

### Light efficiency:

**132 Lumen/Watt**

### Light quality:

**CRI: 82,1**

### Color temperature:

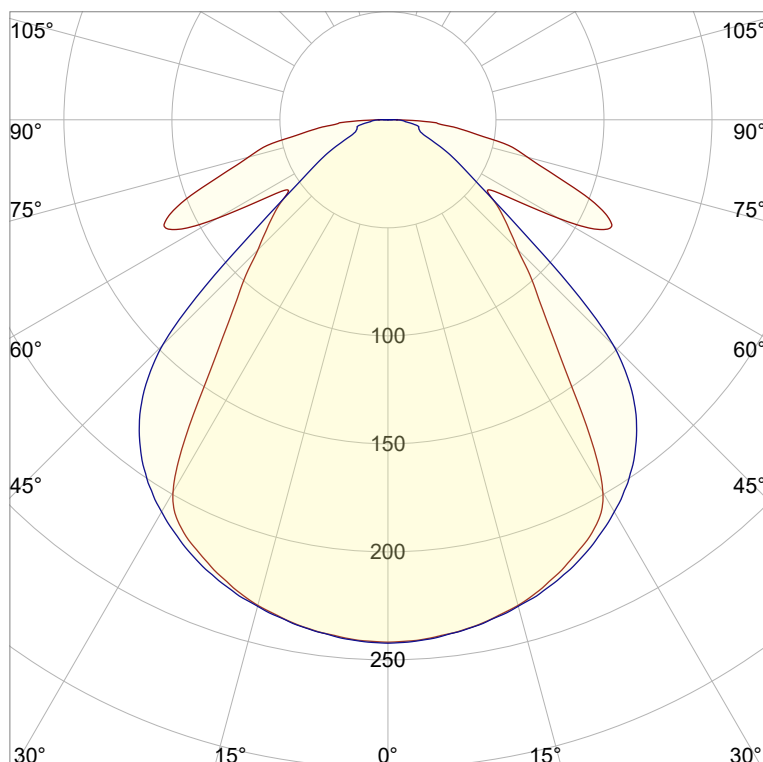
**2759 K**

**Output: 571 lm**

**Peak: 242 cd**

**Power: 4,3 W**

**PF: 1,0**



### Product name:

**Navigator-3\_510mm\_827\_Cover-Square-Microprismatic**

### Item number:

**NP/L1C/14C/G1/L1C/0510/827/CSM**

### Date and time:

**01.08.2022 15:14:32**

### 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 20-09-2021**

**Tester: Peter Ulrich**

**Test Site: Lichtlabor**

**Gaustrasse 13**

**55411 Bingen am Rhein**

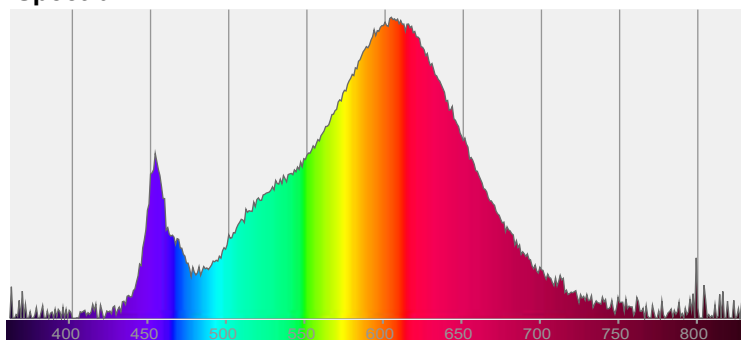


**CIE 1931**

**x: 0,453**

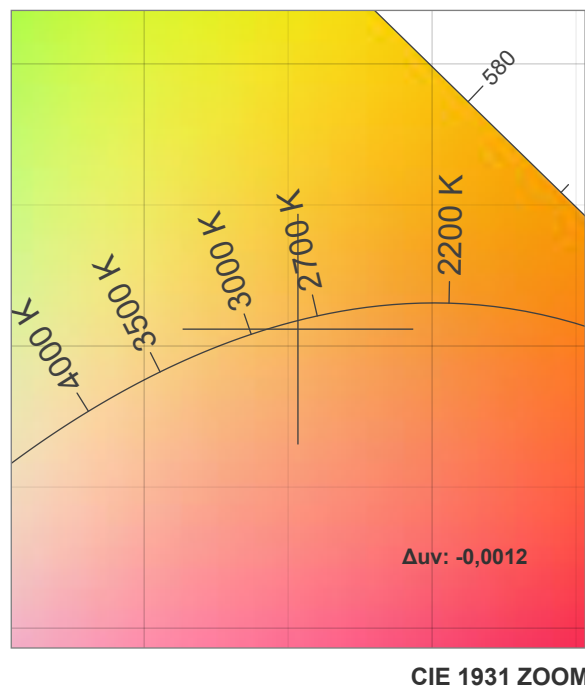
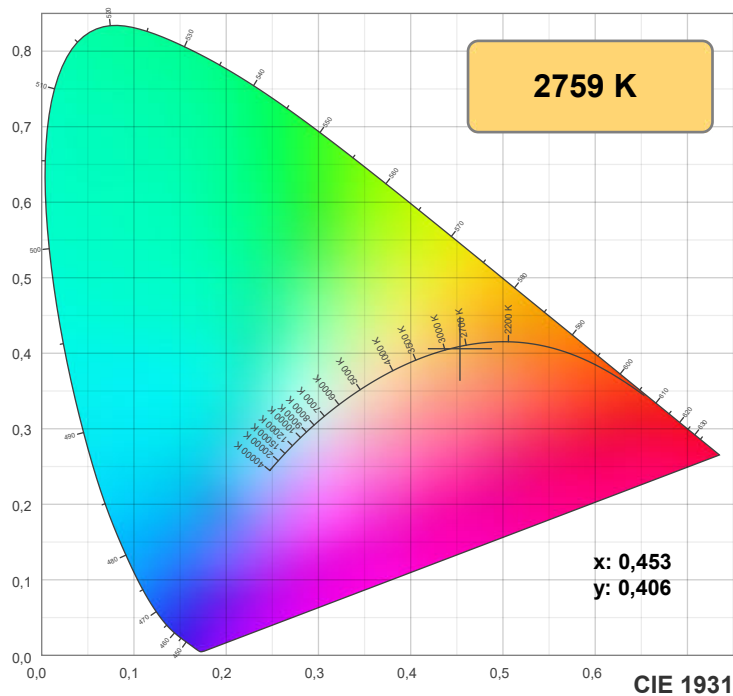
**y: 0,406**

### Spectra



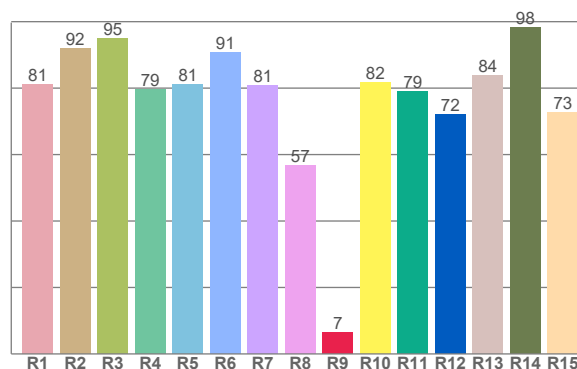
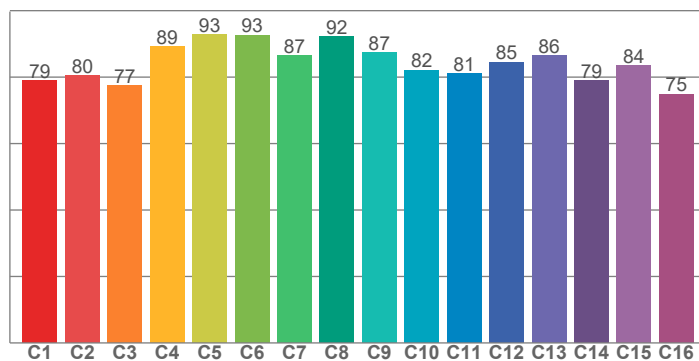
### Power

**Voltage: 48,0 V**  
**Current: 0,090 A**  
**Frequency: 0 Hz**



**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
81,0	92,0	95,1	79,5	81,0	90,7	80,8	56,9	6,6	81,7	79,0	71,9	83,8	98,2	72,8

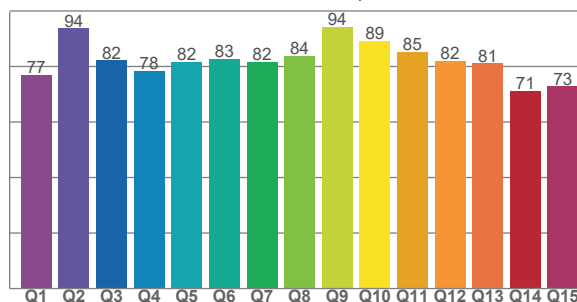
**TM30 C values, 16 binned values out of total of 99 C values**

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
79,0	80,4	77,5	89,2	92,9	92,6	86,5	92,2	87,5	82,1	81,1	84,5	86,5	78,9	83,6	74,9

**CQS Q values**

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
76,9	93,7	82,2	78,3	81,6	82,6	81,8	83,8	94,2	89,3	85,4	82,1	81,1	71,1	72,8

**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
2759 K	82,1	6,6	84,1	95,6	81,2	0,453	0,406	0,260	0,350	-0,0012

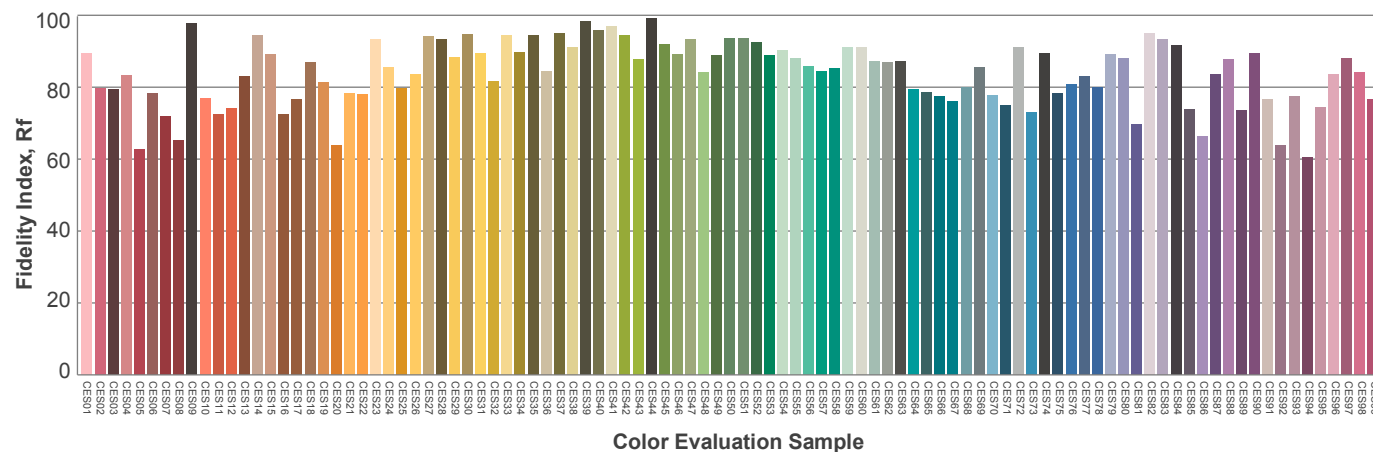
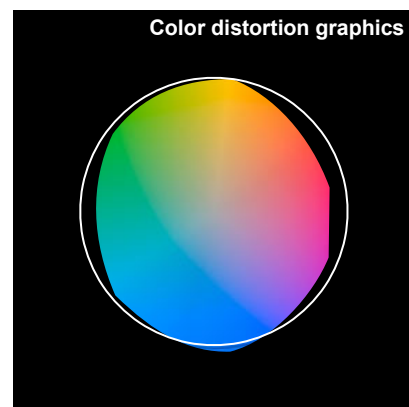
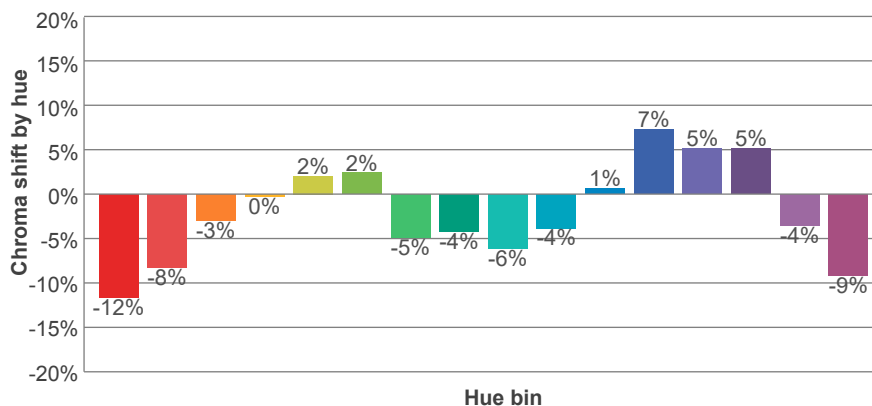
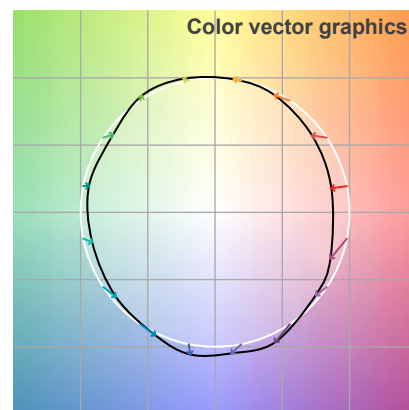
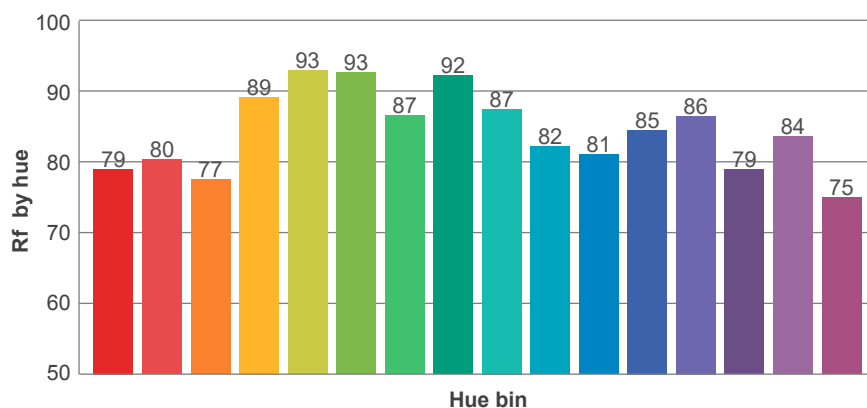
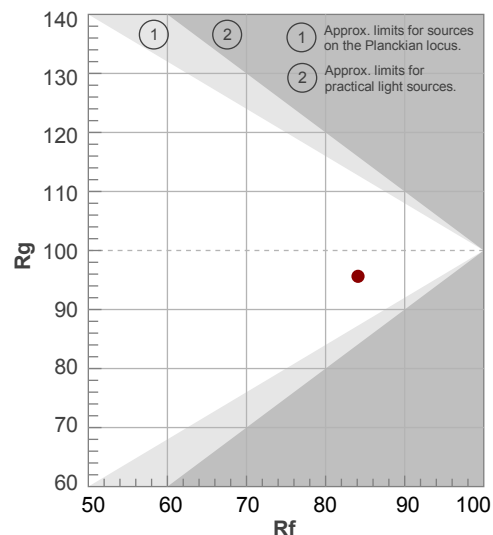
## Rf 84,1

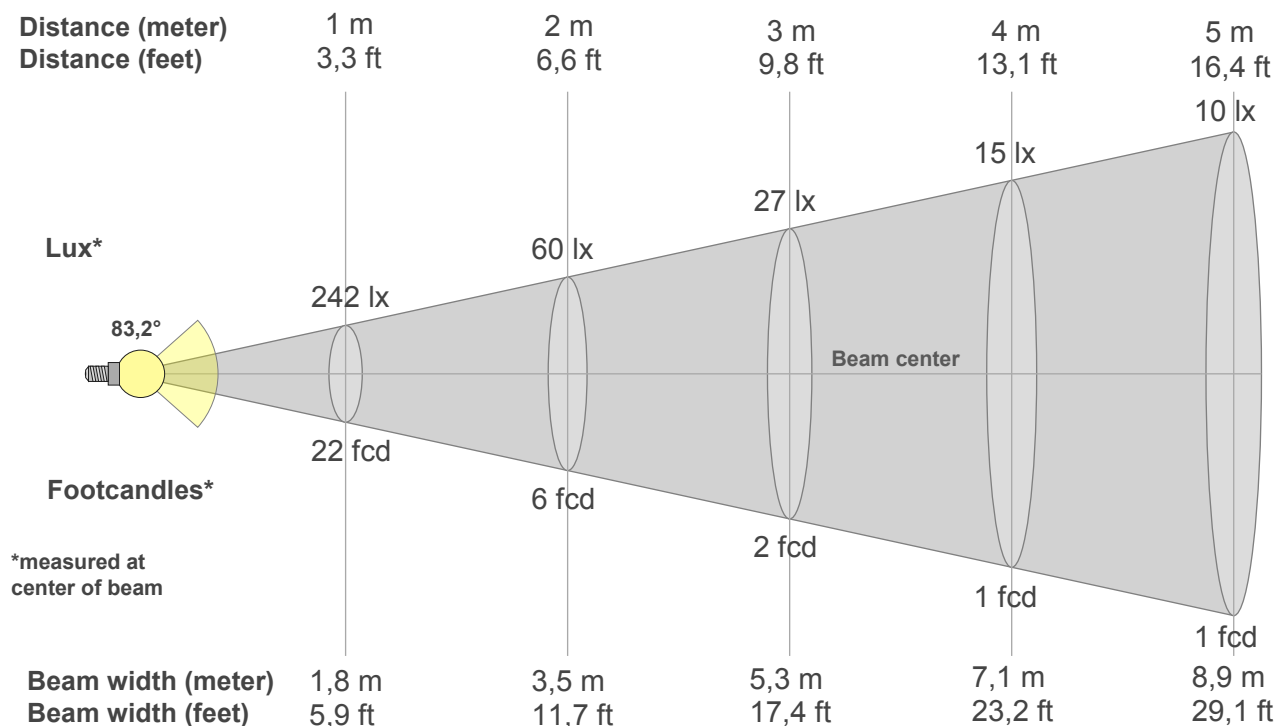
Fidelity index Rf

## Rg 95,6

Gamut index Rg

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	79	-12%	1%
2	80	-8%	7%
3	77	-3%	12%
4	89	0%	6%
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	85	7%	2%
13	86	5%	-9%
14	79	5%	-17%
15	84	-4%	-9%
16	75	-9%	-17%





## 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
242lx	60lx	27lx	15lx	10lx	7lx	5lx	4lx	3lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx
22,5fcd	5,6fcd	2,5fcd	1,4fcd	0,9fcd	0,6fcd	0,5fcd	0,4fcd	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°
242	241	238	233	225	216	199	145	109	85	70	57	91	114	91	67	45	25	4	0
100%	99%	98%	96%	93%	89%	82%	60%	45%	35%	29%	24%	38%	47%	38%	28%	19%	10%	2%	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°
242	241	238	233	227	220	210	197	179	147	84	50	34	22	16	15	12	8	2	0
100%	100%	98%	96%	94%	91%	87%	81%	74%	61%	35%	21%	14%	9%	7%	6%	5%	3%	1%	0%

## Intensities in 180° c-plane

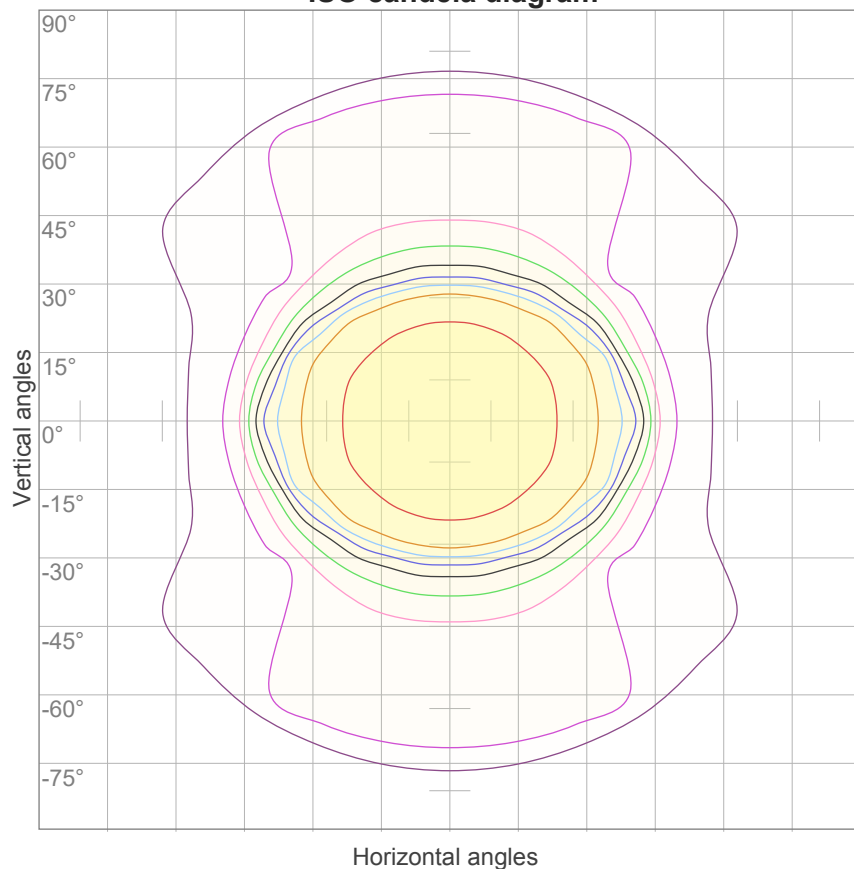
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
242	241	238	233	225	216	199	145	109	85	70	57	91	114	91	67	45	25	4	0
100%	99%	98%	96%	93%	89%	82%	60%	45%	35%	29%	24%	38%	47%	38%	28%	19%	10%	2%	0%

## 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°
242	241	238	233	227	220	210	197	179	147	84	50	34	22	16	15	12	8	2	0
100%	100%	98%	96%	94%	91%	87%	81%	74%	61%	35%	21%	14%	9%	7%	6%	5%	3%	1%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
83,2°	163,6°	178,1°	74,7%	60,2%

**ISO candela diagram**



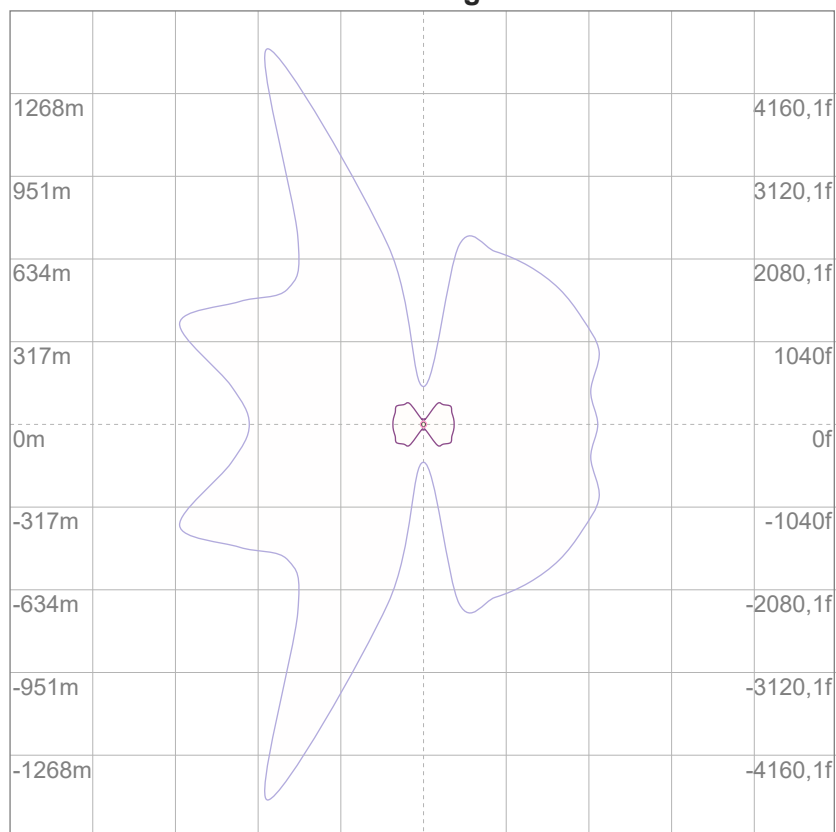
10%	24 cd
20%	48 cd
30%	73 cd
40%	97 cd
50%	121 cd
60%	145 cd
70%	169 cd
80%	193 cd
90%	218 cd

Conditions:

Number of c-planes: 16

Candela at center: 242 cd

**ISO lux diagram**



3%	72,5m lx
5%	0,121 lx
10%	0,242 lx
30%	0,725 lx
50%	1,21 lx

Conditions:

Number of c-planes: 16

Lux at center: 2,42 lx

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

### Glare Evaluation According to UGR

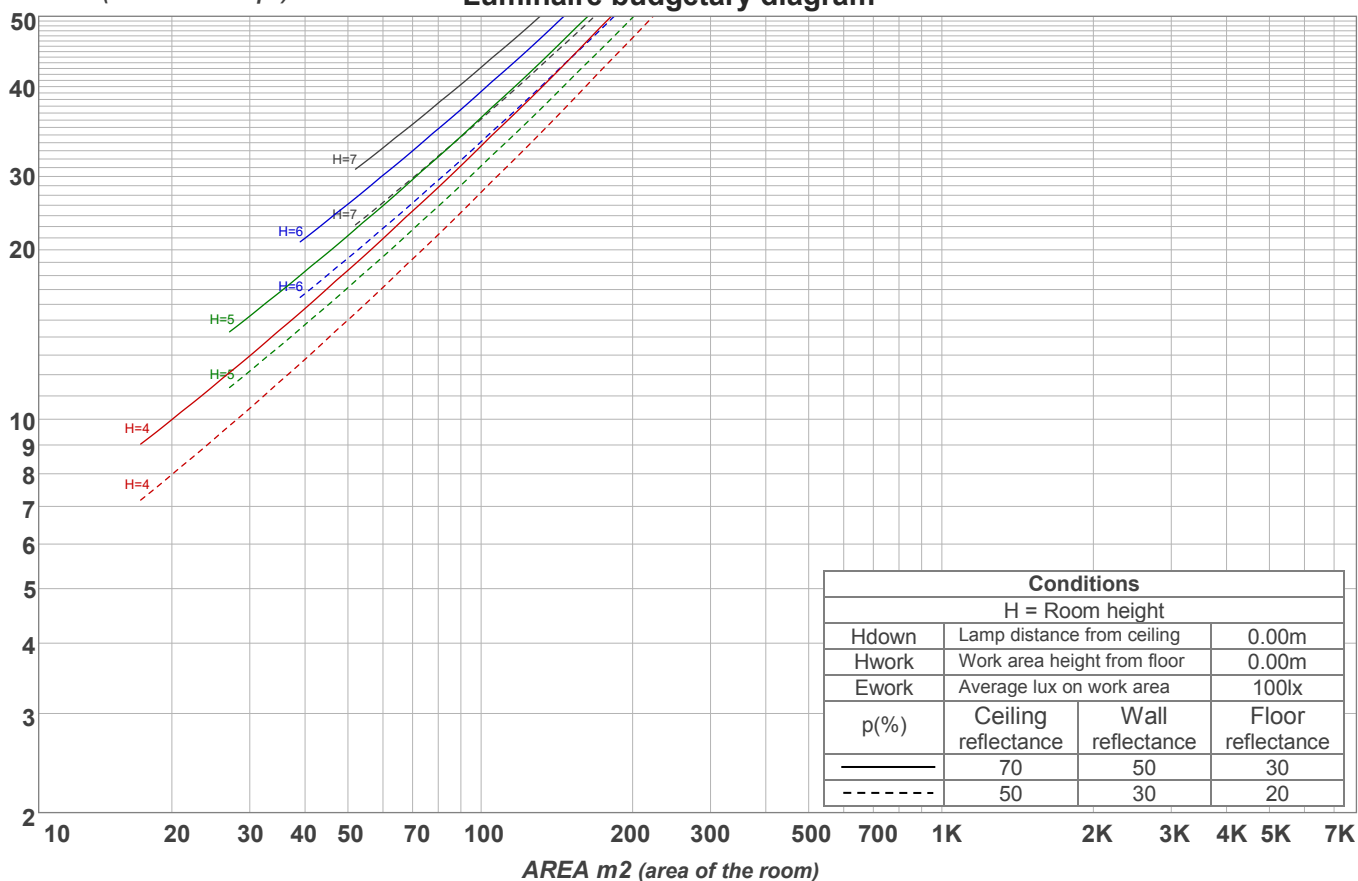
p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X      Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	19,3	20,5	19,5	20,8	21,0	18,0	19,1	18,2	19,4	19,7
	3H	22,8	24,0	23,2	24,3	24,5	18,4	19,6	18,8	19,9	20,1
	4H	23,7	24,9	24,1	25,1	25,4	18,8	20,0	19,2	20,3	20,6
	6H	24,4	25,4	24,7	25,7	26,1	19,7	20,8	20,1	21,1	21,4
	8H	24,6	25,6	24,9	25,9	26,3	20,0	21,1	20,4	21,4	21,8
	12H	24,7	25,6	25,0	26,0	26,4	20,2	21,2	20,6	21,6	22,0
4H	2H	19,8	21,0	20,2	21,2	21,5	18,6	19,8	19,0	20,0	20,3
	3H	23,7	24,7	24,1	25,1	25,5	19,9	20,9	20,2	21,2	21,6
	4H	24,7	25,7	25,2	26,1	26,6	20,5	21,4	20,9	21,8	22,4
	6H	25,5	26,4	26,0	26,8	27,1	21,7	22,5	22,2	22,9	23,3
	8H	25,7	26,6	26,2	26,9	27,3	22,0	22,9	22,5	23,2	23,6
	12H	25,9	26,6	26,4	27,0	27,5	22,3	23,0	22,8	23,4	23,9
8H	4H	25,1	25,9	25,6	26,3	26,7	21,9	22,7	22,4	23,1	23,5
	6H	26,0	26,7	26,5	27,1	27,7	23,3	23,9	23,8	24,4	24,9
	8H	26,4	26,9	26,9	27,5	28,1	23,8	24,3	24,3	24,8	25,5
	12H	26,6	27,1	27,2	27,6	28,2	24,1	24,6	24,7	25,1	25,7
12H	4H	25,1	25,8	25,6	26,2	26,7	22,0	22,7	22,5	23,1	23,6
	6H	26,1	26,7	26,7	27,2	27,9	23,5	24,1	24,0	24,6	25,2
	8H	26,5	27,0	27,1	27,5	28,1	24,1	24,6	24,7	25,1	25,7
Variation of the observer position for the luminaire distance S											
S = 1.0H		0,1 / -0,1					0,2 / -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 571 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	99
1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	85	83	81
2	98	90	83	77	95	88	81	76	84	79	74	81	76	72	77	74	70	68
3	90	80	71	65	87	78	70	64	75	68	63	72	66	62	69	64	61	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	43	56	48	43	54	47	43	52	47	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	35	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	42	36	32	30
10	55	42	35	30	54	42	34	29	41	34	29	40	33	29	39	33	29	27

LAMPS (number of lamps)

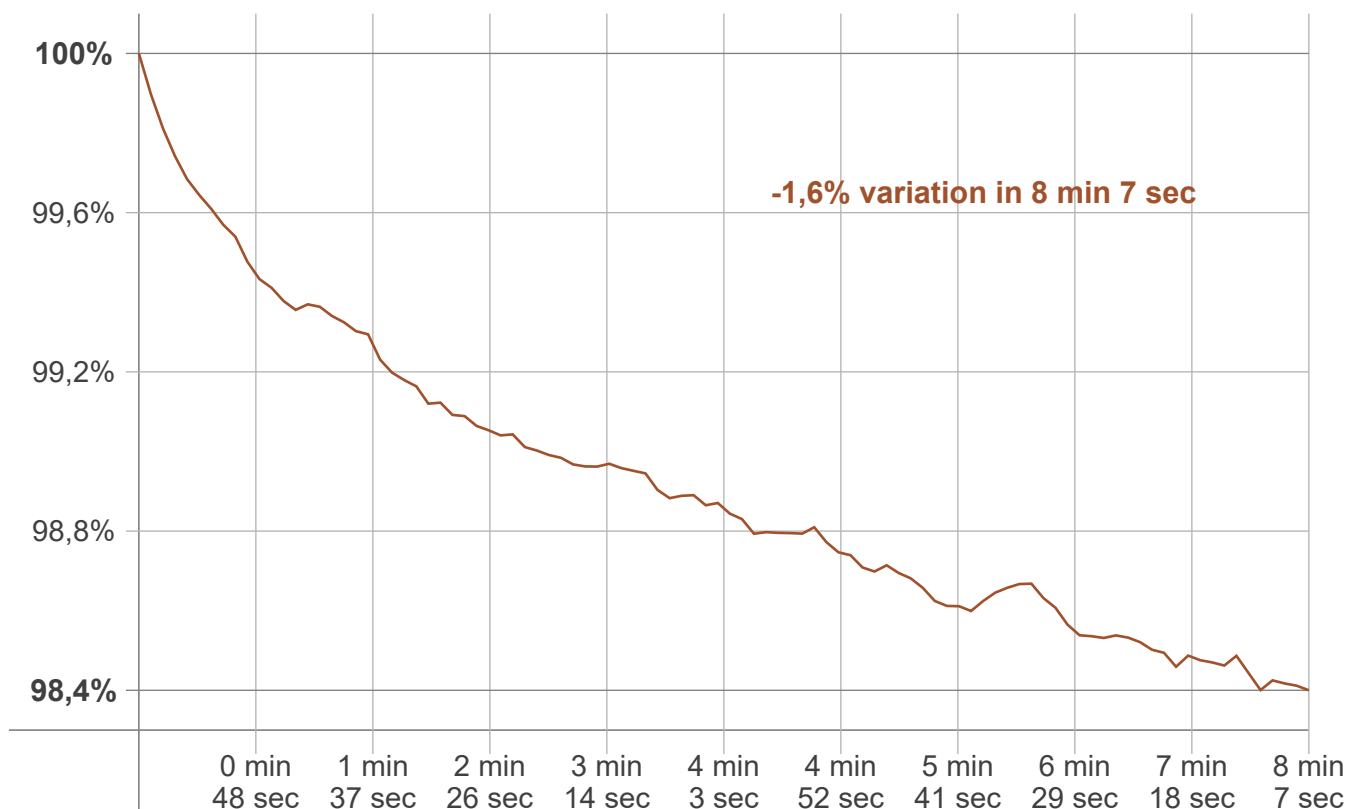
## Luminaire budgetary diagram



## Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
22,9 lm	65,8 lm	100 lm	110 lm	79,1 lm	48,7 lm	59,4 lm	53,7 lm	23,7 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
2,79 lm	1,06 lm	0,829 lm	0,749 lm	0,647 lm	0,525 lm	0,386 lm	0,237 lm	0,080 lm

### Warmup curve



### Warmup result

Warmup time:	Not completed
Warmup variation	-1,6%

### Warmup conditions

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

### Color temperature change

CCT start	CCT change	CCT end
2757 K	+2 K	2759 K

### Output change

Output start	Output change	Output end
579 lm	-8 lm	571 lm