Light efficiency:

31 Lumen/Watt

Light quality:

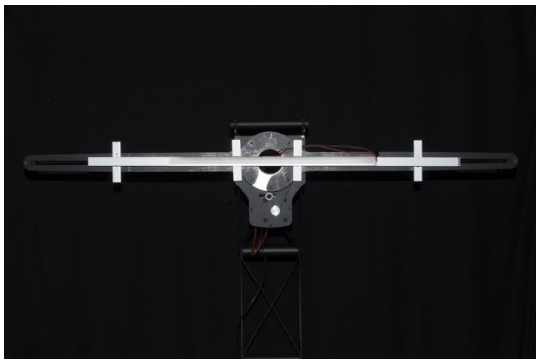
CRI: 34,2

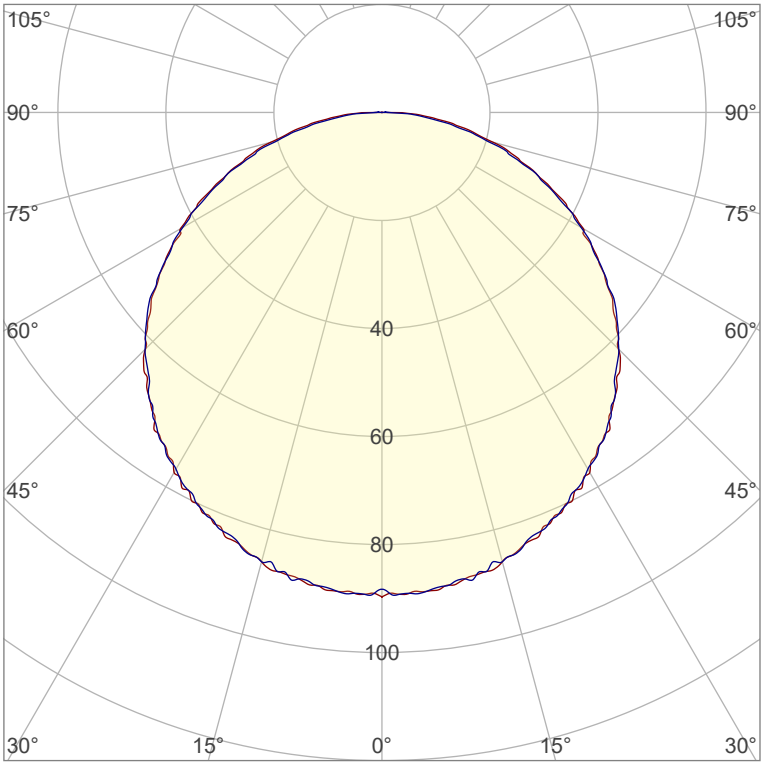
Color temperature:

10662 K

Output: 280 lm
Peak: 89,7 cd

Power: 9,1 W
PF: 1,0





CIE 1931
x: 0,274
y: 0,291

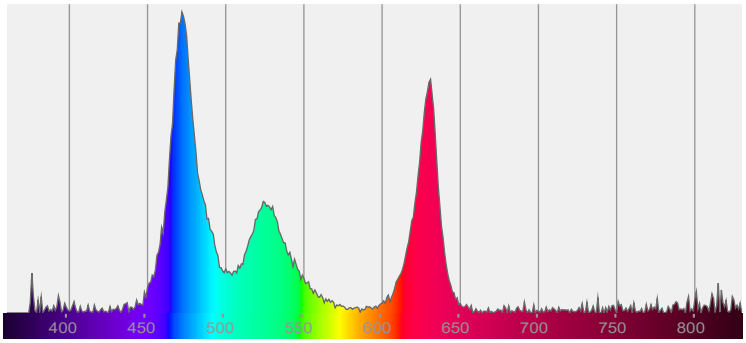
Product name:
Defiant-3_510mm_RGB_Cover-Flat-White

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

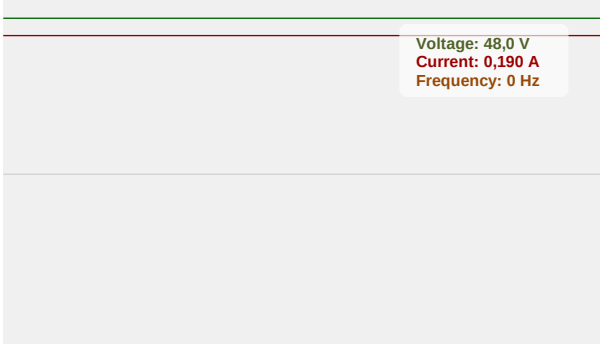
Date and time:
01.07.2020 12:32:24

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

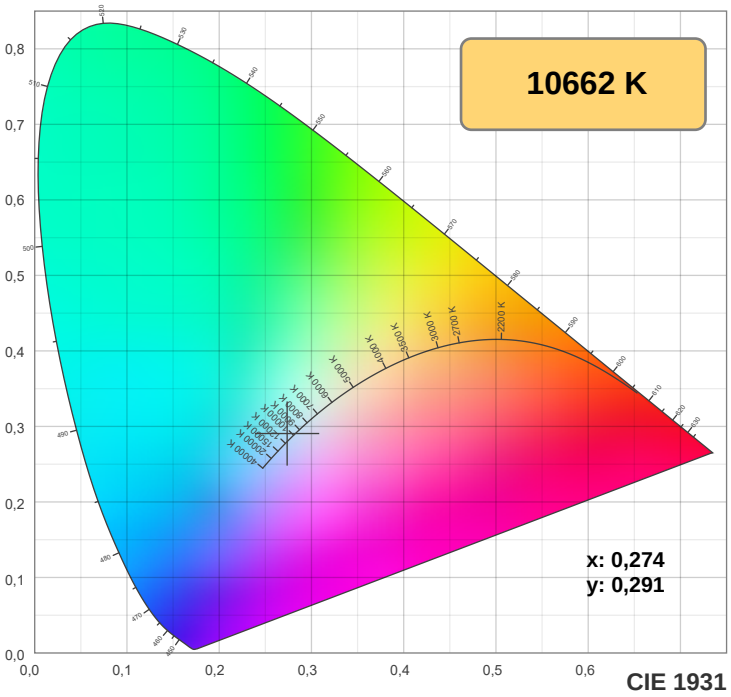
Spectra



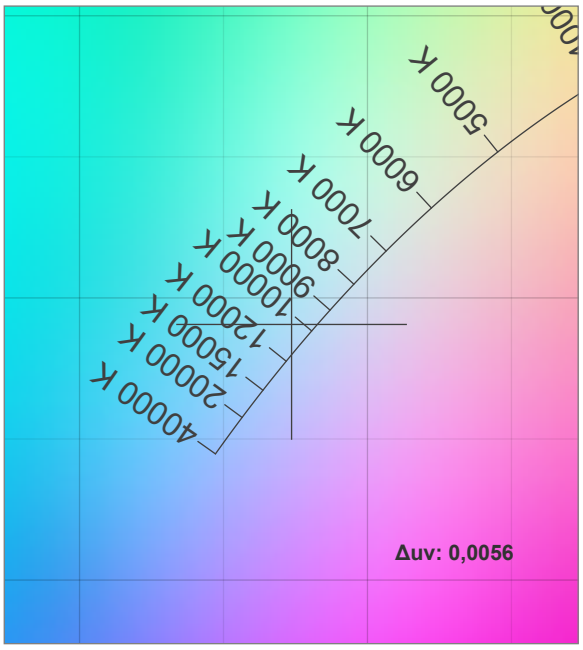
Power



Color details

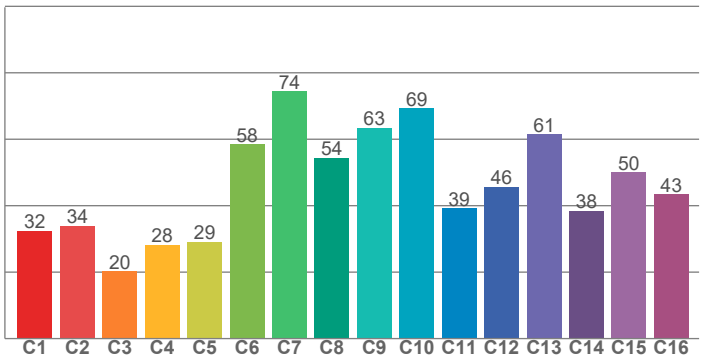


CIE 1931

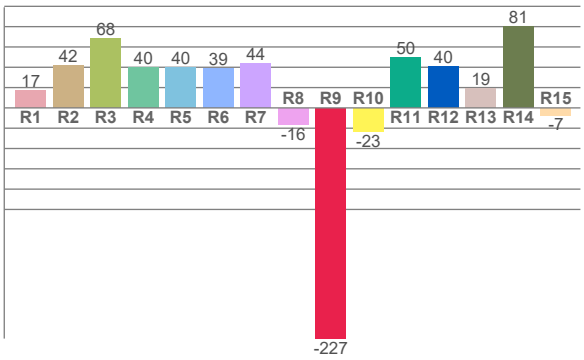


CIE 1931 ZOOM

TM30: 45,5



CRI: 34,2 (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
16,8	41,8	68,2	40,2	39,9	38,8	44,1	-16,5	-227,2	-23,3	49,5	40,5	19,1	80,5	-7,5

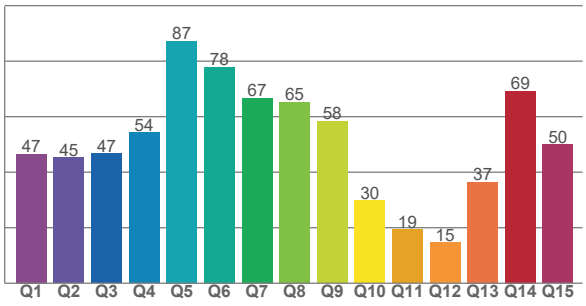
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
32,4	34,0	20,2	28,2	29,2	58,4	74,4	54,4	63,5	69,3	39,2	45,7	61,4	38,4	50,1	43,4

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
46,5	45,3	46,7	54,3	87,3	77,8	66,7	65,4	58,3	29,8	19,3	14,7	36,5	69,3	50,0

CQS: 46,8



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
10662 K	34,2	-227,2	45,5	89,4	46,8	0,274	0,291	0,184	0,294	0,0056

TM30 details

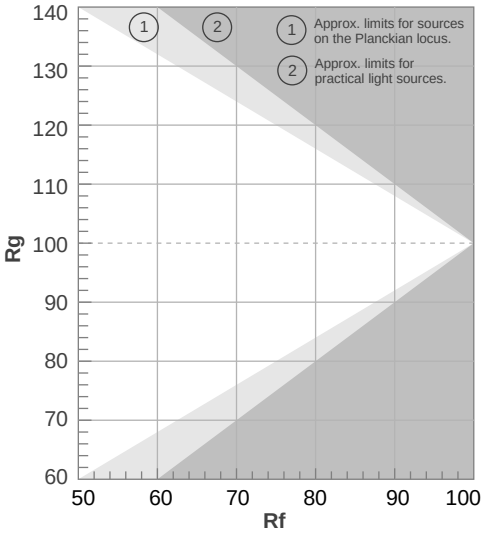
Rf 45,5

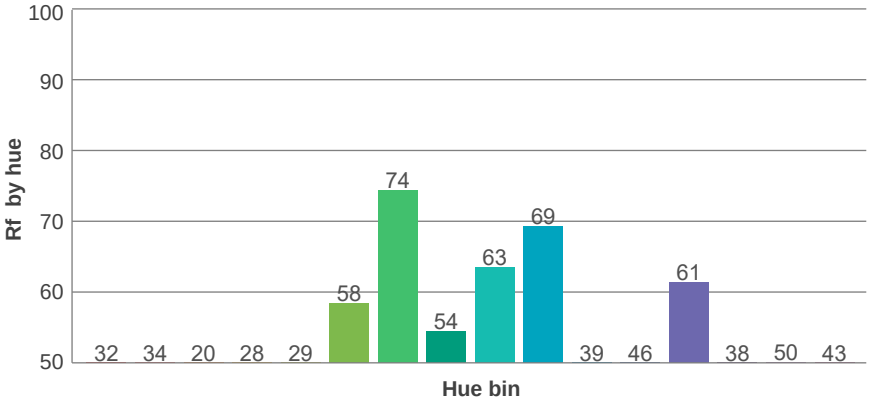
Fidelity index Rf

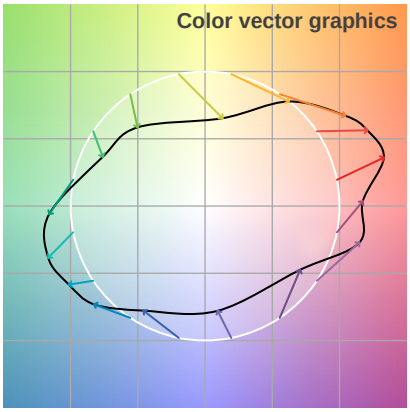
Rg 89,4

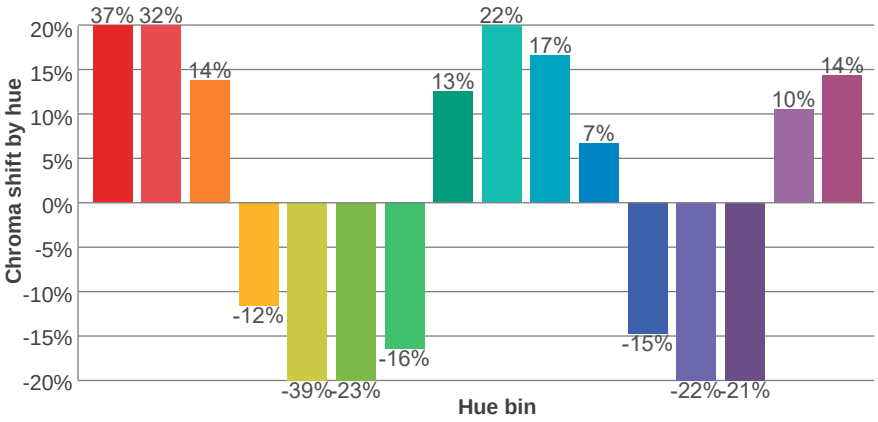
Gammut index Rg

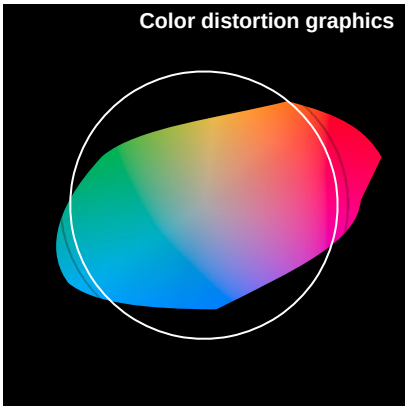
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	32	37%	9%
2	34	32%	-20%
3	20	14%	-49%
4	28	-12%	-46%
5	29	-39%	-25%
6	58	-23%	9%
7	74	-16%	12%
8	54	13%	29%
9	63	22%	15%
10	69	17%	-8%
11	39	7%	-28%
12	46	-15%	-30%
13	61	-22%	-6%
14	38	-21%	32%
15	50	10%	41%
16	43	14%	26%

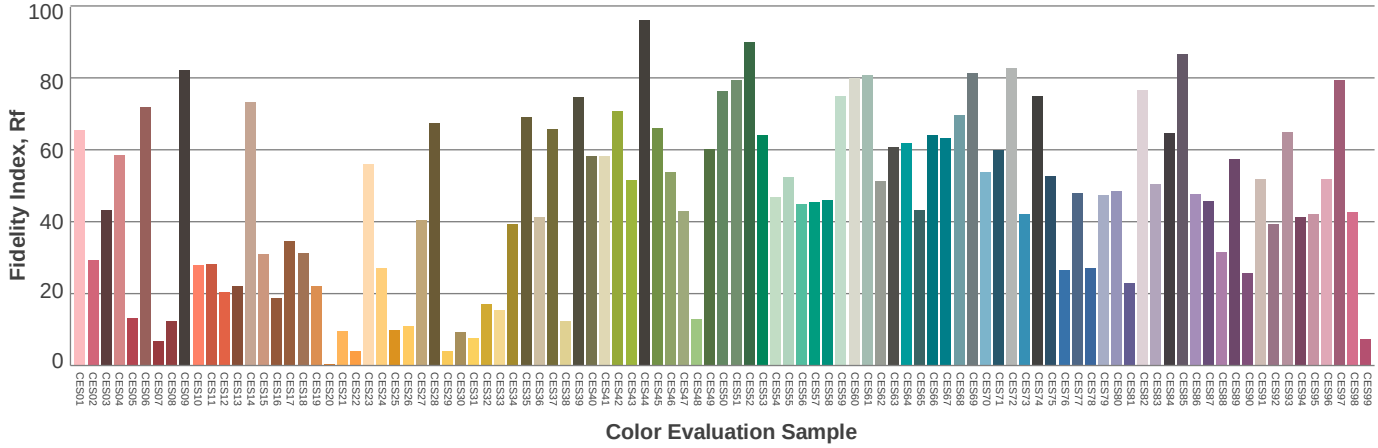




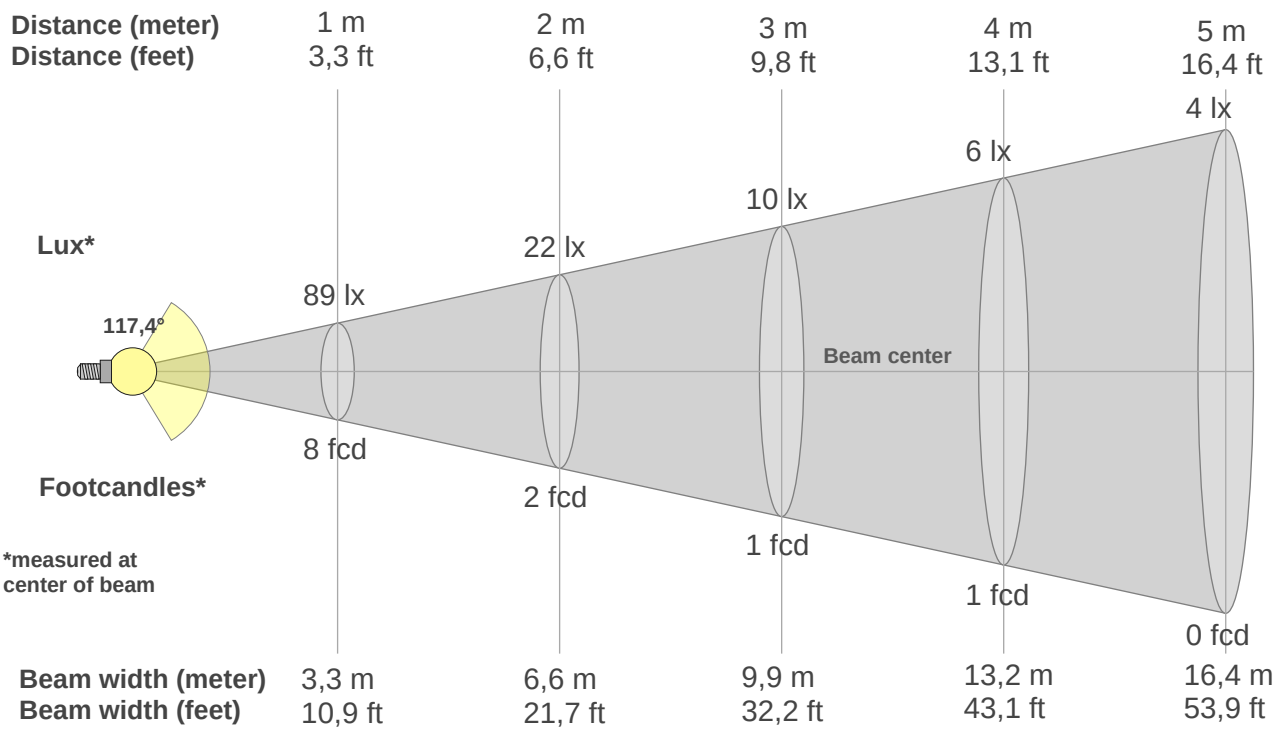








Beam details



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
89lx	22lx	10lx	6lx	4lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx
8,3fcd	2,1fcd	0,9fcd	0,5fcd	0,3fcd	0,2fcd	0,2fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	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°
89,2	89,1	87,8	86,1	83,8	80,2	76,9	72,4	67,5	62,0	55,9	49,2	43,0	35,7	28,3	21,3	14,2	8,1	1,6	1,5
100%	100%	98%	97%	94%	90%	86%	81%	76%	69%	63%	55%	48%	40%	32%	24%	16%	9%	2%	2%

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°
89,2	89,2	87,7	86,1	83,1	80,3	76,3	72,3	67,3	62,0	56,5	49,5	42,6	35,2	27,6	20,0	13,1	6,8	0,9	0,0
100%	100%	98%	96%	93%	90%	86%	81%	75%	70%	63%	55%	48%	39%	31%	22%	15%	8%	1%	0%

Intensities in 180° c-plane

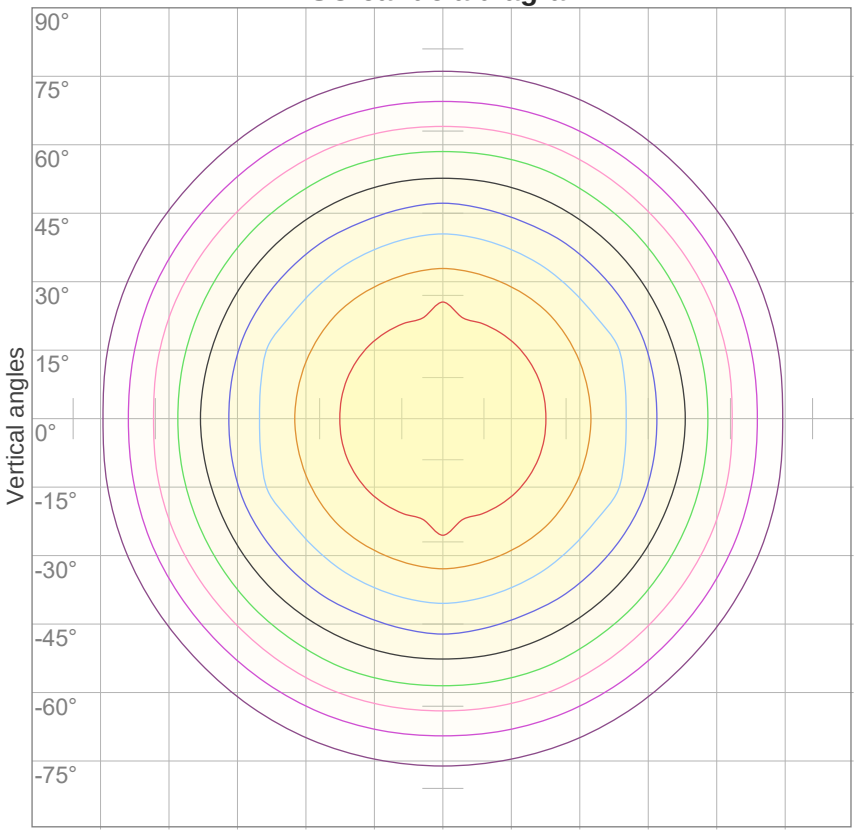
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
89,2	89,1	87,8	86,1	83,8	80,2	76,9	72,4	67,5	62,0	55,9	49,2	43,0	35,7	28,3	21,3	14,2	8,1	1,6	1,5
100%	100%	98%	97%	94%	90%	86%	81%	76%	69%	63%	55%	48%	40%	32%	24%	16%	9%	2%	2%

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°
89,2	89,2	87,7	86,1	83,1	80,3	76,3	72,3	67,3	62,0	56,5	49,5	42,6	35,2	27,6	20,0	13,1	6,8	0,9	0,0
100%	100%	98%	96%	93%	90%	86%	81%	75%	70%	63%	55%	48%	39%	31%	22%	15%	8%	1%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
117,4°	**167,9°**	**189,8°**	**74,0%**	**49,6%**

ISO candela diagram



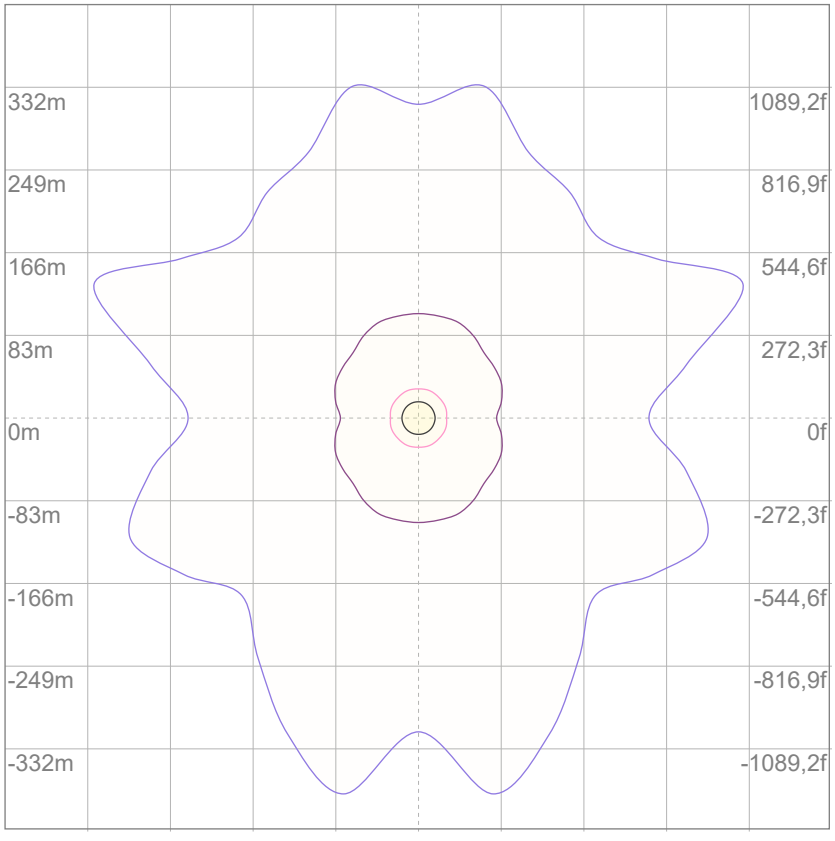
10%	9 cd
20%	18 cd
30%	27 cd
40%	36 cd
50%	45 cd
60%	54 cd
70%	62 cd
80%	71 cd
90%	80 cd

Conditions:

Number of c-planes: 16

Candela at center: 89 cd

ISO lux diagram



Mounting height: 10 meters (33 feet)

3%	26,8m lx
5%	44,6m lx
10%	89,2m lx
30%	0,268 lx
50%	0,446 lx

Conditions:

Number of c-planes: 16

Lux at center: 0,892 lx

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

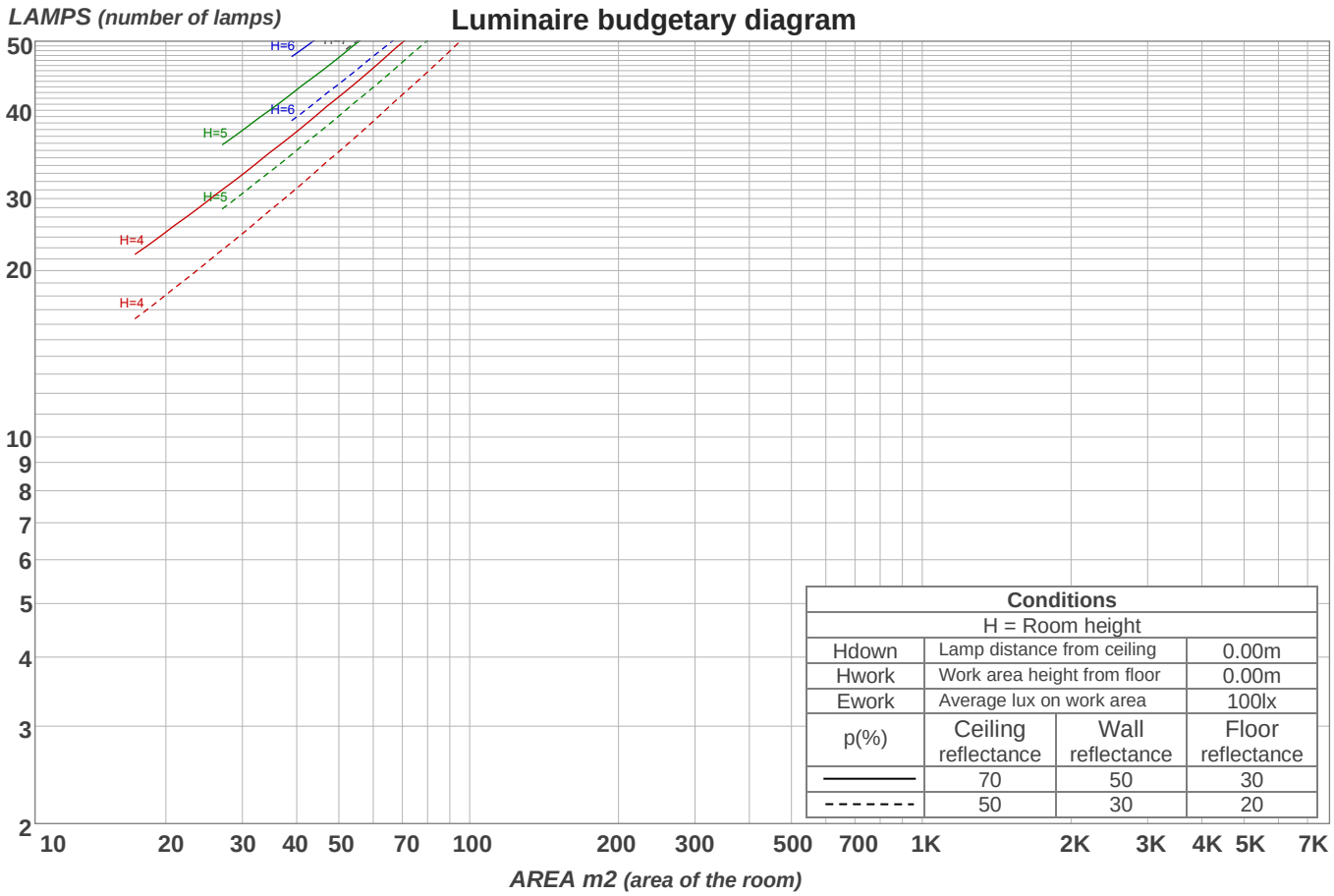
Glare Evaluation According to UGR

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	18,8	20,0	19,0	20,4	20,6	19,3	20,6	19,6	20,9	21,1
	3H	20,2	21,5	20,6	21,8	22,0	20,9	22,2	21,3	22,5	22,7
	4H	20,8	22,1	21,3	22,4	22,6	21,7	22,9	22,1	23,2	23,4
	6H	21,4	22,5	21,7	22,7	23,1	22,3	23,4	22,6	23,7	24,0
	8H	21,5	22,6	21,9	22,9	23,3	22,5	23,5	22,8	23,9	24,3
	12H	21,6	22,6	22,0	23,0	23,4	22,6	23,7	23,0	24,0	24,4
4H	2H	19,4	20,7	19,8	21,0	21,2	19,9	21,1	20,3	21,4	21,6
	3H	21,2	22,2	21,6	22,6	23,0	21,8	22,8	22,1	23,2	23,6
	4H	21,9	22,8	22,3	23,2	23,8	22,5	23,5	23,0	23,9	24,5
	6H	22,4	23,4	22,9	23,7	24,1	23,2	24,1	23,7	24,5	24,9
	8H	22,6	23,5	23,1	23,9	24,2	23,5	24,3	24,0	24,7	25,1
	12H	22,8	23,5	23,3	23,9	24,4	23,7	24,4	24,2	24,8	25,3
8H	4H	22,2	23,0	22,7	23,4	23,8	22,8	23,6	23,3	24,0	24,4
	6H	22,9	23,6	23,4	24,0	24,6	23,6	24,3	24,1	24,7	25,3
	8H	23,2	23,8	23,8	24,3	25,0	24,0	24,6	24,5	25,1	25,7
	12H	23,5	23,9	24,0	24,4	25,1	24,3	24,8	24,9	25,3	25,9
12H	4H	22,2	22,9	22,7	23,3	23,8	22,8	23,5	23,3	23,9	24,4
	6H	23,0	23,6	23,5	24,1	24,8	23,7	24,3	24,2	24,8	25,4
	8H	23,4	23,8	23,9	24,3	25,0	24,1	24,6	24,7	25,1	25,7
Variation of the observer position for the luminaire distance S											
S = 1.0H		0,1 / -0,1					0,0 / -0,1				
S = 1.5H		0,1 / -0,2					0,1 / -0,2				
S = 2.0H		0,4 / -0,5					0,4 / -0,4				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 280 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	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	107	102	98	94	104	100	96	92	95	92	89	91	88	85	87	85	82	80
2	97	89	81	75	94	87	80	74	83	77	72	79	74	70	75	72	68	66
3	88	77	69	62	86	76	68	62	72	66	60	69	64	59	66	62	57	55
4	81	68	59	52	78	67	58	52	64	57	51	61	55	50	59	54	49	47
5	74	61	52	45	72	60	51	45	57	50	44	55	48	43	53	47	42	40
6	68	55	46	39	66	54	45	39	52	44	38	50	43	38	48	42	37	35
7	63	50	41	34	61	49	40	34	47	39	34	45	38	33	44	38	33	31
8	59	45	37	31	57	44	36	30	43	35	30	41	35	30	40	34	29	27
9	55	41	33	27	53	41	33	27	39	32	27	38	31	27	37	31	26	25
10	52	38	30	25	50	38	30	25	36	29	24	35	29	24	34	28	24	22

Luminaire budgetary diagram

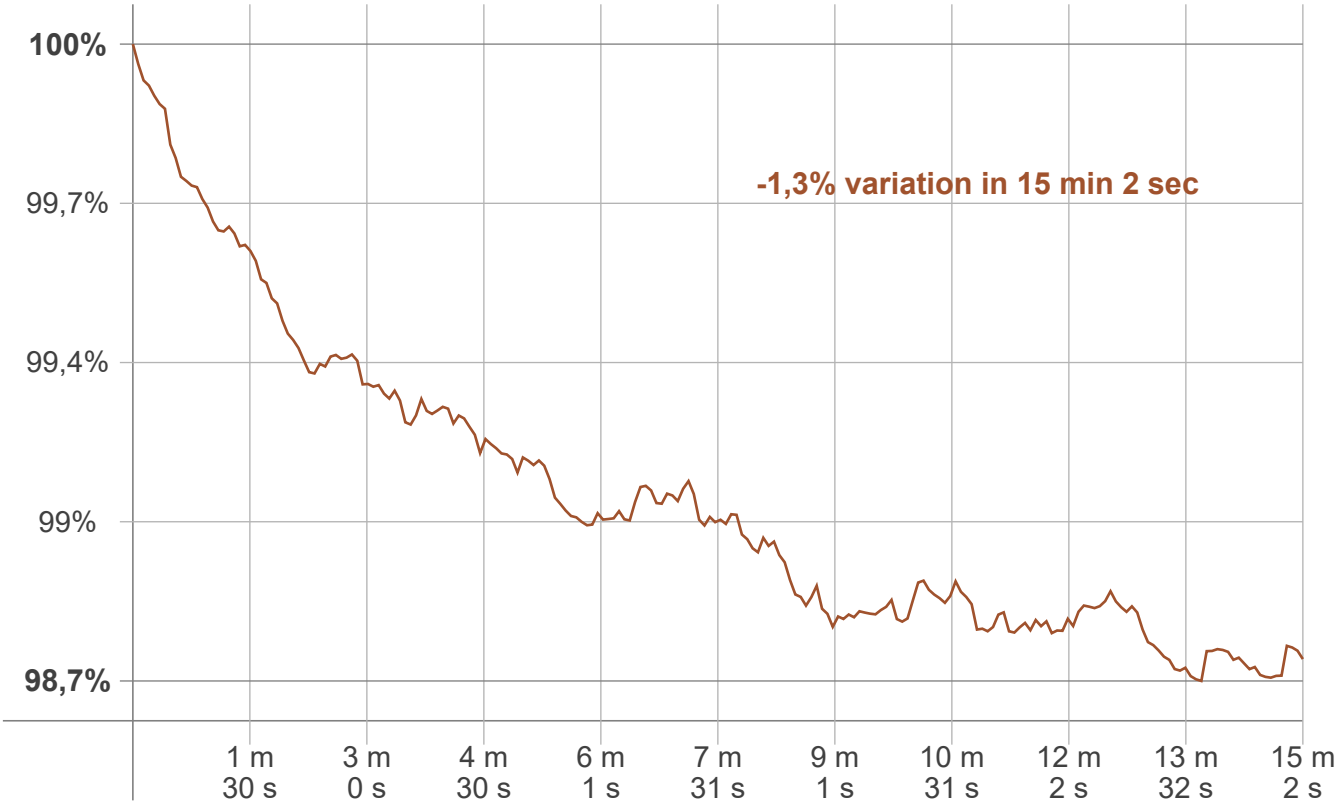


Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
8,45 lm	24,3 lm	37,1 lm	45,3 lm	47,8 lm	44,4 lm	35,4 lm	22,3 lm	8,41 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
2,15 lm	2,06 lm	0,823 lm	0,569 lm	0,404 lm	0,269 lm	0,198 lm	0,121 lm	0,041 lm

Warmup curve



Warmup result

Warmup time:	**Lamp stabilized in 15 min 2 sec**
Warmup variation	**-1,3%**

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
10473 K	+189 K	10662 K

Output change

Output start	Output change	Output end
284 lm	-4 lm	280 lm