Light efficiency:

59 Lumen/Watt

Light quality:

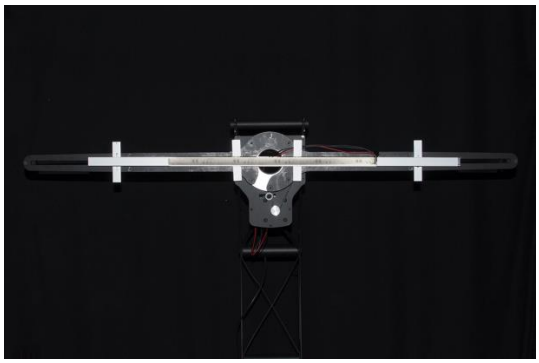
CRI: 35,7

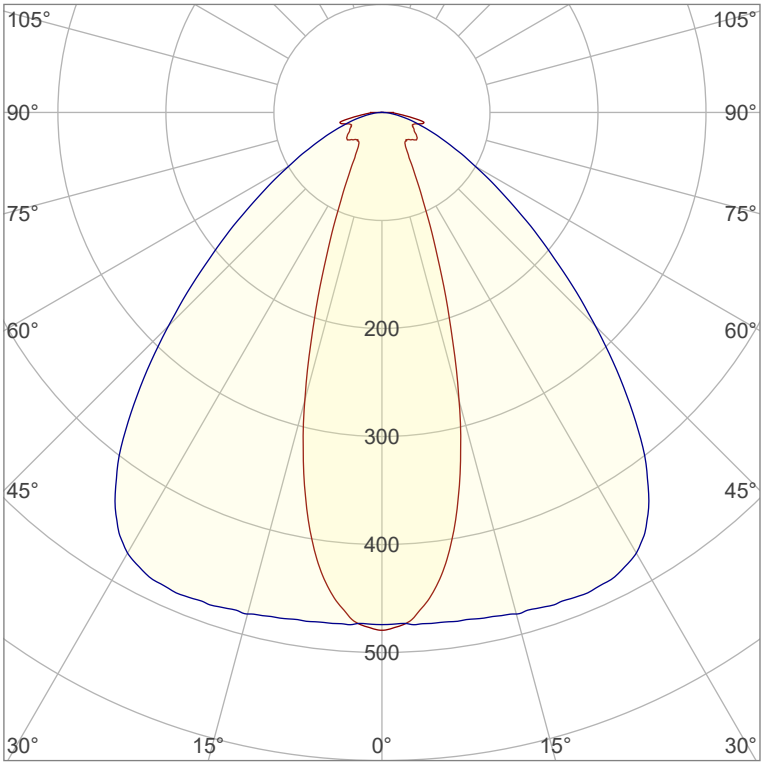
Color temperature:

11872 K

Output: 535 lm
Peak: 484 cd

Power: 9,1 W
PF: 1,0





CIE 1931
x: 0,267
y: 0,287

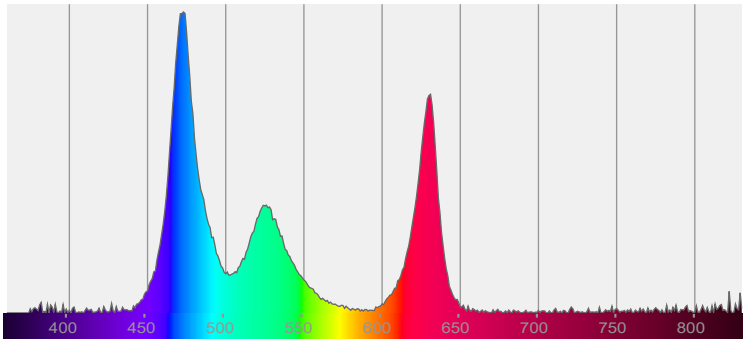
Product name:
Defiant-3_510mm_RGB_Lens-30°-Frosted

Item number:
NP/L3C/22C/0510/RGB/L3F

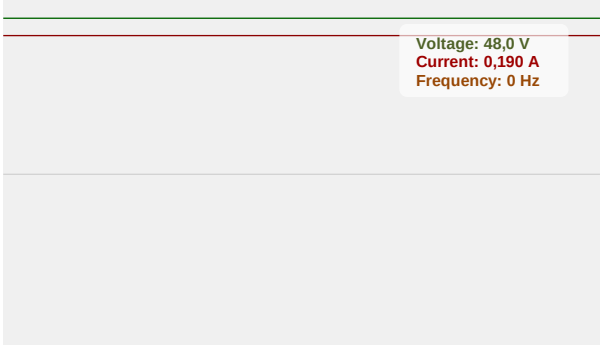
Date and time:
08.07.2020 13:03:06

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

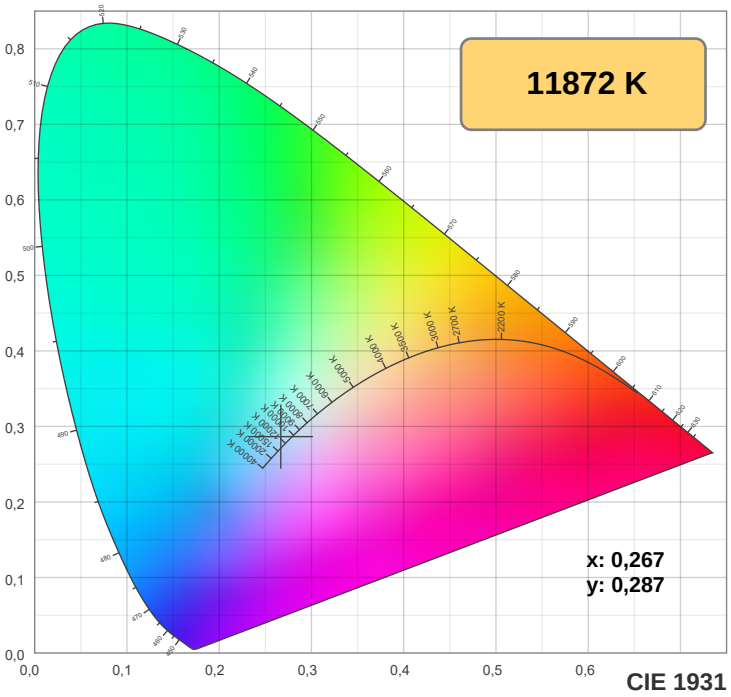
Spectra

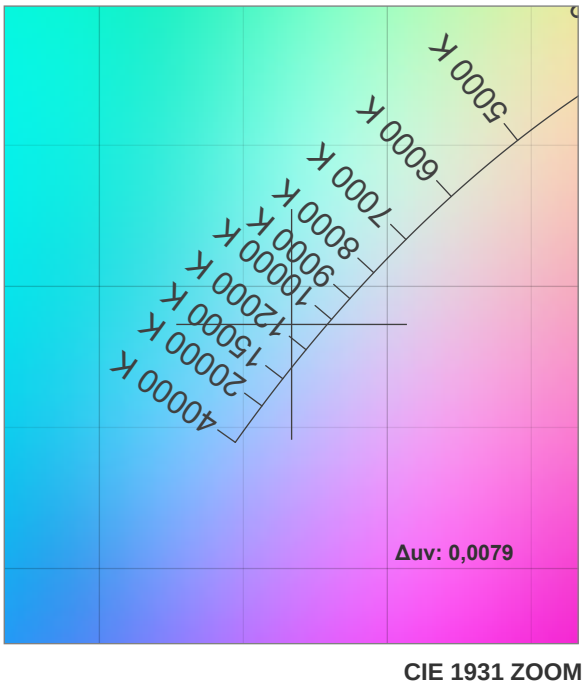


Power

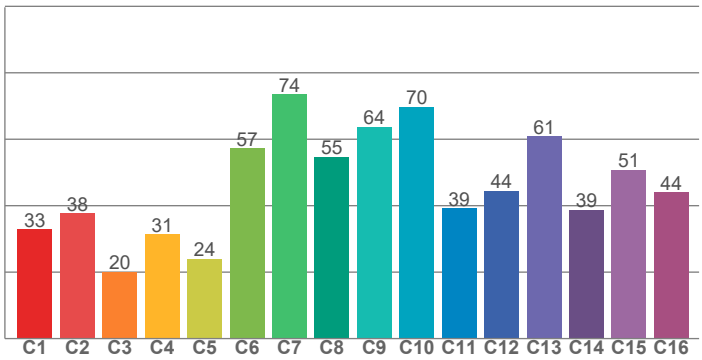


Color details

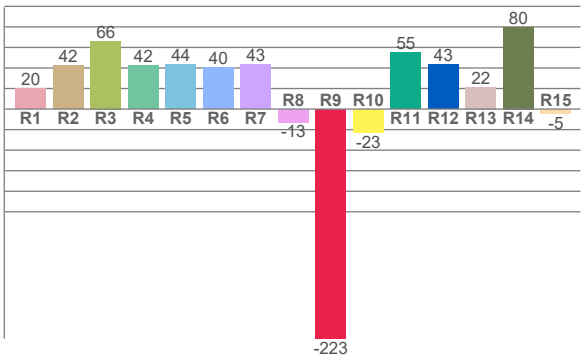




TM30: 45,1



CRI: 35,7 (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	42,2	66,3	42,4	43,6	40,3	43,5	-12,8	-223,4	-23,0	55,0	43,3	21,5	79,9	-4,8

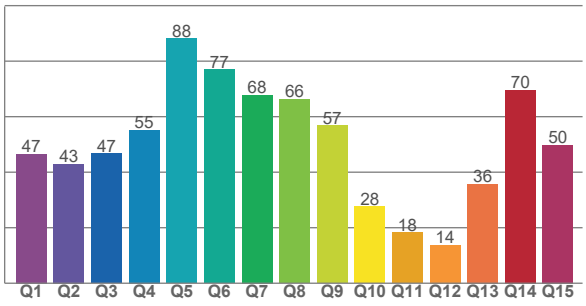
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
32,9	37,6	20,1	31,4	23,9	57,3	73,5	54,7	63,7	69,8	39,2	44,4	60,9	38,7	50,8	44,0

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
46,6	43,0	46,7	55,2	88,2	76,9	67,9	66,2	56,7	27,7	18,3	13,9	35,8	69,6	49,8

CQS: 46,2



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
11872 K	35,7	-223,4	45,1	88,0	46,2	0,267	0,287	0,181	0,291	0,0079

TM30 details

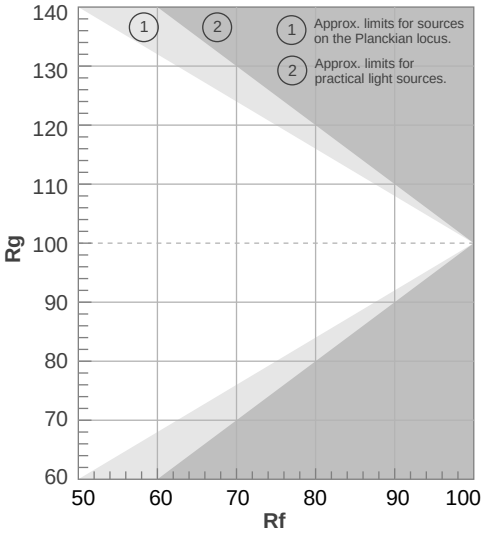
Rf 45,1

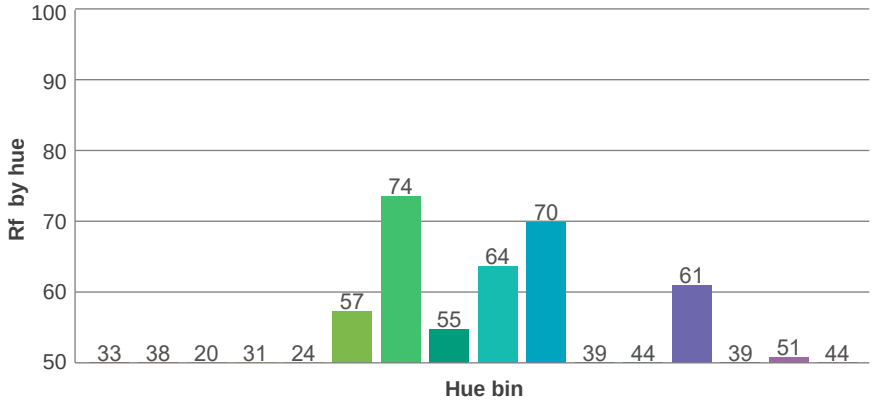
Fidelity index Rf

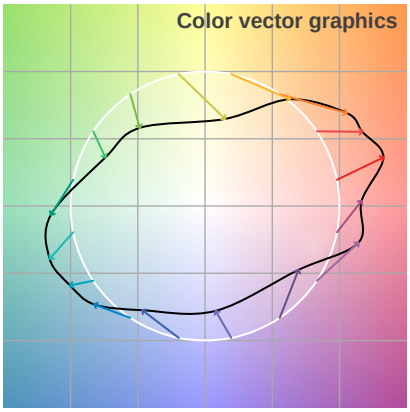
Rg 88,0

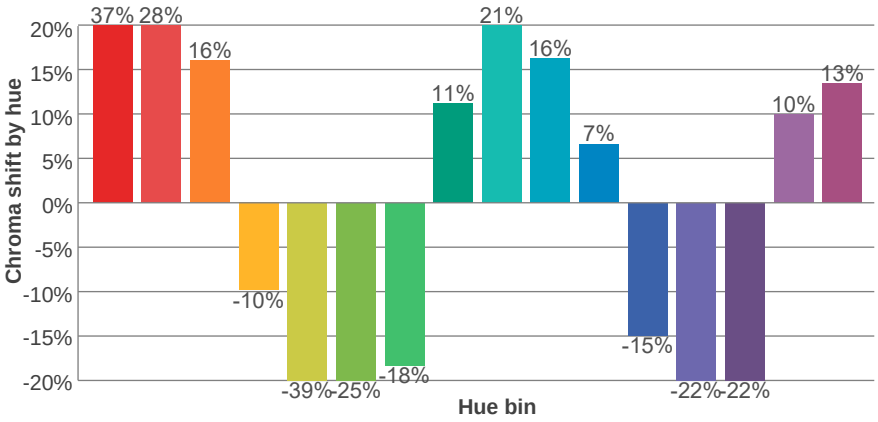
Gammut index Rg

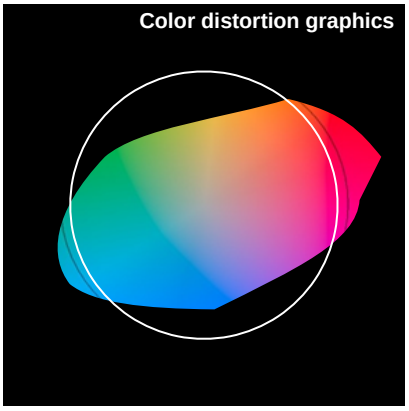
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	33	37%	10%
2	38	28%	-19%
3	20	16%	-49%
4	31	-10%	-47%
5	24	-39%	-27%
6	57	-25%	8%
7	74	-18%	11%
8	55	11%	29%
9	64	21%	16%
10	70	16%	-7%
11	39	7%	-28%
12	44	-15%	-31%
13	61	-22%	-7%
14	39	-22%	31%
15	51	10%	41%
16	44	13%	26%

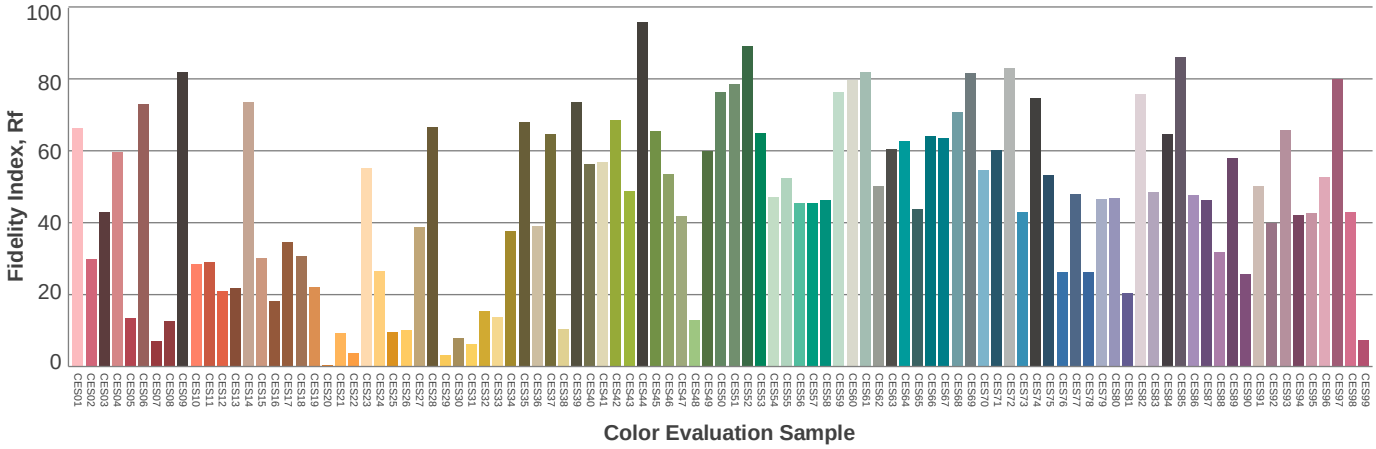




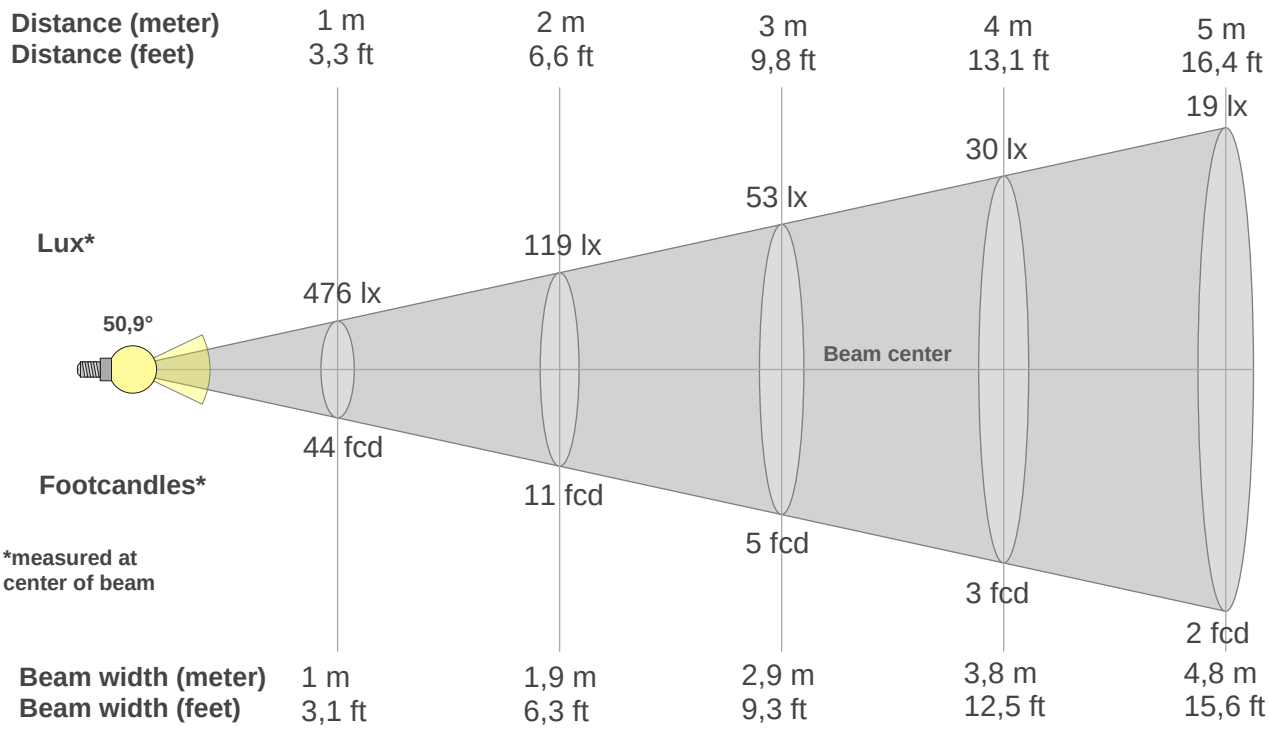








Beam details



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
476lx	119lx	53lx	30lx	19lx	13lx	10lx	7lx	6lx	5lx	4lx	3lx	3lx	2lx	2lx	2lx	2lx	1lx	1lx	1lx
44,3fcd	11,1fcd	4,9fcd	2,8fcd	1,8fcd	1,2fcd	0,9fcd	0,7fcd	0,5fcd	0,4fcd	0,4fcd	0,3fcd	0,3fcd	0,2fcd	0,2fcd	0,2fcd	0,2fcd	0,1fcd	0,1fcd	0,1fcd

Intensities in 0° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
476	476	465	447	422	388	347	301	251	204	163	128	101	81	65	54	46	40	37	35
100%	100%	98%	94%	89%	81%	73%	63%	53%	43%	34%	27%	21%	17%	14%	11%	10%	8%	8%	7%

Intensities in 90° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
476	474	475	475	476	476	478	479	480	482	482	483	483	482	477	471	459	442	418	392
100%	99%	100%	100%	100%	100%	100%	101%	101%	101%	101%	101%	101%	101%	100%	99%	96%	93%	88%	82%

Intensities in 180° c-plane

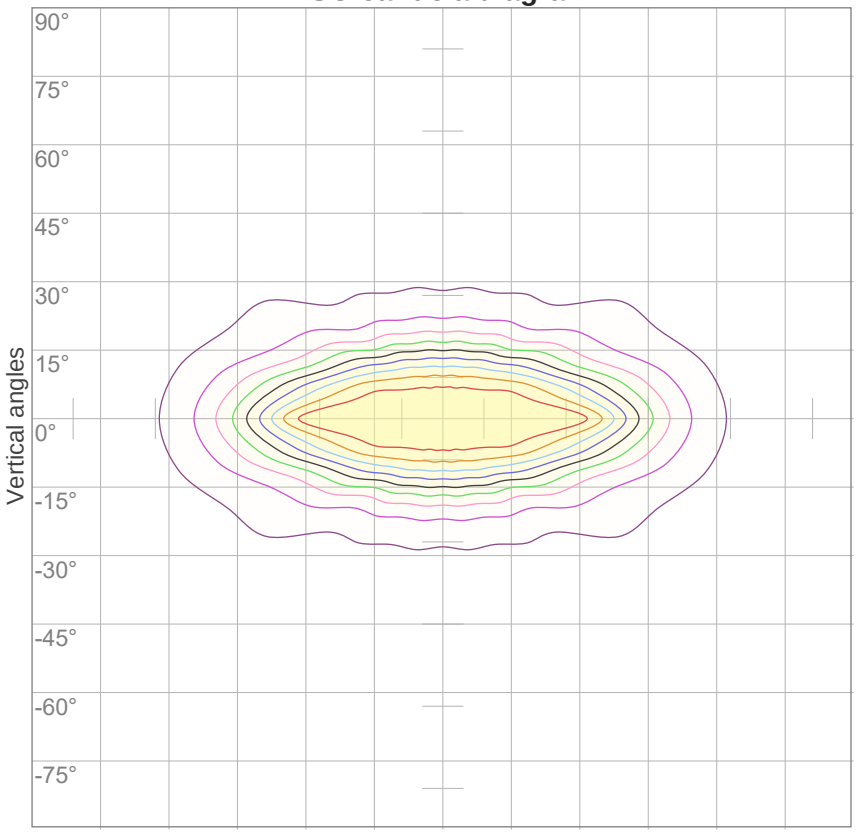
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
476	476	465	447	422	388	347	301	251	204	163	128	101	81	65	54	46	40	37	35
100%	100%	98%	94%	89%	81%	73%	63%	53%	43%	34%	27%	21%	17%	14%	11%	10%	8%	8%	7%

Intensities in 270° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
476	474	475	475	476	476	478	479	480	482	482	483	483	482	477	471	459	442	418	392
100%	99%	100%	100%	100%	100%	100%	101%	101%	101%	101%	101%	101%	101%	100%	99%	96%	93%	88%	82%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
50,9°	**89,6°**	**170,8°**	**82,6%**	**68,2%**

ISO candela diagram



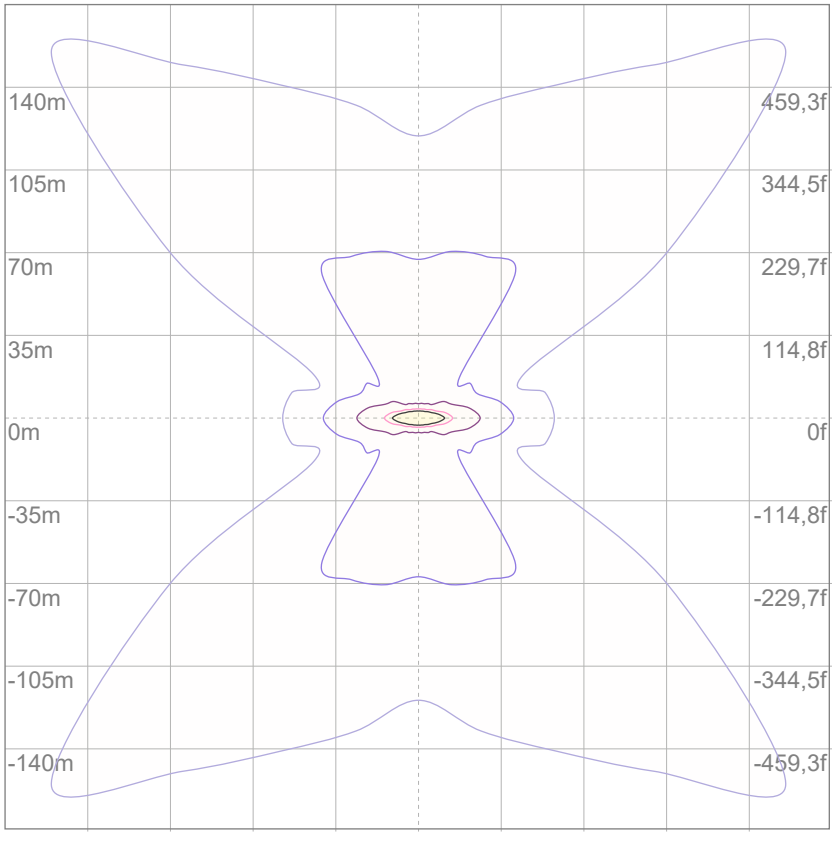
10%	48 cd
20%	95 cd
30%	143 cd
40%	191 cd
50%	238 cd
60%	286 cd
70%	334 cd
80%	381 cd
90%	429 cd

Conditions:

Number of c-planes: 16

Candela at center: 476 cd

ISO lux diagram



Mounting height: 10 meters (33 feet)

3%	0,143 lx
5%	0,238 lx
10%	0,476 lx
30%	1,43 lx
50%	2,38 lx

Conditions:

Number of c-planes: 16

Lux at center: 4,76 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	13,5	14,5	13,7	14,7	14,9	21,3	22,3	21,5	22,5	22,7
	3H	15,6	16,7	16,0	16,9	17,1	22,0	23,1	22,4	23,3	23,5
	4H	17,4	18,4	17,8	18,7	18,9	22,3	23,4	22,7	23,6	23,9
	6H	19,0	19,9	19,3	20,2	20,6	22,6	23,5	22,9	23,8	24,2
	8H	19,4	20,2	19,7	20,5	20,9	22,7	23,6	23,0	23,9	24,3
	12H	19,6	20,4	19,9	20,7	21,2	22,7	23,6	23,1	23,9	24,3
4H	2H	14,2	15,3	14,6	15,5	15,8	21,1	22,1	21,5	22,3	22,6
	3H	16,7	17,5	17,1	17,9	18,3	22,0	22,9	22,4	23,2	23,6
	4H	18,5	19,3	19,0	19,7	20,3	22,4	23,1	22,8	23,6	24,1
	6H	20,3	21,1	20,8	21,4	21,8	22,7	23,5	23,2	23,8	24,2
	8H	20,8	21,5	21,3	21,8	22,2	22,8	23,5	23,3	23,9	24,3
	12H	21,0	21,6	21,5	22,0	22,5	22,9	23,5	23,4	23,9	24,4
8H	4H	18,9	19,7	19,5	20,0	20,4	22,4	23,1	22,9	23,5	23,8
	6H	21,0	21,5	21,5	22,0	22,5	22,9	23,4	23,4	23,9	24,4
	8H	21,6	22,1	22,1	22,6	23,2	23,1	23,5	23,6	24,1	24,7
	12H	22,0	22,4	22,5	22,9	23,5	23,3	23,6	23,8	24,1	24,8
12H	4H	19,0	19,6	19,5	20,0	20,5	22,4	23,0	22,9	23,4	23,9
	6H	21,2	21,6	21,7	22,1	22,8	23,0	23,4	23,5	23,9	24,6
	8H	21,8	22,2	22,4	22,7	23,3	23,2	23,6	23,8	24,1	24,7

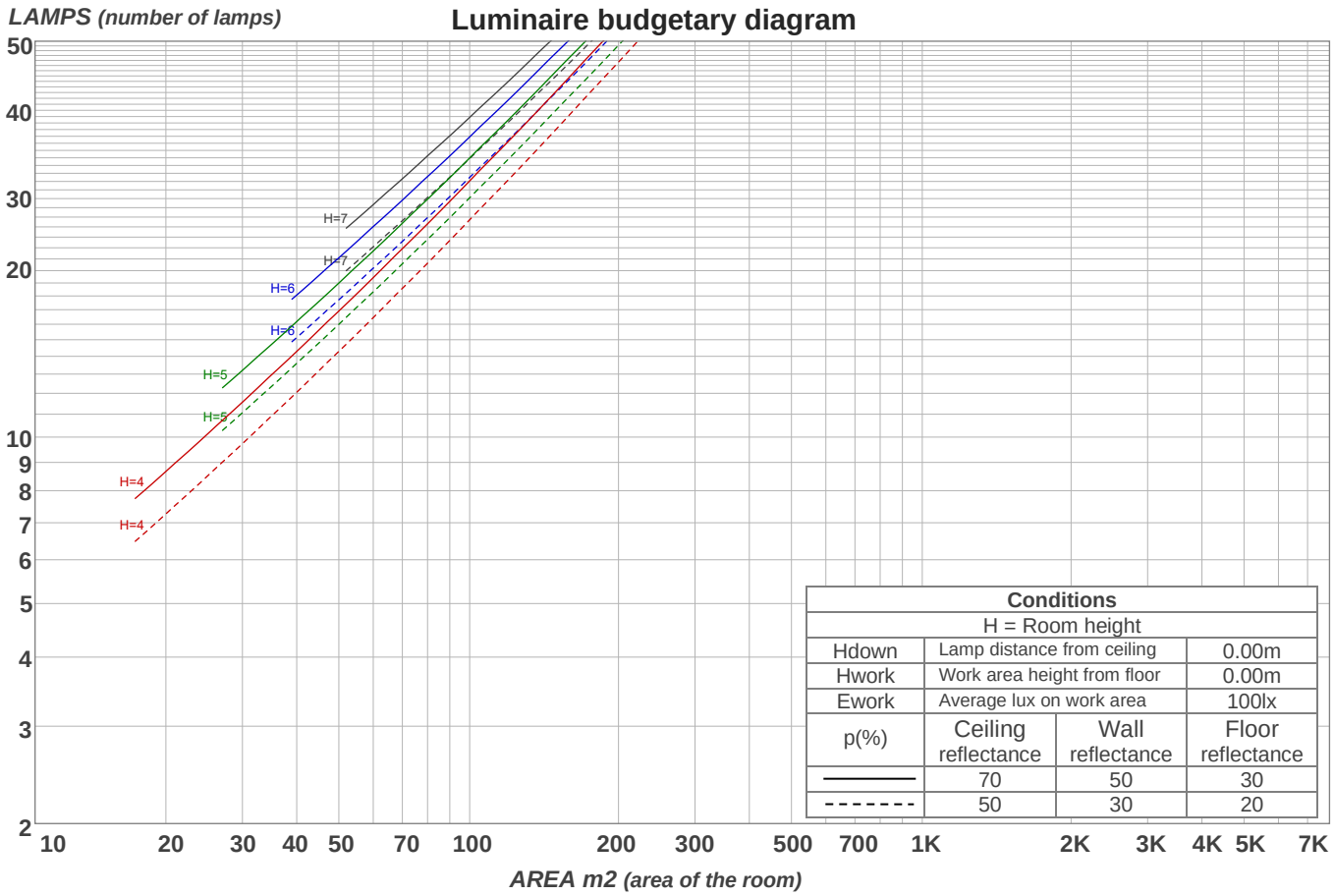
Variation of the observer position for the luminaire distance S		
S = 1.0H	0,1 / 0,0	1,0 / -0,9
S = 1.5H	0,1 / 0,0	2,3 / -1,8
S = 2.0H	0,2 / -0,2	3,6 / -2,5
Standard table	n/a	n/a
Correction summand	n/a	n/a

Corrected glare indices referring to 535 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	109	109	109	104	104	104	99	99	99	97
1	109	105	101	98	106	103	99	96	98	95	92	93	91	89	89	88	86	84
2	101	94	88	83	99	92	87	82	88	84	80	85	81	78	81	78	76	73
3	94	85	78	73	92	83	77	72	80	75	70	77	73	69	74	70	67	65
4	88	78	70	64	85	76	69	64	73	67	63	71	66	62	68	64	61	59
5	82	71	64	58	80	70	63	58	68	61	57	65	60	56	63	59	55	53
6	77	66	58	53	75	65	58	52	63	56	52	61	55	51	59	54	50	49
7	73	61	53	48	71	60	53	48	58	52	47	57	51	47	55	50	46	45
8	68	57	49	44	67	56	49	44	55	48	44	53	48	43	52	47	43	41
9	65	53	46	41	63	52	46	41	51	45	41	50	44	40	49	44	40	38
10	61	50	43	38	60	49	43	38	48	42	38	47	42	38	46	41	38	36

Luminaire budgetary diagram

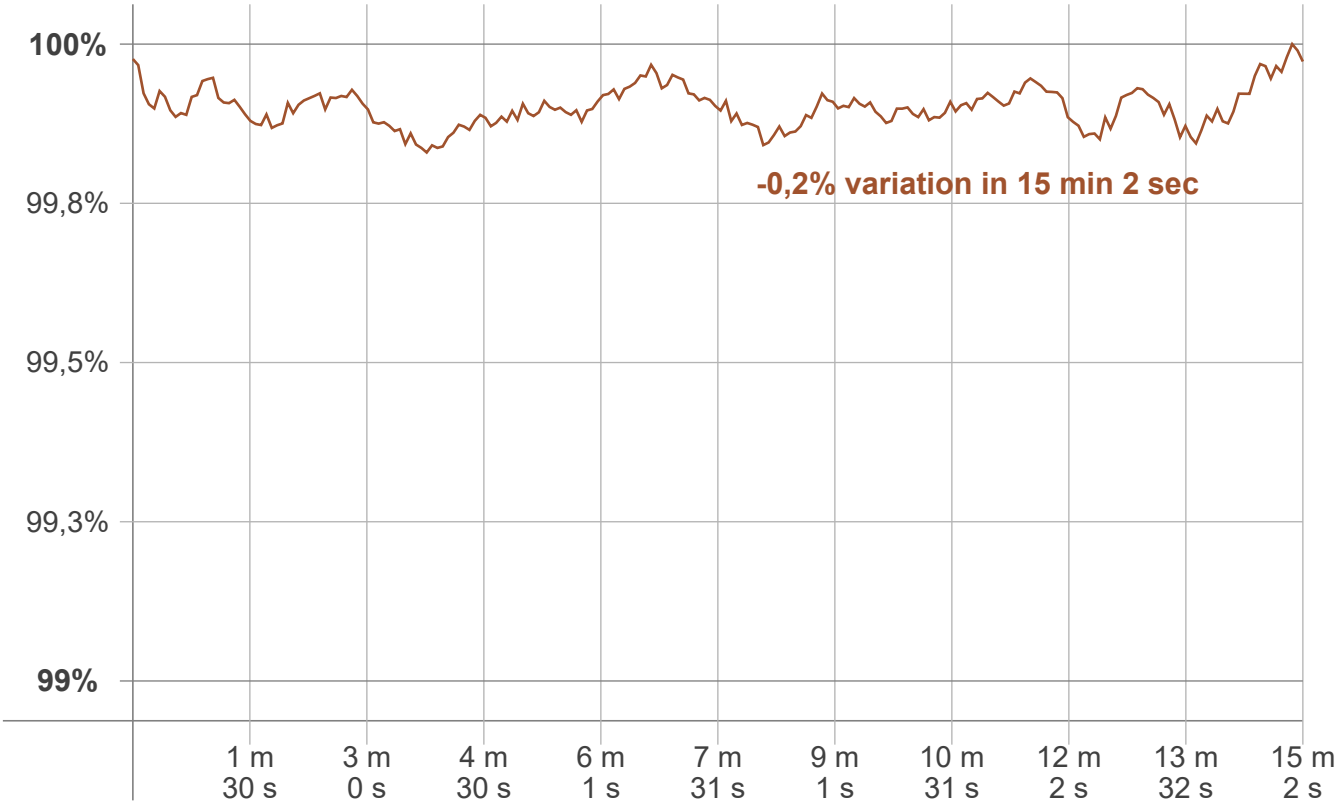


Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
43,4 lm	102 lm	103 lm	82,2 lm	62,4 lm	47,9 lm	34,1 lm	27,2 lm	15,2 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
6,14 lm	3,70 lm	2,04 lm	1,74 lm	1,23 lm	0,796 lm	0,586 lm	0,359 lm	0,121 lm

Warmup curve



Warmup result

Warmup time:	**Lamp stabilized in 15 min 2 sec**
Warmup variation	**+0,2%**

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
11856 K	+16 K	11872 K

Output change

Output start	Output change	Output end
536 lm	-1 lm	535 lm