

Light efficiency:

93 Lumen/Watt

Light quality:

CRI: 0,0

Color temperature:

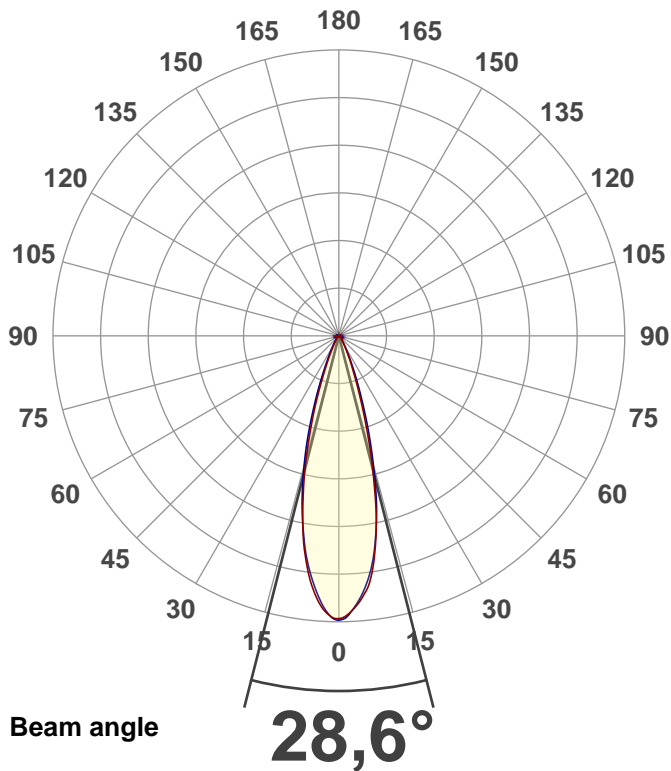
OK

Output: 427 lm

Peak: 1525 cd

Power: 4,6 W

PF: 1,0



Product name:

F L-S O - 2-4 C -1 0 0-G-LSMT-M

Item number:

FL/SO-2/4C/100/G/LSMT/M

Date and time:

14.03.2019 11:33:50

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

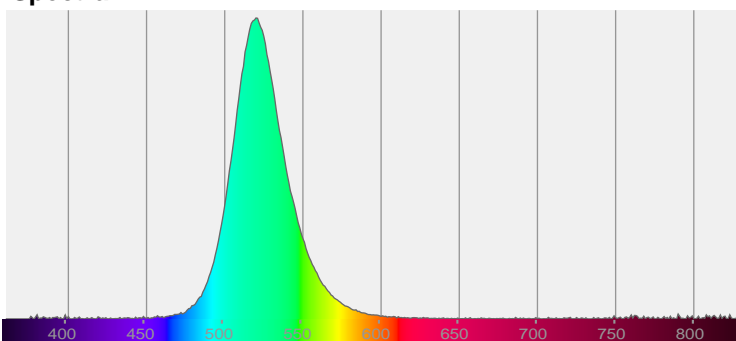
55411 Bingen am Rhein

CIE 1931

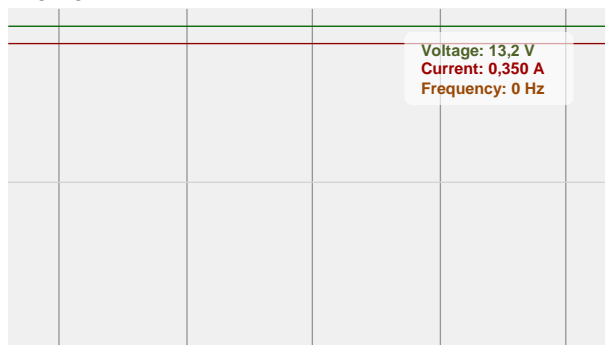
x: 0,167

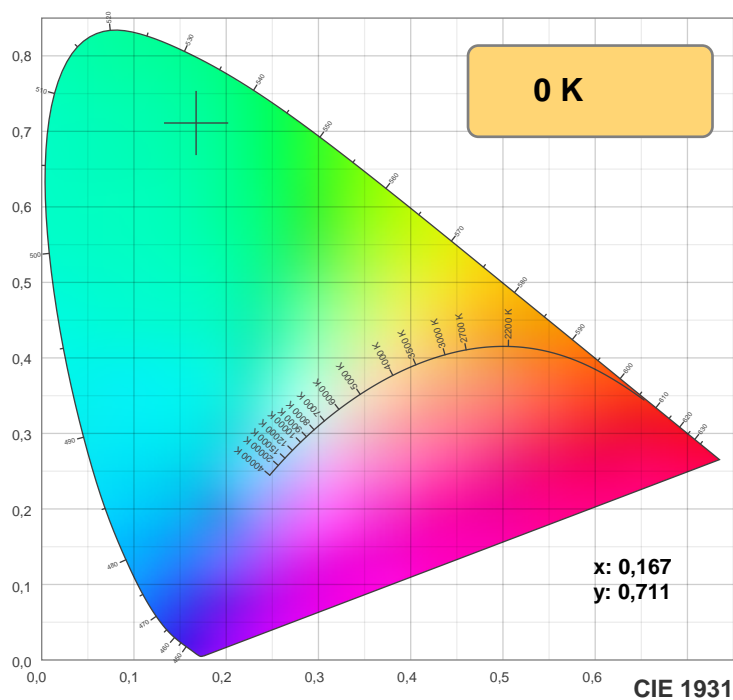
y: 0,711

Spectra

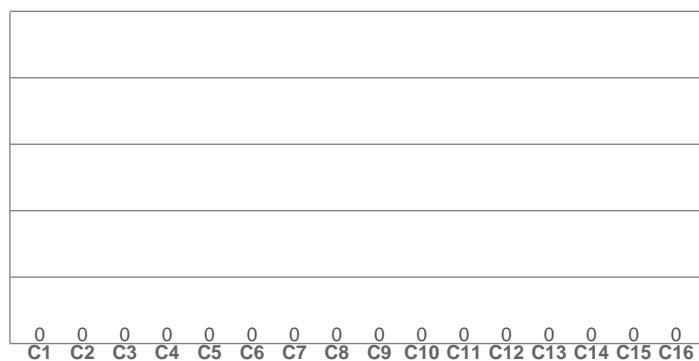


Power





TM30: 0,0



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

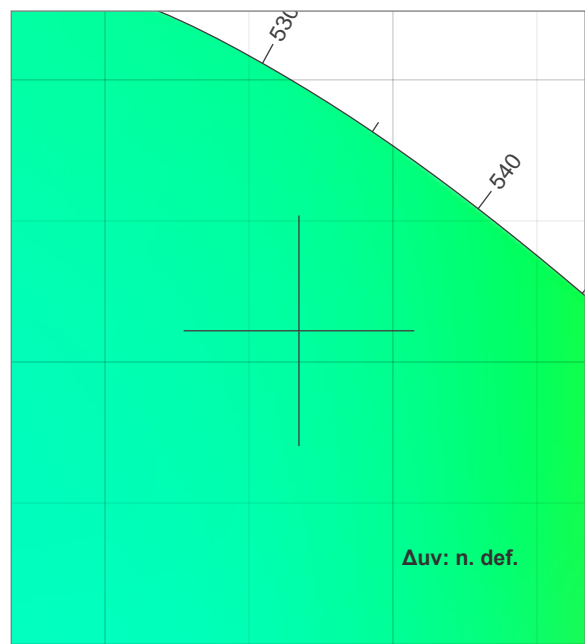
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0

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

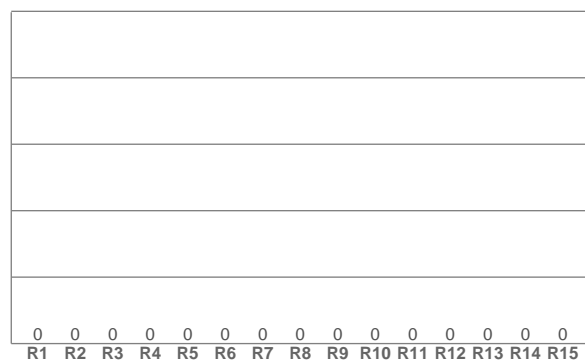
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0

CQS Q values

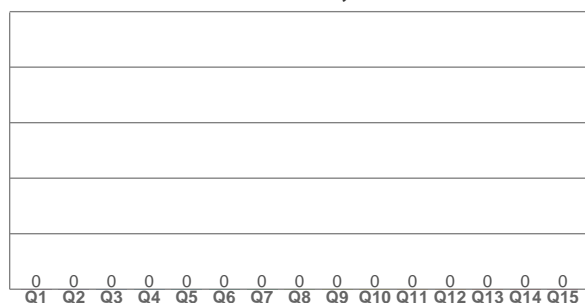
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0



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	0,167	0,711	0,060	0,381	n. def.

TM30 details

Rf 0,0

Fidelity index Rf

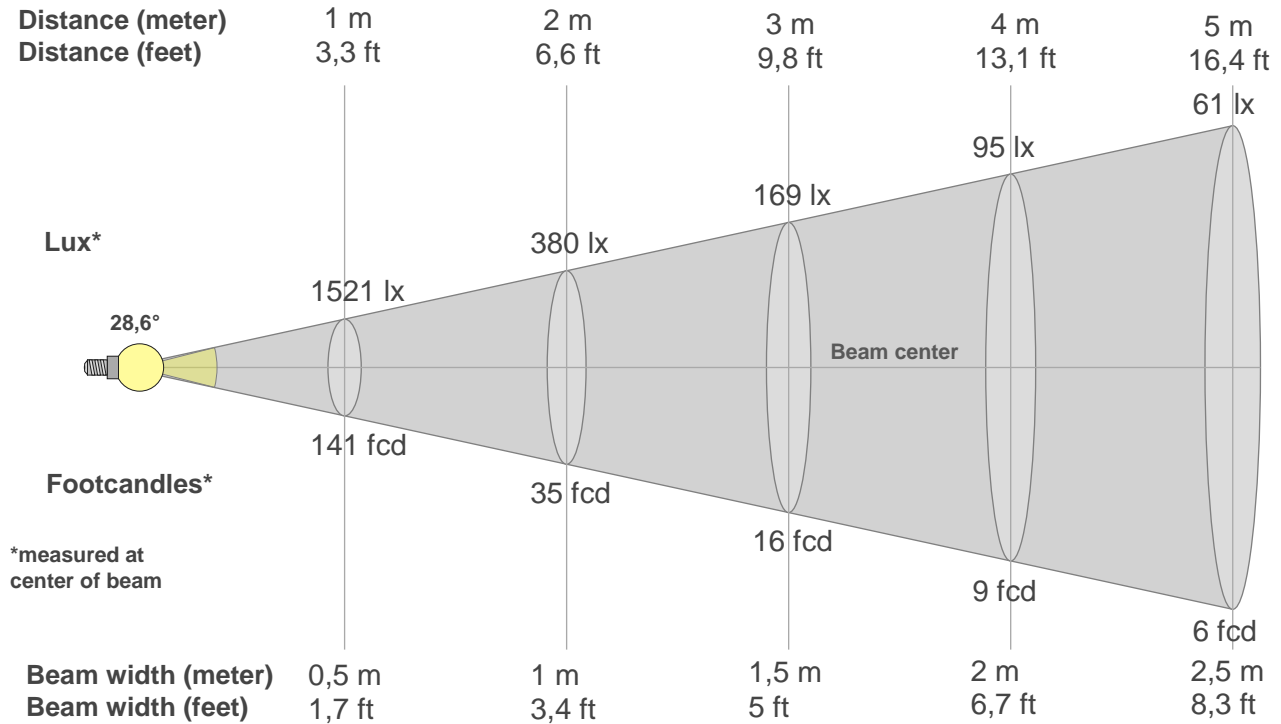
Rg 0,0

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
1521lx	380lx	169lx	95lx	61lx	42lx	31lx	24lx	19lx	15lx	13lx	11lx	9lx	8lx	7lx	6lx	5lx	5lx	4lx	4lx
141,3fcd	35,3fcd	15,7fcd	8,8fcd	5,7fcd	3,9fcd	2,9fcd	2,2fcd	1,7fcd	1,4fcd	1,2fcd	1fcd	0,8fcd	0,7fcd	0,6fcd	0,6fcd	0,5fcd	0,4fcd	0,4fcd	0,4fcd

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°
1521	1492	1444	1379	1280	1133	960	760	579	418	298	209	152	108	79	58	43	33	26	20
100%	98%	95%	91%	84%	75%	63%	50%	38%	28%	20%	14%	10%	7%	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°
1521	1498	1434	1355	1254	1123	974	802	632	481	352	255	181	129	91	67	50	38	29	23
100%	99%	94%	89%	82%	74%	64%	53%	42%	32%	23%	17%	12%	8%	6%	4%	3%	2%	2%	2%

Intensities in 180° c-plane

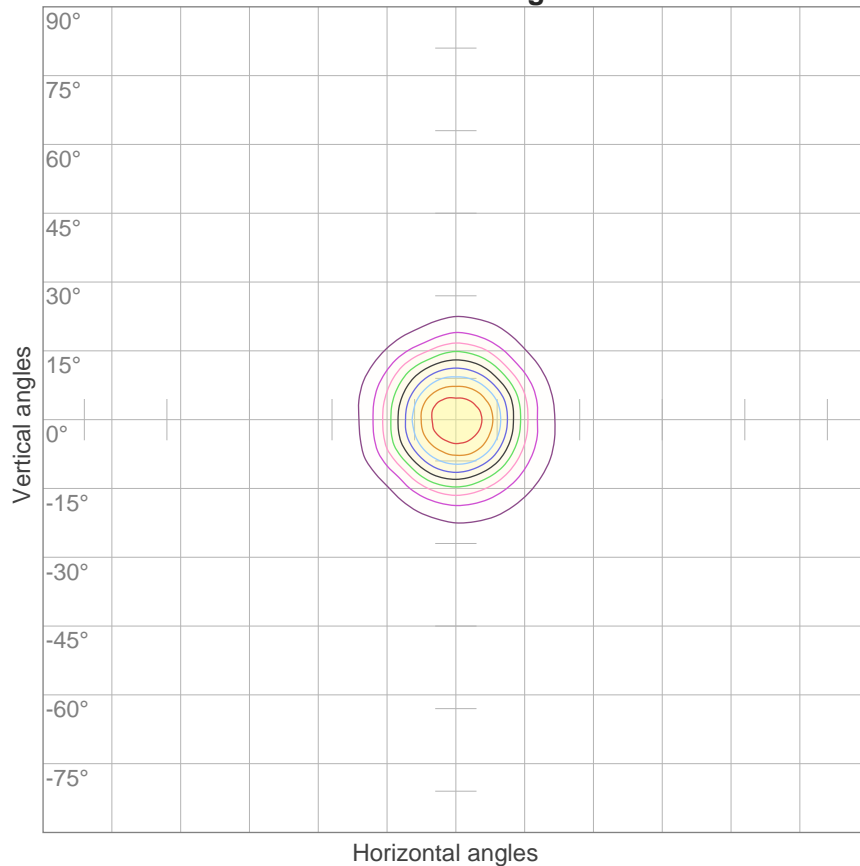
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
1521	1499	1445	1357	1239	1099	929	760	589	440	308	207	140	95	66	47	36	27	22	17
100%	99%	95%	89%	81%	72%	61%	50%	39%	29%	20%	14%	9%	6%	4%	3%	2%	2%	1%	1%

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°
1521	1497	1424	1328	1218	1086	947	796	646	497	366	260	181	129	94	71	55	42	34	27
100%	98%	94%	87%	80%	71%	62%	52%	42%	33%	24%	17%	12%	8%	6%	5%	4%	3%	2%	2%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
28,6°	48,6°	66,5°	97,6%	95,1%

ISO candela diagram



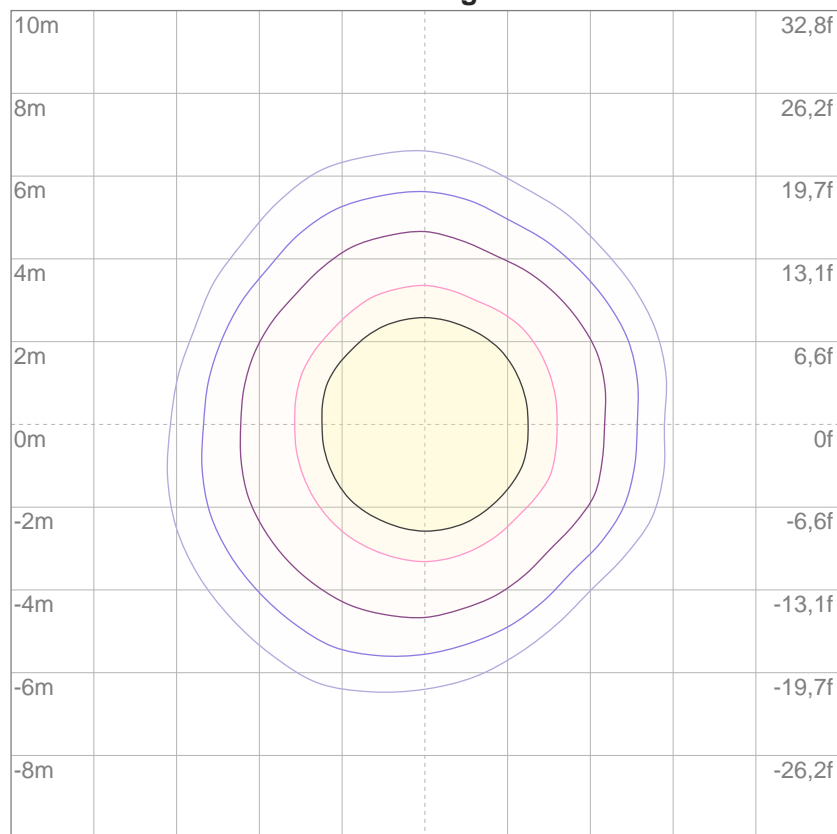
10%	152 cd
20%	304 cd
30%	456 cd
40%	608 cd
50%	760 cd
60%	912 cd
70%	1064 cd
80%	1216 cd
90%	1368 cd

Conditions:

Number of c-planes: 16

Candela at center: 1521 cd

ISO lux diagram



3%	0,456 lx
5%	0,760 lx
10%	1,52 lx
30%	4,56 lx
50%	7,60 lx

Conditions:

Number of c-planes: 16

Lux at center: 15,2 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	7,0	7,7	7,3	7,9	8,1	7,4	8,1	7,7	8,3	8,5
	3H	8,3	9,0	8,6	9,2	9,4	8,6	9,3	8,9	9,5	9,7
	4H	9,0	9,6	9,3	9,8	10,1	9,3	9,9	9,6	10,2	10,4
	6H	9,6	10,2	9,9	10,4	10,7	9,9	10,5	10,2	10,7	11,0
	8H	10,0	10,5	10,3	10,8	11,1	10,2	10,7	10,5	11,0	11,3
	12H	10,2	10,7	10,5	11,0	11,3	10,5	11,0	10,9	11,3	11,6
4H	2H	7,5	8,2	7,9	8,4	8,7	7,8	8,5	8,2	8,7	9,0
	3H	9,0	9,5	9,3	9,8	10,1	9,3	9,8	9,6	10,1	10,4
	4H	9,8	10,2	10,1	10,5	10,9	10,1	10,6	10,5	10,9	11,3
	6H	10,5	10,9	10,9	11,3	11,7	10,9	11,3	11,3	11,6	12,0
	8H	11,0	11,3	11,4	11,7	12,1	11,2	11,6	11,7	12,0	12,4
	12H	11,3	11,5	11,7	11,9	12,4	11,7	12,0	12,2	12,4	12,8
8H	4H	10,1	10,4	10,5	10,8	11,2	10,4	10,8	10,8	11,1	11,5
	6H	11,0	11,3	11,5	11,7	12,2	11,4	11,6	11,8	12,0	12,5
	8H	11,6	11,8	12,1	12,2	12,7	11,8	12,0	12,3	12,5	13,0
	12H	11,9	12,1	12,4	12,5	13,0	12,5	12,7	13,0	13,1	13,6
12H	4H	10,1	10,4	10,6	10,8	11,2	10,5	10,8	10,9	11,2	11,6
	6H	11,2	11,4	11,6	11,8	12,3	11,5	11,7	12,0	12,1	12,6
	8H	11,8	11,9	12,3	12,4	12,9	12,0	12,2	12,5	12,7	13,2
Variation of the observer position for the luminaire distance S											
S = 1,0H		+0,5 / -0,2					+0,7 / -0,4				
S = 1,5H		+1,2 / -0,5					+1,6 / -0,7				
S = 2,0H		+2,1 / -0,7					+2,7 / -0,9				
Standard table		BK06					BK06				
Correction summand		-6,0					-5,7				
Corrected glare indices referring to 427 lm total luminous flux											

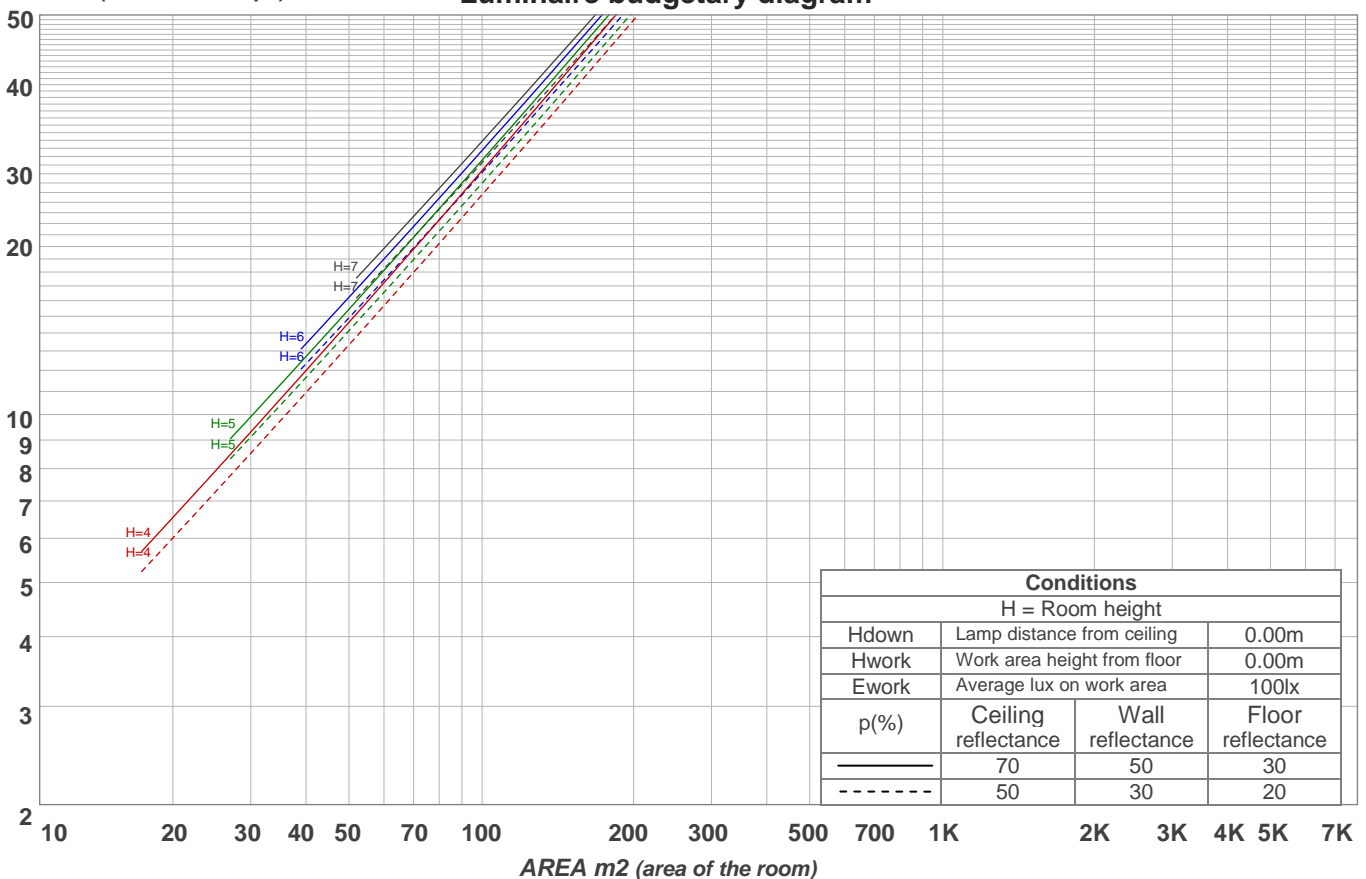
UGR data could be incorrect as lamp output is not symmetrical. Goto Edit->Photometric->Corrections and select Correct asymmetry.

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	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95
2	110	106	102	99	108	104	101	98	101	98	96	98	96	94	95	94	92	91
3	106	101	96	93	104	99	95	92	97	94	91	94	92	90	92	90	88	87
4	102	96	91	88	100	95	91	88	93	89	87	91	88	86	89	87	85	83
5	99	92	87	84	97	91	87	83	89	86	83	88	85	82	86	84	81	80
6	95	88	84	80	94	88	83	80	86	82	79	85	82	79	84	81	78	77
7	92	85	80	77	91	84	80	77	83	79	76	82	79	76	81	78	76	75
8	89	82	77	74	88	82	77	74	81	77	74	80	76	74	79	76	73	72
9	87	79	75	72	86	79	75	72	78	74	71	77	74	71	77	73	71	70
10	84	77	72	69	83	76	72	69	76	72	69	75	71	69	74	71	69	68

LAMPS (number of lamps)

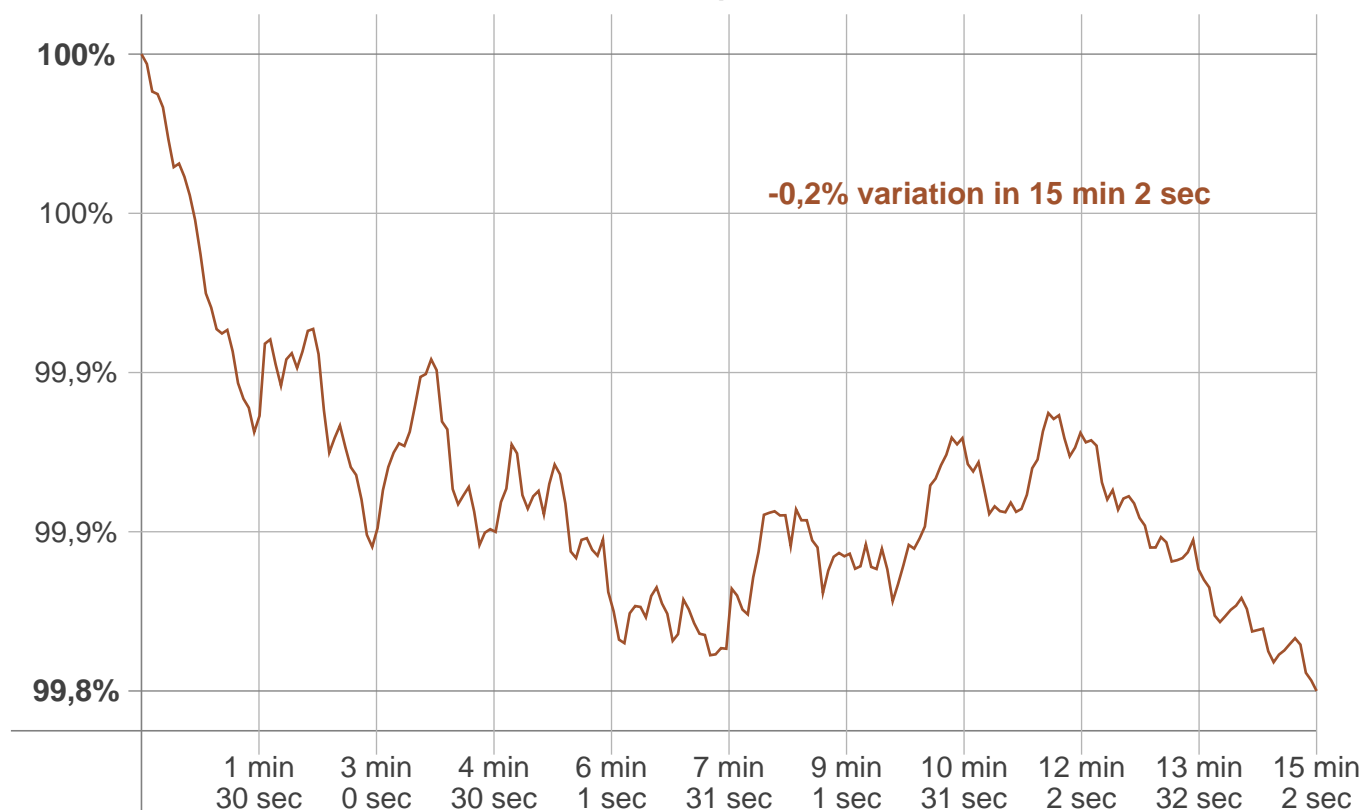
Luminaire budgetary diagram



Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
{LUM0-10}	188 lm	67,7 lm	20,5 lm	9,45 lm	6,47 lm	5,01 lm	3,31 lm	1,54 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0,468 lm	0,000 lm	0,000 lm	0,000 lm	0,000 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	-0,2%

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

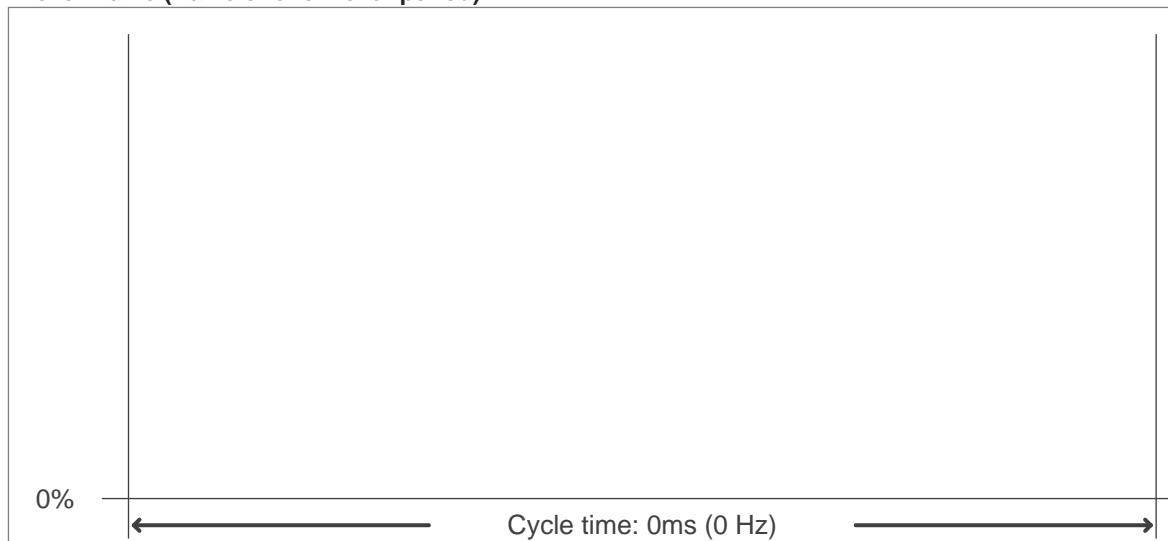
Output change

Output start	Output change	Output end
427 lm	lm	427 lm

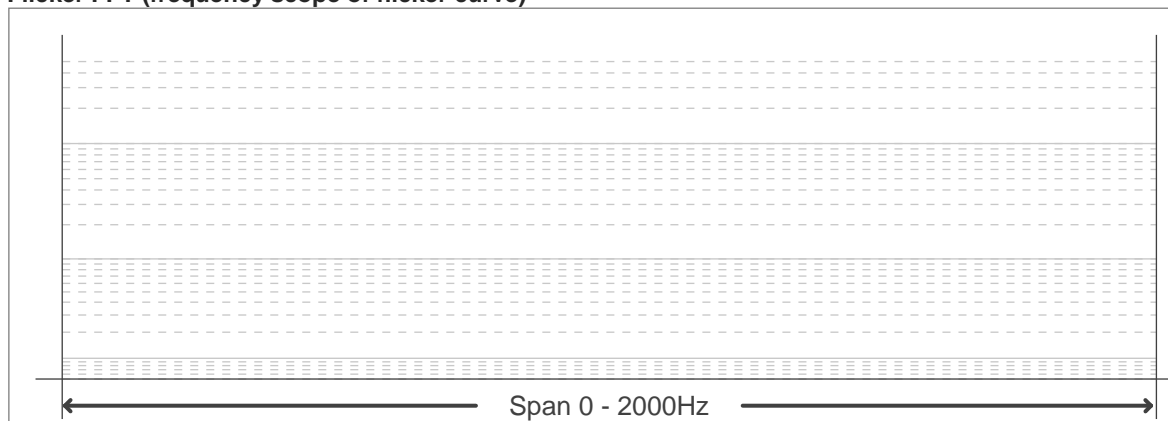
Flicker curve (complete sampled flicker signal)



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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