Light efficiency:

52 Lumen/Watt

Light quality:

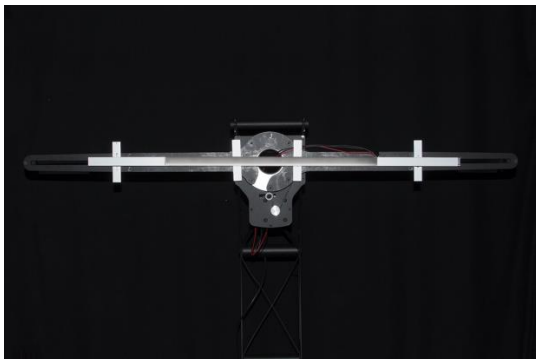
CRI: 84,5

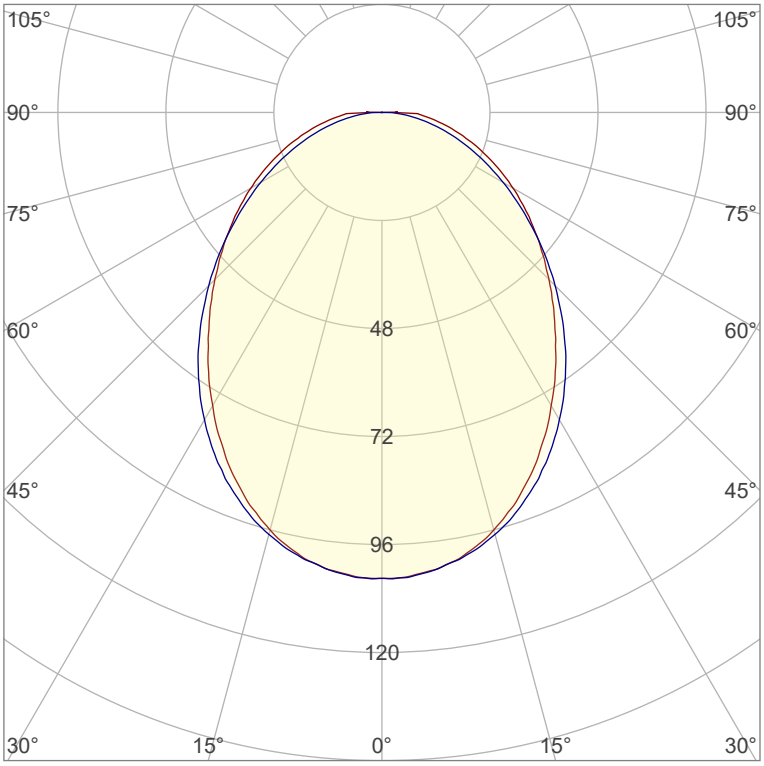
Color temperature:

2700 K

Output: 251 lm
Peak: 104 cd

Power: 4,8 W
PF: 1,0





Product name:
Navigator-3_510mm_827_Cover-Square-Grey

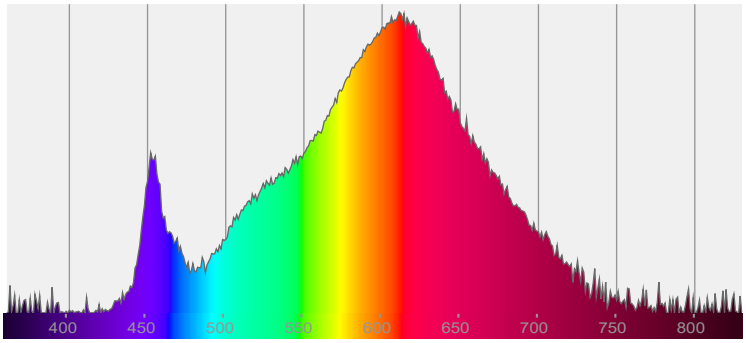
Item number:
NP/L1C/14C/0510/827/CSG

Date and time:
23.06.2022 09:18:13

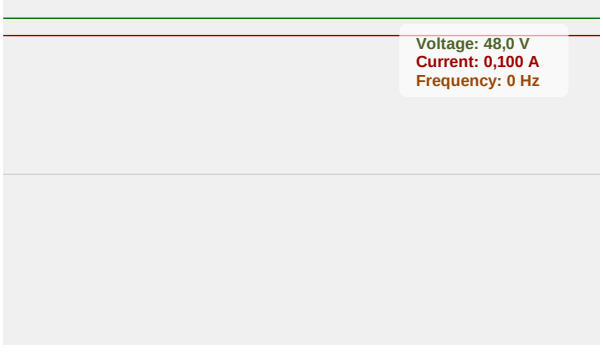
Description:
Tolerances:
Lumen +/-4%
Candela +/-2,5%
Colour Temp +/-35 Kelvin
CRI +/-0,7
Angular Resolution: 1 Degree Step
Last Calibration 20-09-2021
Tester: Peter Ulrich
Test Site: Lichtlabor
Gaustrasse 13
55411 Bingen am Rhein

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

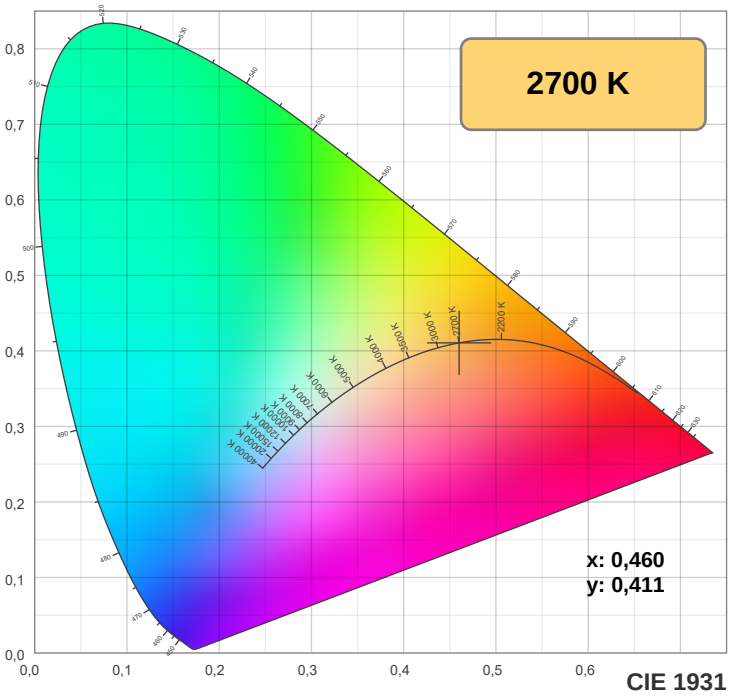
Spectra

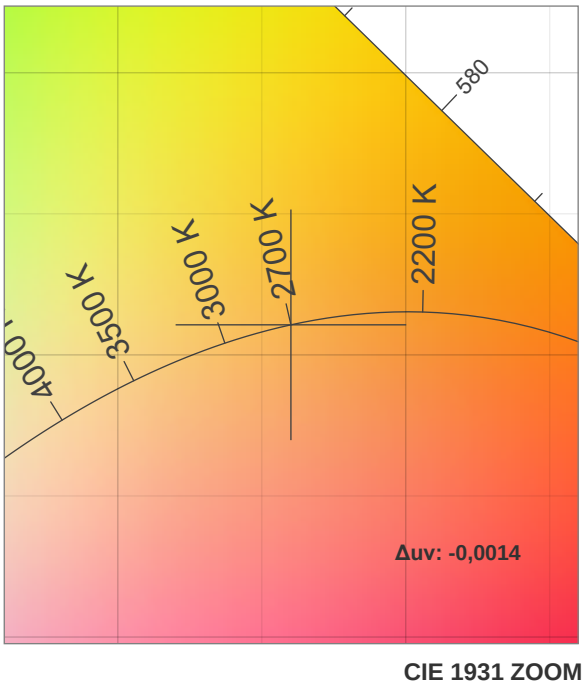


Power

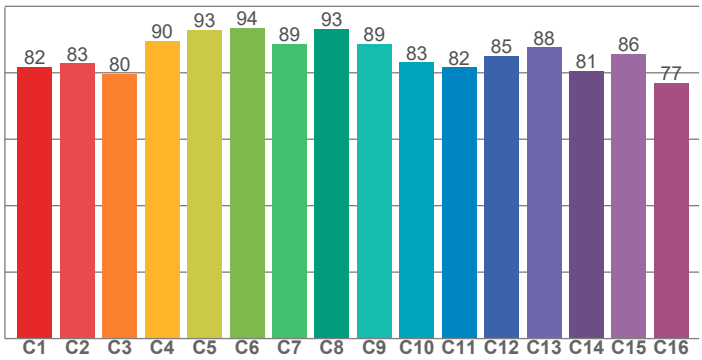


Color details

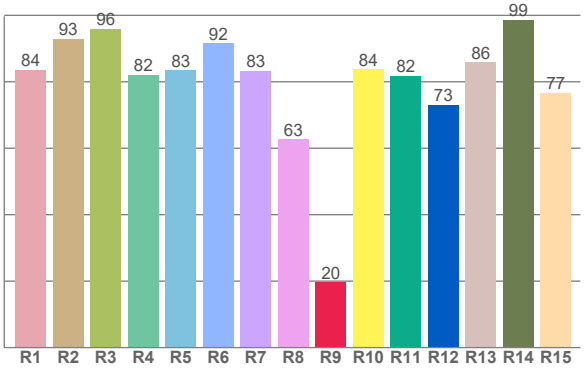




TM30: 85,4



CRI: 84,5 (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
83,6	92,9	95,9	82,2	83,4	91,6	83,3	62,6	19,7	83,8	81,8	73,1	85,9	98,7	76,7

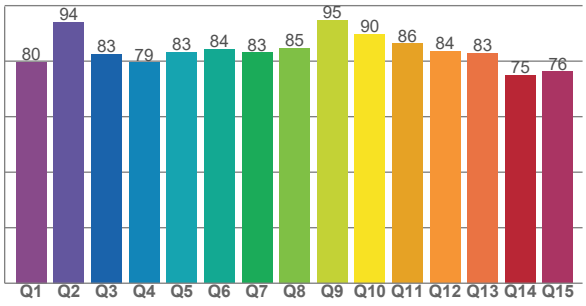
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
81,7	82,8	79,6	89,6	93,0	93,6	88,6	93,2	88,6	83,1	81,7	85,1	87,7	80,5	85,7	76,9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
79,7	94,1	82,6	79,5	83,2	84,3	83,0	84,7	94,7	89,8	86,4	83,6	83,0	74,9	76,3

CQS: 82,9



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	84,5	19,7	85,4	96,9	82,9	0,460	0,411	0,263	0,352	-0,0014

TM30 details

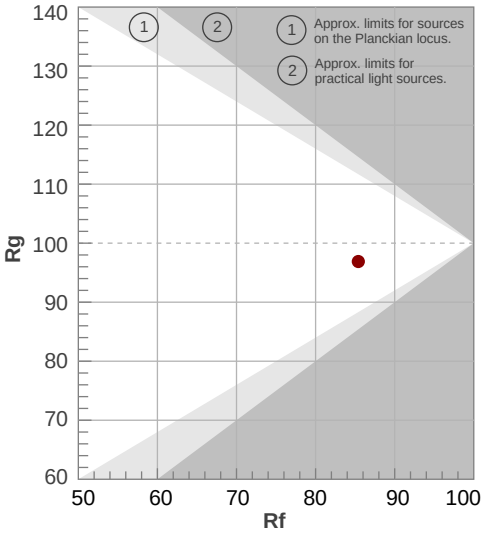
Rf 85,4

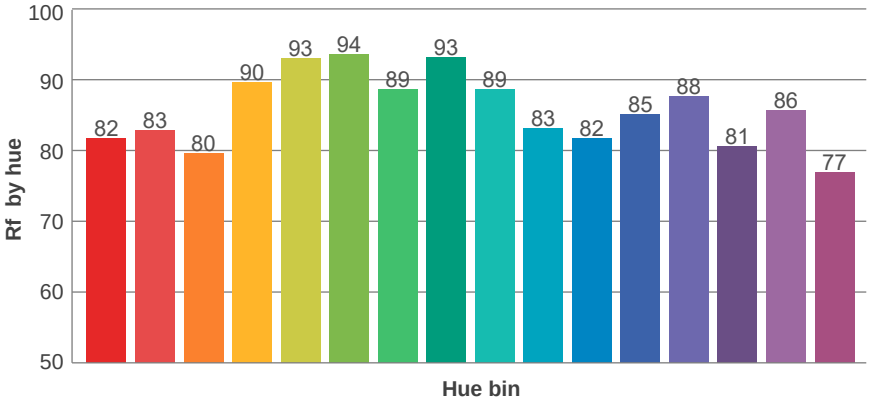
Fidelity index Rf

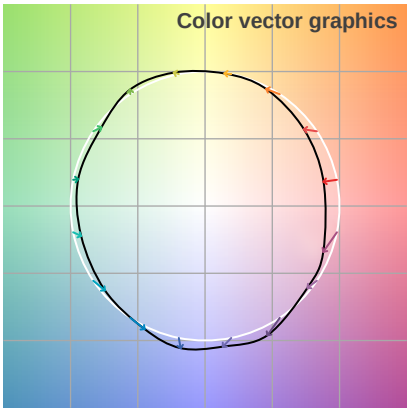
Rg 96,9

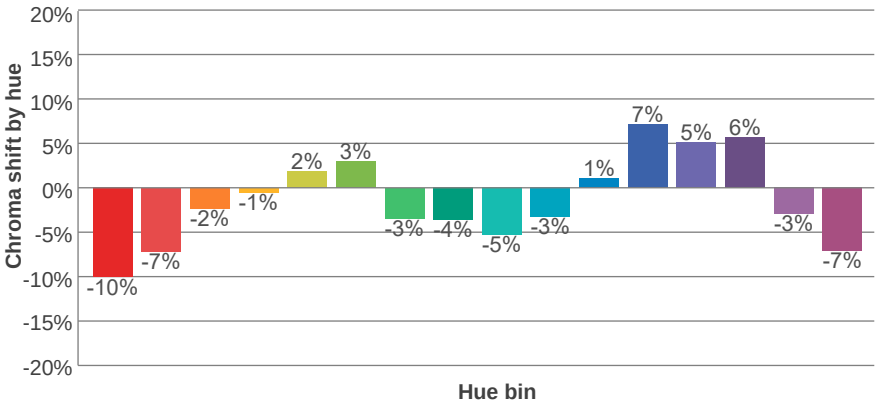
Gammut index Rg

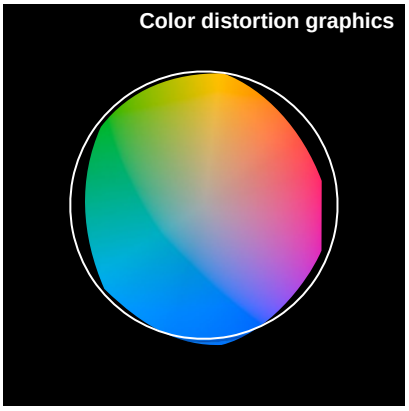
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	82	-10%	1%
2	83	-7%	7%
3	80	-2%	10%
4	90	-1%	5%
5	93	2%	3%
6	94	3%	-2%
7	89	-3%	-6%
8	93	-4%	-1%
9	89	-5%	4%
10	83	-3%	11%
11	82	1%	13%
12	85	7%	3%
13	88	5%	-7%
14	81	6%	-15%
15	86	-3%	-8%
16	77	-7%	-16%

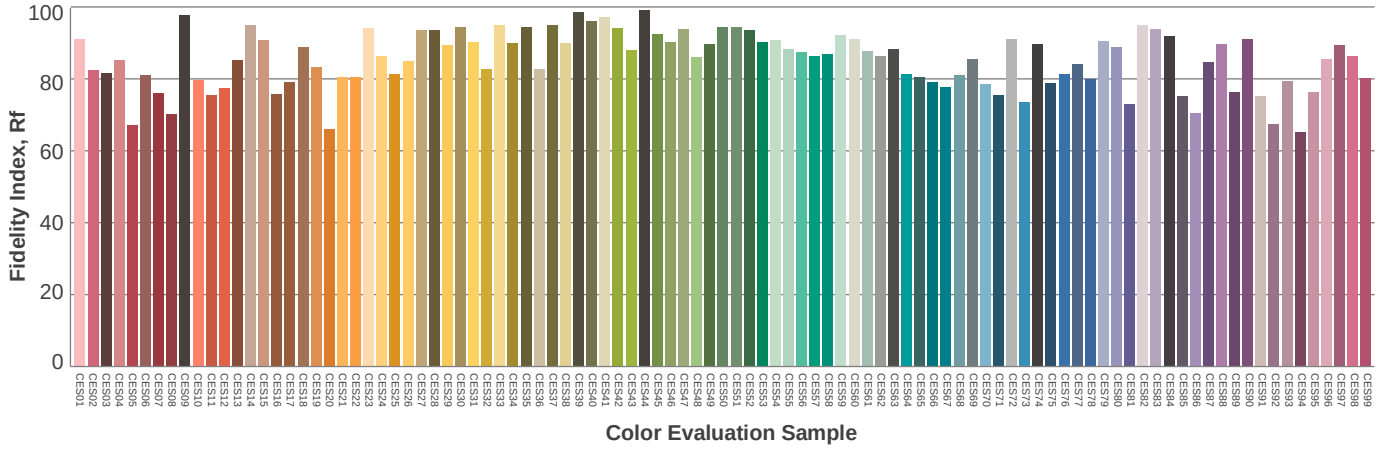




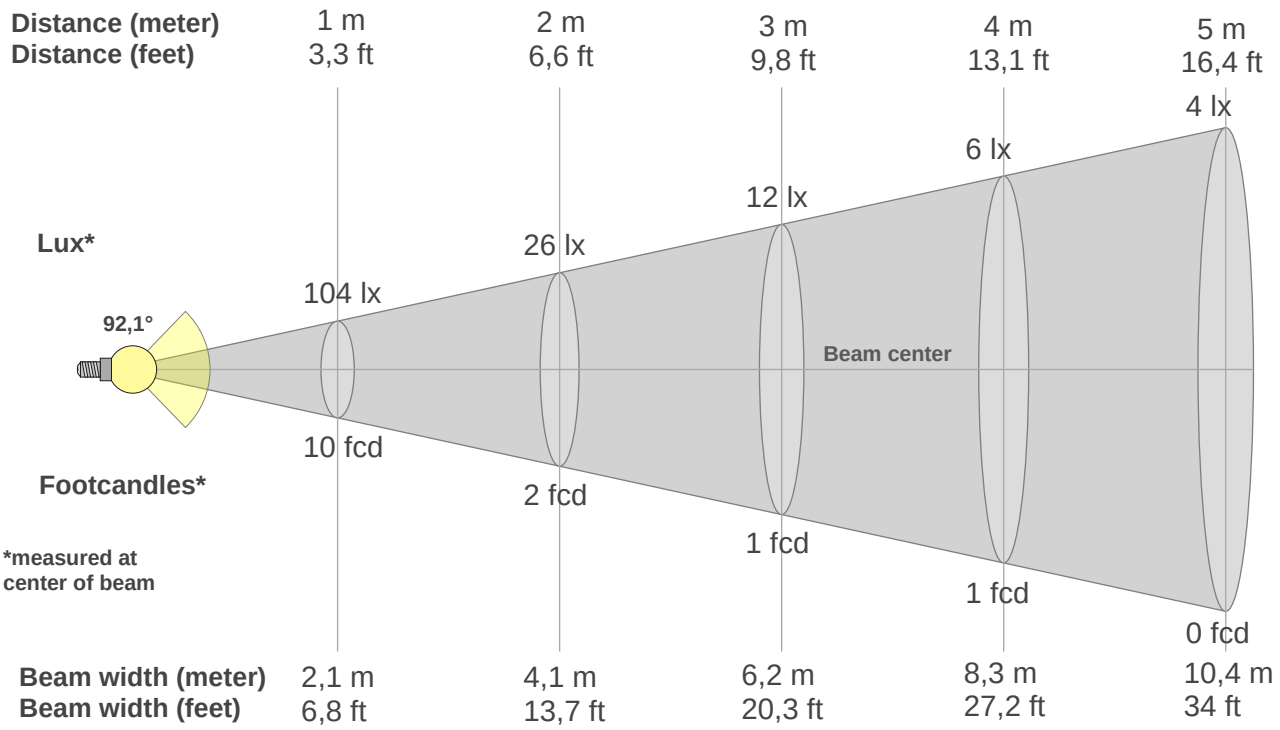








Beam details



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
104lx	26lx	12lx	6lx	4lx	3lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	0lx	0lx	0lx	0lx	0lx	0lx
9,6fcd	2,4fcd	1,1fcd	0,6fcd	0,4fcd	0,3fcd	0,2fcd	0,2fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	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°
104	103	100	96	90	83	75	67	60	52	46	40	34	28	23	18	13	9	3	0
100%	99%	97%	93%	87%	80%	73%	65%	58%	51%	44%	38%	32%	27%	22%	17%	13%	9%	3%	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°
104	103	101	97	92	86	79	71	63	54	46	38	31	25	18	13	8	4	1	1
100%	99%	97%	94%	89%	83%	76%	69%	61%	53%	45%	37%	30%	24%	18%	13%	8%	4%	1%	1%

Intensities in 180° c-plane

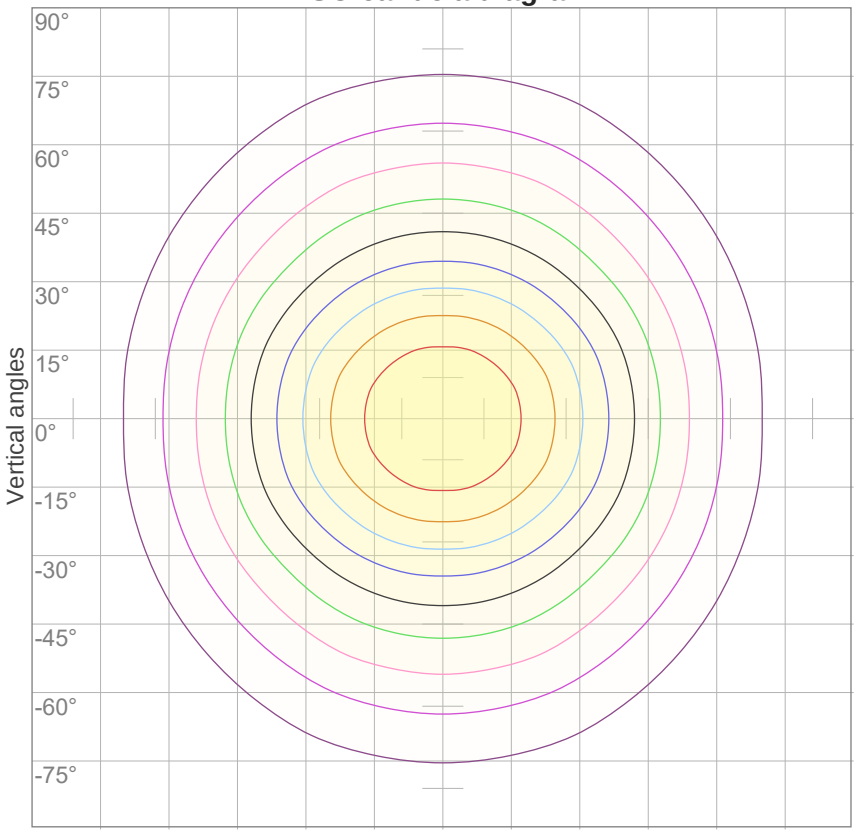
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
104	103	100	96	90	83	75	67	60	52	46	40	34	28	23	18	13	9	3	0
100%	99%	97%	93%	87%	80%	73%	65%	58%	51%	44%	38%	32%	27%	22%	17%	13%	9%	3%	0%

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°
104	103	101	97	92	86	79	71	63	54	46	38	31	25	18	13	8	4	1	1
100%	99%	97%	94%	89%	83%	76%	69%	61%	53%	45%	37%	30%	24%	18%	13%	8%	4%	1%	1%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
92,1°	**162,3°**	**202,4°**	**77,9%**	**56,0%**

ISO candela diagram



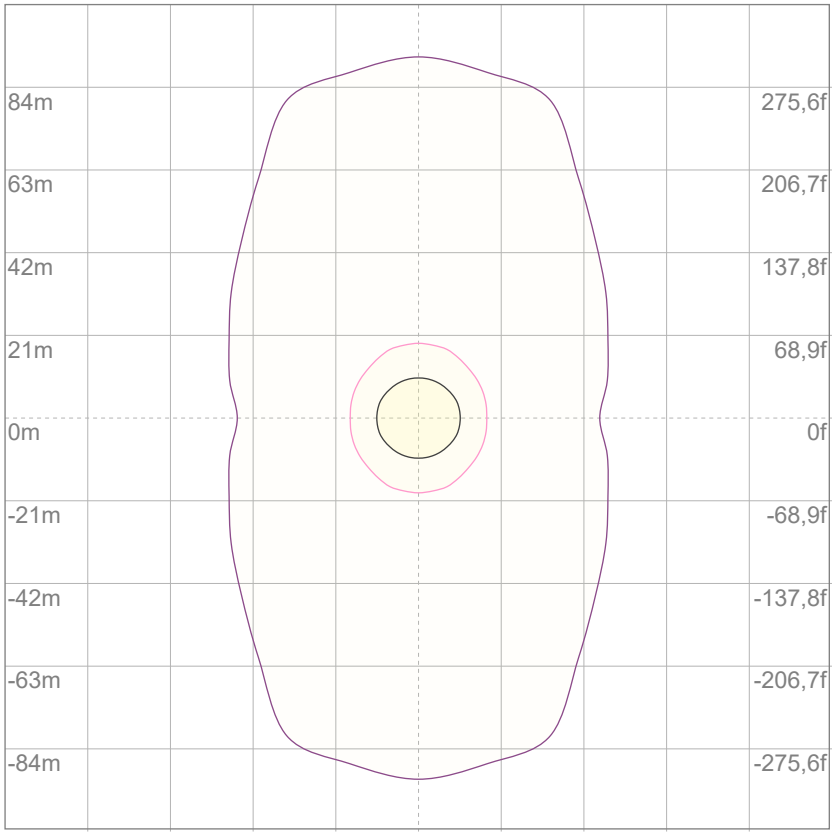
10%	10 cd
20%	21 cd
30%	31 cd
40%	41 cd
50%	52 cd
60%	62 cd
70%	73 cd
80%	83 cd
90%	93 cd

Conditions:

Number of c-planes: 16

Candela at center: 104 cd

ISO lux diagram



Mounting height: 10 meters (33 feet)

3%	31,1m lx
5%	51,8m lx
10%	0,104 lx
30%	0,311 lx
50%	0,518 lx

Conditions:

Number of c-planes: 16

Lux at center: 1,04 lx

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

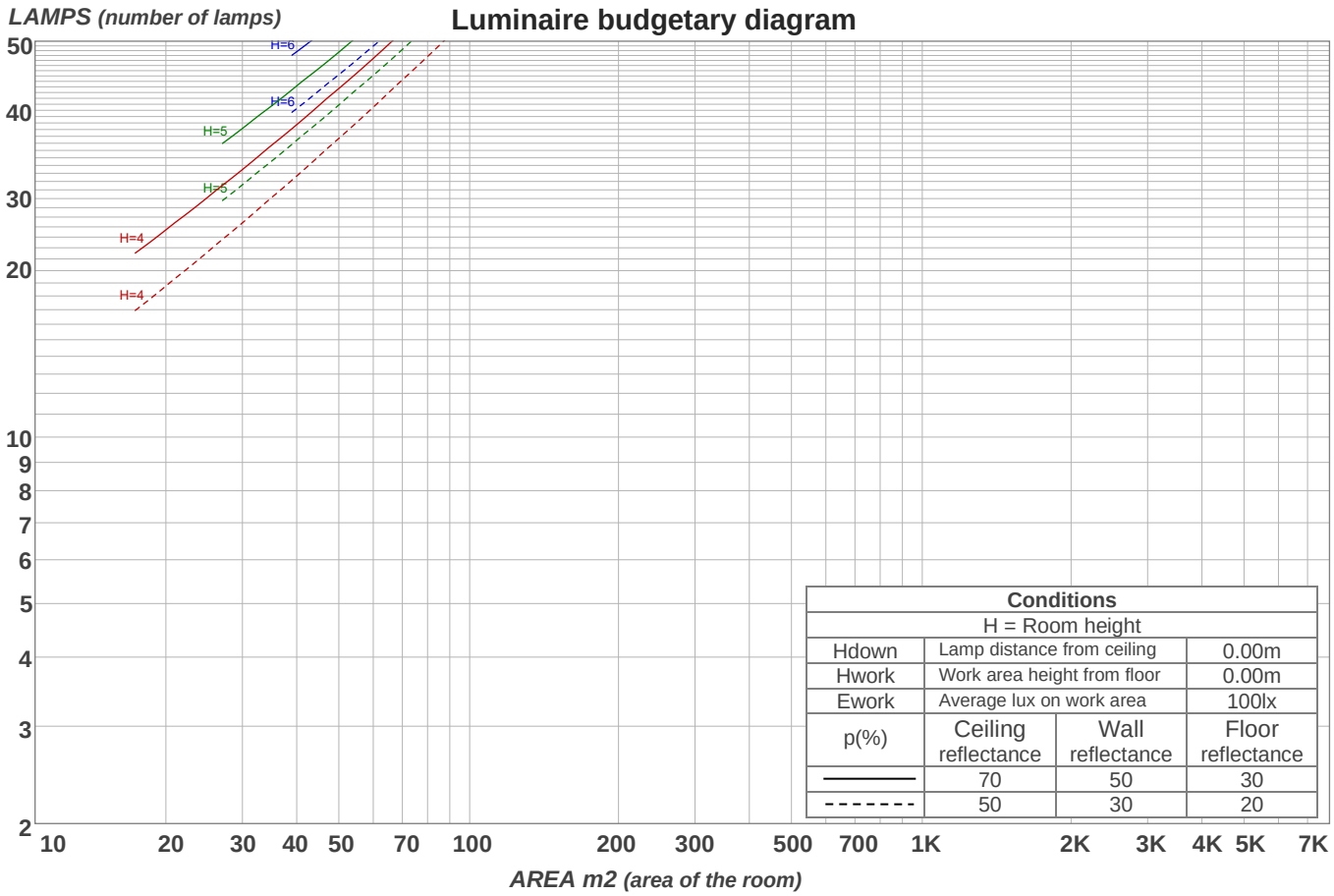
Glare Evaluation According to UGR

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	16,8	18,0	17,1	18,3	18,5	17,7	18,9	17,9	19,2	19,4
	3H	18,0	19,3	18,4	19,5	19,7	18,9	20,1	19,3	20,4	20,6
	4H	18,6	19,8	19,0	20,0	20,3	19,5	20,6	19,9	20,9	21,2
	6H	19,1	20,2	19,4	20,4	20,8	20,0	21,0	20,3	21,3	21,7
	8H	19,3	20,3	19,6	20,6	21,0	20,1	21,1	20,4	21,4	21,8
	12H	19,4	20,4	19,8	20,7	21,2	20,2	21,2	20,6	21,5	22,0
4H	2H	17,3	18,5	17,7	18,8	19,0	18,0	19,2	18,4	19,5	19,7
	3H	18,9	19,9	19,2	20,2	20,6	19,6	20,5	19,9	20,9	21,3
	4H	19,5	20,4	19,9	20,8	21,4	20,2	21,1	20,6	21,5	22,0
	6H	20,1	21,0	20,6	21,3	21,7	20,7	21,6	21,2	21,9	22,3
	8H	20,3	21,1	20,8	21,5	21,9	20,9	21,7	21,4	22,1	22,5
	12H	20,5	21,2	21,0	21,6	22,1	21,1	21,8	21,6	22,2	22,7
8H	4H	19,8	20,6	20,3	20,9	21,3	20,4	21,2	20,9	21,5	21,9
	6H	20,5	21,1	21,0	21,6	22,1	21,0	21,7	21,6	22,1	22,7
	8H	20,9	21,4	21,4	21,9	22,6	21,4	21,9	21,9	22,4	23,1
	12H	21,2	21,7	21,8	22,2	22,8	21,6	22,1	22,2	22,6	23,2
12H	4H	19,8	20,4	20,3	20,9	21,3	20,4	21,0	20,9	21,5	21,9
	6H	20,6	21,1	21,1	21,7	22,3	21,1	21,7	21,6	22,2	22,8
	8H	21,0	21,5	21,6	22,0	22,6	21,4	21,9	22,0	22,4	23,0
Variation of the observer position for the luminaire distance S											
S = 1.0H		0,1 / -0,1					0,1 / -0,1				
S = 1.5H		0,2 / -0,3					0,3 / -0,4				
S = 2.0H		0,4 / -0,6					0,7 / -0,8				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 251 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	119	119	119	119	116	116	116	116	110	110	110	105	105	105	100	100	100	98
1	108	103	99	95	105	101	97	93	96	93	90	92	89	87	88	86	84	82
2	99	90	84	78	96	88	82	77	85	79	75	81	77	73	78	74	71	69
3	90	80	72	65	88	78	71	65	75	69	63	72	66	62	69	65	61	58
4	83	71	63	56	80	70	62	55	67	60	54	64	58	54	62	57	53	50
5	76	64	55	49	74	63	54	48	60	53	48	58	52	47	56	51	46	44
6	71	58	49	43	69	57	49	43	55	47	42	53	46	41	51	45	41	39
7	66	53	44	38	64	52	44	38	50	43	37	48	42	37	47	41	37	35
8	61	48	40	34	60	47	40	34	46	39	34	45	38	33	43	37	33	31
9	58	44	36	31	56	44	36	31	42	35	31	41	35	30	40	34	30	28
10	54	41	33	28	53	41	33	28	39	33	28	38	32	28	37	32	27	26

Luminaire budgetary diagram

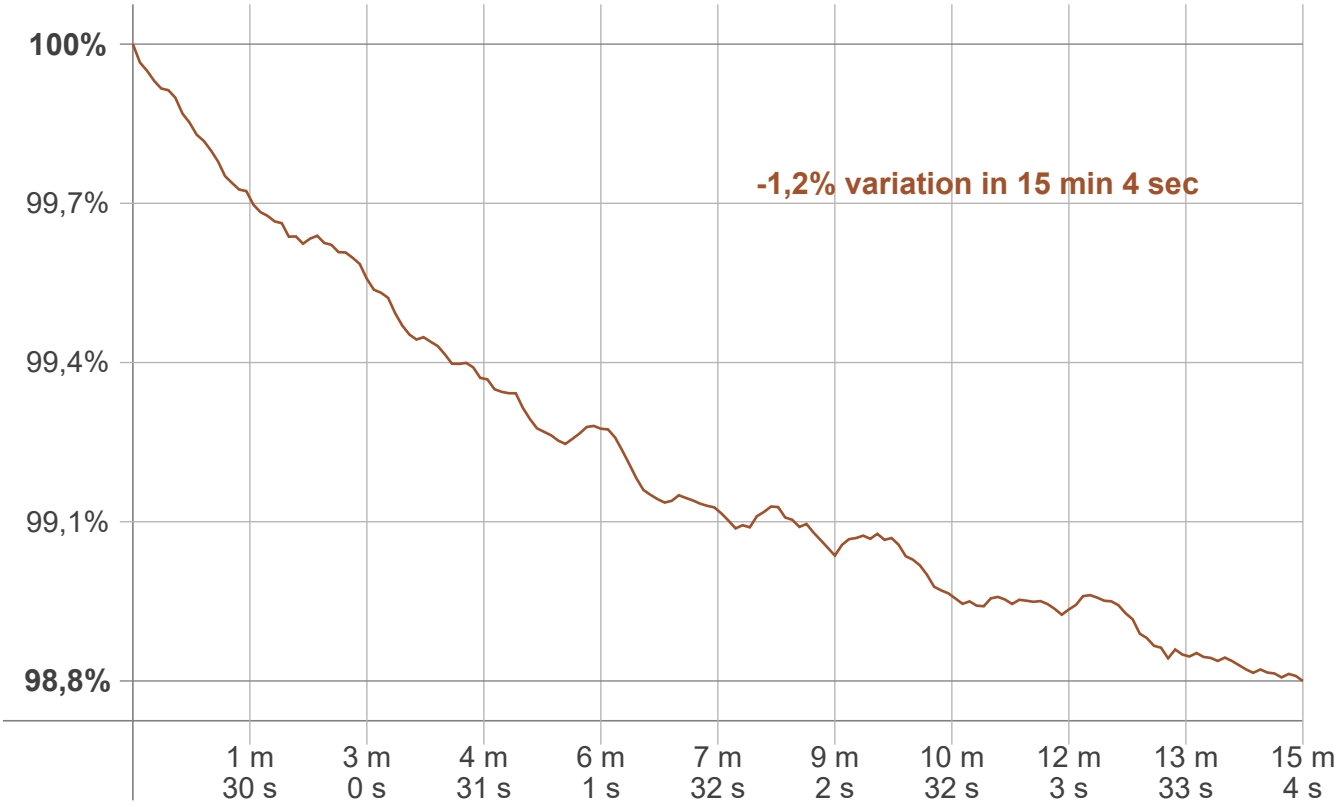


Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
9,74 lm	27,2 lm	39,0 lm	43,4 lm	41,3 lm	34,9 lm	26,1 lm	16,7 lm	7,81 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
1,85 lm	0,732 lm	0,621 lm	0,561 lm	0,436 lm	0,321 lm	0,237 lm	0,145 lm	0,049 lm

Warmup curve



Warmup result

Warmup time:	**Lamp stabilized in 15 min 4 sec**
Warmup variation	**-1,2%**

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
2700 K	0 K	2700 K

Output change

Output start	Output change	Output end
254 lm	-3 lm	251 lm