Light efficiency:

30 Lumen/Watt

Light quality:

CRI: 91,7

Color temperature:

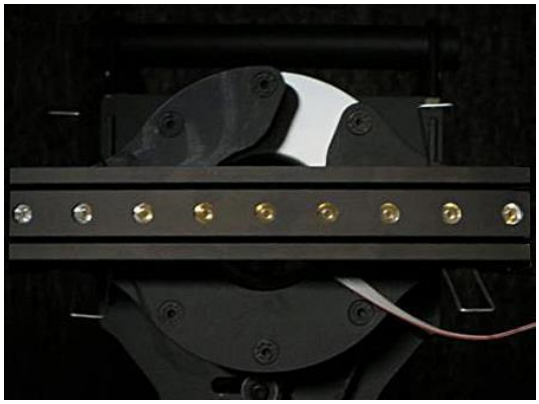
2677 K

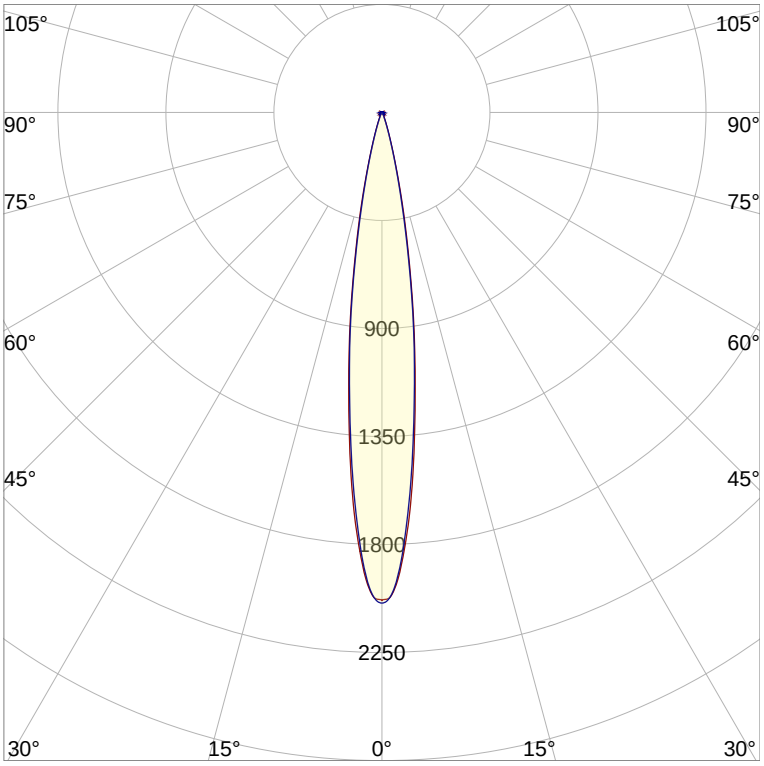
Output: 209 lm

Peak: 2040 cd

Power: 7,0 W

PF: 0,81





CIE 1931
x: 0,462
y: 0,412

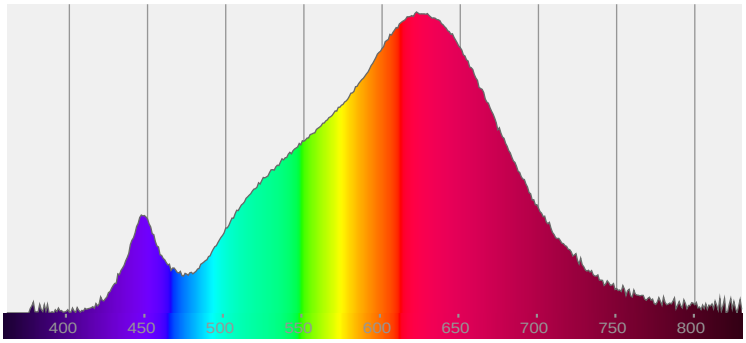
Product name:
FLNP-F4C-C-258-W-927-10770-ALA

Item number:
FLNP-F4C-C-258-W-927-10770-ALA

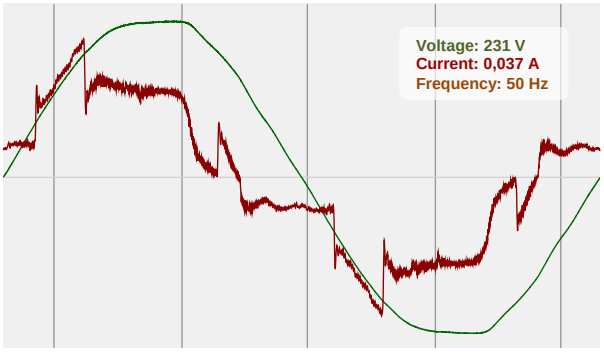
Date and time:
13.02.2019 11:21:46

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

Spectra



Power



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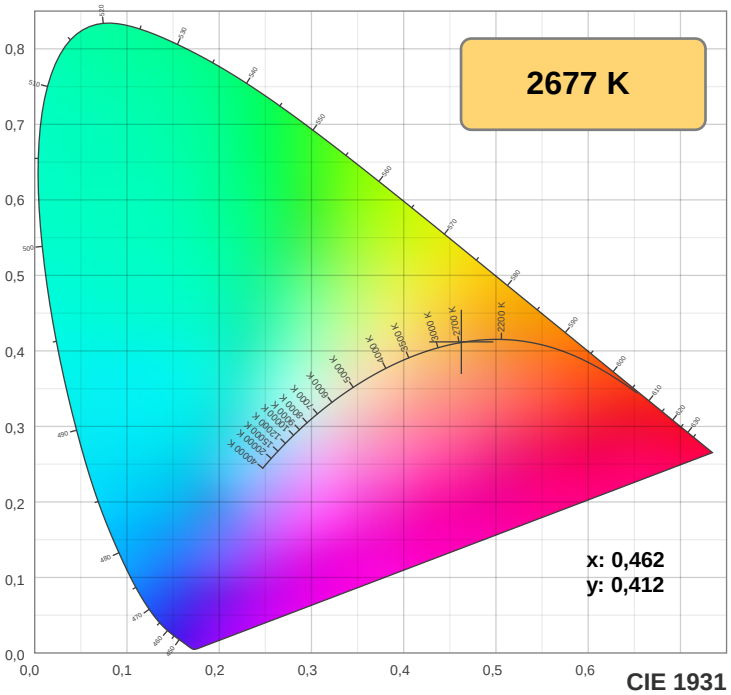
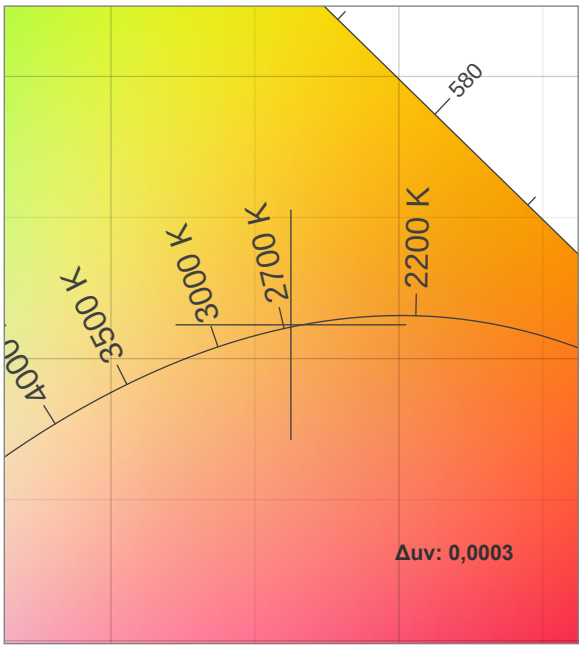
Color details

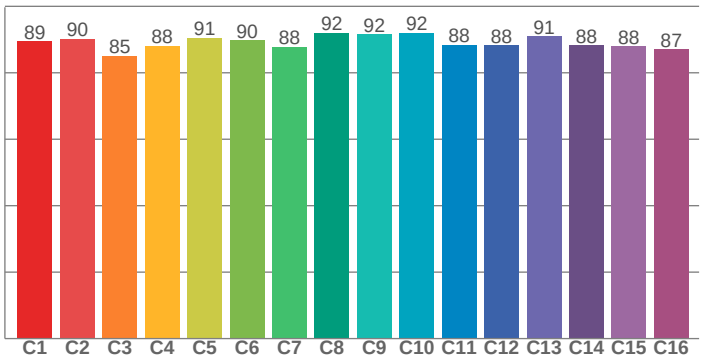


CIE 1931

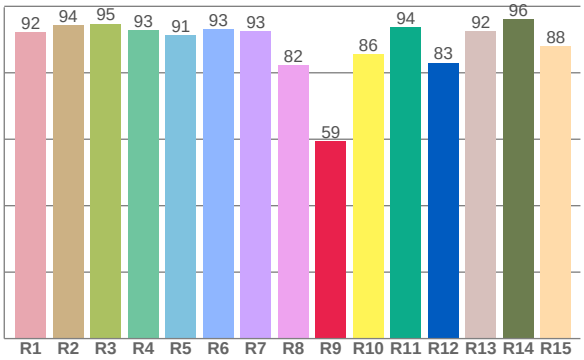


CIE 1931 ZOOM

TM30: 89,2



CRI: 91,7 (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
92,1	94,2	94,8	92,9	91,3	93,1	92,6	82,3	59,4	85,6	93,7	83,1	92,5	96,1	88,0

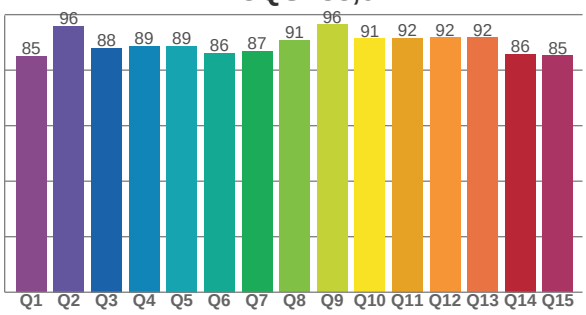
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
89,4	90,3	85,0	88,0	90,6	89,8	87,8	92,1	91,5	92,0	88,4	88,2	91,0	88,2	88,0	87,0

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
85,0	95,9	88,0	88,8	88,7	86,2	86,9	90,8	96,4	91,4	91,7	91,7	91,8	85,8	85,3

CQS: 88,9



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 diviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2677 K	91,7	59,4	89,2	101,6	88,9	0,462	0,412	0,264	0,352	0,0003

TM30 details

Rf 89,2

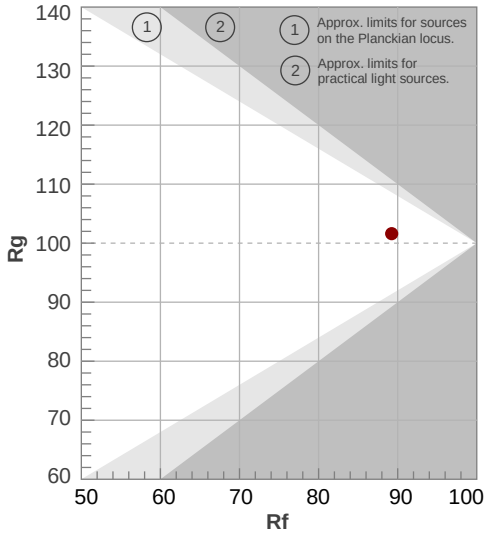
Fidelity index Rf

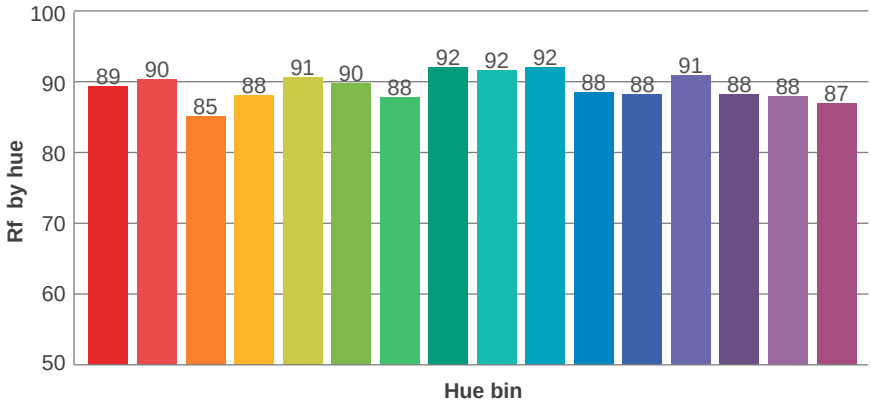
Rg 101,6

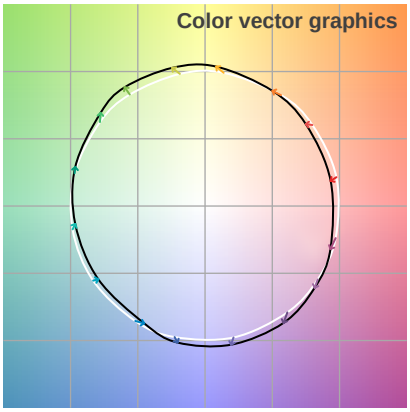
Gammut index Rg

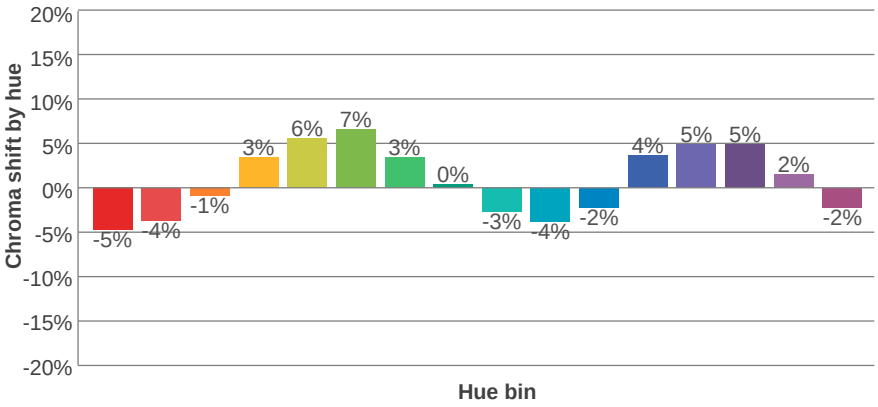
{TM30_BIN_VALUES_START}

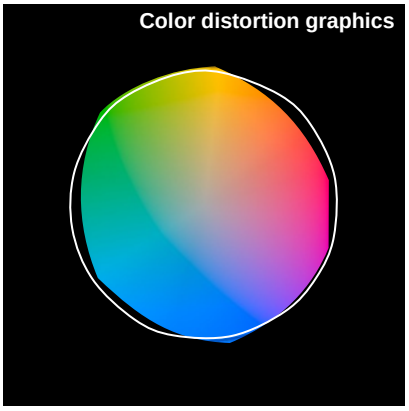
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1		%	%
2		%	%
3		%	%
4		%	%
5		%	%
6		%	%
7		%	%
8		%	%
9		%	%
10		%	%
11		%	%
12		%	%
13		%	%
14		%	%
15		%	%
16		%	%

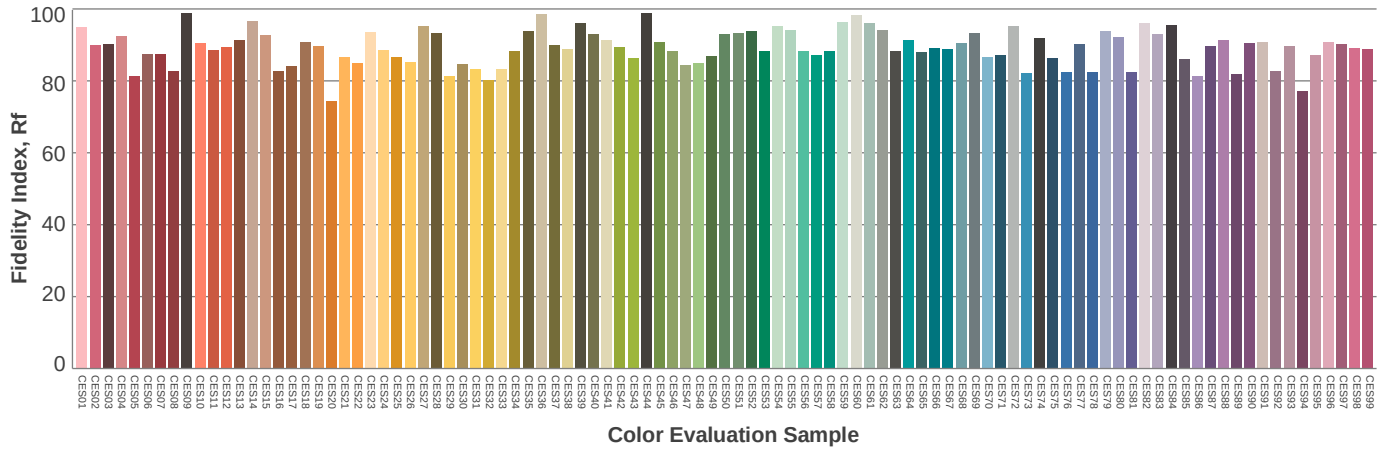






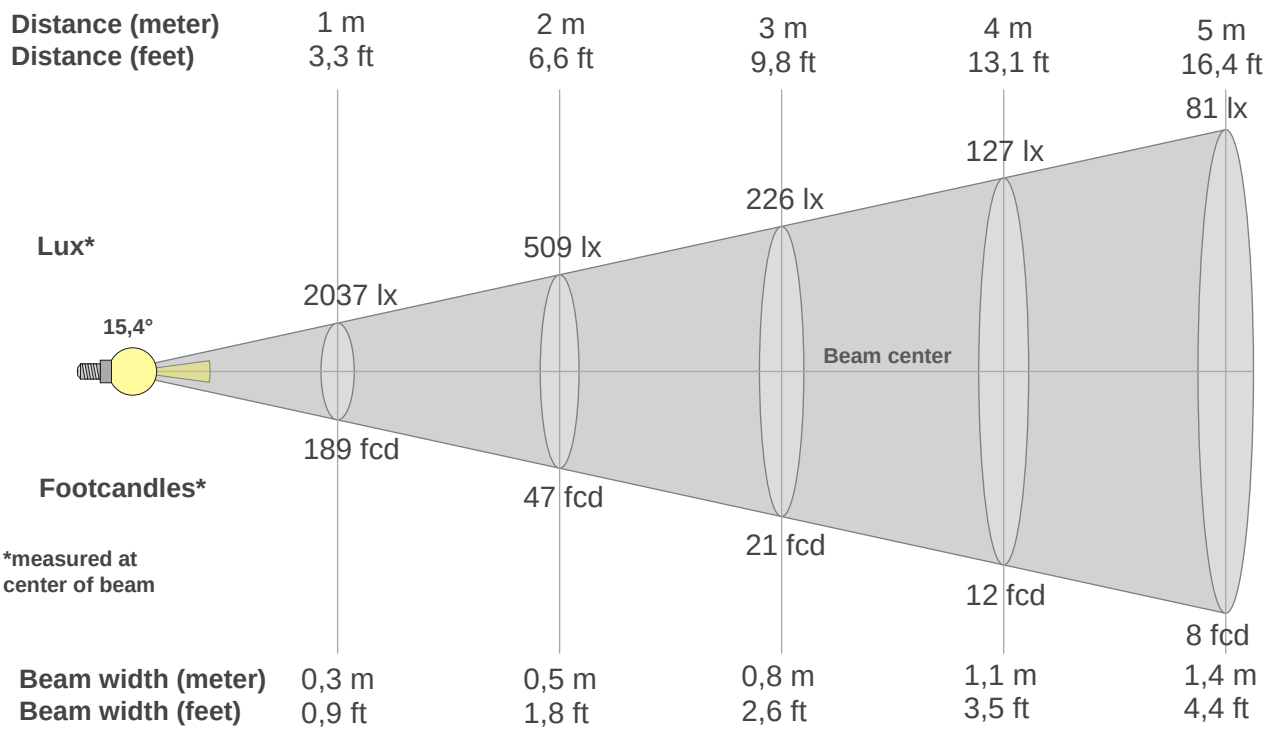






FLASHAAR

Beam details



Beam intensities from 1-20m

m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx	lx
fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd	fcd

{BEAM_INT_TABLE_END}

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°
2037	2018	1941	1813	1664	1492	1309	1136	976	825	680	553	445	349	267	203	155	118	90	69
100%	99%	95%	89%	82%	73%	64%	56%	48%	40%	33%	27%	22%	17%	13%	10%	8%	6%	4%	3%

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°
2037	2009	1922	1784	1622	1449	1274	1111	957	805	659	530	419	327	252	192	145	111	85	65
100%	99%	94%	88%	80%	71%	63%	55%	47%	40%	32%	26%	21%	16%	12%	9%	7%	5%	4%	3%

Intensities in 180° c-plane

{INT_TABLE_180_START}

°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%

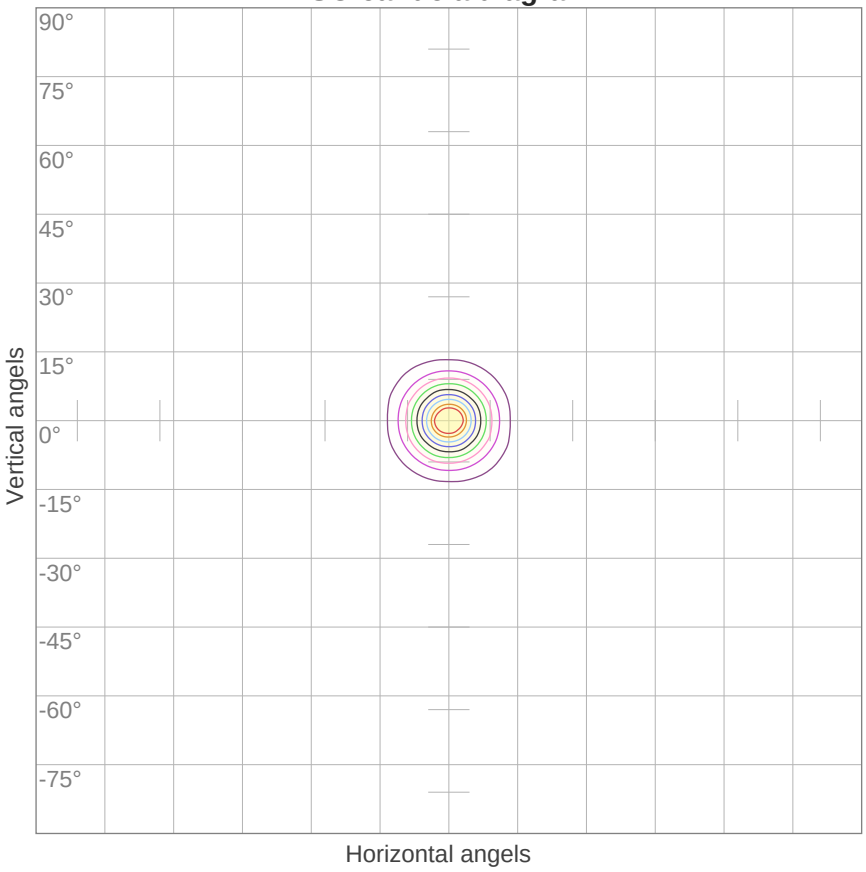
Intensities in 270° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
2037	2009	1922	1784	1622	1449	1274	1111	957	805	659	530	419	327	252	192	145	111	85	65
100%	99%	94%	88%	80%	71%	63%	55%	47%	40%	32%	26%	21%	16%	12%	9%	7%	5%	4%	3%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
15,4°	**30,5°**	**42°**	**96,0%**	**94,2%**

ISO Diagrams

ISO candela diagram



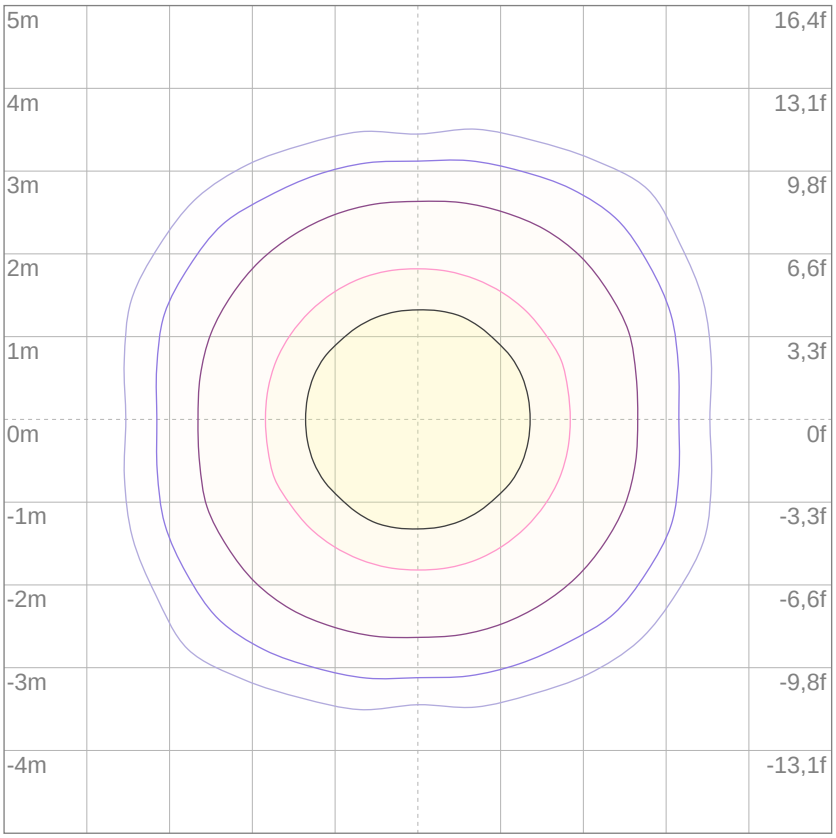
10%	204 cd
20%	407 cd
30%	611 cd
40%	815 cd
50%	1019 cd
60%	1222 cd
70%	1426 cd
80%	1630 cd
90%	1833 cd

Conditions:

Number of c-planes: 16

Candela at center: 2037 cd

ISO lux diagram



3%	0,611 lx
5%	1,02 lx
10%	2,04 lx
30%	6,11 lx
50%	10,2 lx

Conditions:

Number of c-planes: 16

Lux at center: 20,4 lx

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

UGR

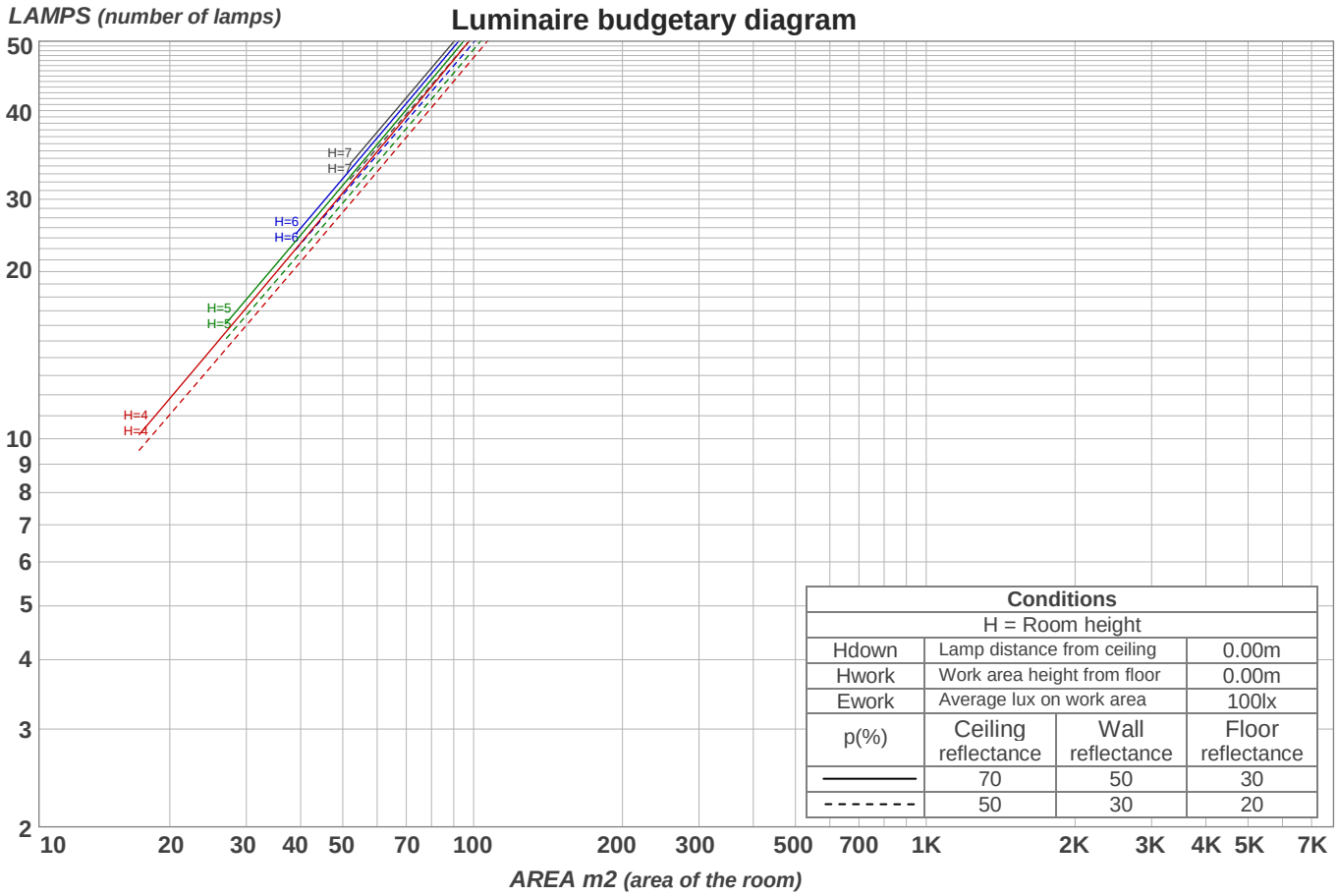
Glare Evaluation According to UGR

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	3,4	4,1	3,6	4,3	4,5	3,4	4,1	3,7	4,3	4,5
	3H	6,4	7,1	6,7	7,3	7,5	5,7	6,4	6,0	6,6	6,8
	4H	8,0	8,6	8,3	8,9	9,1	7,1	7,7	7,4	8,0	8,2
	6H	9,4	10,0	9,8	10,3	10,6	9,2	9,7	9,5	10,0	10,3
	8H	10,3	10,8	10,6	11,1	11,4	10,1	10,6	10,4	10,9	11,2
	12H	11,1	11,6	11,5	11,9	12,2	11,0	11,5	11,4	11,8	12,1
4H	2H	4,2	4,8	4,6	5,1	5,4	4,3	4,9	4,6	5,2	5,4
	3H	7,4	8,0	7,8	8,3	8,6	6,9	7,4	7,2	7,7	8,0
	4H	9,3	9,7	9,6	10,0	10,4	8,4	8,9	8,8	9,2	9,5
	6H	10,9	11,2	11,3	11,6	12,0	10,7	11,1	11,1	11,4	11,8
	8H	11,8	12,1	12,2	12,5	12,9	11,7	12,1	12,2	12,5	12,9
	12H	12,8	13,1	13,3	13,5	13,9	12,8	13,1	13,2	13,5	13,9
8H	4H	9,9	10,2	10,3	10,6	11,0	9,2	9,5	9,6	9,9	10,3
	6H	11,8	12,0	12,2	12,5	12,9	11,7	12,0	12,2	12,4	12,8
	8H	12,9	13,1	13,3	13,5	14,0	12,9	13,2	13,4	13,6	14,1
	12H	14,2	14,3	14,7	14,8	15,3	14,1	14,3	14,6	14,8	15,3
12H	4H	10,1	10,3	10,5	10,7	11,2	9,4	9,7	9,9	10,1	10,5
	6H	12,1	12,3	12,5	12,7	13,2	12,0	12,2	12,5	12,7	13,1
	8H	13,3	13,5	13,8	13,9	14,4	13,3	13,5	13,8	14,0	14,5
Variation of the observer position for the luminaire distance S											
S = 1,0H		+0,1 / -0,2					+0,1 / -0,2				
S = 1,5H		+0,3 / -0,3					+0,3 / -0,3				
S = 2,0H		+0,4 / -0,5					+0,3 / -0,5				
Standard table		BK12					BK12				
Correction summand		-3,2					-3,4				
Corrected glare indices referring to 209 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	110	110	110	105	105	105	101	101	101	99
1	115	112	110	109	112	110	108	107	106	105	103	102	101	100	98	98	97	95
2	111	107	104	102	109	106	103	101	102	100	98	99	98	96	96	95	94	92
3	108	103	100	97	106	102	99	96	99	97	94	97	95	93	95	93	91	90
4	105	100	96	93	103	99	95	93	97	94	91	95	92	90	93	91	89	88
5	102	97	93	90	101	96	92	90	94	91	89	93	90	88	91	89	87	86
6	100	94	90	88	99	94	90	87	92	89	87	91	88	86	90	87	86	85
7	98	92	88	86	97	91	88	85	90	87	85	89	86	84	88	86	84	83
8	96	90	86	84	95	90	86	84	89	85	83	88	85	83	87	84	83	82
9	94	88	85	82	93	88	84	82	87	84	82	86	83	82	85	83	81	80
10	92	87	83	81	92	86	83	81	86	83	80	85	82	80	84	82	80	79

Luminaire budgetary diagram



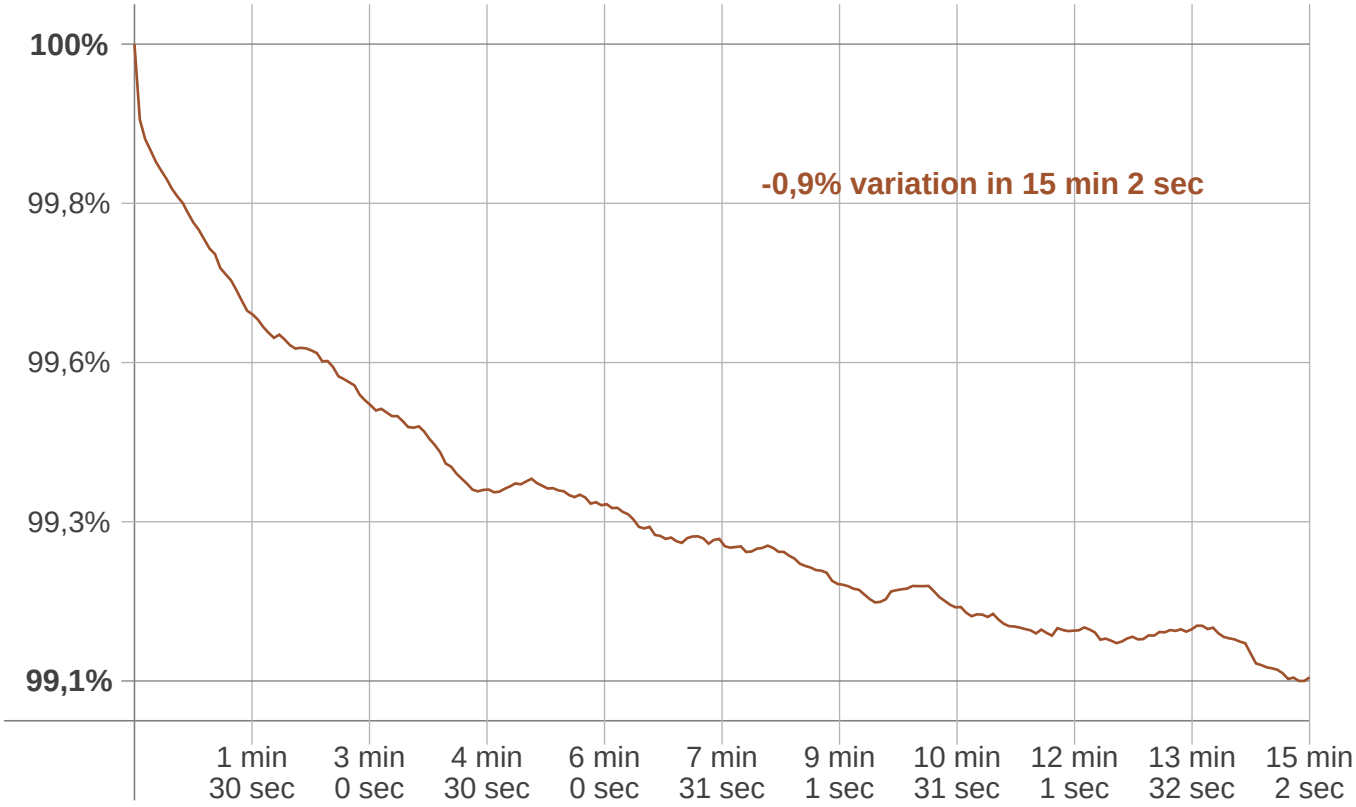
Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
114 lm	{LUM10-20}	{LUM20-30}	{LUM30-40}	{LUM40-50}	{LUM50-60}	{LUM60-70}	{LUM70-80}	{LUM80-90}

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
{LUM90-	{LUM100-	0,564 lm	{LUM120-	{LUM130-	{LUM140-	{LUM150-	{LUM160-	{LUM170-

Stabilization

Warmup curve



Warmup result

Warmup time:	**15 min 2 sec**
Warmup variation	**-0,9%**

Warmup conditions

Stable period:	**15 min**
Stable change max:	**2,0%**
Minimum time:	**15 min**

Color temperature change

CCT start	CCT change	CCT end
2682 K	**{WU_CHNG_CCT} K**	**2677 K**

Output change

Output start	Output change	Output end
210 lm	**-1 lm**	**209 lm**