Light efficiency:

59 Lumen/Watt

Light quality:

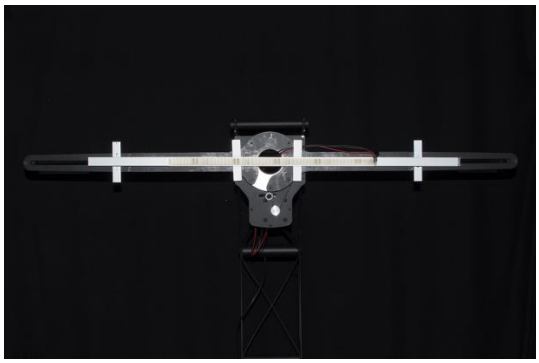
CRI: 35,1

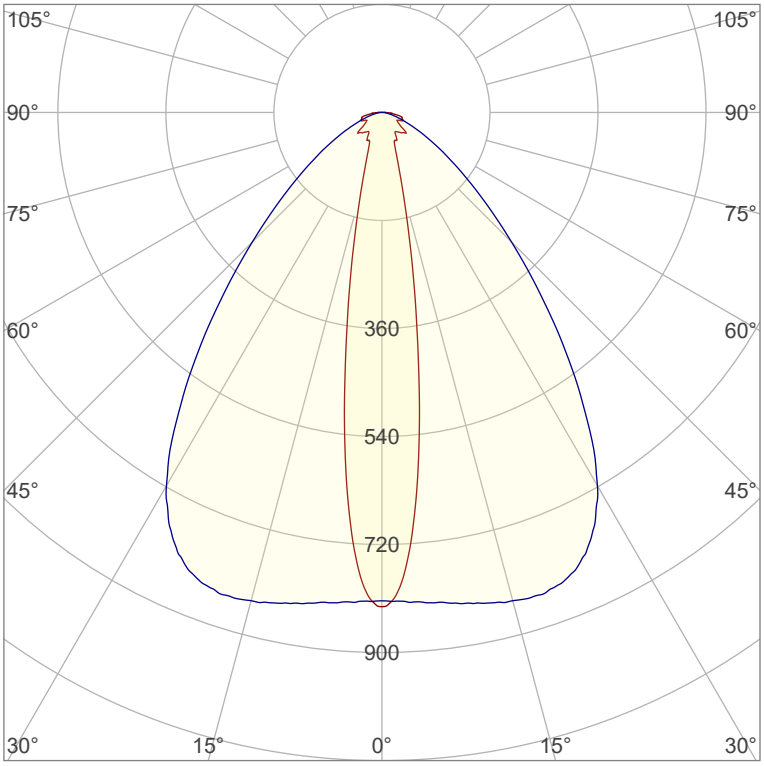
Color temperature:

11717 K

Output: 535 lm
Peak: 846 cd

Power: 9,1 W
PF: 1,0





Product name:
Defiant-3_510mm_RGB_Lens-15°-Frosted

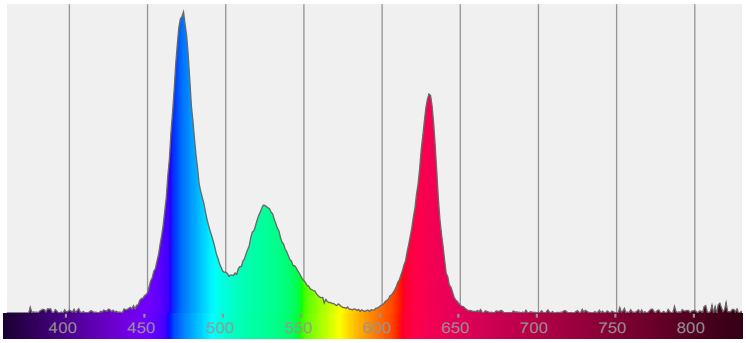
Item number:
NP/L3C/22C/0510/RGB/L1F

Date and time:
08.07.2020 14:02:14

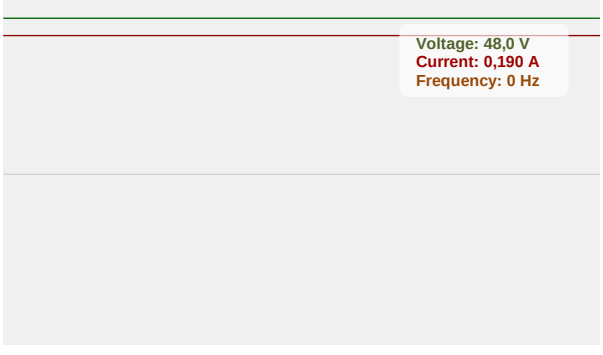
Description:
Toleranzen:
Lumen +/-4%
Candela +/-2,5%
Colour Temp +/-35 K
CRI +/-0,7
Angular Resolution 1 Grad Step
Last Calibration 20.05.2020
Pruefer:
Peter Ulrich
Pruefort:
Lichtlabor
Gaustrasse 13
55411 Bingen am Rhein

CIE 1931
x: 0,268
y: 0,287

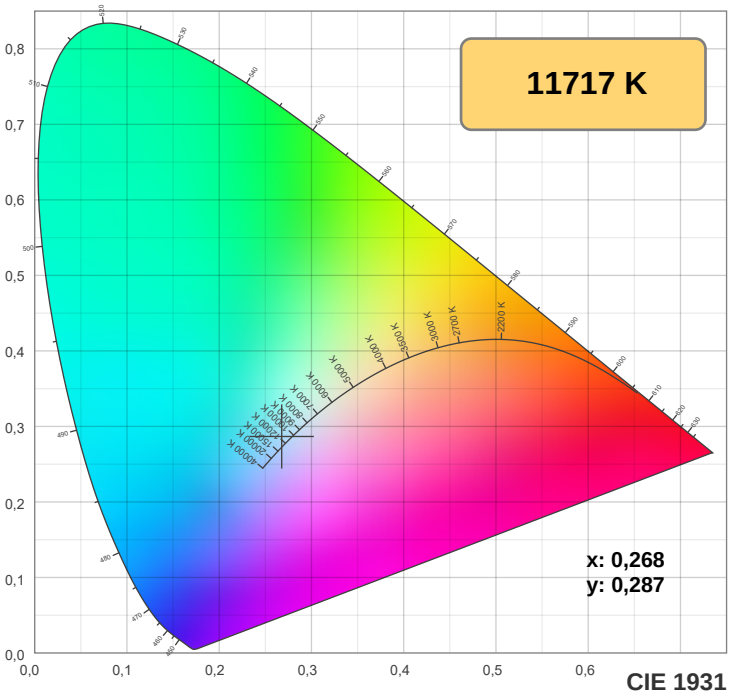
Spectra

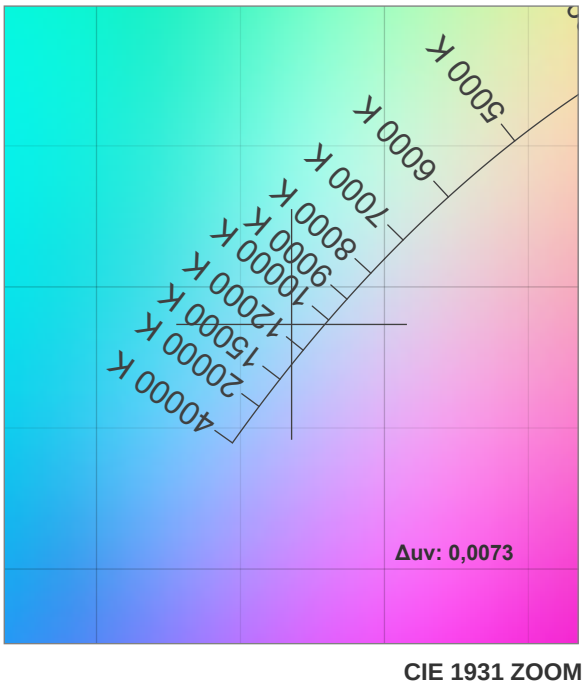


Power

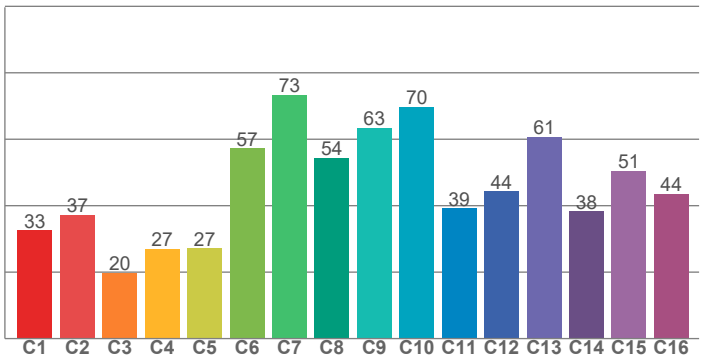


Color details

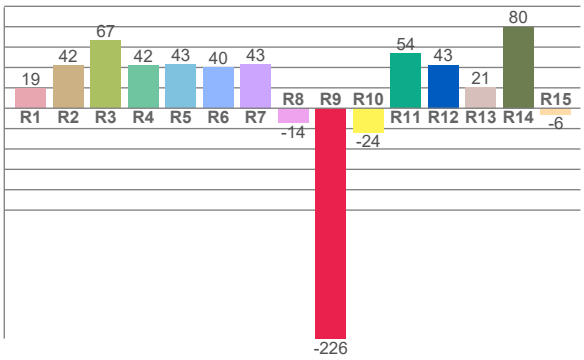




TM30: 44,9



CRI: 35,1 (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
19,2	41,8	66,5	41,7	42,7	39,8	43,3	-14,2	-226,1	-23,7	53,9	42,6	20,6	79,9	-6,0

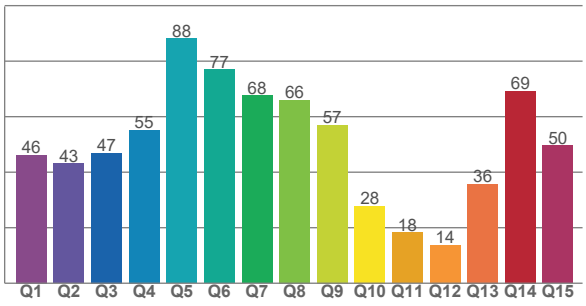
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
32,5	37,3	19,9	27,0	27,1	57,2	73,4	54,4	63,4	69,7	39,1	44,3	60,8	38,3	50,5	43,6

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
46,2	43,1	46,9	55,2	88,2	76,9	67,6	66,1	57,0	27,9	18,3	13,8	35,7	69,3	49,5

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
11717 K	35,1	-226,1	44,9	88,0	46,2	0,268	0,287	0,181	0,291	0,0073

TM30 details

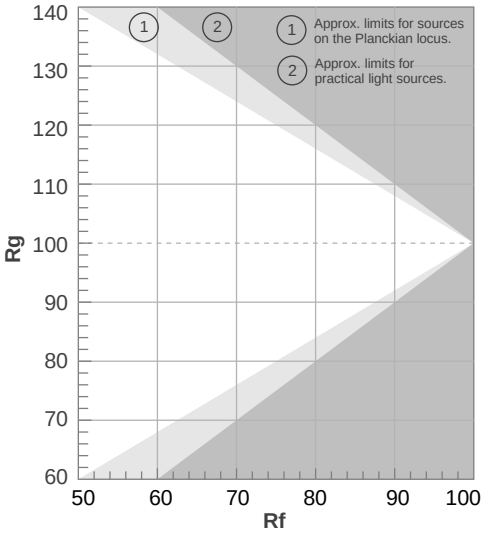
Rf 44,9

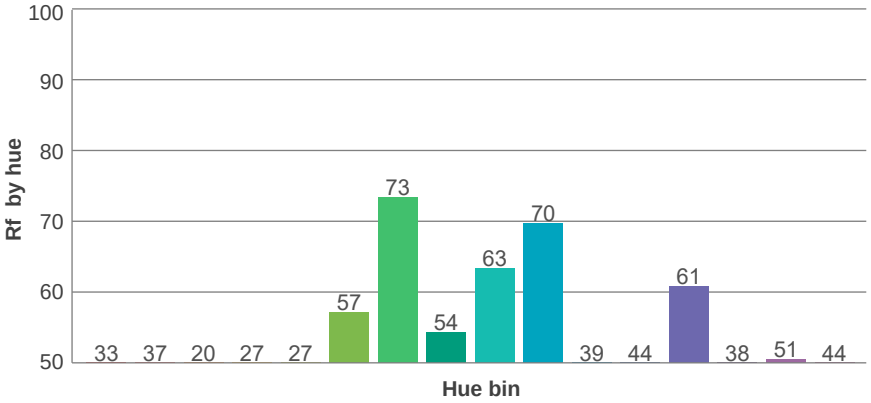
Fidelity index Rf

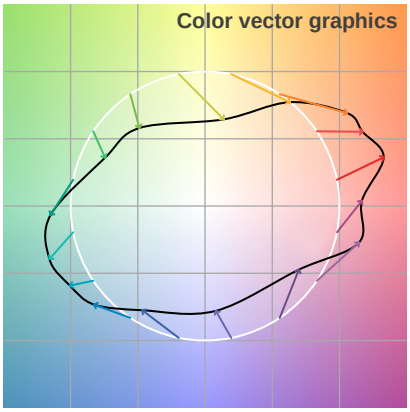
Rg 88,0

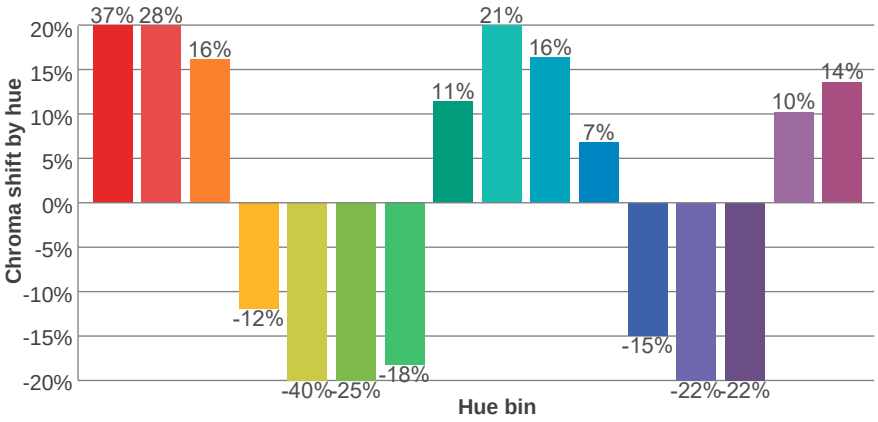
Gammut index Rg

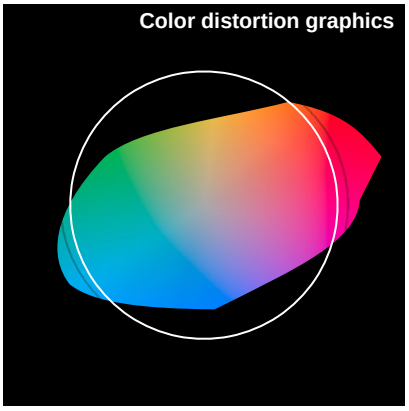
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	33	37%	10%
2	37	28%	-19%
3	20	16%	-49%
4	27	-12%	-47%
5	27	-40%	-26%
6	57	-25%	8%
7	73	-18%	11%
8	54	11%	29%
9	63	21%	16%
10	70	16%	-7%
11	39	7%	-28%
12	44	-15%	-31%
13	61	-22%	-7%
14	38	-22%	32%
15	51	10%	41%
16	44	14%	27%

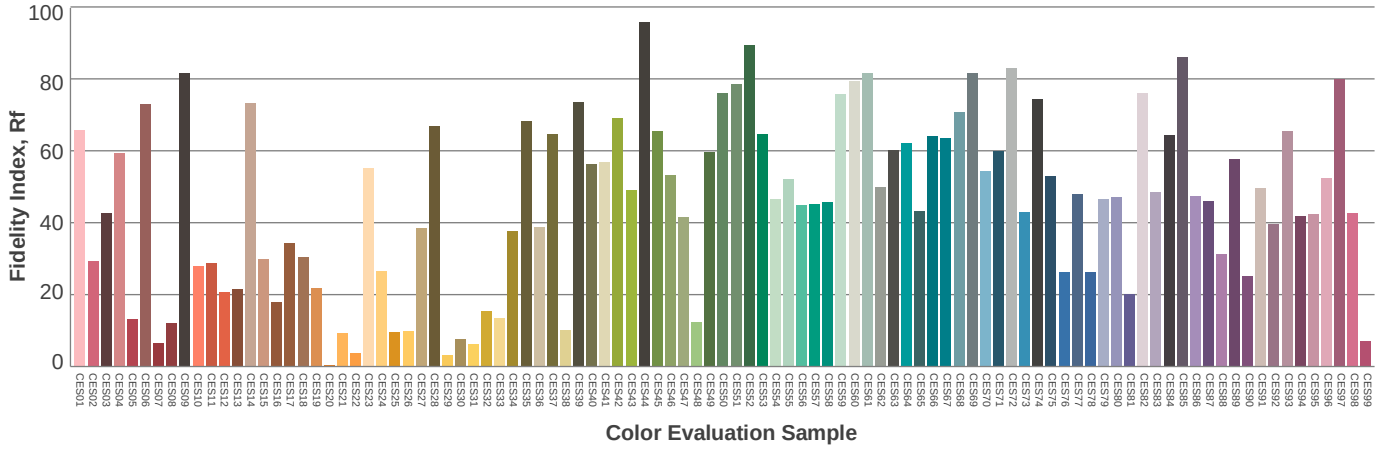




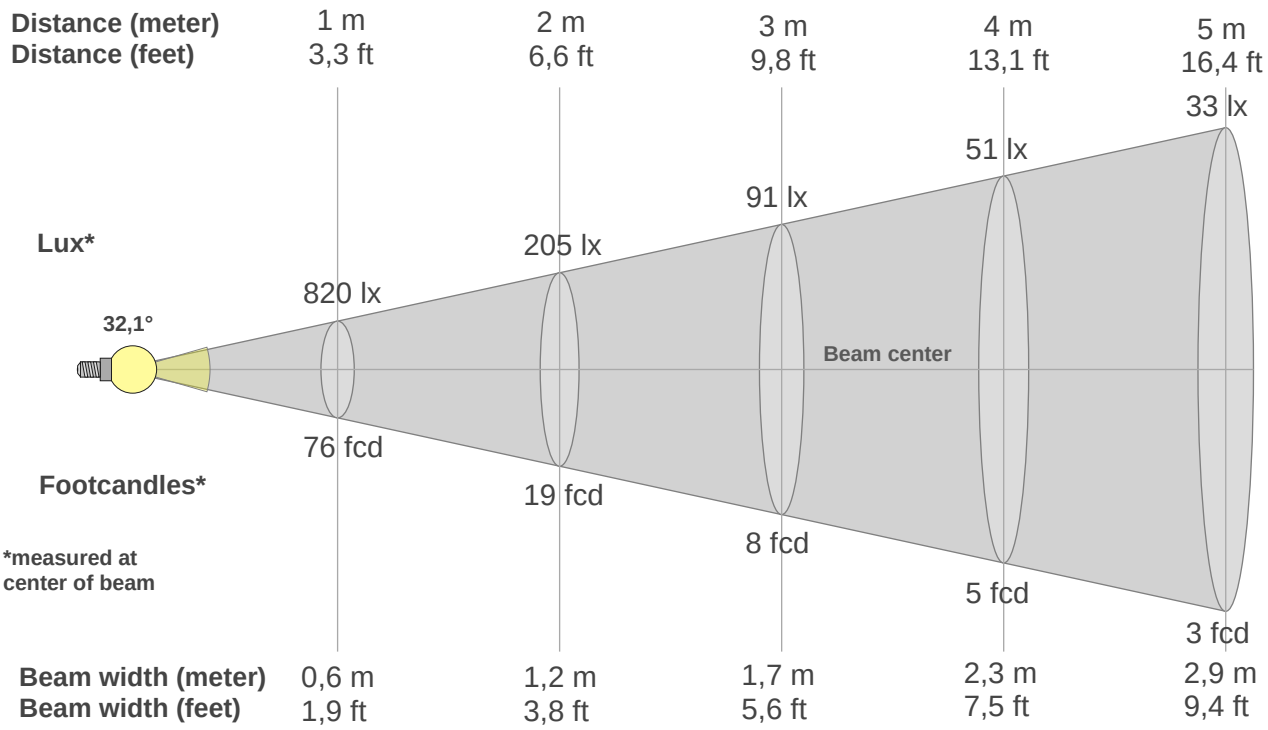








Beam details



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
820lx	205lx	91lx	51lx	33lx	23lx	17lx	13lx	10lx	8lx	7lx	6lx	5lx	4lx	4lx	3lx	3lx	3lx	2lx	2lx
76,2fcd	19,1fcd	8,5fcd	4,8fcd	3fcd	2,1fcd	1,6fcd	1,2fcd	0,9fcd	0,8fcd	0,6fcd	0,5fcd	0,5fcd	0,4fcd	0,3fcd	0,3fcd	0,3fcd	0,2fcd	0,2fcd	0,2fcd

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°
820	796	709	582	442	321	227	158	113	84	66	56	52	52	52	48	42	39	39	41
100%	97%	86%	71%	54%	39%	28%	19%	14%	10%	8%	7%	6%	6%	6%	6%	5%	5%	5%	5%

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°
820	815	818	822	826	830	836	842	844	846	842	833	817	793	759	718	667	608	549	489
100%	99%	100%	100%	101%	101%	102%	103%	103%	103%	103%	102%	100%	97%	93%	88%	81%	74%	67%	60%

Intensities in 180° c-plane

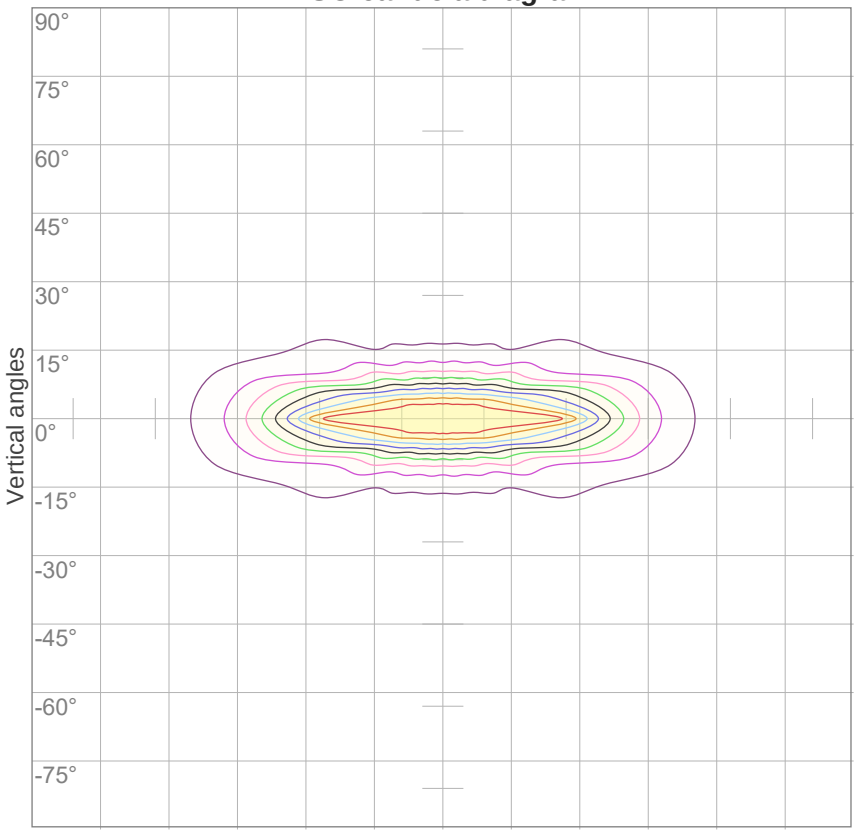
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
820	796	709	582	442	321	227	158	113	84	66	56	52	52	52	48	42	39	39	41
100%	97%	86%	71%	54%	39%	28%	19%	14%	10%	8%	7%	6%	6%	6%	6%	5%	5%	5%	5%

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°
820	815	818	822	826	830	836	842	844	846	842	833	817	793	759	718	667	608	549	489
100%	99%	100%	100%	101%	101%	102%	103%	103%	103%	103%	102%	100%	97%	93%	88%	81%	74%	67%	60%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
32,1°	**62,6°**	**155,8°**	**84,0%**	**69,6%**

ISO candela diagram



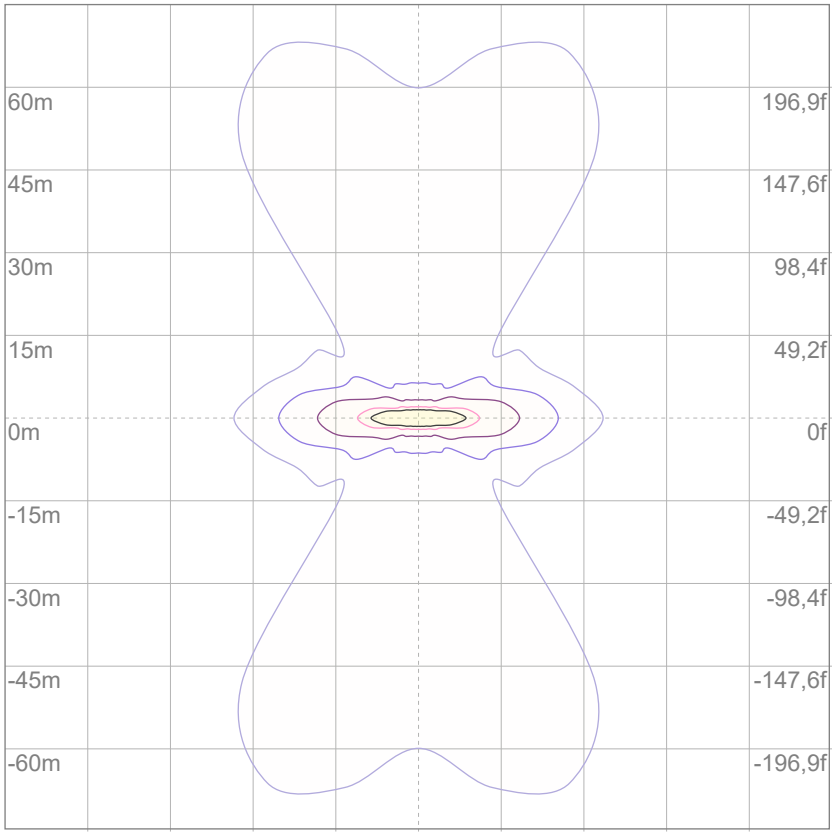
10%	82 cd
20%	164 cd
30%	246 cd
40%	328 cd
50%	410 cd
60%	492 cd
70%	574 cd
80%	656 cd
90%	738 cd

Conditions:

Number of c-planes: 16

Candela at center: 820 cd

ISO lux diagram



Mounting height: 10 meters (33 feet)

3%	0,246 lx
5%	0,410 lx
10%	0,820 lx
30%	2,46 lx
50%	4,10 lx

Conditions:

Number of c-planes: 16

Lux at center: 8,20 lx

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

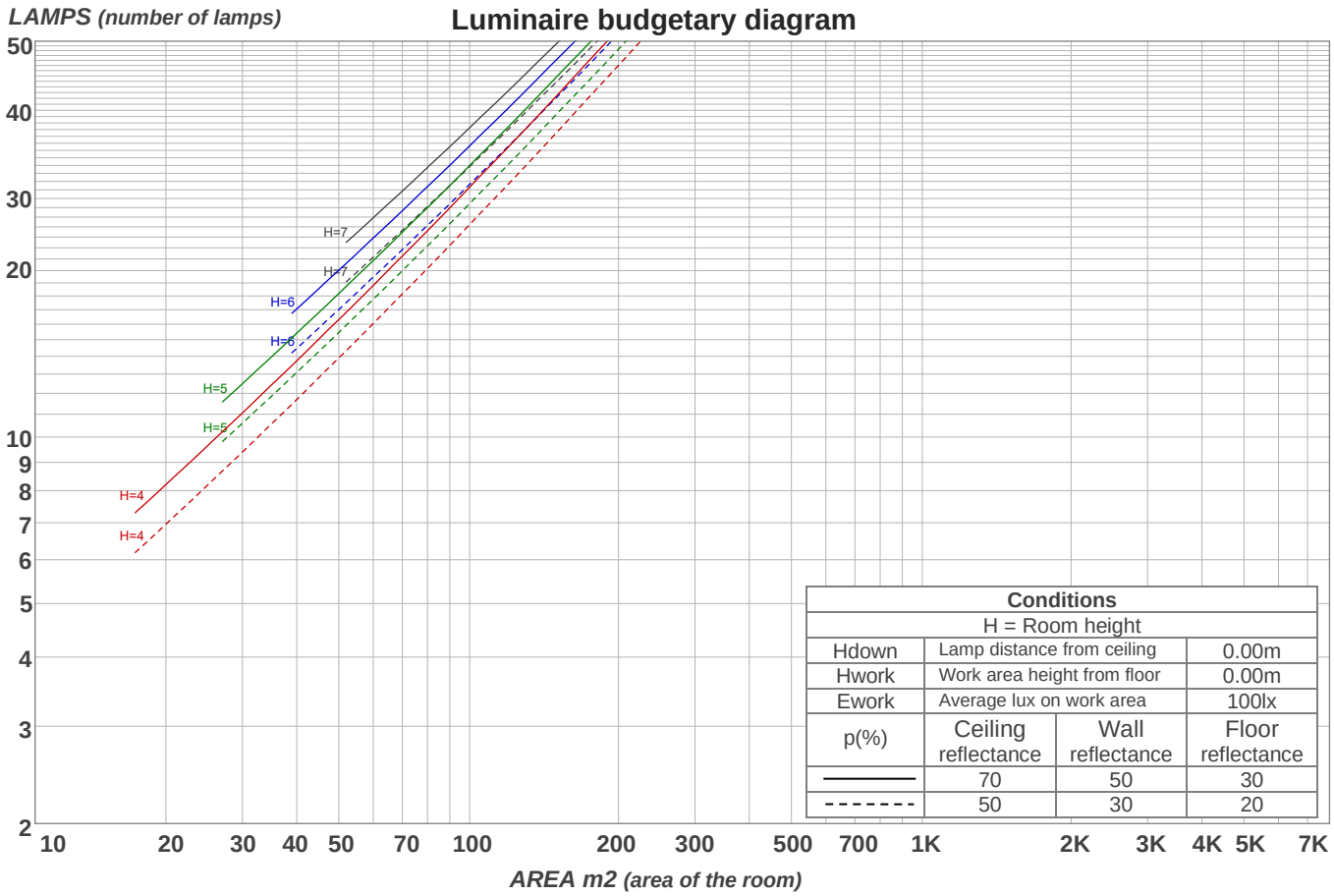
Glare Evaluation According to UGR

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	13,0	14,0	13,2	14,3	14,5	21,1	22,0	21,3	22,3	22,5
	3H	15,5	16,5	15,9	16,7	16,9	21,5	22,6	21,9	22,8	23,0
	4H	16,9	17,9	17,3	18,1	18,4	21,7	22,7	22,1	23,0	23,2
	6H	18,2	19,0	18,5	19,3	19,7	21,9	22,8	22,2	23,1	23,4
	8H	18,5	19,4	18,9	19,7	20,1	21,9	22,8	22,3	23,1	23,5
	12H	18,7	19,5	19,1	19,9	20,3	21,9	22,8	22,3	23,1	23,5
4H	2H	13,7	14,6	14,1	14,9	15,1	20,8	21,8	21,2	22,1	22,3
	3H	16,5	17,3	16,8	17,6	18,1	21,5	22,3	21,9	22,7	23,1
	4H	18,0	18,8	18,4	19,2	19,7	21,7	22,5	22,1	22,9	23,4
	6H	19,4	20,2	19,9	20,5	20,9	21,9	22,7	22,4	23,0	23,4
	8H	19,9	20,5	20,4	20,9	21,3	22,0	22,7	22,5	23,0	23,4
	12H	20,1	20,7	20,6	21,1	21,6	22,0	22,6	22,5	23,0	23,5
8H	4H	18,4	19,1	18,9	19,4	19,8	21,7	22,4	22,3	22,8	23,2
	6H	20,1	20,6	20,6	21,0	21,6	22,1	22,6	22,6	23,0	23,6
	8H	20,7	21,1	21,2	21,6	22,3	22,2	22,7	22,7	23,2	23,8
	12H	21,1	21,5	21,7	22,0	22,6	22,4	22,7	22,9	23,2	23,8
12H	4H	18,4	19,0	18,9	19,4	19,8	21,7	22,3	22,2	22,7	23,2
	6H	20,2	20,6	20,7	21,2	21,8	22,2	22,6	22,7	23,1	23,7
	8H	20,9	21,2	21,4	21,7	22,3	22,3	22,7	22,9	23,2	23,8
Variation of the observer position for the luminaire distance S											
S = 1.0H		0,0 / 0,0					1,5 / -1,5				
S = 1.5H		0,2 / -0,2					3,1 / -2,4				
S = 2.0H		0,4 / -0,3					4,6 / -3,1				
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	110	110	110	104	104	104	99	99	99	97
1	110	106	102	99	107	103	100	97	98	96	93	94	92	90	90	88	87	85
2	102	95	89	85	99	93	88	83	89	85	81	86	82	79	82	79	77	75
3	95	86	80	74	93	85	78	74	81	76	72	78	74	70	76	72	69	67
4	89	79	72	66	87	78	71	66	75	69	65	72	68	64	70	66	62	61
5	83	73	65	60	81	72	65	60	69	63	59	67	62	58	65	61	57	55
6	79	68	60	55	77	67	60	54	65	58	54	63	57	53	61	56	53	51
7	74	63	56	51	72	62	55	50	60	54	50	59	53	49	57	53	49	47
8	70	59	52	47	69	58	51	47	57	51	46	55	50	46	54	49	46	44
9	67	55	48	44	65	55	48	44	53	48	43	52	47	43	51	46	43	41
10	63	52	46	41	62	52	45	41	51	45	41	50	44	40	49	44	40	39

Luminaire budgetary diagram

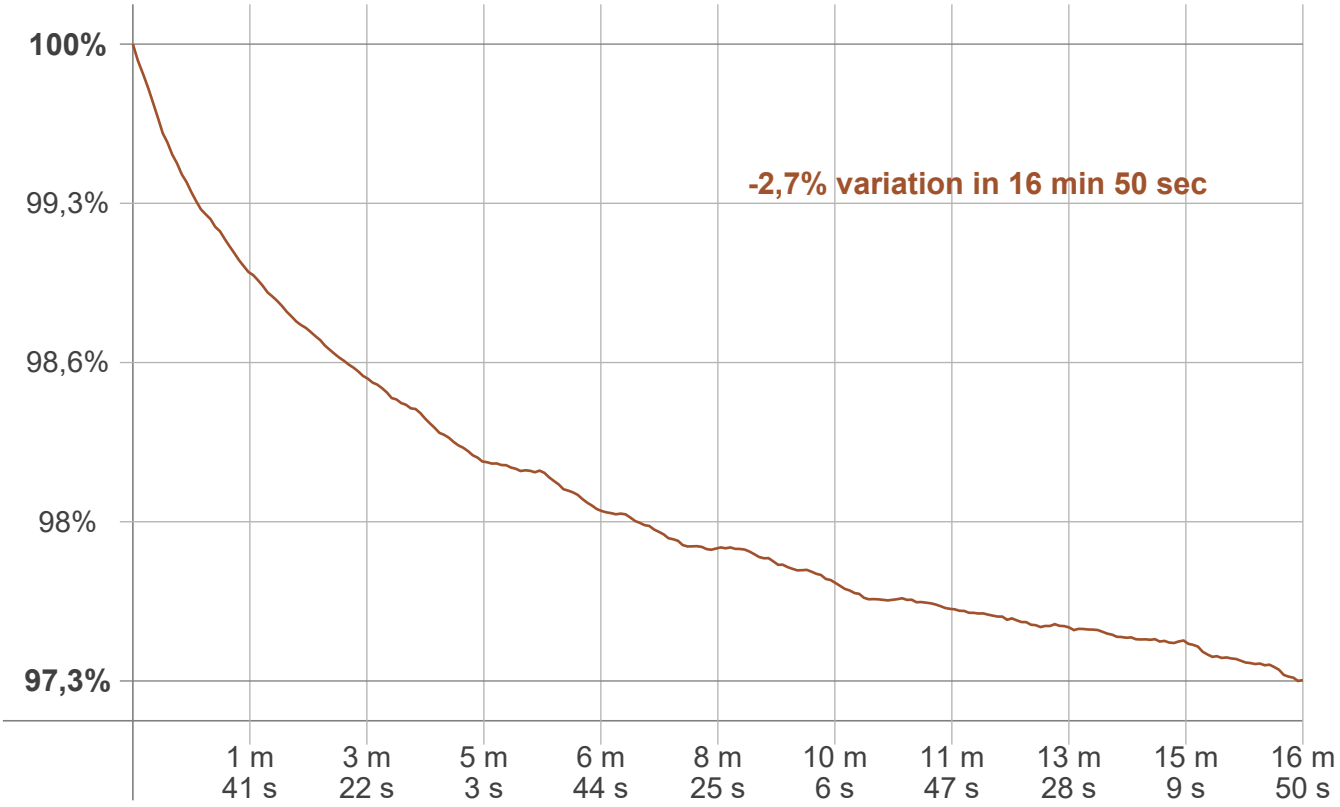


Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
63,3 lm	103 lm	92,9 lm	80,1 lm	63,4 lm	46,9 lm	31,1 lm	25,1 lm	14,6 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
3,91 lm	2,38 lm	2,13 lm	1,92 lm	1,60 lm	1,25 lm	0,921 lm	0,564 lm	0,190 lm

Warmup curve



Warmup result

Warmup time:	**Lamp stabilized in 16 min 50 sec**
Warmup variation	**-2,7%**

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
11285 K	+432 K	11717 K

Output change

Output start	Output change	Output end
551 lm	-16 lm	535 lm