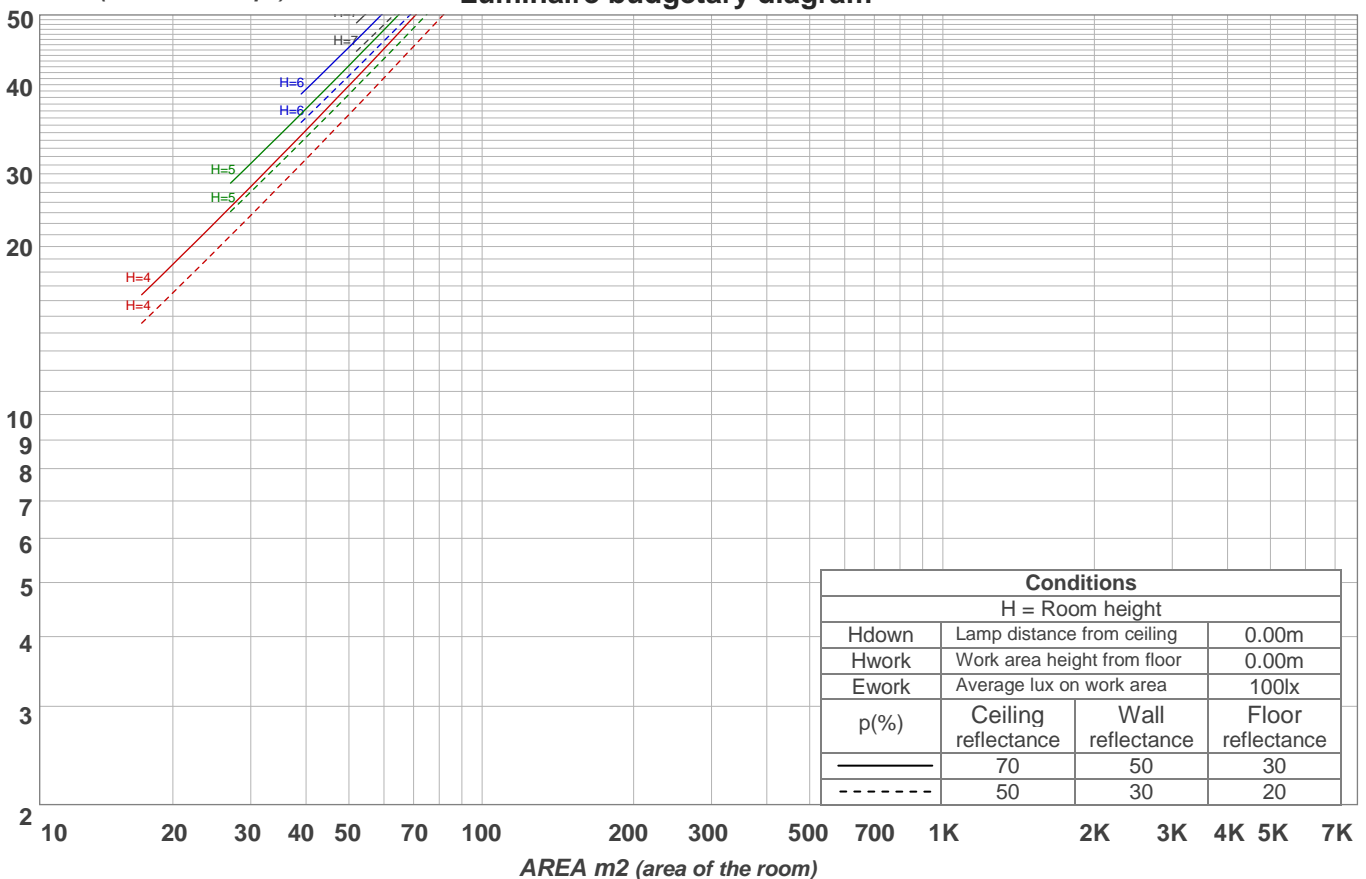
p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	12,8	13,6	13,1	13,8	14,0	12,5	13,3	12,8	13,5	13,7
	3H	14,1	14,8	14,4	15,1	15,3	13,8	14,6	14,1	14,8	15,0
	4H	14,6	15,3	14,9	15,6	15,8	14,4	15,1	14,7	15,4	15,7
	6H	15,0	15,6	15,3	15,9	16,2	14,9	15,6	15,3	15,9	16,2
	8H	15,1	15,8	15,5	16,1	16,4	15,2	15,8	15,5	16,1	16,4
	12H	15,3	15,9	15,6	16,2	16,5	15,4	16,0	15,8	16,3	16,6
4H	2H	13,3	14,0	13,6	14,3	14,5	13,1	13,8	13,4	14,0	14,3
	3H	14,8	15,4	15,2	15,7	16,0	14,6	15,2	15,0	15,5	15,9
	4H	15,5	16,0	15,9	16,4	16,7	15,4	16,0	15,8	16,3	16,6
	6H	16,0	16,5	16,4	16,8	17,2	16,1	16,5	16,5	16,9	17,3
	8H	16,3	16,7	16,7	17,1	17,5	16,4	16,8	16,8	17,2	17,6
	12H	16,5	16,9	17,0	17,3	17,7	16,7	17,0	17,1	17,4	17,9
8H	4H	15,8	16,2	16,3	16,6	17,0	15,8	16,2	16,2	16,6	17,0
	6H	16,6	16,9	17,0	17,3	17,8	16,6	16,9	17,0	17,3	17,8
	8H	16,9	17,2	17,4	17,7	18,1	17,0	17,3	17,5	17,7	18,2
	12H	17,3	17,5	17,8	18,0	18,5	17,4	17,6	17,9	18,1	18,6
12H	4H	15,9	16,2	16,3	16,6	17,0	15,8	16,2	16,2	16,6	17,0
	6H	16,7	16,9	17,1	17,4	17,8	16,7	16,9	17,1	17,4	17,8
	8H	17,1	17,3	17,6	17,8	18,3	17,1	17,4	17,6	17,8	18,3
Variation of the observer position for the luminaire distance S											
S = 1,0H		+0,5 / -0,3					+0,4 / -0,3				
S = 1,5H		+1,2 / -0,4					+1,0 / -0,5				
S = 2,0H		+1,9 / -0,8					+1,7 / -0,8				
Standard table		BK06					BK06				
Correction summand		-0,3					-0,5				
Corrected glare indices referring to 187 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	99
1	113	109	107	104	110	107	105	102	103	101	99	99	98	96	96	94	93	91
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84
3	101	94	89	85	99	93	88	84	90	86	83	87	84	81	85	82	80	78
4	96	88	82	78	94	87	82	77	85	80	76	83	79	75	81	77	75	73
5	91	83	77	72	90	82	76	72	80	75	71	78	74	71	77	73	70	68
6	87	78	72	68	86	77	72	67	76	71	67	74	70	66	73	69	66	64
7	83	74	68	64	82	73	67	63	72	67	63	71	66	63	69	65	62	61
8	80	70	64	60	78	69	64	60	68	63	60	67	63	59	66	62	59	58
9	76	67	61	57	75	66	61	57	65	60	57	64	60	56	63	59	56	55
10	73	64	58	54	72	63	58	54	62	57	54	62	57	54	61	57	54	52

LAMPS (number of lamps)

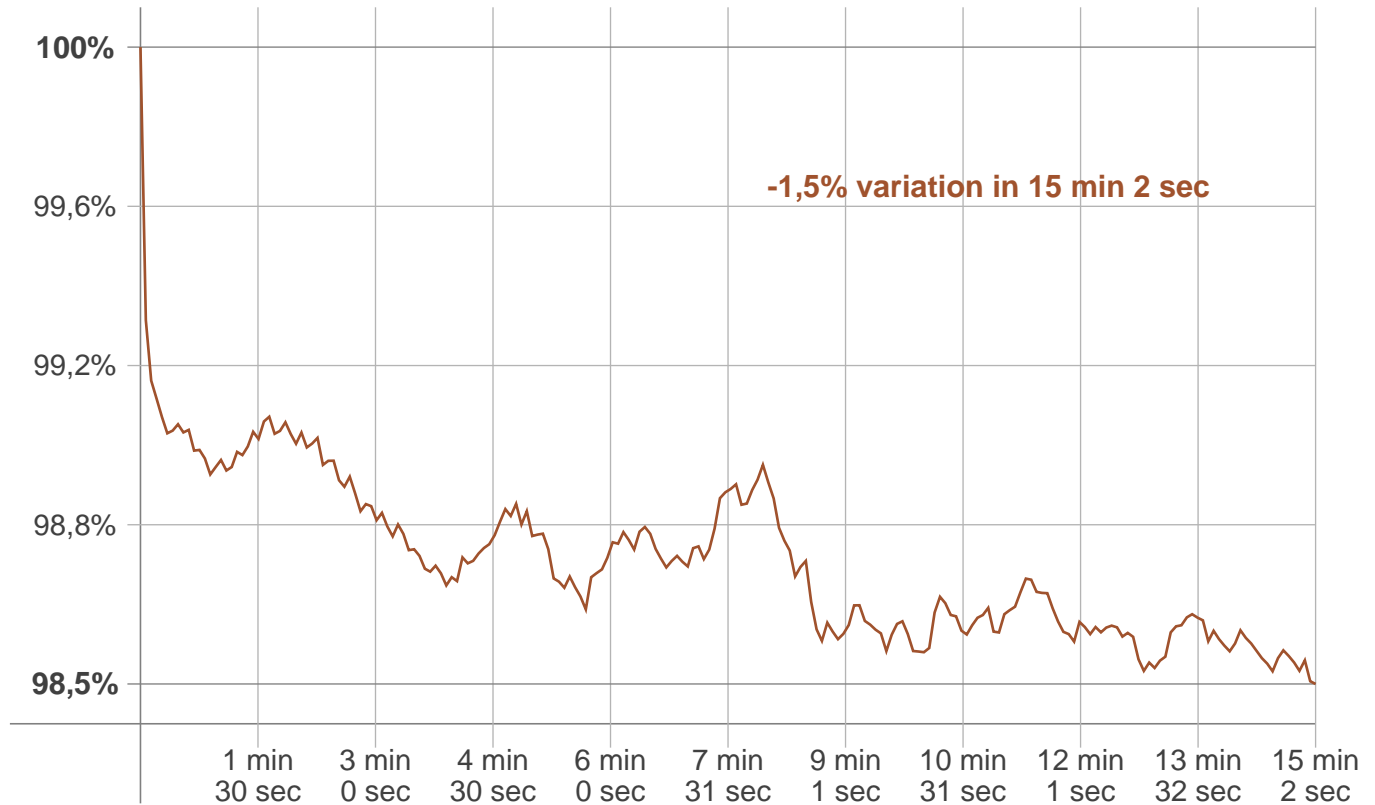
Luminaire budgetary diagram



Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
{LUM0-10}	60,6 lm	44,8 lm	21,6 lm	11,1 lm	7,77 lm	6,06 lm	3,74 lm	1,62 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0,322 lm	0,243 lm	0,228 lm	0,206 lm	0,074 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	-1,5%

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
188 lm	-1 lm	187 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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