Light efficiency:

71 Lumen/Watt

Light quality:

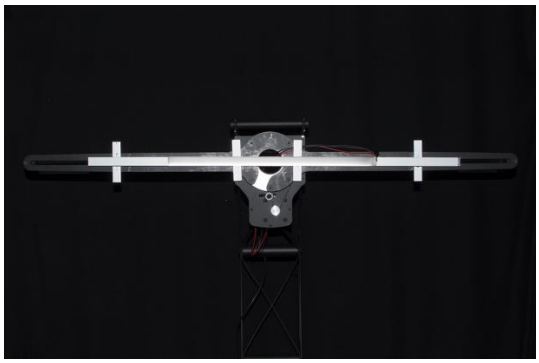
CRI: 82,4

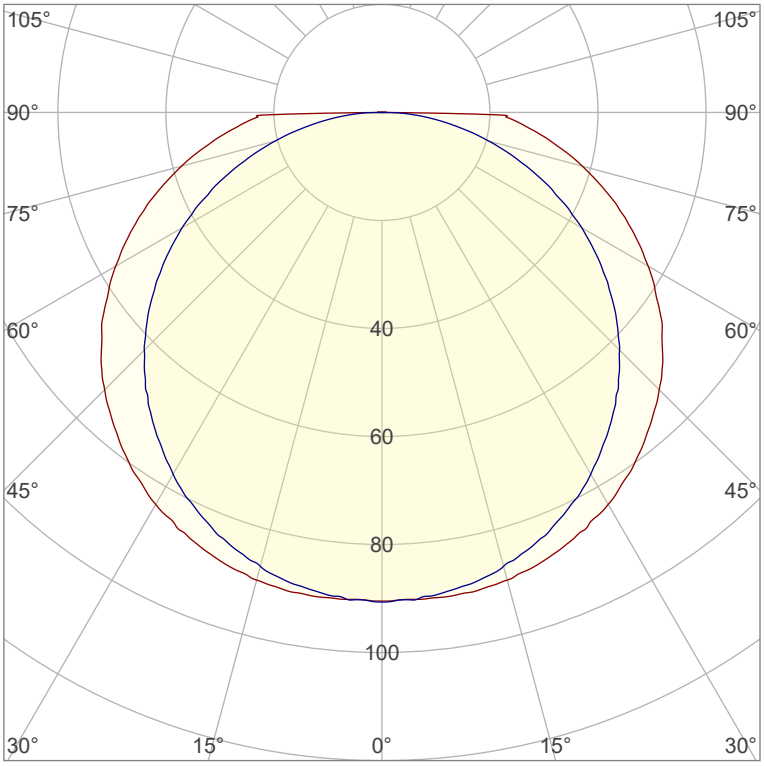
Color temperature:

2700 K

Output: 342 lm
Peak: 90,6 cd

Power: 4,8 W
PF: 1,0





Product name:
Navigator-3_510mm_827_Cover-Square-White

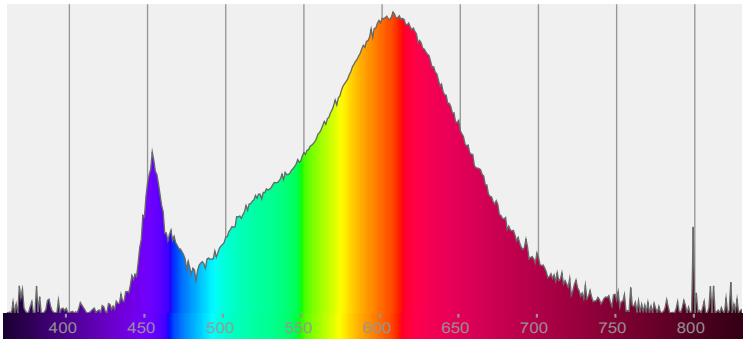
Item number:
NP/L1C/14C/0510/827/CSW

Date and time:
23.06.2022 10:26:21

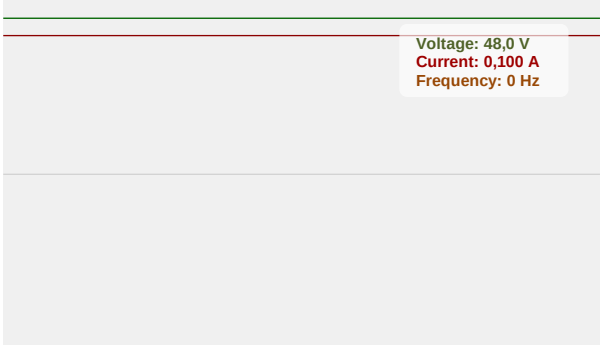
Description:
Tolerances:
Lumen +/-4%
Candela +/-2,5%
Colour Temp +/-35 Kelvin
CRI +/-0,7
Angular Resolution: 1 Degree Step
Last Calibration 20-09-2021
Tester: Peter Ulrich
Test Site: Lichtlabor
Gaustrasse 13
55411 Bingen am Rhein

CIE 1931
x: 0,460
y: 0,411

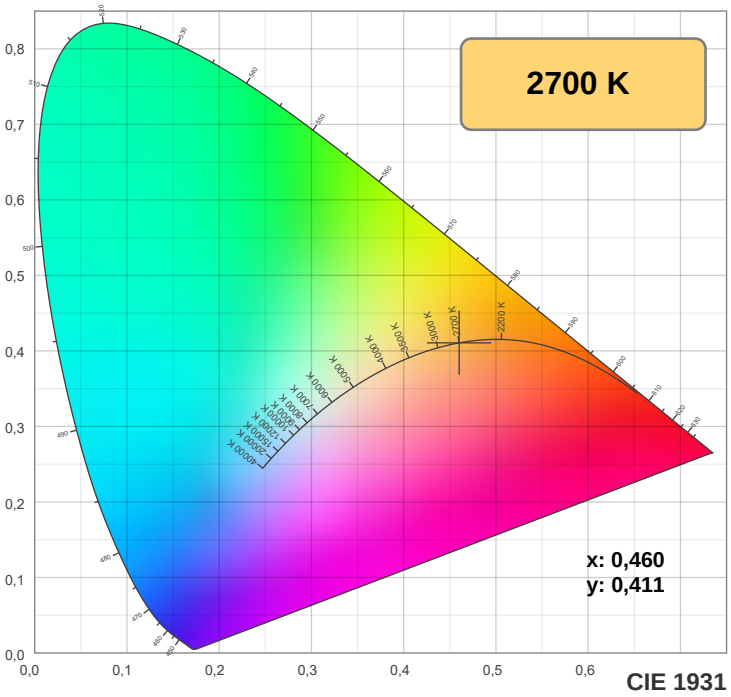
Spectra



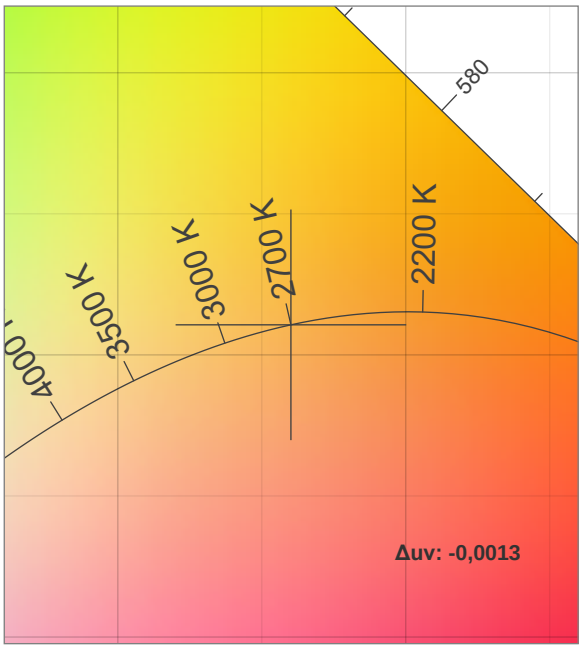
Power



Color details

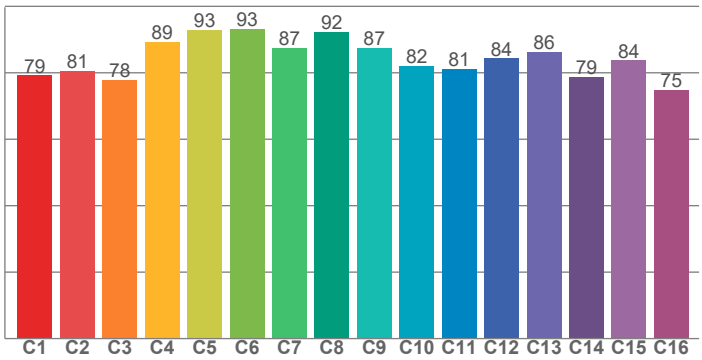


CIE 1931

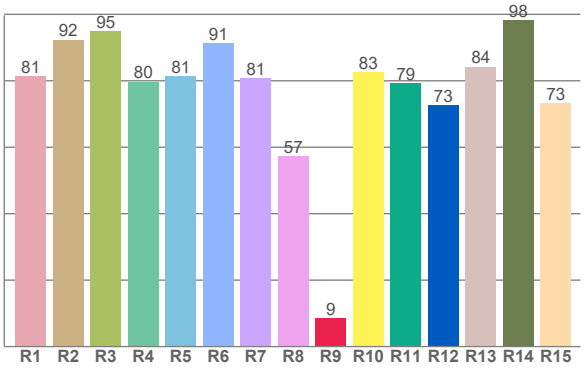


CIE 1931 ZOOM

TM30: 84,2



CRI: 82,4 (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
81,4	92,3	94,9	79,7	81,4	91,3	80,8	57,3	8,6	82,6	79,3	72,7	84,2	98,1	73,3

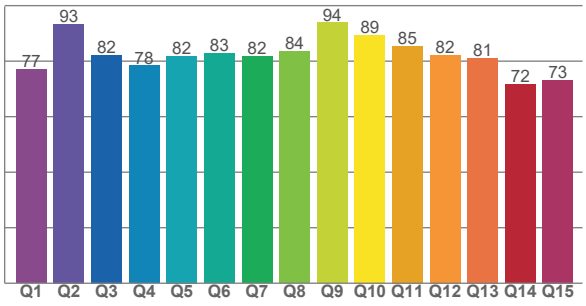
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
79,2	80,6	77,8	89,3	92,9	93,3	87,5	92,3	87,4	82,1	81,2	84,4	86,2	78,7	83,7	74,8

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
77,1	93,4	82,3	78,4	81,8	82,8	81,8	83,6	93,9	89,4	85,4	82,1	81,2	71,6	73,2

CQS: 81,3



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
2700 K	82,4	8,6	84,2	95,8	81,3	0,460	0,411	0,263	0,352	-0,0013

TM30 details

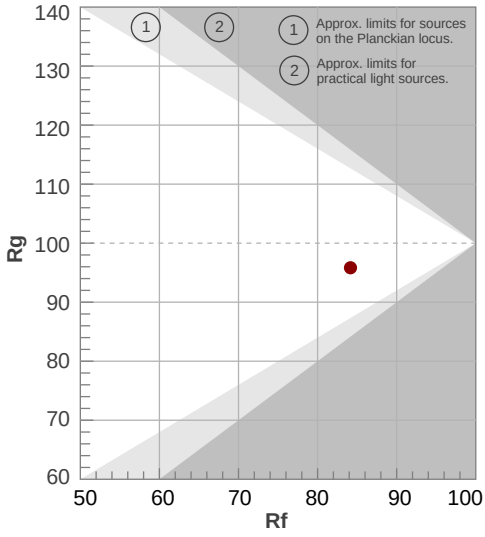
Rf 84,2

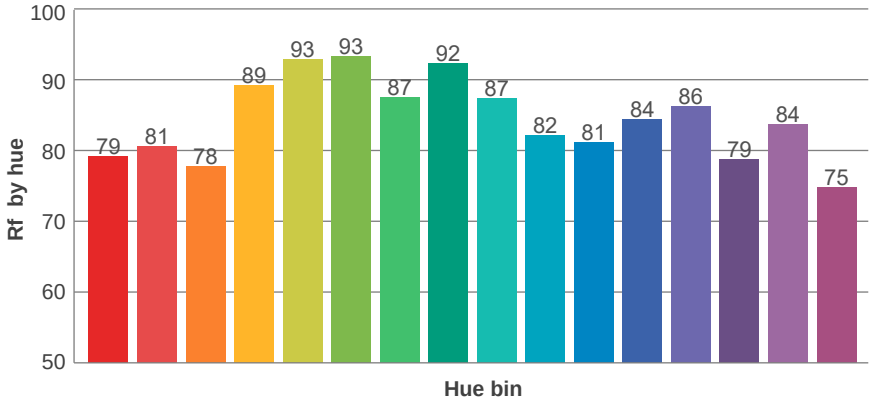
Fidelity index Rf

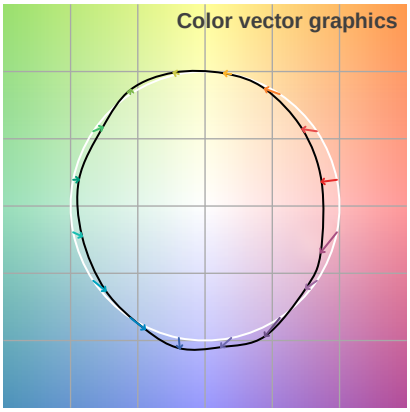
Rg 95,8

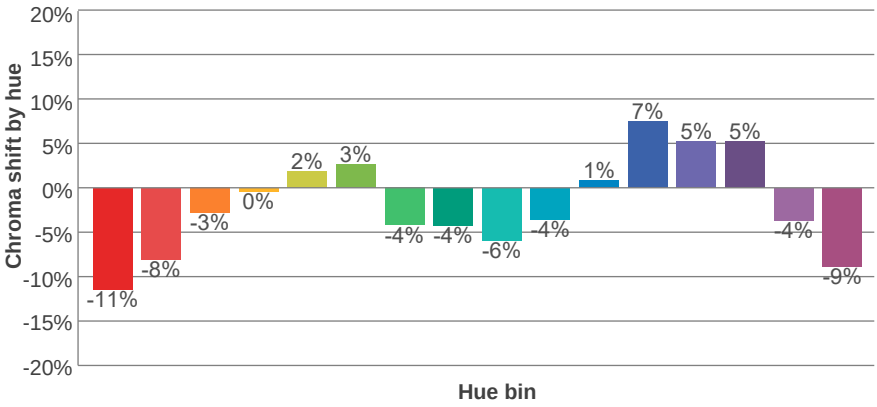
Gammut index Rg

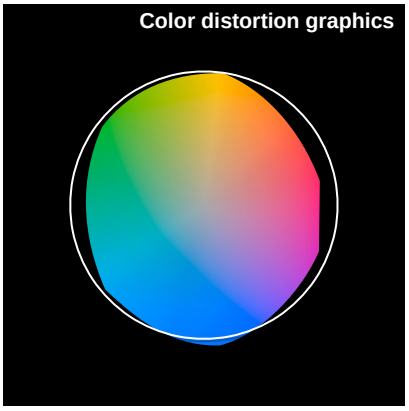
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	79	-11%	1%
2	81	-8%	7%
3	78	-3%	11%
4	89	0%	5%
5	93	2%	4%
6	93	3%	-2%
7	87	-4%	-6%
8	92	-4%	-1%
9	87	-6%	4%
10	82	-4%	11%
11	81	1%	14%
12	84	7%	2%
13	86	5%	-9%
14	79	5%	-17%
15	84	-4%	-9%
16	75	-9%	-17%

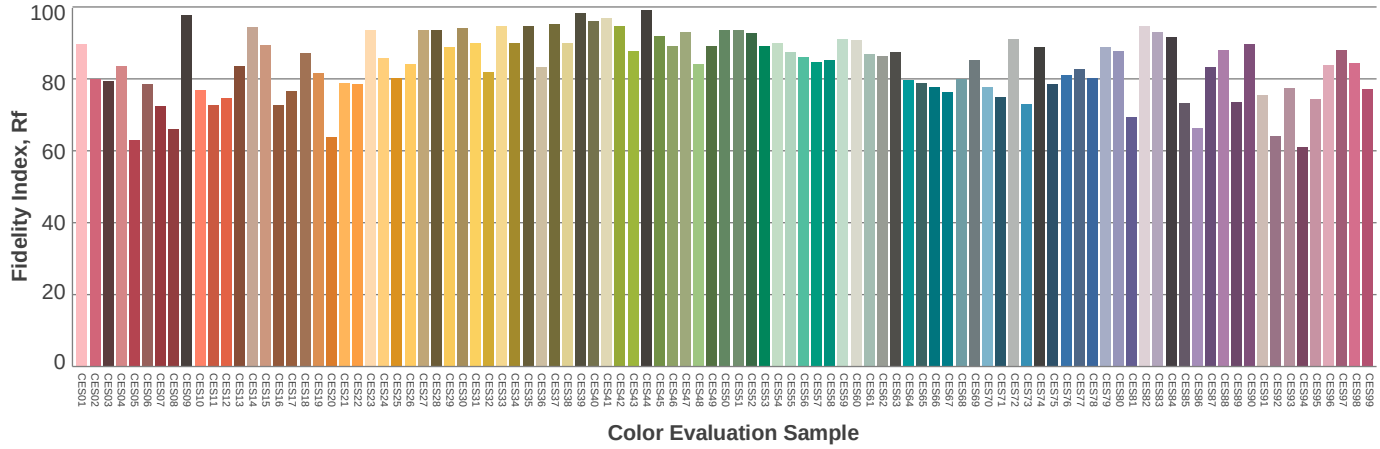




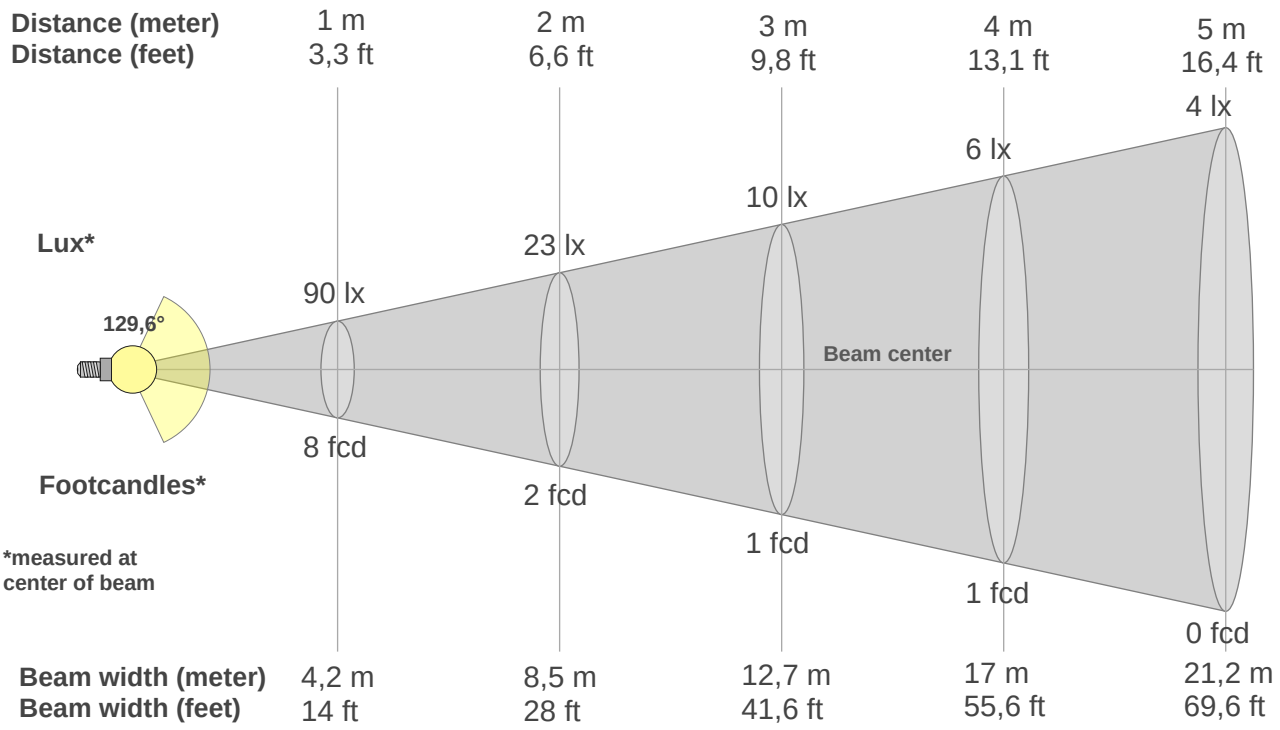








Beam details



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
90lx	23lx	10lx	6lx	4lx	3lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx
8,4fcd	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°	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°	99°	108°	117°	126°	135°	144°	153°	162°	171°
90,4	90,4	88,8	85,1	79,9	72,6	63,7	53,4	42,2	31,0	10,7	9,6	8,5	7,4	6,4	5,3	4,2	3,1	2,0	1,0
100%	100%	98%	94%	88%	80%	70%	59%	47%	34%	12%	11%	9%	8%	7%	6%	5%	3%	2%	1%

Intensities in 90° c-plane

0°	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°	99°	108°	117°	126°	135°	144°	153°	162°	171°
90,4	89,2	85,5	79,9	71,8	62,2	50,8	38,4	24,9	12,0	1,2	1,1	1,0	0,9	0,7	0,6	0,5	0,4	0,2	0,1
100%	99%	95%	88%	79%	69%	56%	42%	28%	13%	1%	1%	1%	1%	1%	1%	1%	0%	0%	0%

Intensities in 180° c-plane

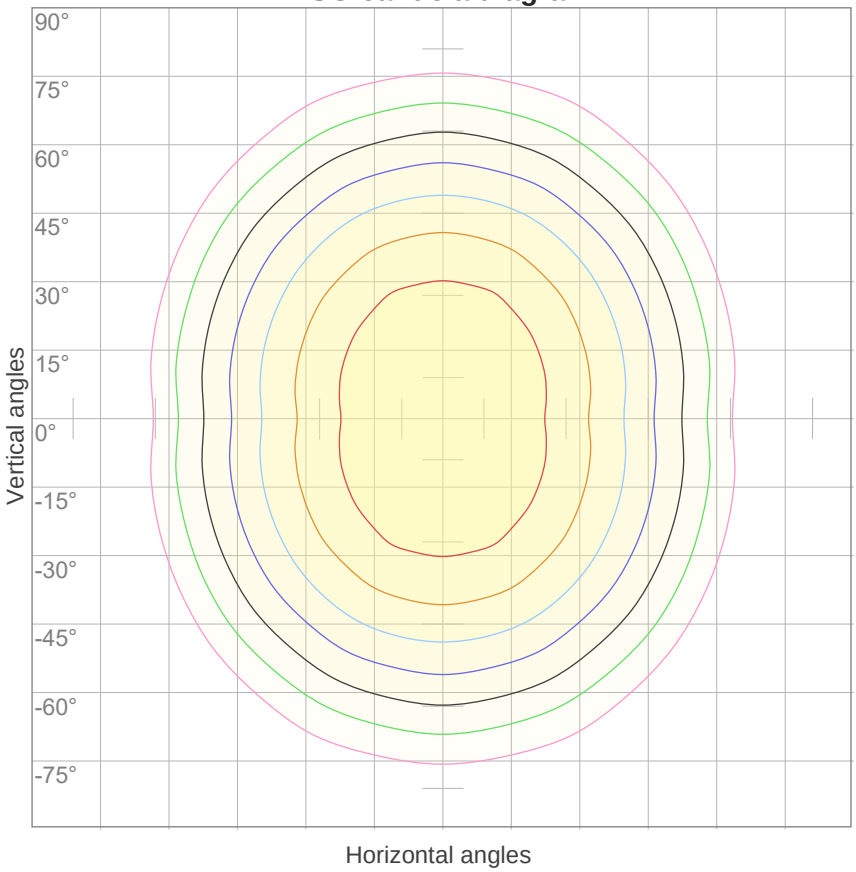
0°	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°	99°	108°	117°	126°	135°	144°	153°	162°	171°
90,4	90,4	88,8	85,1	79,9	72,6	63,7	53,4	42,2	31,0	10,7	9,6	8,5	7,4	6,4	5,3	4,2	3,1	2,0	1,0
100%	100%	98%	94%	88%	80%	70%	59%	47%	34%	12%	11%	9%	8%	7%	6%	5%	3%	2%	1%

Intensities in 270° c-plane

0°	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°	99°	108°	117°	126°	135°	144°	153°	162°	171°
90,4	89,2	85,5	79,9	71,8	62,2	50,8	38,4	24,9	12,0	1,2	1,1	1,0	0,9	0,7	0,6	0,5	0,4	0,2	0,1
100%	99%	95%	88%	79%	69%	56%	42%	28%	13%	1%	1%	1%	1%	1%	1%	1%	0%	0%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
129,6°	**183,8°**	**209,9°**	**65,8%**	**43,0%**

ISO candela diagram



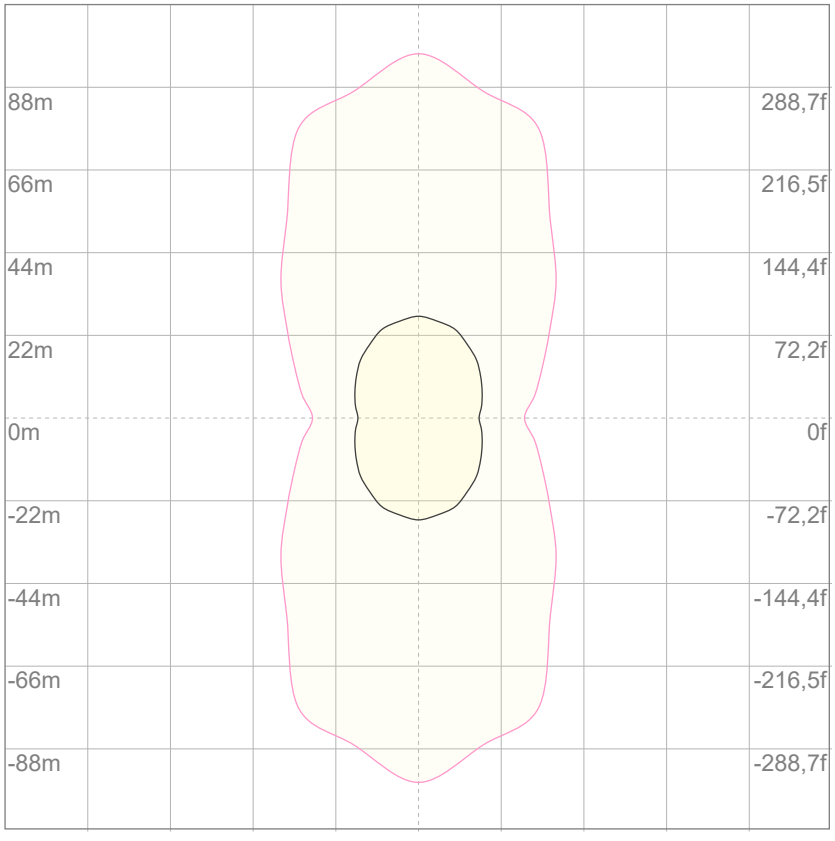
10%	9 cd
20%	18 cd
30%	27 cd
40%	36 cd
50%	45 cd
60%	54 cd
70%	63 cd
80%	72 cd
90%	81 cd

Conditions:

Number of c-planes: 16

Candela at center: 90 cd

ISO lux diagram



Mounting height: 10 meters (33 feet)

3%	27,1m lx
5%	45,2m lx
10%	90,4m lx
30%	0,271 lx
50%	0,452 lx

Conditions:

Number of c-planes: 16

Lux at center: 0,904 lx

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

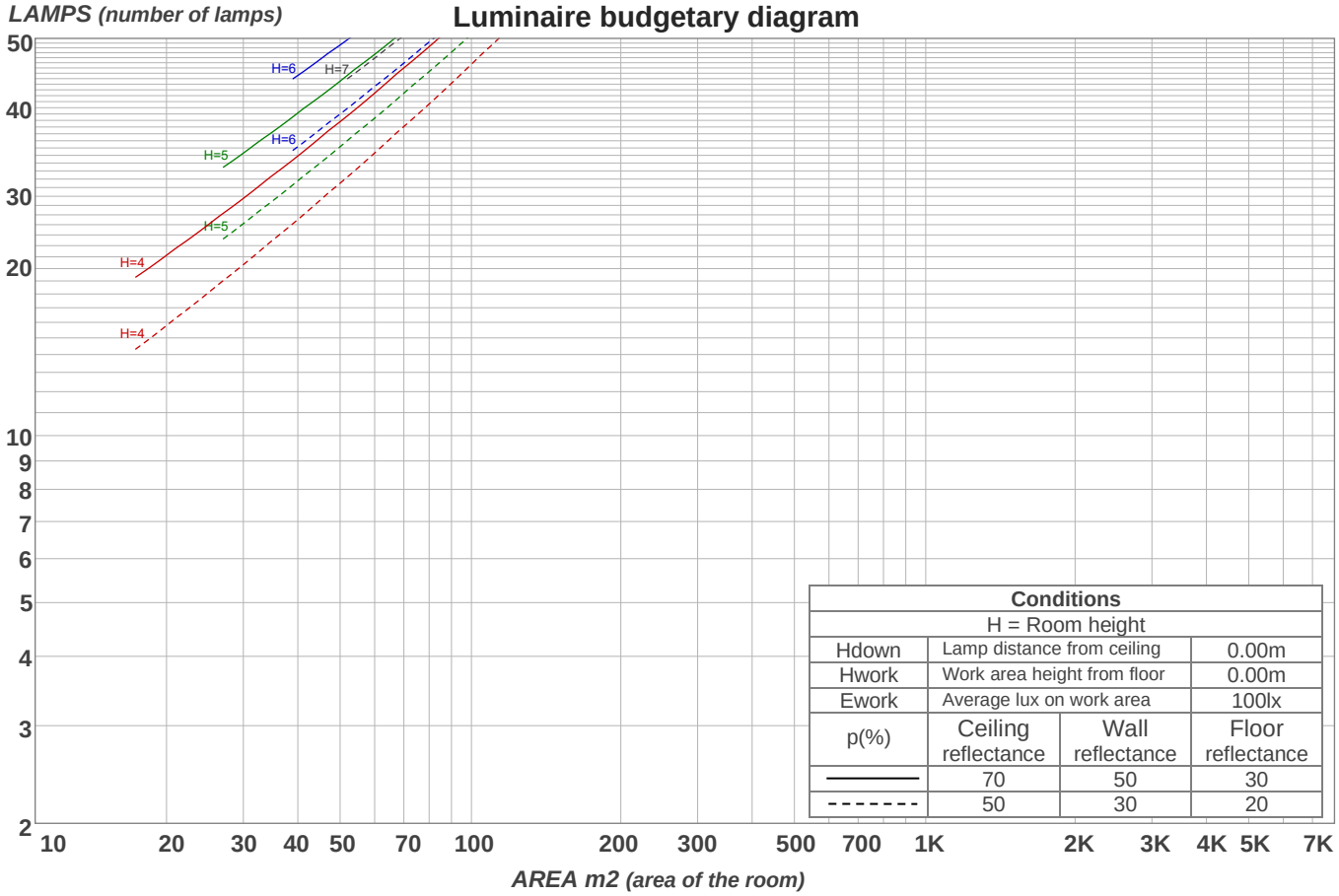
Glare Evaluation According to UGR

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	18,7	20,1	19,0	20,4	20,6	18,6	20,0	18,9	20,3	20,5
	3H	20,5	21,9	20,9	22,2	22,4	20,3	21,6	20,7	21,9	22,2
	4H	21,4	22,7	21,8	23,0	23,3	21,0	22,3	21,4	22,6	22,9
	6H	22,3	23,5	22,6	23,7	24,1	21,6	22,8	22,0	23,1	23,5
	8H	22,6	23,8	23,0	24,1	24,5	21,8	23,0	22,2	23,3	23,7
	12H	22,9	24,1	23,3	24,4	24,9	22,0	23,1	22,4	23,4	23,9
4H	2H	19,4	20,7	19,8	21,0	21,3	19,3	20,6	19,7	20,9	21,2
	3H	21,5	22,6	21,9	23,0	23,4	21,2	22,4	21,6	22,7	23,2
	4H	22,4	23,5	22,9	23,9	24,5	22,0	23,1	22,5	23,5	24,0
	6H	23,4	24,4	23,9	24,8	25,2	22,8	23,7	23,2	24,1	24,5
	8H	23,9	24,8	24,4	25,2	25,5	23,0	23,9	23,5	24,3	24,7
	12H	24,3	25,1	24,8	25,5	26,0	23,2	24,0	23,7	24,5	24,9
8H	4H	22,8	23,7	23,3	24,1	24,5	22,5	23,4	23,0	23,7	24,1
	6H	24,0	24,7	24,5	25,2	25,8	23,4	24,1	23,9	24,6	25,1
	8H	24,6	25,3	25,1	25,8	26,4	23,8	24,4	24,3	24,9	25,6
	12H	25,2	25,7	25,8	26,2	26,9	24,1	24,7	24,7	25,2	25,8
12H	4H	22,9	23,6	23,3	24,1	24,5	22,5	23,3	23,0	23,7	24,2
	6H	24,1	24,8	24,6	25,3	25,9	23,5	24,2	24,1	24,7	25,4
	8H	24,8	25,3	25,4	25,8	26,4	24,0	24,6	24,6	25,1	25,7
Variation of the observer position for the luminaire distance S											
S = 1.0H		0,1 / -0,1					0,1 / -0,1				
S = 1.5H		0,1 / -0,1					0,1 / -0,1				
S = 2.0H		0,2 / -0,3					0,3 / -0,3				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 342 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	114	114	114	114	108	108	108	102	102	102	97	97	97	94
1	105	99	94	90	102	97	92	88	91	87	84	86	83	80	81	79	77	74
2	95	85	78	71	91	83	76	70	78	72	67	74	69	65	70	66	62	60
3	86	74	65	58	83	72	64	57	68	61	55	64	59	54	61	56	52	49
4	78	65	56	48	75	63	55	48	60	52	46	57	50	45	54	48	44	41
5	72	58	48	41	69	56	47	41	54	46	40	51	44	39	48	42	38	35
6	66	52	42	36	64	51	42	35	48	40	34	46	39	34	44	38	33	31
7	61	47	38	31	59	46	37	31	44	36	30	42	35	30	40	34	29	27
8	57	43	34	28	55	42	33	27	40	32	27	38	31	26	36	30	26	24
9	53	39	30	25	51	38	30	25	37	29	24	35	28	24	34	28	23	21
10	50	36	28	22	48	35	27	22	34	27	22	32	26	21	31	25	21	19

Luminaire budgetary diagram

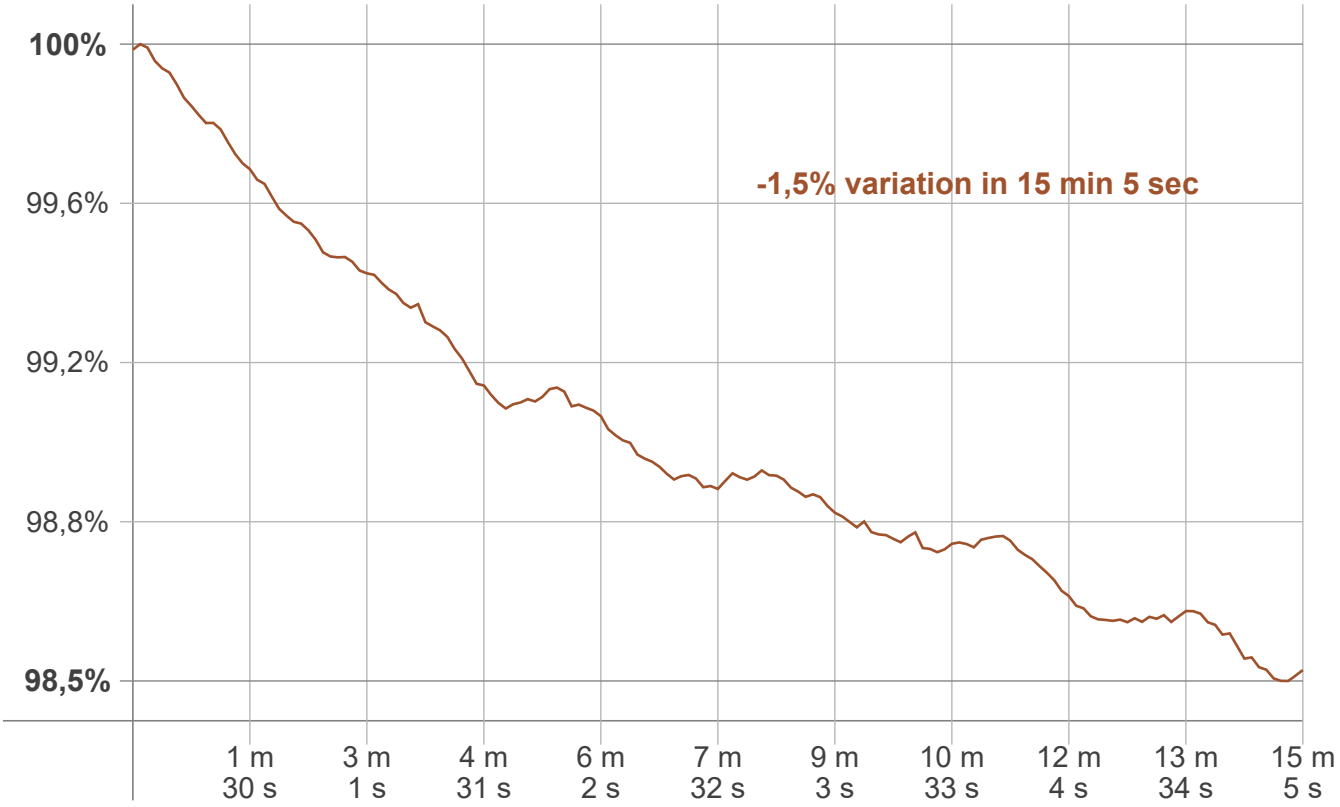


Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
8,60 lm	25,0 lm	38,8 lm	48,4 lm	52,8 lm	51,3 lm	44,3 lm	33,0 lm	19,7 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
7,68 lm	3,40 lm	2,87 lm	2,59 lm	1,58 lm	0,871 lm	0,642 lm	0,393 lm	0,132 lm

Warmup curve



Warmup result

Warmup time:	**Lamp stabilized in 15 min 5 sec**
Warmup variation	**-1,5%**

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
2697 K	+3 K	2700 K

Output change

Output start	Output change	Output end
347 lm	-5 lm	342 lm