

Light efficiency:

67 Lumen/Watt

Light quality:

CRI: 36,0

Color temperature:

11808 K

Output: 578 lm

Peak: 197 cd

Power: 8,6 W

PF: 1,0



Product name:

Defiant-0508-RGB-CRF

Item number:

FLNP/L22A0508/RGB/CRF

Date and time:

26.06.2020 09:36:48

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:

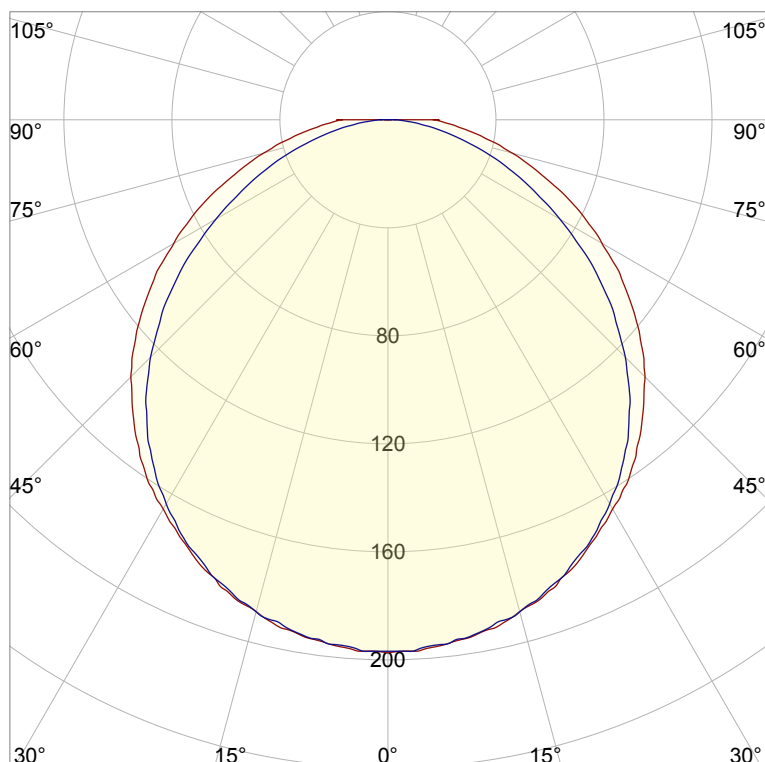
Peter Ulrich

Pruefort:

Lichtlabor

Gaustrasse 13

55411 Bingen am Rhein

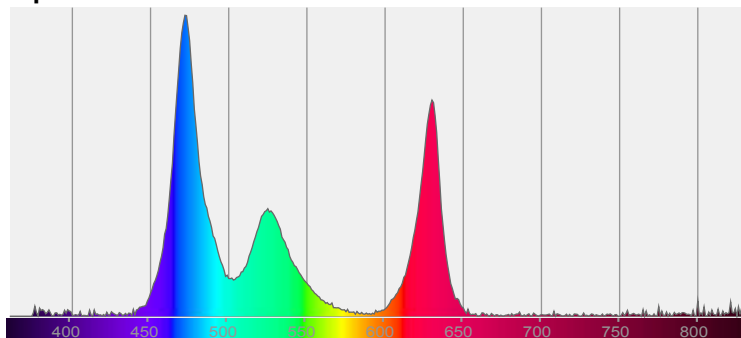


CIE 1931

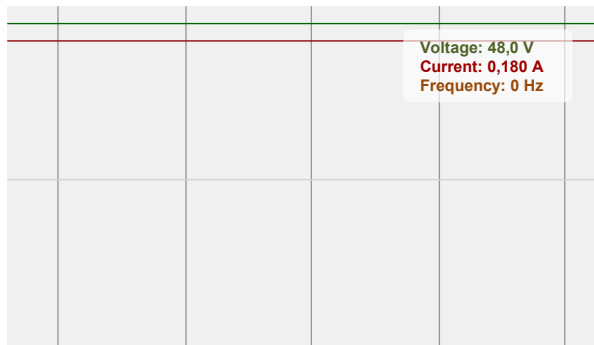
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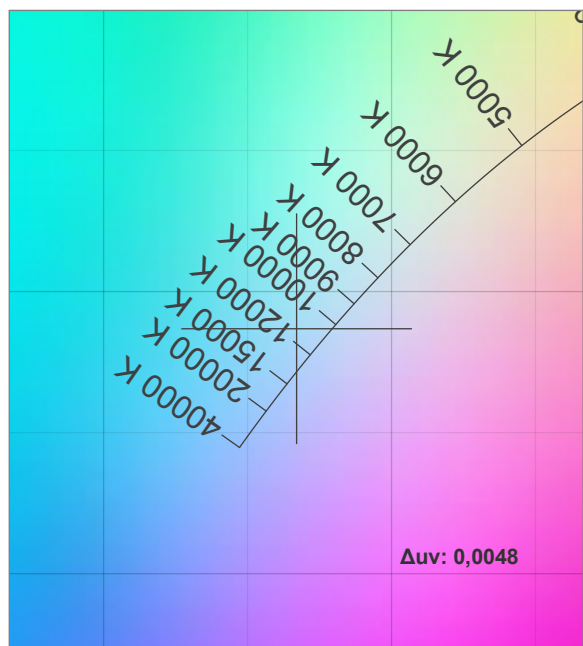
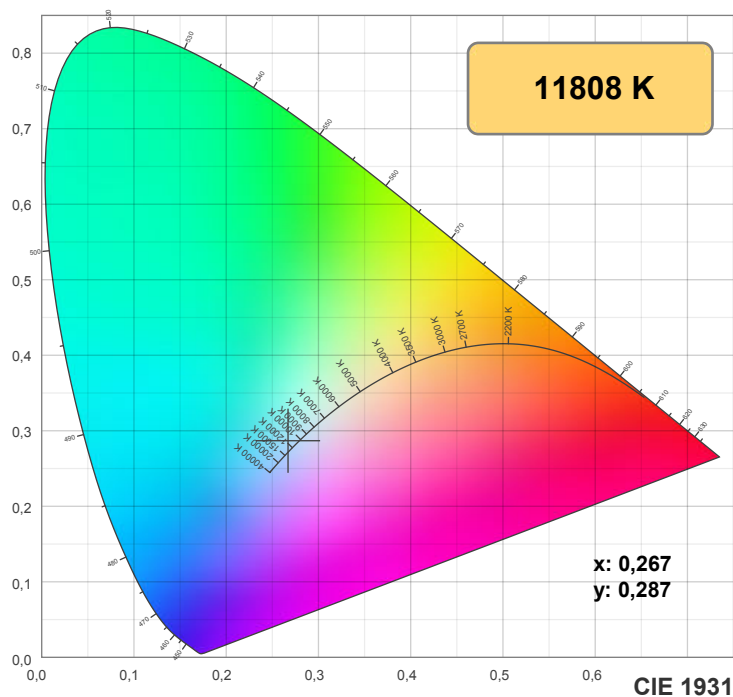
y: 0,287

Spectra



Power

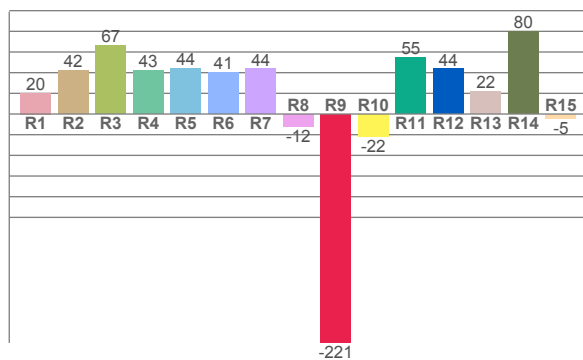
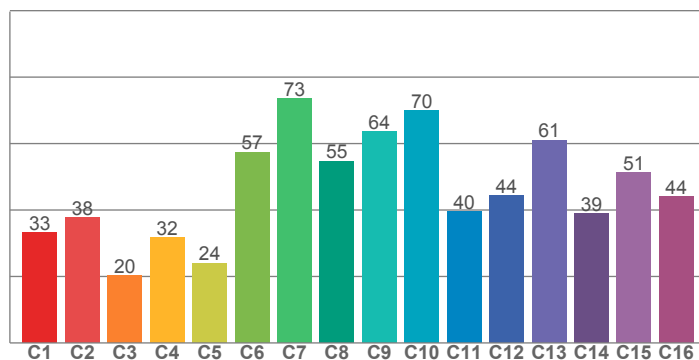




CIE 1931 ZOOM

TM30: 45,3

CRI: 36,0 (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	42,5	66,7	42,5	43,7	40,5	43,6	-12,3	-221,5	-22,1	55,0	43,6	21,6	80,0	-4,5

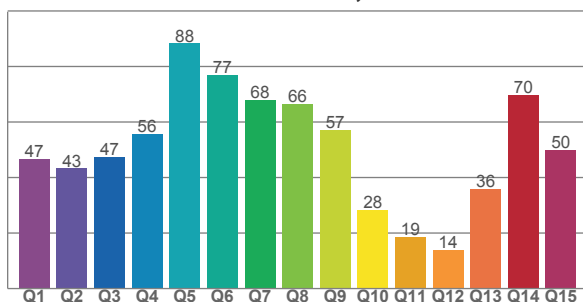
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
33,3	37,7	20,3	31,7	24,0	57,4	73,5	54,8	63,7	69,9	39,6	44,4	61,1	38,9	51,3	44,1

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
46,7	43,2	47,3	55,6	88,3	77,0	68,0	66,4	57,1	28,2	18,6	14,0	35,8	69,6	49,9

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
11808 K	36,0	-221,5	45,3	88,1	46,5	0,267	0,287	0,181	0,291	0,0048

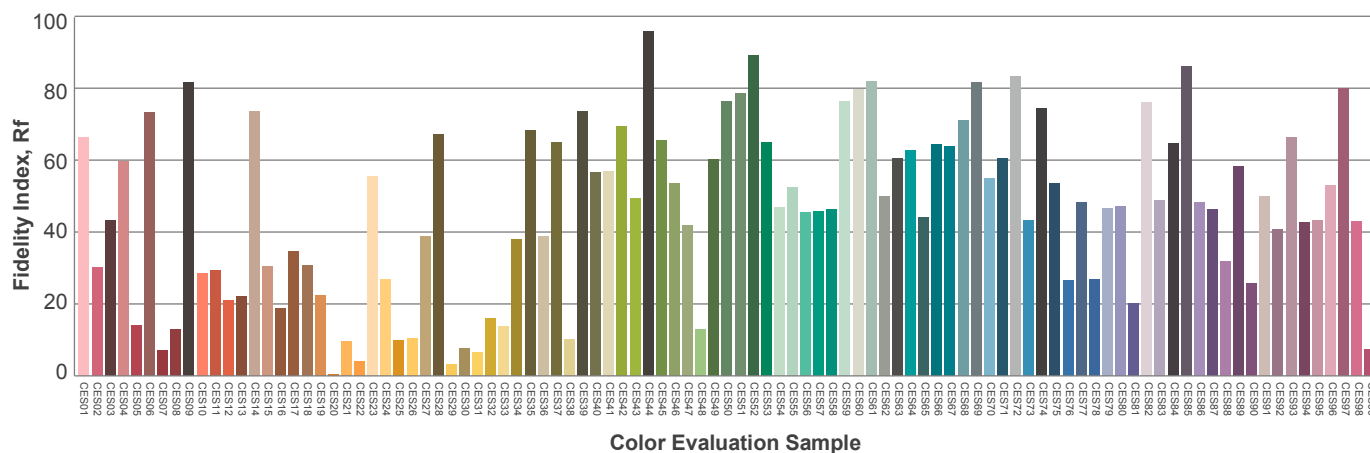
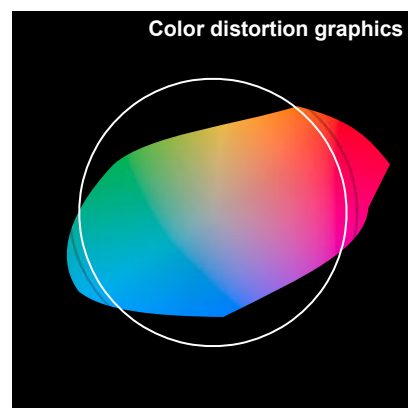
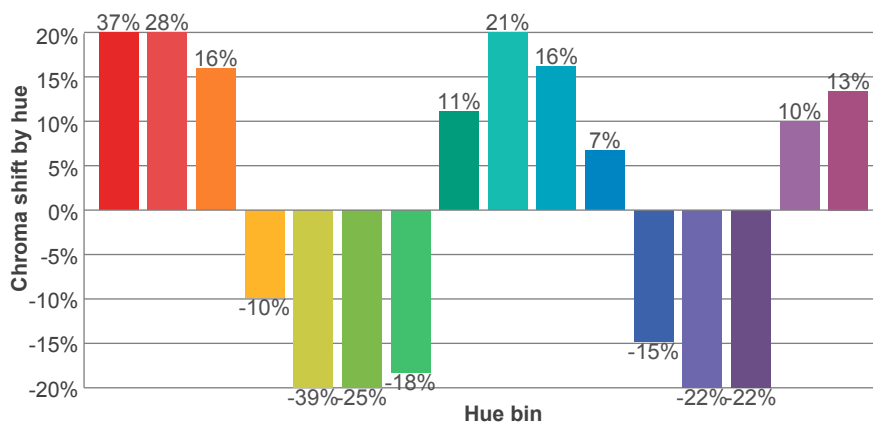
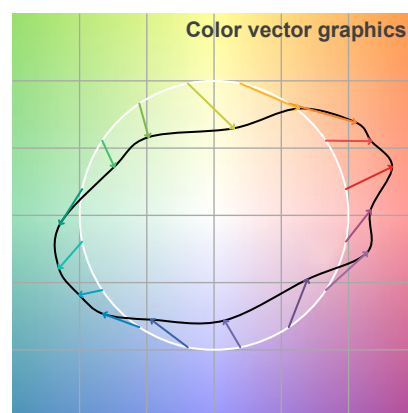
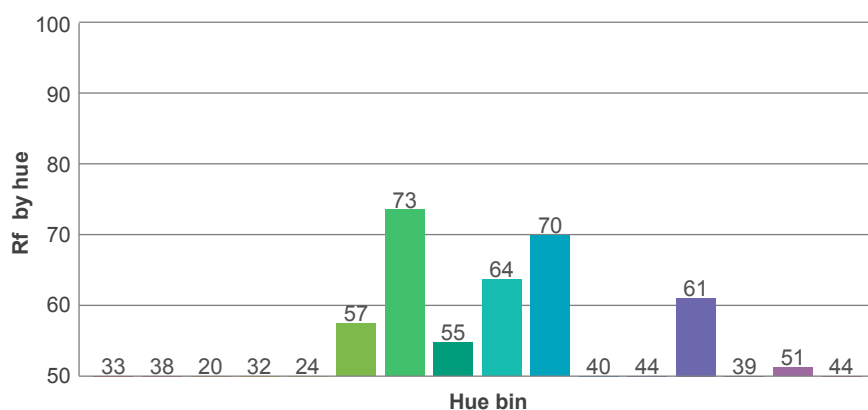
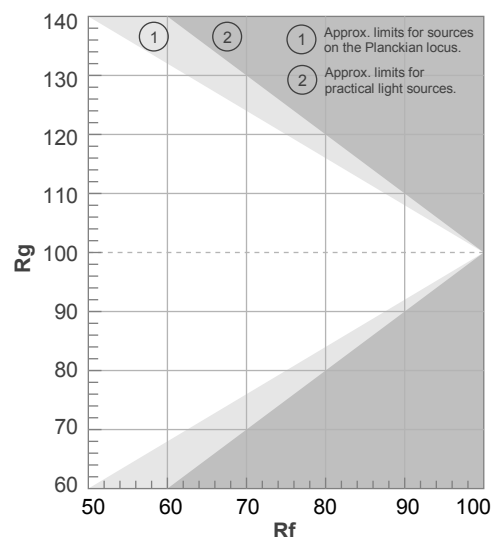
Rf 45,3

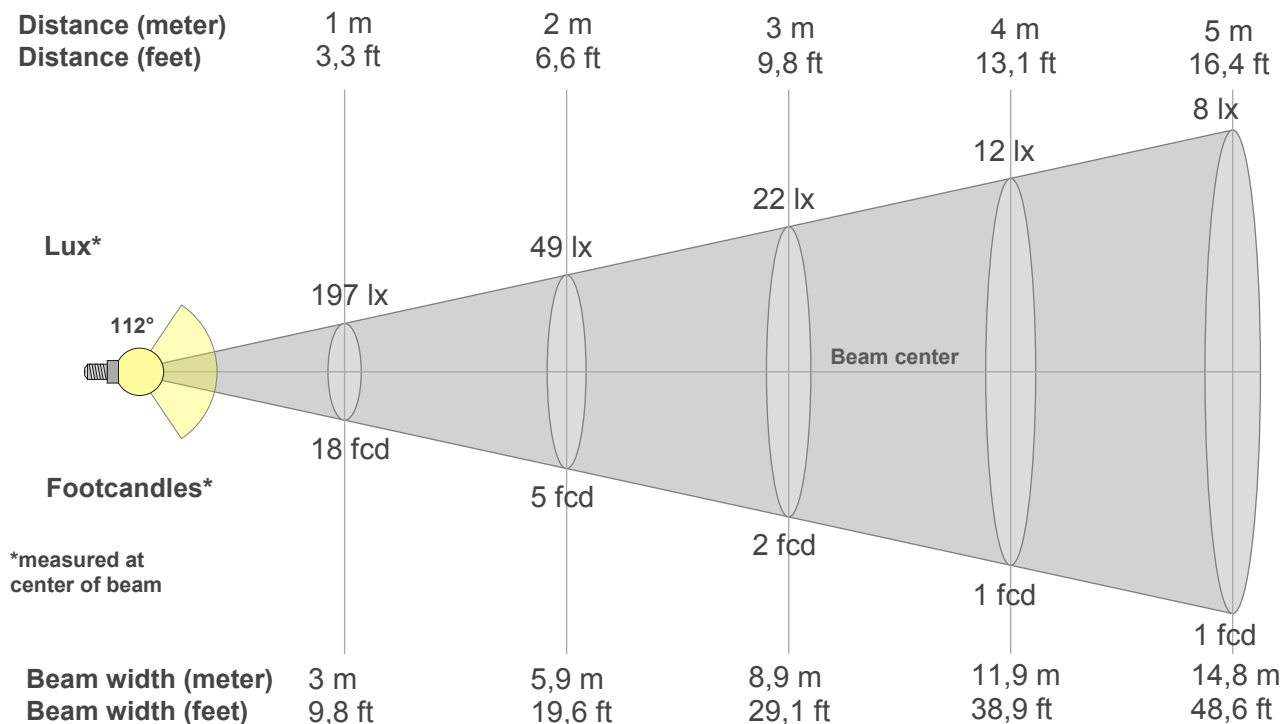
Fidelity index Rf

Rg 88,1

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	-18%	11%
8	55	11%	29%
9	64	21%	16%
10	70	16%	-6%
11	40	7%	-28%
12	44	-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
197lx	49lx	22lx	12lx	8lx	5lx	4lx	3lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	0lx
18,3fcd	4,6fcd	2fcd	1,1fcd	0,7fcd	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	0fcd

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°
197	196	193	189	183	175	166	157	146	135	121	107	92	77	61	48	35	25	11	0
100%	100%	98%	96%	93%	89%	85%	80%	74%	68%	62%	54%	47%	39%	31%	24%	18%	13%	6%	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°
197	195	193	189	182	174	164	153	139	124	108	91	73	57	43	28	17	8	2	0
100%	99%	98%	96%	93%	89%	83%	77%	71%	63%	55%	46%	37%	29%	22%	14%	9%	4%	1%	0%

Intensities in 180° c-plane

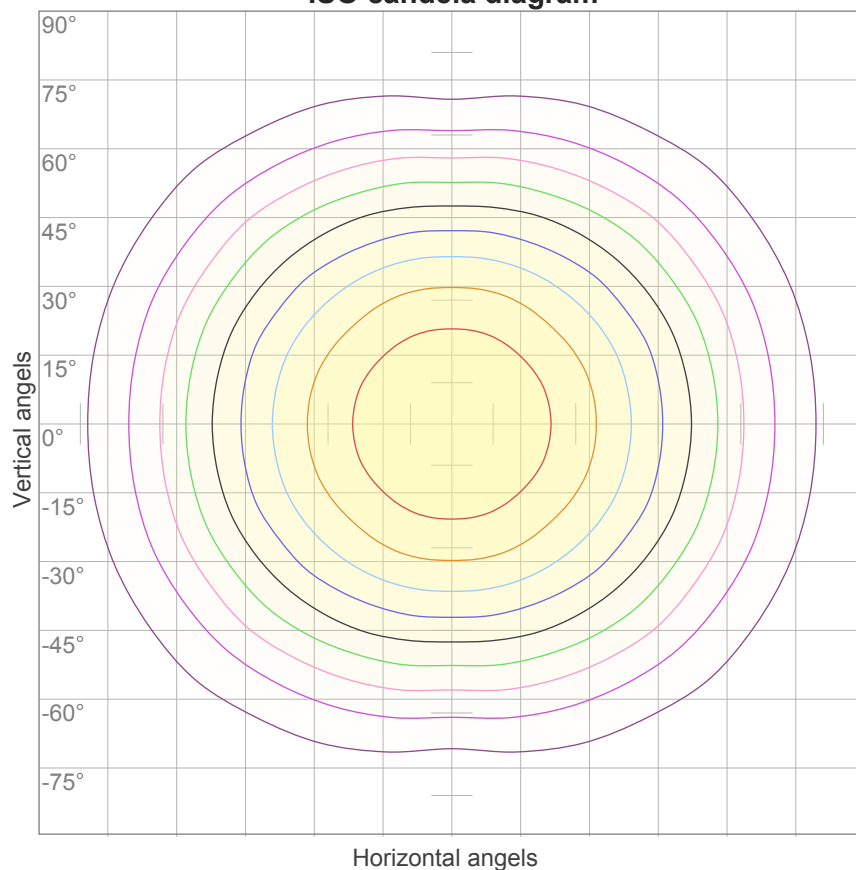
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
197	196	193	189	183	175	166	157	146	135	121	107	92	77	61	48	35	25	11	0
100%	100%	98%	96%	93%	89%	85%	80%	74%	68%	62%	54%	47%	39%	31%	24%	18%	13%	6%	0%

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°
197	195	193	189	182	174	164	153	139	124	108	91	73	57	43	28	17	8	2	0
100%	99%	98%	96%	93%	89%	83%	77%	71%	63%	55%	46%	37%	29%	22%	14%	9%	4%	1%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
112°	171,8°	179,4°	76,2%	51,9%

ISO candela diagram



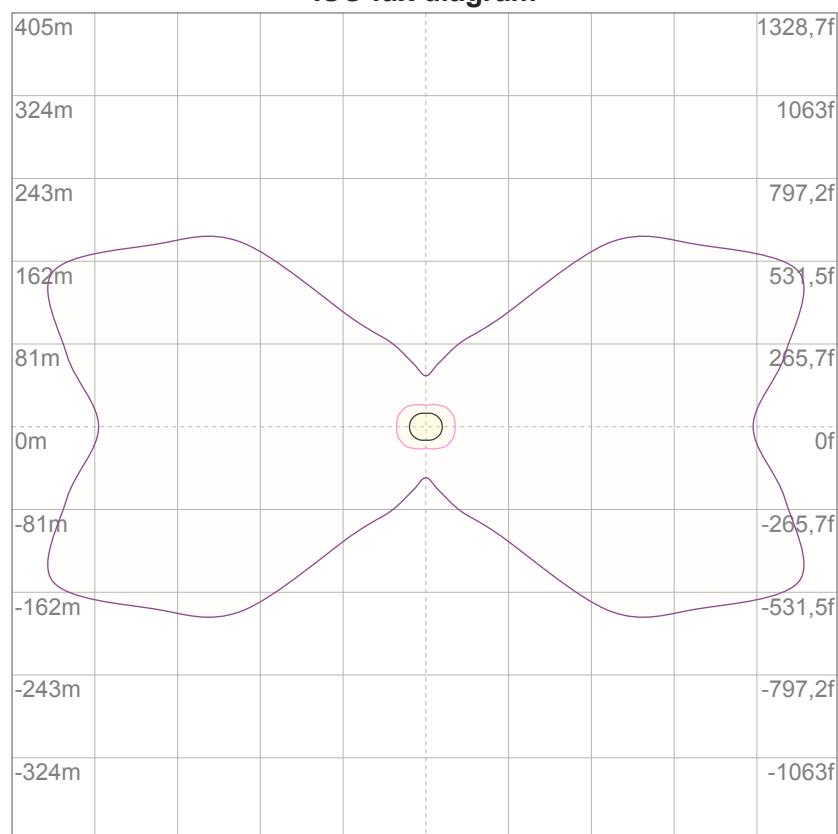
10%	20 cd
20%	39 cd
30%	59 cd
40%	79 cd
50%	98 cd
60%	118 cd
70%	138 cd
80%	157 cd
90%	177 cd

Conditions:

Number of c-planes: 16

Candela at center: 197 cd

ISO lux diagram



Mounting height: 10 meters (33 feet)

3%	59,0m lx
5%	98,4m lx
10%	0,197 lx
30%	0,590 lx
50%	0,984 lx

Conditions:

Number of c-planes: 16

Lux at center: 1,97 lx

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

Glare Evaluation According to UGR

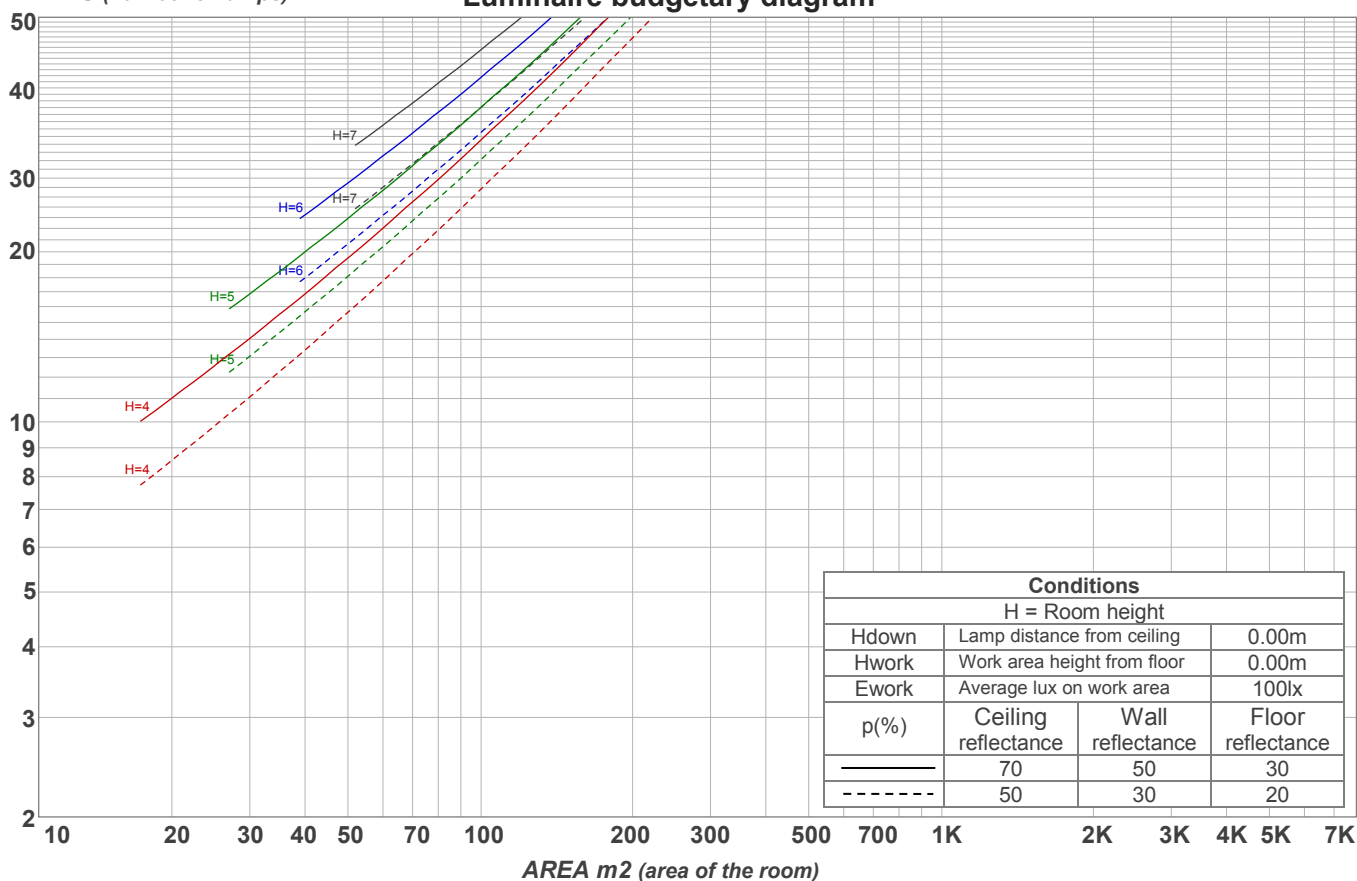
p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	20,6	21,9	20,8	22,2	22,4	20,9	22,1	21,1	22,5	22,7
	3H	21,9	23,2	22,3	23,5	23,7	22,1	23,4	22,5	23,7	23,9
	4H	22,5	23,7	22,9	24,0	24,3	22,6	23,9	23,0	24,1	24,4
	6H	23,0	24,1	23,3	24,4	24,7	23,1	24,2	23,4	24,4	24,8
	8H	23,2	24,2	23,5	24,5	24,9	23,2	24,2	23,5	24,5	24,9
	12H	23,3	24,3	23,6	24,6	25,1	23,2	24,3	23,6	24,6	25,0
4H	2H	21,2	22,4	21,6	22,7	22,9	21,4	22,6	21,8	22,9	23,2
	3H	22,8	23,8	23,2	24,2	24,6	22,9	24,0	23,3	24,3	24,7
	4H	23,4	24,4	23,9	24,8	25,3	23,5	24,4	23,9	24,9	25,4
	6H	24,0	24,9	24,5	25,3	25,6	24,0	24,9	24,5	25,3	25,6
	8H	24,2	25,1	24,7	25,4	25,8	24,2	25,0	24,7	25,4	25,8
	12H	24,4	25,1	24,9	25,6	26,0	24,3	25,0	24,8	25,4	25,9
8H	4H	23,7	24,5	24,2	24,9	25,3	23,8	24,6	24,3	25,0	25,4
	6H	24,5	25,1	25,0	25,6	26,1	24,4	25,1	24,9	25,6	26,1
	8H	24,8	25,4	25,3	25,9	26,6	24,7	25,3	25,2	25,8	26,5
	12H	25,1	25,6	25,7	26,1	26,7	25,0	25,4	25,5	25,9	26,6
12H	4H	23,7	24,4	24,2	24,8	25,3	23,8	24,5	24,3	24,9	25,4
	6H	24,6	25,1	25,1	25,7	26,3	24,5	25,1	25,1	25,6	26,3
	8H	24,9	25,4	25,5	25,9	26,6	24,9	25,4	25,4	25,9	26,5
Variation of the observer position for the luminaire distance S											
S = 1.0H		0,1 / -0,1					0,1 / -0,1				
S = 1.5H		0,1 / -0,3					0,2 / -0,3				
S = 2.0H		0,4 / -0,5					0,5 / -0,6				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 578 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	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	82
2	98	89	82	76	95	87	81	75	84	78	73	80	76	71	77	73	70	68
3	89	78	70	63	86	76	69	62	73	67	61	71	65	60	68	63	59	57
4	81	69	60	53	79	68	59	53	65	58	52	63	56	51	61	55	50	48
5	75	62	52	46	73	61	52	45	58	51	45	56	50	44	54	49	44	42
6	69	55	46	40	67	55	46	40	53	45	39	51	44	39	49	43	39	36
7	64	50	41	35	62	49	41	35	48	40	35	46	40	34	45	39	34	32
8	60	46	37	31	58	45	37	31	44	36	31	43	36	31	41	35	31	29
9	56	42	34	28	54	41	34	28	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	38	31	25	37	30	25	36	30	25	35	29	25	23

LAMPS (number of lamps)

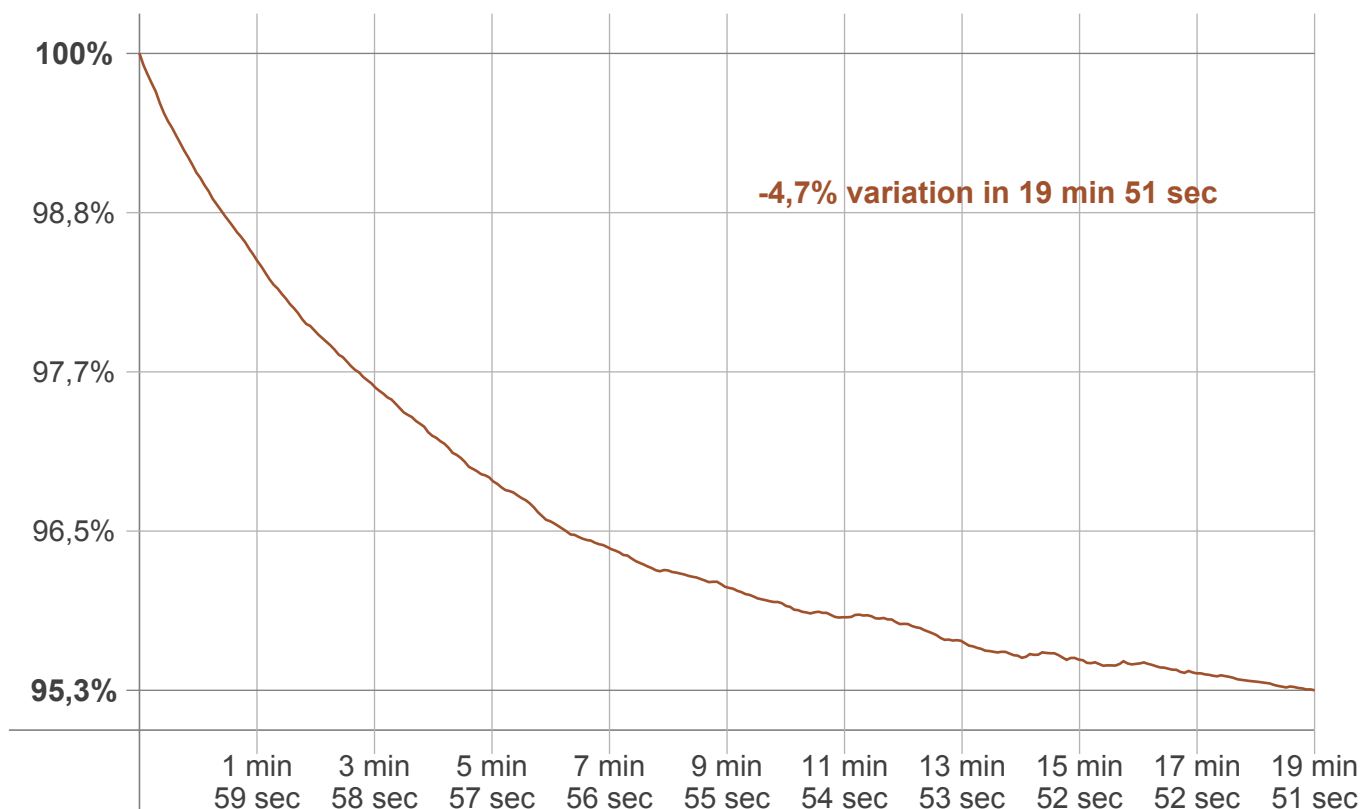
Luminaire budgetary diagram



Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
18,6 lm	53,2 lm	80,5 lm	97,0 lm	100 lm	90,4 lm	69,7 lm	44,7 lm	23,1 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0,054 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:	19 min 51 sec
Warmup variation	-4,7%

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
11200 K	+608 K	11808 K

Output change

Output start	Output change	Output end
603 lm	-26 lm	578 lm