

Light efficiency:

138 Lumen/Watt

Light quality:

CRI: 82,3

Color temperature:

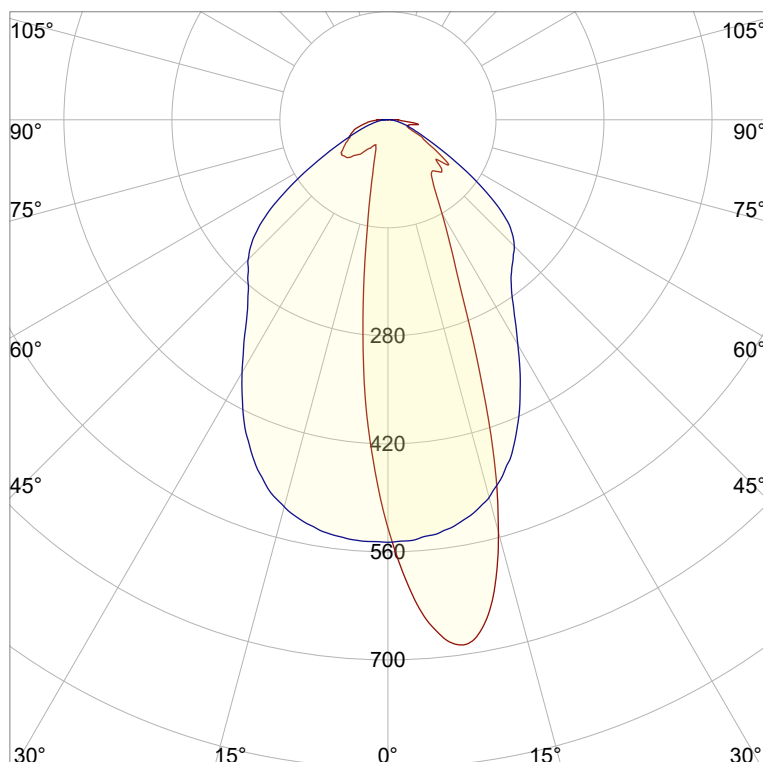
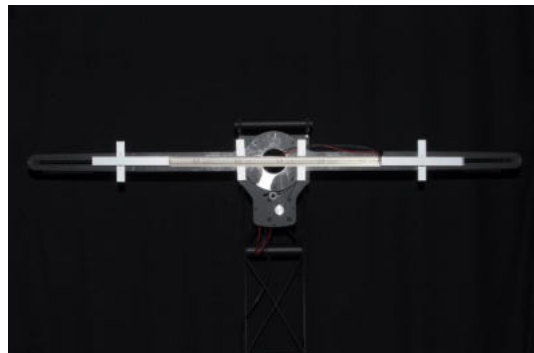
2764 K

Output: 663 lm

Peak: 726 cd

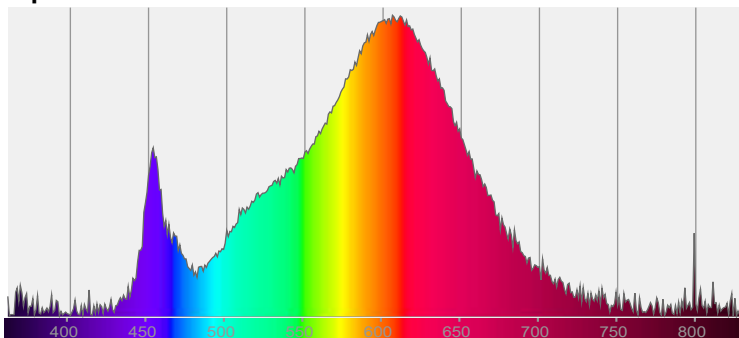
Power: 4,8 W

PF: 1,0



CIE 1931
x: 0,452
y: 0,405

Spectra



Power

Voltage: 48,0 V
Current: 0,100 A
Frequency: 0 Hz

Product name:

Navigator-3_510mm_827_Lens-Asymmetric-Frosted-2

Item number:

NP/L1C/14C/G1/L1C/0510/827/LAF-2

Date and time:

21.06.2022 12:12:24

Description:

Rank: D60-AC-8GB

Tolerances:

Lumen +/-4%

Candela +/-2,5%

Colour Temp +/-35 Kelvin

CRI +/-0,7

Angular Resolution: 1 Degree Step

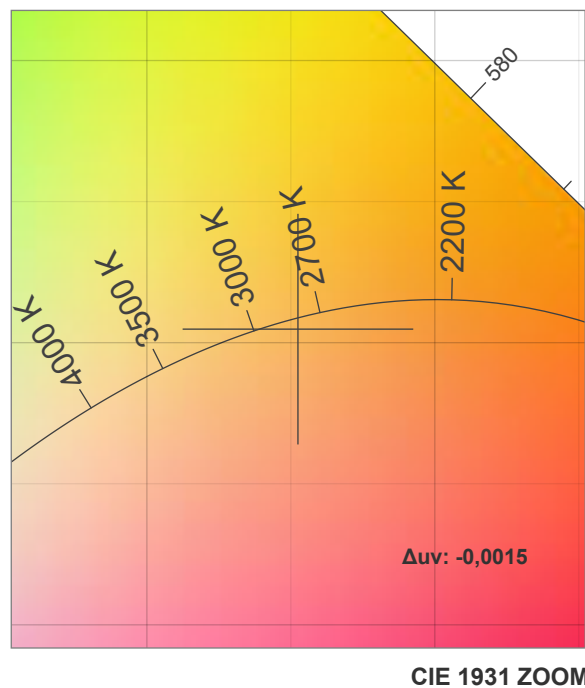
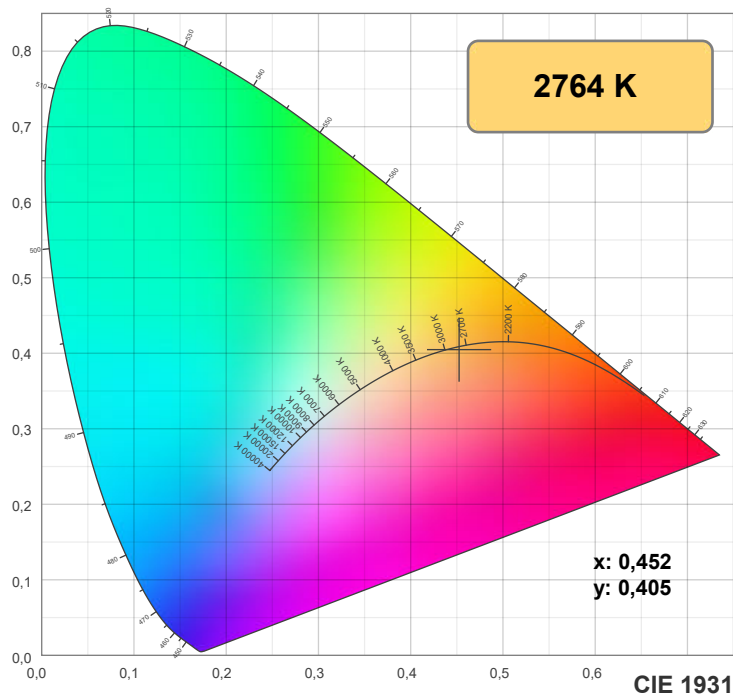
Last Calibration 20-09-2021

Tester: Peter Ulrich

Test Site: Lichtlabor

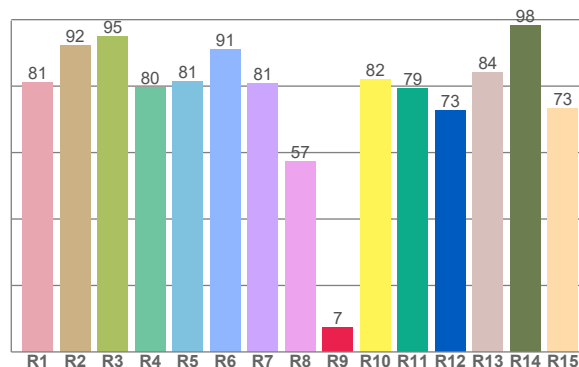
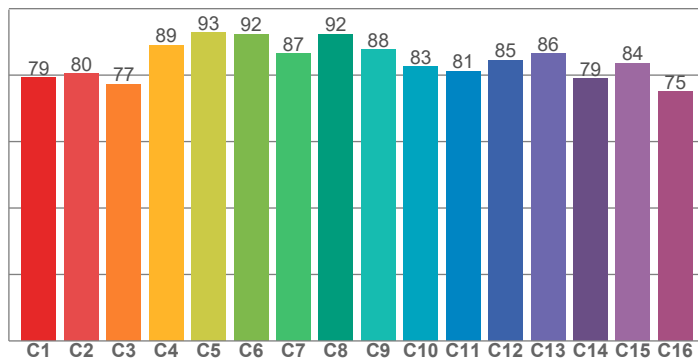
Gaustrasse 13

55411 Bingen am Rhein



TM30: 84,2

CRI: 82,3 (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	92,1	95,0	79,7	81,3	90,9	80,9	57,2	7,5	82,2	79,3	72,6	84,0	98,2	73,2

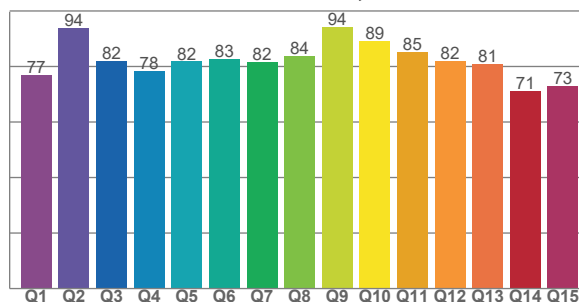
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
79,2	80,4	77,3	89,0	92,8	92,4	86,6	92,3	87,8	82,5	81,2	84,5	86,5	79,0	83,6	75,1

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
77,0	93,8	82,1	78,4	81,8	82,8	81,8	83,6	94,2	89,2	85,2	81,9	81,0	71,3	73,0

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 deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2764 K	82,3	7,5	84,2	95,9	81,3	0,452	0,405	0,260	0,349	-0,0015

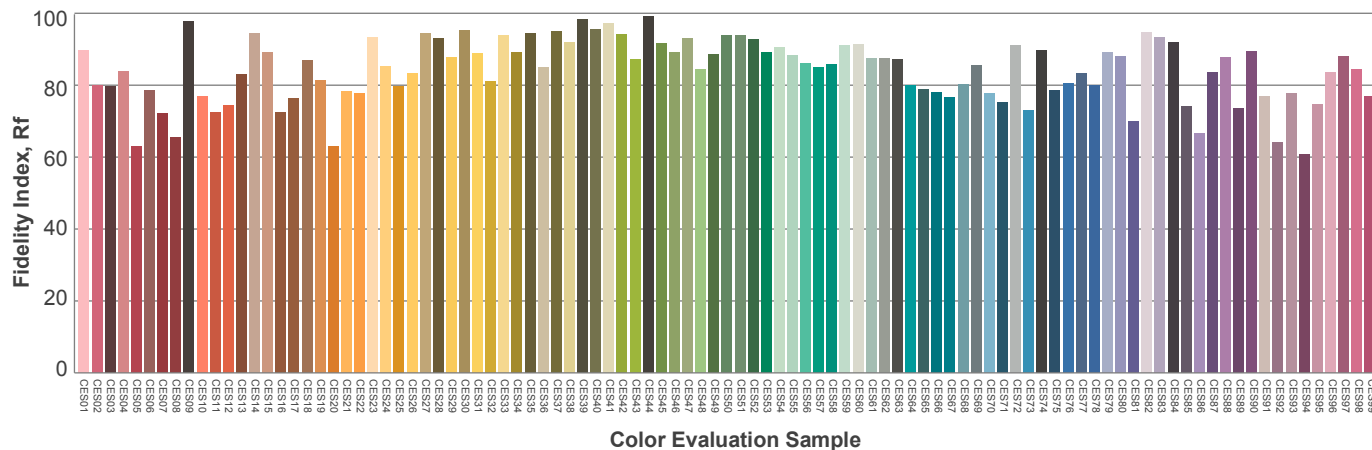
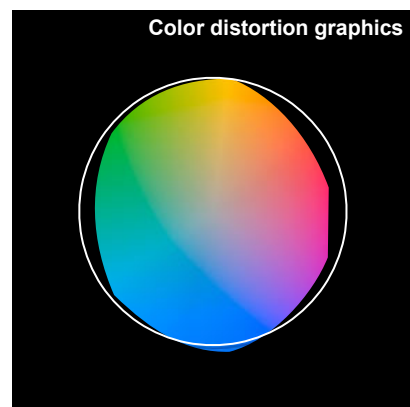
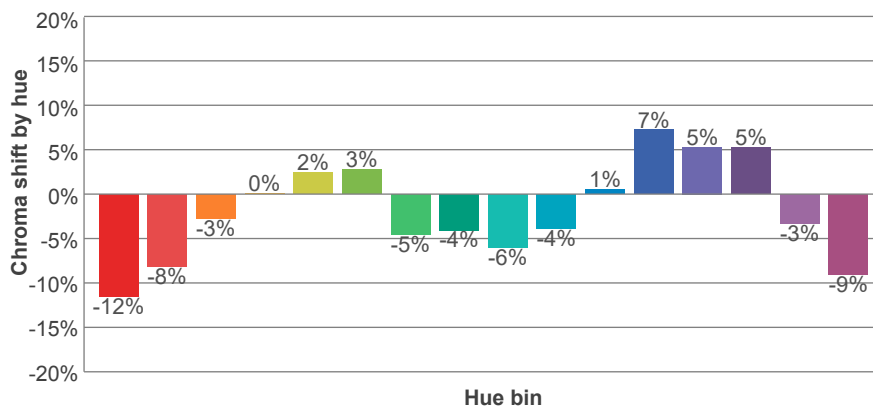
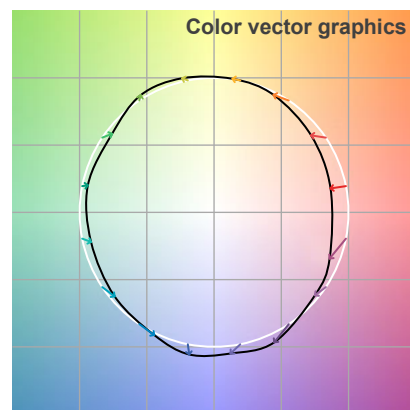
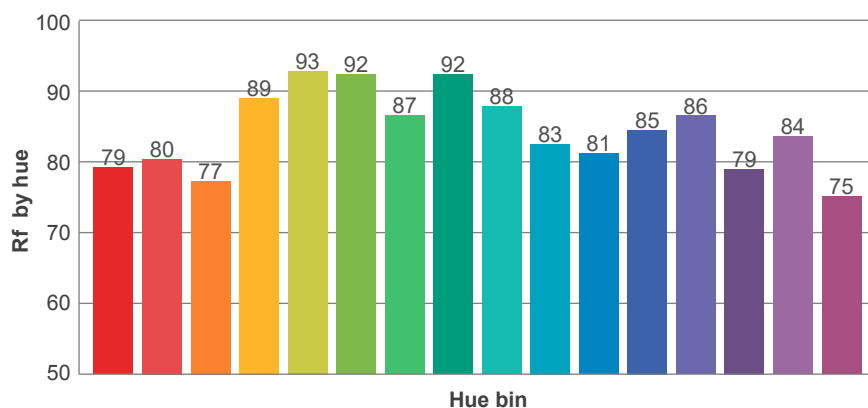
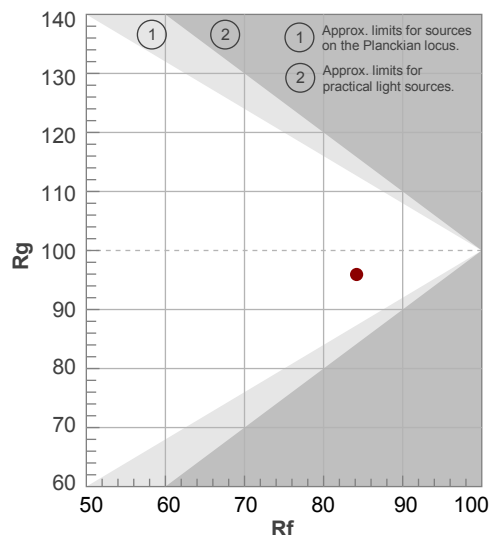
Rf 84,2

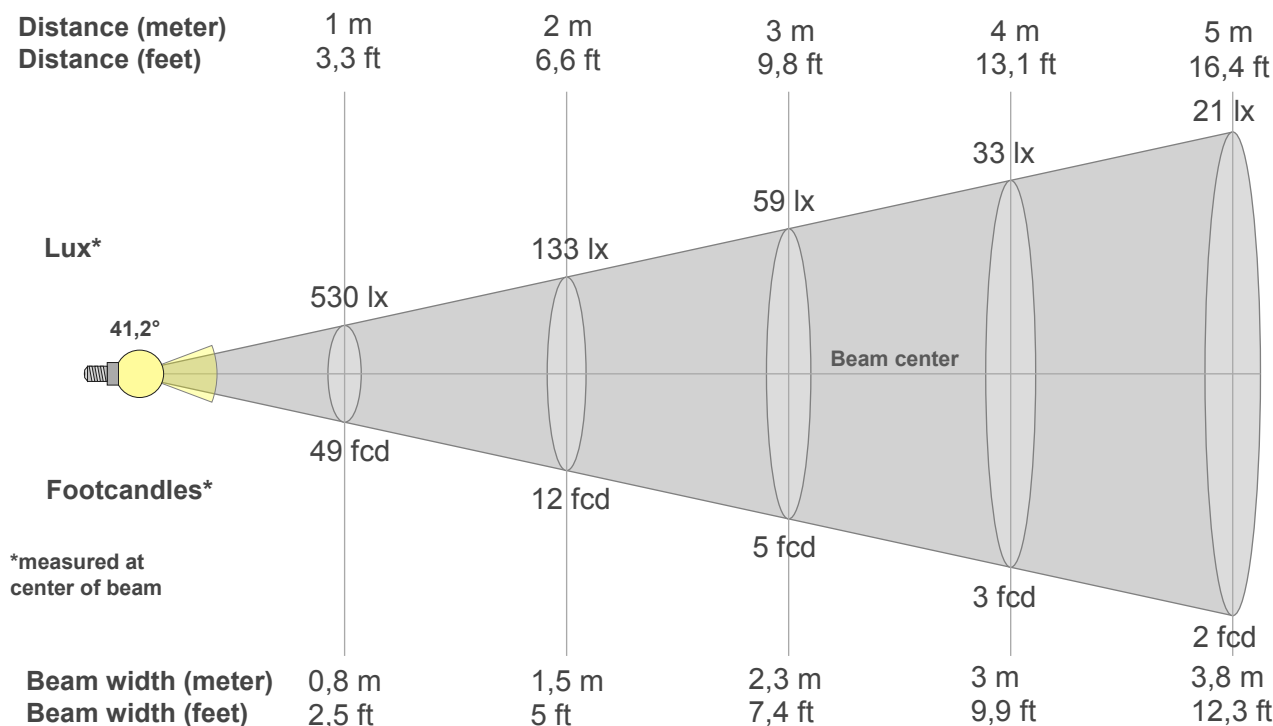
Fidelity index Rf

Rg 95,9

Gamut index Rg

Hue Bin	R _f	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	92	3%	-3%
7	87	-5%	-6%
8	92	-4%	-1%
9	88	-6%	4%
10	83	-4%	11%
11	81	1%	14%
12	85	7%	3%
13	86	5%	-8%
14	79	5%	-16%
15	84	-3%	-10%
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
530lx	133lx	59lx	33lx	21lx	15lx	11lx	8lx	7lx	5lx	4lx	4lx	3lx	3lx	2lx	2lx	2lx	2lx	1lx	1lx
49,3fcd	12,3fcd	5,5fcd	3,1fcd	2fcd	1,4fcd	1fcd	0,8fcd	0,6fcd	0,5fcd	0,4fcd	0,3fcd	0,3fcd	0,3fcd	0,2fcd	0,2fcd	0,2fcd	0,2fcd	0,1fcd	0,1fcd

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°
530	590	641	673	687	676	642	587	516	433	347	275	223	188	162	140	122	108	99	92
100%	111%	121%	127%	129%	127%	121%	111%	97%	82%	65%	52%	42%	36%	30%	26%	23%	20%	19%	17%

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°
530	546	545	541	537	531	523	512	498	483	465	442	418	391	364	337	313	291	272	259
100%	103%	103%	102%	101%	100%	99%	97%	94%	91%	88%	83%	79%	74%	69%	63%	59%	55%	51%	49%

Intensities in 180° c-plane

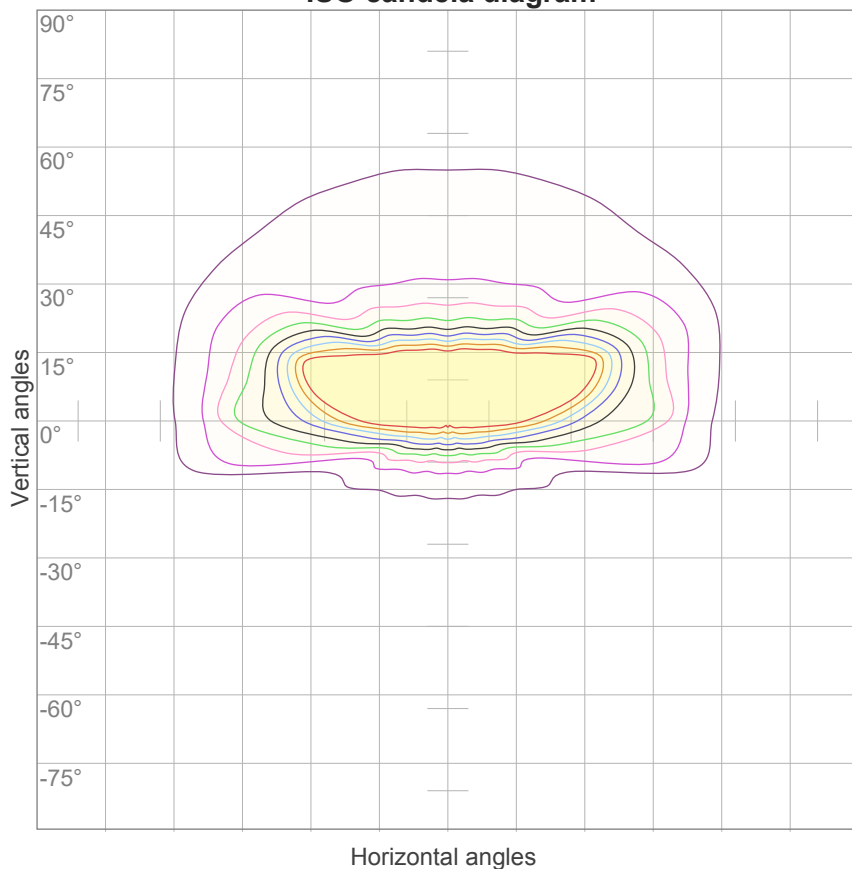
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
530	459	387	306	228	163	120	90	70	58	48	42	38	36	37	40	43	46	49	55
100%	87%	73%	58%	43%	31%	23%	17%	13%	11%	9%	8%	7%	7%	7%	8%	8%	9%	9%	10%

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°
530	547	547	545	542	537	532	524	514	503	487	469	449	427	402	378	354	331	311	295
100%	103%	103%	103%	102%	101%	100%	99%	97%	95%	92%	88%	85%	81%	76%	71%	67%	62%	59%	56%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
41,2°	94,3°	173,9°	83,5%	65,5%

ISO candela diagram



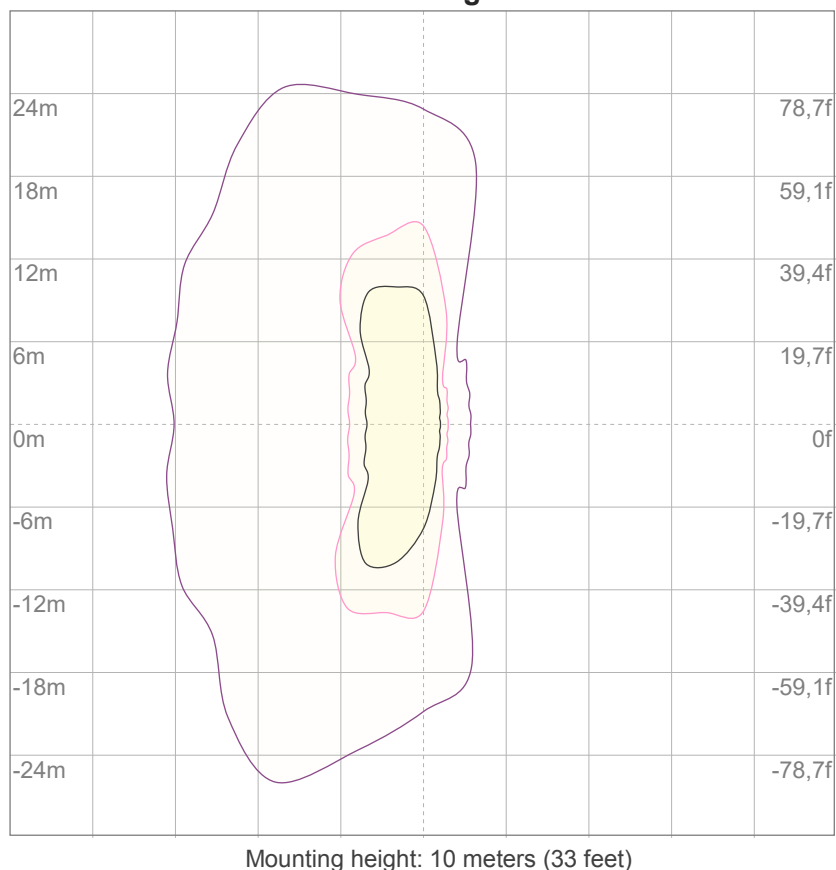
10%	53 cd
20%	106 cd
30%	159 cd
40%	212 cd
50%	265 cd
60%	318 cd
70%	371 cd
80%	424 cd
90%	477 cd

Conditions:

Number of c-planes: 16

Candela at center: 530 cd

ISO lux diagram



3%	0,159 lx
5%	0,265 lx
10%	0,530 lx
30%	1,59 lx
50%	2,65 lx

Conditions:

Number of c-planes: 16

Lux at center: 5,30 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				
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Variation of the observer position for the luminaire distance S										
n/a	n/a					n/a				
n/a	n/a					n/a				
n/a	n/a					n/a				
Standard table	n/a					n/a				
Correction summand	n/a					n/a				
Corrected glare indices referring to 663 lm total luminous flux										

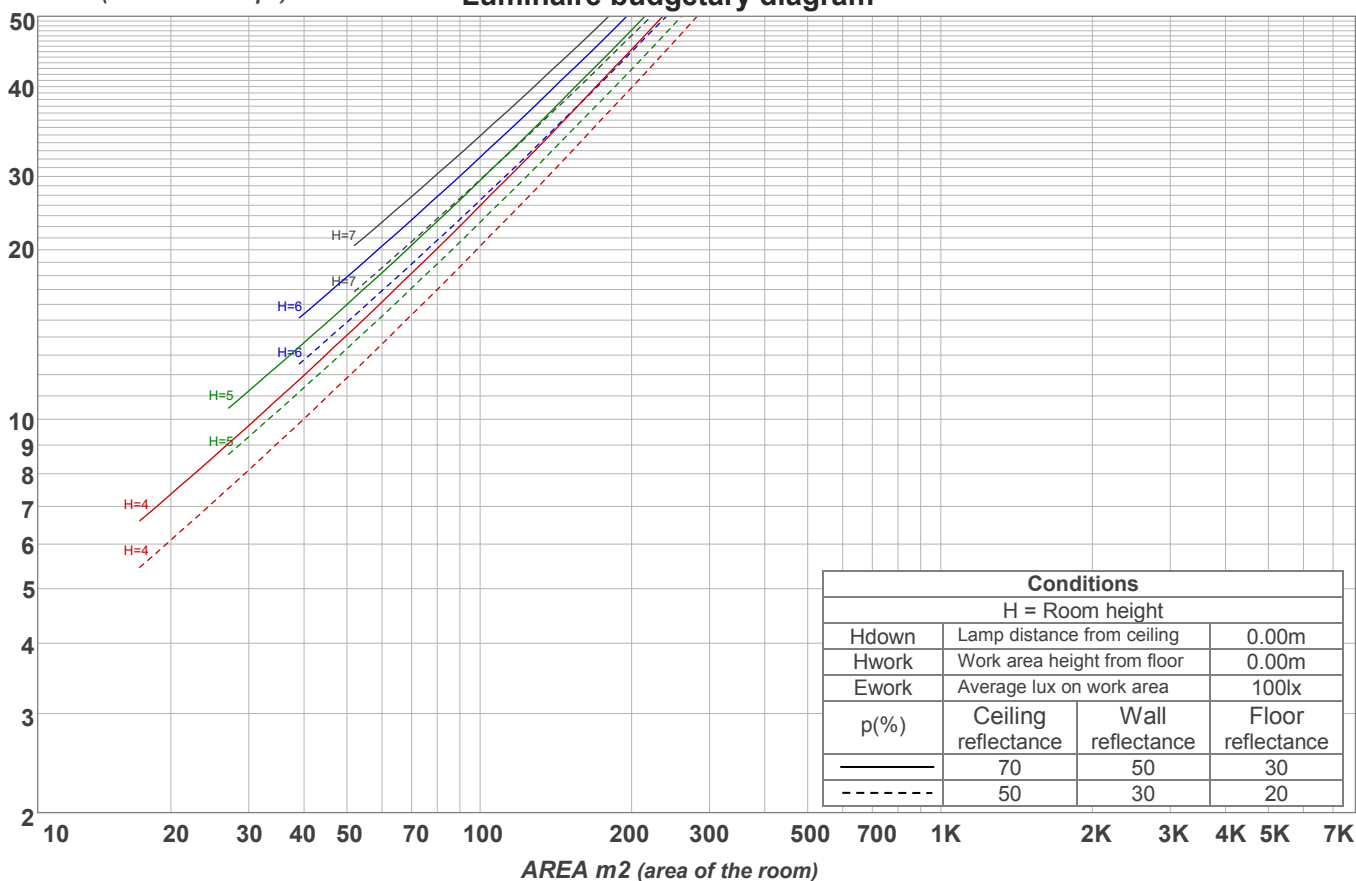
UGR data could not be calculated due to missing/wrong symmetry. Goto Edit->Photometric->Corrections and select Correct asymmetry.

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	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85
2	101	94	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76	74
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65
4	87	76	68	62	85	75	68	62	72	66	61	70	65	60	68	63	59	57
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	54	52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	49	44	43
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	50	45	41	39
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36
10	60	48	40	36	58	47	40	36	46	40	36	45	40	35	45	39	35	34

LAMPS (number of lamps)

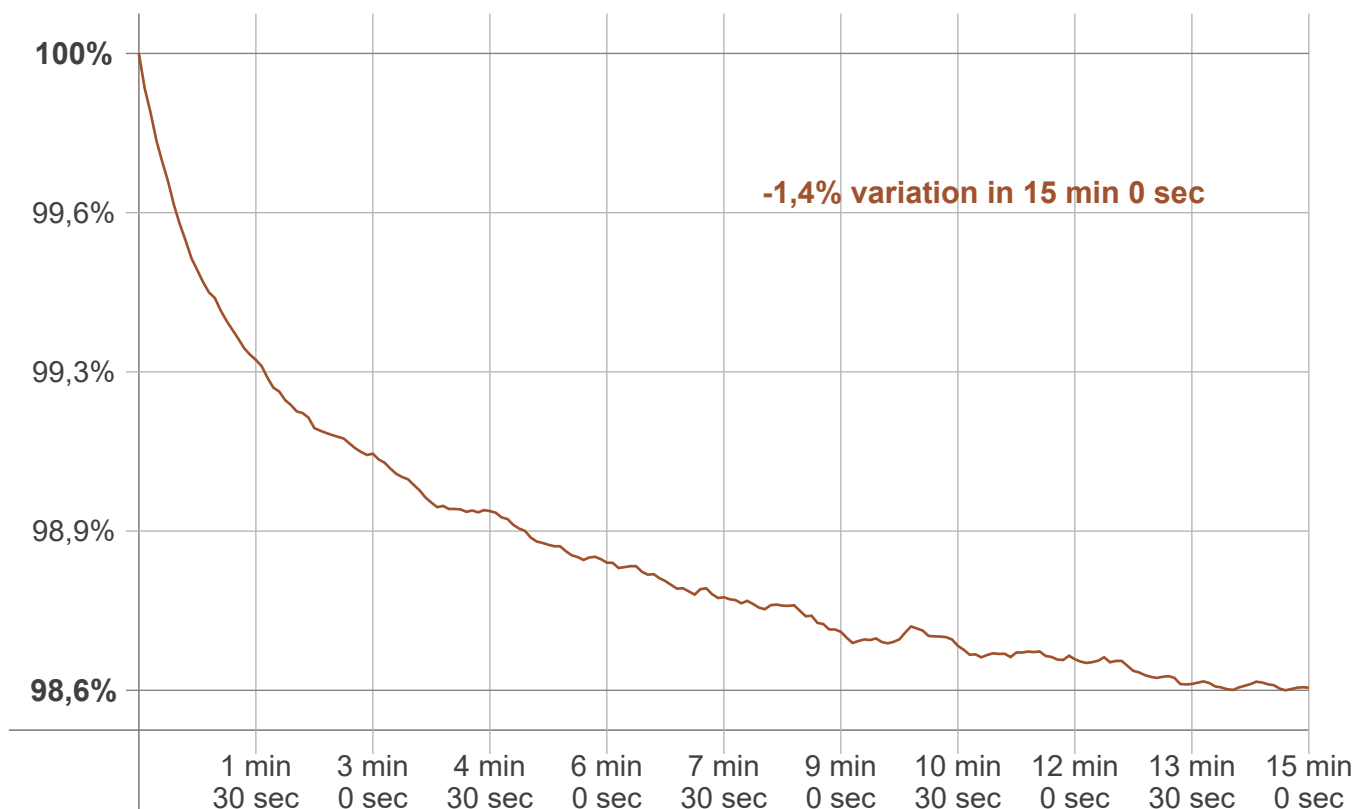
Luminaire budgetary diagram



Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
47,8 lm	113 lm	121 lm	106 lm	90,7 lm	75,4 lm	51,0 lm	34,0 lm	24,2 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0,069 lm	0,000 lm	0,000 lm	0,000 lm	0,000 lm	0,000 lm	0,000 lm	0,000 lm	0,000 lm

Warmup curve



Warmup result

Warmup time:	Lamp stabilized in 15 min 0 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
2763 K	+1 K	2764 K

Output change

Output start	Output change	Output end
671 lm	-8 lm	663 lm