

Light efficiency:

71 Lumen/Watt

Light quality:

CRI: 36,3

Color temperature:

11910 K

Output: 613 lm

Peak: 259 cd

Power: 8,6 W

PF: 1,0



Product name:

Defiant-0508-RGB-L9T

Item number:

FLNP/L22A0508/RGB/L9T

Date and time:

06.07.2020 13:31:36

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:

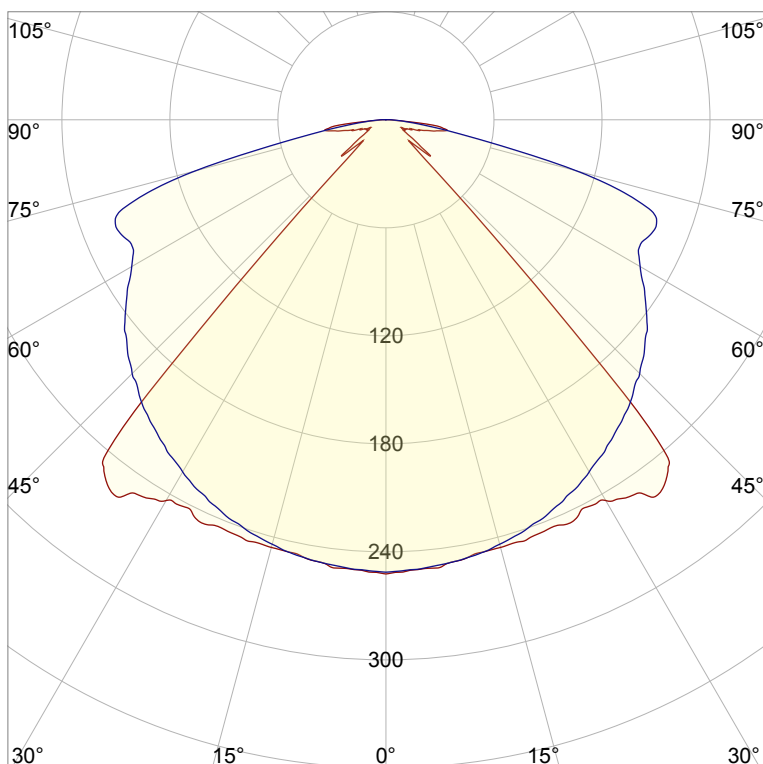
Peter Ulrich

Pruefort:

Lichtlabor

Gaustrasse 13

55411 Bingen am Rhein

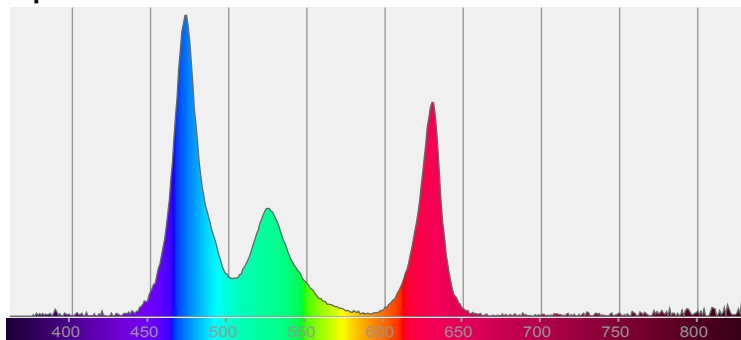


CIE 1931

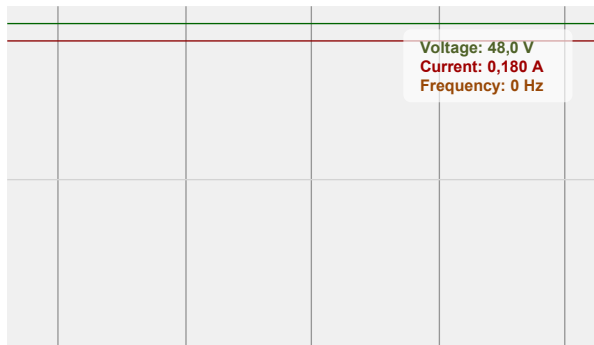
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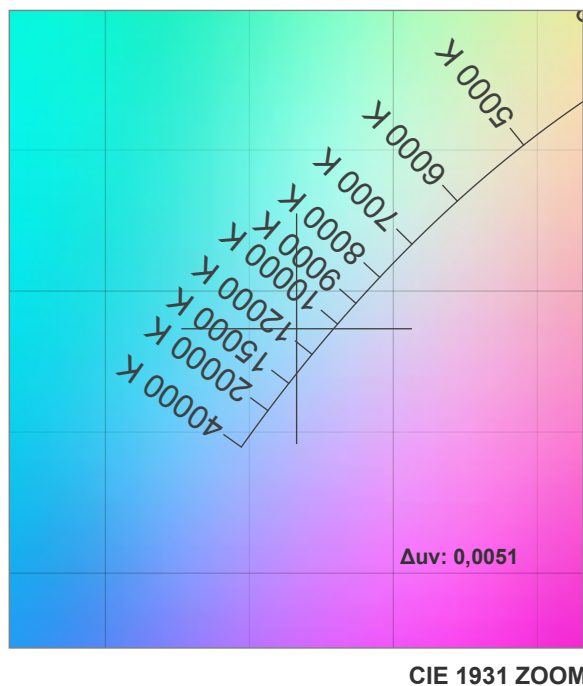
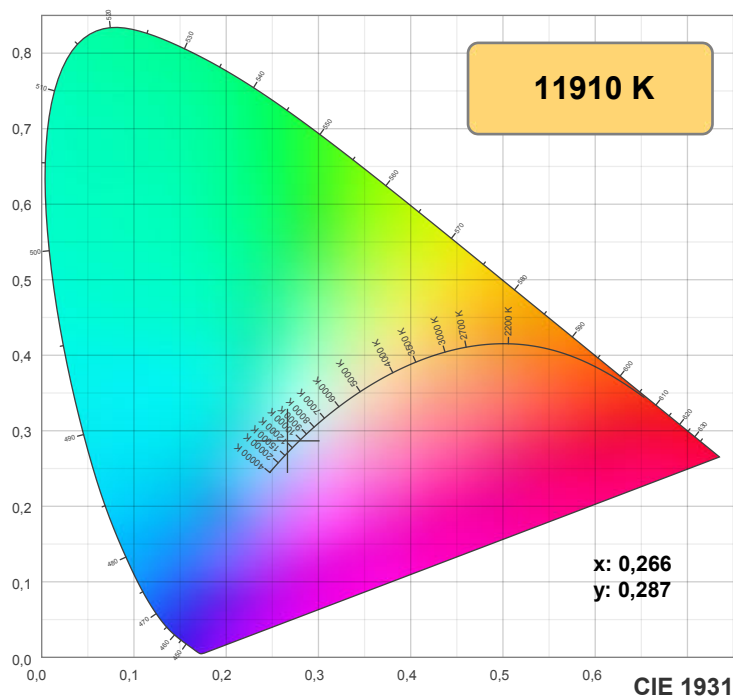
y: 0,287

Spectra



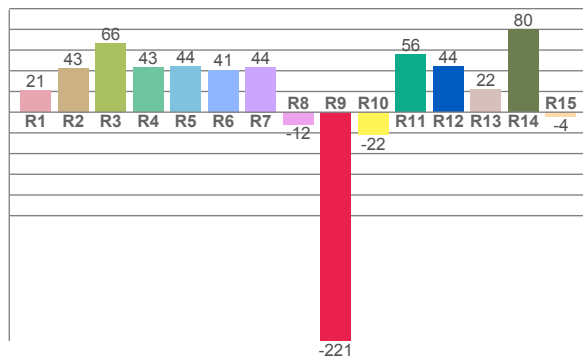
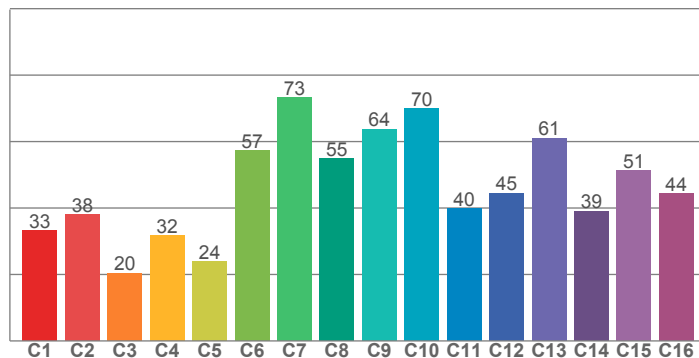
Power





TM30: 45,3

CRI: 36,3 (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
21,1	42,7	66,5	43,0	44,4	40,9	43,7	-11,9	-221,0	-21,8	55,7	44,0	22,2	80,0	-3,9

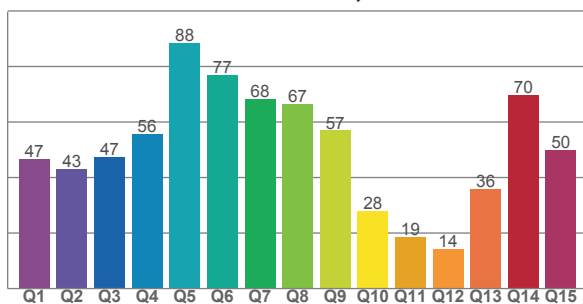
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
33,3	38,0	20,4	31,7	23,9	57,4	73,3	54,9	63,8	70,0	39,7	44,5	61,1	39,1	51,3	44,3

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
46,7	43,2	47,5	55,8	88,4	76,9	68,2	66,5	56,9	28,1	18,7	14,1	36,0	69,8	50,0

CQS: 46,5



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
11910 K	36,3	-221,0	45,3	88,0	46,5	0,266	0,287	0,180	0,291	0,0051

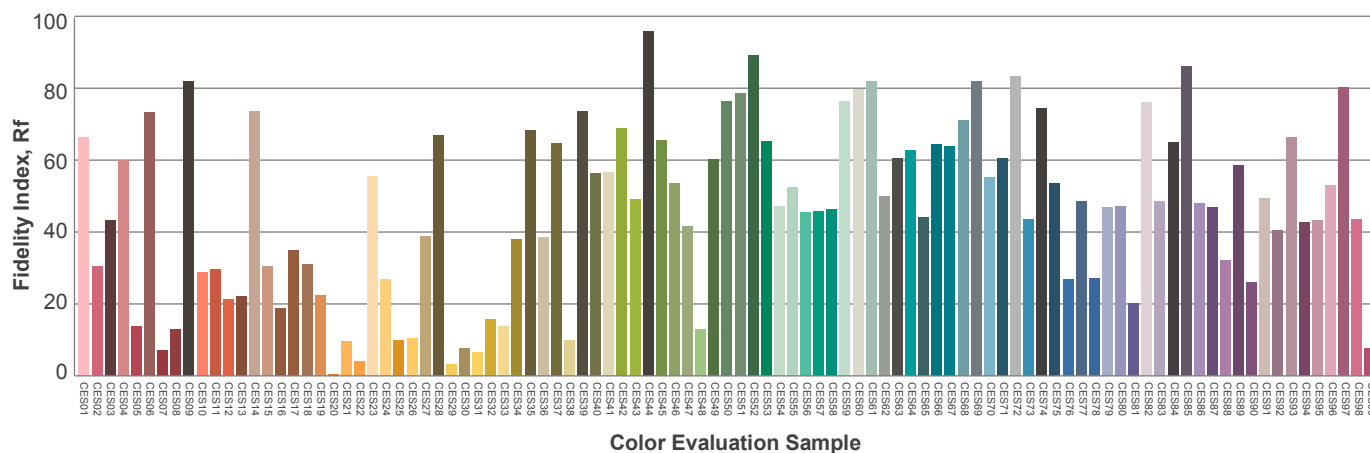
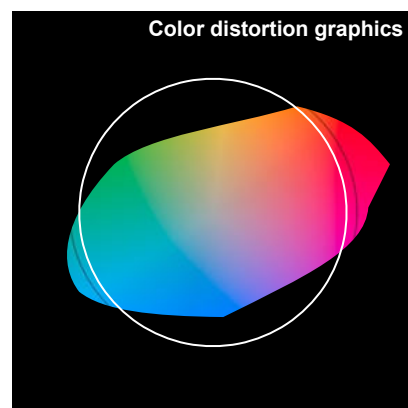
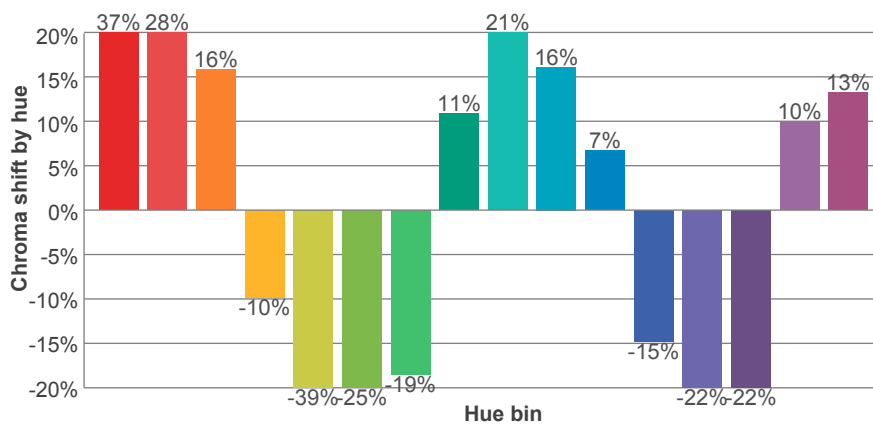
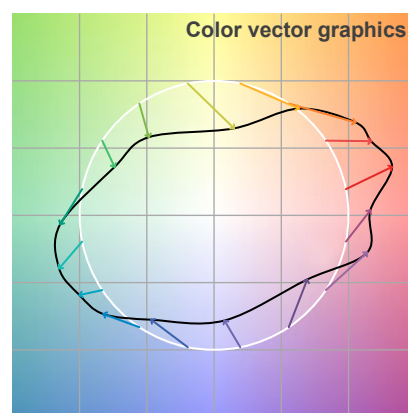
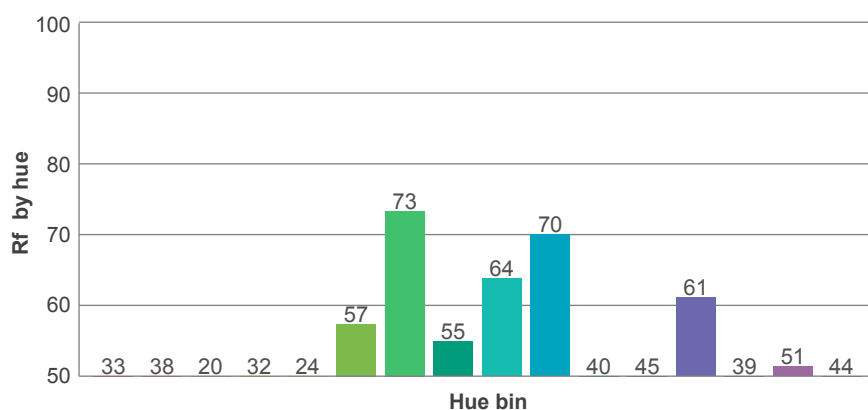
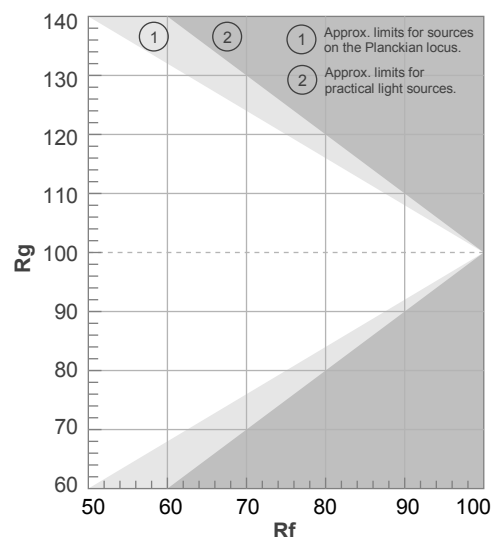
Rf 45,3

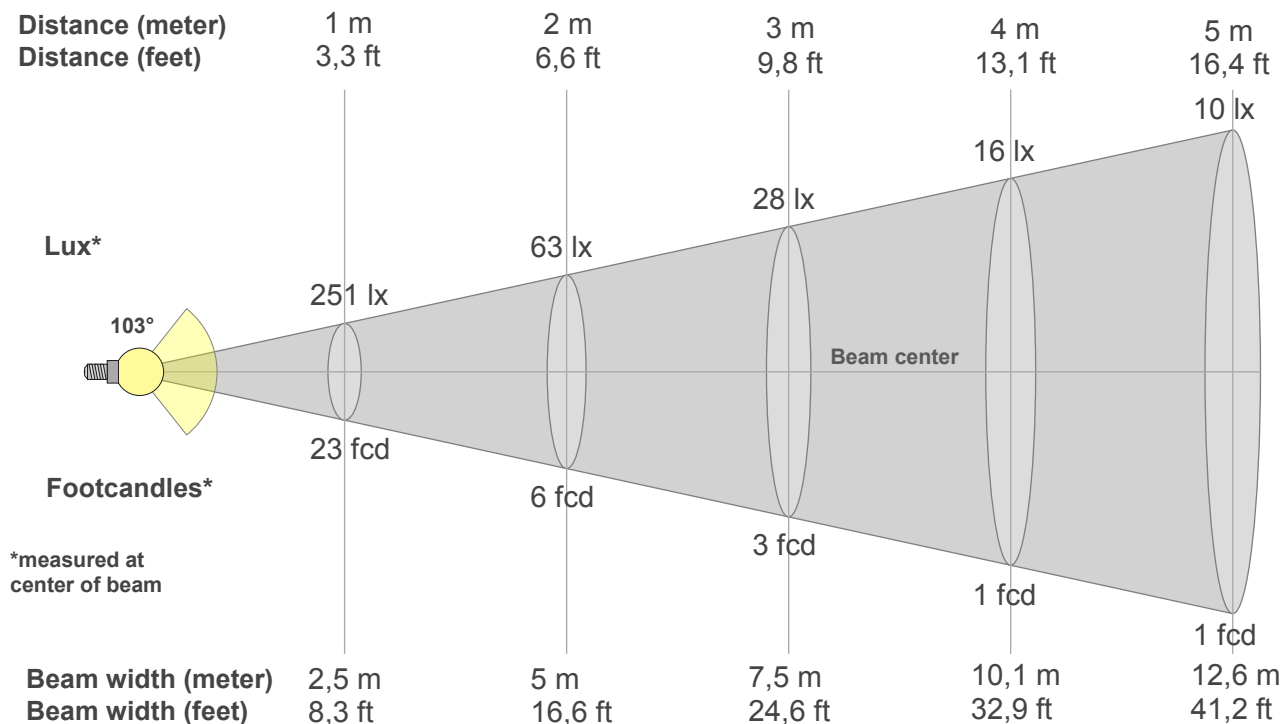
Fidelity index Rf

Rg 88,0

Gamut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	33	37%	10%
2	38	28%	-19%
3	20	16%	-49%
4	32	-10%	-46%
5	24	-39%	-27%
6	57	-25%	8%
7	73	-19%	11%
8	55	11%	29%
9	64	21%	16%
10	70	16%	-6%
11	40	7%	-28%
12	45	-15%	-31%
13	61	-22%	-8%
14	39	-22%	31%
15	51	10%	40%
16	44	13%	26%





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
251lx	63lx	28lx	16lx	10lx	7lx	5lx	4lx	3lx	3lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx
23,3fcd	5,8fcd	2,6fcd	1,5fcd	0,9fcd	0,6fcd	0,5fcd	0,4fcd	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°
251	250	248	246	245	246	244	255	240	29	29	18	11	12	14	23	34	13	1	0
100%	100%	99%	98%	98%	98%	97%	102%	96%	12%	11%	7%	4%	5%	6%	9%	14%	5%	1%	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°
251	250	248	244	239	233	226	218	209	199	188	176	163	158	160	109	35	10	2	0
100%	99%	99%	97%	95%	93%	90%	87%	83%	79%	75%	70%	65%	63%	64%	43%	14%	4%	1%	0%

Intensities in 180° c-plane

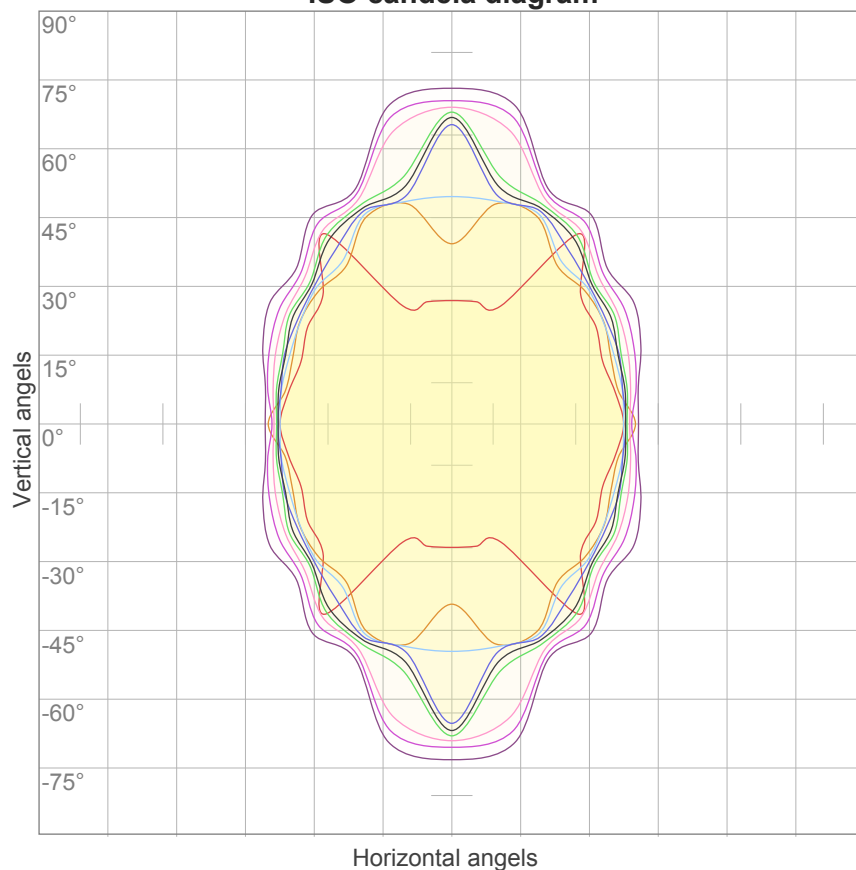
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
251	250	248	246	245	246	244	255	240	29	29	18	11	12	14	23	34	13	1	0
100%	100%	99%	98%	98%	98%	97%	102%	96%	12%	11%	7%	4%	5%	6%	9%	14%	5%	1%	0%

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°
251	250	248	244	239	233	226	218	209	199	188	176	163	158	160	109	35	10	2	0
100%	99%	99%	97%	95%	93%	90%	87%	83%	79%	75%	70%	65%	63%	64%	43%	14%	4%	1%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
103°	140,1°	167,5°	88,8%	69,0%

ISO candela diagram



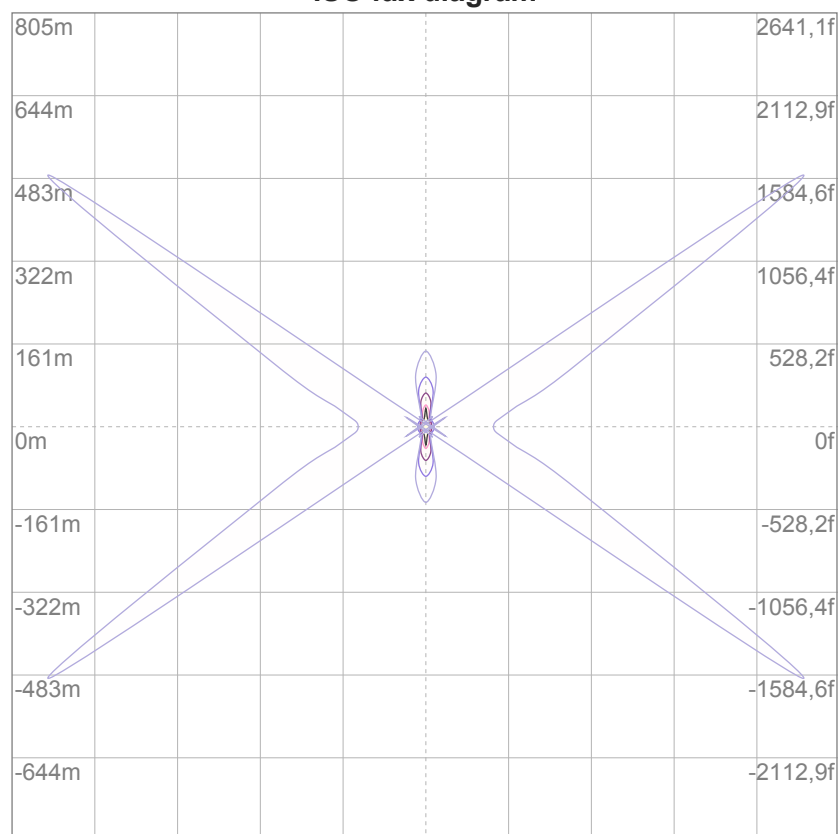
10%	25 cd
20%	50 cd
30%	75 cd
40%	100 cd
50%	126 cd
60%	151 cd
70%	176 cd
80%	201 cd
90%	226 cd

Conditions:

Number of c-planes: 16

Candela at center: 251 cd

ISO lux diagram



3%	75,4m lx
5%	0,126 lx
10%	0,251 lx
30%	0,754 lx
50%	1,26 lx

Conditions:

Number of c-planes: 16

Lux at center: 2,51 lx

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

Glare Evaluation According to UGR

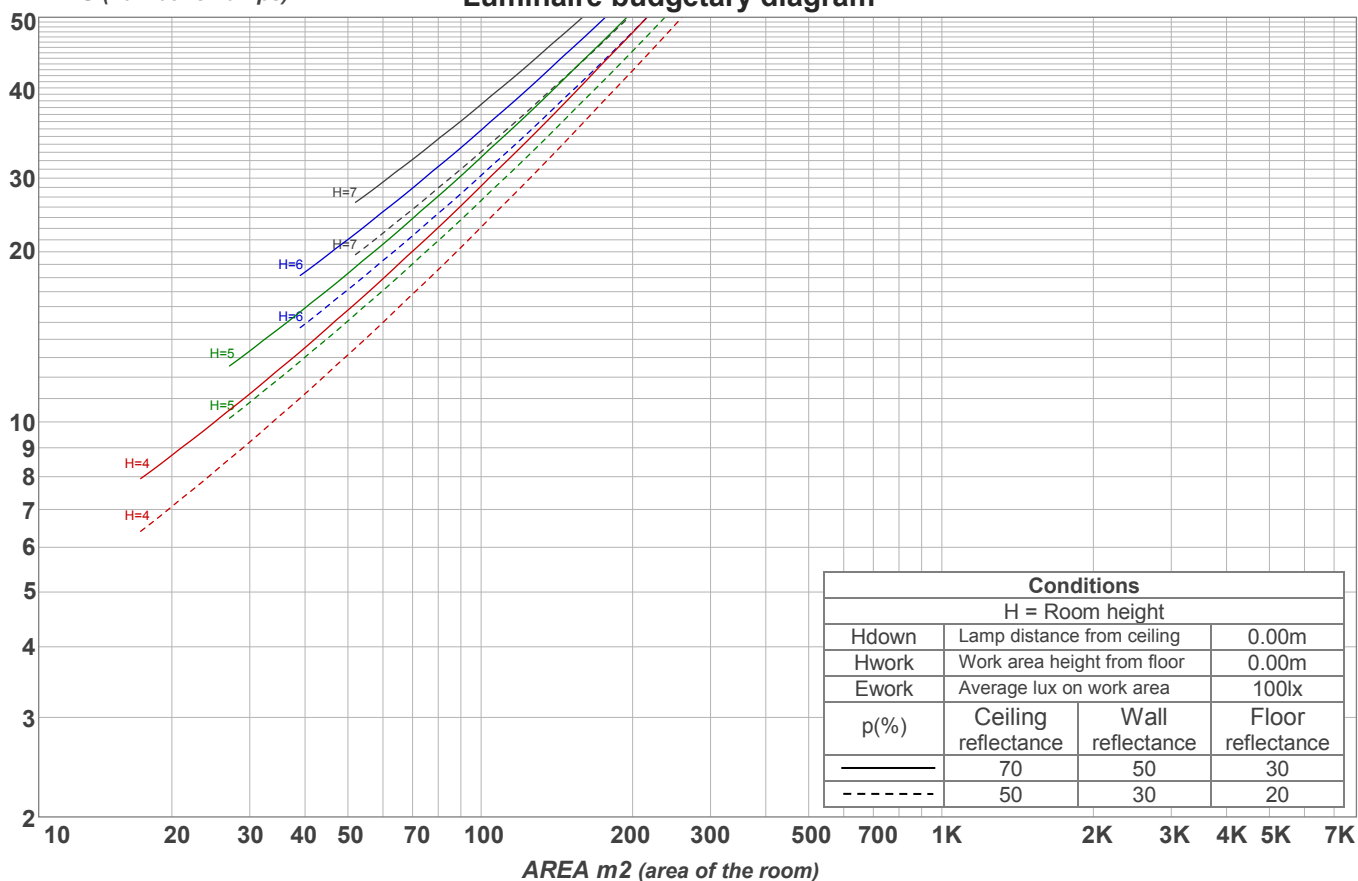
p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	17,0	18,1	17,2	18,3	18,6	23,7	24,7	23,9	25,0	25,2
	3H	17,0	18,1	17,4	18,3	18,5	25,6	26,8	26,0	27,0	27,2
	4H	17,4	18,4	17,8	18,7	19,0	26,8	27,9	27,2	28,1	28,4
	6H	18,7	19,6	19,0	19,9	20,3	27,3	28,2	27,6	28,5	28,8
	8H	19,4	20,3	19,8	20,6	21,0	27,3	28,2	27,6	28,5	28,9
	12H	19,8	20,6	20,1	21,0	21,4	27,3	28,2	27,7	28,5	28,9
4H	2H	17,1	18,2	17,5	18,4	18,7	23,3	24,4	23,7	24,7	24,9
	3H	17,3	18,2	17,7	18,5	18,9	25,5	26,3	25,8	26,7	27,1
	4H	17,8	18,6	18,2	19,0	19,5	26,6	27,4	27,0	27,8	28,3
	6H	19,4	20,2	19,9	20,6	20,9	27,0	27,8	27,5	28,1	28,5
	8H	20,4	21,1	20,9	21,5	21,9	27,1	27,8	27,6	28,1	28,5
	12H	20,9	21,5	21,4	21,9	22,3	27,1	27,7	27,6	28,1	28,6
8H	4H	17,8	18,5	18,3	18,9	19,3	26,5	27,2	27,0	27,5	27,9
	6H	19,9	20,4	20,4	20,8	21,4	26,9	27,4	27,4	27,9	28,5
	8H	21,1	21,5	21,6	22,1	22,7	27,0	27,5	27,5	28,0	28,6
	12H	21,7	22,1	22,3	22,6	23,2	27,0	27,4	27,6	27,9	28,6
12H	4H	17,8	18,4	18,3	18,8	19,3	26,4	27,0	26,9	27,4	27,9
	6H	19,9	20,4	20,4	20,9	21,5	26,9	27,4	27,4	27,9	28,5
	8H	21,2	21,6	21,8	22,1	22,7	27,0	27,4	27,6	27,9	28,5
Variation of the observer position for the luminaire distance S											
S = 1.0H		0,8 / -0,7					0,6 / -0,8				
S = 1.5H		1,6 / -0,8					1,8 / -3,3				
S = 2.0H		2,3 / -0,8					2,8 / -6,0				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 613 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	99	107	104	100	97	99	96	94	95	93	91	92	90	88	86
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	80	77	75
3	94	84	77	71	91	83	76	70	80	74	69	77	72	68	75	71	67	65
4	86	76	68	62	84	74	67	61	72	66	60	70	64	60	68	63	59	57
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50
6	74	62	54	48	73	61	53	48	59	52	47	58	52	47	56	51	47	45
7	69	57	48	43	68	56	48	43	54	47	42	53	47	42	52	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	60	48	40	35	59	47	40	35	46	39	34	45	39	34	44	38	34	32
10	57	44	37	32	55	44	36	31	43	36	31	42	36	31	41	35	31	29

LAMPS (number of lamps)

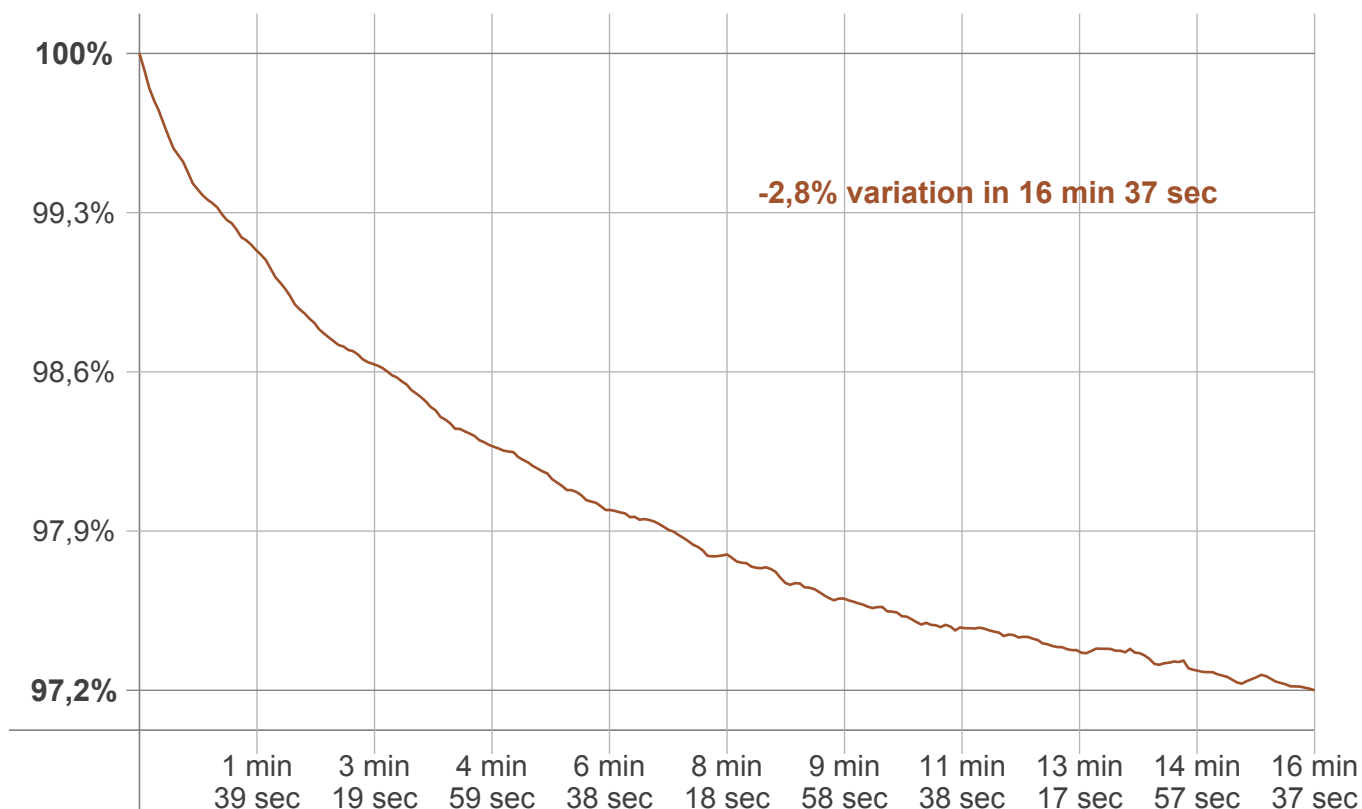
Luminaire budgetary diagram



Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
23,8 lm	69,2 lm	110 lm	148 lm	125 lm	69,0 lm	29,9 lm	25,1 lm	13,5 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0,007 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:	16 min 37 sec
Warmup variation	-2,8%

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
11520 K	+390 K	11910 K

Output change

Output start	Output change	Output end
629 lm	-16 lm	613 lm