Light efficiency:

149 Lumen/Watt

Light quality:

CRI: 82,1

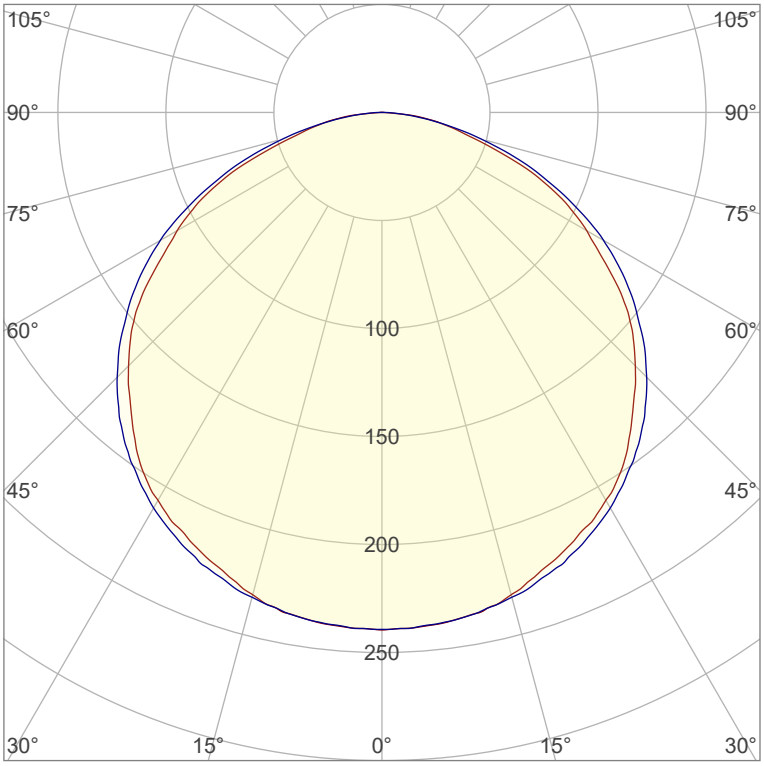
Color temperature:

2700 K

Output: 715 lm
Peak: 239 cd

Power: 4,8 W
PF: 1,0





Product name:
Navigator-3_510mm_827_Cover-Round-Transparent

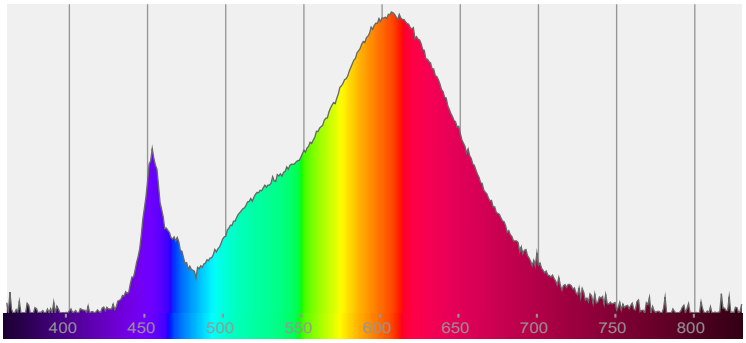
Item number:
NP/L1C/14C/0510/827/CRT

Date and time:
23.06.2022 15:46:12

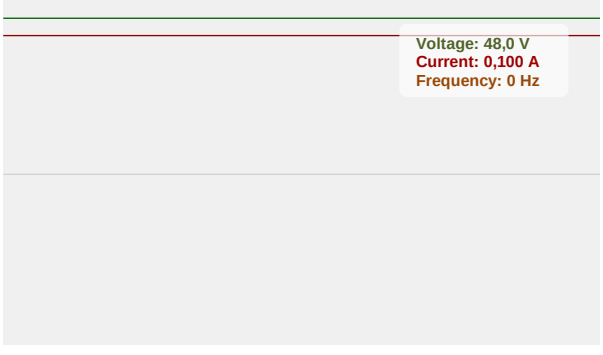
Description:
Tolerances:
Lumen +/-4%
Candela +/-2,5%
Colour Temp +/-35 Kelvin
CRI +/-0,7
Angular Resolution: 1 Degree Step
Last Calibration 20-09-2021
Tester: Peter Ulrich
Test Site: Lichtlabor
Gaustrasse 13
55411 Bingen am Rhein

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

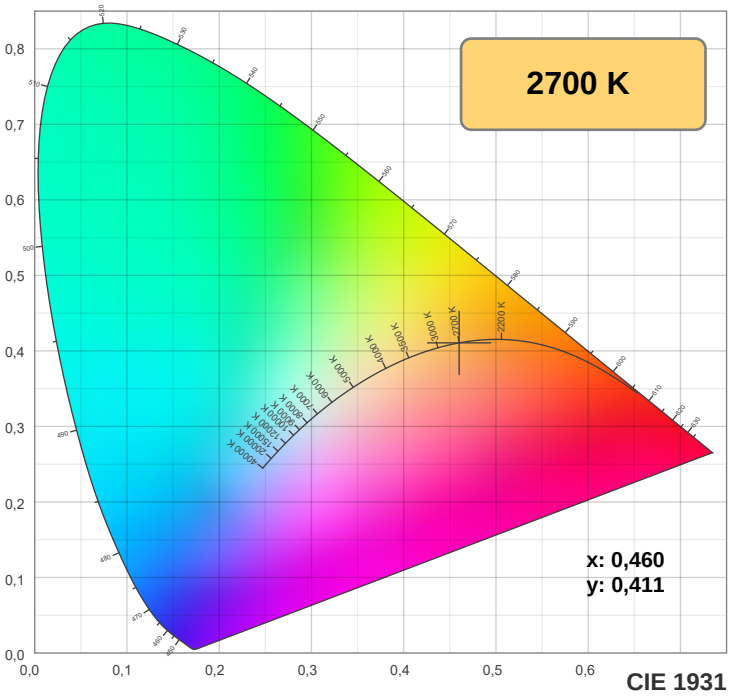
Spectra



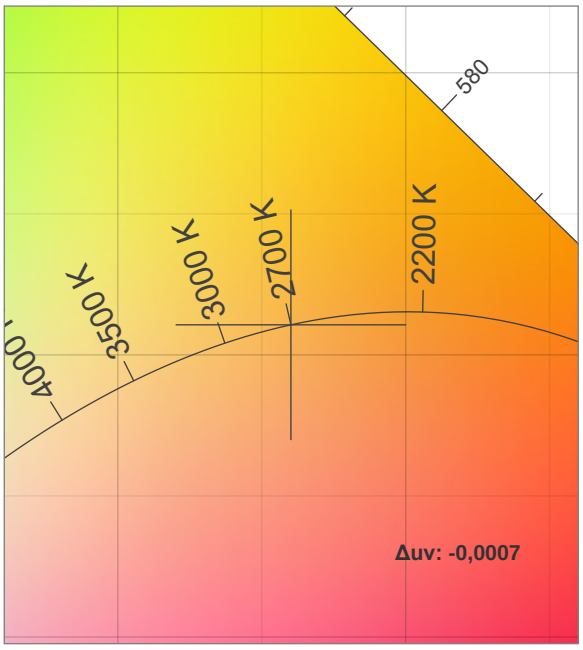
Power



Color details

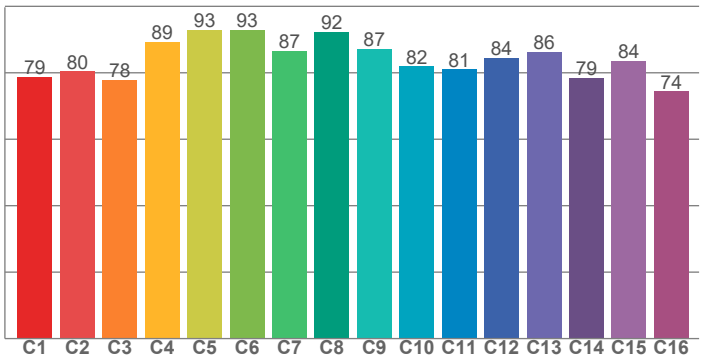


CIE 1931

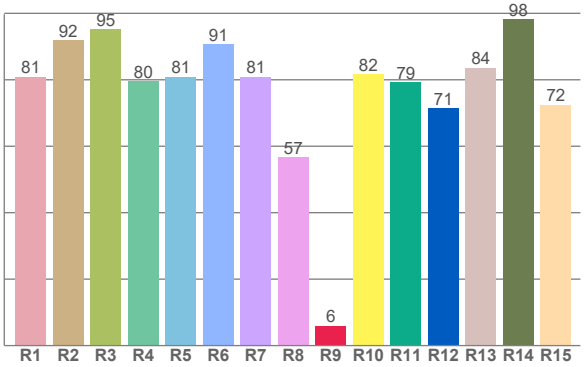


CIE 1931 ZOOM

TM30: 84,1



CRI: 82,1 (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
80,9	91,9	95,2	79,6	80,9	90,7	80,9	56,7	6,0	81,7	79,3	71,4	83,7	98,2	72,5

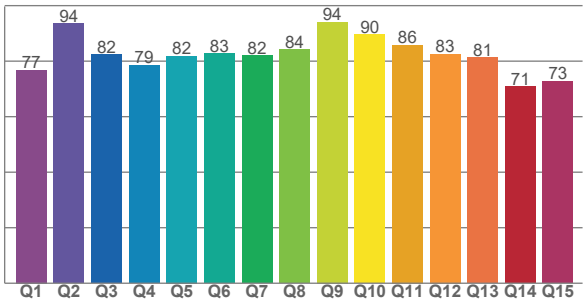
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
78,9	80,5	77,9	89,3	92,9	92,9	86,6	92,4	87,3	81,9	81,0	84,4	86,4	78,5	83,6	74,4

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
76,8	93,6	82,4	78,5	81,8	82,8	82,0	84,1	94,2	89,6	85,8	82,6	81,3	70,9	72,7

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	82,1	6,0	84,1	95,4	81,3	0,460	0,411	0,263	0,352	-0,0007

TM30 details

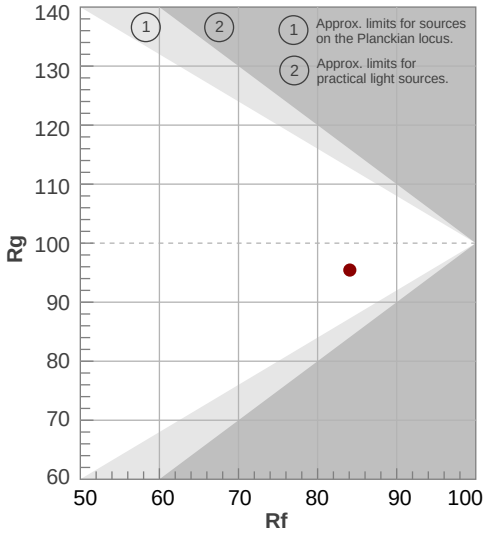
Rf 84,1

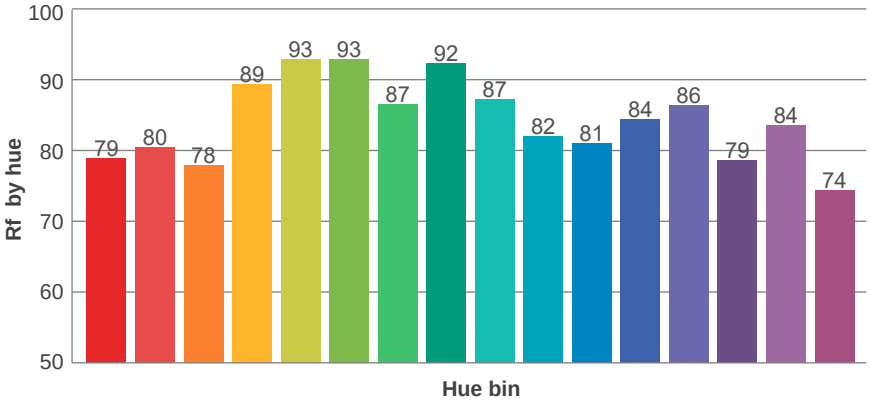
Fidelity index Rf

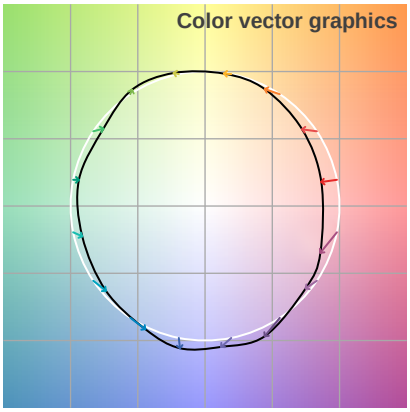
Rg 95,4

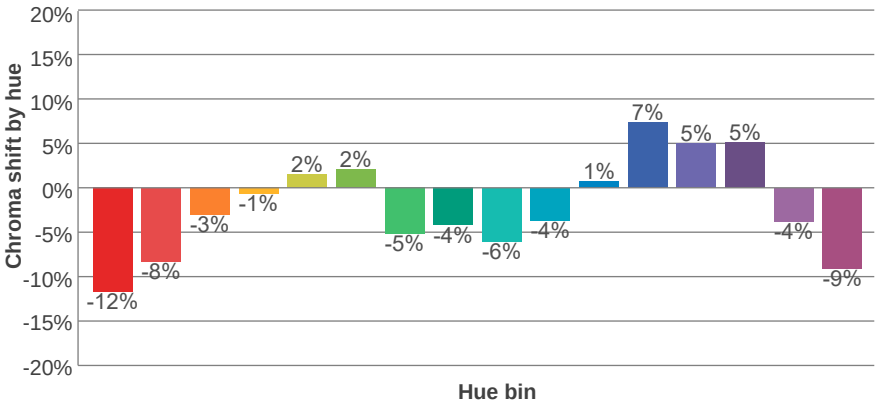
Gammut index Rg

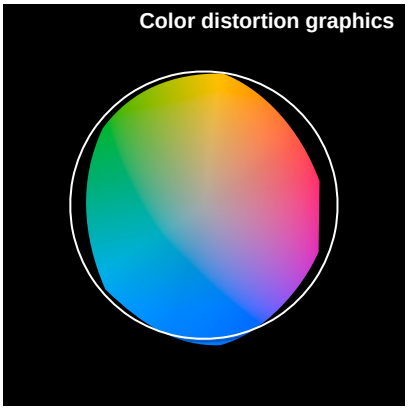
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	79	-12%	1%
2	80	-8%	7%
3	78	-3%	11%
4	89	-1%	5%
5	93	2%	4%
6	93	2%	-3%
7	87	-5%	-6%
8	92	-4%	-1%
9	87	-6%	4%
10	82	-4%	11%
11	81	1%	14%
12	84	7%	2%
13	86	5%	-9%
14	79	5%	-17%
15	84	-4%	-9%
16	74	-9%	-17%

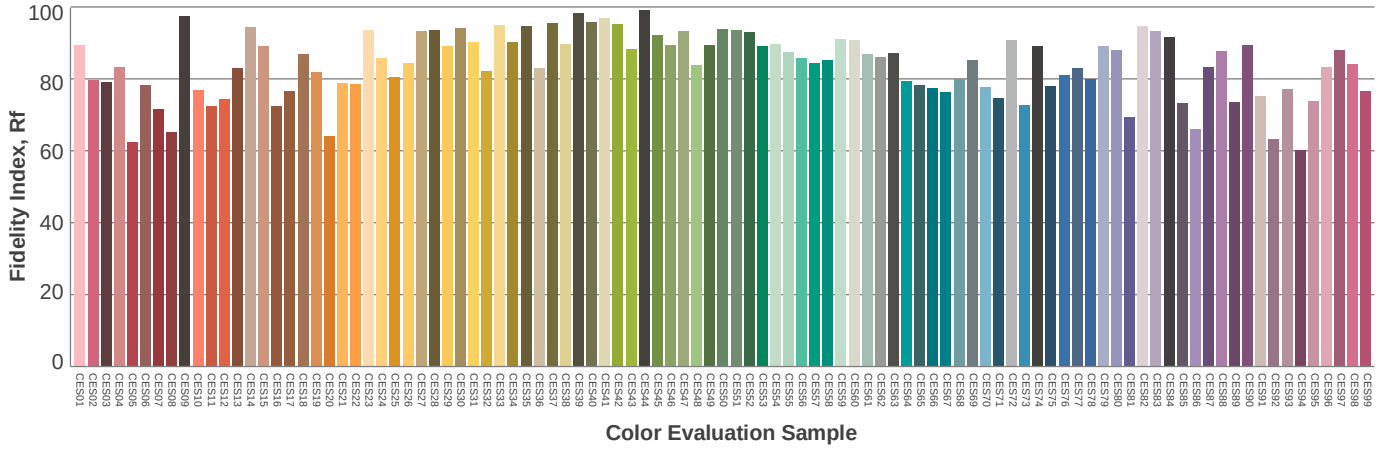




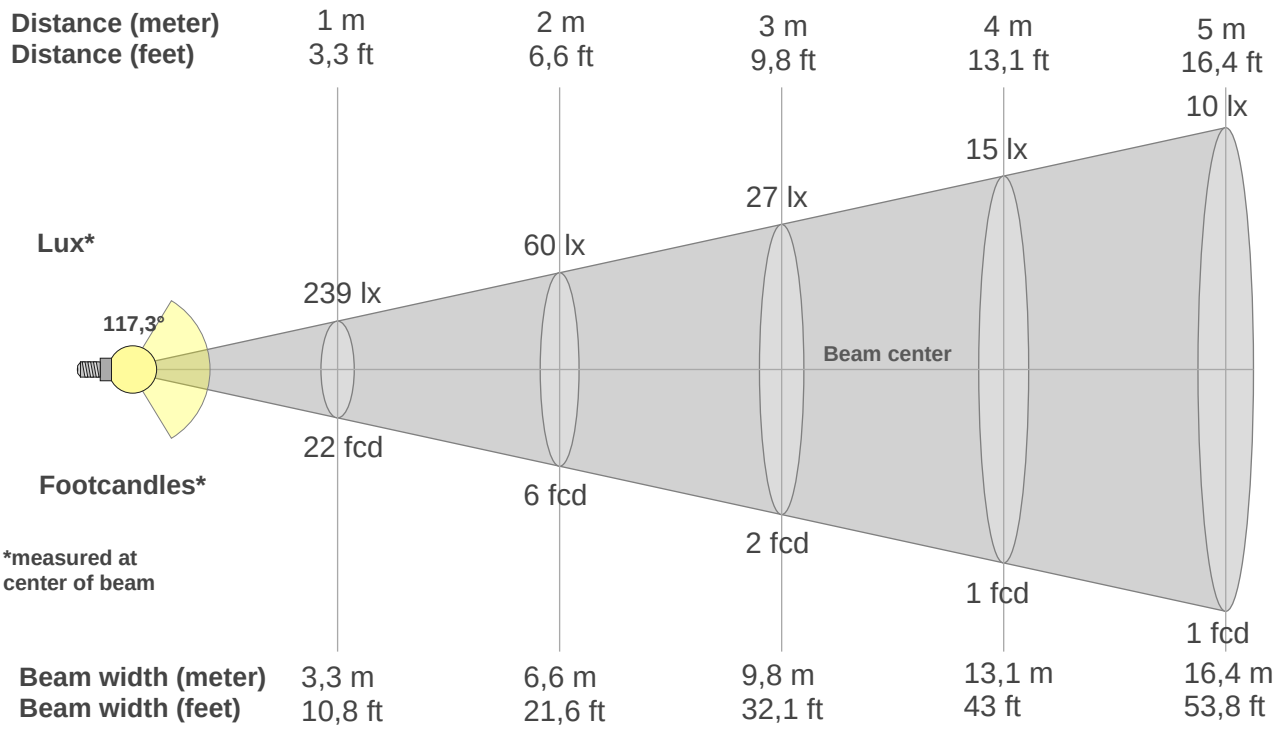








Beam details



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
239lx	60lx	27lx	15lx	10lx	7lx	5lx	4lx	3lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx
22,2fcd	5,6fcd	2,5fcd	1,4fcd	0,9fcd	0,6fcd	0,5fcd	0,3fcd	0,3fcd	0,2fcd	0,2fcd	0,2fcd	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°
239	239	236	231	223	216	207	196	181	166	150	129	109	89	65	41	27	10	1	0
100%	100%	99%	97%	93%	90%	87%	82%	75%	69%	63%	54%	46%	37%	27%	17%	11%	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°
239	238	236	232	227	220	211	200	188	173	157	139	118	95	72	48	26	10	1	1
100%	100%	99%	97%	95%	92%	88%	84%	79%	72%	65%	58%	49%	40%	30%	20%	11%	4%	0%	0%

Intensities in 180° c-plane

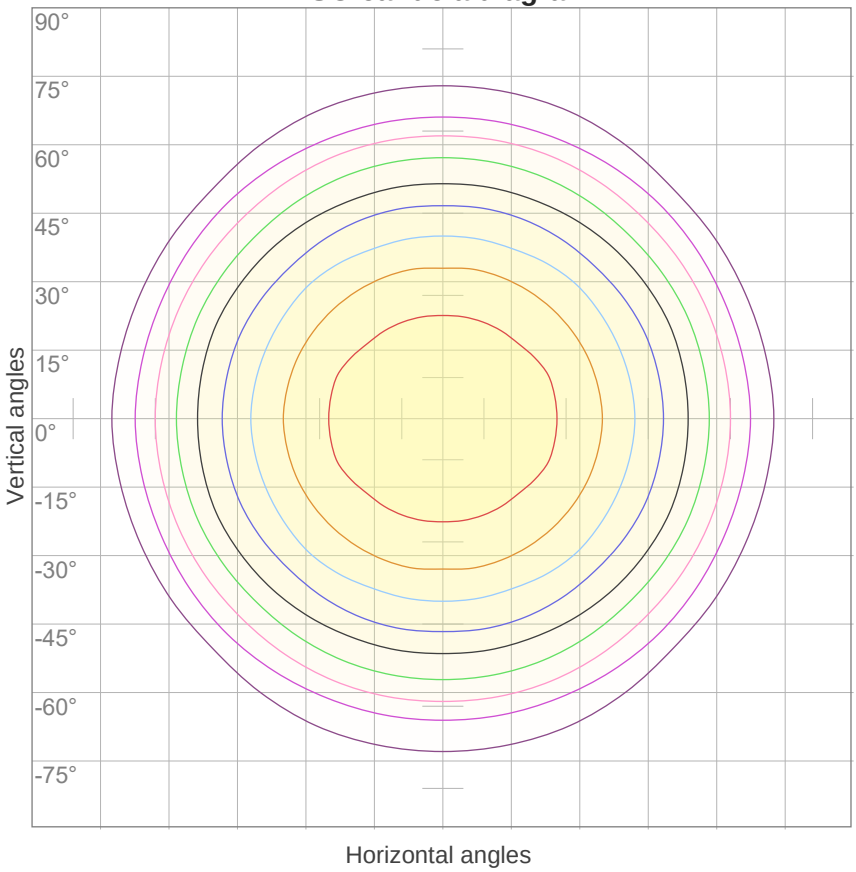
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
239	239	236	231	223	216	207	196	181	166	150	129	109	89	65	41	27	10	1	0
100%	100%	99%	97%	93%	90%	87%	82%	75%	69%	63%	54%	46%	37%	27%	17%	11%	4%	0%	0%

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°
239	238	236	232	227	220	211	200	188	173	157	139	118	95	72	48	26	10	1	1
100%	100%	99%	97%	95%	92%	88%	84%	79%	72%	65%	58%	49%	40%	30%	20%	11%	4%	0%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
117,3°	**160,3°**	**173,1°**	**78,8%**	**52,9%**

ISO candela diagram



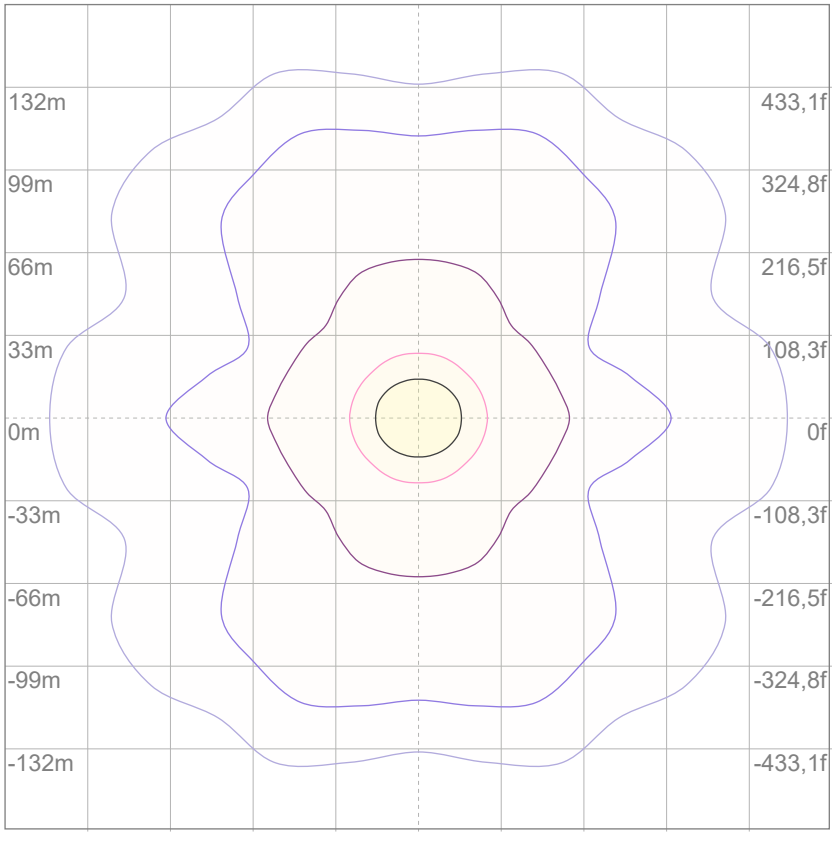
10%	24 cd
20%	48 cd
30%	72 cd
40%	96 cd
50%	120 cd
60%	144 cd
70%	168 cd
80%	191 cd
90%	215 cd

Conditions:

Number of c-planes: 16

Candela at center: 239 cd

ISO lux diagram



Mounting height: 10 meters (33 feet)

3%	71,8m lx
5%	0,120 lx
10%	0,239 lx
30%	0,718 lx
50%	1,20 lx

Conditions:

Number of c-planes: 16

Lux at center: 2,39 lx

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

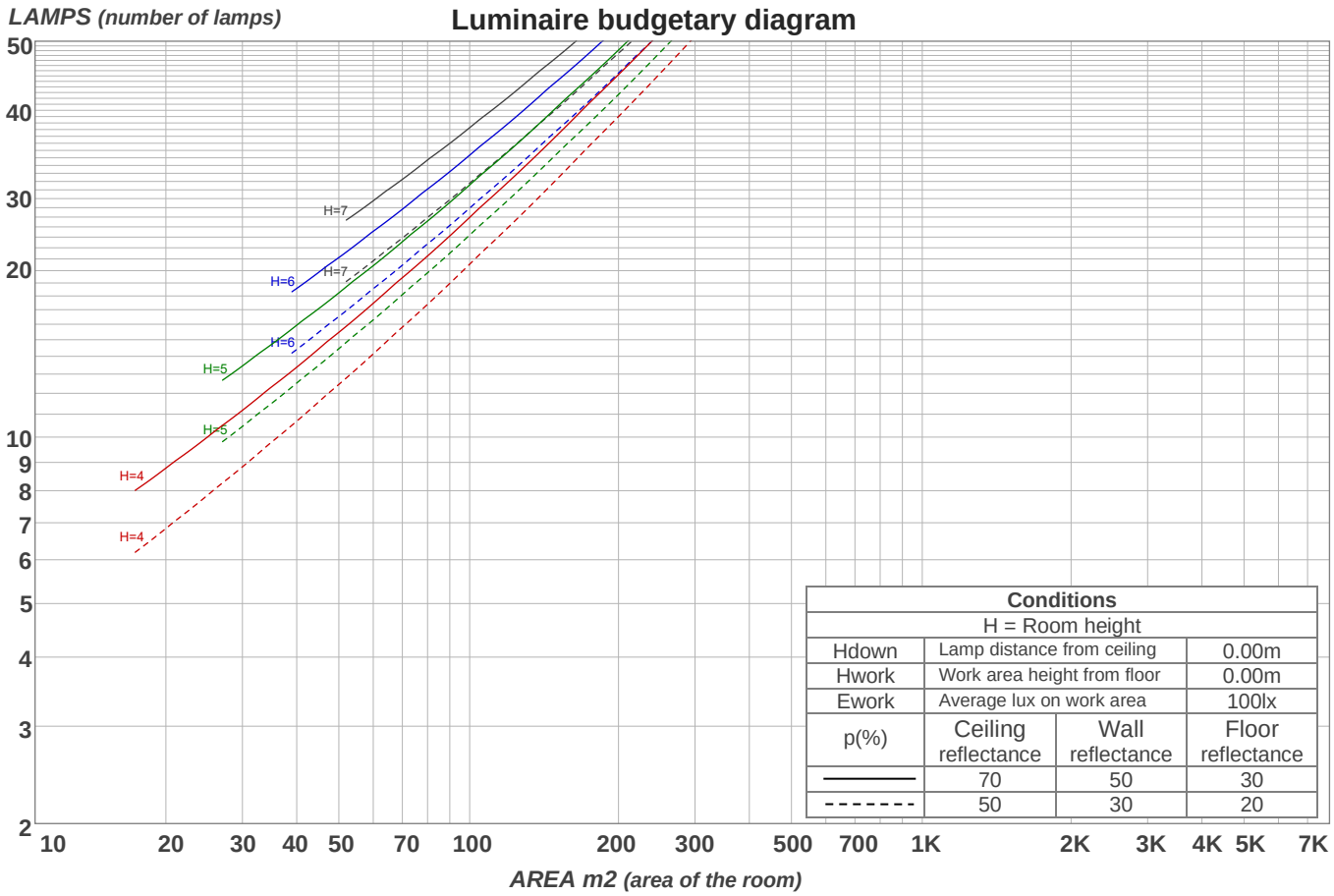
Glare Evaluation According to UGR

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	21,3	22,5	21,5	22,8	23,1	22,7	23,9	22,9	24,2	24,4
	3H	22,3	23,6	22,8	23,9	24,1	24,1	25,4	24,5	25,6	25,8
	4H	22,7	23,9	23,1	24,2	24,4	24,6	25,8	25,0	26,1	26,4
	6H	22,9	24,0	23,2	24,3	24,6	25,0	26,1	25,3	26,3	26,7
	8H	23,0	24,0	23,3	24,3	24,7	25,1	26,1	25,4	26,4	26,8
	12H	22,9	23,9	23,3	24,3	24,7	25,1	26,1	25,5	26,4	26,9
4H	2H	21,9	23,1	22,3	23,4	23,6	23,0	24,2	23,4	24,5	24,7
	3H	23,2	24,2	23,6	24,6	25,0	24,7	25,7	25,1	26,0	26,5
	4H	23,5	24,5	24,0	24,9	25,4	25,2	26,1	25,7	26,5	27,1
	6H	23,8	24,7	24,3	25,0	25,4	25,6	26,5	26,1	26,8	27,2
	8H	23,9	24,7	24,4	25,0	25,4	25,7	26,5	26,2	26,9	27,2
	12H	23,9	24,6	24,4	25,0	25,5	25,7	26,4	26,2	26,8	27,3
8H	4H	23,7	24,5	24,2	24,9	25,3	25,3	26,1	25,8	26,4	26,8
	6H	24,1	24,7	24,6	25,2	25,7	25,7	26,3	26,2	26,8	27,4
	8H	24,2	24,8	24,7	25,3	25,9	25,9	26,4	26,4	26,9	27,6
	12H	24,3	24,7	24,9	25,2	25,9	25,9	26,4	26,5	26,9	27,5
12H	4H	23,7	24,4	24,2	24,8	25,3	25,2	25,9	25,7	26,3	26,8
	6H	24,1	24,7	24,6	25,2	25,8	25,7	26,3	26,3	26,8	27,4
	8H	24,3	24,7	24,8	25,2	25,8	25,9	26,3	26,5	26,8	27,4
Variation of the observer position for the luminaire distance S											
S = 1.0H		0,1 / -0,2					0,0 / -0,1				
S = 1.5H		0,3 / -0,5					0,3 / -0,4				
S = 2.0H		0,7 / -0,9					0,9 / -1,1				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 715 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	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	83
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	78	75	72	69
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	58	52	62	56	52	50
5	75	63	53	47	73	61	53	46	59	52	46	57	51	45	55	49	45	43
6	70	56	47	41	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	42	34	29	55	42	34	28	41	33	28	40	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	25	24

Luminaire budgetary diagram

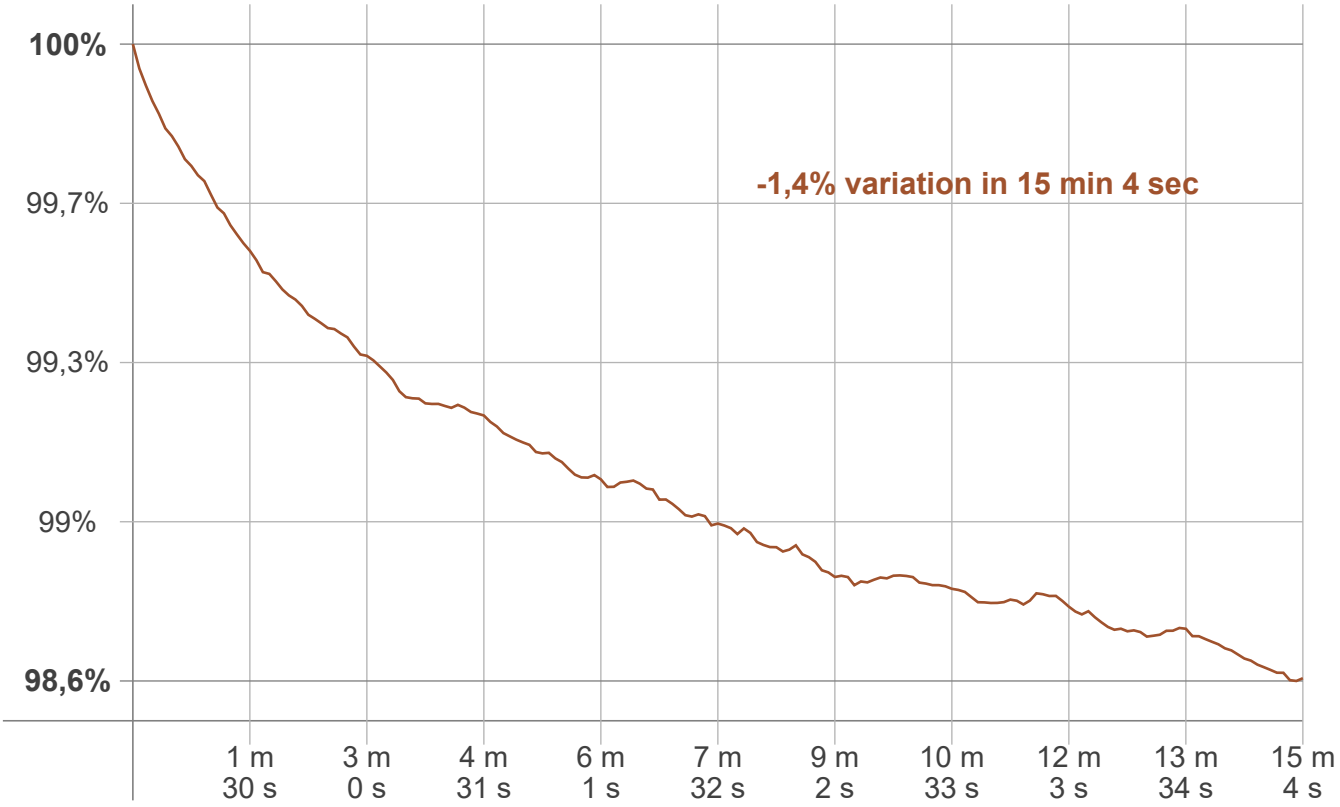


Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
22,7 lm	65,5 lm	100 lm	124 lm	131 lm	120 lm	90,3 lm	46,7 lm	11,5 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
1,08 lm	0,465 lm	0,404 lm	0,365 lm	0,253 lm	0,164 lm	0,121 lm	0,074 lm	0,025 lm

Warmup curve



Warmup result

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

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
2698 K	+2 K	2700 K

Output change

Output start	Output change	Output end
725 lm	-10 lm	715 lm