

### Light efficiency:

**67 Lumen/Watt**

### Light quality:

**CRI: 35,6**

### Color temperature:

**12052 K**

**Output: 580 lm**

**Peak: 240 cd**

**Power: 8,6 W**

**PF: 1,0**



### Product name:

**Defiant-0508-RGB-L9F**

### Item number:

**FLNP/L22A0508/RGB/L9F**

### Date and time:

**07.07.2020 11:49:24**

### Description:

**Rank: R2G2B4/RC2GA2BA5/A**

**Toleranzen:**

**Lumen +/-4%**

**Candela +/-2,5%**

**Colour Temp +/-35 K**

**CRI +/-0,7**

**Angular Resolution 1 Grad Step**

**Last Calibration 20.05.2020**

**Pruefer:**

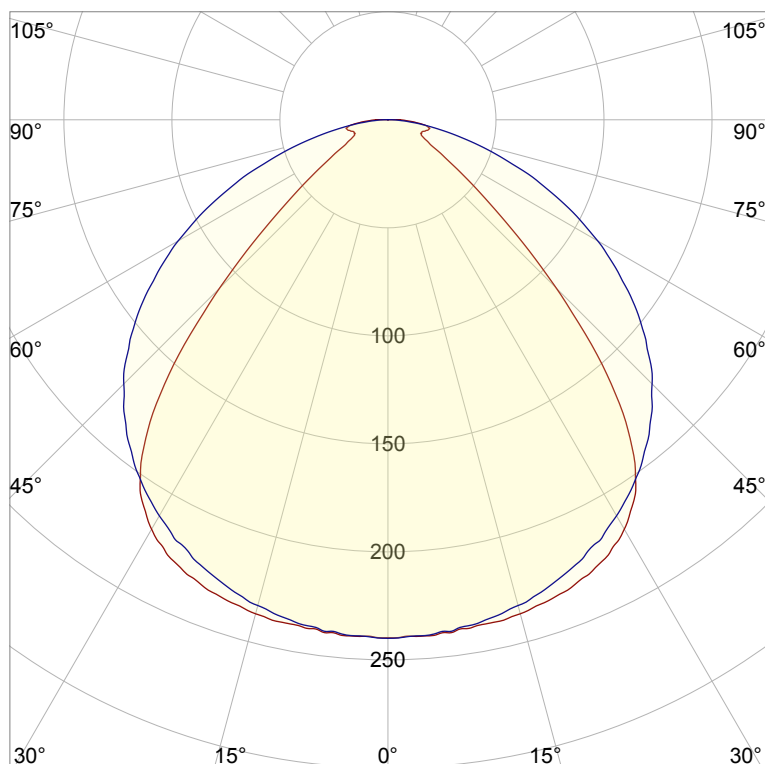
**Peter Ulrich**

**Pruefort:**

**Lichtlabor**

**Gaustrasse 13**

**55411 Bingen am Rhein**

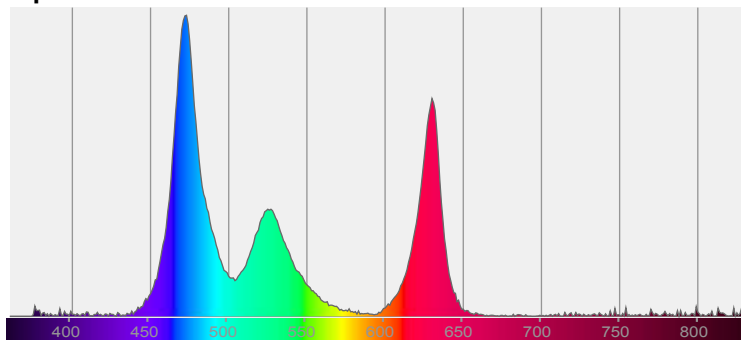


**CIE 1931**

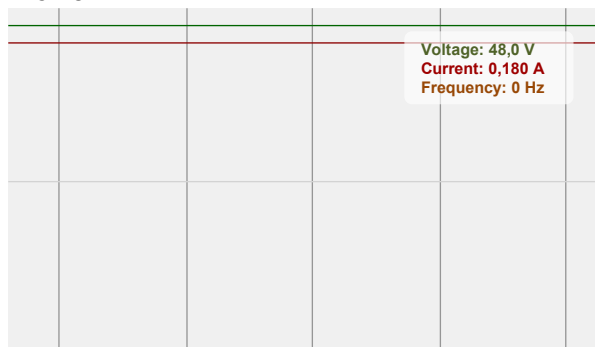
**x: 0,266**

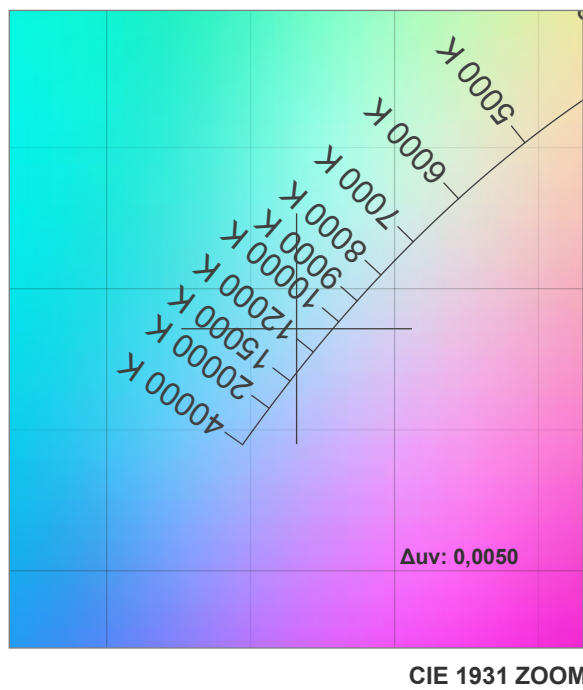
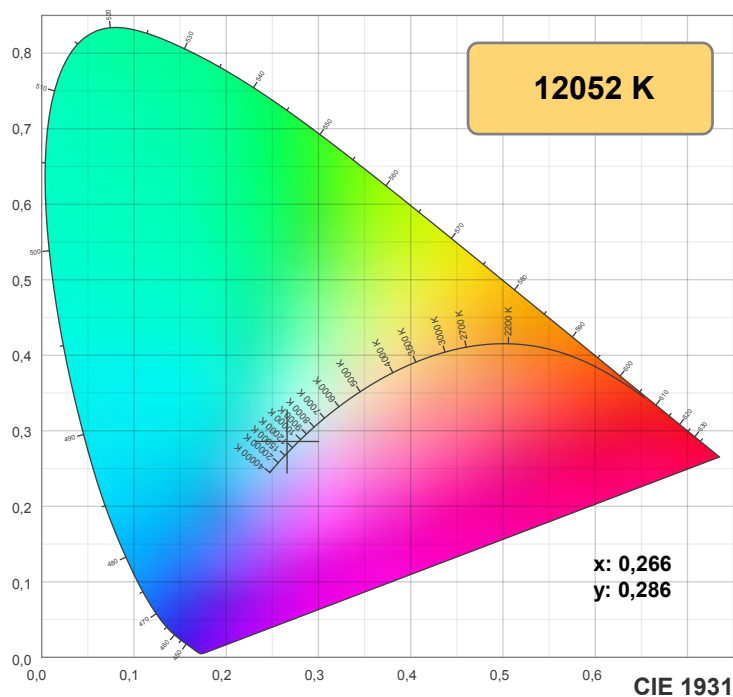
**y: 0,286**

### Spectra



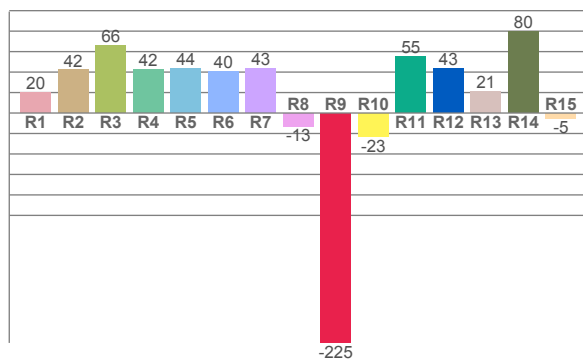
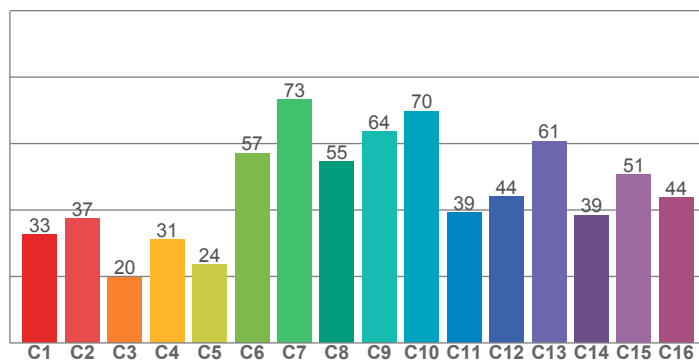
### Power





**TM30: 44,9**

**CRI: 35,6 (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
20,3	42,1	66,0	42,4	43,7	40,3	43,2	-13,1	-224,6	-23,4	55,2	43,5	21,4	79,7	-5,1

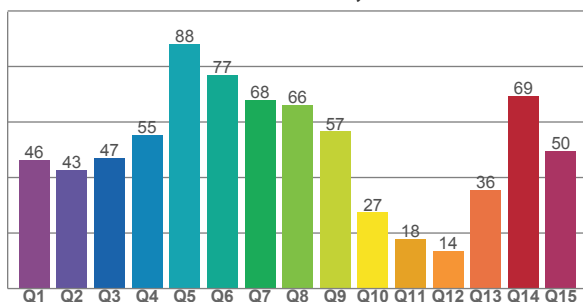
**TM30 C values, 16 binned values out of total of 99 C values**

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
32,7	37,4	19,8	31,1	23,5	57,1	73,3	54,6	63,6	69,8	39,2	44,1	60,7	38,5	50,7	43,8

**CQS Q values**

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
46,4	42,8	46,9	55,3	88,2	76,9	67,9	66,3	56,6	27,4	18,0	13,6	35,5	69,4	49,6

**CQS: 46,1**



## 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
12052 K	35,6	-224,6	44,9	87,9	46,1	0,266	0,286	0,180	0,291	0,0050

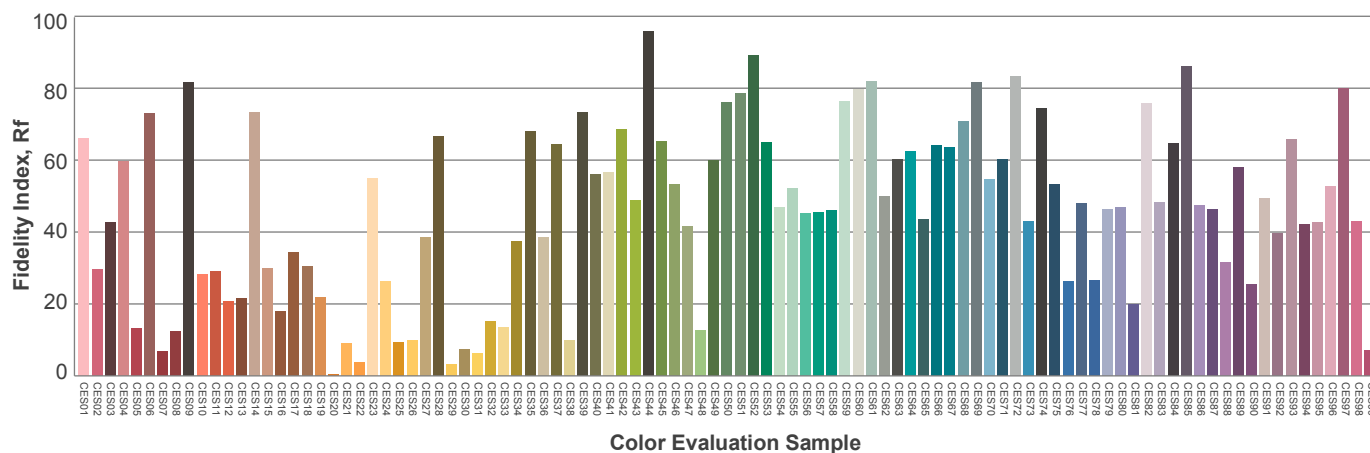
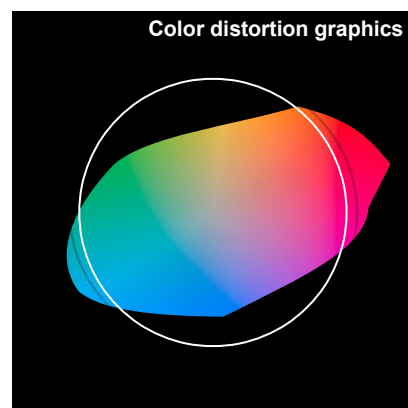
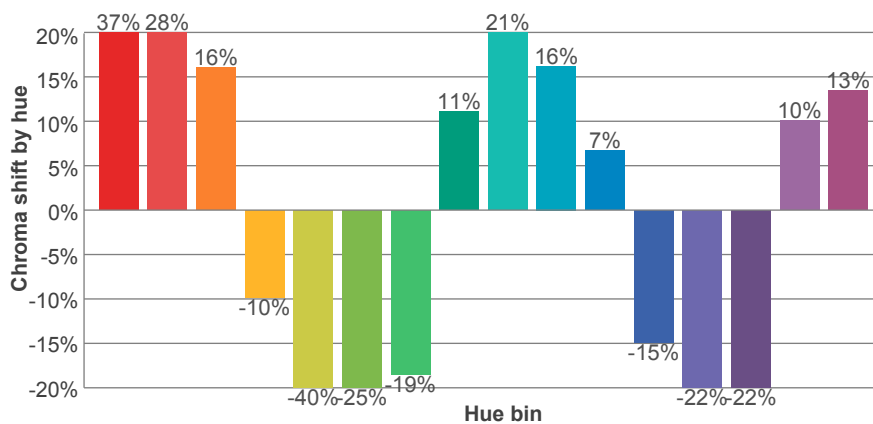
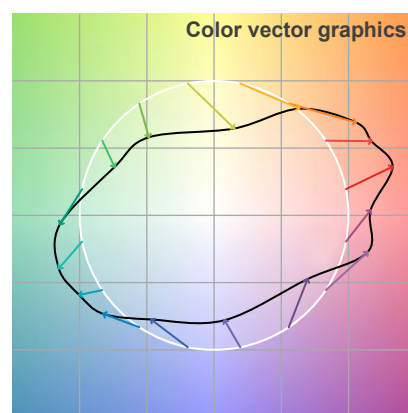
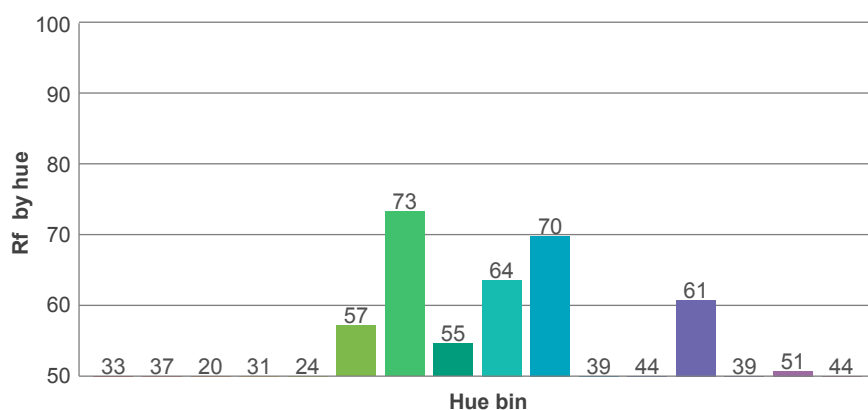
**Rf 44,9**

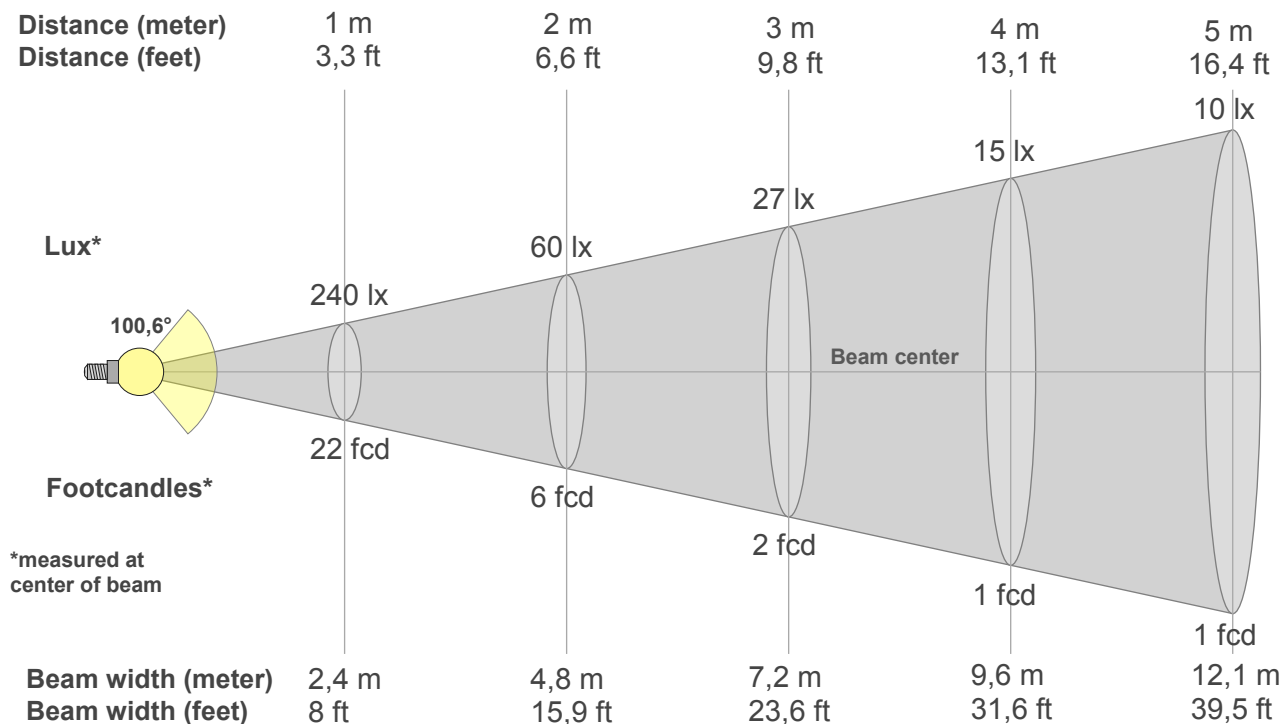
Fidelity index Rf

**Rg 87,9**

Gamut index Rg

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	33	37%	10%
2	37	28%	-19%
3	20	16%	-49%
4	31	-10%	-47%
5	24	-40%	-27%
6	57	-25%	8%
7	73	-19%	11%
8	55	11%	29%
9	64	21%	16%
10	70	16%	-7%
11	39	7%	-28%
12	44	-15%	-31%
13	61	-22%	-8%
14	39	-22%	31%
15	51	10%	41%
16	44	13%	27%





## 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
240lx	60lx	27lx	15lx	10lx	7lx	5lx	4lx	3lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx
22,3fcd	5,6fcd	2,5fcd	1,4fcd	0,9fcd	0,6fcd	0,5fcd	0,3fcd	0,3fcd	0,2fcd	0,2fcd	0,2fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd

## Intensities in 0° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
240	240	238	237	233	228	219	200	162	110	65	37	22	17	17	19	19	12	4	0
100%	100%	99%	99%	97%	95%	91%	83%	68%	46%	27%	16%	9%	7%	7%	8%	8%	5%	2%	0%

## Intensities in 90° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
240	239	237	233	227	220	212	201	188	173	155	134	112	88	63	41	22	9	1	0
100%	100%	99%	97%	95%	92%	88%	84%	79%	72%	65%	56%	47%	37%	26%	17%	9%	4%	1%	0%

## Intensities in 180° c-plane

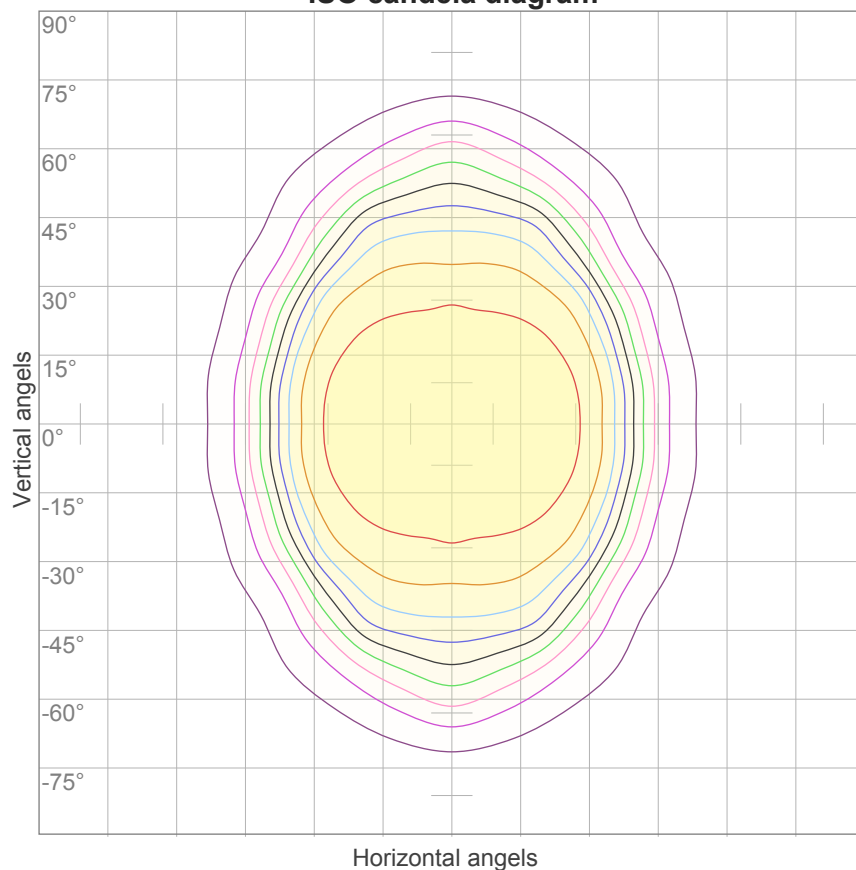
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
240	240	238	237	233	228	219	200	162	110	65	37	22	17	17	19	19	12	4	0
100%	100%	99%	99%	97%	95%	91%	83%	68%	46%	27%	16%	9%	7%	7%	8%	8%	5%	2%	0%

## Intensities in 270° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
240	239	237	233	227	220	212	201	188	173	155	134	112	88	63	41	22	9	1	0
100%	100%	99%	97%	95%	92%	88%	84%	79%	72%	65%	56%	47%	37%	26%	17%	9%	4%	1%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
100,6°	135,2°	178,6°	87,4%	65,8%

### ISO candela diagram



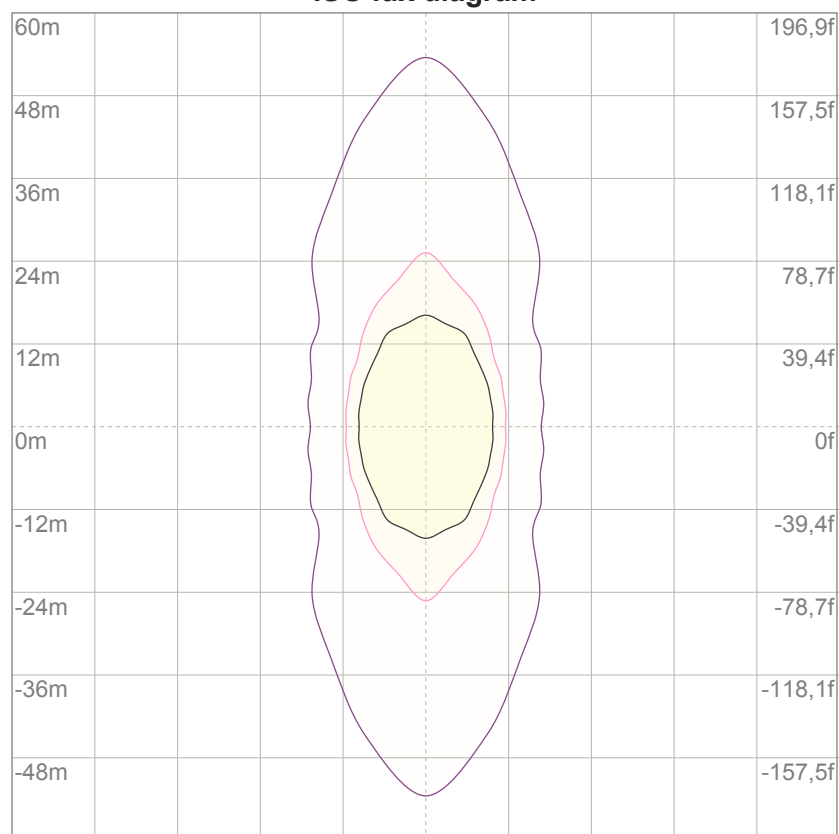
10%	24 cd
20%	48 cd
30%	72 cd
40%	96 cd
50%	120 cd
60%	144 cd
70%	168 cd
80%	192 cd
90%	216 cd

#### Conditions:

Number of c-planes: 16

Candela at center: 240 cd

### ISO lux diagram



3%	71,9m lx
5%	0,120 lx
10%	0,240 lx
30%	0,719 lx
50%	1,20 lx

#### Conditions:

Number of c-planes: 16

Lux at center: 2,40 lx

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

### Glare Evaluation According to UGR

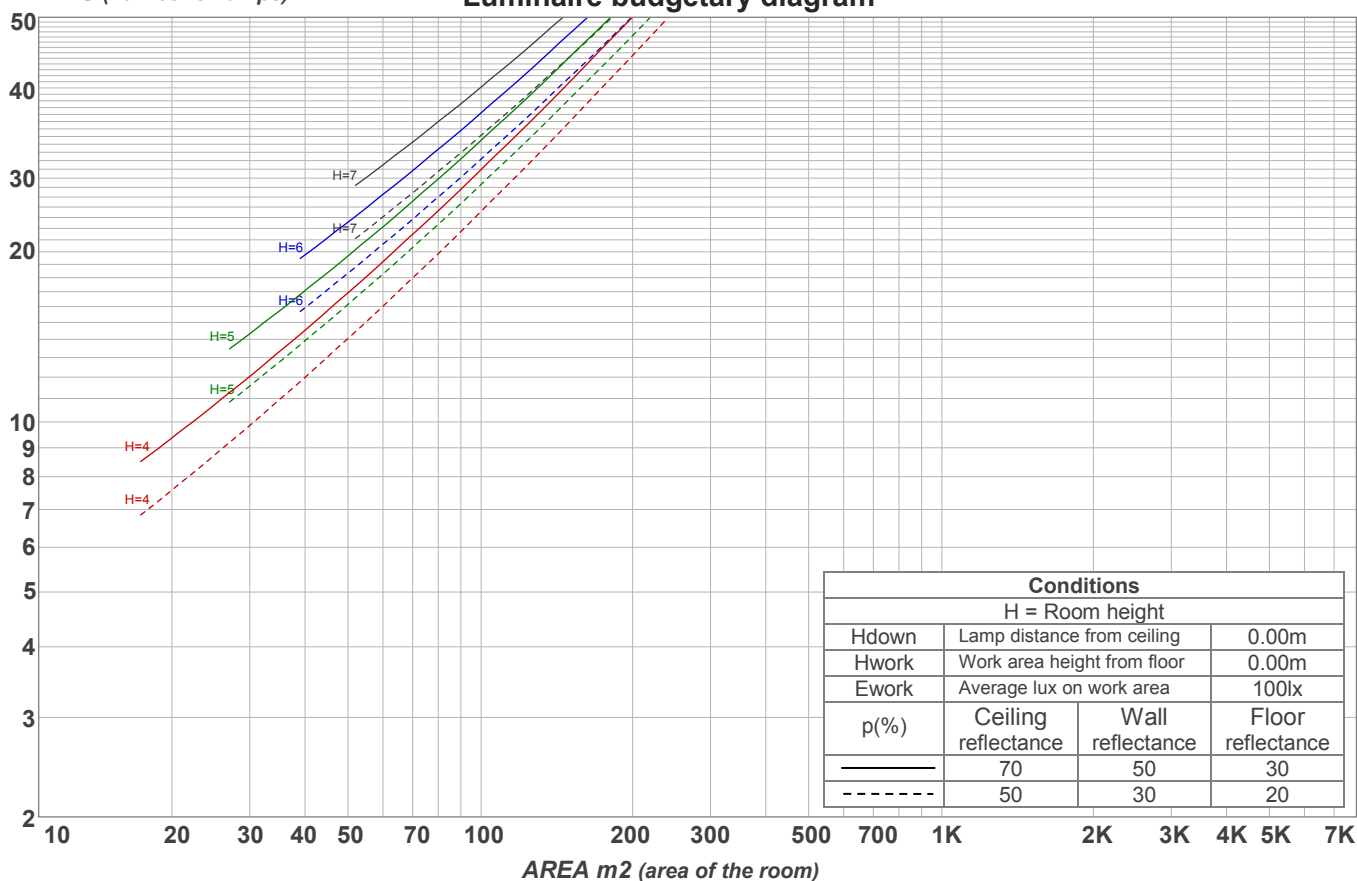
p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X      Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	17,7	18,7	17,9	19,0	19,3	22,6	23,7	22,8	24,0	24,2
	3H	17,7	18,9	18,1	19,1	19,3	23,7	24,8	24,1	25,1	25,3
	4H	18,0	19,1	18,4	19,3	19,6	24,1	25,2	24,5	25,5	25,7
	6H	18,5	19,4	18,8	19,7	20,1	24,5	25,4	24,8	25,7	26,1
	8H	18,7	19,7	19,1	20,0	20,4	24,6	25,5	24,9	25,8	26,2
	12H	18,9	19,8	19,3	20,1	20,6	24,6	25,5	25,0	25,8	26,3
4H	2H	18,0	19,1	18,4	19,4	19,6	22,4	23,5	22,8	23,8	24,0
	3H	18,3	19,2	18,7	19,5	20,0	23,7	24,6	24,1	24,9	25,4
	4H	18,6	19,4	19,0	19,8	20,4	24,2	25,0	24,6	25,4	25,9
	6H	19,2	20,0	19,7	20,4	20,7	24,6	25,4	25,1	25,7	26,1
	8H	19,6	20,3	20,1	20,7	21,0	24,7	25,4	25,2	25,8	26,2
	12H	19,8	20,4	20,3	20,9	21,3	24,8	25,4	25,3	25,8	26,3
8H	4H	18,8	19,5	19,3	19,9	20,3	24,1	24,8	24,6	25,2	25,6
	6H	19,6	20,2	20,1	20,6	21,2	24,6	25,1	25,1	25,6	26,1
	8H	20,1	20,6	20,7	21,1	21,8	24,8	25,2	25,3	25,8	26,4
	12H	20,5	20,9	21,1	21,4	22,1	24,9	25,3	25,5	25,8	26,4
12H	4H	18,8	19,4	19,3	19,8	20,3	24,1	24,7	24,6	25,1	25,6
	6H	19,7	20,2	20,2	20,7	21,4	24,6	25,0	25,1	25,6	26,2
	8H	20,3	20,7	20,9	21,2	21,8	24,8	25,2	25,4	25,7	26,3
Variation of the observer position for the luminaire distance S											
S = 1.0H		0,5 / -0,8					0,1 / -0,2				
S = 1.5H		1,3 / -1,3					0,8 / -1,2				
S = 2.0H		2,2 / -1,6					1,7 / -2,3				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 580 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	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	94	88	83	99	92	86	82	88	84	80	85	81	78	82	79	76	74
3	93	84	76	70	91	82	75	70	79	73	69	77	72	67	74	70	66	64
4	86	75	67	61	84	74	66	60	71	65	60	69	63	59	67	62	58	56
5	80	68	59	53	78	67	59	53	65	58	52	63	57	52	61	56	51	49
6	74	61	53	47	72	60	53	47	59	52	46	57	51	46	56	50	46	44
7	69	56	48	42	67	55	47	42	54	47	41	52	46	41	51	45	41	39
8	64	51	43	38	63	51	43	38	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	59	47	39	34	45	39	34	44	38	34	43	38	33	32
10	56	44	36	31	55	43	36	31	42	35	31	41	35	31	40	35	31	29

LAMPS (number of lamps)

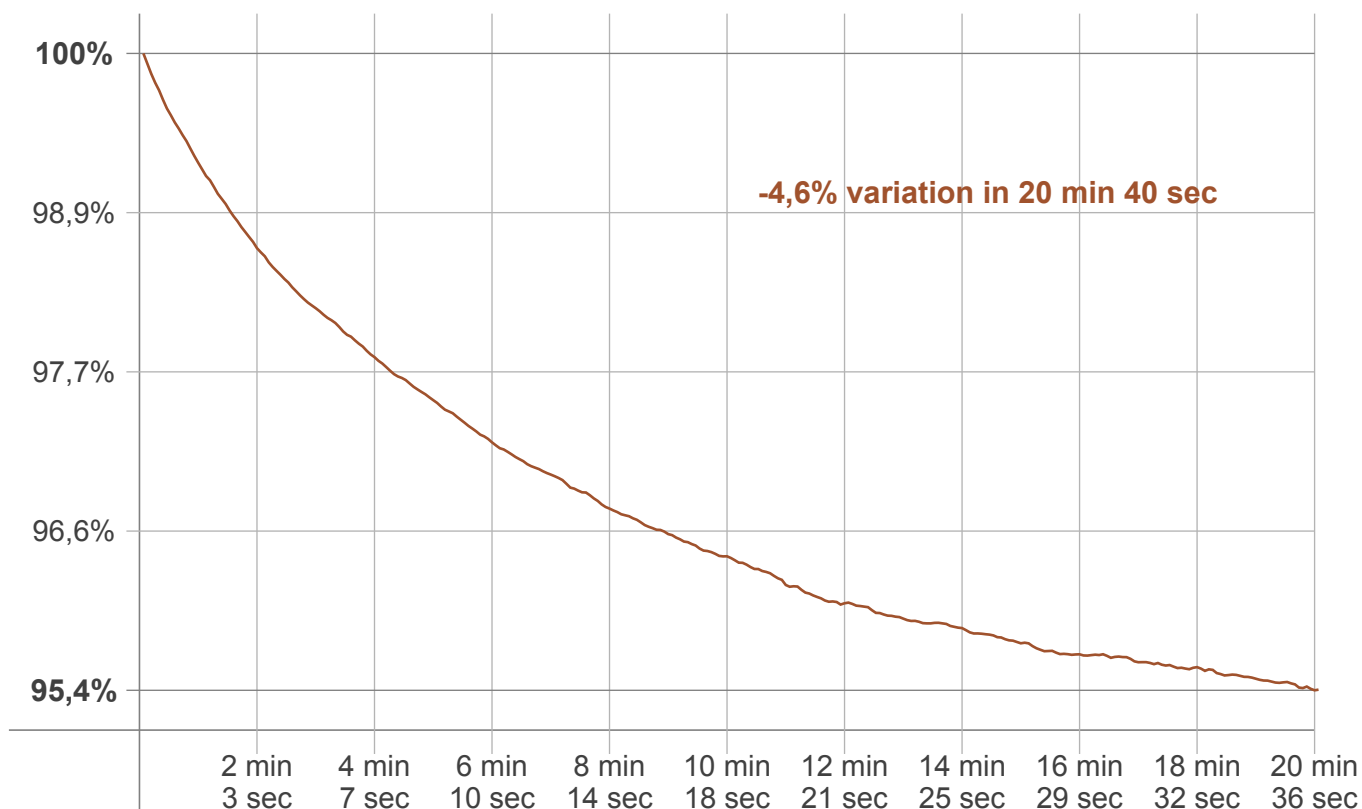
## Luminaire budgetary diagram



## Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
22,7 lm	66,3 lm	104 lm	127 lm	115 lm	72,6 lm	38,7 lm	22,2 lm	12,2 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0,019 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:	20 min 40 sec
Warmup variation	-4,6%

### Warmup conditions

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

### Color temperature change

CCT start	CCT change	CCT end
11399 K	+653 K	12052 K

### Output change

Output start	Output change	Output end
606 lm	-26 lm	580 lm