

Light efficiency:



Light quality:



Color temperature:

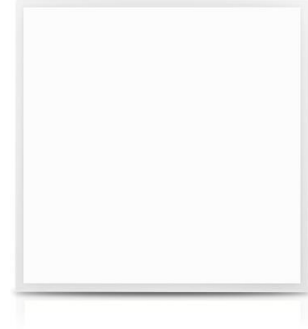


Output: 4033 lm

Peak: 2032 cd

Power: 32,7 W

PF: 0,95



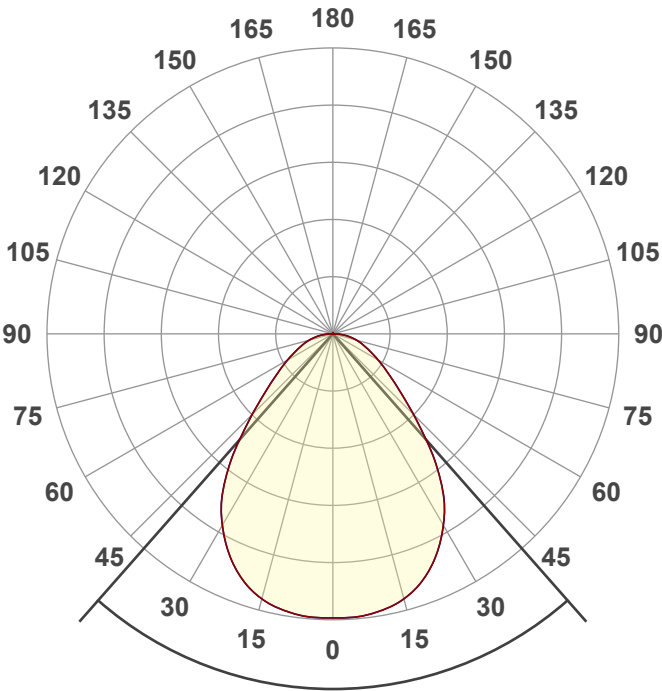
Tracking number: [n/a](#)

Product name:
273603-4000K

Item number:
273603-4000K

Date and time:
5-8-2024 08:46:47

Description:
**SIDE-LIT LED PANEEL | LUNA |
60X60CM | 30W**

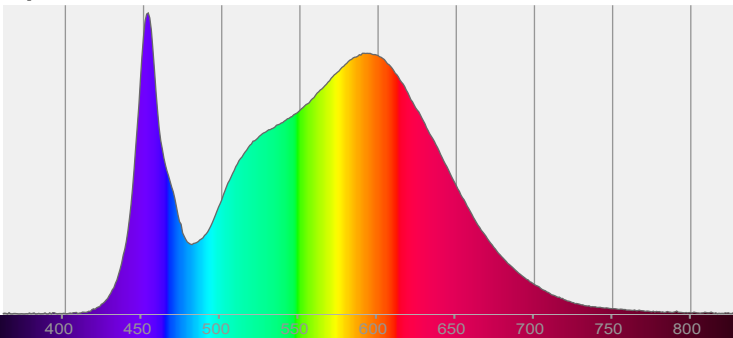


Beam angle **82,7°**

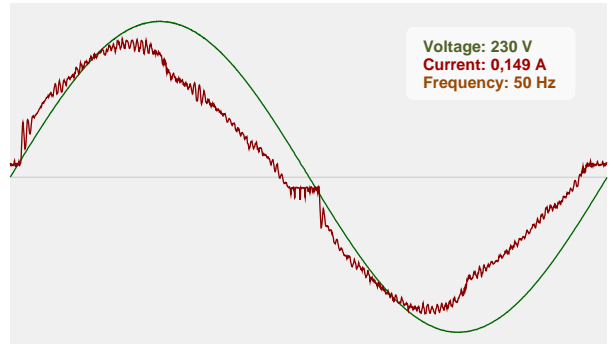


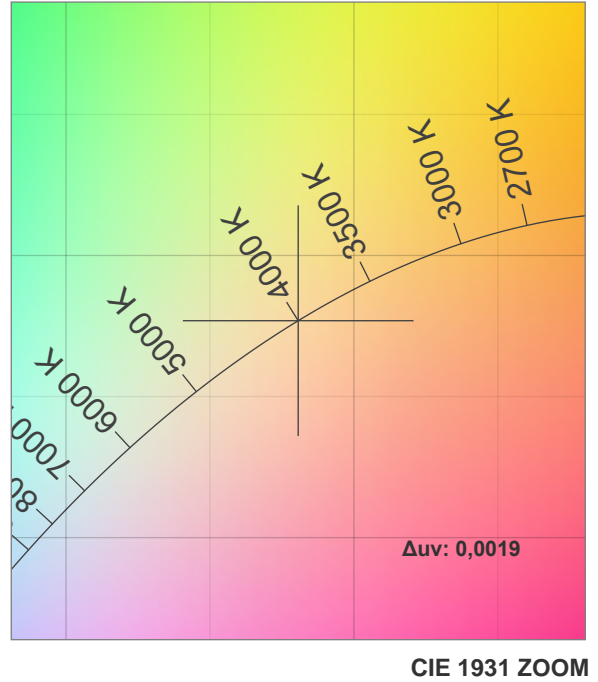
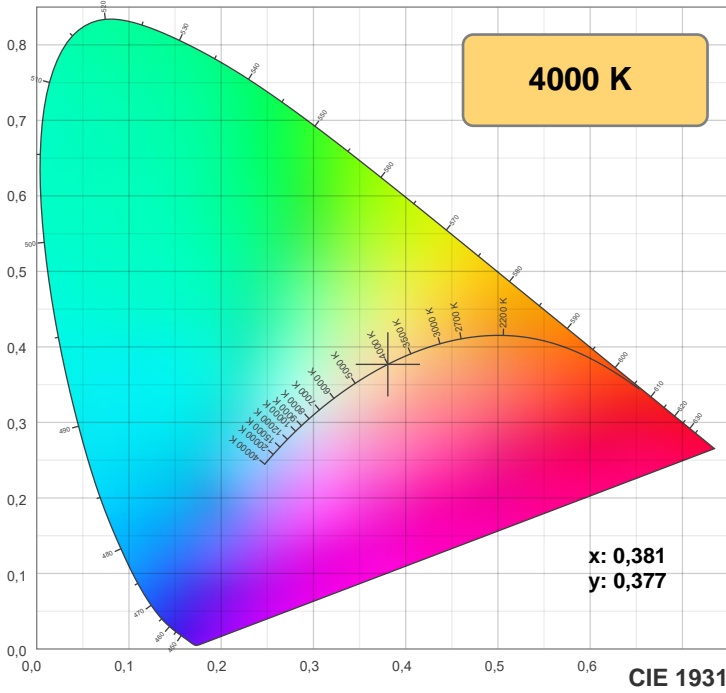
CIE 1931
x: 0,381
y: 0,377

Spectra

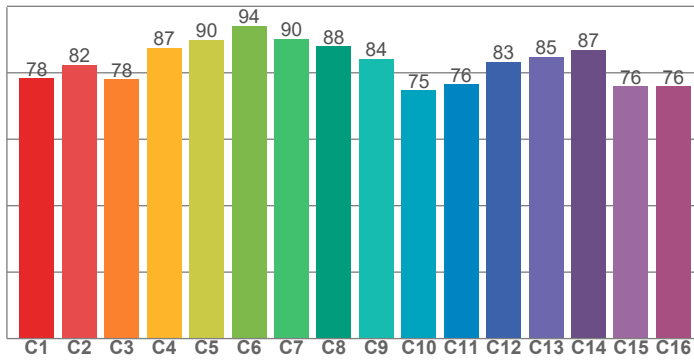


Power

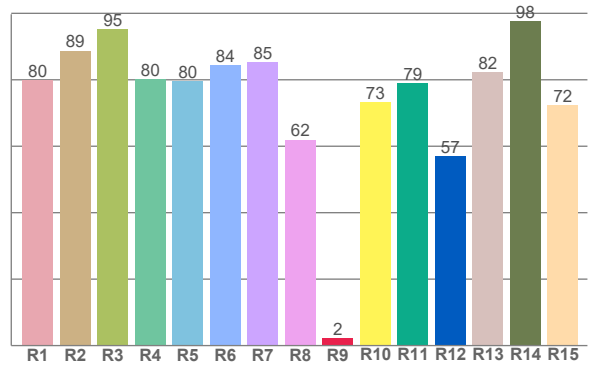




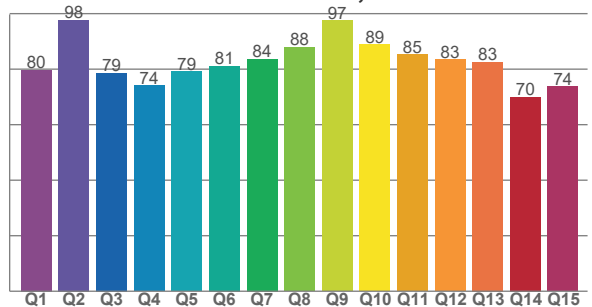
TM-30: 83,0



CRI: 81,9 (R1-R8)



CQS: 81,2



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
79,9	88,8	95,2	80,2	79,5	84,3	85,3	62,0	2,1	73,3	79,1	57,0	82,2	97,6	72,3

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
78,3	82,4	78,1	87,5	90,0	94,2	90,2	87,9	84,2	74,7	76,4	83,2	84,9	86,9	75,9	75,9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
79,7	97,7	78,5	74,1	79,1	81,2	83,7	87,9	97,5	89,0	85,2	83,4	82,5	69,9	73,7

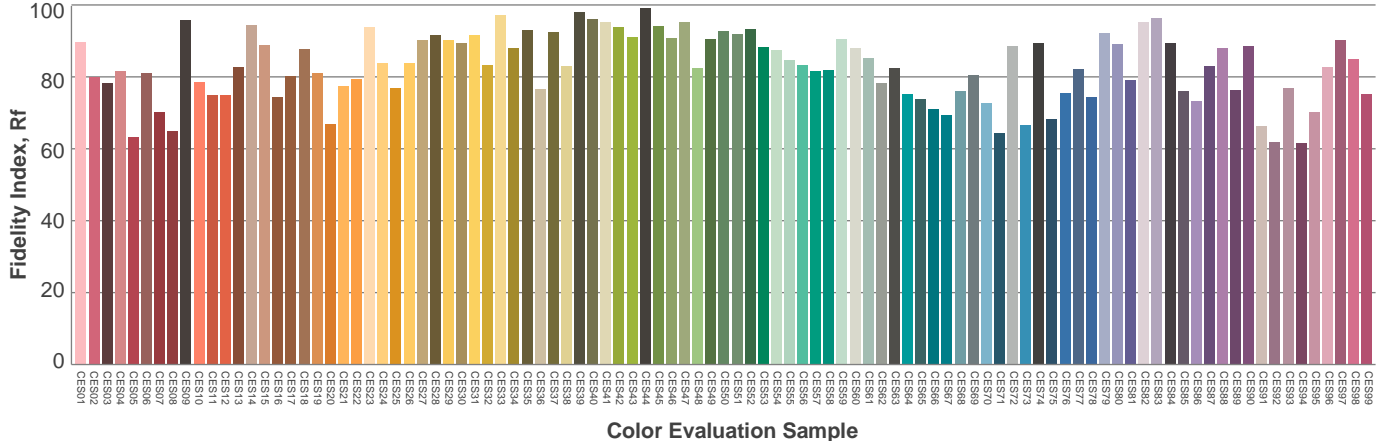
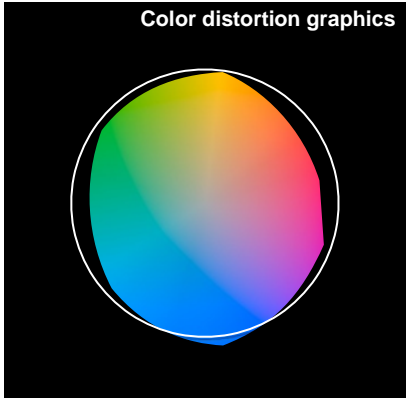
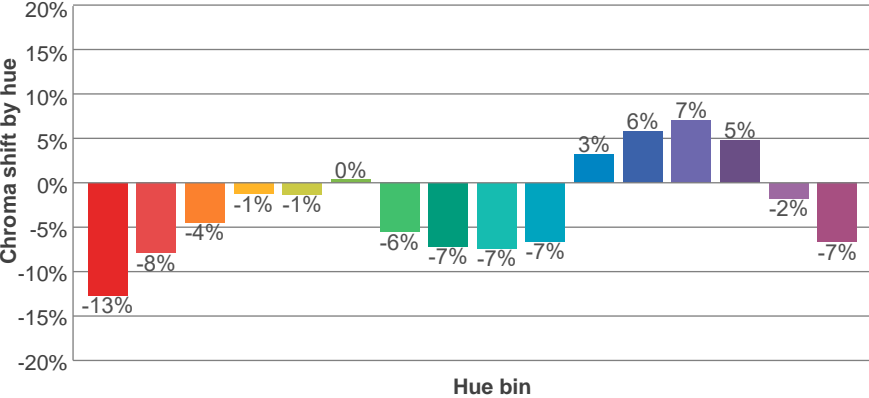
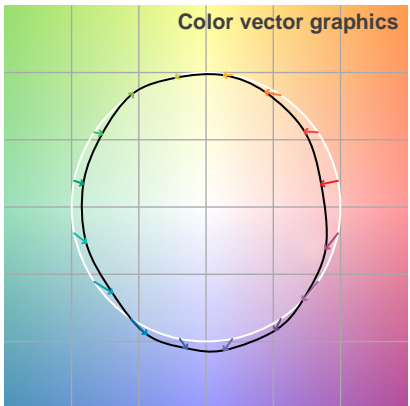
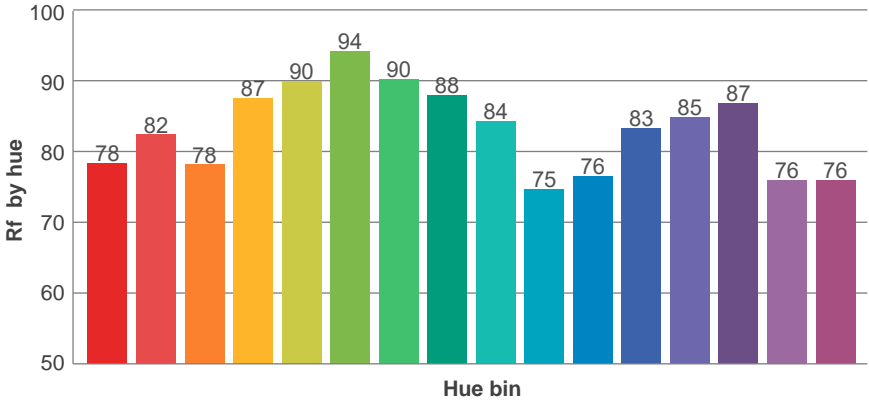
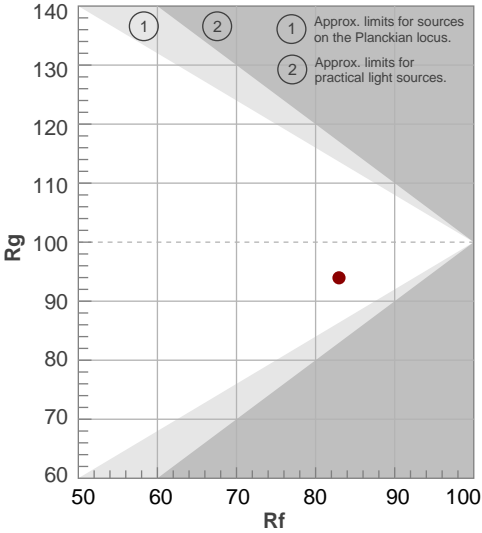
Color parameters

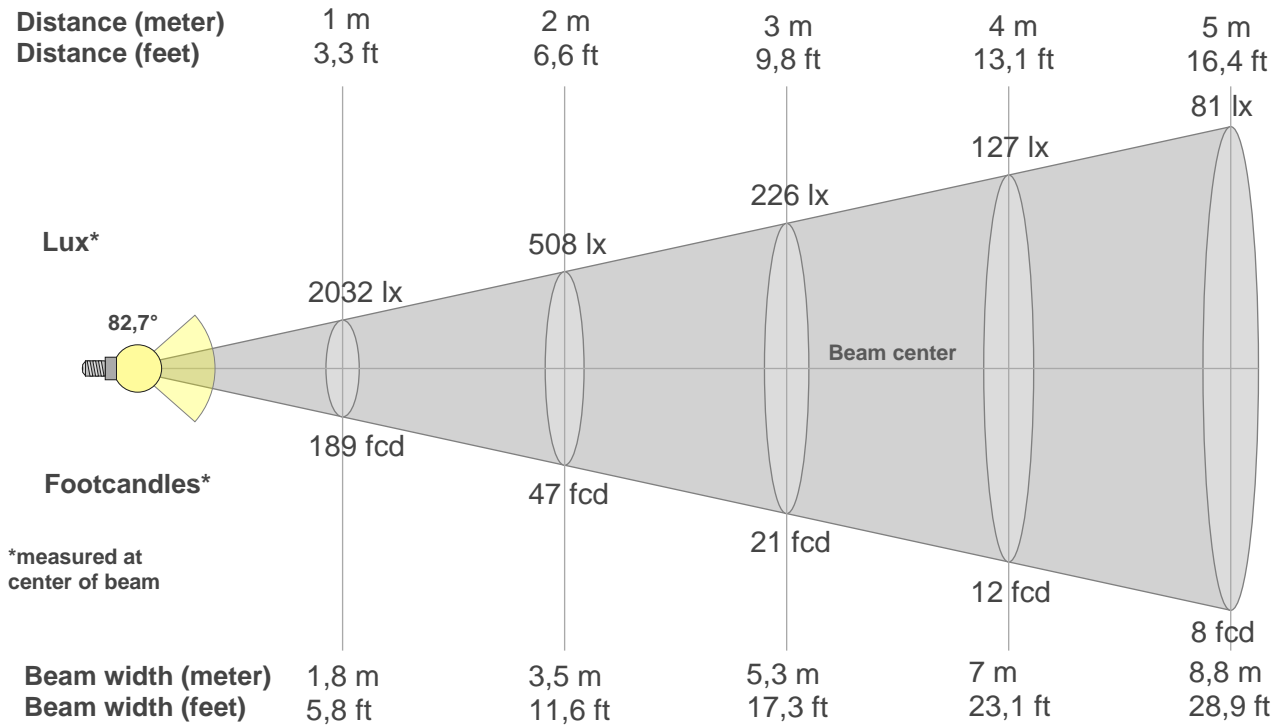
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
4000 K	81,9	2,1	83,0	94,0	81,2	0,381	0,377	0,225	0,334	0,0019

Rf 83,0
Fidelity index Rf

Rg 94,0
Gamut index Rg

Hue Bin	R _f	Shifts (%)	
		Chroma	Hue
1	78	-13%	0%
2	82	-8%	6%
3	78	-4%	11%
4	87	-1%	6%
5	90	-1%	3%
6	94	0%	-2%
7	90	-6%	-2%
8	88	-7%	1%
9	84	-7%	9%
10	75	-7%	14%
11	76	3%	15%
12	83	6%	6%
13	85	7%	-7%
14	87	5%	-8%
15	76	-2%	-18%
16	76	-7%	-13%





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
2032lx	508lx	226lx	127lx	81lx	56lx	41lx	32lx	25lx	20lx	17lx	14lx	12lx	10lx	9lx	8lx	7lx	6lx	6lx	5lx
188,8fcd	47,2fcd	21fcd	11,8fcd	7,6fcd	5,2fcd	3,9fcd	3fcd	2,3fcd	1,9fcd	1,6fcd	1,3fcd	1,1fcd	1fcd	0,8fcd	0,7fcd	0,7fcd	0,6fcd	0,5fcd	0,5fcd

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°
2032	2029	2006	1959	1873	1745	1577	1367	1095	822	618	477	376	294	230	176	121	67	19	2
100%	100%	99%	96%	92%	86%	78%	67%	54%	40%	30%	23%	18%	14%	11%	9%	6%	3%	1%	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°
2032	2029	2006	1959	1873	1745	1577	1367	1095	822	618	477	376	294	230	176	121	67	19	2
100%	100%	99%	96%	92%	86%	78%	67%	54%	40%	30%	23%	18%	14%	11%	9%	6%	3%	1%	0%

Intensities in 180° c-plane

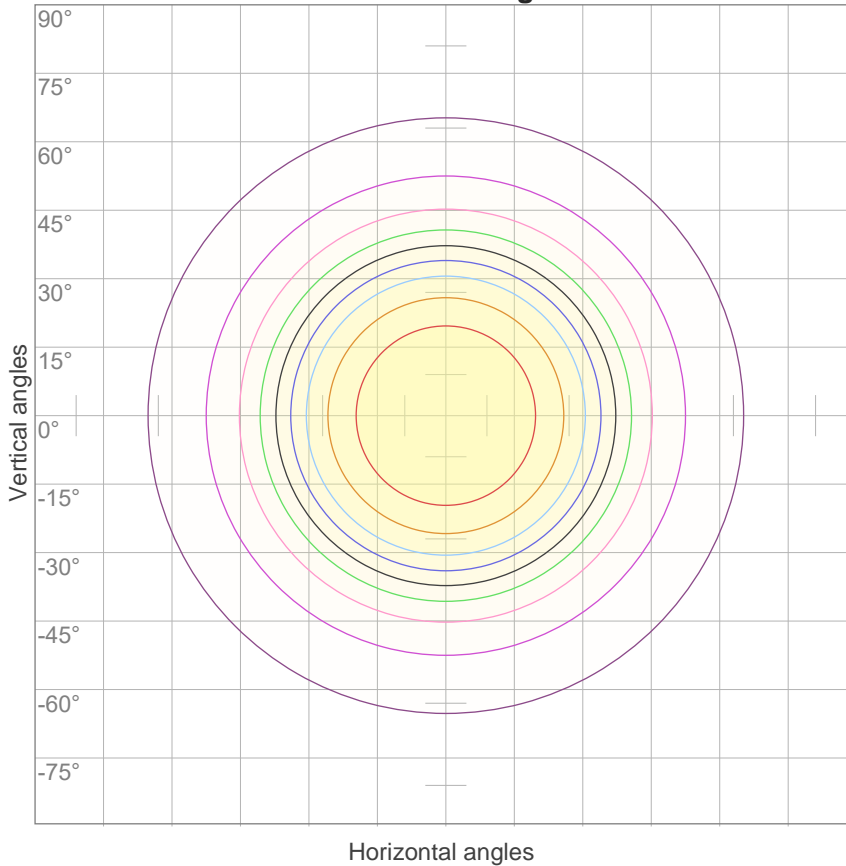
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
2032	2029	2006	1959	1873	1745	1577	1367	1095	822	618	477	376	294	230	176	121	67	19	2
100%	100%	99%	96%	92%	86%	78%	67%	54%	40%	30%	23%	18%	14%	11%	9%	6%	3%	1%	0%

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°
2032	2029	2006	1959	1873	1745	1577	1367	1095	822	618	477	376	294	230	176	121	67	19	2
100%	100%	99%	96%	92%	86%	78%	67%	54%	40%	30%	23%	18%	14%	11%	9%	6%	3%	1%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
82,7°	145°	172,9°	85,8%	68,0%

iso-candela diagram



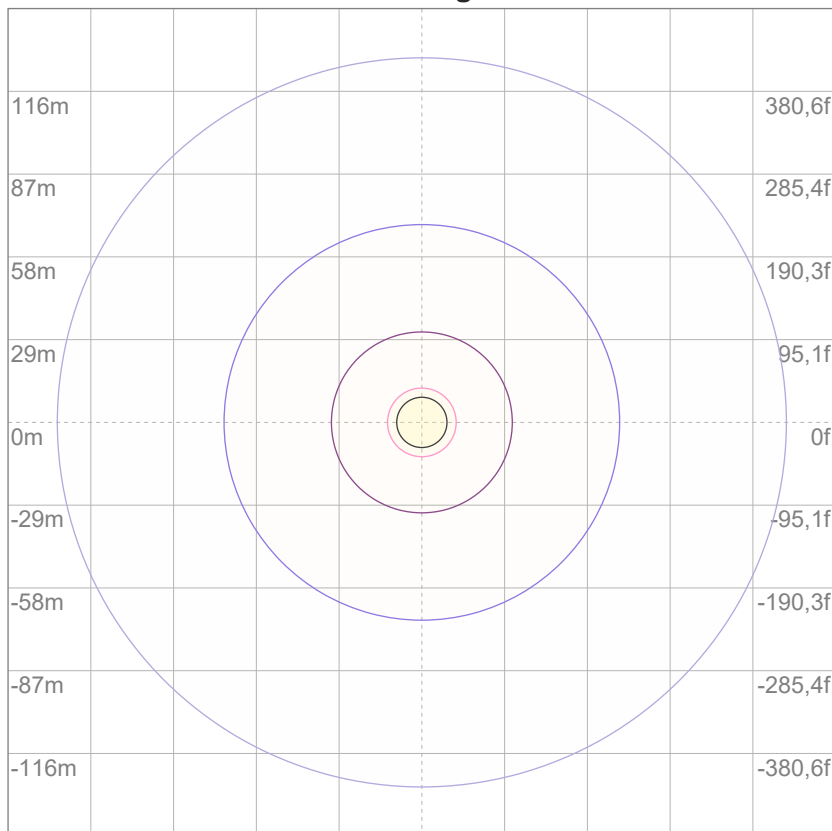
10%	203 cd
20%	406 cd
30%	610 cd
40%	813 cd
50%	1016 cd
60%	1219 cd
70%	1423 cd
80%	1626 cd
90%	1829 cd

Conditions:

Number of c-planes: 12

Candela at center: 2032 cd

iso-lux diagram



3%	0,610 lx
5%	1,02 lx
10%	2,03 lx
30%	6,10 lx
50%	10,2 lx

Conditions:

Number of c-planes: 12

Lux at center: 20,3 lx

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

Glare evaluation according to UGR

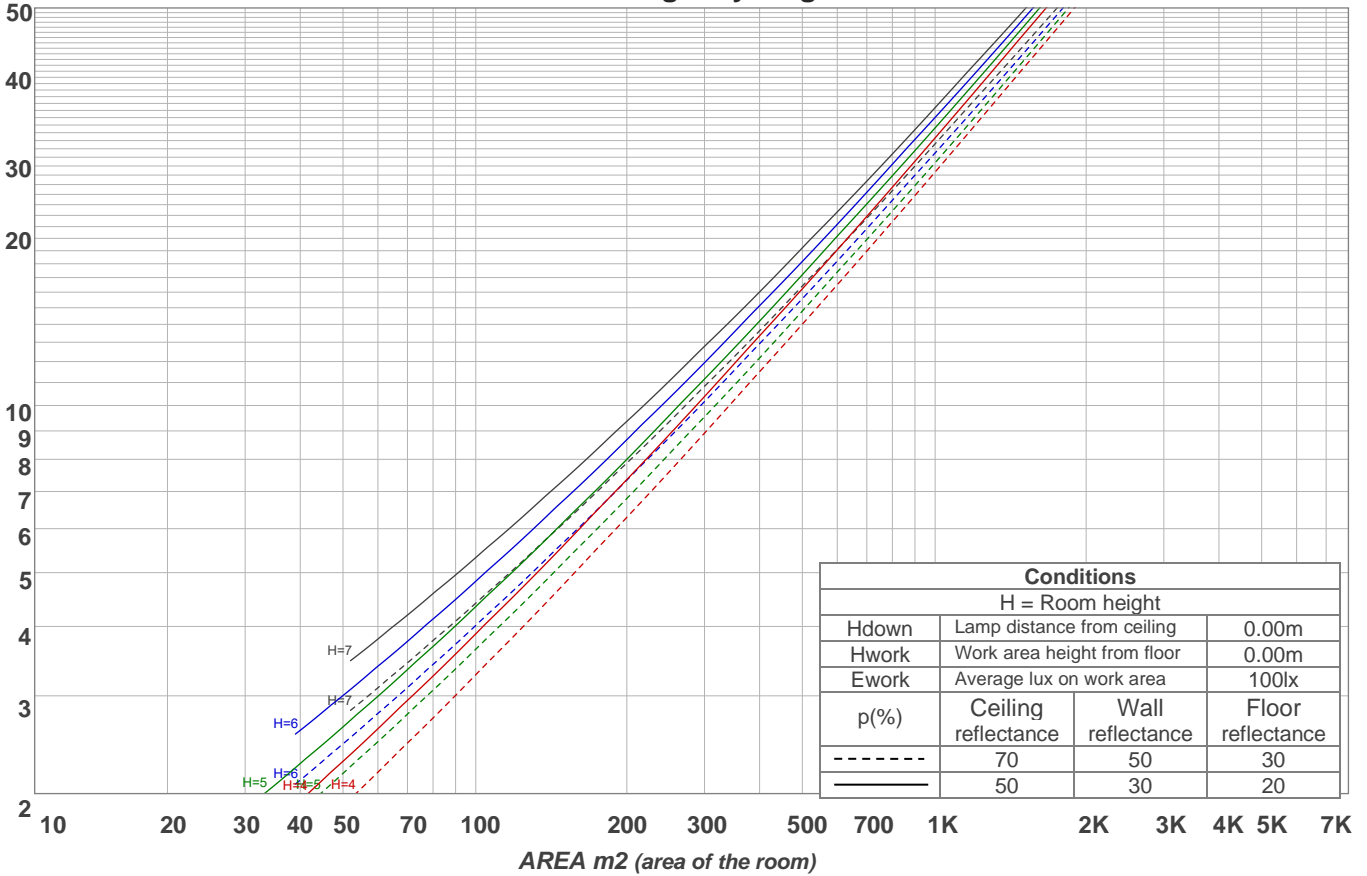
p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	15,4	16,4	15,6	16,7	16,9	15,4	16,4	15,6	16,7	16,9
	3H	16,4	17,5	16,8	17,8	18,0	16,4	17,5	16,8	17,8	18,0
	4H	17,0	18,0	17,4	18,3	18,5	17,0	18,0	17,4	18,3	18,5
	6H	17,5	18,5	17,9	18,8	19,1	17,5	18,5	17,9	18,8	19,1
	8H	17,8	18,7	18,1	19,0	19,4	17,8	18,7	18,1	19,0	19,4
	12H	17,9	18,8	18,3	19,1	19,6	17,9	18,8	18,3	19,1	19,6
4H	2H	15,7	16,8	16,1	17,1	17,3	15,7	16,8	16,1	17,1	17,3
	3H	17,1	18,0	17,5	18,3	18,8	17,1	18,0	17,5	18,3	18,8
	4H	17,8	18,6	18,2	19,0	19,5	17,8	18,6	18,2	19,0	19,5
	6H	18,5	19,2	19,0	19,6	20,0	18,5	19,2	19,0	19,6	20,0
	8H	18,8	19,5	19,3	19,8	20,2	18,8	19,5	19,3	19,8	20,2
	12H	19,0	19,6	19,5	20,0	20,5	19,0	19,6	19,5	20,0	20,5
8H	4H	18,1	18,8	18,6	19,2	19,5	18,1	18,8	18,6	19,2	19,5
	6H	19,0	19,5	19,5	20,0	20,5	19,0	19,5	19,5	20,0	20,5
	8H	19,4	19,8	19,9	20,4	21,0	19,4	19,8	19,9	20,4	21,0
	12H	19,8	20,1	20,4	20,7	21,3	19,8	20,1	20,4	20,7	21,3
12H	4H	18,1	18,7	18,6	19,1	19,6	18,1	18,7	18,6	19,1	19,6
	6H	19,1	19,5	19,6	20,1	20,7	19,1	19,5	19,6	20,1	20,7
	8H	19,5	19,9	20,1	20,4	21,0	19,5	19,9	20,1	20,4	21,0
Variation of the observer position for the luminaire distance S											
S = 1.0H		0,1 / -0,2					0,1 / -0,2				
S = 1.5H		0,4 / -0,4					0,4 / -0,4				
S = 2.0H		0,8 / -0,6					0,8 / -0,6				
CIE 117-1995. Corrected glare indices referring to 4033 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	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	99			
1	110	106	102	99	107	103	100	97	99	96	94	95	93	91	92	90	88	86			
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	82	79	76	74			
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	70	67	65			
4	87	76	68	62	85	75	67	62	72	66	61	70	65	60	68	63	59	57			
5	81	69	61	55	79	68	60	55	66	59	54	64	58	53	62	57	53	51			
6	75	63	55	49	73	62	54	49	60	53	48	59	53	48	57	52	48	46			
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41			
8	66	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39	37			
9	62	49	42	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34			
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31			

LAMPS (number of lamps)

Luminaire budgetary diagram



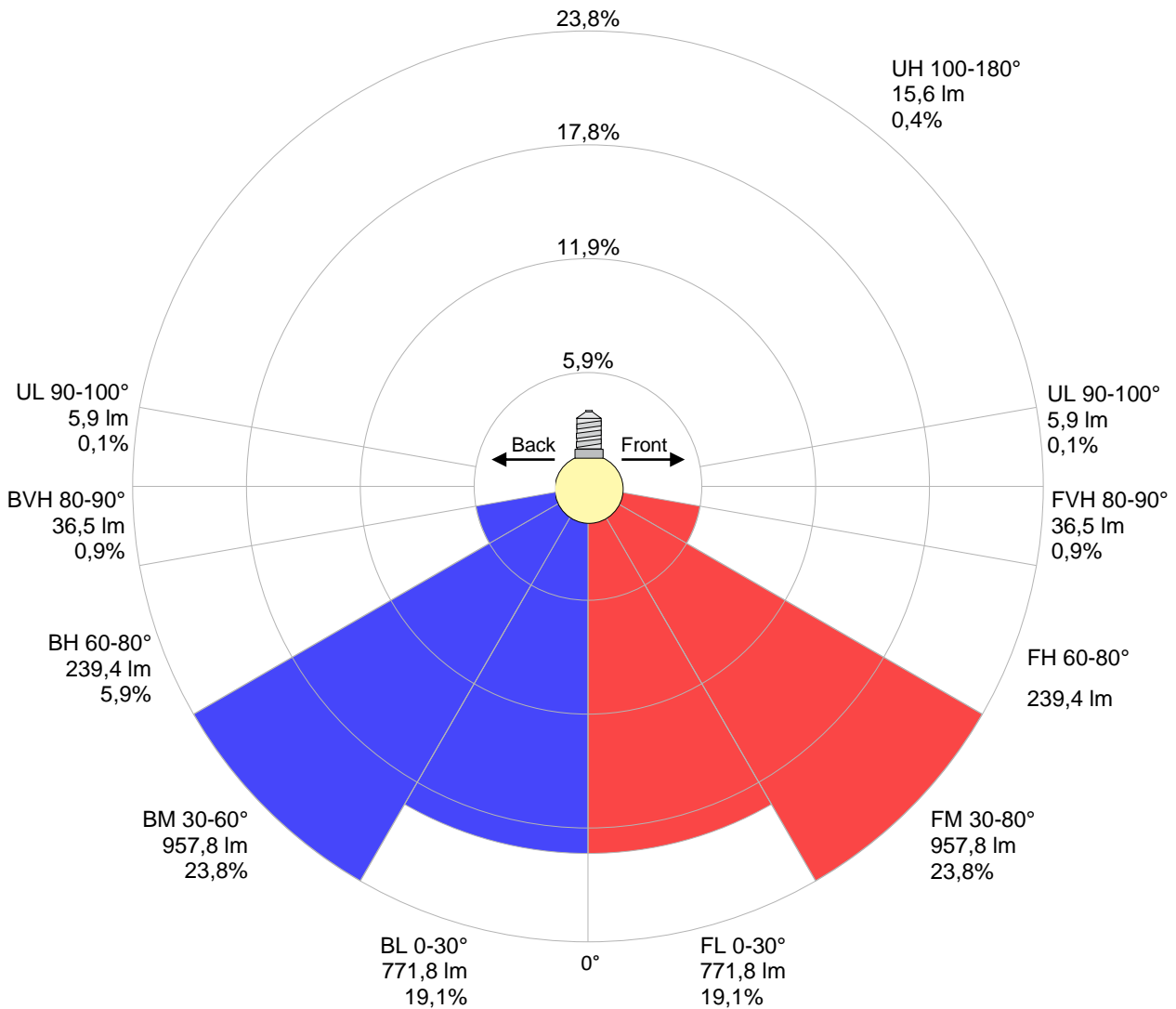
Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
{LUM0-10}	552 lm	800 lm	845 lm	638 lm	431 lm	293 lm	185 lm	72,5 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
5,56 lm	1,68 lm	2,28 lm	2,61 lm	2,75 lm	2,47 lm	1,98 lm	1,39 lm	0,486 lm

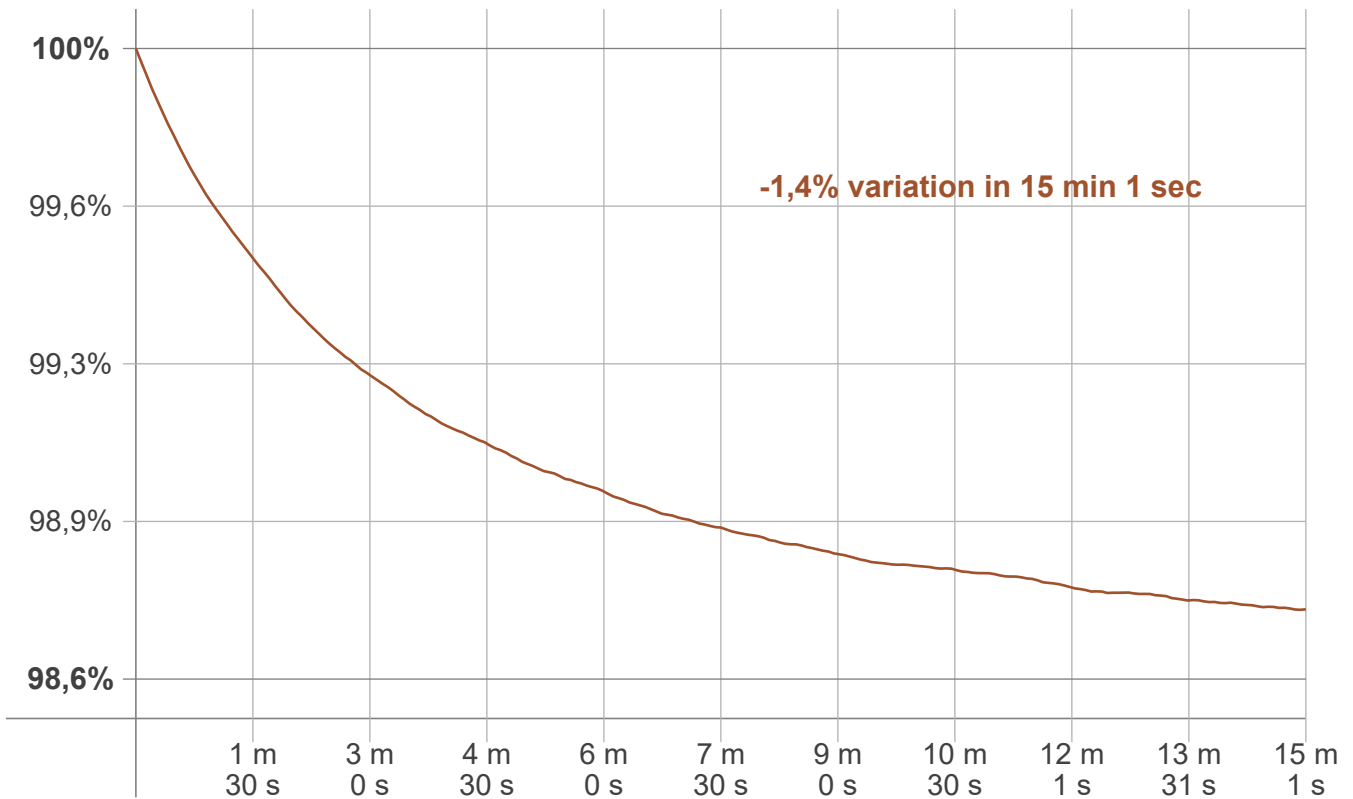
LCS table

BUG rating:	B2 U2 G1	
Forward light	Lumens	Lumens %
Low(0-30):	771,8	19,1%
Medium(30-60):	957,8	23,8%
High(60-80):	239,4	5,9%
Very high(80-90):	36,5	0,9%
Back light		
Low(0-30):	771,8	19,1%
Medium(30-60):	957,8	23,8%
High(60-80):	239,4	5,9%
Very high(80-90):	36,5	0,9%
Uplight		
Low(90-100):	5,9	0,1%
High(100-180):	15,6	0,4%

LCS graph



Warmup curve



Warmup result

Warmup time:	Lamp stabilized in 15 min 1 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
3980 K	+20 K	4000 K

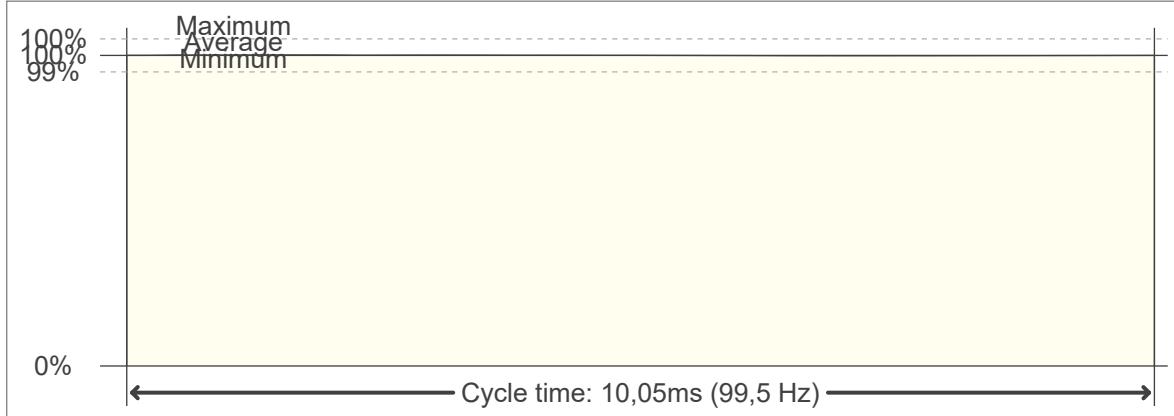
Output change

Output start	Output change	Output end
4087 lm	-54 lm	4033 lm

Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

Flicker frequency:		99,5 Hz	
Flicker index:	0	JA8/10 40Hz	0,02 %
Flicker percentage:	0,23 %	JA8/10 90Hz	0,03 %
SVM: (Visual flicker)	0,01	JA8/10 200Hz	0,18 %
PstLM	0,01	JA8/10 400Hz	0,19 %
Mp	0,01	JA8/10 1000Hz	0,22 %

Flicker conditions:

Sample rate:	20000 samples/second
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