

Light efficiency:



Light quality:



Color temperature:



Output: 113 lm

Peak: 397 cd

Power: 4,4 W

PF: 1,0



Product name:

F L-S O - 2-4 C -1 0 0-B-LSLT-W

Item number:

F L / S O - 2 / 4 C / 1 0 0 / B /LSLT/W

Date and time:

11.03.2019 15:25:27

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

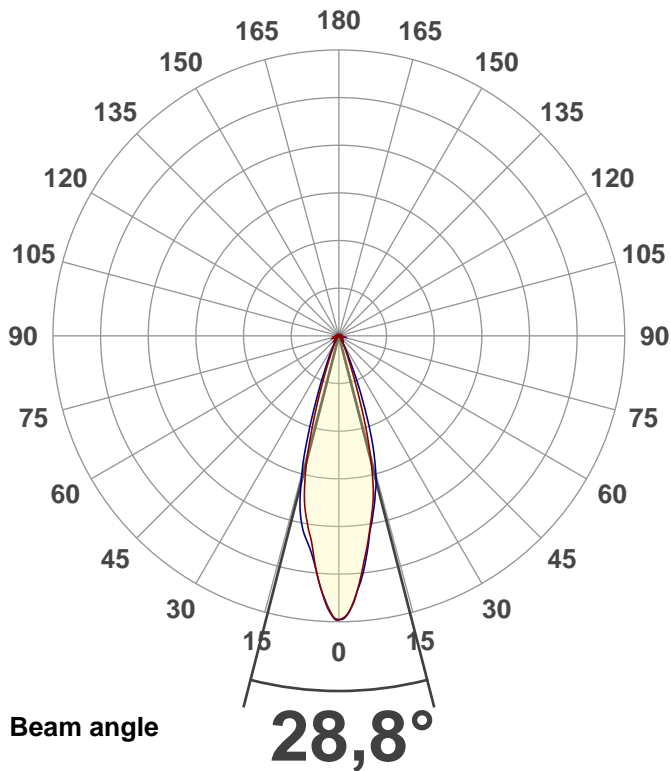
Master of Engineering

Pruefort:

Lichtlabor

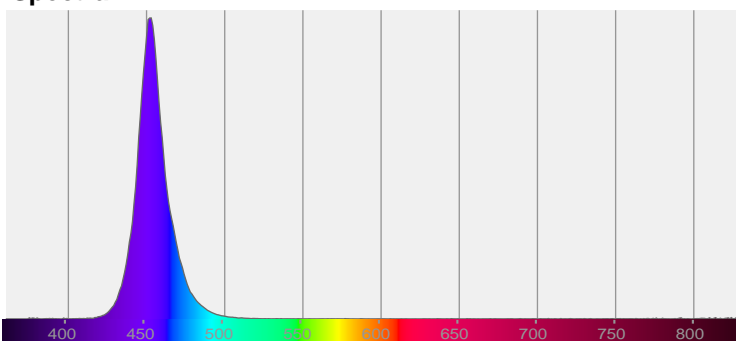
Gaustasse13-15

55411 Bingen am Rhein

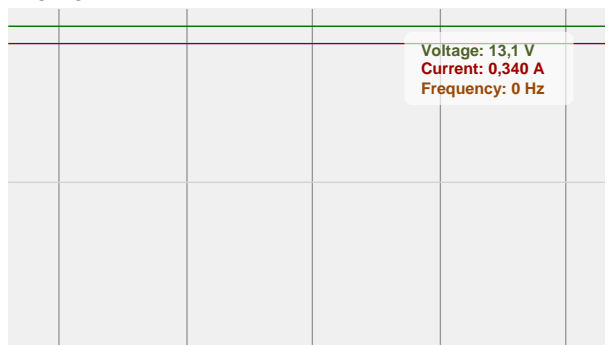


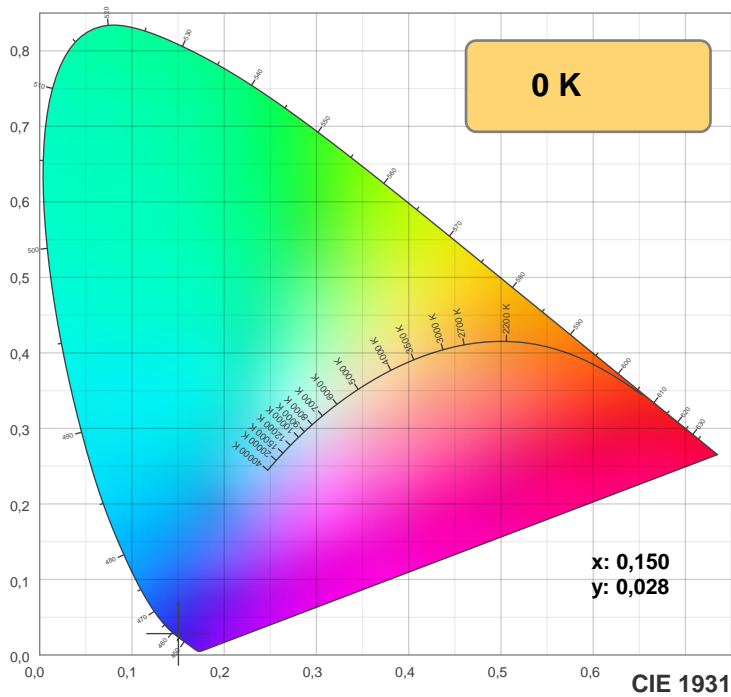
CIE 1931
x: 0,150
y: 0,028

Spectra

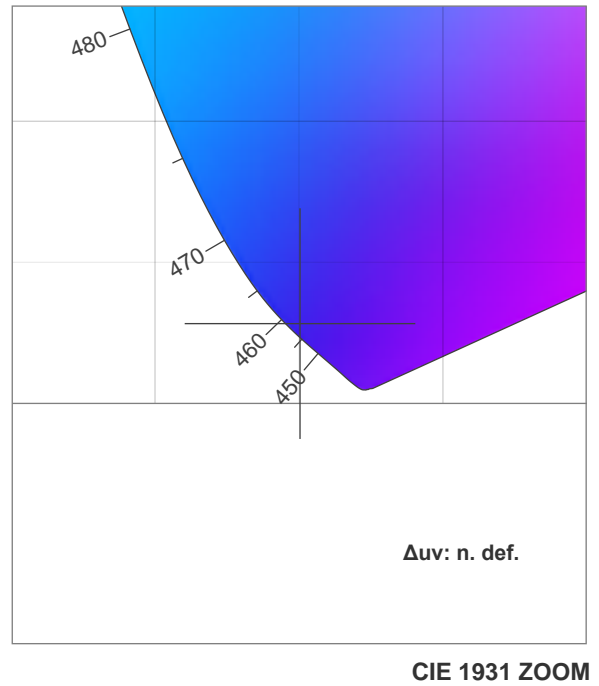
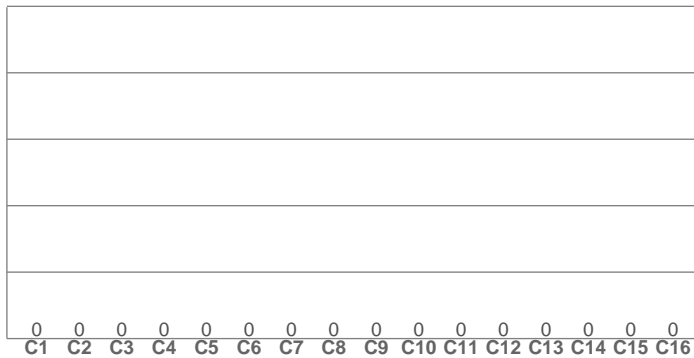


Power

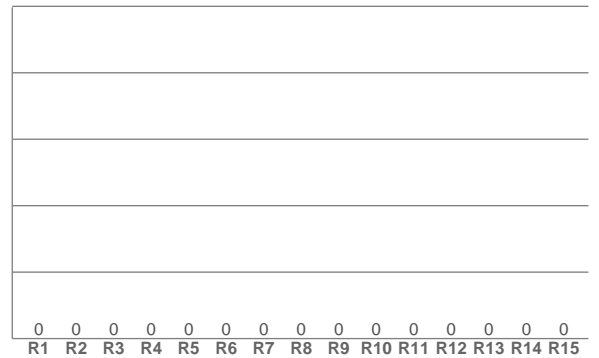




TM30: 0,0



CRI: 0,0 (R1-R8)



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

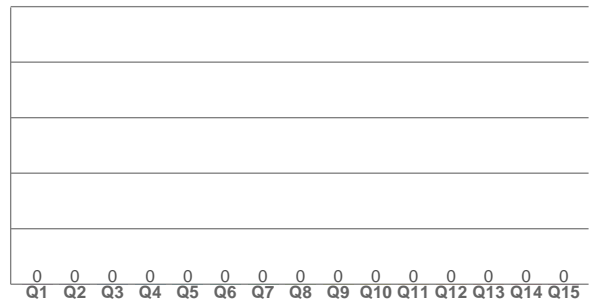
TM30 C values, 16 binned values out of total of 99 C values

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

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	0,150	0,028	0,198	0,056	n. def.

TM30 details

Rf 0,0

Fidelity index Rf

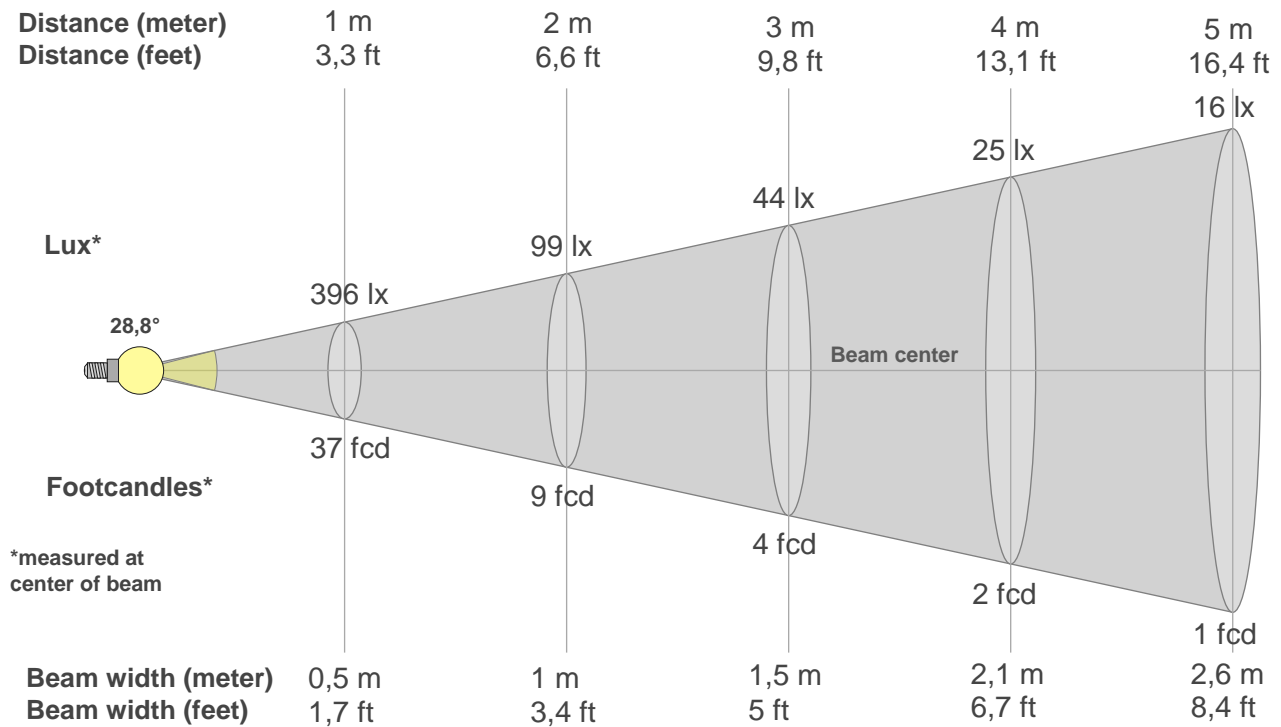
Rg 0,0

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
396lx	99lx	44lx	25lx	16lx	11lx	8lx	6lx	5lx	4lx	3lx	3lx	2lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx
36,8fcd	9,2fcd	4,1fcd	2,3fcd	1,5fcd	1fcd	0,8fcd	0,6fcd	0,5fcd	0,4fcd	0,3fcd	0,3fcd	0,2fcd	0,2fcd	0,2fcd	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°
396	386	359	323	291	260	231	190	143	95	60	38	26	19	14	10	9	8	6	5
100%	97%	91%	82%	73%	66%	58%	48%	36%	24%	15%	10%	7%	5%	3%	3%	2%	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°
396	387	359	330	295	265	239	215	182	144	101	66	40	25	16	12	9	7	6	5
100%	98%	91%	83%	74%	67%	60%	54%	46%	36%	26%	17%	10%	6%	4%	3%	2%	2%	2%	1%

Intensities in 180° c-plane

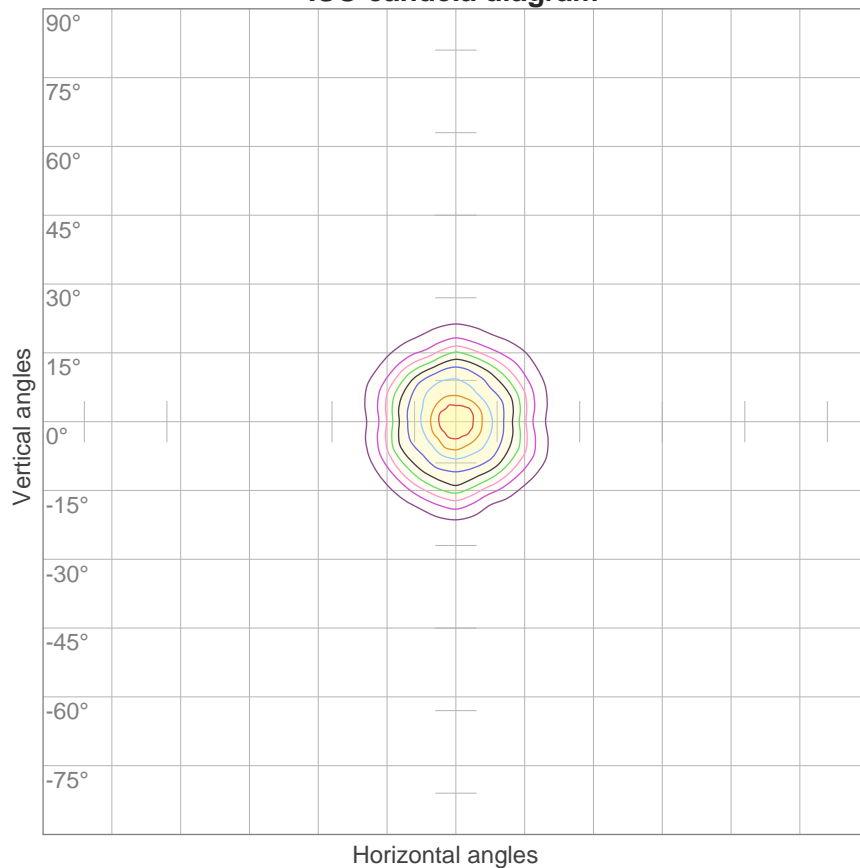
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
396	384	355	319	284	260	231	190	139	93	58	37	25	18	14	11	8	7	6	5
100%	97%	90%	81%	72%	66%	58%	48%	35%	23%	15%	9%	6%	5%	4%	3%	2%	2%	1%	1%

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°
396	382	355	322	297	280	257	221	177	126	84	55	38	26	19	15	11	9	8	6
100%	97%	90%	81%	75%	71%	65%	56%	45%	32%	21%	14%	10%	7%	5%	4%	3%	2%	2%	2%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
28,8°	45,9°	62,9°	91,6%	87,1%

ISO candela diagram



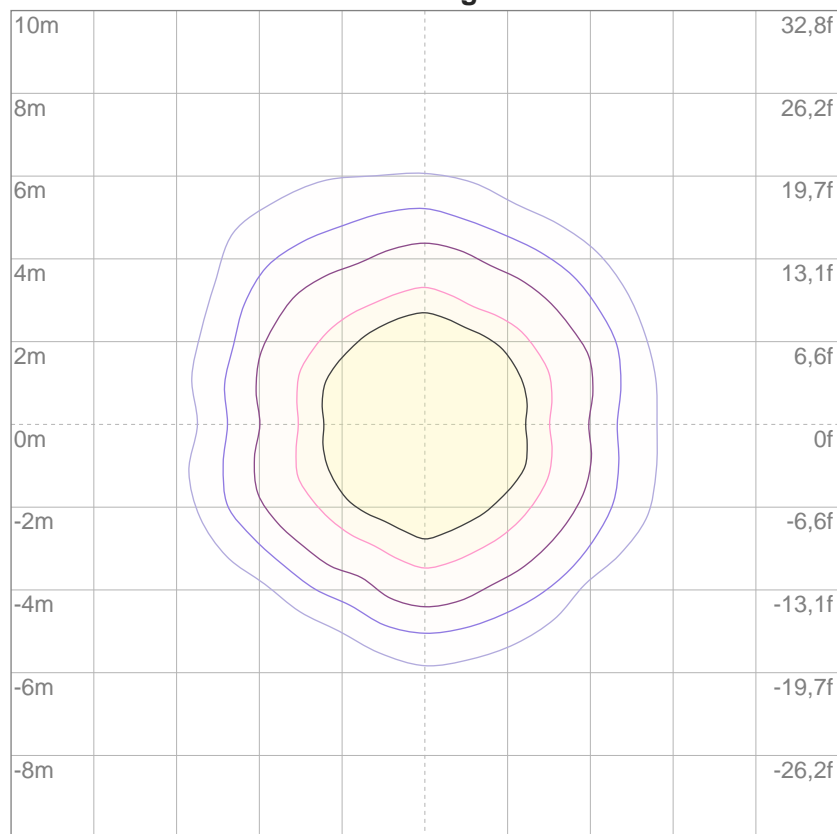
10%	40 cd
20%	79 cd
30%	119 cd
40%	158 cd
50%	198 cd
60%	238 cd
70%	277 cd
80%	317 cd
90%	356 cd

Conditions:

Number of c-planes: 16

Candela at center: 396 cd

ISO lux diagram



3%	0,119 lx
5%	0,198 lx
10%	0,396 lx
30%	1,19 lx
50%	1,98 lx

Conditions:

Number of c-planes: 16

Lux at center: 3,96 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	6,4	7,2	6,6	7,4	7,6	6,2	7,0	6,4	7,2	7,4
	3H	9,1	9,8	9,4	10,1	10,3	9,0	9,7	9,2	9,9	10,2
	4H	10,3	11,0	10,6	11,3	11,6	10,3	11,0	10,6	11,3	11,6
	6H	12,3	12,9	12,6	13,2	13,5	12,1	12,8	12,4	13,1	13,4
	8H	13,3	14,0	13,7	14,3	14,6	12,9	13,6	13,3	13,8	14,1
	12H	14,7	15,3	15,1	15,6	15,9	13,7	14,3	14,1	14,6	15,0
4H	2H	7,4	8,1	7,7	8,4	8,7	7,3	8,0	7,6	8,3	8,6
	3H	10,4	11,0	10,7	11,3	11,6	10,2	10,9	10,6	11,2	11,5
	4H	11,8	12,4	12,2	12,7	13,1	11,8	12,3	12,2	12,7	13,0
	6H	13,9	14,3	14,3	14,7	15,1	13,8	14,2	14,2	14,6	15,0
	8H	15,0	15,4	15,4	15,8	16,2	14,6	15,1	15,1	15,4	15,9
	12H	16,5	16,9	16,9	17,3	17,7	15,6	16,0	16,0	16,4	16,8
8H	4H	12,7	13,1	13,1	13,5	13,9	12,6	13,0	13,0	13,4	13,8
	6H	14,9	15,2	15,3	15,6	16,1	14,8	15,1	15,2	15,5	16,0
	8H	16,2	16,4	16,6	16,9	17,4	15,8	16,1	16,3	16,6	17,0
	12H	17,9	18,1	18,4	18,6	19,1	17,1	17,4	17,6	17,8	18,3
12H	4H	12,8	13,2	13,3	13,6	14,0	12,7	13,1	13,2	13,5	13,9
	6H	15,2	15,5	15,6	15,9	16,4	15,1	15,3	15,5	15,8	16,3
	8H	16,5	16,8	17,0	17,2	17,7	16,2	16,5	16,7	17,0	17,5
Variation of the observer position for the luminaire distance S											
S = 1,0H		+0,2 / -0,2					+0,2 / -0,2				
S = 1,5H		+0,4 / -0,4					+0,4 / -0,3				
S = 2,0H		+0,6 / -0,7					+0,4 / -0,5				
Standard table		BK12					BK12				
Correction summand		0,2					-0,3				
Corrected glare indices referring to 113 lm total luminous flux											

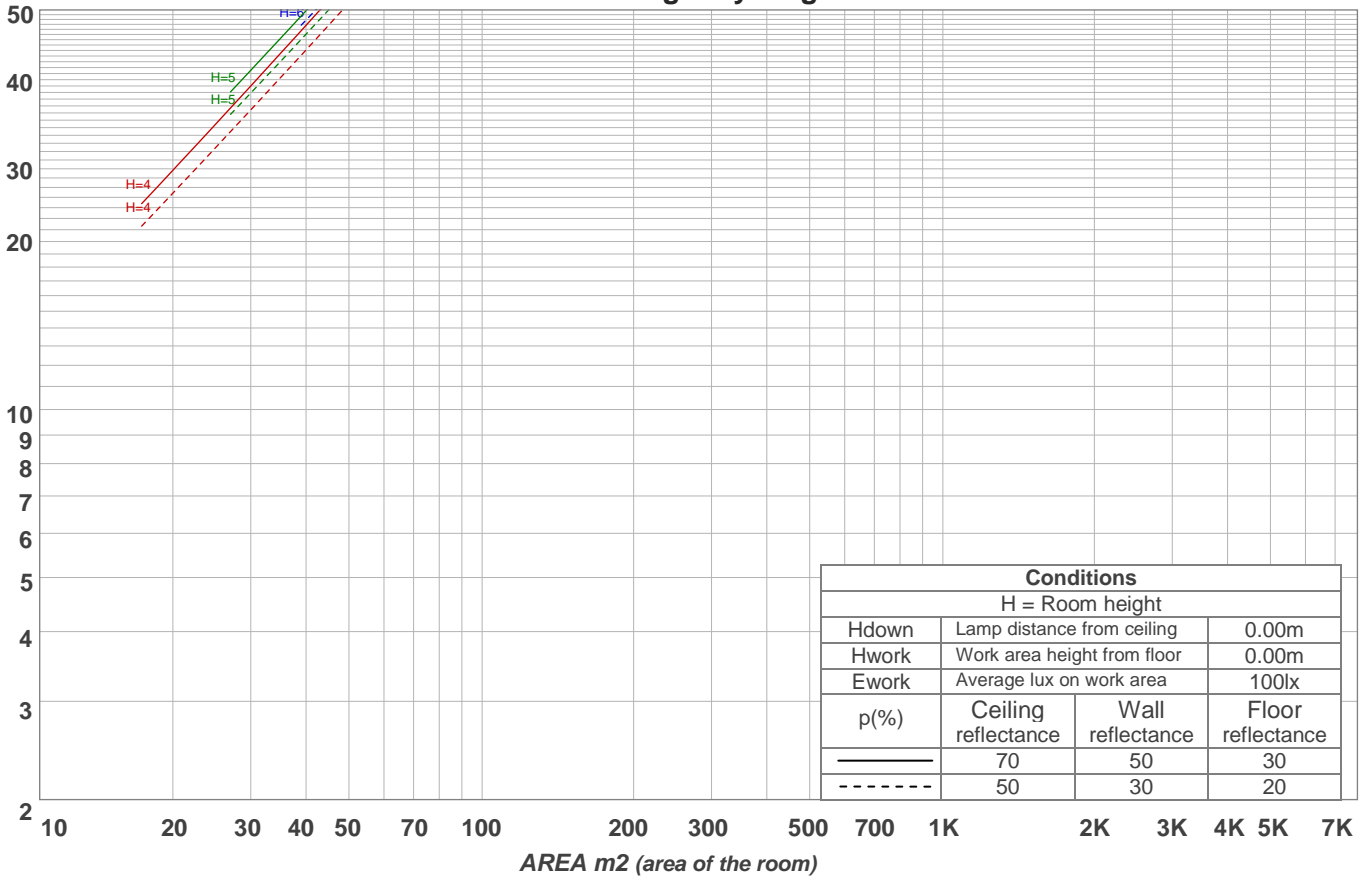
UGR data could be incorrect as lamp output is not symmetrical. Goto Edit->Photometric->Corrections and select Correct asymmetry.

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	113	110	107	104	110	107	105	103	103	101	99	99	98	96	96	95	94	92
2	107	102	98	95	105	101	97	94	97	94	92	94	92	90	92	89	88	86
3	103	97	92	88	101	95	91	87	92	89	86	90	87	84	88	85	83	81
4	99	92	86	82	97	90	86	82	88	84	81	86	83	80	84	82	79	78
5	95	87	82	78	93	86	81	78	85	80	77	83	79	76	82	78	76	74
6	92	84	78	75	90	83	78	74	81	77	74	80	76	73	79	75	73	71
7	88	80	75	71	87	80	75	71	78	74	71	77	73	70	76	73	70	69
8	86	77	72	69	84	77	72	69	76	71	68	75	71	68	74	70	68	67
9	83	75	70	66	82	74	69	66	73	69	66	73	69	66	72	68	66	64
10	80	72	67	64	79	72	67	64	71	67	64	70	66	64	70	66	64	62

LAMPS (number of lamps)

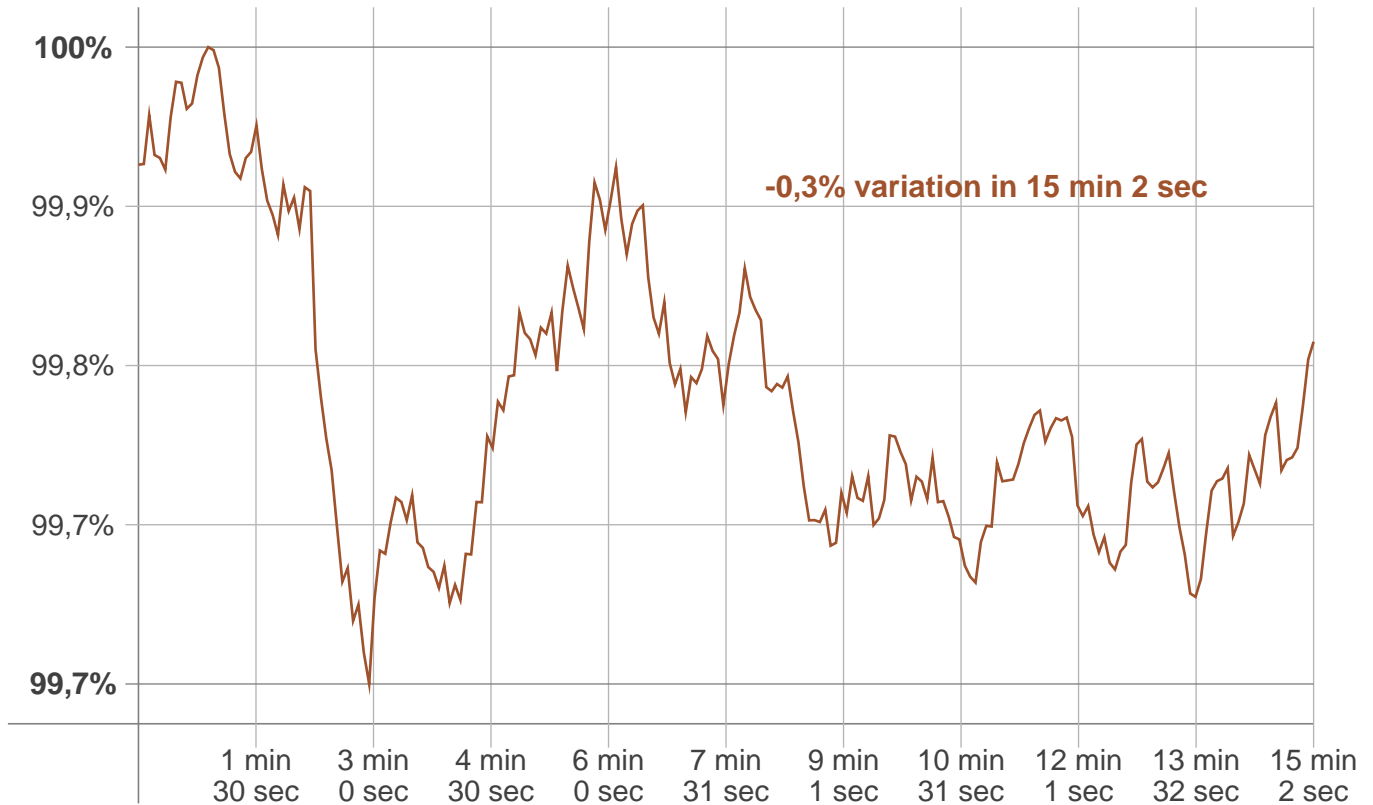
Luminaire budgetary diagram



Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
{LUM0-10}	47,7 lm	14,1 lm	4,74 lm	3,50 lm	3,36 lm	3,38 lm	3,12 lm	2,83 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0,167 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	-0,3%

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
113 lm	lm	113 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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