Light efficiency:

63 Lumen/Watt

Light quality:

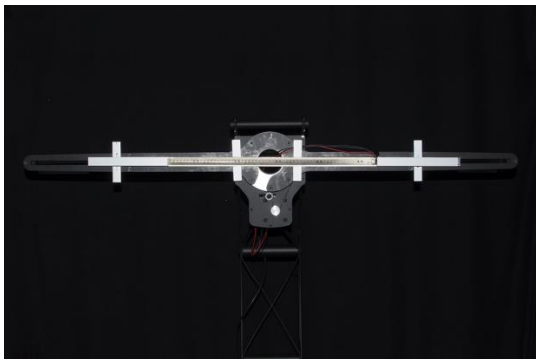
CRI: 36,4

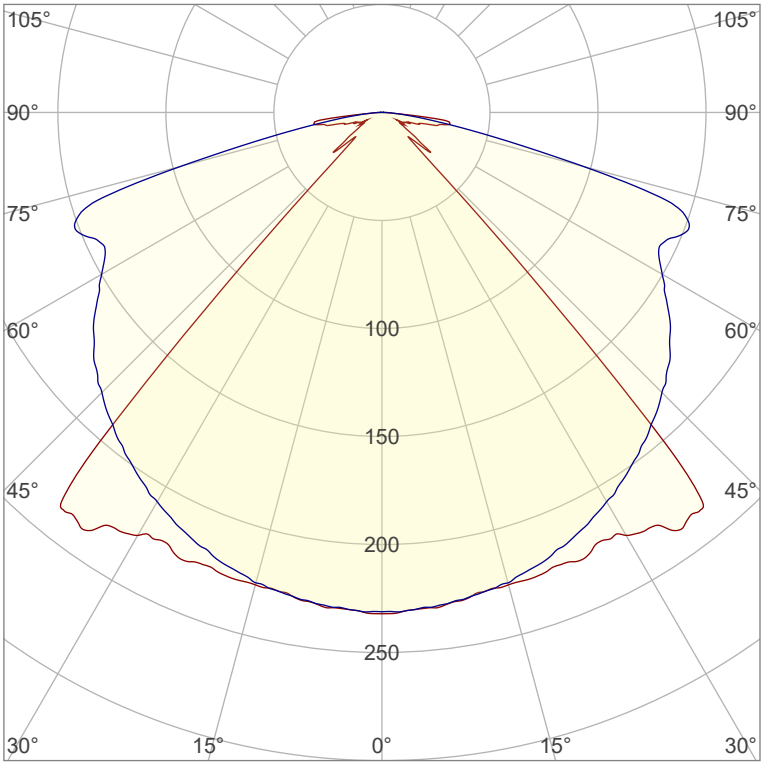
Color temperature:

11962 K

Output: 579 lm
Peak: 248 cd

Power: 9,1 W
PF: 1,0





Product name:
Defiant-3_510mm_RGB_Lens-90°-Transparent

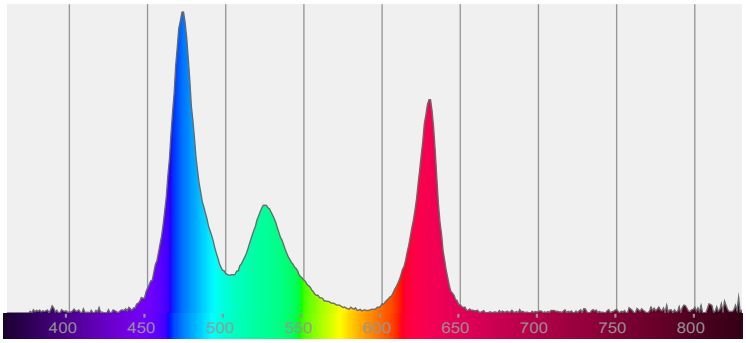
Item number:
NP/L3C/22C/0510/RGB/L9T

Date and time:
06.07.2020 13:31:36

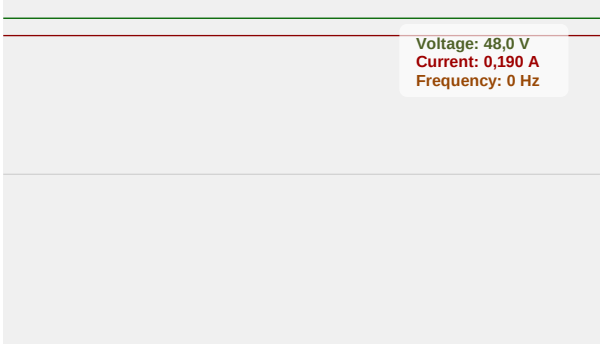
Description:
Toleranzen:
Lumen +/-4%
Candela +/-2,5%
Colour Temp +/-35 K
CRI +/-0,7
Angular Resolution 1 Grad Step
Last Calibration 20.05.2020
Pruefer:
Peter Ulrich
Pruefort:
Lichtlabor
Gaustrasse 13
55411 Bingen am Rhein

CIE 1931
x: 0,266
y: 0,286

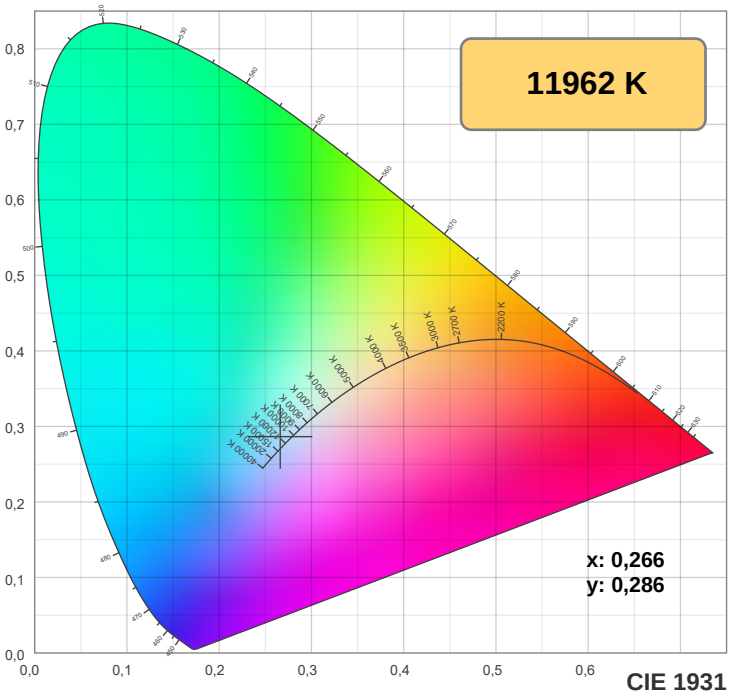
Spectra



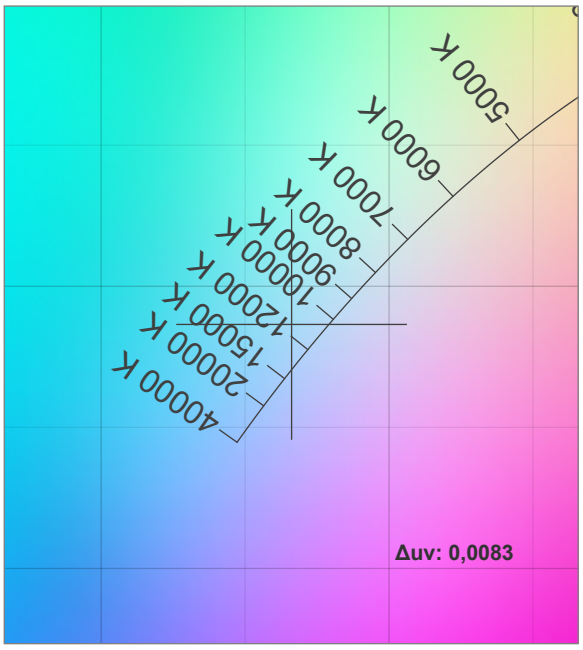
Power



Color details

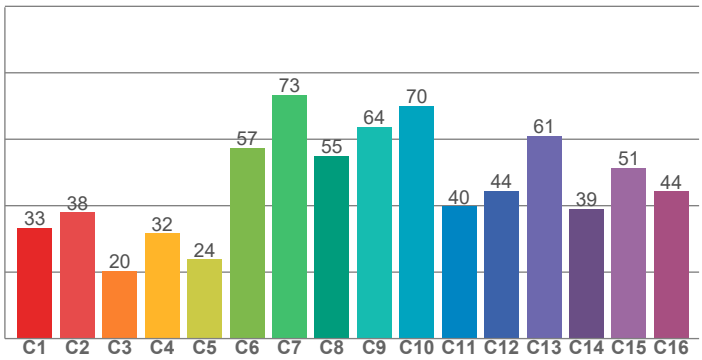


CIE 1931

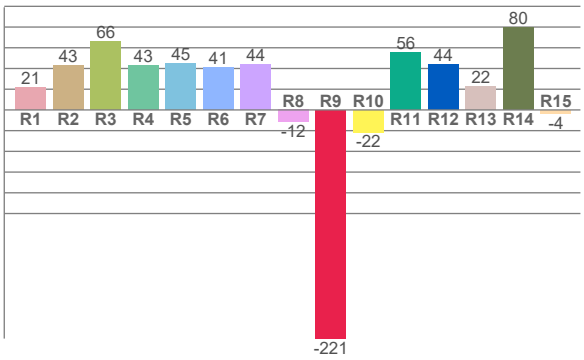


CIE 1931 ZOOM

TM30: 45,3



CRI: 36,4 (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
21,3	42,8	66,4	43,1	44,5	41,0	43,7	-11,7	-220,7	-21,8	55,9	44,2	22,3	80,0	-3,7

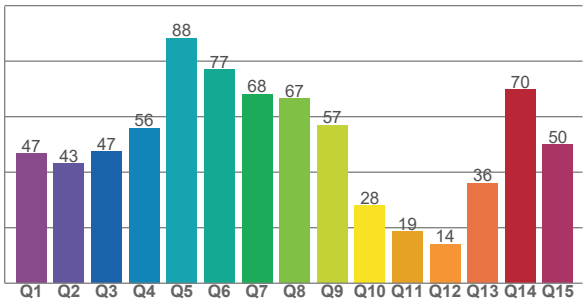
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
33,4	38,0	20,4	31,6	23,8	57,3	73,3	54,9	63,8	70,1	39,8	44,5	61,1	39,1	51,4	44,4

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
46,7	43,1	47,5	55,9	88,4	76,9	68,2	66,6	56,9	28,0	18,7	14,1	36,0	69,8	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
11962 K	36,4	-220,7	45,3	87,9	46,5	0,266	0,286	0,180	0,291	0,0083

TM30 details

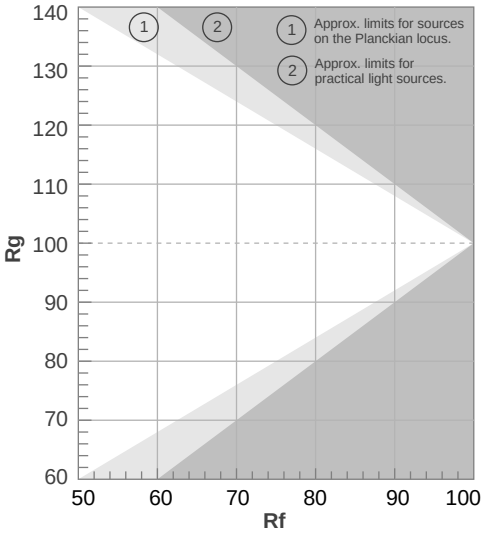
Rf 45,3

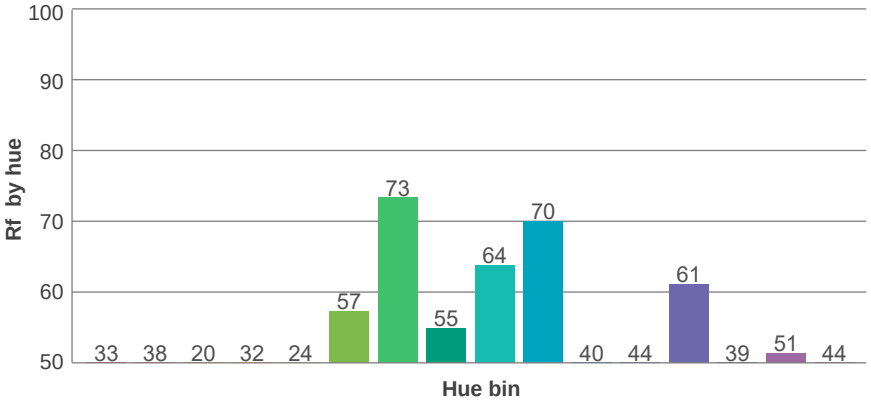
Fidelity index Rf

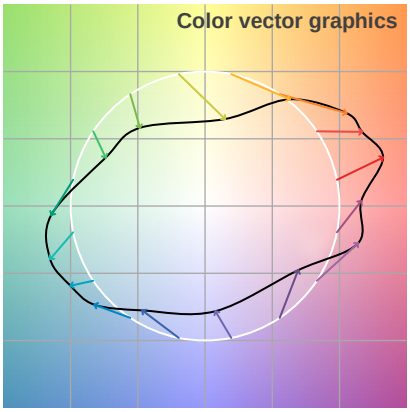
Rg 87,9

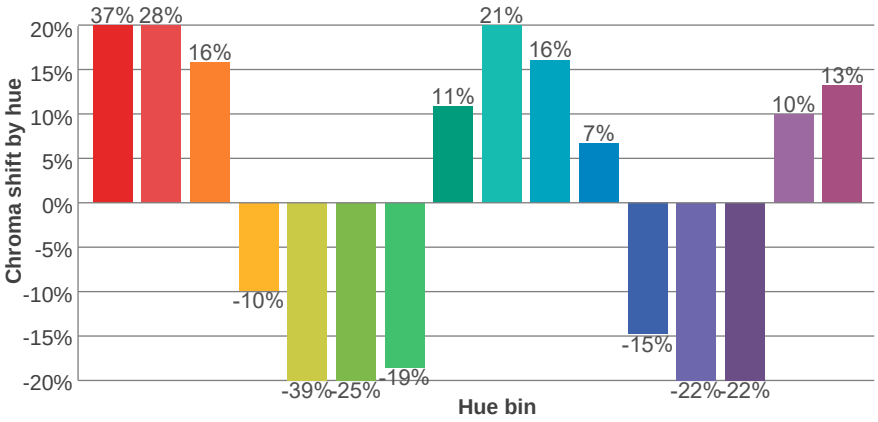
Gammut index Rg

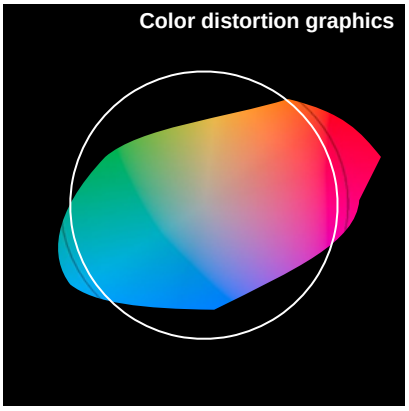
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	33	37%	10%
2	38	28%	-19%
3	20	16%	-49%
4	32	-10%	-46%
5	24	-39%	-27%
6	57	-25%	8%
7	73	-19%	11%
8	55	11%	29%
9	64	21%	16%
10	70	16%	-6%
11	40	7%	-28%
12	44	-15%	-31%
13	61	-22%	-8%
14	39	-22%	31%
15	51	10%	40%
16	44	13%	26%

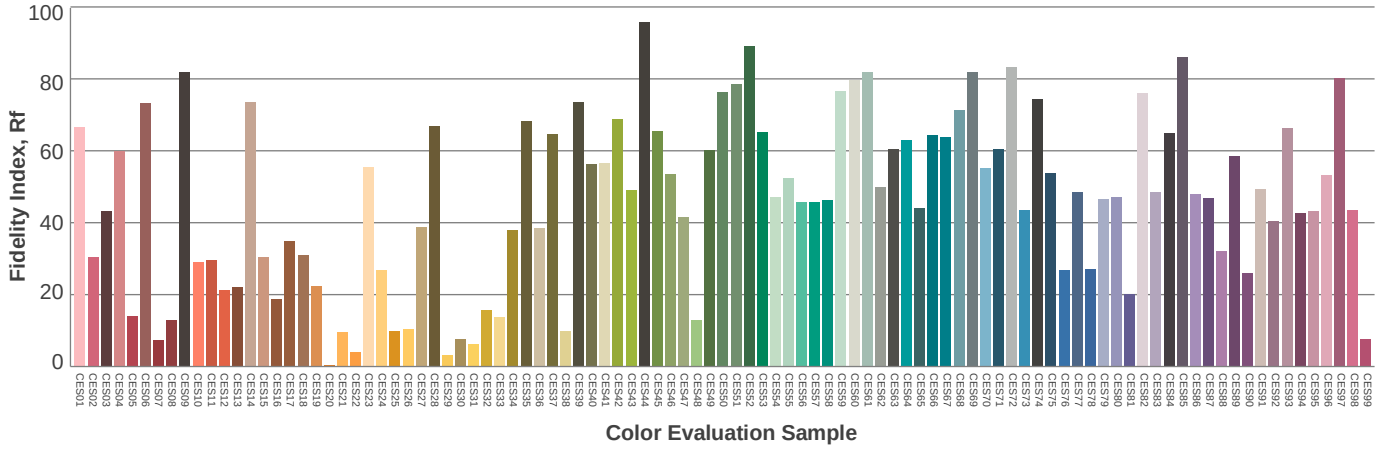




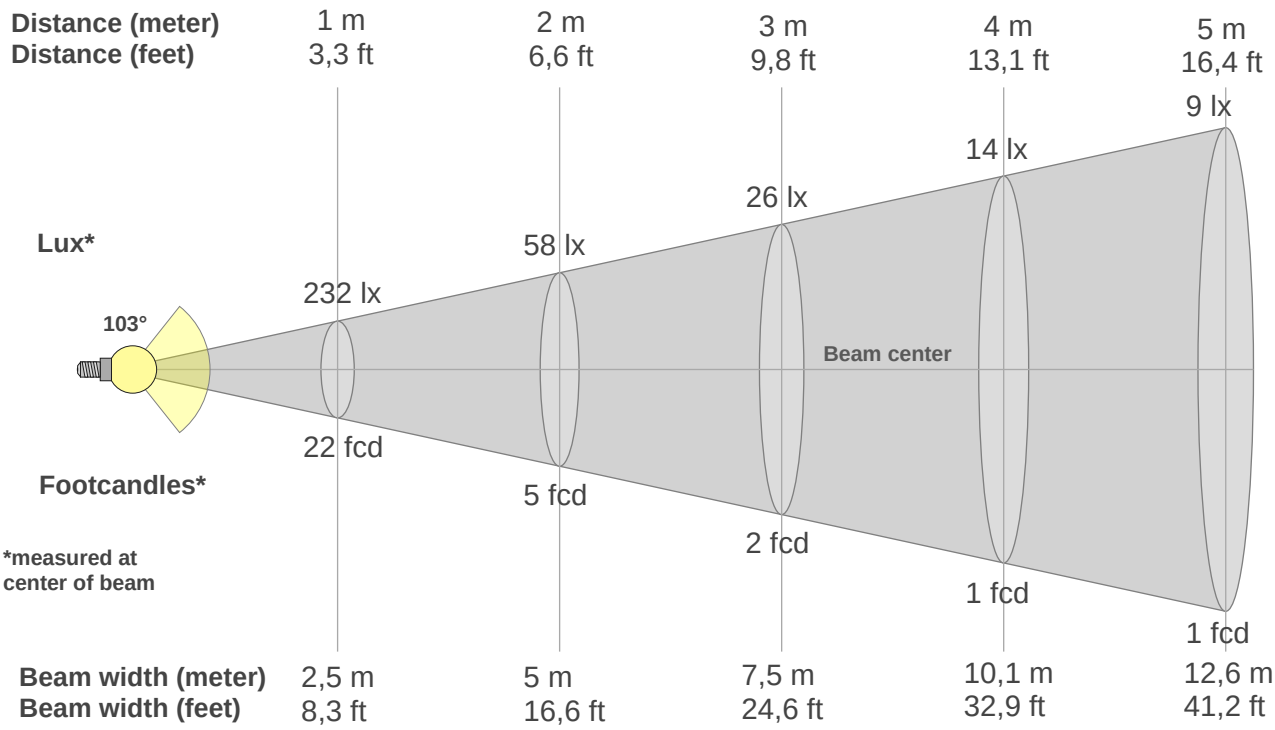








Beam details



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
232lx	58lx	26lx	14lx	9lx	6lx	5lx	4lx	3lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx
21,5fcd	5,4fcd	2,4fcd	1,3fcd	0,9fcd	0,6fcd	0,4fcd	0,3fcd	0,3fcd	0,2fcd	0,2fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd

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°
232	230	228	226	226	226	226	236	220	26	28	16	10	11	13	20	32	10	1	1
100%	99%	99%	98%	97%	97%	98%	102%	95%	11%	12%	7%	4%	5%	6%	9%	14%	4%	0%	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°
232	230	228	225	221	215	208	201	192	183	174	162	150	143	151	97	30	8	1	0
100%	99%	98%	97%	95%	93%	90%	87%	83%	79%	75%	70%	65%	62%	65%	42%	13%	3%	0%	0%

Intensities in 180° c-plane

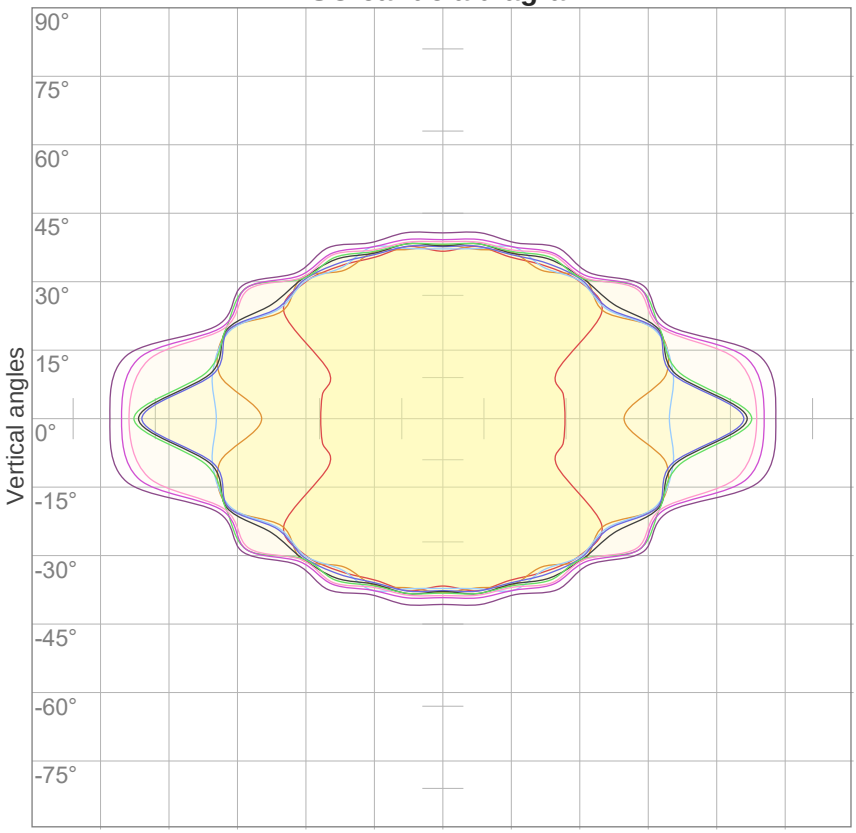
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
232	230	228	226	226	226	226	236	220	26	28	16	10	11	13	20	32	10	1	1
100%	99%	99%	98%	97%	97%	98%	102%	95%	11%	12%	7%	4%	5%	6%	9%	14%	4%	0%	0%

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°
232	230	228	225	221	215	208	201	192	183	174	162	150	143	151	97	30	8	1	0
100%	99%	98%	97%	95%	93%	90%	87%	83%	79%	75%	70%	65%	62%	65%	42%	13%	3%	0%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
103°	**138,5°**	**174,7°**	**86,7%**	**67,8%**

ISO candela diagram



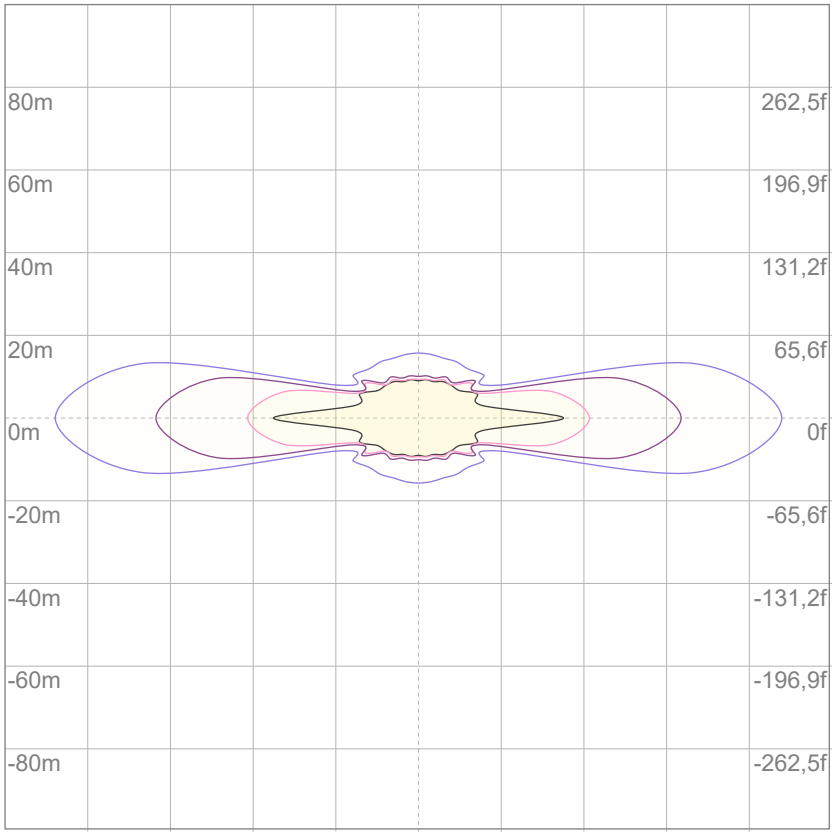
10%	23 cd
20%	46 cd
30%	70 cd
40%	93 cd
50%	116 cd
60%	139 cd
70%	162 cd
80%	185 cd
90%	209 cd

Conditions:

Number of c-planes: 16

Candela at center: 232 cd

ISO lux diagram



Mounting height: 10 meters (33 feet)

3%	69,5m lx
5%	0,116 lx
10%	0,232 lx
30%	0,695 lx
50%	1,16 lx

Conditions:

Number of c-planes: 16

Lux at center: 2,32 lx

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

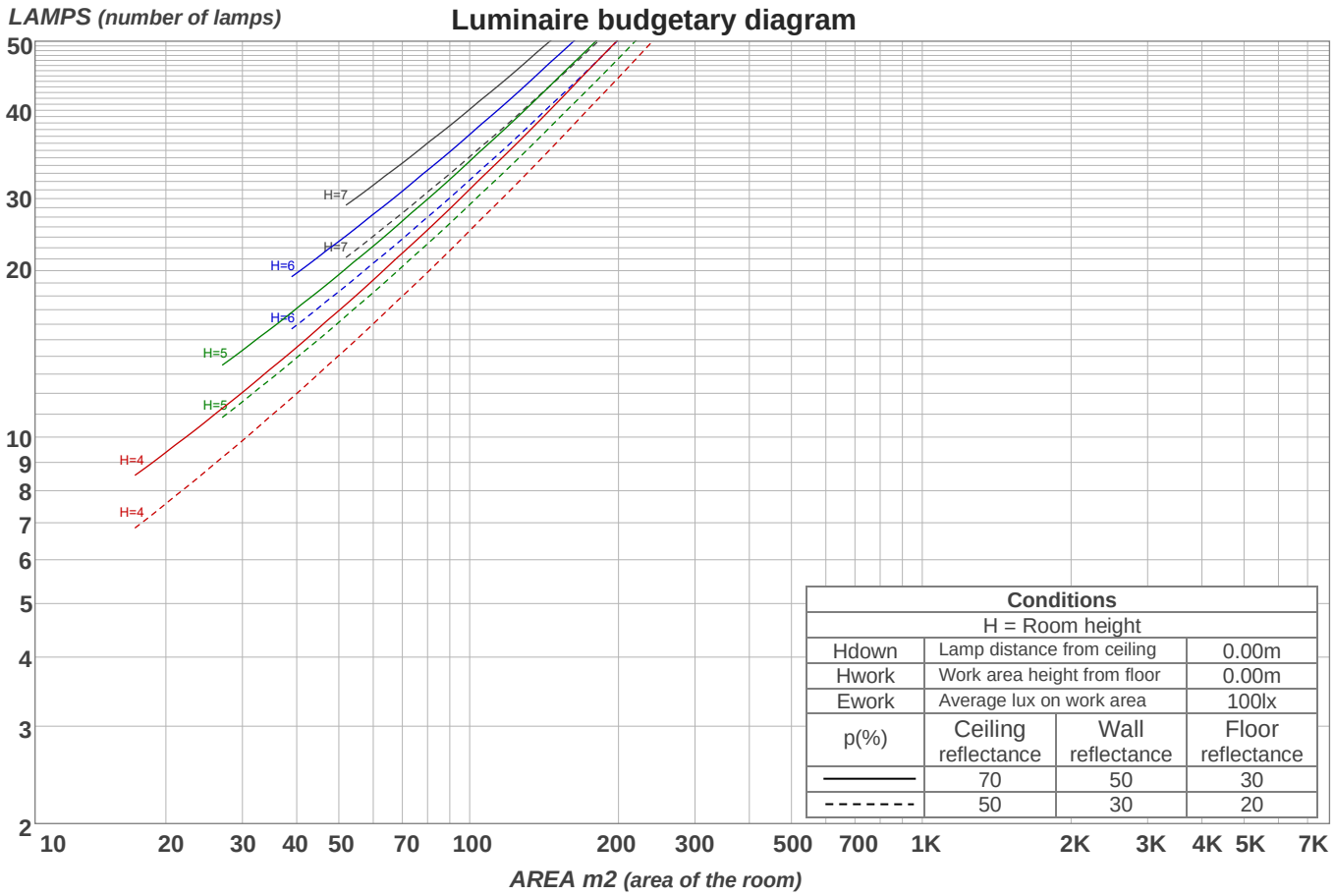
Glare Evaluation According to UGR

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	16,7	17,8	16,9	18,0	18,3	23,4	24,4	23,6	24,7	24,9
	3H	16,6	17,8	17,0	18,0	18,2	25,3	26,5	25,8	26,7	26,9
	4H	17,0	18,1	17,4	18,4	18,6	26,5	27,6	26,9	27,9	28,1
	6H	18,4	19,3	18,7	19,6	19,9	26,9	27,9	27,2	28,1	28,5
	8H	19,2	20,1	19,5	20,4	20,8	27,0	27,9	27,3	28,2	28,6
	12H	19,5	20,4	19,9	20,7	21,2	26,9	27,8	27,3	28,1	28,6
4H	2H	16,8	17,9	17,2	18,1	18,4	23,0	24,1	23,4	24,4	24,6
	3H	17,0	17,8	17,3	18,2	18,6	25,2	26,0	25,5	26,4	26,8
	4H	17,4	18,2	17,9	18,7	19,2	26,3	27,1	26,7	27,5	28,0
	6H	19,1	19,9	19,6	20,2	20,6	26,7	27,5	27,2	27,8	28,2
	8H	20,2	20,9	20,7	21,2	21,6	26,7	27,4	27,2	27,8	28,2
	12H	20,6	21,2	21,1	21,7	22,1	26,7	27,3	27,2	27,7	28,2
8H	4H	17,5	18,2	18,0	18,5	18,9	26,2	26,9	26,7	27,3	27,6
	6H	19,5	20,0	20,0	20,5	21,0	26,6	27,1	27,1	27,6	28,1
	8H	20,9	21,3	21,4	21,9	22,5	26,7	27,1	27,2	27,6	28,3
	12H	21,6	22,0	22,2	22,5	23,1	26,7	27,1	27,3	27,6	28,2
12H	4H	17,4	18,0	17,9	18,4	18,9	26,1	26,7	26,6	27,1	27,6
	6H	19,5	20,0	20,1	20,5	21,2	26,6	27,0	27,1	27,6	28,2
	8H	21,0	21,4	21,6	21,9	22,5	26,6	27,0	27,2	27,5	28,1
Variation of the observer position for the luminaire distance S											
S = 1.0H		0,7 / -0,6					0,7 / -1,1				
S = 1.5H		1,4 / -0,7					2,0 / -3,3				
S = 2.0H		2,5 / -0,8					3,1 / -6,4				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 579 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	100	100	100	97
1	109	105	101	98	107	103	99	96	98	95	93	94	91	89	90	88	86	84
2	101	94	88	83	98	92	86	81	88	83	79	84	80	77	81	78	75	73
3	93	84	76	71	91	82	75	70	79	73	68	76	71	67	73	69	65	63
4	86	75	67	61	84	74	66	61	71	65	60	68	63	59	66	61	58	56
5	80	68	60	54	77	67	59	53	64	58	53	62	56	52	60	55	51	49
6	74	62	53	48	72	61	53	47	59	52	47	57	51	46	55	50	45	44
7	69	56	48	42	67	55	48	42	54	47	42	52	46	41	50	45	41	39
8	64	51	44	38	62	51	43	38	49	42	37	48	42	37	46	41	37	35
9	60	47	40	34	58	47	39	34	45	39	34	44	38	34	43	37	33	32
10	56	44	36	31	55	43	36	31	42	35	31	41	35	31	40	34	30	29

Luminaire budgetary diagram

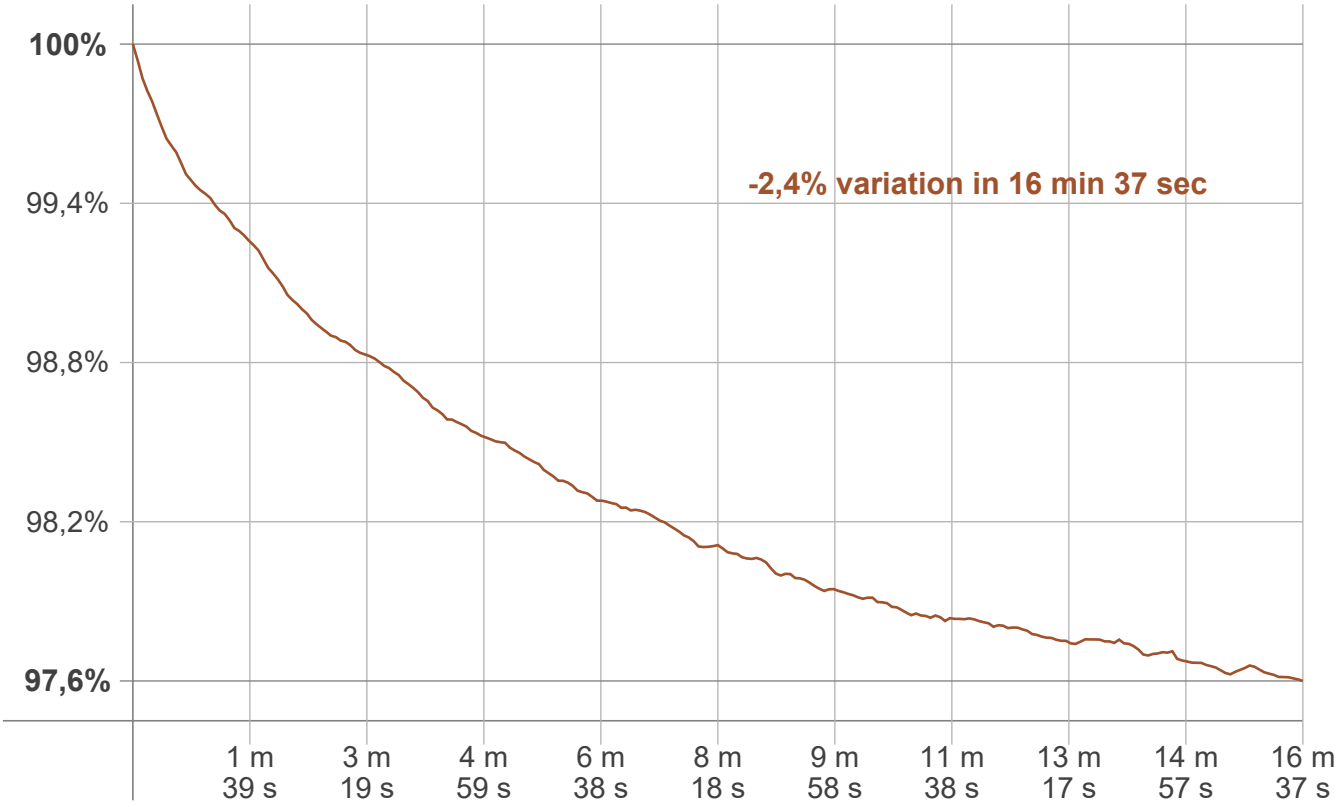


Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
21,9 lm	63,8 lm	101 lm	136 lm	116 lm	62,9 lm	26,5 lm	23,1 lm	12,4 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
4,81 lm	4,64 lm	1,54 lm	1,19 lm	0,974 lm	0,752 lm	0,554 lm	0,339 lm	0,114 lm

Warmup curve



Warmup result

Warmup time:	**Lamp stabilized in 16 min 37 sec**
Warmup variation	**-2,4%**

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
11572 K	**+390 K**	**11962 K**

Output change

Output start	Output change	Output end
594 lm	**-15 lm**	**579 lm**