Light efficiency:

61 Lumen/Watt

Light quality:

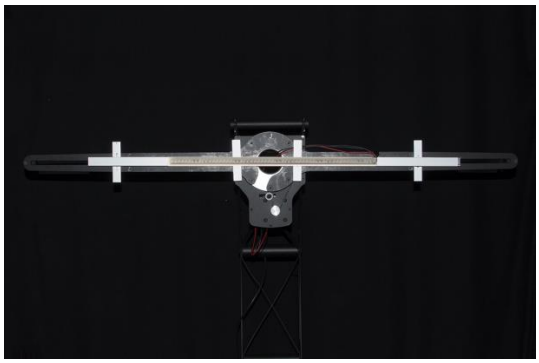
CRI: 36,8

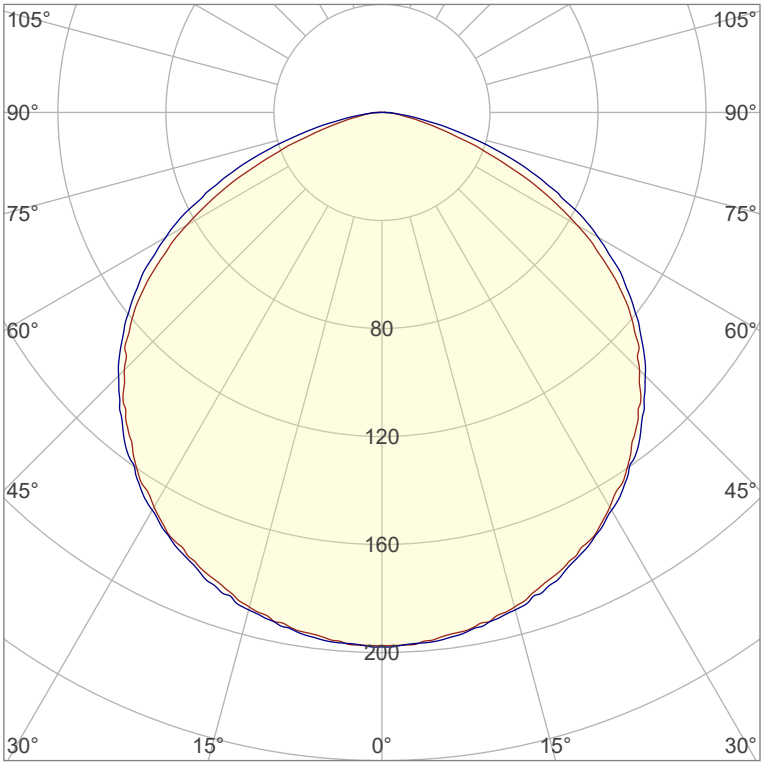
Color temperature:

12072 K

Output: 560 lm
Peak: 198 cd

Power: 9,1 W
PF: 1,0





CIE 1931
x: 0,265
y: 0,286

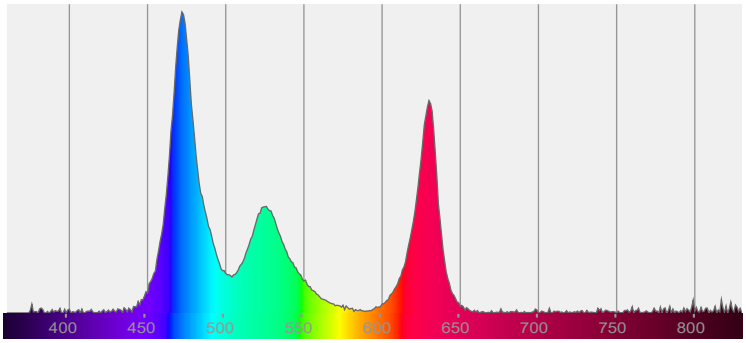
Product name:
Defiant-3_510mm_RGB_Cover-Flat-Transparent

Item number:
NP/L3C/22C/0510/RGB/CFT

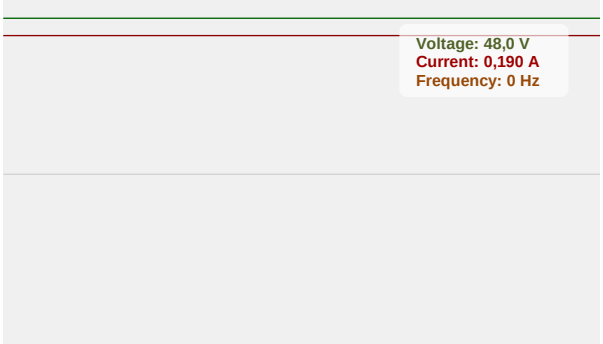
Date and time:
06.07.2020 09:15:17

Description:
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

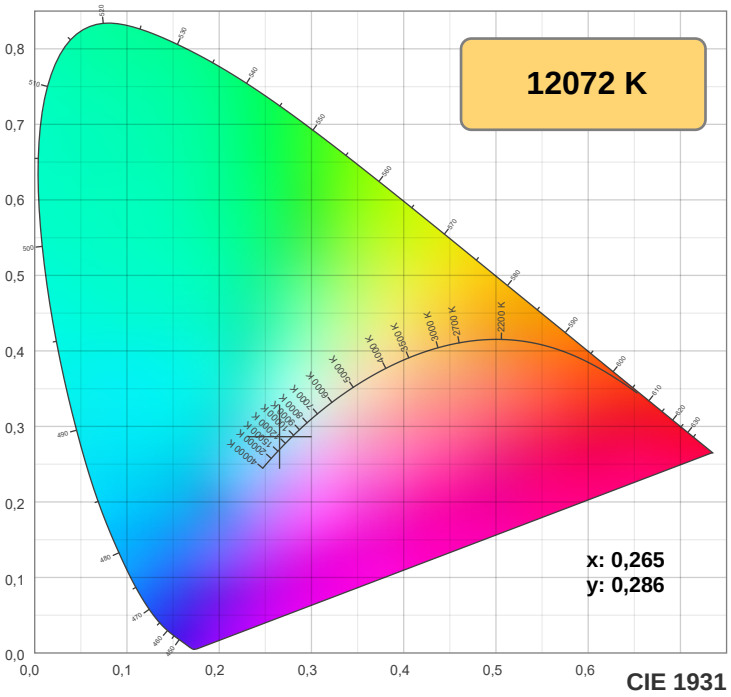
Spectra



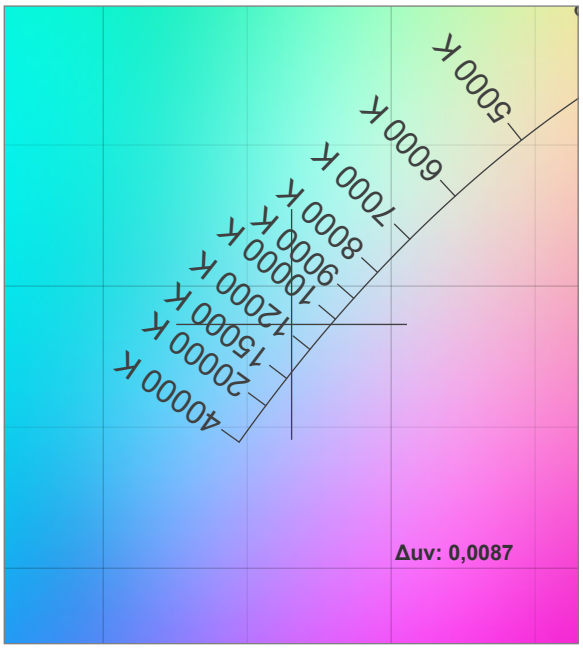
Power



Color details

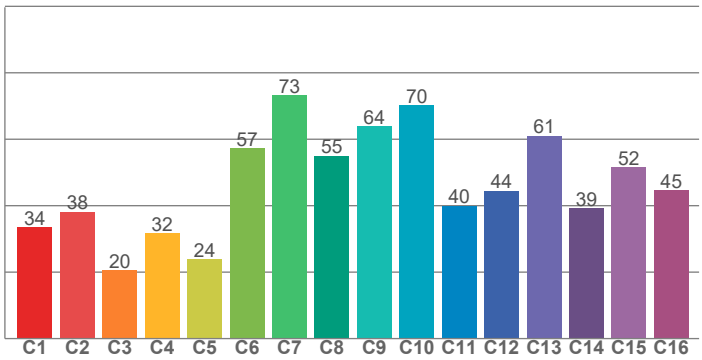


CIE 1931

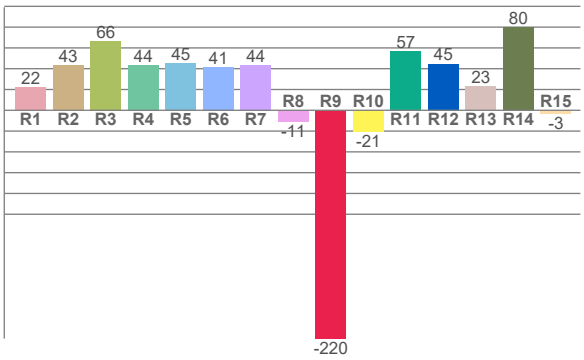


CIE 1931 ZOOM

TM30: 45,4



CRI: 36,8 (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
22,0	43,1	66,5	43,5	45,2	41,5	43,6	-11,1	-219,6	-21,0	56,9	44,7	22,9	80,0	-3,2

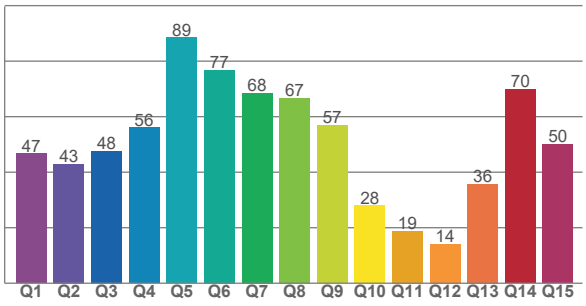
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
33,5	38,1	20,5	31,7	23,8	57,3	73,2	55,1	63,9	70,2	39,9	44,5	61,0	39,2	51,5	44,6

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
46,8	42,9	47,6	56,1	88,5	76,8	68,5	66,7	56,9	28,0	18,8	14,1	35,8	69,9	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 diviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
12072 K	36,8	-219,6	45,4	87,8	46,5	0,265	0,286	0,180	0,291	0,0087

TM30 details

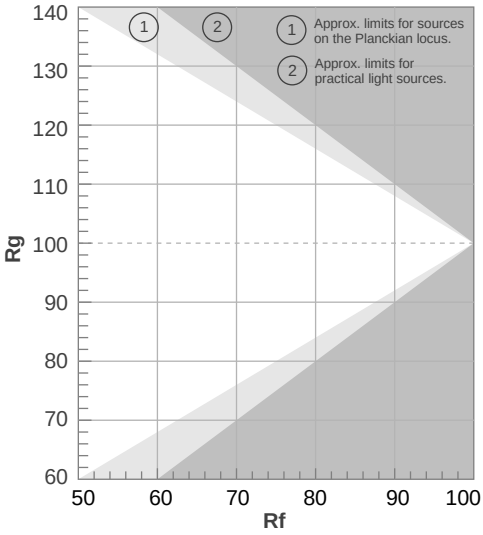
Rf 45,4

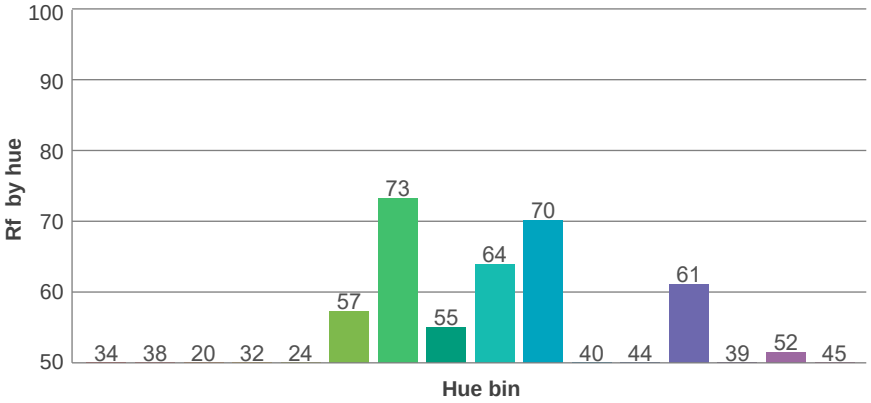
Fidelity index Rf

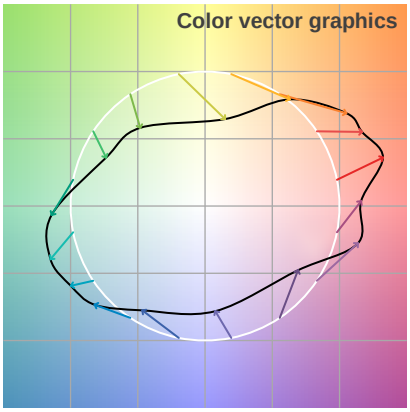
Rg 87,8

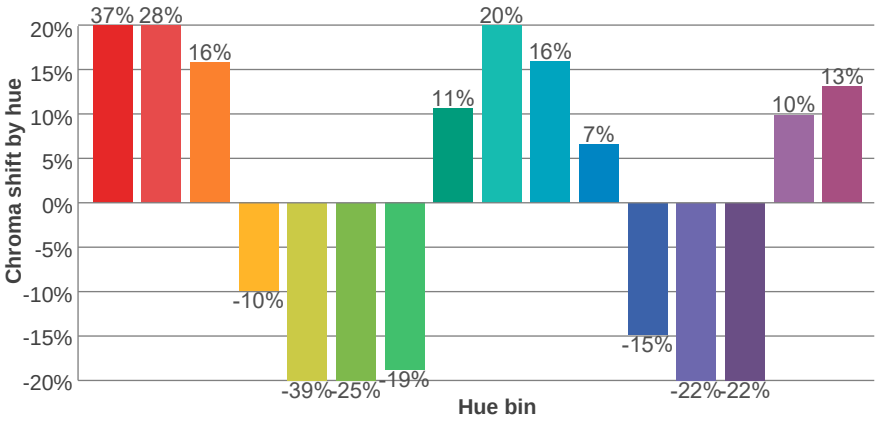
Gammut index Rg

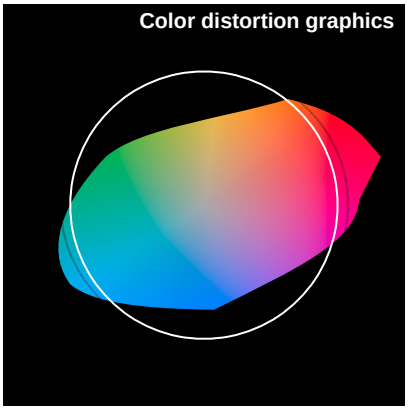
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	34	37%	10%
2	38	28%	-19%
3	20	16%	-49%
4	32	-10%	-46%
5	24	-39%	-27%
6	57	-25%	8%
7	73	-19%	11%
8	55	11%	29%
9	64	20%	16%
10	70	16%	-6%
11	40	7%	-28%
12	44	-15%	-31%
13	61	-22%	-8%
14	39	-22%	31%
15	52	10%	40%
16	45	13%	26%

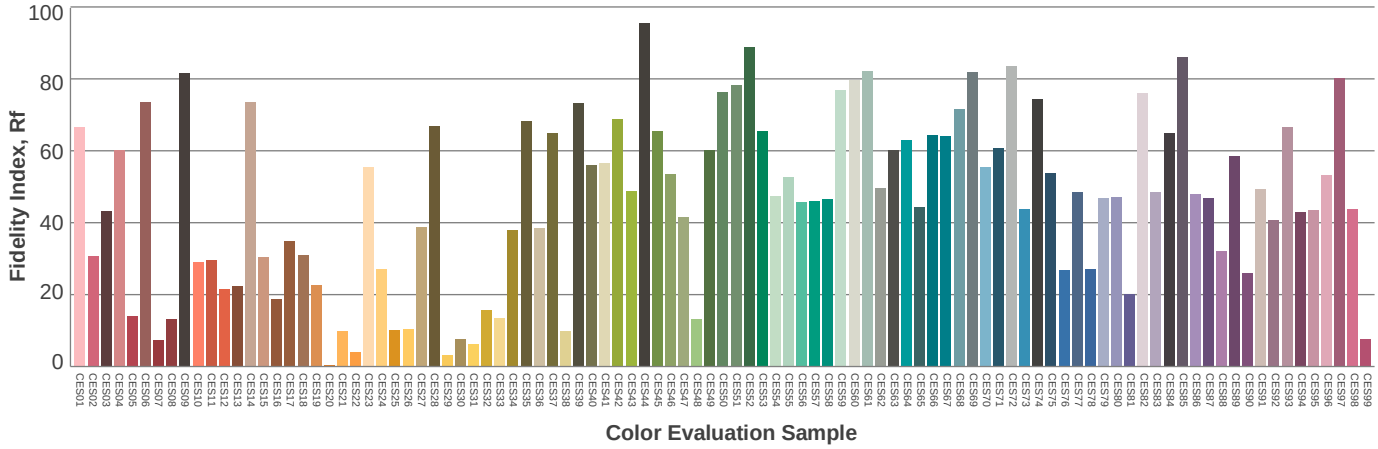




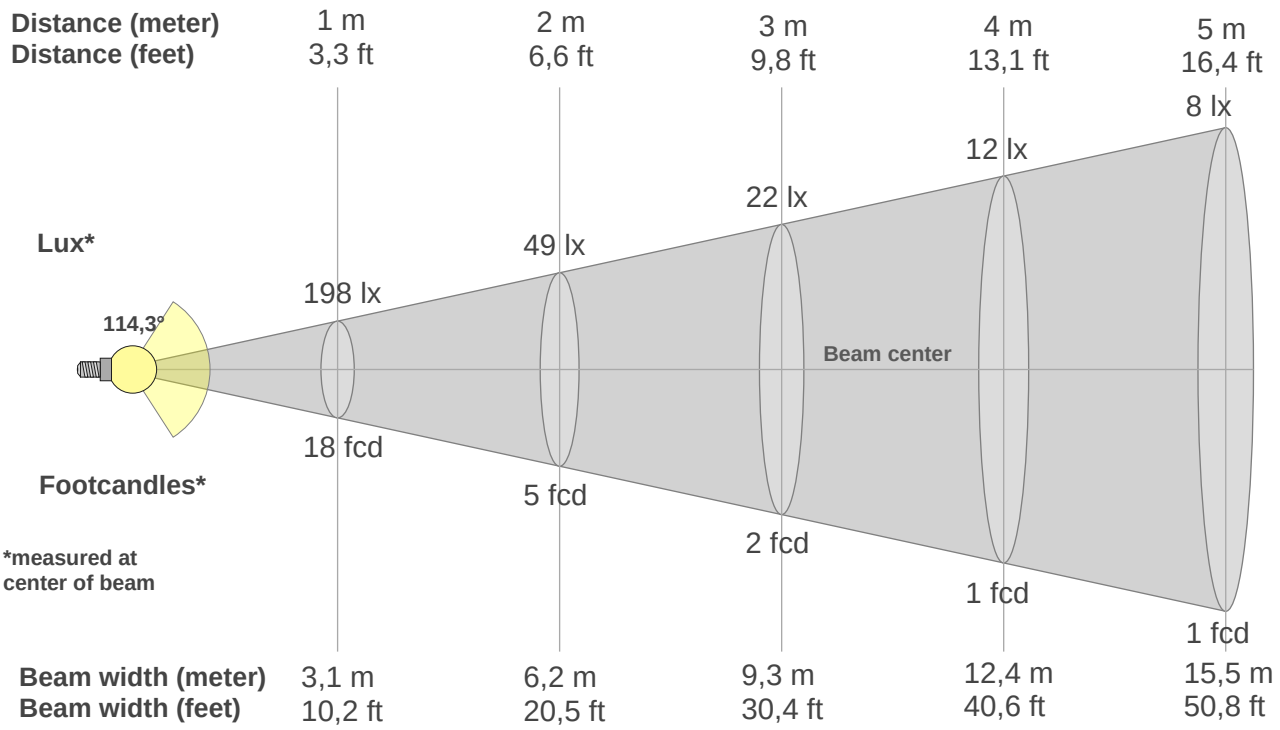








Beam details



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
198lx	49lx	22lx	12lx	8lx	5lx	4lx	3lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	0lx
18,4fcd	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°
198	196	194	190	183	177	169	159	148	135	121	104	83	61	38	20	9	5	1	0
100%	99%	98%	96%	93%	90%	85%	80%	75%	68%	61%	53%	42%	31%	19%	10%	5%	2%	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°
198	197	194	191	185	178	170	160	150	138	125	110	92	73	53	32	15	6	1	0
100%	100%	98%	97%	94%	90%	86%	81%	76%	70%	63%	56%	47%	37%	27%	16%	8%	3%	1%	0%

Intensities in 180° c-plane

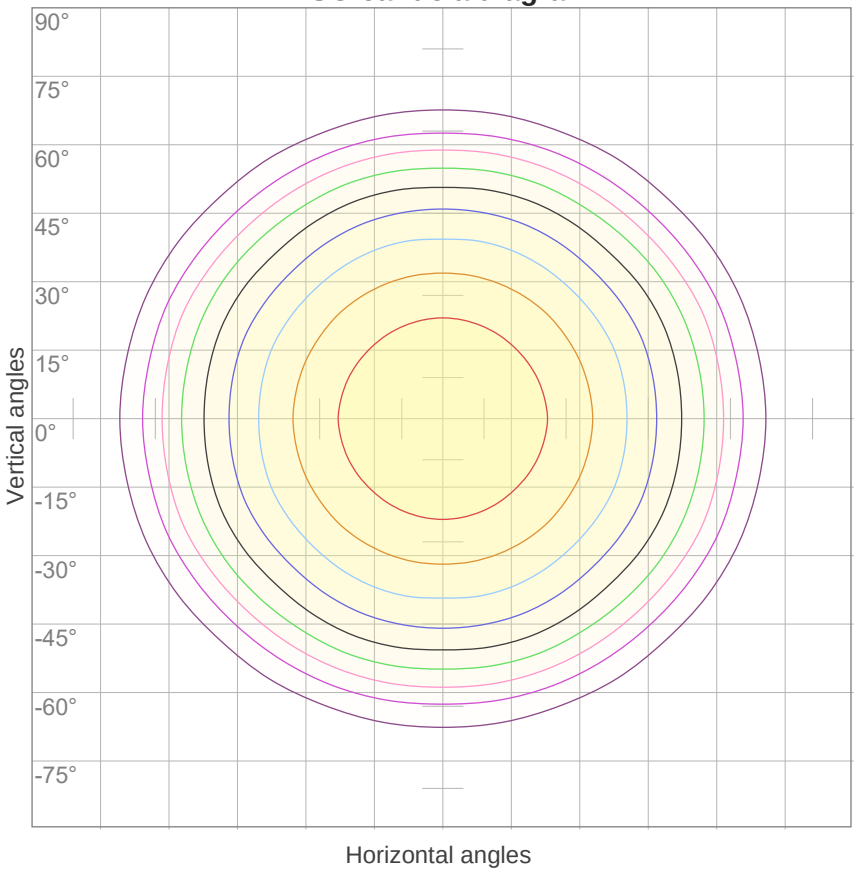
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
198	196	194	190	183	177	169	159	148	135	121	104	83	61	38	20	9	5	1	0
100%	99%	98%	96%	93%	90%	85%	80%	75%	68%	61%	53%	42%	31%	19%	10%	5%	2%	1%	0%

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°
198	197	194	191	185	178	170	160	150	138	125	110	92	73	53	32	15	6	1	0
100%	100%	98%	97%	94%	90%	86%	81%	76%	70%	63%	56%	47%	37%	27%	16%	8%	3%	1%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
114,3°	**152,7°**	**170,4°**	**81,1%**	**54,7%**

ISO candela diagram



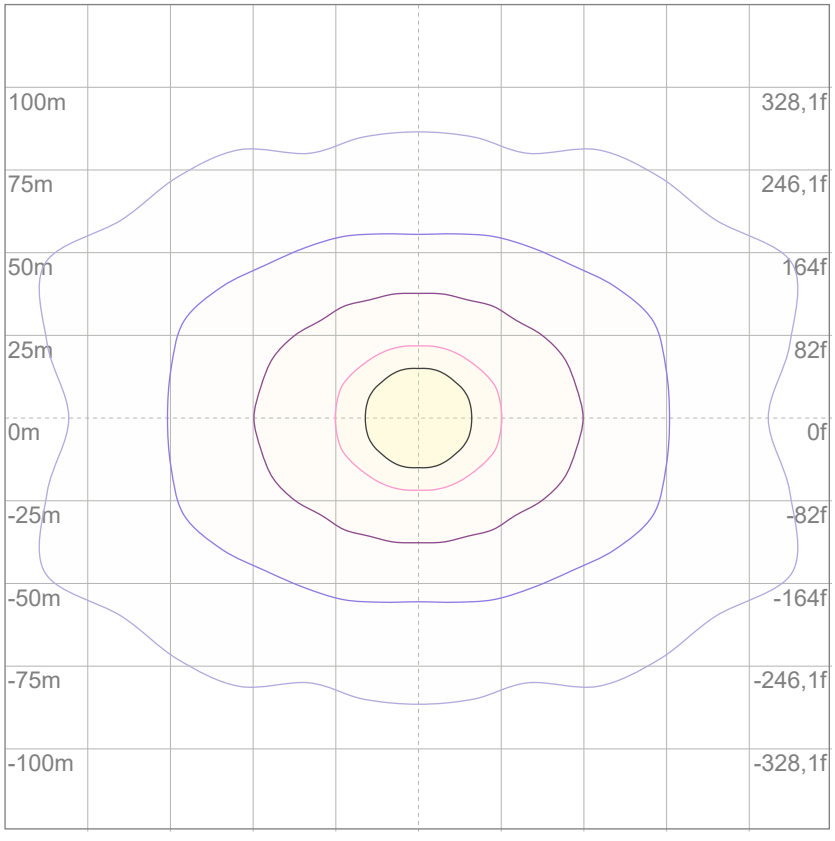
10%	20 cd
20%	40 cd
30%	59 cd
40%	79 cd
50%	99 cd
60%	119 cd
70%	138 cd
80%	158 cd
90%	178 cd

Conditions:

Number of c-planes: 16

Candela at center: 198 cd

ISO lux diagram



3%	59,3m lx
5%	98,8m lx
10%	0,198 lx
30%	0,593 lx
50%	0,988 lx

Conditions:

Number of c-planes: 16

Lux at center: 1,98 lx

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

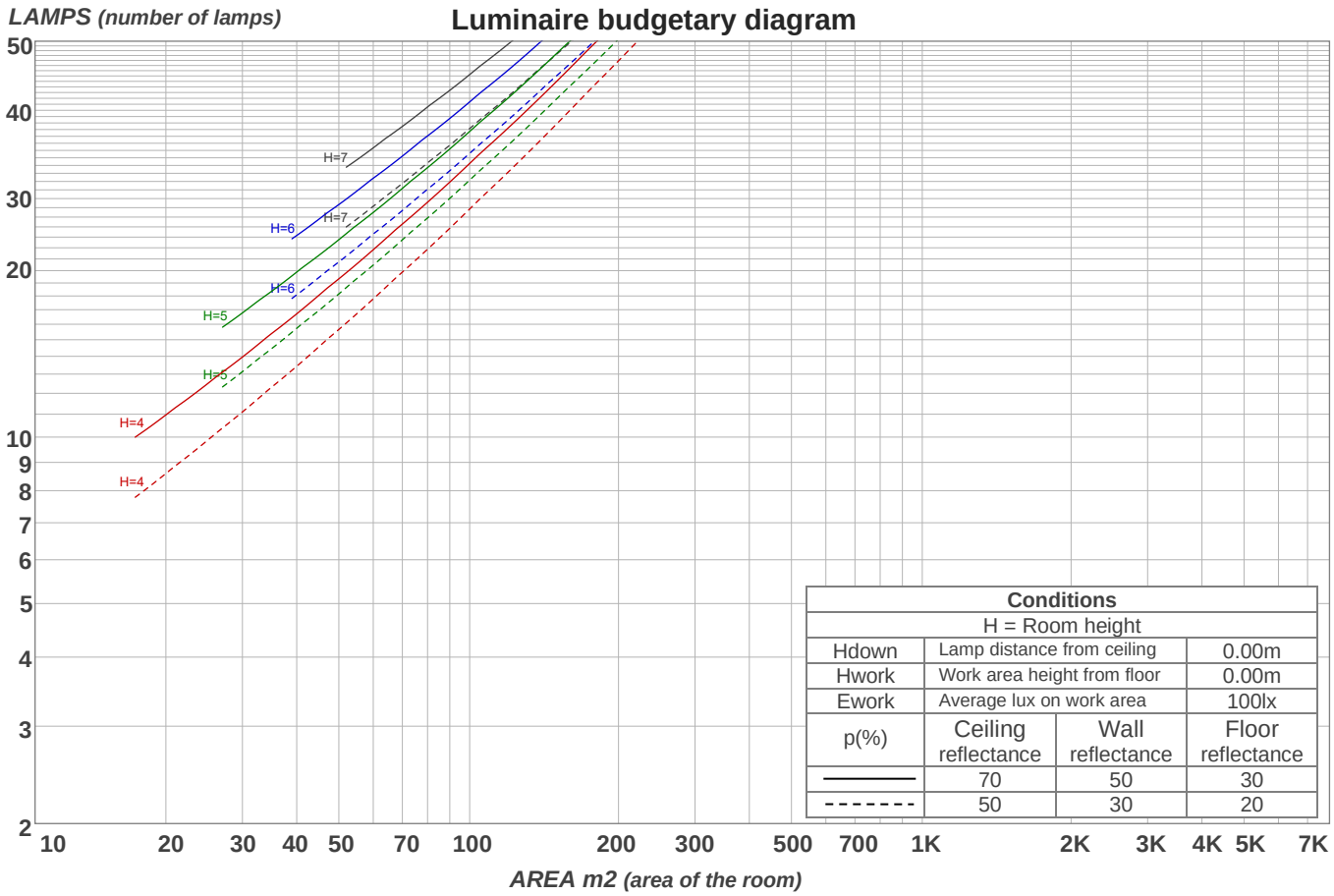
Glare Evaluation According to UGR

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	21,4	22,6	21,7	22,9	23,2	22,3	23,5	22,6	23,8	24,1
	3H	22,2	23,4	22,6	23,7	23,9	23,6	24,9	24,0	25,1	25,3
	4H	22,4	23,5	22,8	23,8	24,1	24,0	25,2	24,4	25,5	25,7
	6H	22,5	23,5	22,8	23,8	24,1	24,3	25,4	24,6	25,6	26,0
	8H	22,4	23,4	22,8	23,7	24,1	24,4	25,3	24,7	25,7	26,1
	12H	22,4	23,4	22,8	23,7	24,1	24,3	25,3	24,7	25,6	26,1
4H	2H	22,0	23,2	22,4	23,4	23,7	22,7	23,9	23,1	24,2	24,4
	3H	23,0	24,0	23,4	24,3	24,7	24,2	25,2	24,6	25,6	26,0
	4H	23,1	24,0	23,6	24,4	25,0	24,7	25,6	25,1	26,0	26,5
	6H	23,2	24,1	23,7	24,4	24,8	25,0	25,8	25,5	26,2	26,5
	8H	23,2	24,0	23,7	24,3	24,7	25,0	25,8	25,5	26,2	26,5
	12H	23,2	23,8	23,7	24,2	24,7	25,0	25,7	25,5	26,1	26,6
8H	4H	23,3	24,0	23,8	24,4	24,8	24,7	25,5	25,2	25,9	26,2
	6H	23,4	24,0	23,9	24,4	25,0	25,1	25,7	25,6	26,1	26,7
	8H	23,5	24,0	24,0	24,5	25,1	25,2	25,7	25,7	26,2	26,9
	12H	23,5	23,9	24,0	24,4	25,0	25,2	25,7	25,8	26,2	26,8
12H	4H	23,2	23,9	23,7	24,3	24,8	24,7	25,3	25,2	25,7	26,2
	6H	23,4	23,9	23,9	24,5	25,1	25,1	25,6	25,6	26,1	26,7
	8H	23,5	23,9	24,0	24,4	25,0	25,2	25,6	25,8	26,1	26,7
Variation of the observer position for the luminaire distance S											
S = 1.0H		0,2 / -0,2					0,1 / -0,1				
S = 1.5H		0,4 / -0,7					0,2 / -0,3				
S = 2.0H		1,1 / -1,6					0,7 / -1,0				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 560 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	101	101	101	99
1	109	105	100	97	106	102	99	95	98	95	92	94	91	89	90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	75	79	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	57	53	51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	40	38
7	65	52	43	37	63	51	43	37	49	42	36	48	41	36	46	40	36	34
8	61	47	39	33	59	46	38	33	45	38	32	44	37	32	43	37	32	30
9	57	43	35	29	55	43	35	29	41	34	29	40	34	29	39	33	29	27
10	53	40	32	27	52	39	32	27	38	31	26	37	31	26	36	30	26	24

Luminaire budgetary diagram

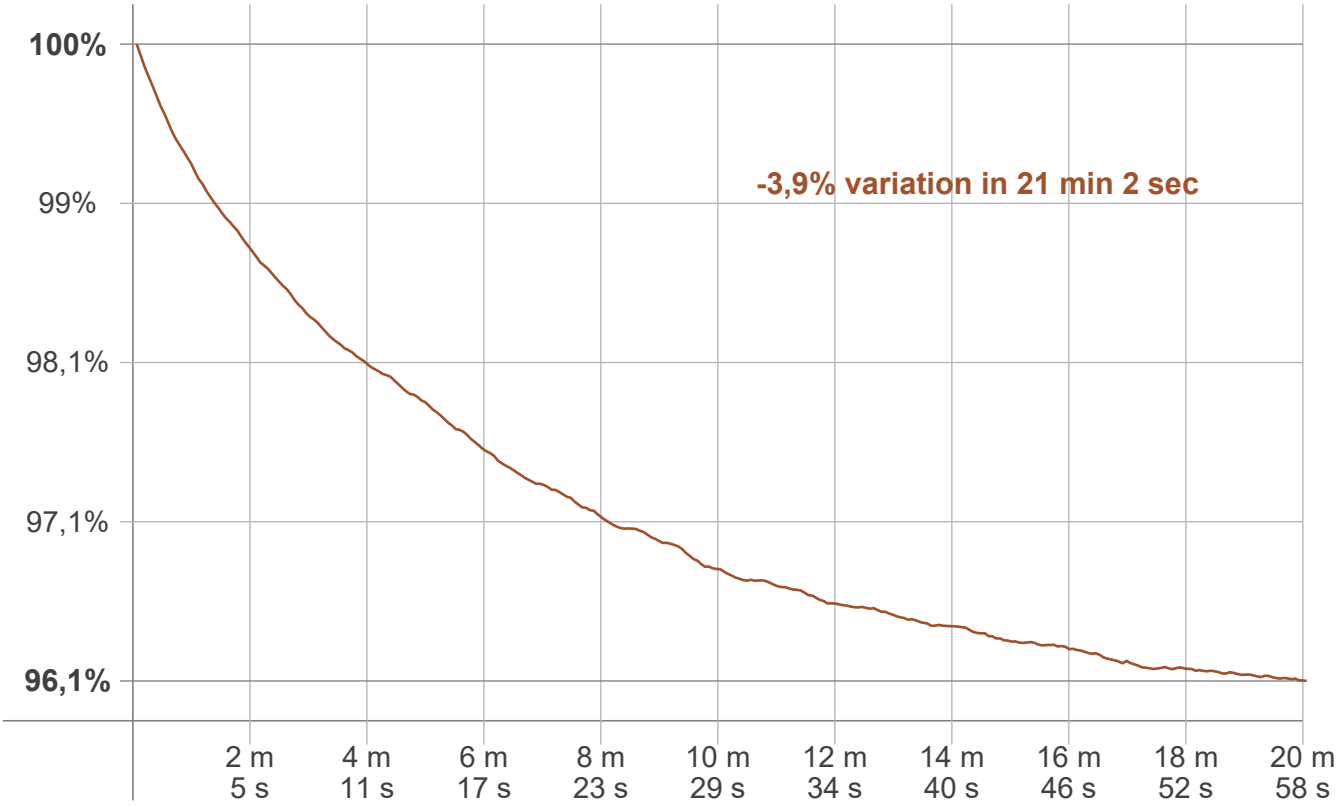


Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
18,6 lm	53,4 lm	81,9 lm	98,1 lm	106 lm	95,7 lm	67,6 lm	28,4 lm	6,44 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0,589 lm	0,468 lm	0,958 lm	0,266 lm	0,230 lm	0,186 lm	0,137 lm	0,084 lm	0,600 lm

Warmup curve



Warmup result

Warmup time:	**Lamp stabilized in 21 min 2 sec**
Warmup variation	**-4,0%**

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
11414 K	+658 K	12072 K

Output change

Output start	Output change	Output end
586 lm	-26 lm	560 lm