

Light efficiency:

121 Lumen/Watt

Light quality:

CRI: 94,5

Color temperature:

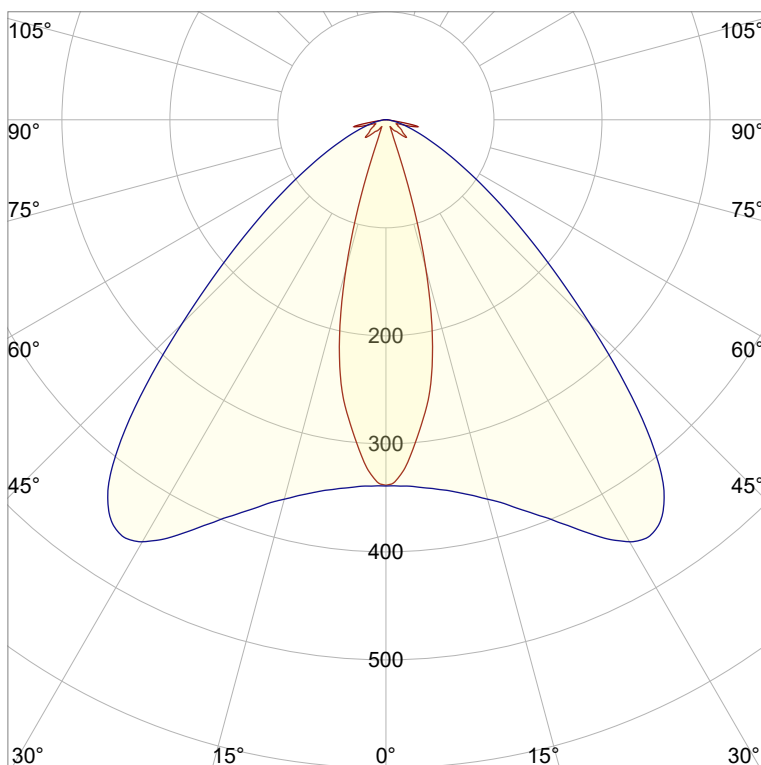
2758 K

Output: 292 lm

Peak: 456 cd

Power: 2,4 W

PF: 1,0



Product name:

Sta-Maria-6_510mm_927_Lens-30°-Transparent

Item number:

NP/L1C/01E/G1/L1C/0510/927/L3T

Date and time:

29.06.2022 10:42:36

Description:

Rank: C80-AD-8GB

Tolerances:

Lumen +/-4%

Candela +/-2,5%

Colour Temp +/-35 Kelvin

CRI +/-0,7

Angular Resolution: 1 Degree Step

Last Calibration 20-09-2021

Tester: Peter Ulrich

Test Site: Lichtlabor

Gaustrasse 13

55411 Bingen am Rhein

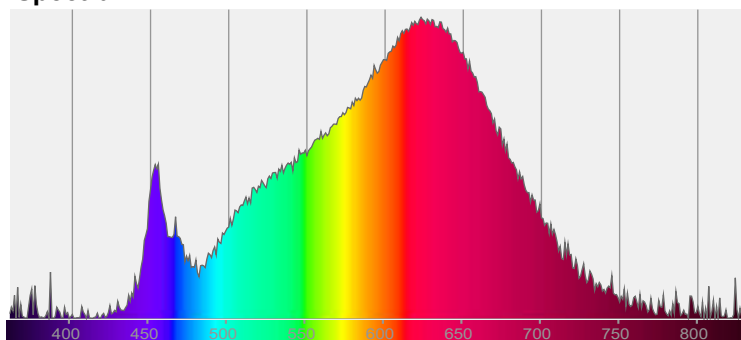


CIE 1931

x: 0,454

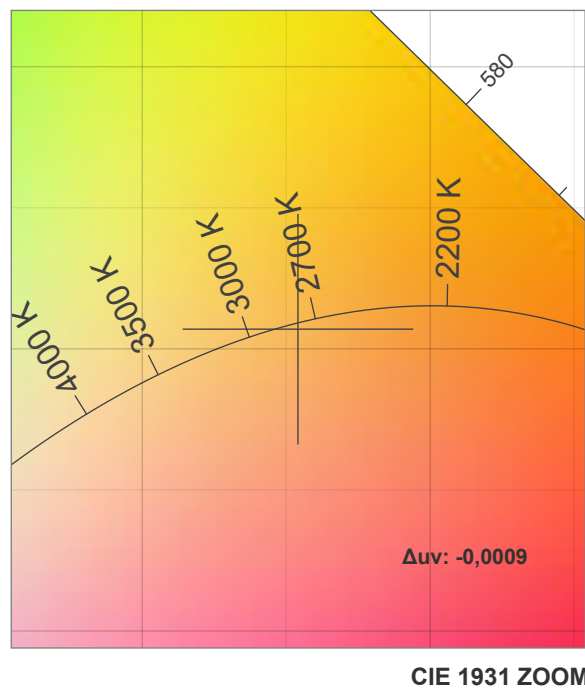
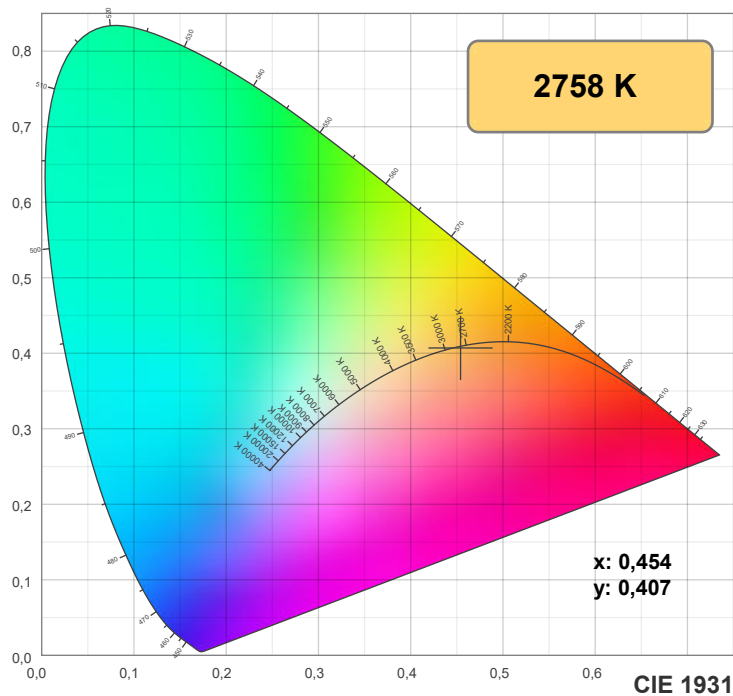
y: 0,407

Spectra

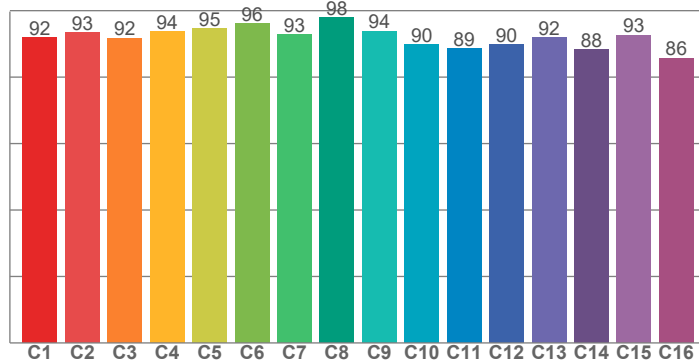


Power

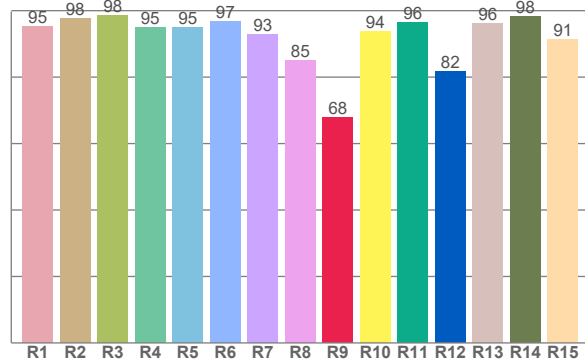
Voltage: 48,0 V
Current: 0,050 A
Frequency: 0 Hz



TM30: 92,0



CRI: 94,5 (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
95,3	97,8	98,5	95,1	95,0	96,7	92,9	85,2	67,7	93,8	96,4	81,7	96,2	98,4	91,5

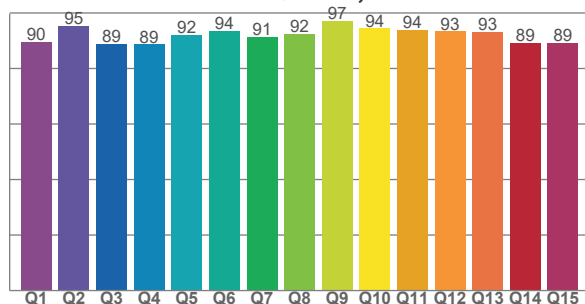
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
91,9	93,5	91,8	93,8	94,7	96,2	92,9	98,0	93,8	89,7	88,5	89,7	91,9	88,2	92,6	85,7

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
89,7	95,2	88,9	88,7	92,2	93,5	91,4	92,4	97,2	94,4	93,9	93,3	93,1	89,1	89,2

CQS: 91,6



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
2758 K	94,5	67,7	92,0	99,7	91,6	0,454	0,407	0,260	0,350	-0,0009

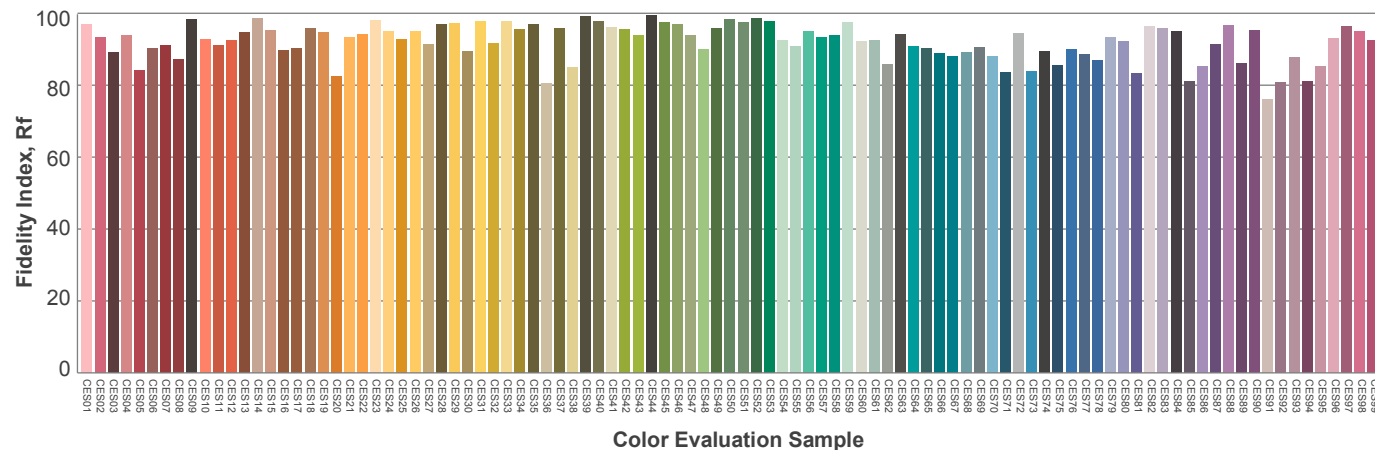
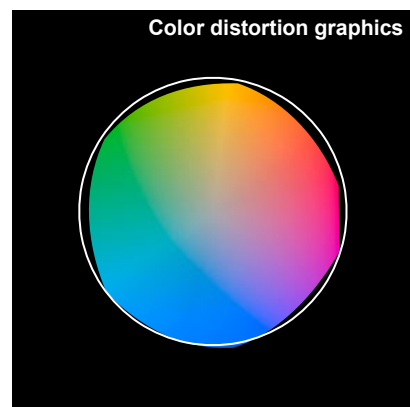
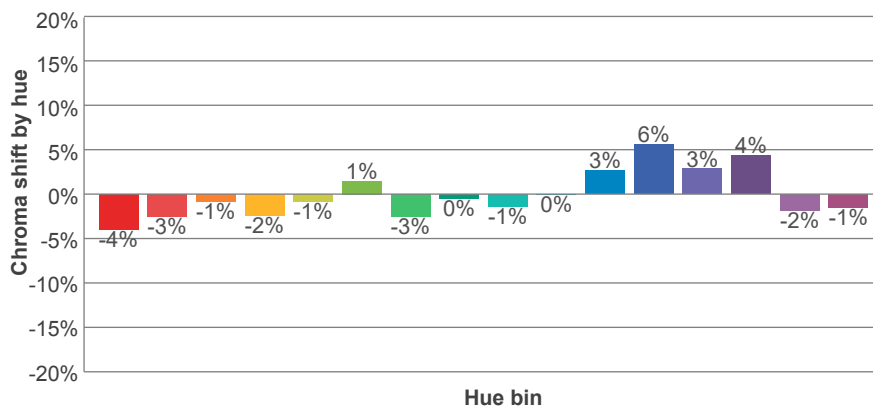
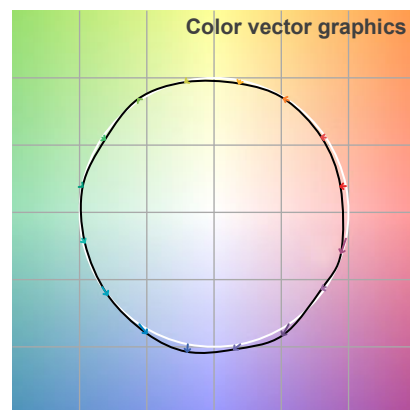
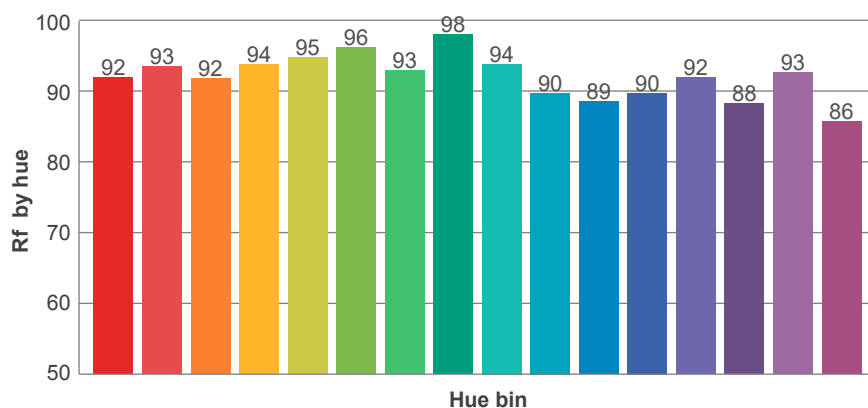
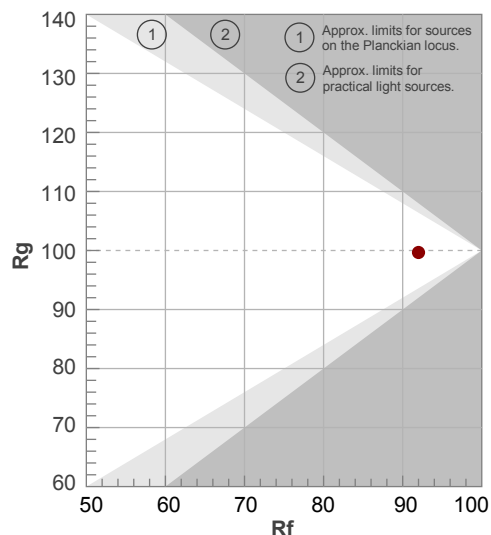
Rf 92,0

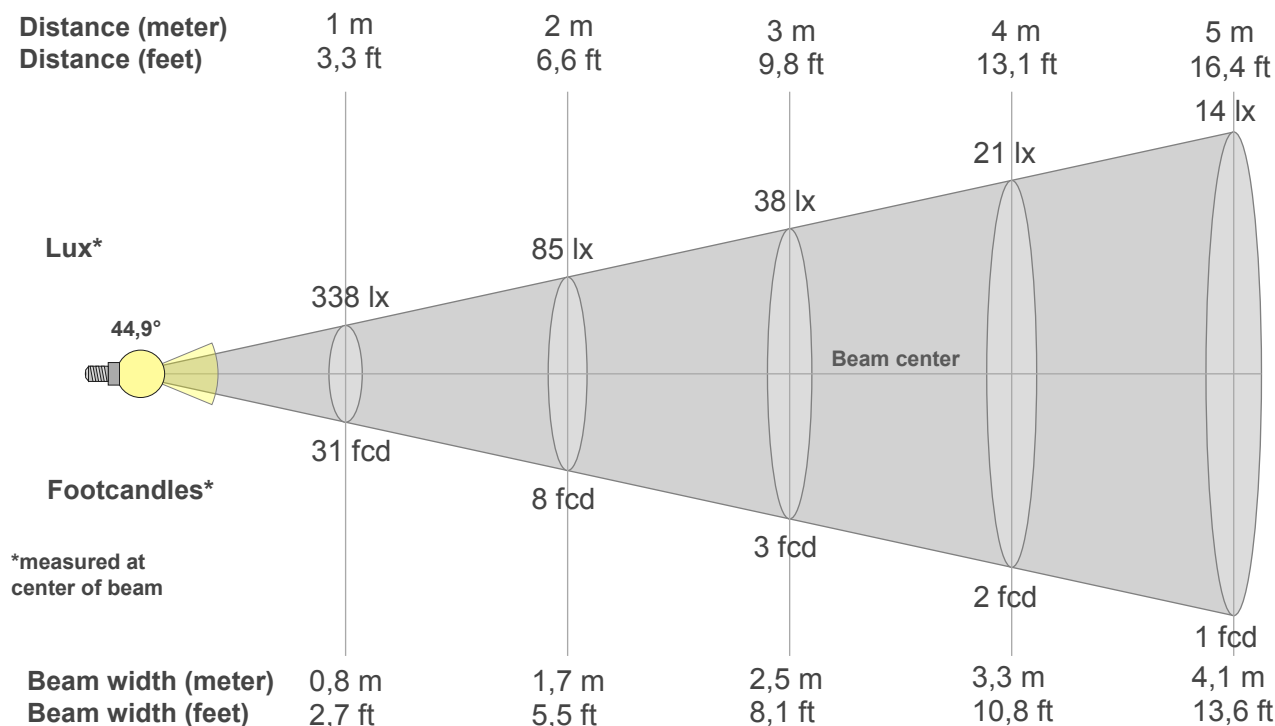
Fidelity index Rf

Rg 99,7

Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	92	-4%	1%
2	93	-3%	2%
3	92	-1%	4%
4	94	-2%	0%
5	95	-1%	2%
6	96	1%	0%
7	93	-3%	0%
8	98	0%	0%
9	94	-1%	3%
10	90	0%	7%
11	89	3%	8%
12	90	6%	1%
13	92	3%	-5%
14	88	4%	-8%
15	93	-2%	-3%
16	86	-1%	-11%





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
338lx	85lx	38lx	21lx	14lx	9lx	7lx	5lx	4lx	3lx	3lx	2lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx
31,4fcd	7,9fcd	3,5fcd	2fcd	1,3fcd	0,9fcd	0,6fcd	0,5fcd	0,4fcd	0,3fcd	0,3fcd	0,2fcd	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°
338	331	314	291	269	242	207	165	119	76	40	21	15	11	9	8	8	9	11	13
100%	98%	93%	86%	79%	71%	61%	49%	35%	22%	12%	6%	4%	3%	3%	2%	2%	3%	3%	4%

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°
338	339	340	343	345	349	354	360	367	376	386	397	411	425	440	451	456	452	438	413
100%	100%	101%	101%	102%	103%	105%	106%	108%	111%	114%	117%	121%	126%	130%	133%	135%	133%	129%	122%

Intensities in 180° c-plane

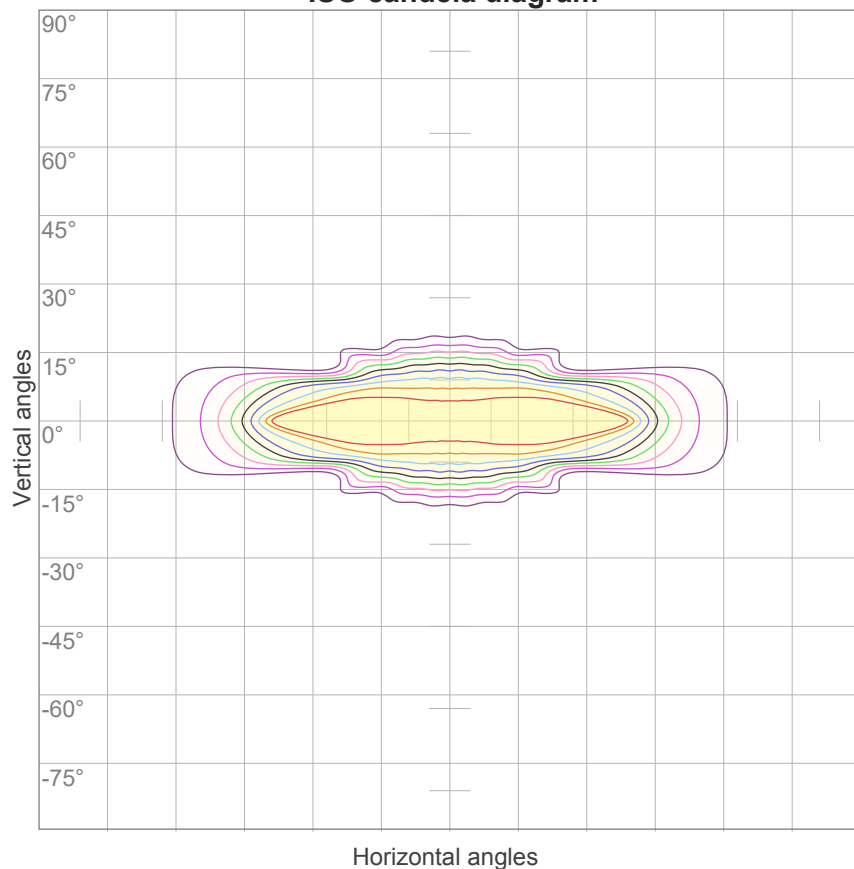
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
338	331	314	291	269	242	207	165	119	76	40	21	15	11	9	8	8	9	11	13
100%	98%	93%	86%	79%	71%	61%	49%	35%	22%	12%	6%	4%	3%	3%	2%	2%	3%	3%	4%

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°
338	339	340	343	345	349	354	360	367	376	386	397	411	425	440	451	456	452	438	413
100%	100%	101%	101%	102%	103%	105%	106%	108%	111%	114%	117%	121%	126%	130%	133%	135%	133%	129%	122%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
44,9°	61°	158,9°	86,6%	71,8%

ISO candela diagram



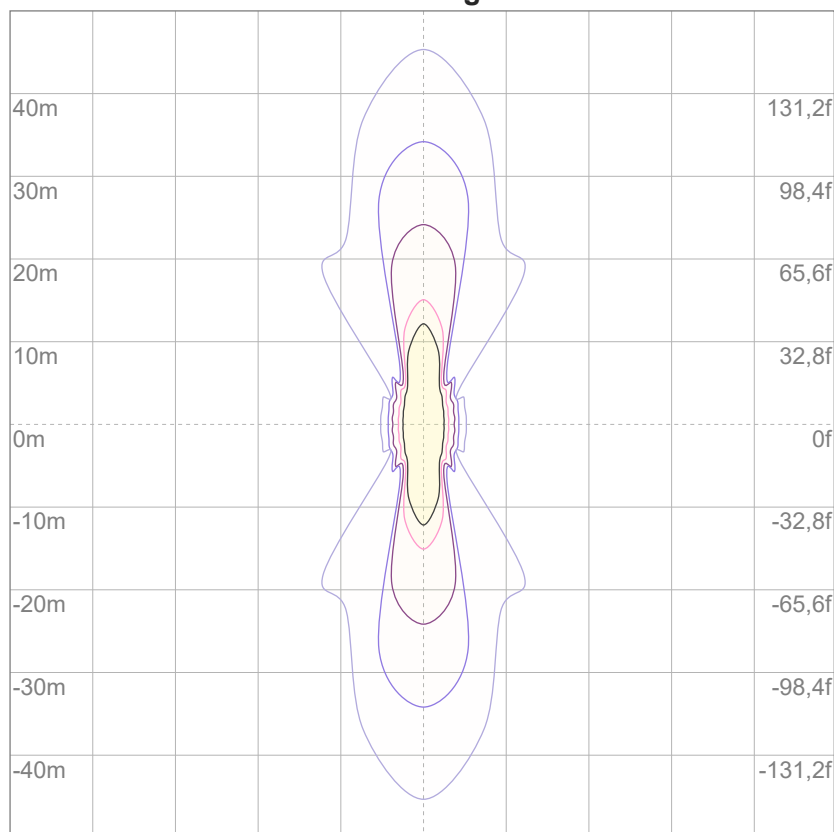
10%	34 cd
20%	68 cd
30%	102 cd
40%	135 cd
50%	169 cd
60%	203 cd
70%	237 cd
80%	271 cd
90%	305 cd

Conditions:

Number of c-planes: 16

Candela at center: 338 cd

ISO lux diagram



3%	0,102 lx
5%	0,169 lx
10%	0,338 lx
30%	1,02 lx
50%	1,69 lx

Conditions:

Number of c-planes: 16

Lux at center: 3,38 lx

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

Glare Evaluation According to UGR

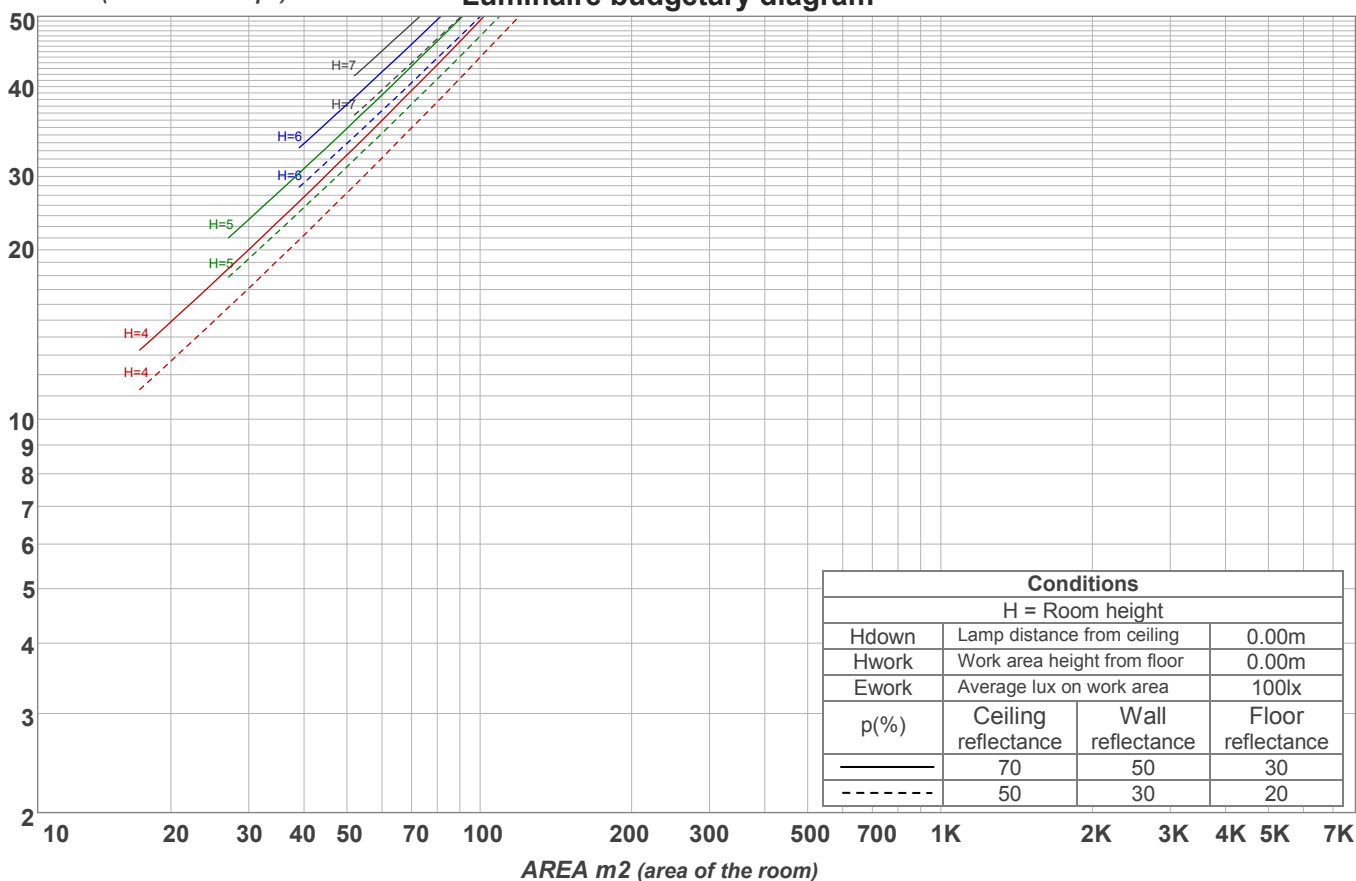
p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	9,9	10,8	10,0	11,1	11,3	21,0	21,9	21,2	22,2	22,4
	3H	11,3	12,3	11,7	12,5	12,7	21,4	22,4	21,8	22,6	22,8
	4H	13,7	14,7	14,1	14,9	15,1	21,5	22,5	21,9	22,7	23,0
	6H	17,1	17,9	17,4	18,2	18,6	21,7	22,5	22,0	22,8	23,2
	8H	17,3	18,1	17,6	18,4	18,8	21,7	22,5	22,0	22,8	23,2
	12H	17,3	18,1	17,6	18,4	18,8	21,7	22,4	22,0	22,8	23,2
4H	2H	10,4	11,3	10,8	11,6	11,8	20,7	21,6	21,1	21,9	22,1
	3H	12,1	12,9	12,5	13,3	13,7	21,2	22,0	21,6	22,4	22,8
	4H	14,8	15,5	15,2	15,9	16,5	21,3	22,1	21,8	22,5	23,0
	6H	18,4	19,1	18,9	19,5	19,9	21,5	22,2	22,0	22,6	22,9
	8H	18,7	19,4	19,2	19,7	20,1	21,5	22,2	22,0	22,5	22,9
	12H	18,7	19,3	19,2	19,7	20,1	21,5	22,1	22,0	22,5	23,0
8H	4H	15,1	15,8	15,6	16,2	16,5	21,3	21,9	21,8	22,3	22,7
	6H	19,1	19,6	19,6	20,0	20,6	21,5	22,0	22,0	22,4	23,0
	8H	19,6	20,0	20,1	20,5	21,1	21,6	22,0	22,1	22,5	23,2
	12H	19,6	20,0	20,2	20,5	21,1	21,6	22,0	22,2	22,5	23,1
12H	4H	15,2	15,7	15,7	16,1	16,6	21,3	21,8	21,8	22,2	22,7
	6H	19,2	19,6	19,7	20,2	20,8	21,6	22,0	22,1	22,5	23,2
	8H	19,7	20,1	20,3	20,6	21,2	21,7	22,1	22,3	22,6	23,2
Variation of the observer position for the luminaire distance S											
S = 1.0H		0,0 / 0,0					2,2 / -2,6				
S = 1.5H		0,1 / -0,1					4,2 / -3,9				
S = 2.0H		0,2 / -0,3					5,8 / -4,7				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 292 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	98
1	110	106	103	100	107	104	101	98	99	97	94	95	93	91	92	90	88	86
2	103	96	90	86	100	94	89	85	90	86	83	87	84	80	84	81	78	76
3	96	87	81	75	93	86	80	75	83	78	73	80	76	72	77	74	71	69
4	90	80	73	67	88	79	72	67	76	70	66	74	69	65	72	67	64	62
5	84	74	66	61	82	73	66	61	70	65	60	69	63	59	67	62	58	57
6	79	68	61	56	78	67	61	55	66	60	55	64	59	54	62	58	54	52
7	75	64	56	51	73	63	56	51	61	55	51	60	54	50	59	54	50	48
8	71	60	53	48	69	59	52	48	58	51	47	56	51	47	55	50	47	45
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	44	42
10	64	53	46	42	63	52	46	42	51	45	41	50	45	41	49	44	41	39

LAMPS (number of lamps)

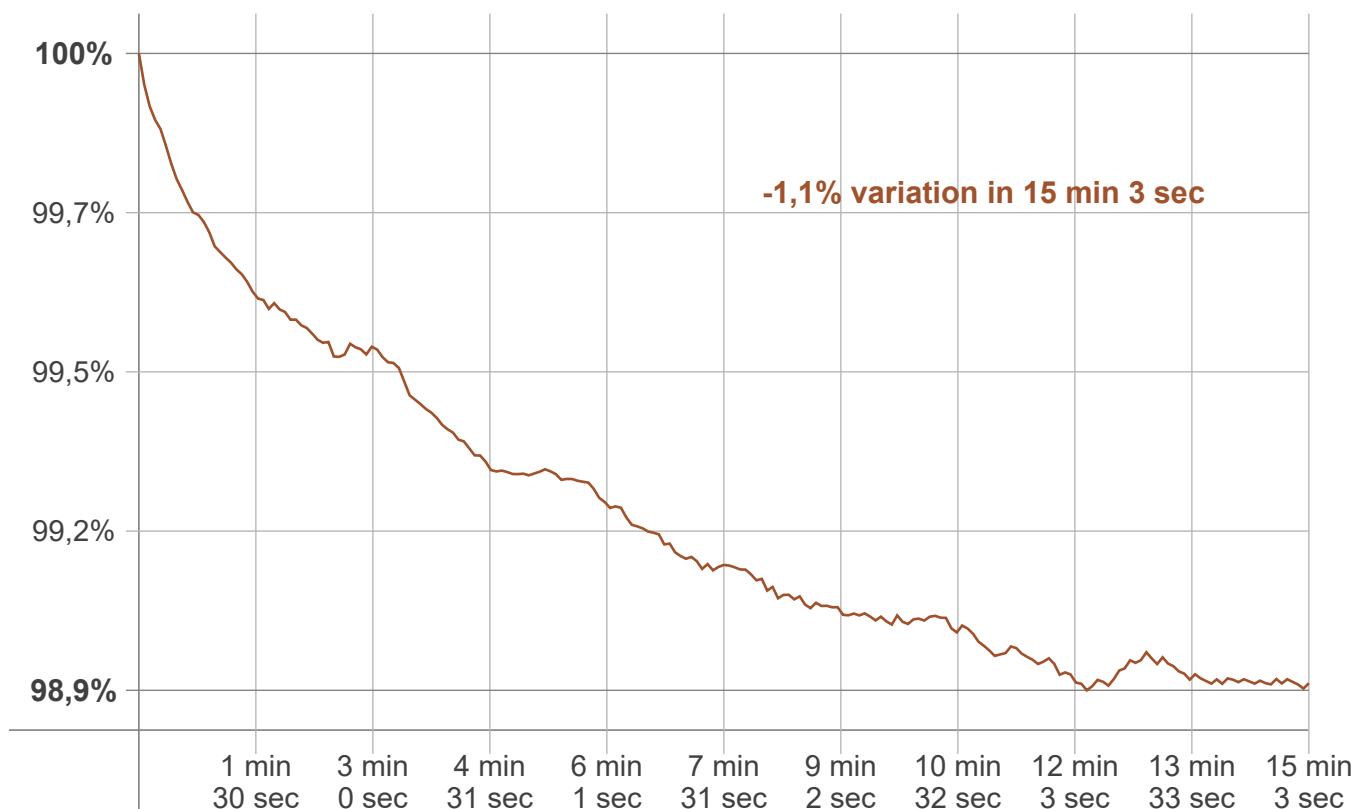
Luminaire budgetary diagram



Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
29,5 lm	64,3 lm	54,4 lm	42,2 lm	35,7 lm	26,2 lm	15,2 lm	12,3 lm	6,86 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
1,35 lm	0,806 lm	0,699 lm	0,632 lm	0,489 lm	0,357 lm	0,263 lm	0,161 lm	0,054 lm

Warmup curve



Warmup result

Warmup time:	Lamp stabilized in 15 min 3 sec
Warmup variation	-1,1%

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
2759 K	-1 K	2758 K

Output change

Output start	Output change	Output end
294 lm	-2 lm	292 lm