

Light efficiency:

98 Lumen/Watt

Light quality:

CRI: 94,2

Color temperature:

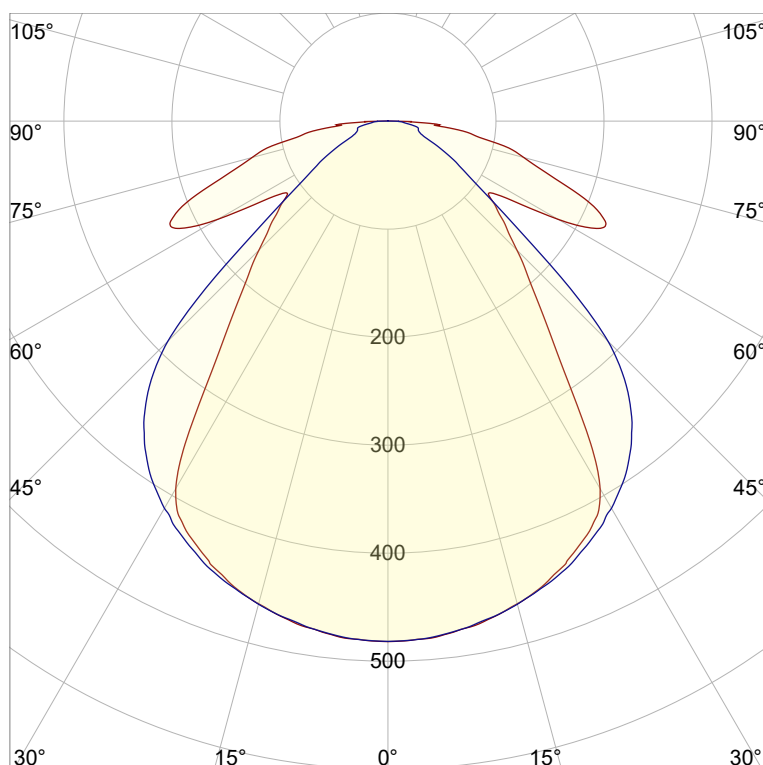
2724 K

Output: 1130 lm

Peak: 482 cd

Power: 11,5 W

PF: 1,0



Product name:

**Jago-2\_510mm\_927\_Cover-Square-Micropismatic**

Item number:

**NP/L1C/19B/G1/L1C/0510/927/CSM**

Date and time:

**20.07.2022 11:42:20**

Description:

**Rank: C80-AD-8GB**

**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**

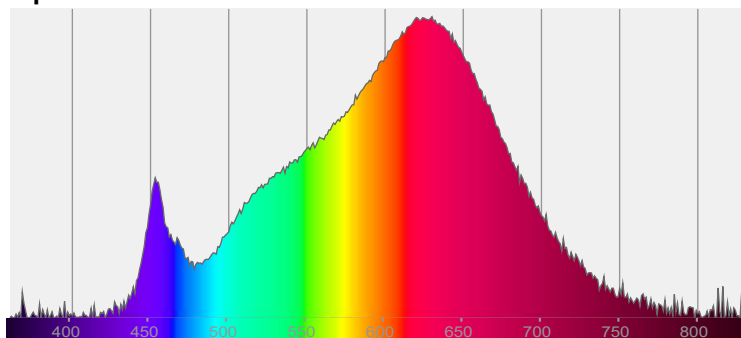


CIE 1931

x: 0,457

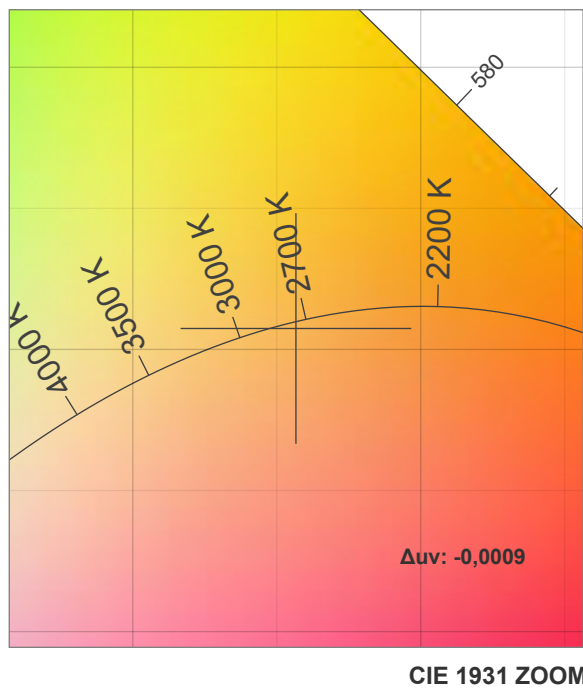
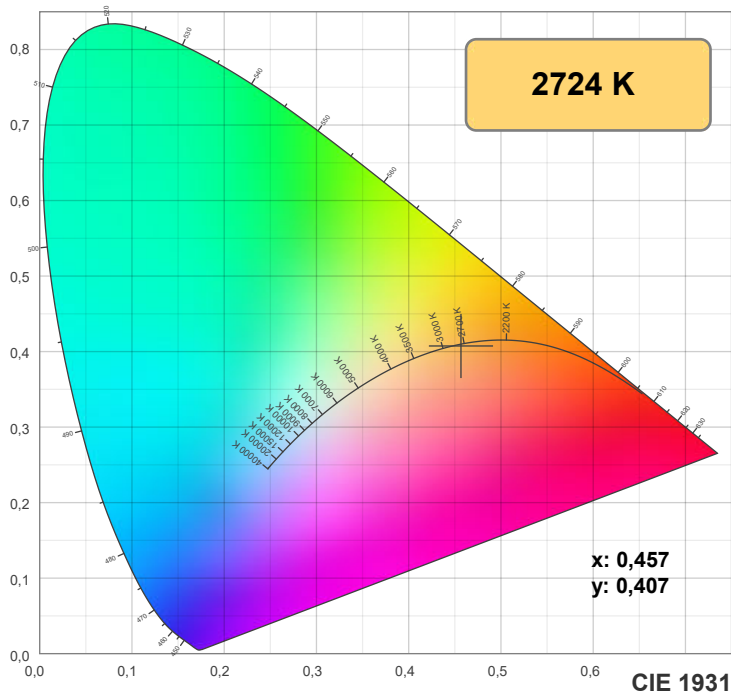
y: 0,407

Spectra

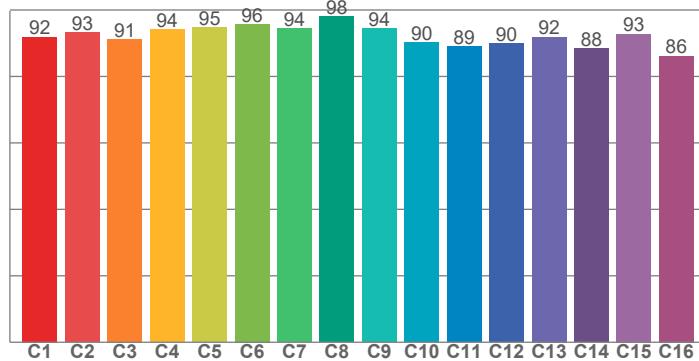


Power

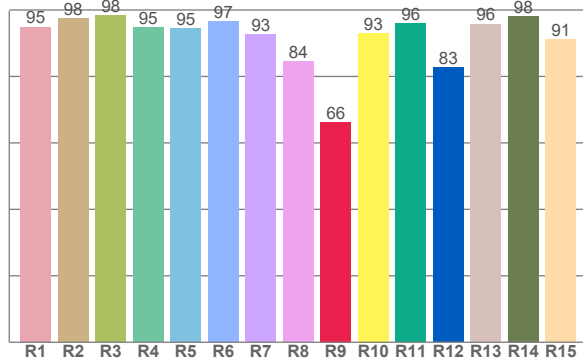
Voltage: 48,0 V  
Current: 0,240 A  
Frequency: 0 Hz



**TM30: 92,1**



**CRI: 94,2 (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
95,0	97,6	98,3	94,7	94,6	96,7	92,6	84,5	66,3	93,1	95,9	82,7	95,8	98,2	91,0

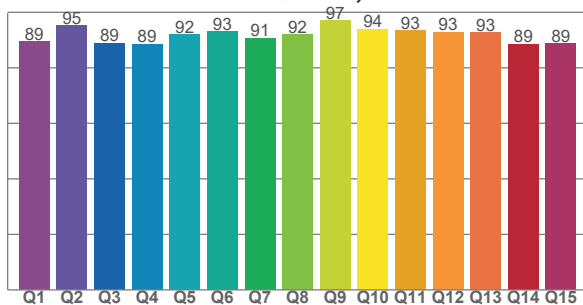
**TM30 C values, 16 binned values out of total of 99 C values**

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
91,8	93,2	91,2	94,1	94,8	95,7	94,4	98,0	94,4	90,3	89,0	89,9	91,8	88,4	92,8	86,2

**CQS Q values**

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
89,4	95,1	88,8	88,6	92,0	93,0	90,8	91,9	97,0	94,0	93,4	92,8	92,7	88,6	88,7

**CQS: 91,3**



## 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 deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2724 K	94,2	66,3	92,1	99,8	91,3	0,457	0,407	0,262	0,350	-0,0009

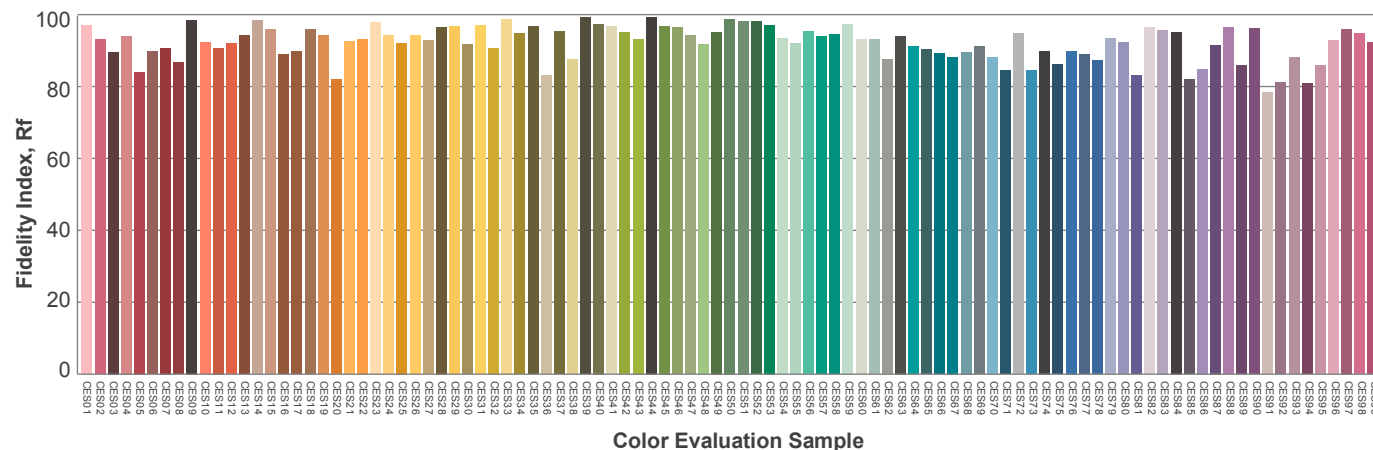
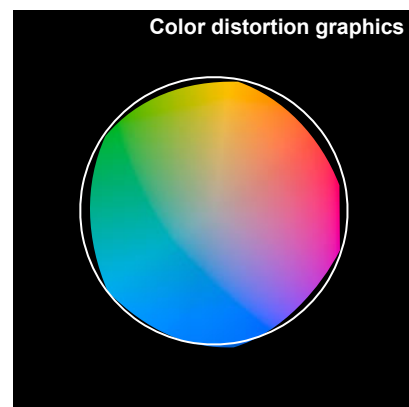
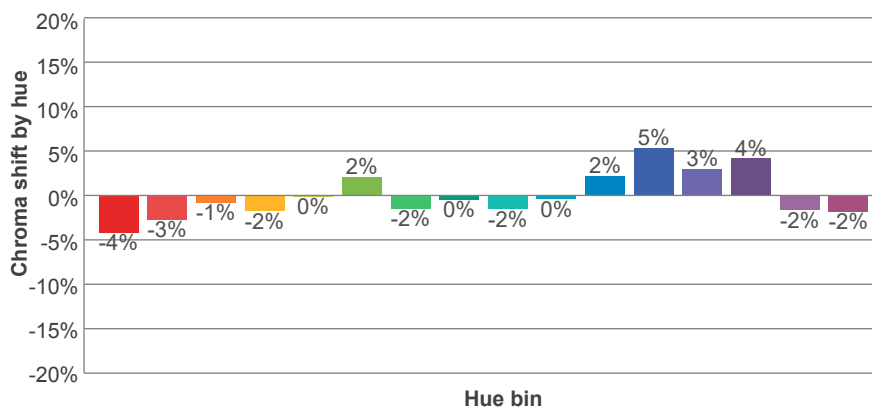
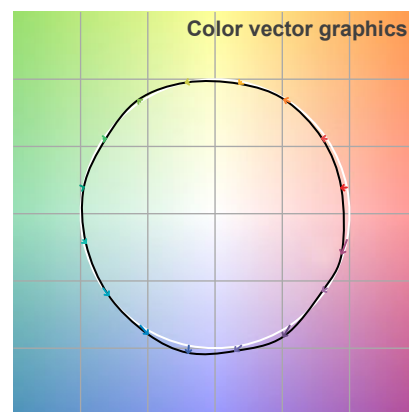
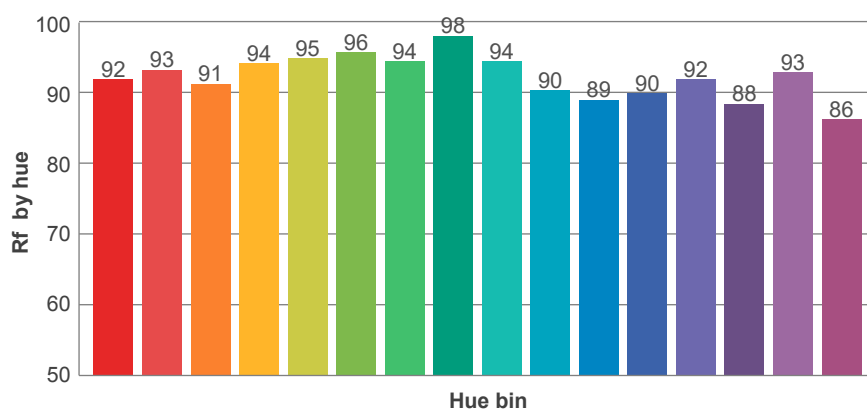
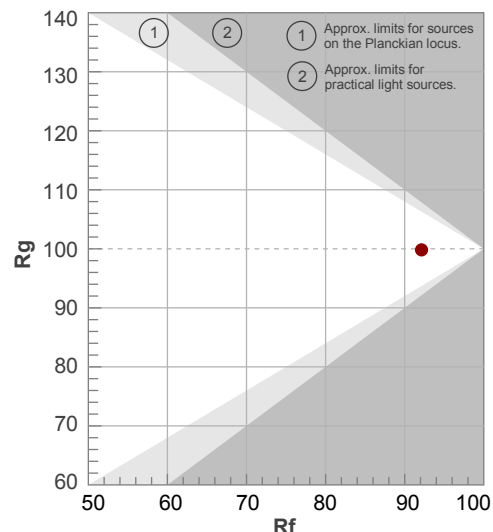
## Rf 92,1

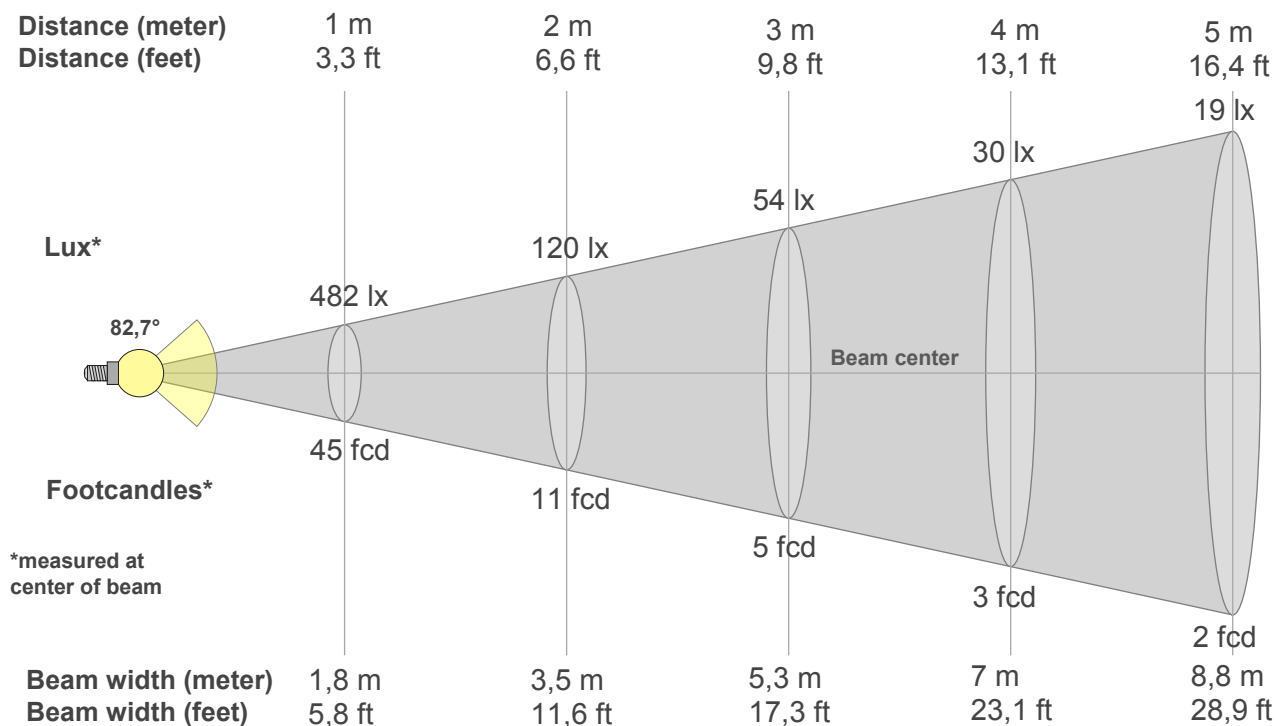
Fidelity index Rf

## Rg 99,8

Gammut index Rg

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	92	-4%	0%
2	93	-3%	2%
3	91	-1%	4%
4	94	-2%	1%
5	95	0%	2%
6	96	2%	0%
7	94	-2%	-1%
8	98	0%	0%
9	94	-2%	3%
10	90	0%	6%
11	89	2%	8%
12	90	5%	1%
13	92	3%	-5%
14	88	4%	-8%
15	93	-2%	-3%
16	86	-2%	-11%





## 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
482lx	120lx	54lx	30lx	19lx	13lx	10lx	8lx	6lx	5lx	4lx	3lx	3lx	2lx	2lx	2lx	2lx	1lx	1lx	1lx
44,8fcd	11,2fcd	5fcd	2,8fcd	1,8fcd	1,2fcd	0,9fcd	0,7fcd	0,6fcd	0,4fcd	0,4fcd	0,3fcd	0,3fcd	0,2fcd	0,2fcd	0,2fcd	0,2fcd	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°
482	480	473	463	448	428	392	287	214	169	135	116	182	222	176	130	85	44	9	9
100%	100%	98%	96%	93%	89%	81%	59%	44%	35%	28%	24%	38%	46%	37%	27%	18%	9%	2%	2%

## 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°
482	479	472	463	451	434	414	388	350	288	163	96	67	43	32	29	24	14	4	4
100%	99%	98%	96%	94%	90%	86%	80%	73%	60%	34%	20%	14%	9%	7%	6%	5%	3%	1%	1%

## Intensities in 180° c-plane

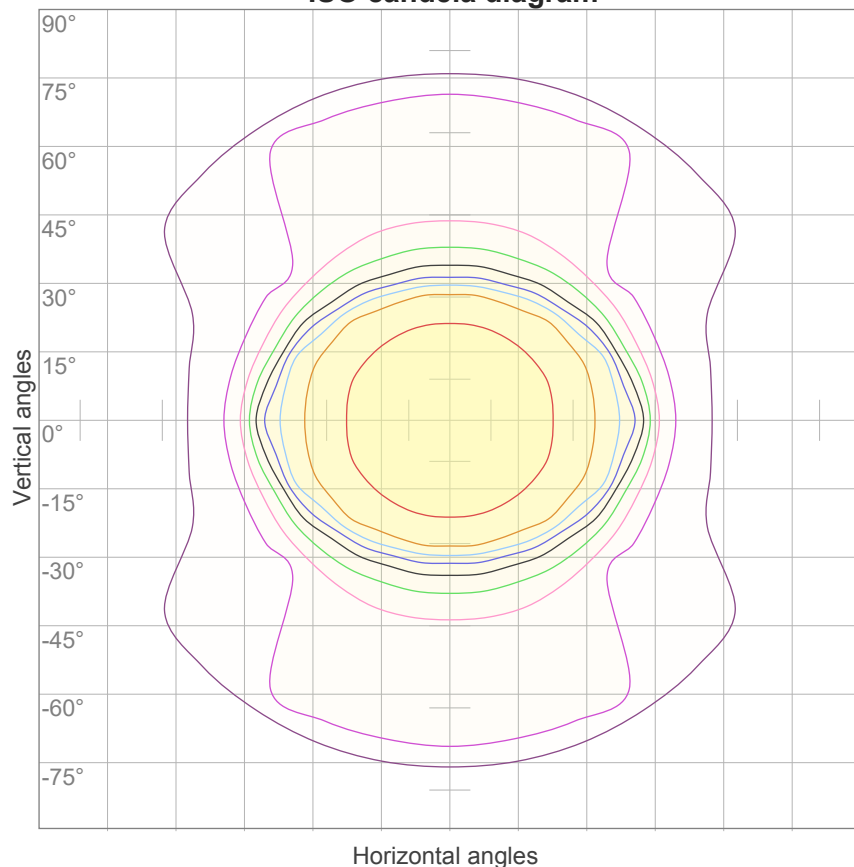
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
482	480	473	463	448	428	392	287	214	169	135	116	182	222	176	130	85	44	9	9
100%	100%	98%	96%	93%	89%	81%	59%	44%	35%	28%	24%	38%	46%	37%	27%	18%	9%	2%	2%

## 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°
482	479	472	463	451	434	414	388	350	288	163	96	67	43	32	29	24	14	4	4
100%	99%	98%	96%	94%	90%	86%	80%	73%	60%	34%	20%	14%	9%	7%	6%	5%	3%	1%	1%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
82,7°	163,2°	177,4°	74,5%	60,1%

**ISO candela diagram**



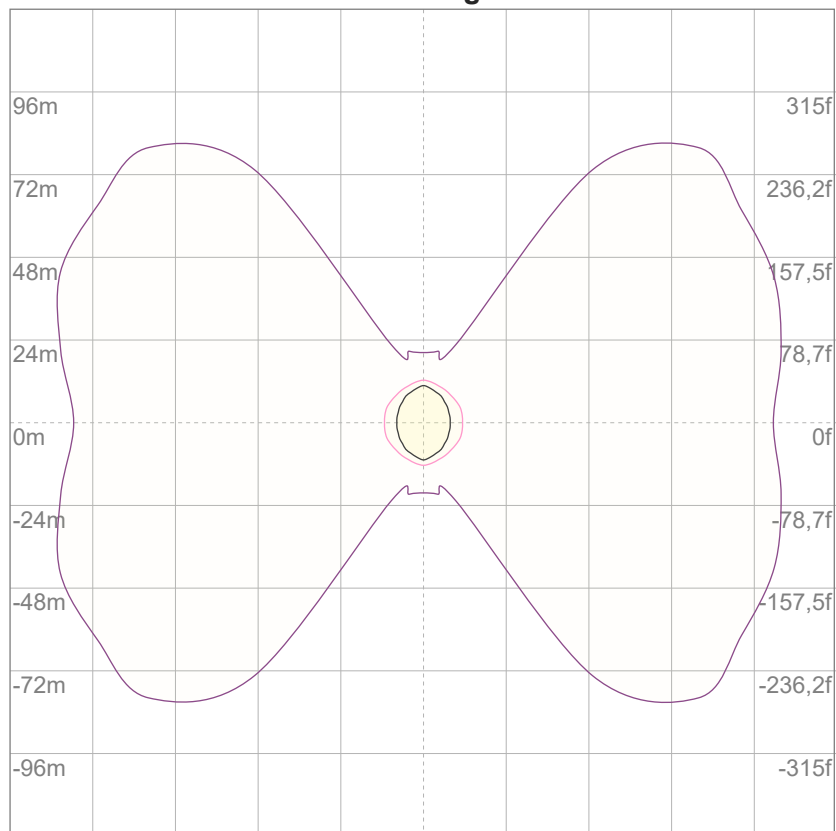
10%	48 cd
20%	96 cd
30%	145 cd
40%	193 cd
50%	241 cd
60%	289 cd
70%	337 cd
80%	386 cd
90%	434 cd

Conditions:

Number of c-planes: 16

Candela at center: 482 cd

**ISO lux diagram**



3%	0,145 lx
5%	0,241 lx
10%	0,482 lx
30%	1,45 lx
50%	2,41 lx

Conditions:

Number of c-planes: 16

Lux at center: 4,82 lx

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

### Glare Evaluation According to UGR

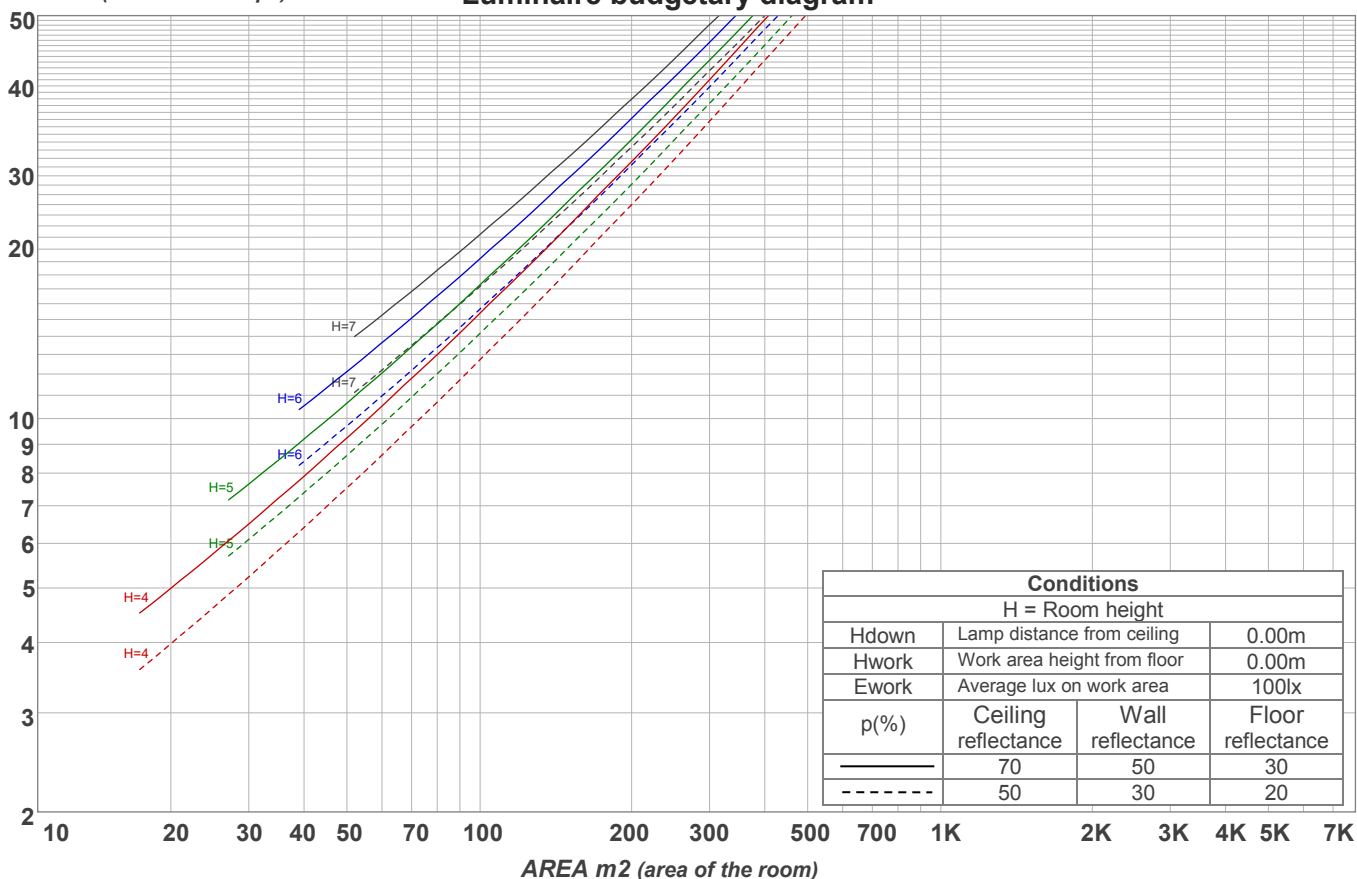
p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X      Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	21,7	22,8	21,9	23,1	23,3	20,3	21,4	20,5	21,7	21,9
	3H	25,0	26,3	25,5	26,6	26,8	20,7	21,9	21,1	22,2	22,4
	4H	25,9	27,1	26,4	27,4	27,7	21,1	22,3	21,6	22,6	22,9
	6H	26,6	27,7	26,9	28,0	28,3	22,1	23,1	22,4	23,4	23,8
	8H	26,8	27,8	27,1	28,1	28,5	22,3	23,4	22,7	23,7	24,1
	12H	26,9	27,9	27,3	28,2	28,7	22,5	23,5	22,9	23,9	24,3
4H	2H	22,1	23,3	22,6	23,6	23,9	20,9	22,1	21,3	22,4	22,6
	3H	26,0	27,0	26,4	27,3	27,8	22,2	23,2	22,5	23,5	23,9
	4H	27,0	27,9	27,4	28,3	28,9	22,8	23,7	23,2	24,1	24,7
	6H	27,7	28,6	28,2	29,0	29,4	24,0	24,9	24,5	25,2	25,6
	8H	28,0	28,8	28,5	29,2	29,5	24,3	25,2	24,9	25,5	25,9
	12H	28,1	28,8	28,6	29,2	29,7	24,6	25,3	25,1	25,7	26,2
8H	4H	27,3	28,2	27,8	28,5	28,9	24,2	25,0	24,7	25,3	25,7
	6H	28,3	28,9	28,8	29,4	29,9	25,5	26,2	26,0	26,6	27,2
	8H	28,6	29,2	29,1	29,7	30,3	26,0	26,6	26,5	27,1	27,7
	12H	28,8	29,3	29,4	29,8	30,4	26,4	26,8	26,9	27,3	28,0
12H	4H	27,4	28,1	27,9	28,5	29,0	24,3	25,0	24,8	25,4	25,9
	6H	28,4	28,9	28,9	29,4	30,1	25,8	26,3	26,3	26,9	27,5
	8H	28,7	29,2	29,3	29,7	30,3	26,3	26,8	26,9	27,3	27,9
Variation of the observer position for the luminaire distance S											
S = 1.0H		0,1 / -0,1					0,3 / -0,2				
S = 1.5H		0,4 / -0,4					0,8 / -0,3				
S = 2.0H		0,6 / -0,8					1,4 / -0,6				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 1130 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	98	94	105	100	96	92	95	92	89	91	88	86	87	85	83	81
2	98	90	83	77	95	88	81	76	84	79	74	80	76	72	77	73	70	68
3	90	80	72	65	87	78	70	64	75	68	63	72	66	62	69	64	60	58
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	62	57	53	51
5	77	64	56	49	75	63	55	49	61	54	48	59	53	48	57	51	47	45
6	72	59	50	44	70	58	49	44	56	48	43	54	47	43	52	46	42	40
7	67	54	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	36	61	49	41	35	47	40	35	46	39	35	45	39	34	33
9	59	46	38	32	57	45	37	32	44	37	32	43	36	32	41	36	32	30
10	55	42	35	30	54	42	35	30	41	34	29	40	34	29	39	33	29	27

LAMPS (number of lamps)

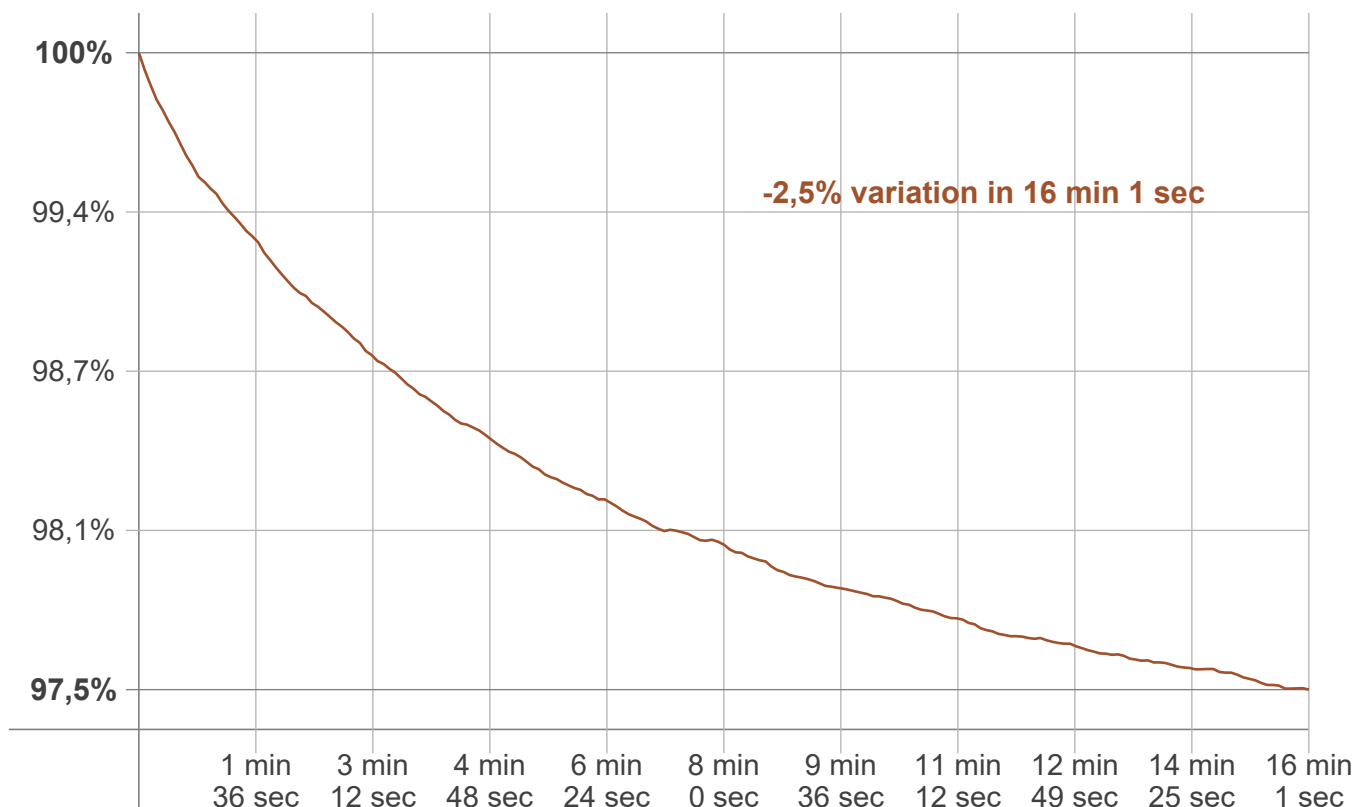
## Luminaire budgetary diagram



## Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
45,5 lm	131 lm	199 lm	216 lm	155 lm	95,8 lm	117 lm	104 lm	44,9 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
7,41 lm	3,90 lm	3,39 lm	3,06 lm	1,89 lm	1,10 lm	0,812 lm	0,497 lm	0,167 lm

### Warmup curve



### Warmup result

Warmup time:	Lamp stabilized in 16 min 1 sec
Warmup variation	-2,5%

### Warmup conditions

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

### Color temperature change

CCT start	CCT change	CCT end
2728 K	-4 K	2724 K

### Output change

Output start	Output change	Output end
1157 lm	-27 lm	1130 lm