

Light efficiency:

94 Lumen/Watt

Light quality:

CRI: 0,0

Color temperature:

0 K

Output: 297 lm

Peak: 4943 cd

Power: 3,2 W

PF: 1,0



Product name:

F L-S O - 2-4 C -1 0 0-R-LSST-D

Item number:

F L / S O - 2 / 4 C / 1 0 0 / R/LSST/D

Date and time:

18.03.2019 09:18:54

Description:

HEIDI.D8°

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

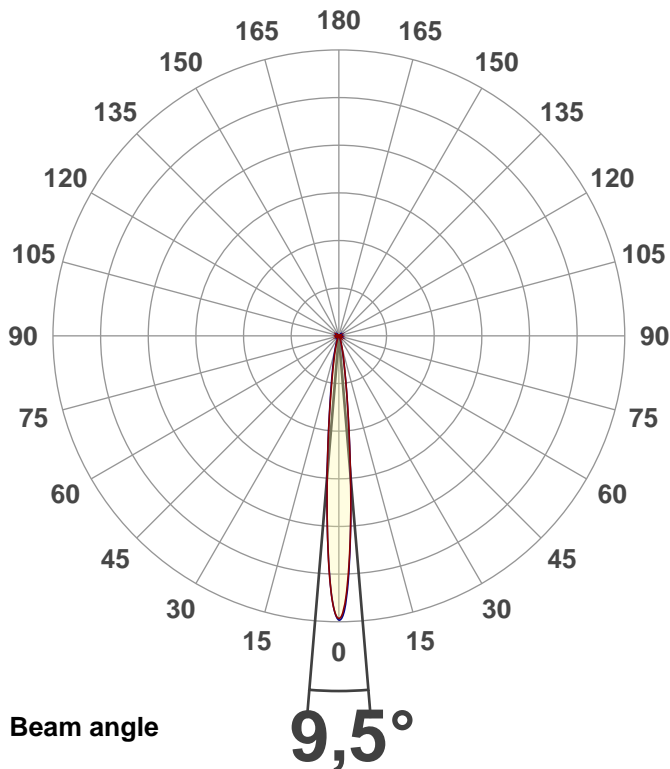
Master of Engineering

Pruefort:

Lichtlabor

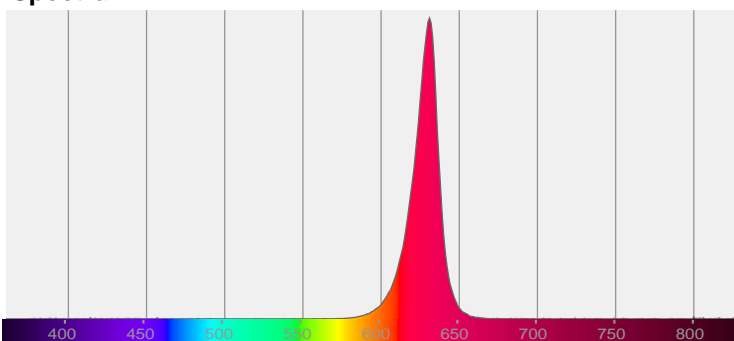
Gaustasse13-15

55411 Bingen am Rhein

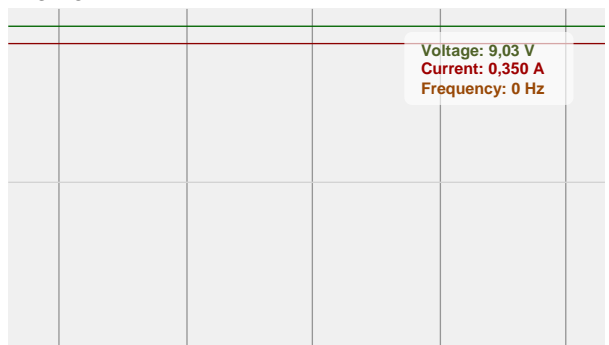


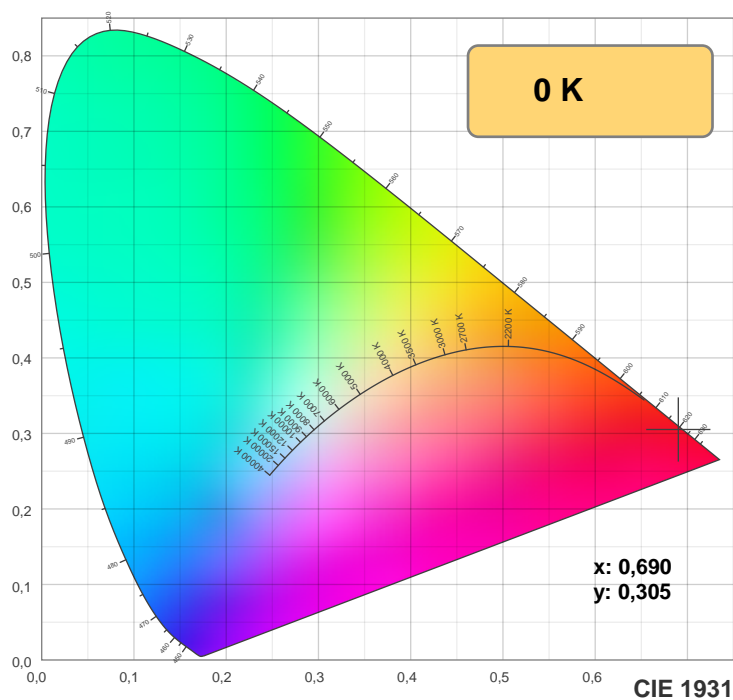
CIE 1931
x: 0,690
y: 0,305

Spectra

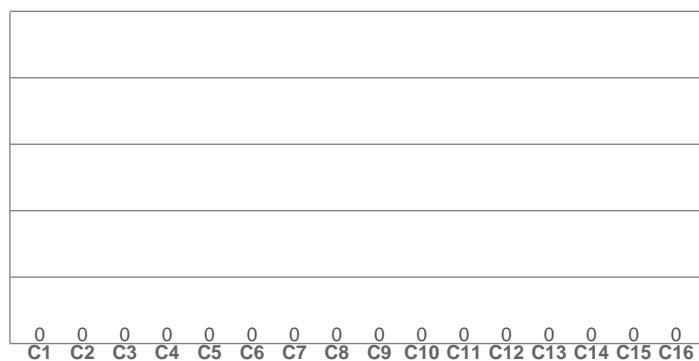


Power





TM30: 0,0



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

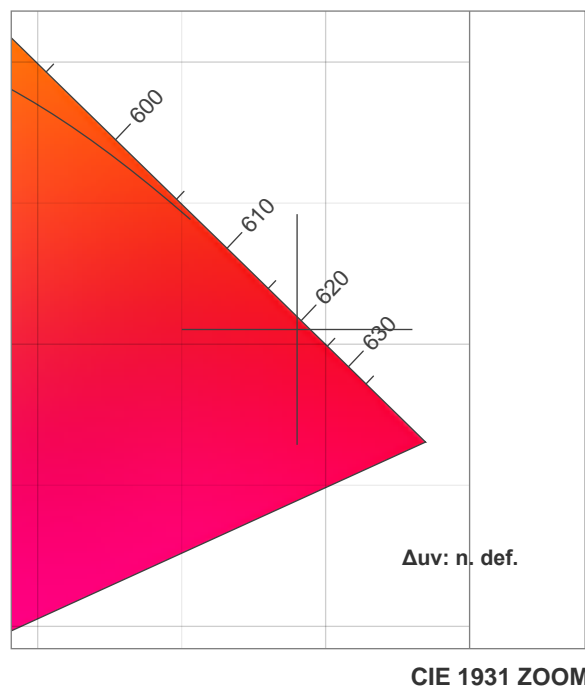
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0

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

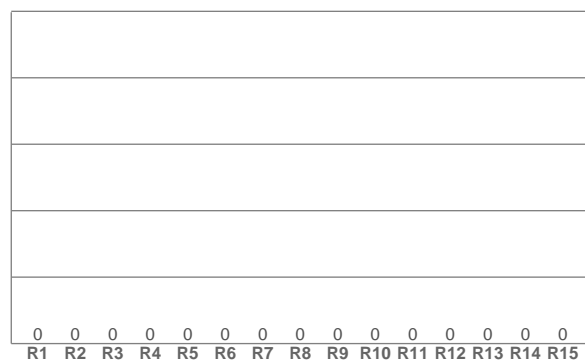
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0

CQS Q values

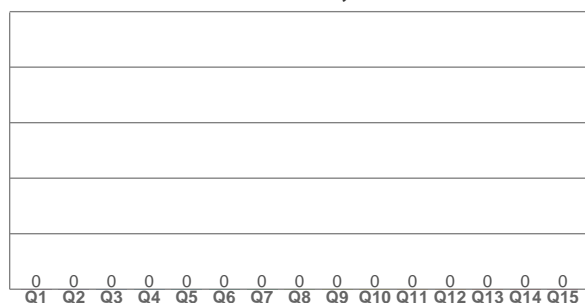
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0



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	0,305	0,523	0,347	n. def.

TM30 details

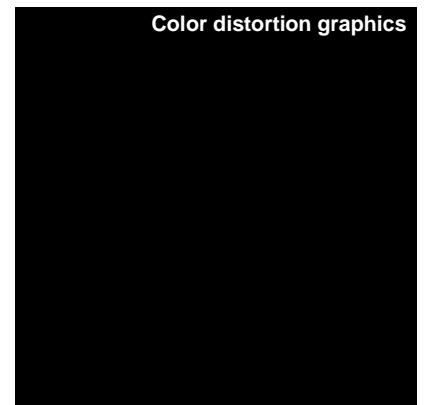
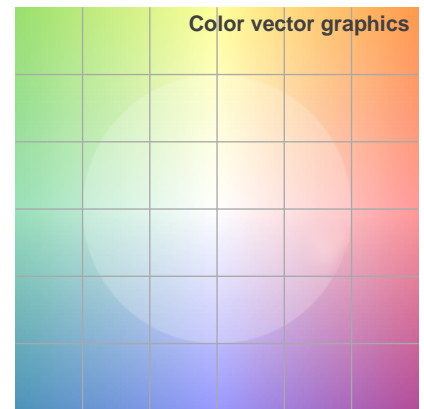
Rf 0,0

Fidelity index Rf

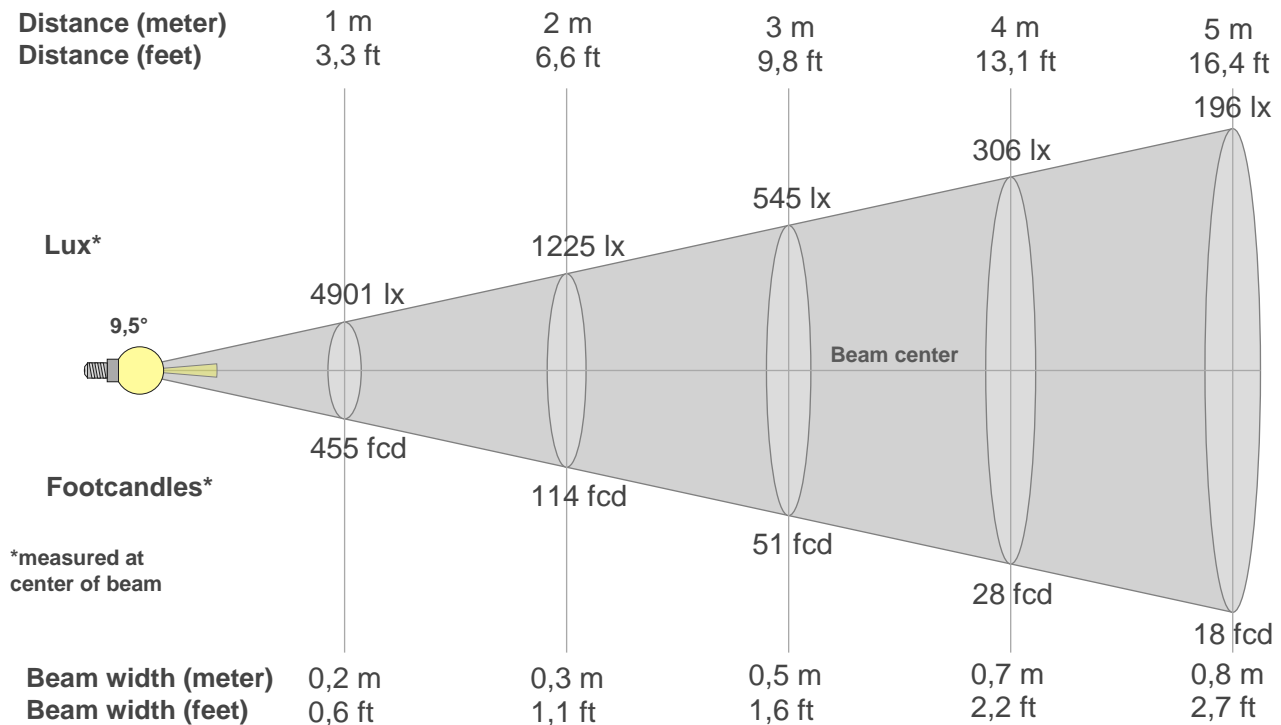
Rg 0,0

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
4901lx	1225lx	545lx	306lx	196lx	136lx	100lx	77lx	61lx	49lx	41lx	34lx	29lx	25lx	22lx	19lx	17lx	15lx	14lx	12lx
455,3fcd	113,8fcd	50,6fcd	28,5fcd	18,2fcd	12,6fcd	9,3fcd	7,1fcd	5,6fcd	4,6fcd	3,8fcd	3,2fcd	2,7fcd	2,3fcd	2fcd	1,8fcd	1,6fcd	1,4fcd	1,3fcd	1,1fcd

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°
4901	4726	4286	3668	2979	2294	1715	1283	968	738	578	468	382	310	255	211	176	150	125	104
100%	96%	87%	75%	61%	47%	35%	26%	20%	15%	12%	10%	8%	6%	5%	4%	4%	3%	3%	2%

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°
4901	4801	4365	3703	2985	2295	1701	1257	948	709	535	413	325	259	203	163	134	115	97	83
100%	98%	89%	76%	61%	47%	35%	26%	19%	14%	11%	8%	7%	5%	4%	3%	3%	2%	2%	2%

Intensities in 180° c-plane

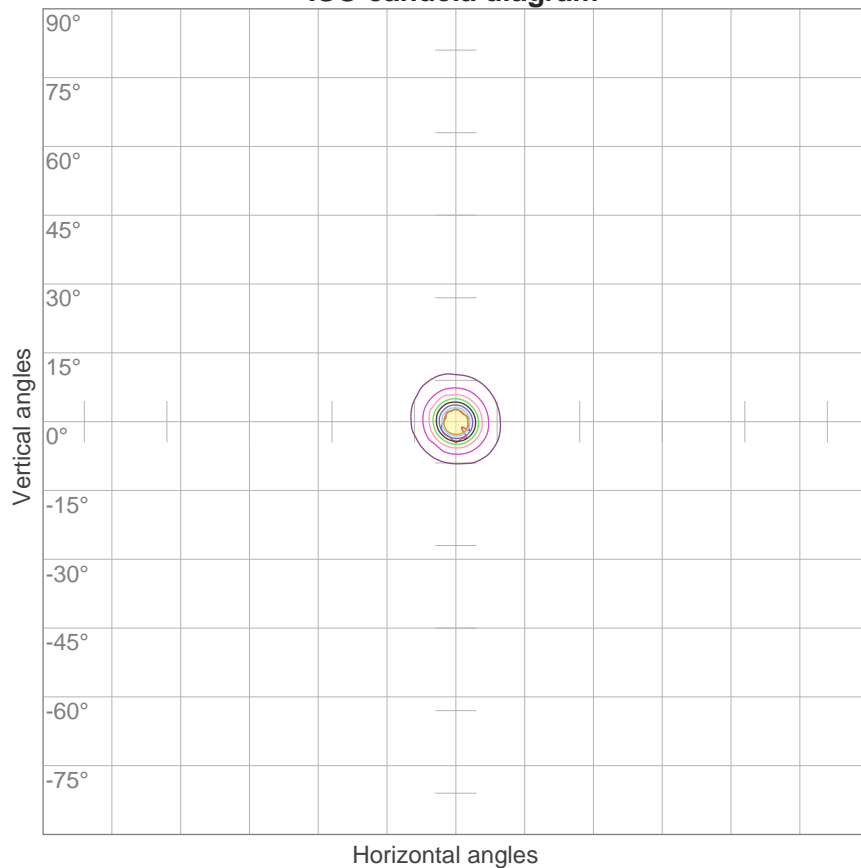
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
4901	4728	4292	3649	2948	2305	1754	1307	981	759	598	473	382	315	258	213	177	147	124	104
100%	96%	88%	74%	60%	47%	36%	27%	20%	15%	12%	10%	8%	6%	5%	4%	4%	3%	3%	2%

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°
4901	4736	4282	3639	2956	2321	1775	1350	1051	834	671	550	461	389	329	279	238	202	171	146
100%	97%	87%	74%	60%	47%	36%	28%	21%	17%	14%	11%	9%	8%	7%	6%	5%	4%	3%	3%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
9,5°	22,1°	37,9°	95,0%	91,6%

ISO candela diagram



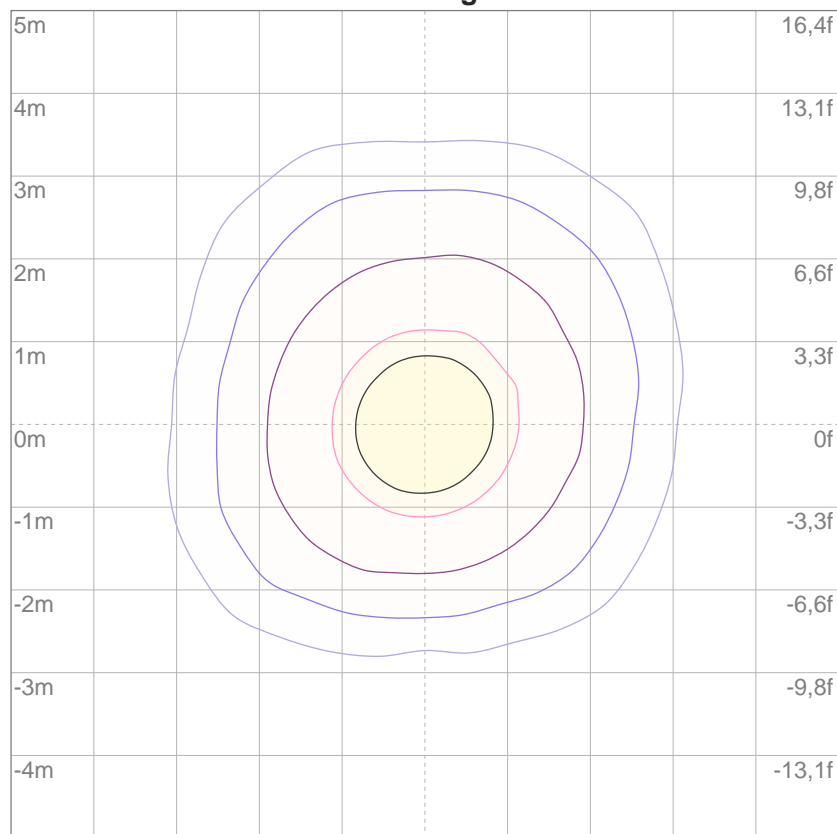
10%	490 cd
20%	980 cd
30%	1470 cd
40%	1960 cd
50%	2450 cd
60%	2940 cd
70%	3430 cd
80%	3920 cd
90%	4411 cd

Conditions:

Number of c-planes: 16

Candela at center: 4901 cd

ISO lux diagram



3%	1,47 lx
5%	2,45 lx
10%	4,90 lx
30%	14,7 lx
50%	24,5 lx

Conditions:

Number of c-planes: 16

Lux at center: 49,0 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	8,3	9,0	8,5	9,2	9,4	7,6	8,3	7,8	8,5	8,7
	3H	10,9	11,6	11,2	11,8	12,1	10,4	11,1	10,7	11,3	11,6
	4H	12,1	12,8	12,4	13,0	13,3	11,7	12,3	12,0	12,6	12,8
	6H	13,4	14,0	13,7	14,2	14,5	12,6	13,3	13,0	13,5	13,8
	8H	14,3	14,9	14,6	15,1	15,4	13,5	14,0	13,8	14,3	14,6
	12H	14,9	15,5	15,3	15,8	16,1	14,4	14,9	14,7	15,2	15,6
4H	2H	8,8	9,5	9,1	9,7	10,0	8,3	8,9	8,6	9,2	9,4
	3H	11,6	12,1	11,9	12,4	12,8	11,2	11,7	11,5	12,0	12,4
	4H	12,9	13,4	13,3	13,8	14,1	12,7	13,2	13,1	13,5	13,9
	6H	14,5	14,9	14,9	15,2	15,6	14,0	14,4	14,4	14,7	15,1
	8H	15,5	15,9	15,9	16,3	16,7	14,9	15,3	15,3	15,7	16,1
	12H	16,2	16,5	16,7	16,9	17,4	16,0	16,3	16,5	16,7	17,2
8H	4H	13,5	13,8	13,9	14,2	14,6	13,2	13,6	13,6	14,0	14,4
	6H	15,1	15,4	15,6	15,8	16,3	14,7	15,0	15,2	15,4	15,9
	8H	16,3	16,6	16,8	17,0	17,5	15,9	16,2	16,4	16,6	17,1
	12H	17,1	17,3	17,6	17,7	18,2	17,3	17,5	17,8	18,0	18,5
12H	4H	13,5	13,9	14,0	14,3	14,7	13,3	13,6	13,8	14,0	14,5
	6H	15,4	15,6	15,8	16,1	16,5	15,0	15,2	15,5	15,7	16,1
	8H	16,7	16,8	17,1	17,3	17,8	16,3	16,5	16,8	16,9	17,4
Variation of the observer position for the luminaire distance S											
S = 1,0H		+0,1 / -0,1					+0,2 / -0,2				
S = 1,5H		+0,3 / -0,2					+0,3 / -0,4				
S = 2,0H		+0,3 / -0,6					+0,4 / -0,6				
Standard table		BK11					BK11				
Correction summand		0,2					-0,2				
Corrected glare indices referring to 297 lm total luminous flux											

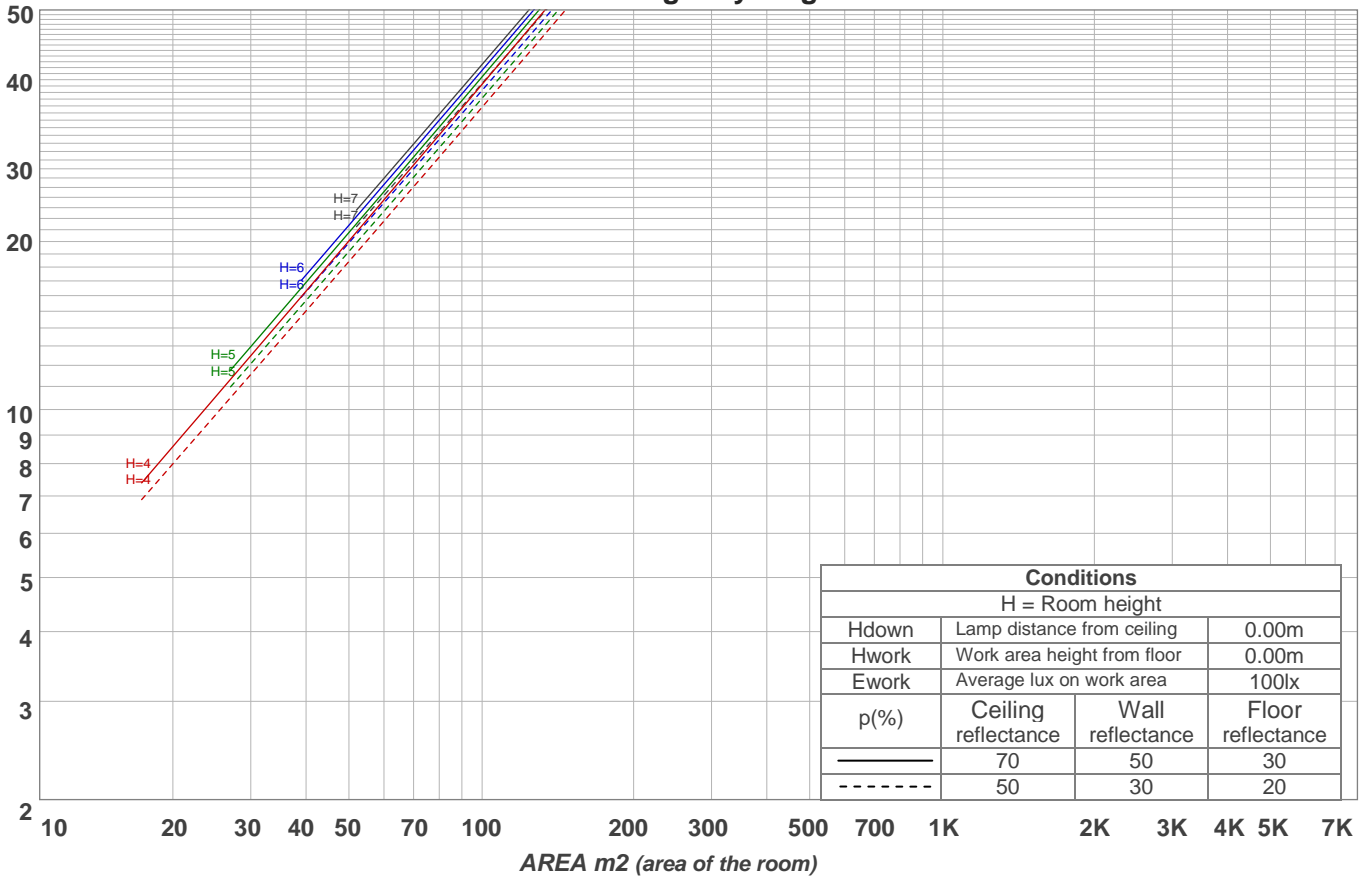
UGR data could be incorrect as lamp output is not symmetrical. Goto Edit->Photometric->Corrections and select Correct asymmetry.

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	98	98	97	95
2	110	106	103	100	108	105	102	99	101	99	97	98	96	95	96	94	93	91
3	107	102	98	95	105	100	97	94	98	95	93	95	93	91	93	91	90	88
4	104	98	94	91	102	97	93	90	95	92	89	93	90	88	91	89	87	86
5	101	95	91	87	99	94	90	87	92	89	86	91	88	86	89	87	85	84
6	98	92	88	85	97	91	87	85	90	87	84	89	86	83	87	85	83	82
7	96	90	86	83	95	89	85	82	88	85	82	87	84	82	86	83	81	80
8	94	88	84	81	93	87	83	81	86	83	80	85	82	80	84	82	80	79
9	92	86	82	79	91	85	82	79	84	81	79	84	81	79	83	80	78	77
10	90	84	80	78	89	84	80	78	83	80	77	82	79	77	82	79	77	76

LAMPS (number of lamps)

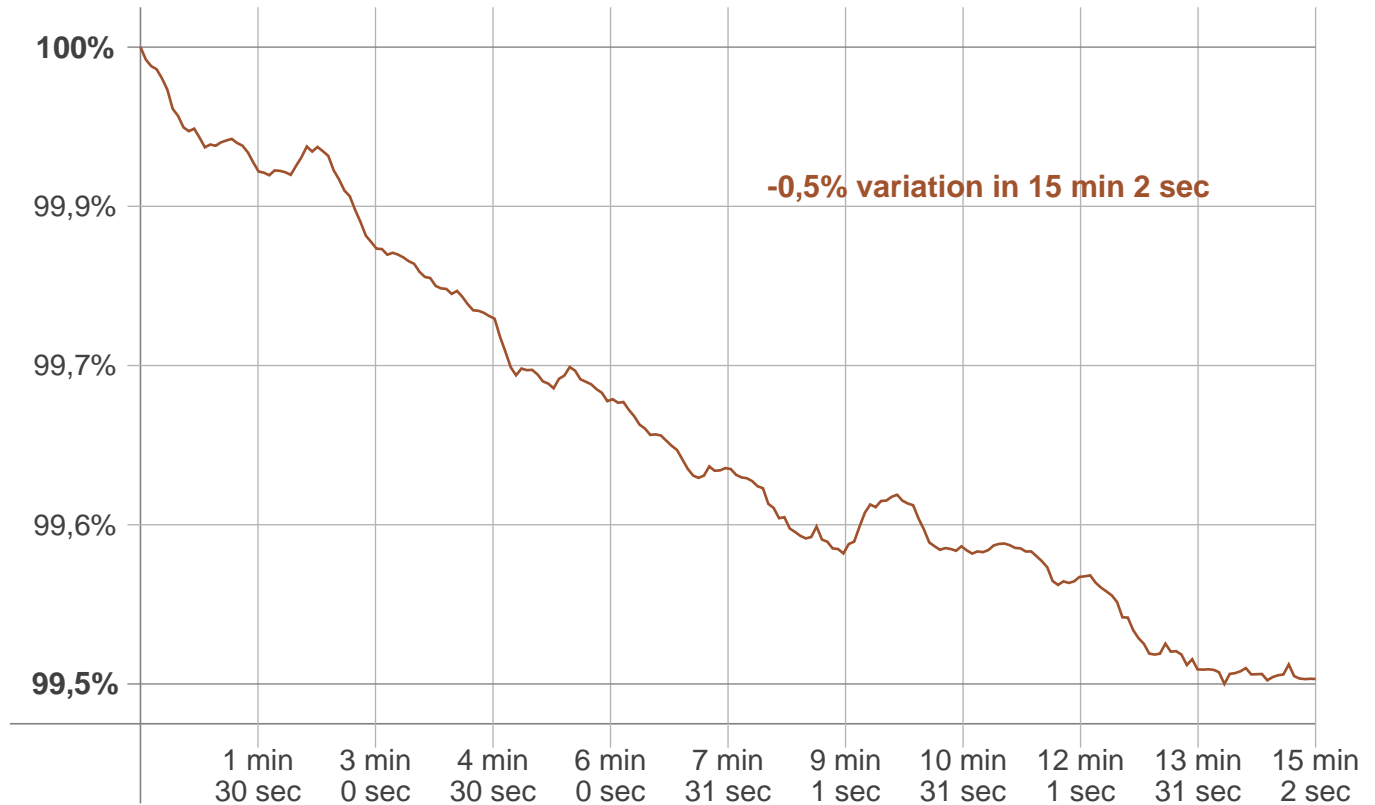
Luminaire budgetary diagram



Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
{LUM0-10}	70,4 lm	23,5 lm	10,5 lm	7,56 lm	6,53 lm	5,78 lm	4,89 lm	3,13 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
1,00 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	-0,5%

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

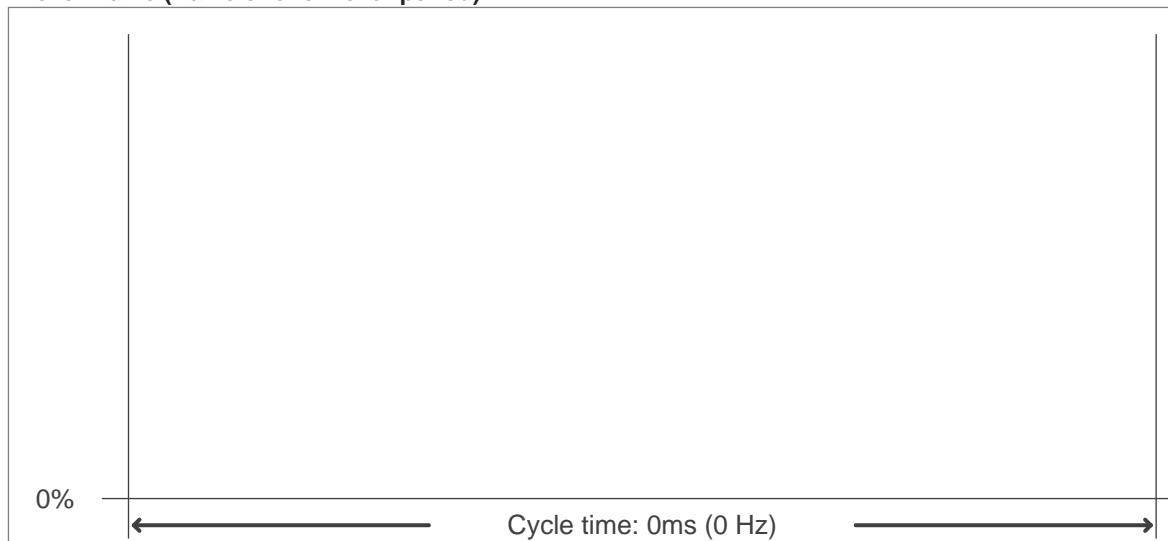
Output change

Output start	Output change	Output end
299 lm	-1 lm	297 lm

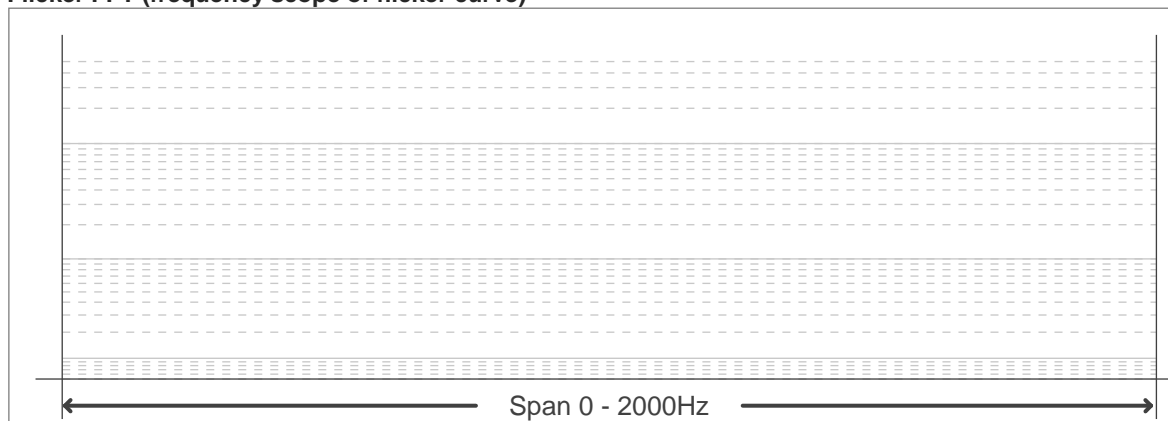
Flicker curve (complete sampled flicker signal)



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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