



Light efficiency:

72 Lumen/Watt

Light quality:

CRI: 93,3

Color temperature:

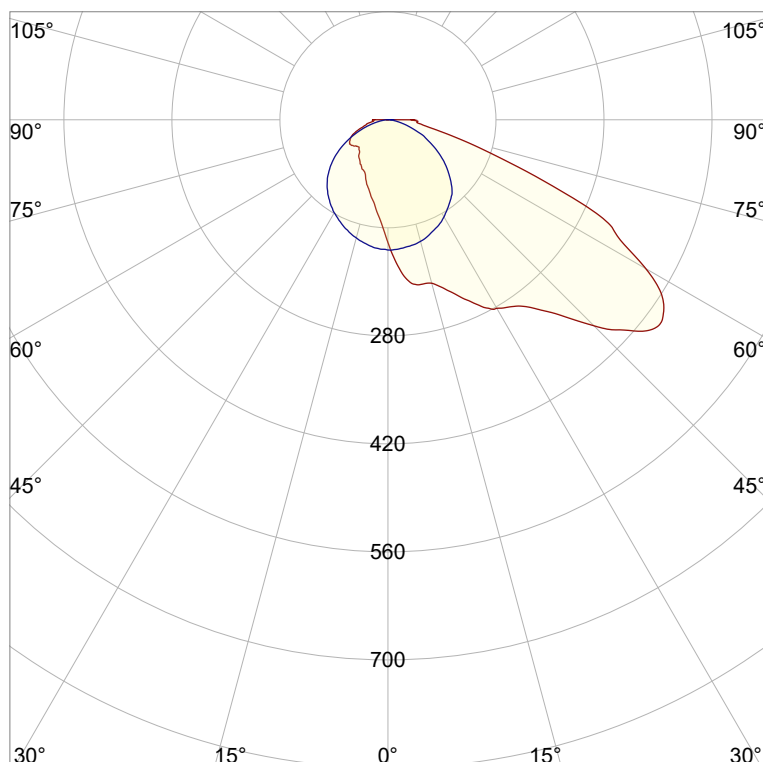
2749 K

Output: 687 lm

Peak: 441 cd

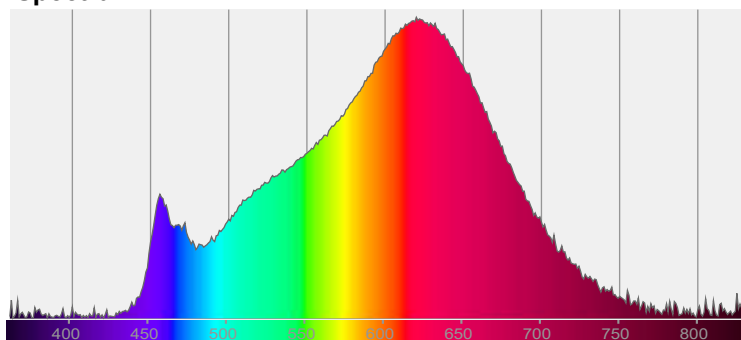
Power: 9,6 W

PF: 1,0



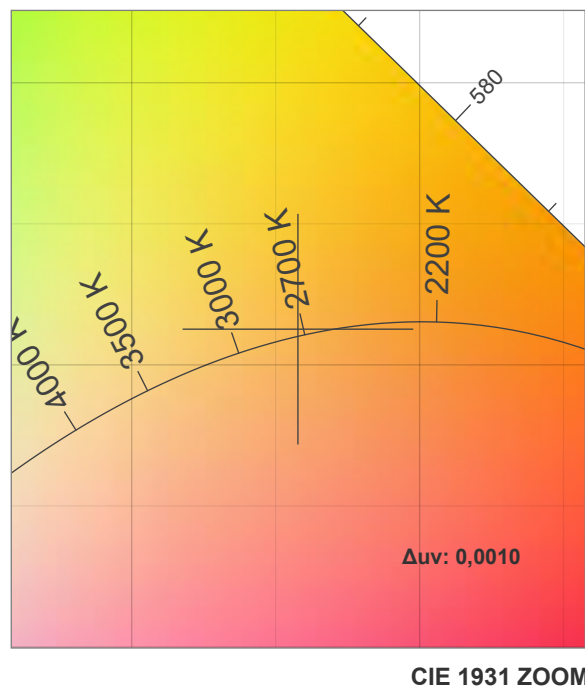
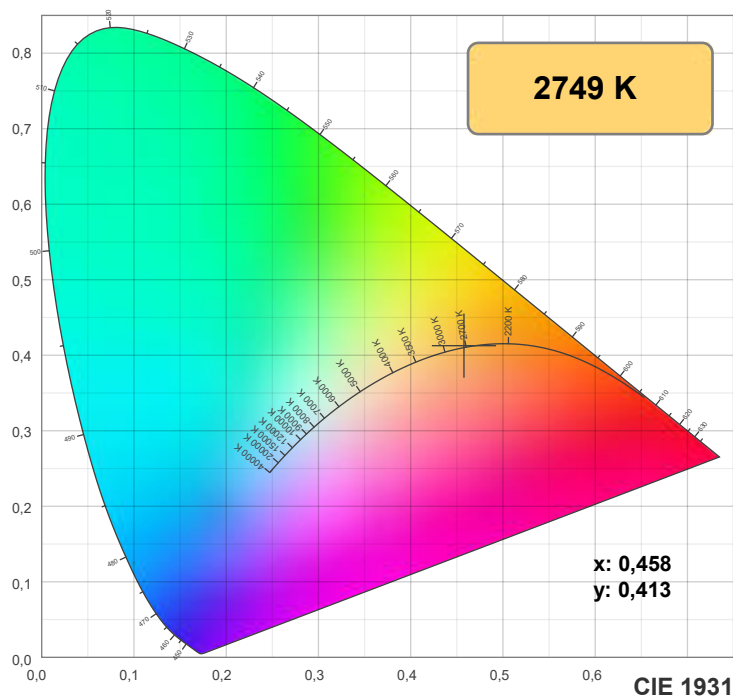
CIE 1931
x: 0,458
y: 0,413

Spectra



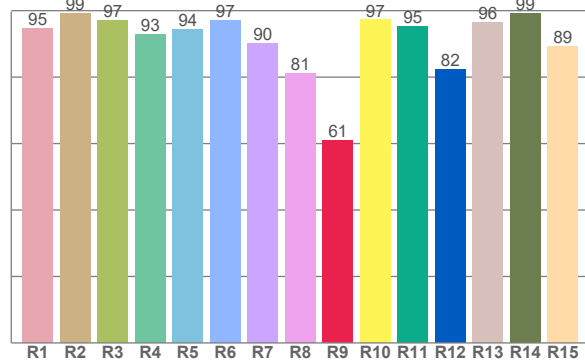
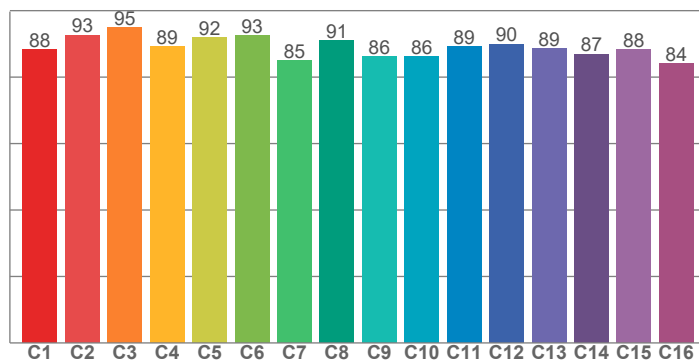
Power

Voltage: 48,0 V
Current: 0,200 A
Frequency: 0 Hz



TM30: 89,2

CRI: 93,3 (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
94,8	99,1	97,1	92,8	94,4	96,9	90,0	81,1	61,0	97,2	95,2	82,2	96,3	99,2	89,3

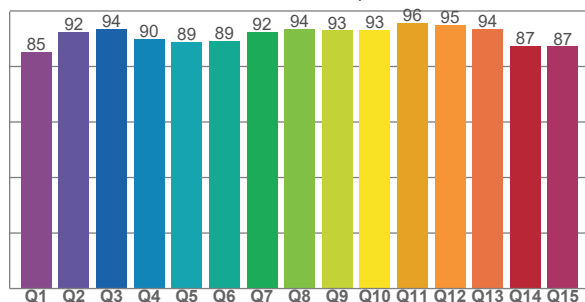
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
88,3	92,7	94,9	89,3	92,0	92,5	85,0	91,1	86,3	86,2	89,2	89,9	88,6	86,9	88,2	84,2

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
85,2	92,3	93,5	89,9	88,9	89,3	92,4	93,6	93,0	93,2	95,5	95,0	93,6	87,4	87,2

CQS: 90,7



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
2749 K	93,3	61,0	89,2	95,0	90,7	0,458	0,413	0,260	0,352	0,0010



TM30 details



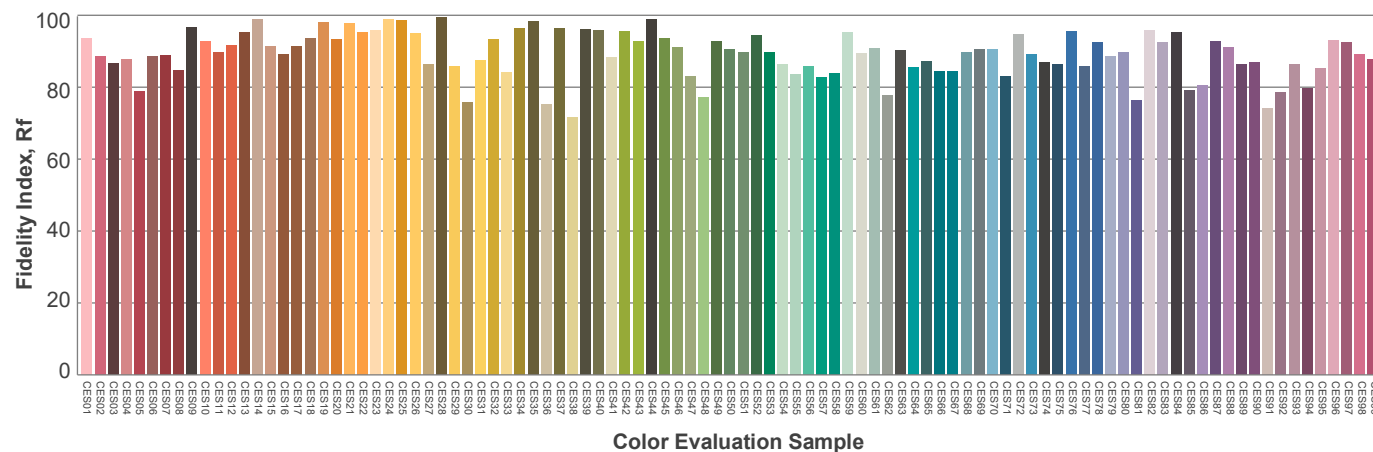
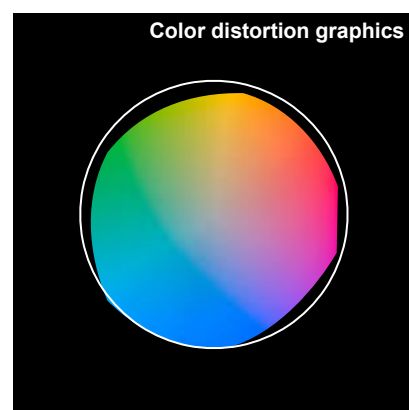
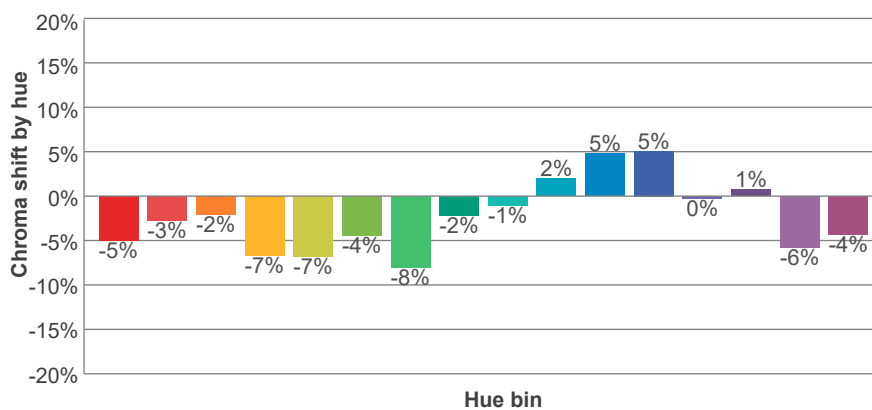
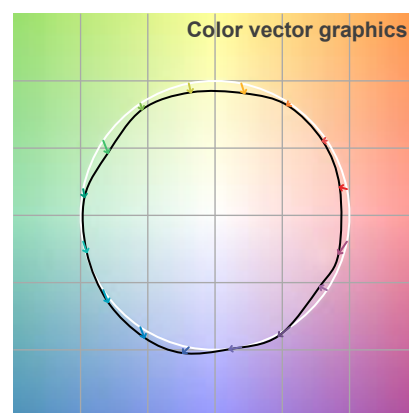
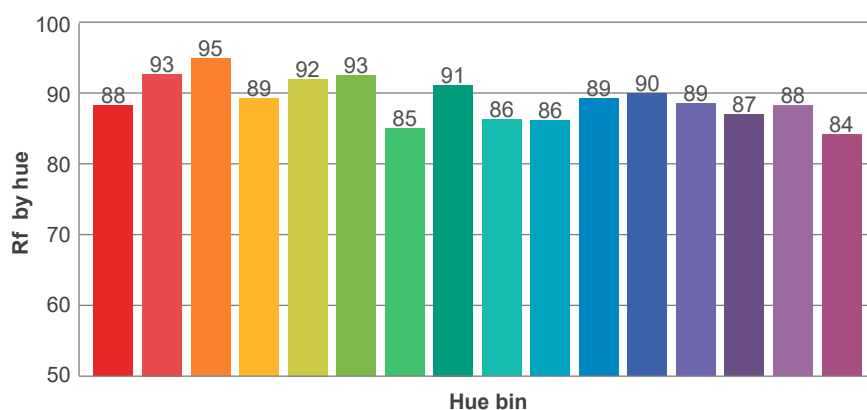
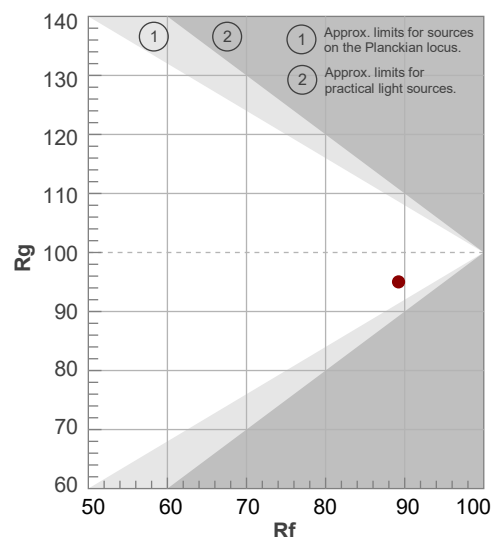
Rf 89,2

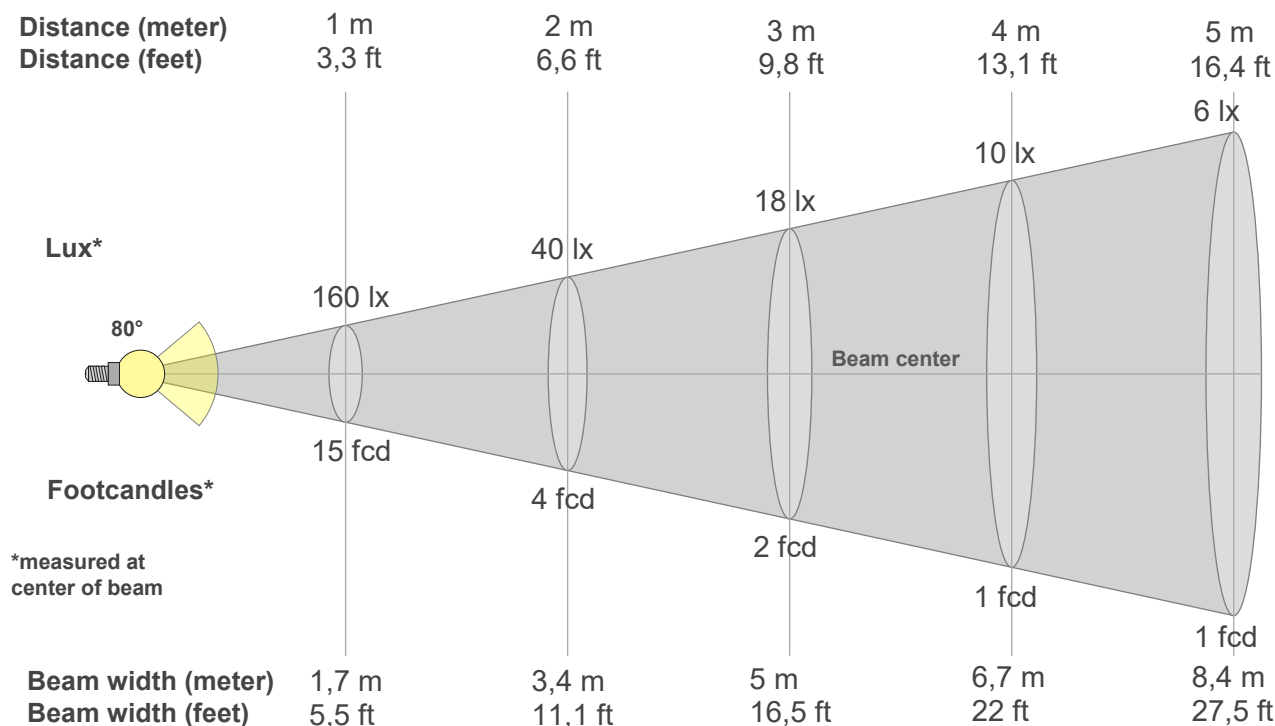
Fidelity index Rf

Rg 95,0

Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	88	-5%	2%
2	93	-3%	2%
3	95	-2%	1%
4	89	-7%	-4%
5	92	-7%	0%
6	93	-4%	1%
7	85	-8%	6%
8	91	-2%	5%
9	86	-1%	8%
10	86	2%	9%
11	89	5%	7%
12	90	5%	-3%
13	89	0%	-9%
14	87	1%	-10%
15	88	-6%	-1%
16	84	-4%	-10%





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
160lx	40lx	18lx	10lx	6lx	4lx	3lx	3lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	0lx	0lx	0lx
14,9fcd	3,7fcd	1,7fcd	0,9fcd	0,6fcd	0,4fcd	0,3fcd	0,2fcd	0,2fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd	0fcd	0fcd	0fcd

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°
160	198	217	219	237	262	282	295	325	377	426	436	386	312	181	96	52	38	10	0
100%	123%	136%	137%	148%	163%	176%	184%	203%	236%	266%	272%	241%	195%	113%	60%	33%	24%	6%	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°
160	168	166	163	158	152	145	137	128	116	101	85	67	52	35	21	11	5	2	0
100%	105%	104%	102%	99%	95%	91%	85%	80%	72%	63%	53%	42%	33%	22%	13%	7%	3%	1%	0%

Intensities in 180° c-plane

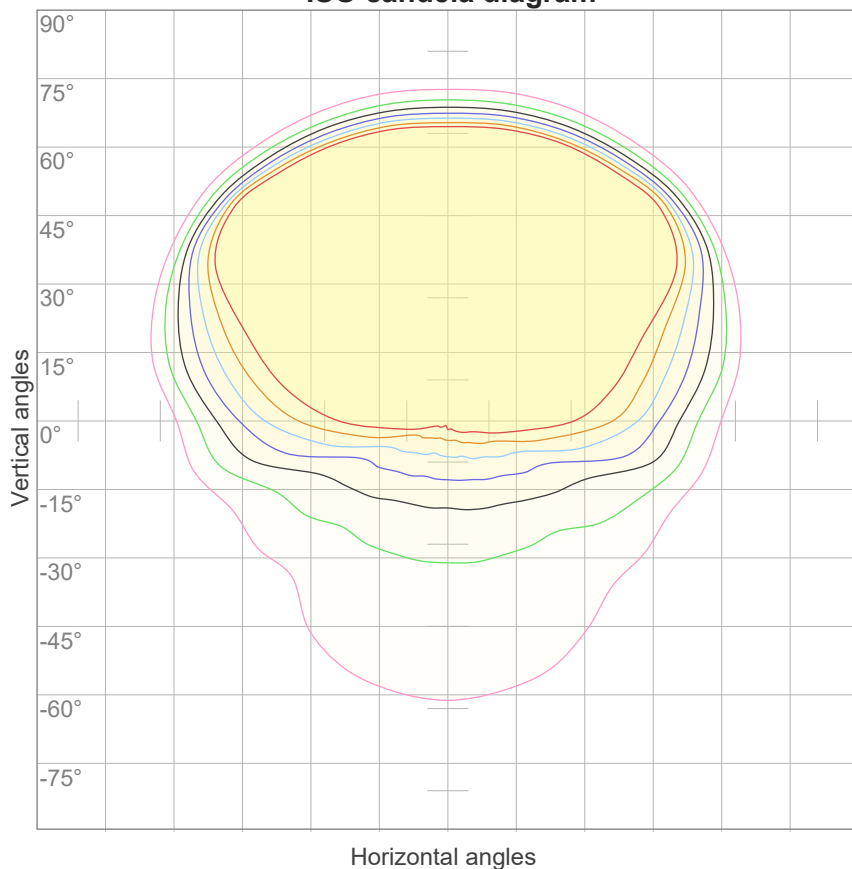
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
160	127	108	94	83	73	69	64	58	53	53	58	57	53	43	32	26	19	11	0
100%	80%	67%	59%	52%	46%	43%	40%	36%	33%	33%	36%	36%	33%	27%	20%	16%	12%	7%	0%

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°
160	167	163	158	153	146	139	131	121	111	98	84	68	52	36	22	11	4	0	0
100%	104%	102%	99%	95%	91%	87%	82%	76%	69%	61%	53%	43%	32%	22%	14%	7%	2%	0%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
80°	159,4°	178,9°	70,2%	40,9%

ISO candela diagram



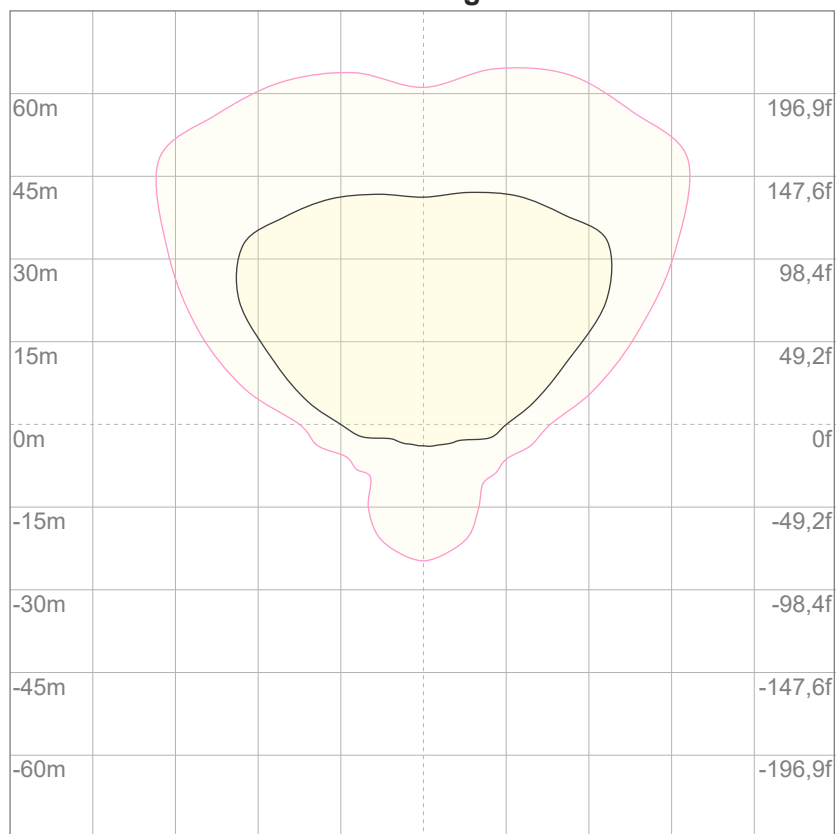
10%	16 cd
20%	32 cd
30%	48 cd
40%	64 cd
50%	80 cd
60%	96 cd
70%	112 cd
80%	128 cd
90%	144 cd

Conditions:

Number of c-planes: 16

Candela at center: 160 cd

ISO lux diagram



3%	48,0m lx
5%	80,1m lx
10%	0,160 lx
30%	0,480 lx
50%	0,801 lx

Conditions:

Number of c-planes: 16

Lux at center: 1,60 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 687 lm total luminous flux										

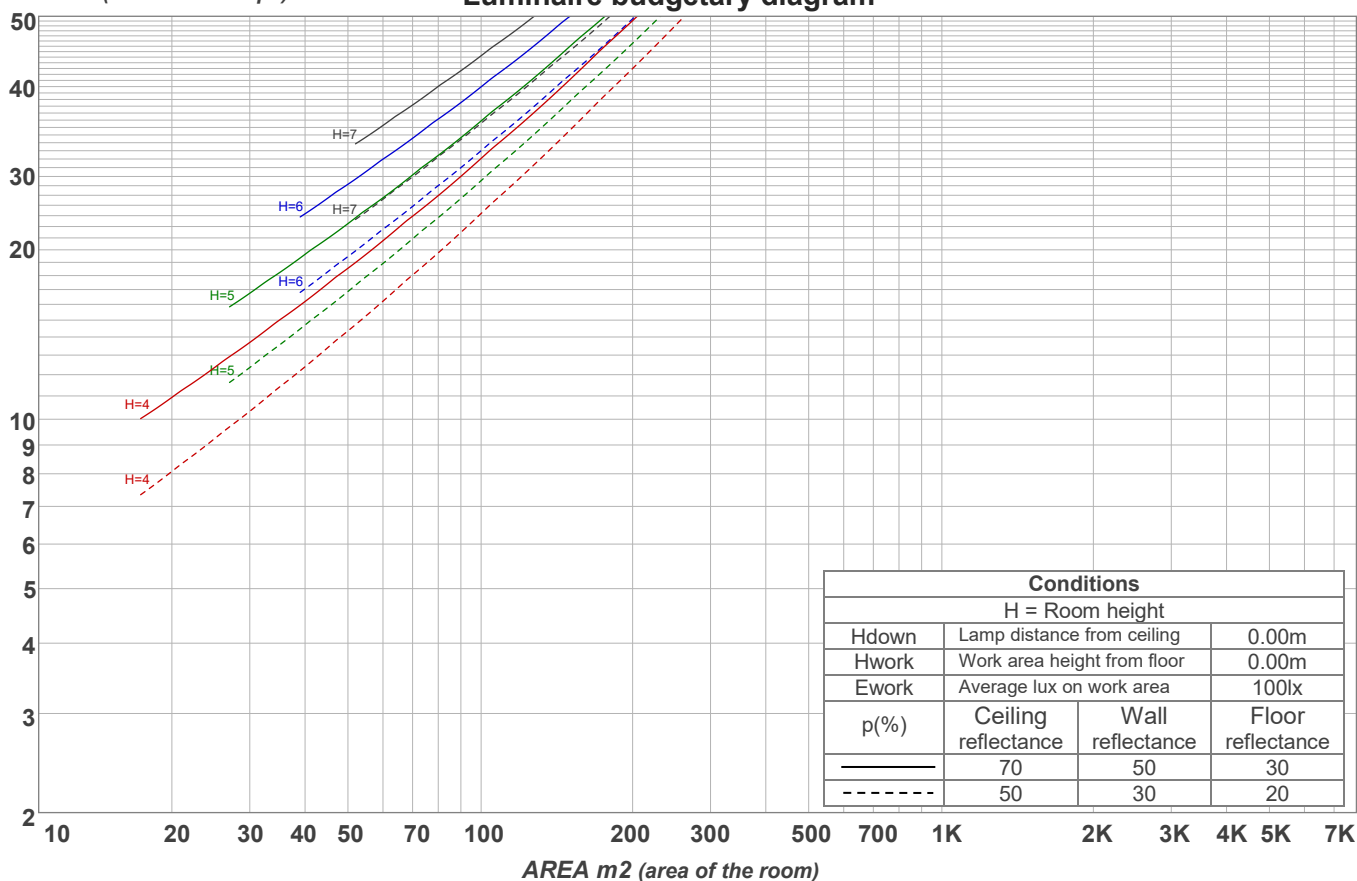
UGR data could not be calculated due to missing/wrong symmetry. Goto Edit->Photometric->Corrections and select Correct asymmetry.

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	107	101	96	92	104	99	94	90	95	91	87	91	88	85	87	85	82	80
2	96	86	79	72	93	84	77	71	81	75	70	77	72	68	74	70	66	64
3	86	74	65	58	84	73	64	57	70	62	56	67	61	55	64	59	54	52
4	78	65	55	48	76	63	54	47	61	53	46	58	51	46	56	50	45	43
5	71	57	47	40	69	56	47	40	54	45	39	52	44	39	50	43	38	36
6	65	51	41	34	63	50	40	34	48	40	33	46	39	33	44	38	33	31
7	60	46	36	29	58	45	36	29	43	35	29	42	34	29	40	34	28	26
8	56	41	32	26	54	40	32	26	39	31	25	38	31	25	37	30	25	23
9	52	38	29	23	50	37	29	23	36	28	23	35	28	22	34	27	22	20
10	49	34	26	20	47	34	26	20	33	25	20	32	25	20	31	25	20	18

LAMPS (number of lamps)

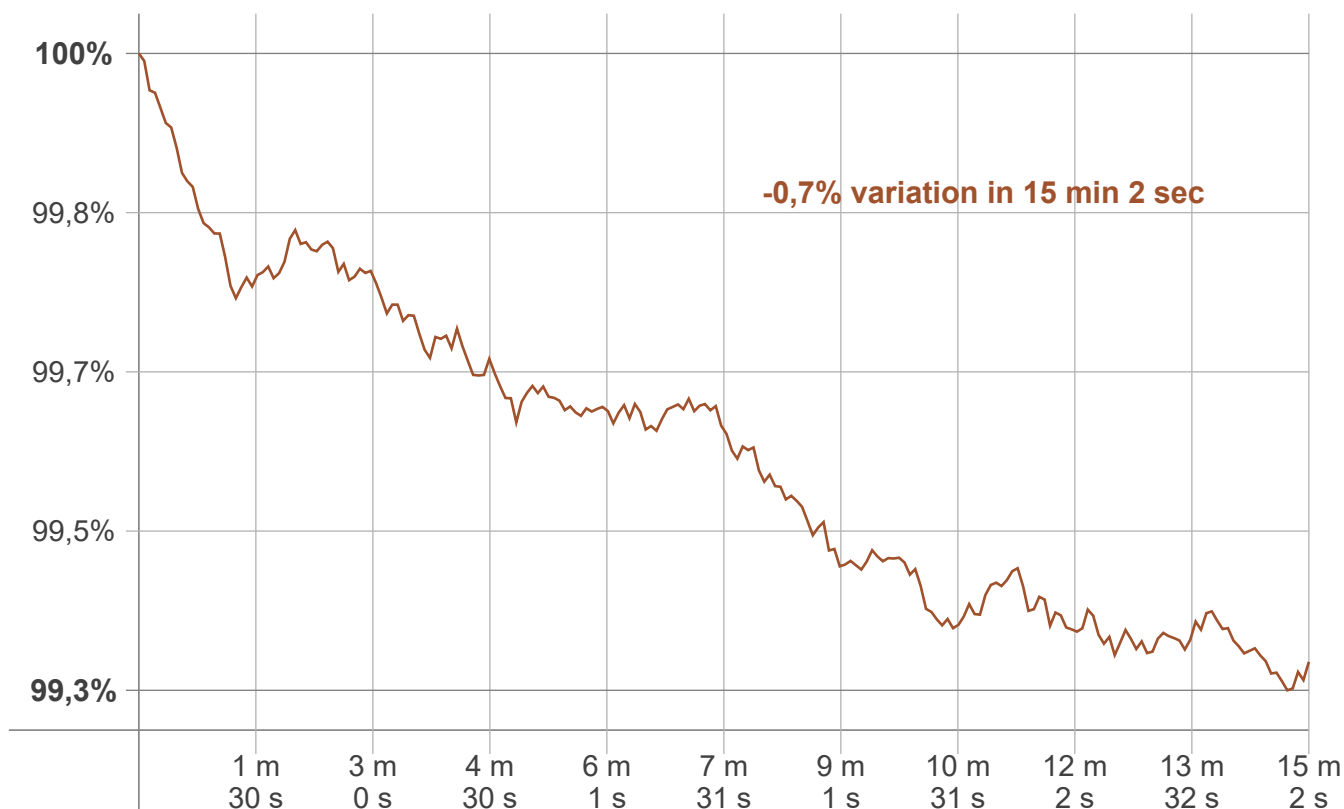
Luminaire budgetary diagram



Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
15,4 lm	44,6 lm	70,7 lm	94,4 lm	119 lm	139 lm	119 lm	61,1 lm	25,0 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0,024 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 2 sec
Warmup variation	-0,7%

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
2750 K	-1 K	2749 K

Output change

Output start	Output change	Output end
691 lm	-3 lm	687 lm