



Light efficiency:

115 Lumen/Watt

Light quality:

CRI: 82,1

Color temperature:

2747 K

Output: 496 lm

Peak: 931 cd

Power: 4,3 W

PF: 1,0



Product name:

**Navigator-3\_510mm\_827\_Inlay-Lens-15-Grad**

Item number:

**NP/L1C/14C/0510/827/IL1F**

Date and time:

**25.07.2025 09:40:05**

Description:

**Rank: D60-AC-8GB**

**Tolerances:**

**Lumen +/-4%**

**Candela +/-2,5%**

**Colour Temp +/-35 Kelvin**

**CRI +/-0,7**

**Angular Resolution: 1 Degree Step**

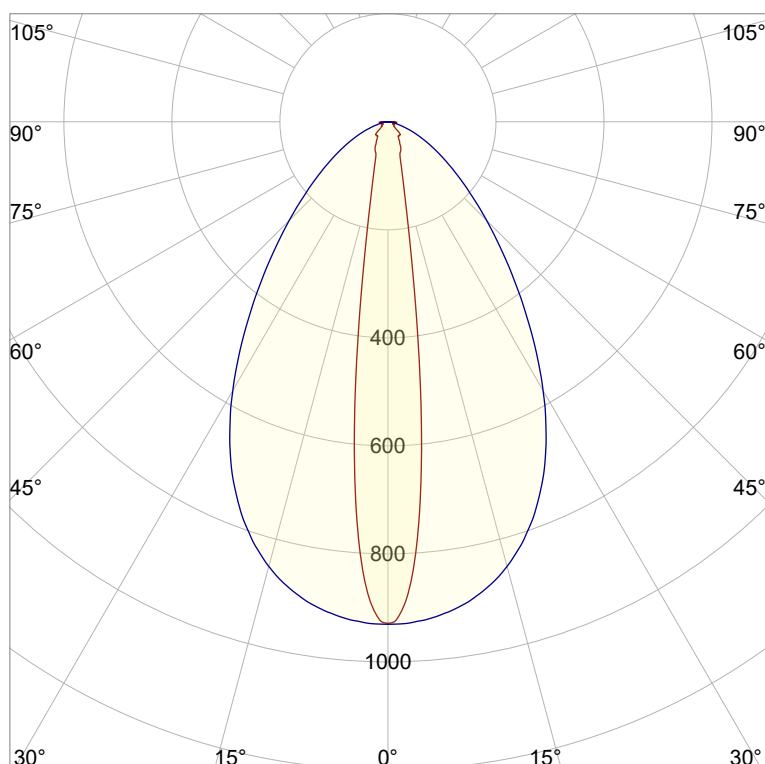
**Last Calibration 13.10.2023**

**Tester: Peter Ulrich**

**Test Site: Lichtlabor**

**Gaustrasse 13**

**55411 Bingen am Rhein**

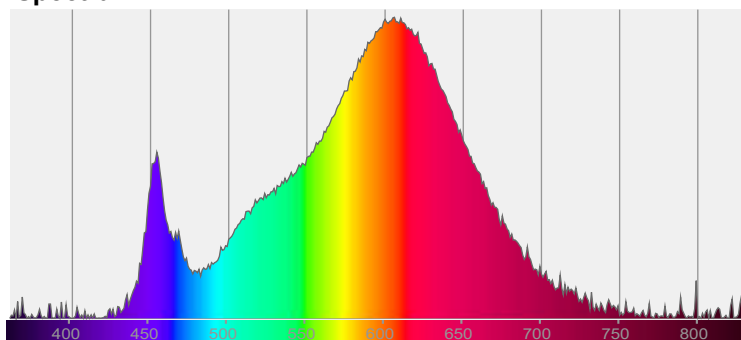


CIE 1931

x: 0,454

y: 0,405

Spectra



Power

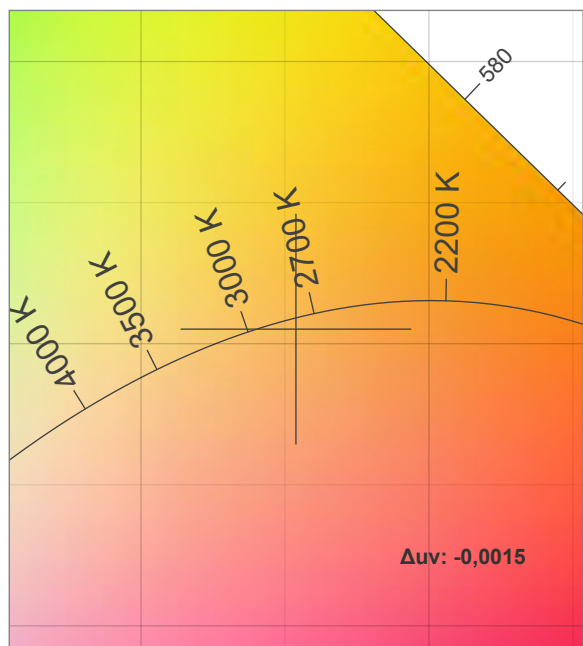
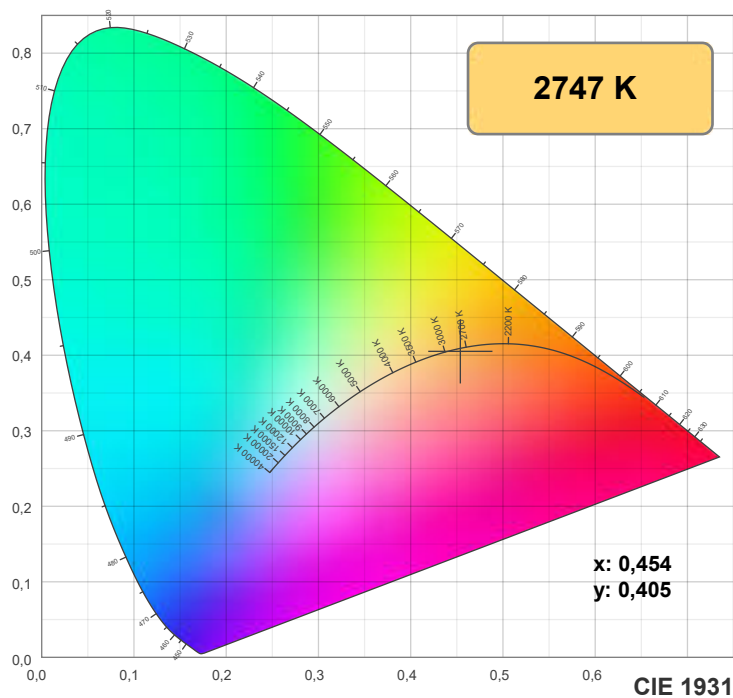
Voltage: 48,0 V

Current: 0,090 A

Frequency: 0 Hz

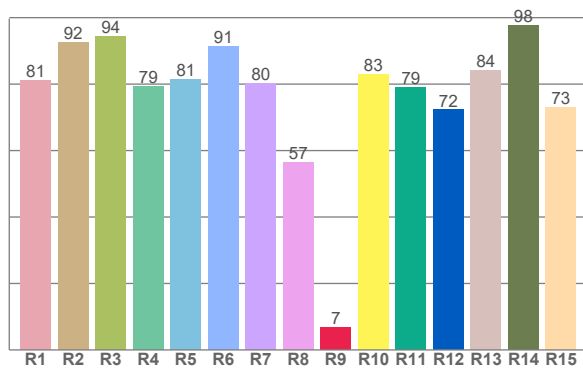
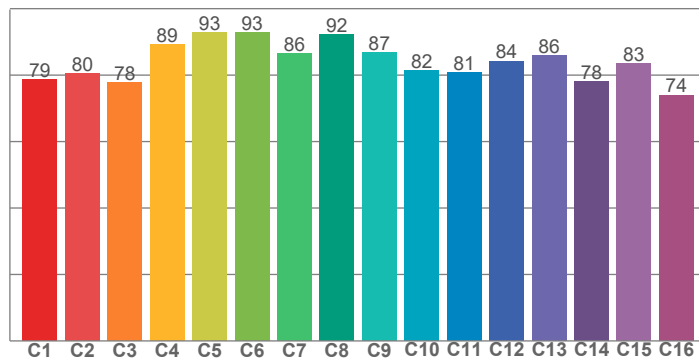


Color details



**TM30: 83,9**

**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
81,3	92,5	94,4	79,4	81,4	91,4	80,4	56,6	6,7	83,0	79,1	72,3	84,1	97,8	72,9

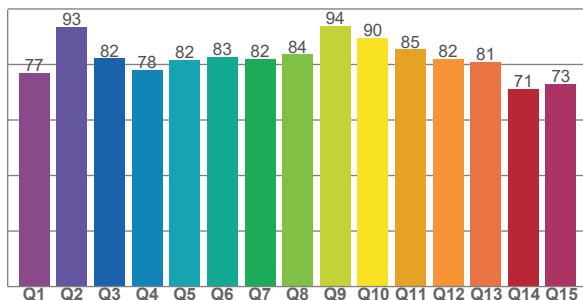
**TM30 C values, 16 binned values out of total of 99 C values**

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
78,8	80,4	77,8	89,3	92,8	92,8	86,5	92,2	86,9	81,5	80,8	84,3	86,0	78,2	83,5	74,0

**CQS Q values**

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
76,9	93,5	82,2	78,1	81,6	82,9	81,9	83,6	93,9	89,5	85,4	81,9	80,9	71,1	72,9

**CQS: 81,2**



## 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 deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2747 K	82,1	6,7	83,9	95,5	81,2	0,454	0,405	0,261	0,350	-0,0015



## TM30 details



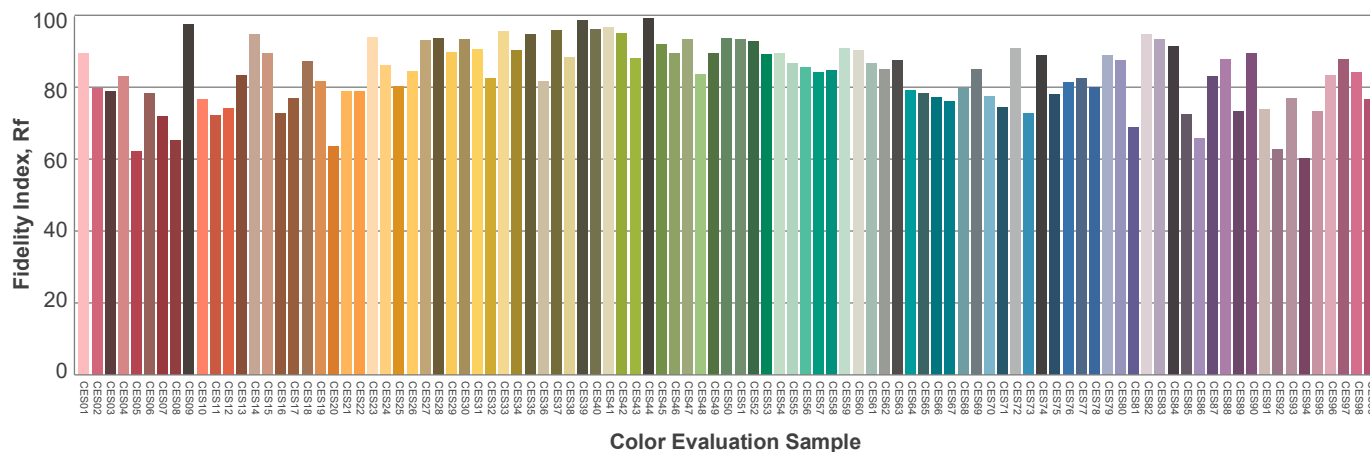
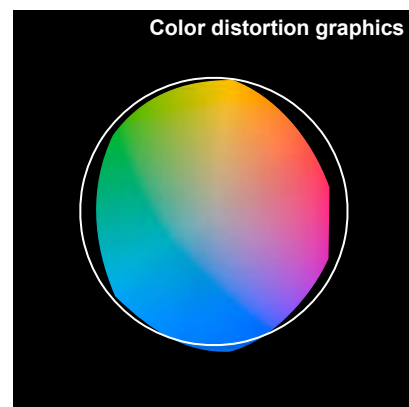
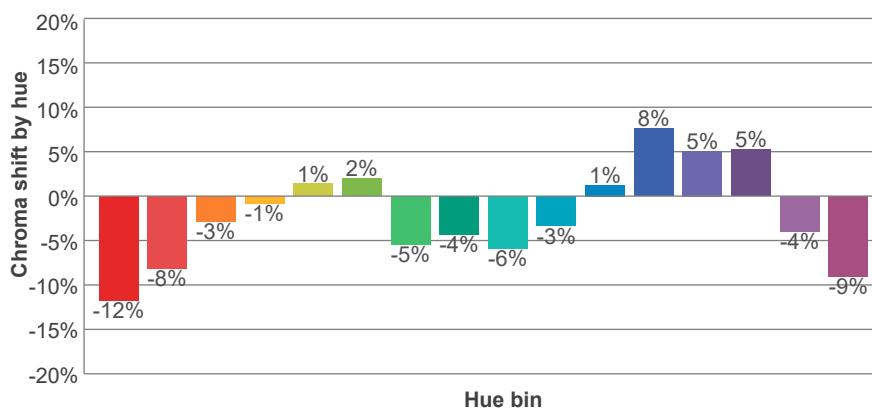
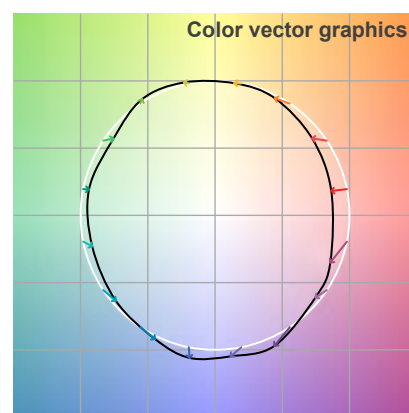
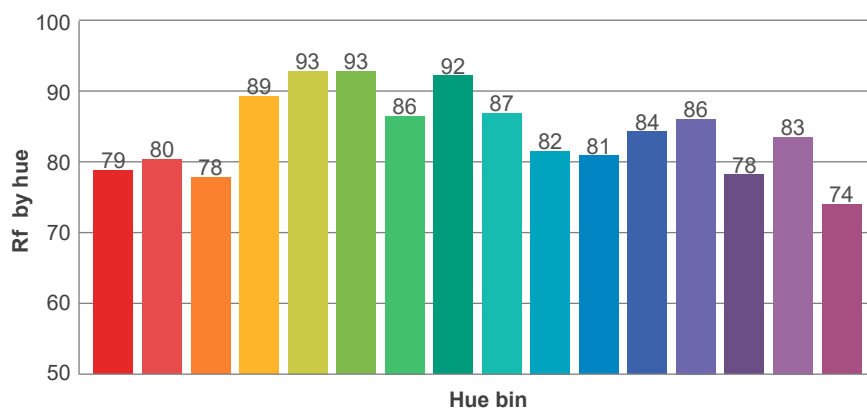
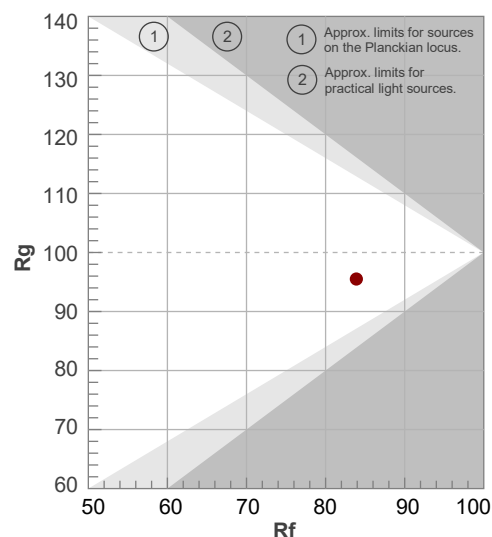
**Rf 83,9**

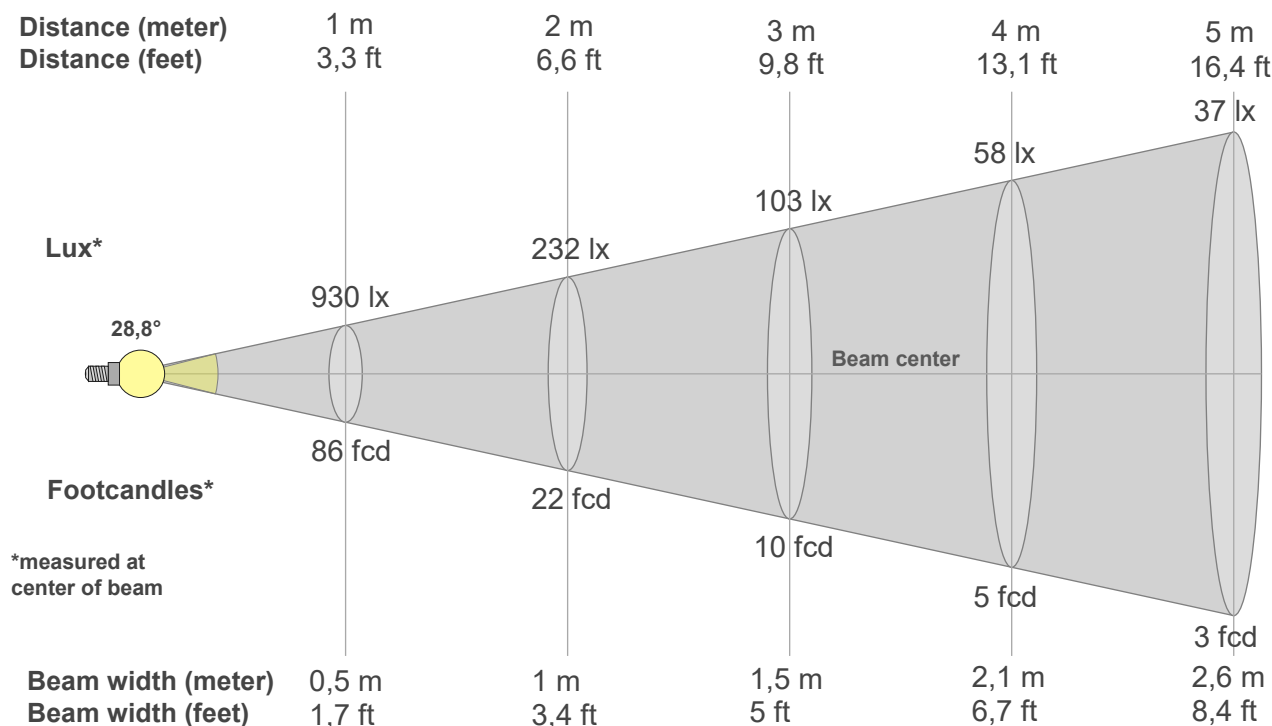
Fidelity index Rf

**Rg 95,5**

Gamut index Rg

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	79	-12%	1%
2	80	-8%	7%
3	78	-3%	11%
4	89	-1%	5%
5	93	1%	3%
6	93	2%	-3%
7	86	-5%	-6%
8	92	-4%	-1%
9	87	-6%	5%
10	82	-3%	12%
11	81	1%	14%
12	84	8%	2%
13	86	5%	-9%
14	78	5%	-17%
15	83	-4%	-9%
16	74	-9%	-18%





## 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
930lx	232lx	103lx	58lx	37lx	26lx	19lx	15lx	11lx	9lx	8lx	6lx	6lx	5lx	4lx	4lx	3lx	3lx	3lx	2lx
86,4fcd	21,6fcd	9,6fcd	5,4fcd	3,5fcd	2,4fcd	1,8fcd	1,3fcd	1,1fcd	0,9fcd	0,7fcd	0,6fcd	0,5fcd	0,4fcd	0,4fcd	0,3fcd	0,3fcd	0,3fcd	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°
930	891	776	595	394	246	163	120	93	76	65	61	58	54	48	43	38	34	33	32
100%	96%	83%	64%	42%	26%	18%	13%	10%	8%	7%	7%	6%	6%	5%	5%	4%	4%	4%	3%

## 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°
930	929	925	919	910	898	882	863	840	814	783	748	710	667	622	574	526	478	431	387
100%	100%	100%	99%	98%	97%	95%	93%	90%	87%	84%	80%	76%	72%	67%	62%	57%	51%	46%	42%

## Intensities in 180° c-plane

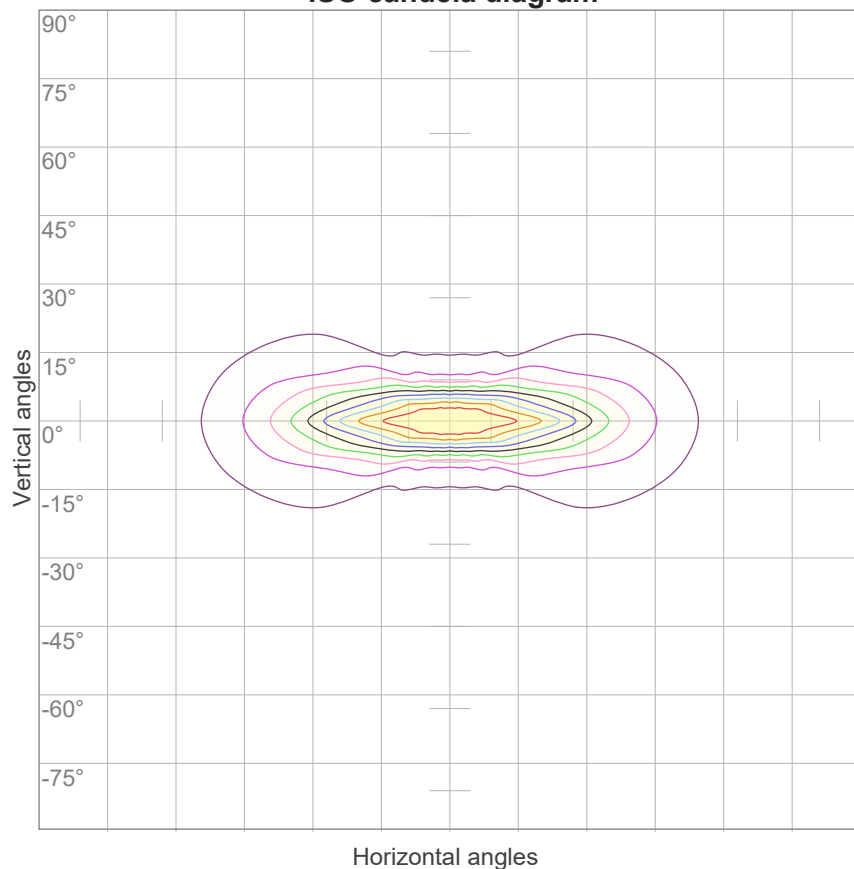
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
930	891	776	595	394	246	163	120	93	76	65	61	58	54	48	43	38	34	33	32
100%	96%	83%	64%	42%	26%	18%	13%	10%	8%	7%	7%	6%	6%	5%	5%	4%	4%	4%	3%

## 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°
930	929	925	919	910	898	882	863	840	814	783	748	710	667	622	574	526	478	431	387
100%	100%	100%	99%	98%	97%	95%	93%	90%	87%	84%	80%	76%	72%	67%	62%	57%	51%	46%	42%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
28,8°	55,7°	111,9°	87,9%	73,4%

## ISO candela diagram



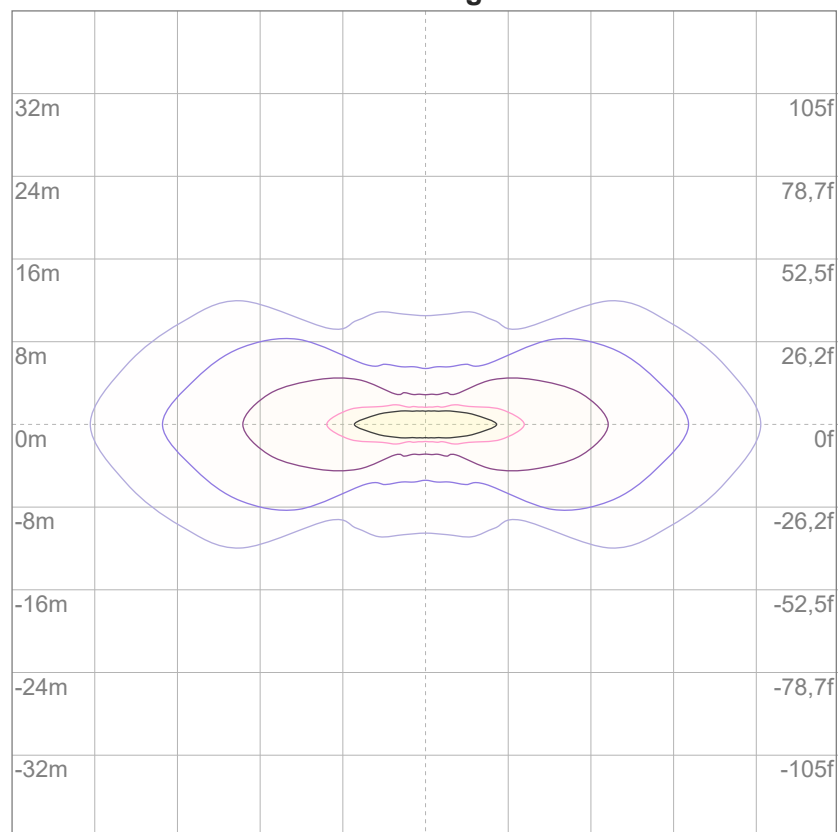
10%	93 cd
20%	186 cd
30%	279 cd
40%	372 cd
50%	465 cd
60%	558 cd
70%	651 cd
80%	744 cd
90%	837 cd

### Conditions:

Number of c-planes: 16

Candela at center: 930 cd

## ISO lux diagram



3%	0,279 lx
5%	0,465 lx
10%	0,930 lx
30%	2,79 lx
50%	4,65 lx

### Conditions:

Number of c-planes: 16

Lux at center: 9,30 lx

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

### Glare Evaluation According to UGR

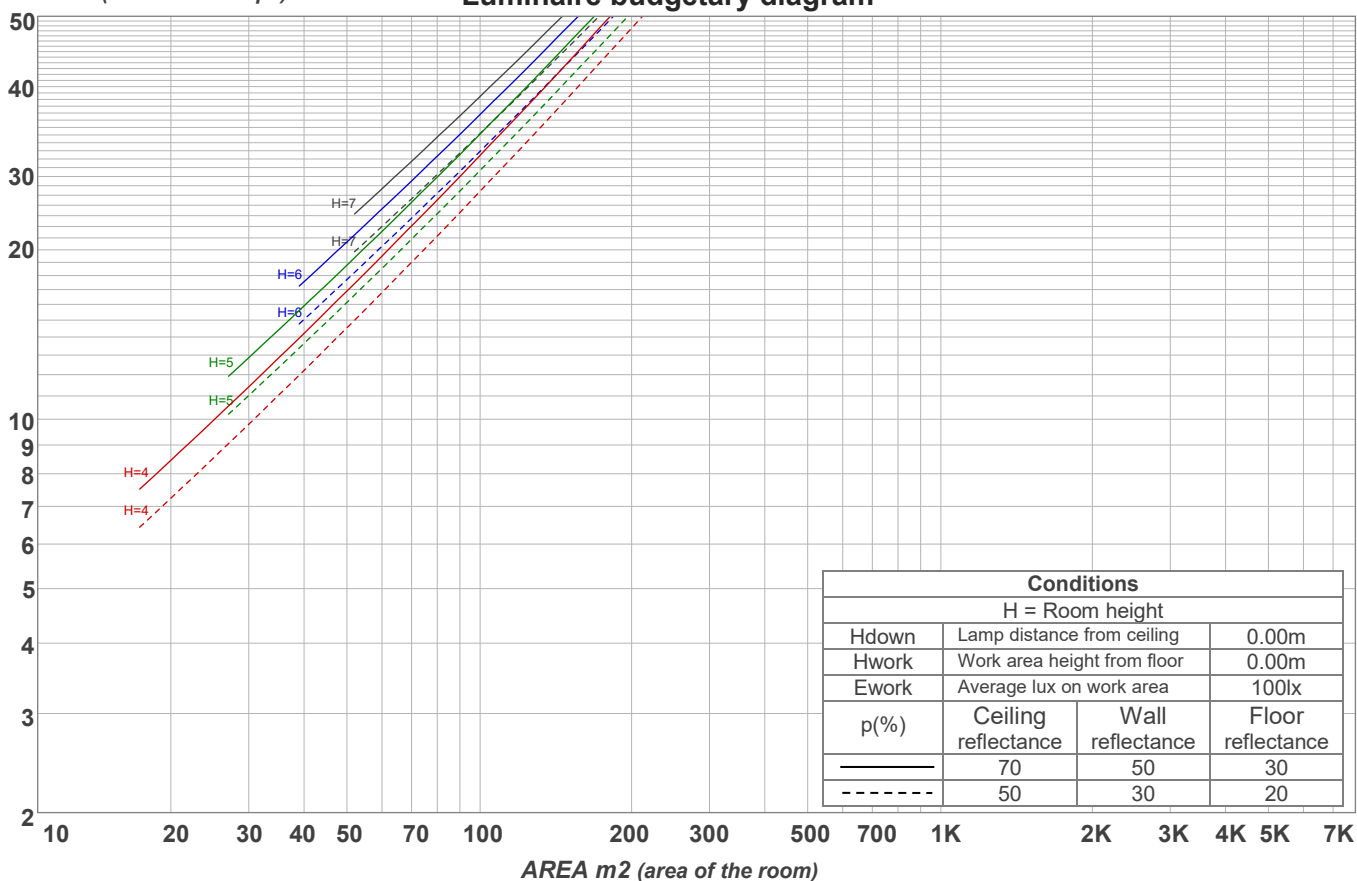
p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X      Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	9,3	10,1	9,4	10,4	10,6	21,6	22,5	21,8	22,8	23,0
	3H	10,3	11,3	10,7	11,5	11,7	22,3	23,3	22,7	23,5	23,7
	4H	11,3	12,3	11,7	12,5	12,7	22,5	23,4	22,9	23,7	23,9
	6H	12,7	13,5	13,0	13,8	14,1	22,6	23,4	22,9	23,7	24,1
	8H	13,4	14,1	13,7	14,4	14,8	22,6	23,4	22,9	23,7	24,1
	12H	14,0	14,8	14,4	15,1	15,5	22,6	23,4	23,0	23,7	24,1
4H	2H	11,1	12,0	11,5	12,3	12,5	21,4	22,3	21,8	22,5	22,8
	3H	12,2	13,0	12,6	13,3	13,8	22,2	23,0	22,6	23,3	23,8
	4H	13,1	13,8	13,6	14,3	14,8	22,4	23,1	22,9	23,5	24,1
	6H	14,4	15,1	14,9	15,5	15,8	22,6	23,3	23,1	23,6	24,0
	8H	15,1	15,8	15,6	16,1	16,5	22,6	23,2	23,1	23,6	24,0
	12H	15,8	16,3	16,3	16,8	17,2	22,6	23,1	23,1	23,5	24,0
8H	4H	13,8	14,5	14,3	14,8	15,2	22,3	23,0	22,9	23,3	23,7
	6H	15,3	15,8	15,8	16,3	16,8	22,5	23,0	23,1	23,5	24,0
	8H	16,2	16,6	16,8	17,2	17,8	22,6	23,0	23,2	23,6	24,2
	12H	17,1	17,4	17,7	17,9	18,6	22,7	23,0	23,3	23,5	24,1
12H	4H	13,9	14,4	14,4	14,9	15,3	22,3	22,8	22,8	23,2	23,7
	6H	15,6	16,0	16,1	16,5	17,1	22,6	23,0	23,1	23,5	24,1
	8H	16,5	16,9	17,1	17,4	18,0	22,6	23,0	23,2	23,5	24,1
Variation of the observer position for the luminaire distance S											
S = 1.0H		0,2 / -0,2					1,1 / -1,1				
S = 1.5H		0,3 / -0,3					2,6 / -2,5				
S = 2.0H		0,7 / -0,5					3,9 / -3,9				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 496 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	101	101	101	98
1	111	107	104	100	108	105	101	99	100	98	95	96	94	92	92	91	89	87
2	103	97	92	87	101	95	90	86	91	87	84	88	85	82	85	82	80	78
3	97	88	82	77	94	87	81	76	84	79	75	81	77	73	78	75	72	70
4	91	81	74	69	88	80	73	68	77	72	67	75	70	66	73	69	65	64
5	85	75	68	63	83	74	67	62	72	66	61	70	65	61	68	63	60	58
6	80	70	62	57	78	69	62	57	67	61	56	65	60	56	64	59	55	54
7	76	65	58	53	74	64	57	53	63	57	52	61	56	52	60	55	51	50
8	72	61	54	49	70	60	54	49	59	53	49	58	52	48	56	52	48	46
9	68	57	51	46	67	57	50	46	56	50	46	54	49	45	53	49	45	44
10	65	54	48	43	64	54	47	43	53	47	43	52	46	43	51	46	43	41

LAMPS (number of lamps)

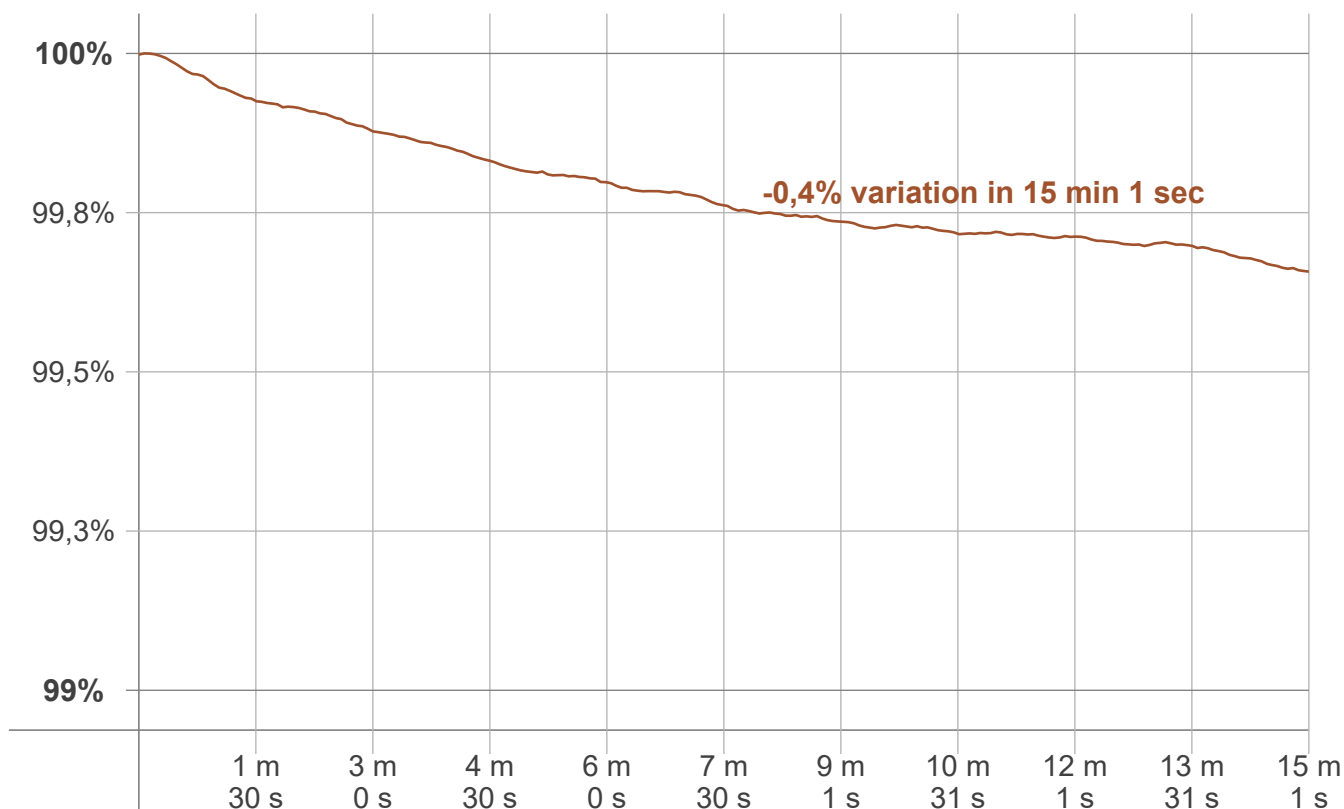
## Luminaire budgetary diagram



## Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
63,8 lm	101 lm	90,0 lm	78,0 lm	60,4 lm	43,8 lm	26,2 lm	16,1 lm	9,41 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
1,85 lm	1,62 lm	0,430 lm	0,388 lm	0,312 lm	0,237 lm	0,175 lm	0,107 lm	3,09 lm

## Warmup curve



## Warmup result

Warmup time:	Lamp stabilized in 15 min 1 sec
Warmup variation	-0,4%

## Warmup conditions

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

## Color temperature change

CCT start	CCT change	CCT end
2747 K	0 K	2747 K

## Output change

Output start	Output change	Output end
498 lm	-2 lm	496 lm