Light efficiency:

68 Lumen/Watt

Light quality:

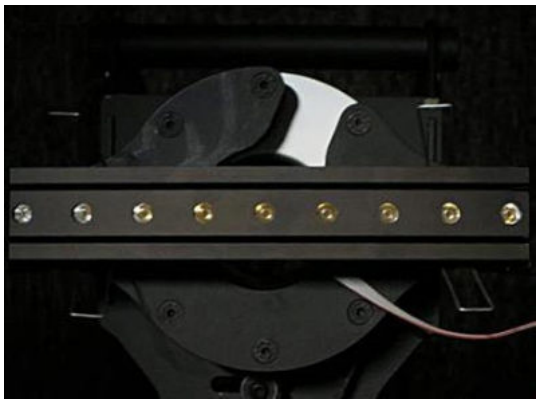
CRI: 93,5

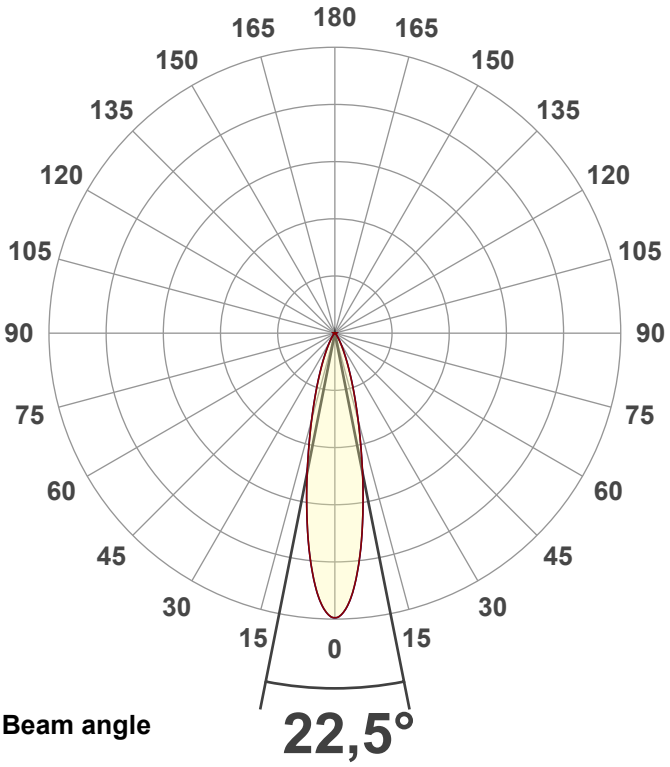
Color temperature:

2998 K

Output: 688 lm
Peak: 3088 cd

Power: 10,1 W
PF: 1,0





Beam angle

22,5°

CIE 1931
x: 0,436
y: 0,402

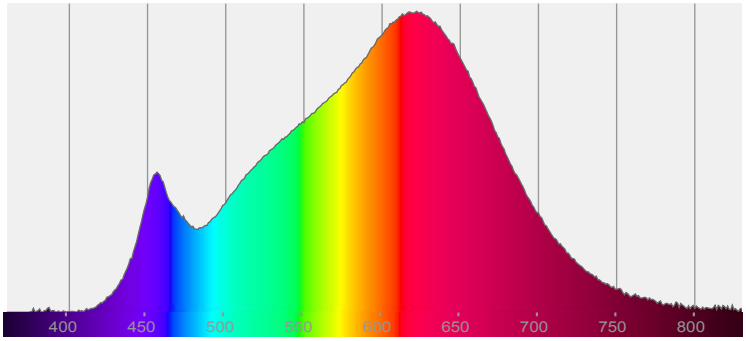
Product name:
Focus-4-1CH-Darklite-0258-930-LSMF-10772-BA

Item number:
FLDL-F1C-D0258-930-LSMF-10772-BA

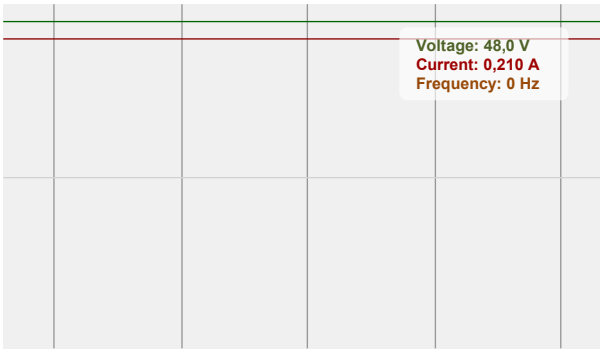
Date and time:
03.02.2021 09:52:06

Description:
Rank: P4-7D2
Toleranzen:
Lumen +/-4%
Candela +/-2,5%
Colour Temp +/-35 Grad K
CRI +/-0,7
Angular Resolution 1 Grad step
Last Calibration 20.05.2020
Pruefer:
Peter Ulrich
Pruefort:
Lichtlabor
Gaustrasse13-15
55411 Bingen am Rhein

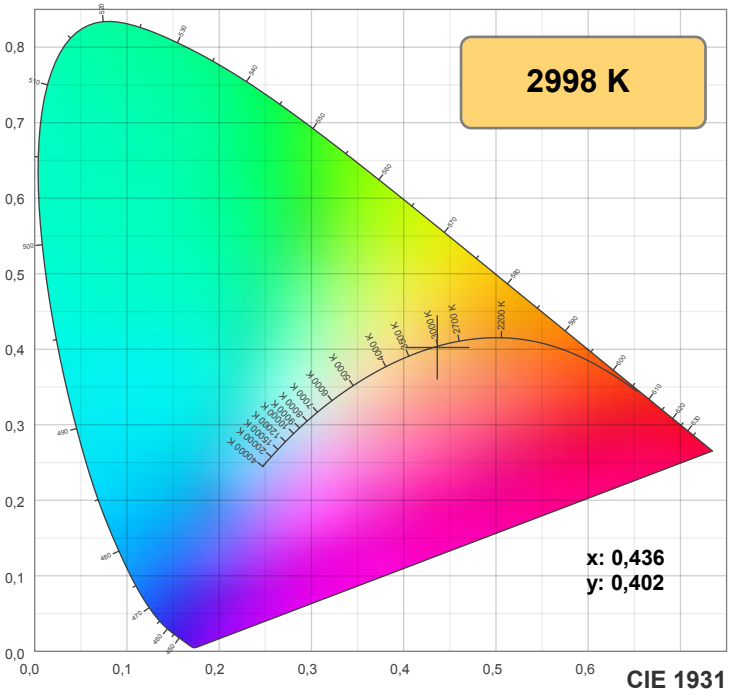
Spectra



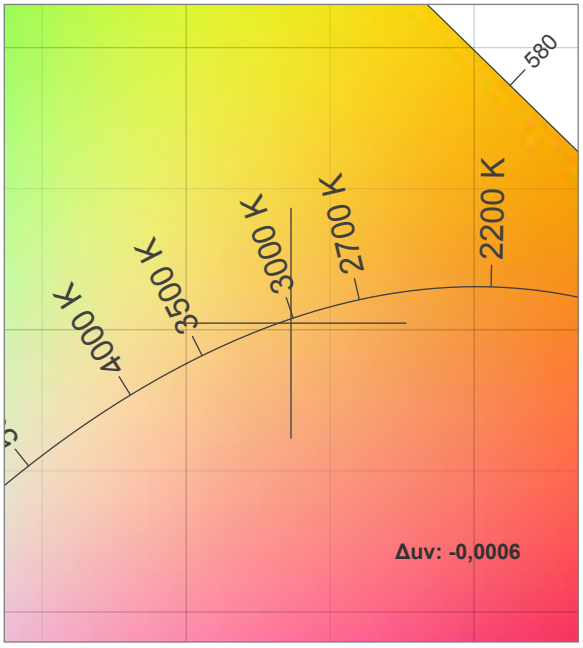
Power



Color details

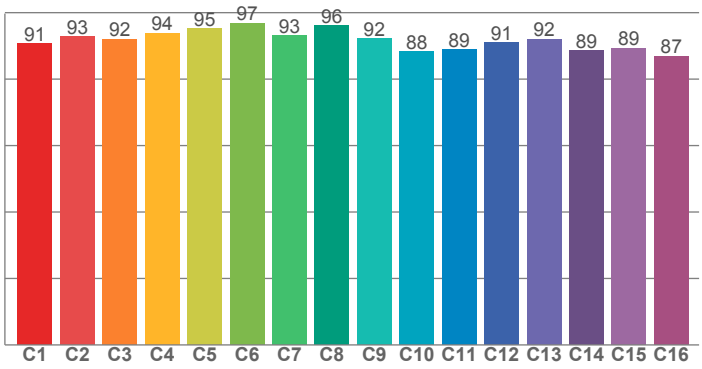


CIE 1931

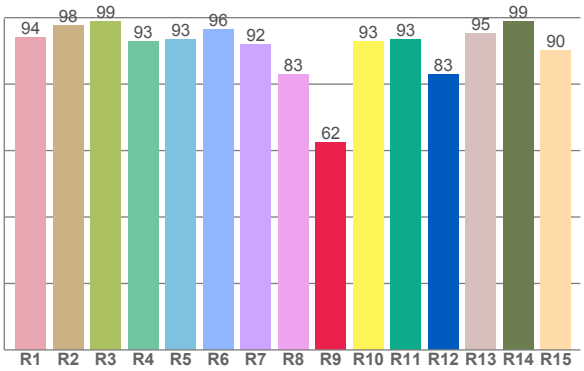


CIE 1931 ZOOM

TM30: 91,8



CRI: 93,5 (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
93,9	97,6	98,8	92,9	93,5	96,5	91,9	82,9	62,4	93,0	93,5	83,0	95,1	99,0	90,1

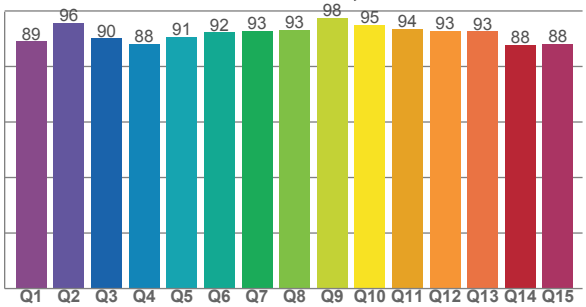
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90,7	92,7	92,1	93,9	95,3	96,9	93,0	96,2	92,2	88,4	88,9	90,9	92,1	88,7	89,4	86,9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
89,0	95,6	90,1	88,1	90,6	92,2	92,7	93,1	97,5	94,8	93,6	92,9	92,6	87,8	88,2

CQS: 91,3



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
2998 K	93,5	62,4	91,8	98,2	91,3	0,436	0,402	0,251	0,347	-0,0006

TM30 details

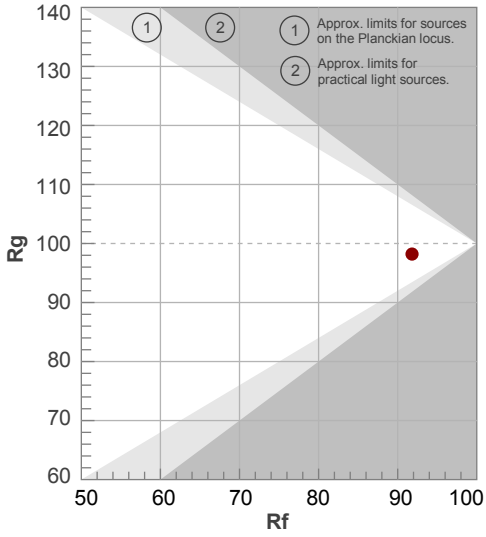
Rf 91,8

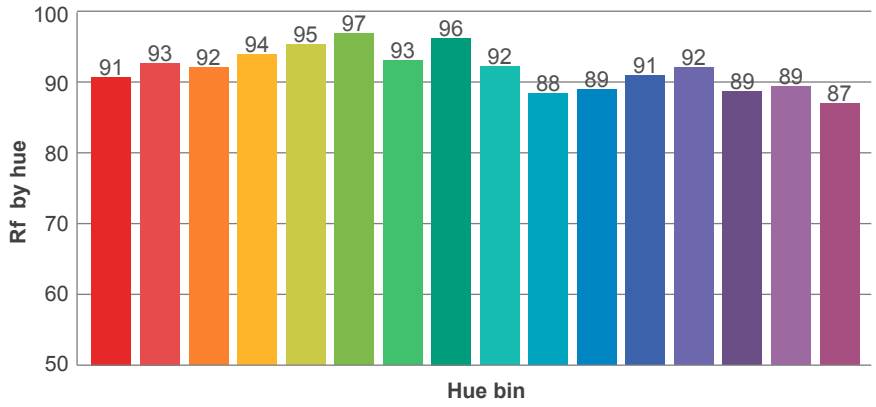
Fidelity index Rf

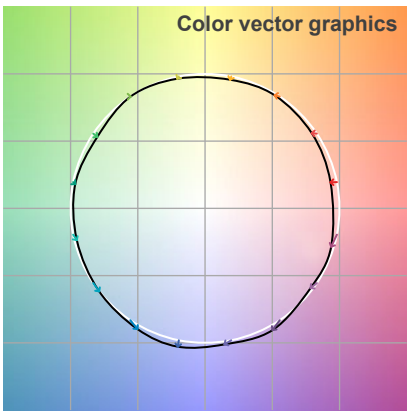
Rg 98,2

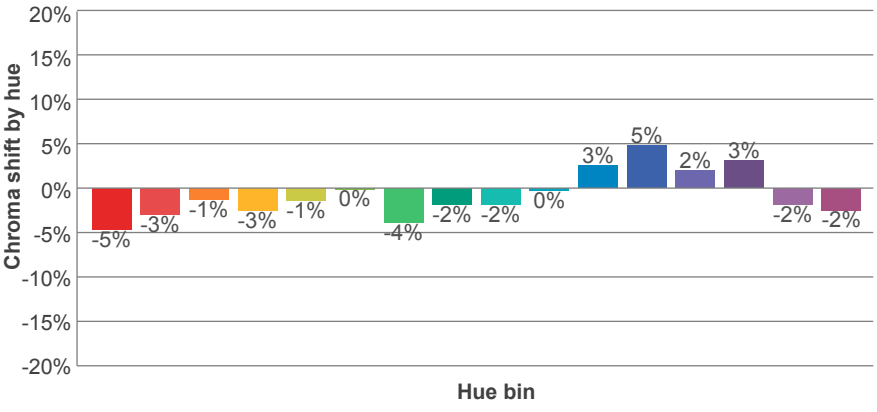
Gammut index Rg

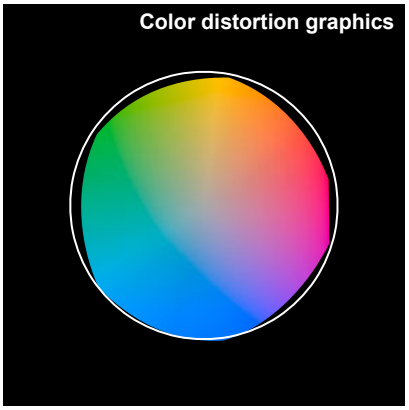
Hue Bin	R_f	Graphic shifts (%) Chroma	Hue
1	91	-5%	1%
2	93	-3%	2%
3	92	-1%	4%
4	94	-3%	0%
5	95	-1%	1%
6	97	0%	0%
7	93	-4%	0%
8	96	-2%	1%
9	92	-2%	5%
10	88	0%	8%
11	89	3%	8%
12	91	5%	0%
13	92	2%	-6%
14	89	3%	-9%
15	89	-2%	-6%
16	87	-2%	-10%

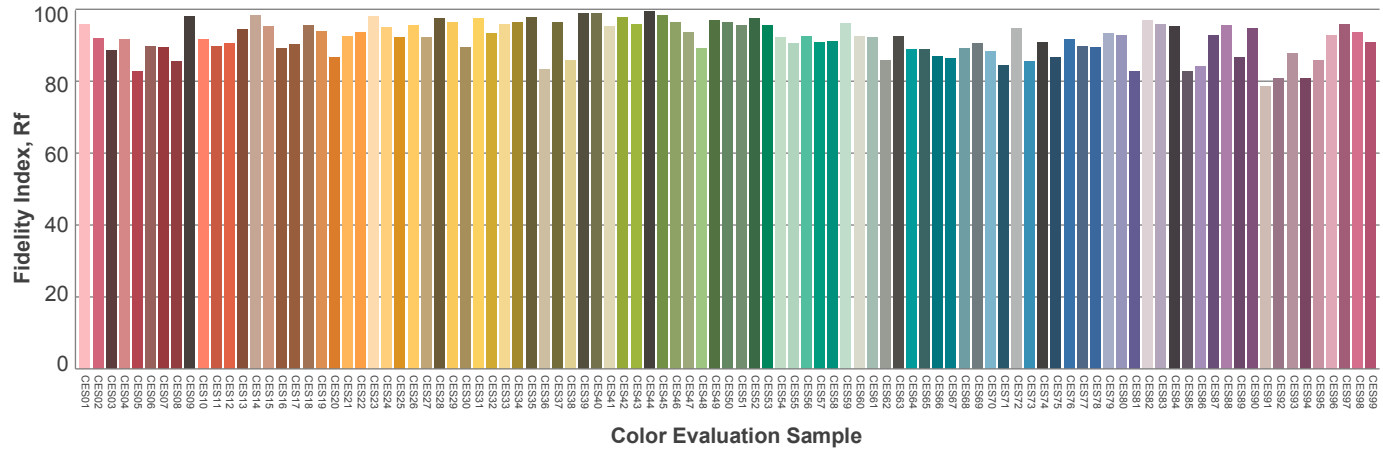




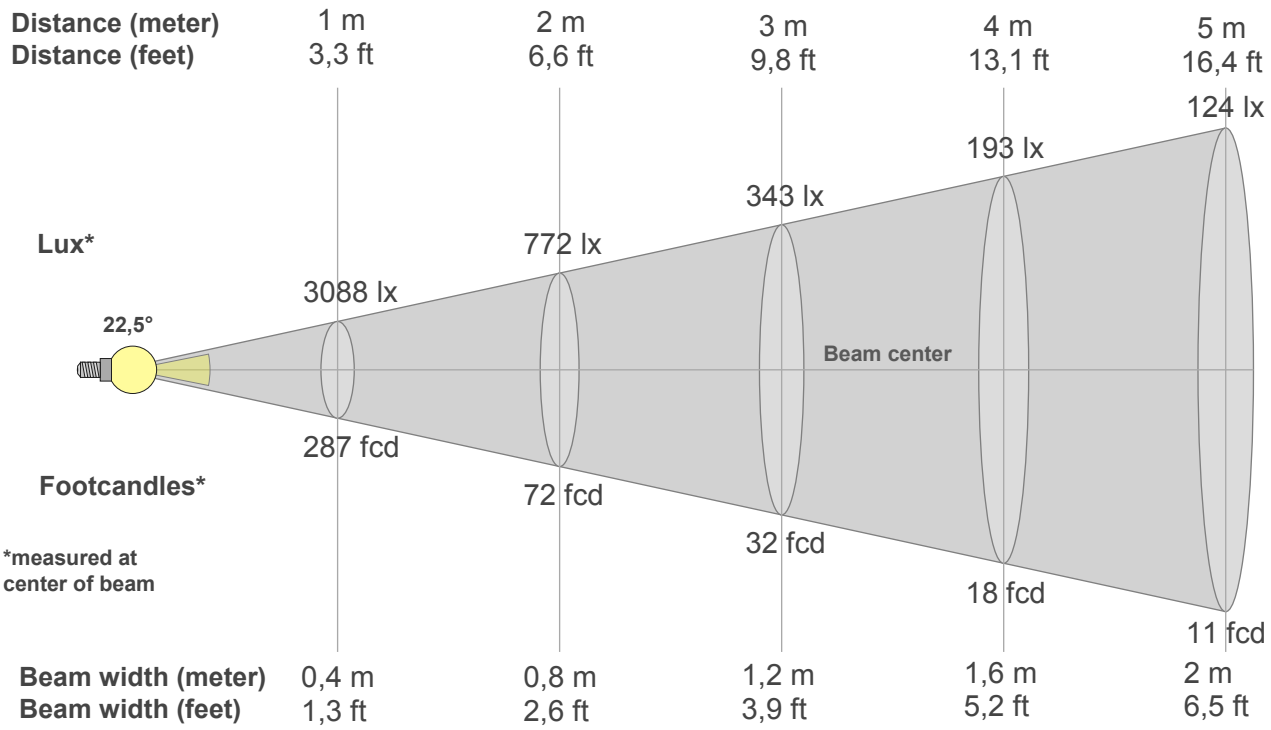








Beam details



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
3088lx	772lx	343lx	193lx	124lx	86lx	63lx	48lx	38lx	31lx	26lx	21lx	18lx	16lx	14lx	12lx	11lx	10lx	9lx	8lx
286,8fc	71,7fcd	31,9fcd	17,9fcd	11,5fcd	8fcd	5,9fcd	4,5fcd	3,5fcd	2,9fcd	2,4fcd	2fcd	1,7fcd	1,5fcd	1,3fcd	1,1fcd	1fcd	0,9fcd	0,8fcd	0,7fcd

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°
3088	3014	2811	2503	2140	1765	1411	1107	856	659	502	381	286	214	160	120	90	68	52	40
100%	98%	91%	81%	69%	57%	46%	36%	28%	21%	16%	12%	9%	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°
3088	3014	2811	2503	2140	1765	1411	1107	856	659	502	381	286	214	160	120	90	68	52	40
100%	98%	91%	81%	69%	57%	46%	36%	28%	21%	16%	12%	9%	7%	5%	4%	3%	2%	2%	1%

Intensities in 180° c-plane

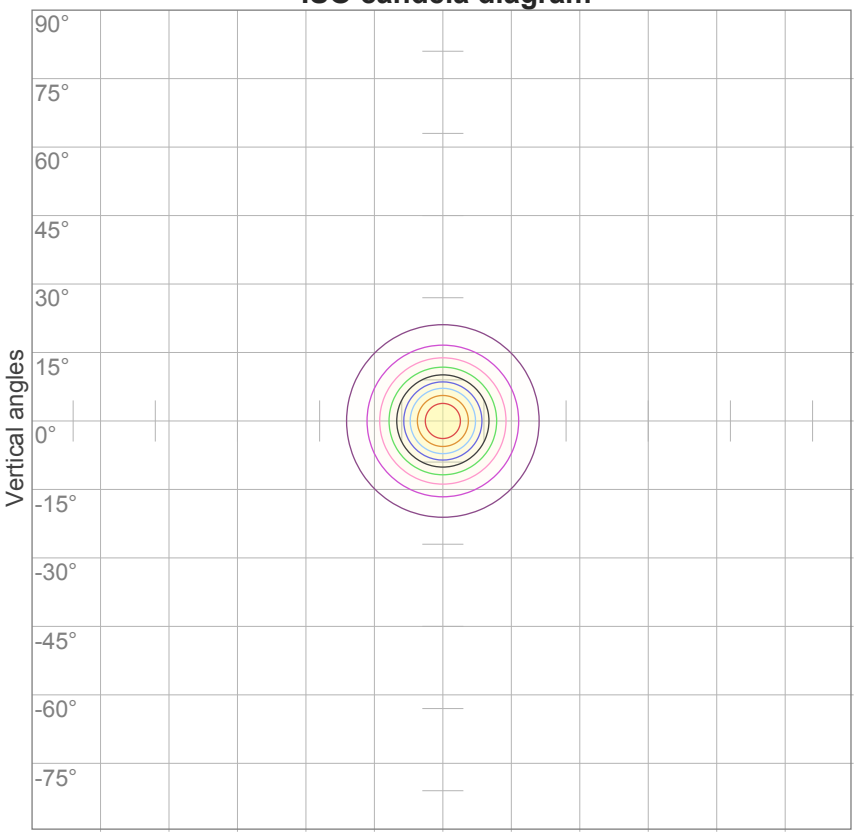
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
3088	3014	2811	2503	2140	1765	1411	1107	856	659	502	381	286	214	160	120	90	68	52	40
100%	98%	91%	81%	69%	57%	46%	36%	28%	21%	16%	12%	9%	7%	5%	4%	3%	2%	2%	1%

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°
3088	3014	2811	2503	2140	1765	1411	1107	856	659	502	381	286	214	160	120	90	68	52	40
100%	98%	91%	81%	69%	57%	46%	36%	28%	21%	16%	12%	9%	7%	5%	4%	3%	2%	2%	1%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
22,5°	**46,9°**	**66,2°**	**98,5%**	**96,6%**

ISO candela diagram



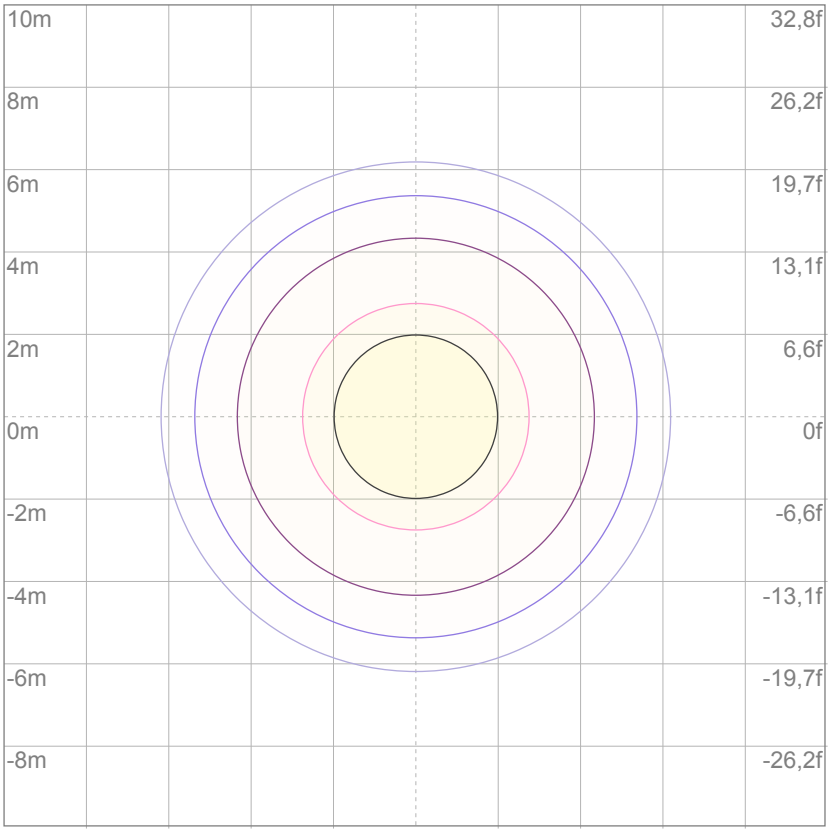
10%	309 cd
20%	618 cd
30%	926 cd
40%	1235 cd
50%	1544 cd
60%	1853 cd
70%	2161 cd
80%	2470 cd
90%	2779 cd

Conditions:

Number of c-planes: 16

Candela at center: 3088 cd

ISO lux diagram



3%	0,926 lx
5%	1,54 lx
10%	3,09 lx
30%	9,26 lx
50%	15,4 lx

Conditions:

Number of c-planes: 16

Lux at center: 30,9 lx

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

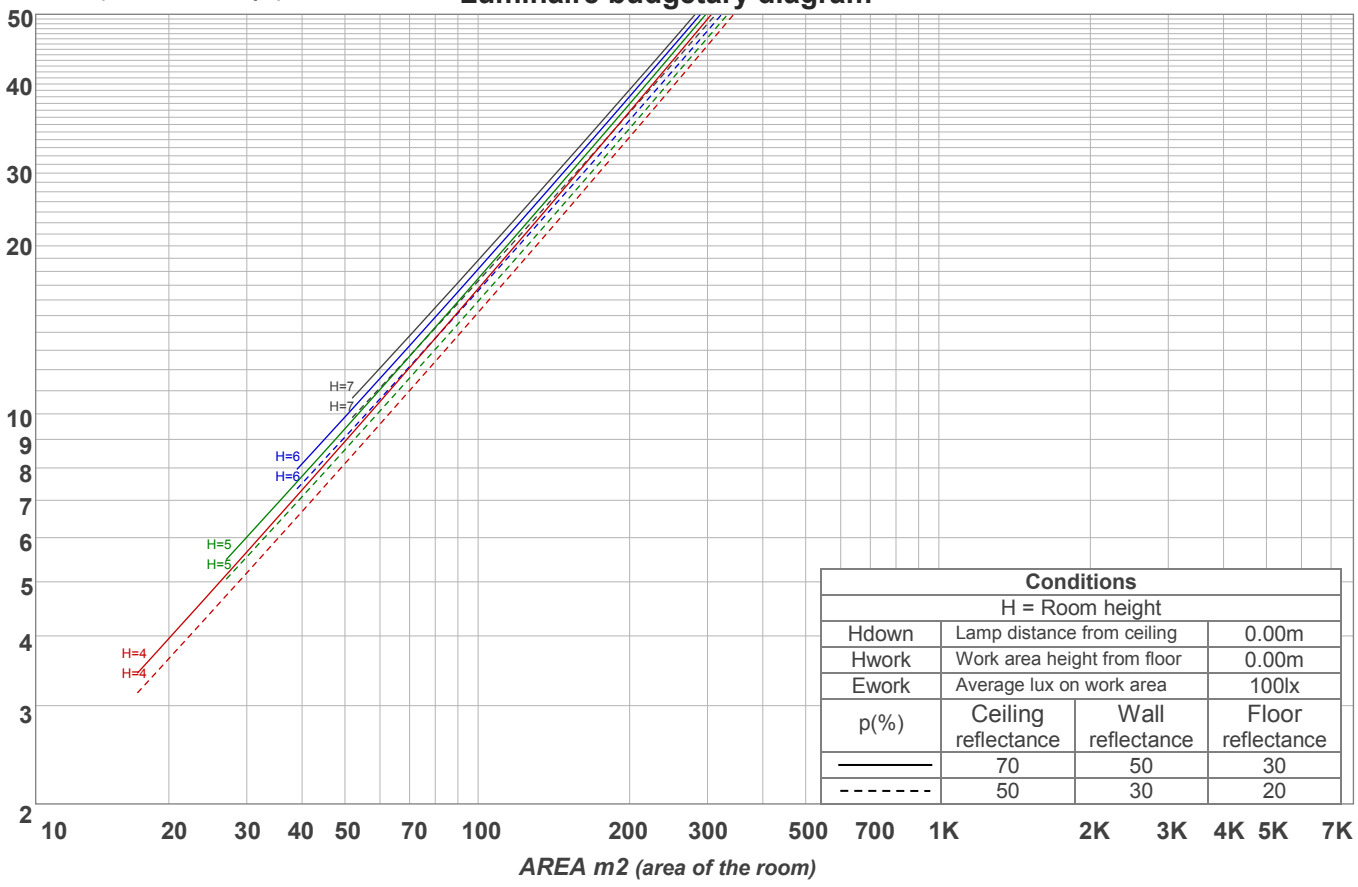
Glare Evaluation According to UGR

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	9,8	10,3	9,9	10,5	10,7	9,8	10,3	9,9	10,5	10,7
	3H	9,8	10,4	10,2	10,6	10,8	9,8	10,4	10,2	10,6	10,8
	4H	9,9	10,5	10,3	10,7	10,9	9,9	10,5	10,3	10,7	10,9
	6H	10,1	10,5	10,4	10,8	11,2	10,1	10,5	10,4	10,8	11,2
	8H	10,1	10,6	10,4	10,9	11,3	10,1	10,6	10,4	10,9	11,3
	12H	10,2	10,7	10,6	11,0	11,4	10,2	10,7	10,6	11,0	11,4
4H	2H	9,7	10,3	10,1	10,5	10,7	9,7	10,3	10,1	10,5	10,7
	3H	10,0	10,4	10,3	10,8	11,2	10,0	10,4	10,3	10,8	11,2
	4H	10,0	10,5	10,5	10,9	11,4	10,0	10,5	10,5	10,9	11,4
	6H	10,2	10,7	10,7	11,0	11,4	10,2	10,7	10,7	11,0	11,4
	8H	10,4	10,8	10,9	11,1	11,5	10,4	10,8	10,9	11,1	11,5
	12H	10,5	10,9	11,0	11,3	11,7	10,5	10,9	11,0	11,3	11,7
8H	4H	10,0	10,5	10,5	10,8	11,2	10,0	10,5	10,5	10,8	11,2
	6H	10,4	10,6	10,9	11,1	11,6	10,4	10,6	10,9	11,1	11,6
	8H	10,6	10,8	11,1	11,4	12,0	10,6	10,8	11,1	11,4	12,0
	12H	10,9	11,1	11,5	11,6	12,2	10,9	11,1	11,5	11,6	12,2
12H	4H	10,0	10,3	10,5	10,7	11,2	10,0	10,3	10,5	10,7	11,2
	6H	10,4	10,6	10,9	11,2	11,8	10,4	10,6	10,9	11,2	11,8
	8H	10,7	10,9	11,3	11,4	12,0	10,7	10,9	11,3	11,4	12,0
Variation of the observer position for the luminaire distance S											
S = 1.0H		2,5 / -1,4					2,5 / -1,4				
S = 1.5H		4,5 / -1,9					4,5 / -1,9				
S = 2.0H		6,2 / -2,5					6,2 / -2,5				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 688 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	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95
2	110	106	103	100	108	105	102	99	101	99	97	98	97	95	96	94	93	91
3	106	101	97	94	104	100	96	93	97	94	92	95	93	90	93	91	89	88
4	103	97	93	89	101	96	92	89	94	90	88	92	89	87	90	88	86	84
5	99	93	88	85	98	92	88	85	90	87	84	89	86	83	87	85	82	81
6	96	89	85	82	95	89	84	81	87	83	81	86	83	80	85	82	80	78
7	93	86	82	78	92	85	81	78	84	81	78	83	80	77	82	79	77	76
8	90	83	79	76	89	83	78	75	82	78	75	81	77	75	80	77	74	73
9	88	80	76	73	87	80	76	73	79	75	73	78	75	72	78	74	72	71
10	85	78	74	71	84	78	73	71	77	73	71	76	73	70	76	72	70	69

Luminaire budgetary diagram

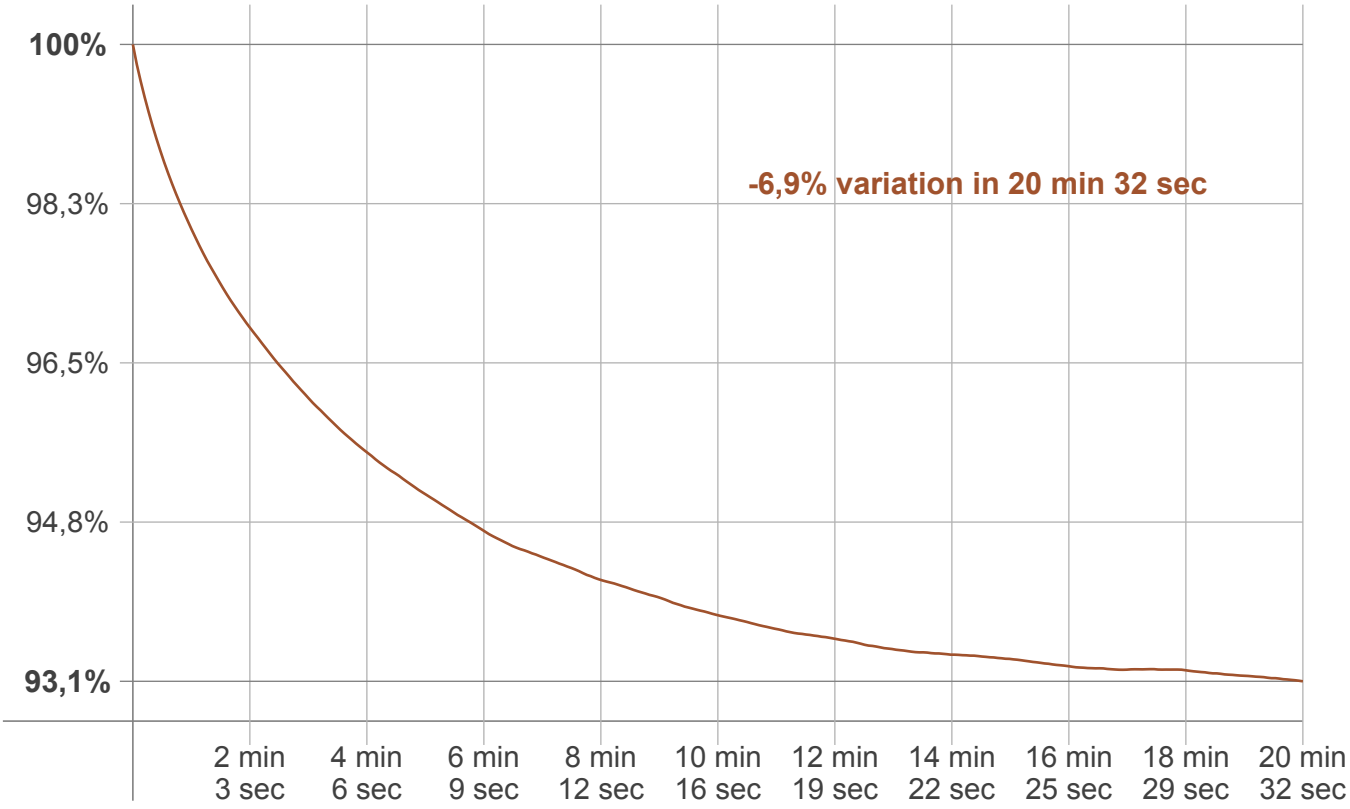


Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
224 lm	272 lm	119 lm	39,6 lm	14,9 lm	7,49 lm	3,72 lm	1,83 lm	1,13 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0,645 lm	0,600 lm	0,563 lm	0,509 lm	0,439 lm	0,356 lm	0,262 lm	0,161 lm	0,054 lm

Warmup curve



Warmup result

Warmup time:	**20 min 32 sec**
Warmup variation	**-6,9%**

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
3046 K	-48 K	2998 K

Output change

Output start	Output change	Output end
734 lm	-46 lm	688 lm