Light efficiency:

106 Lumen/Watt

Light quality:

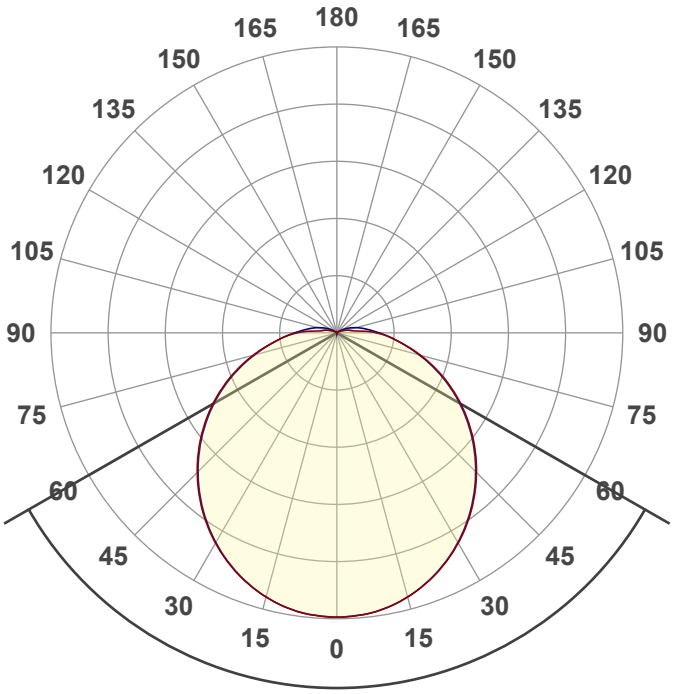
CRI: 82,2

Color temperature:

4000 K

Output: 892 lm
Peak: 255 cd

Power: 8,4 W
PF: 0,61



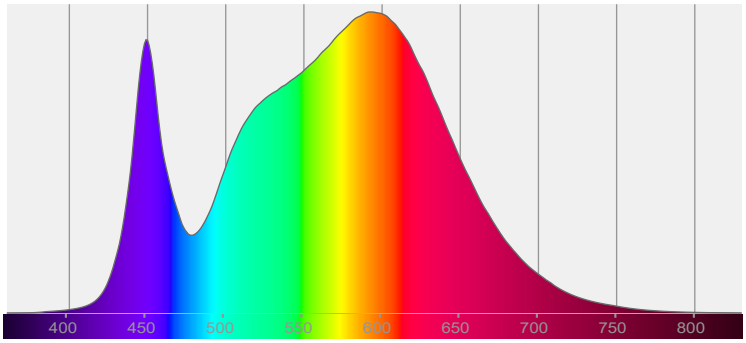
Beam angle 120,3°

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

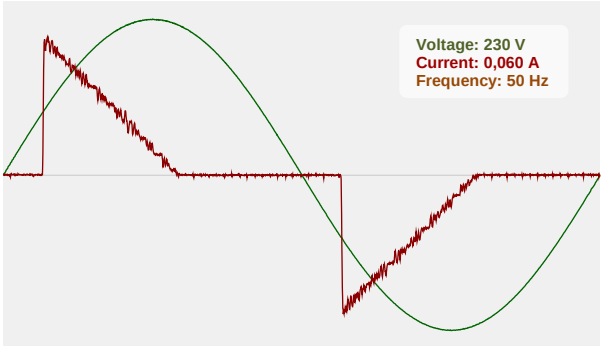
Tracking number: VT240919-004610

Product name:
273696-4000K
Item number:
273696-4000K
Date and time:
19-9-2024 09:19:46
Description:
LED BULKHEAD ROND 8W

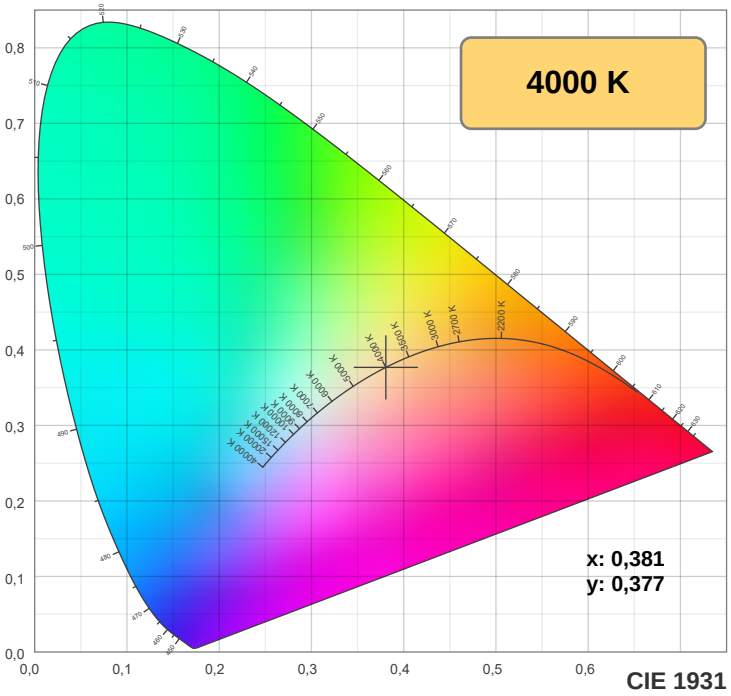
Spectra



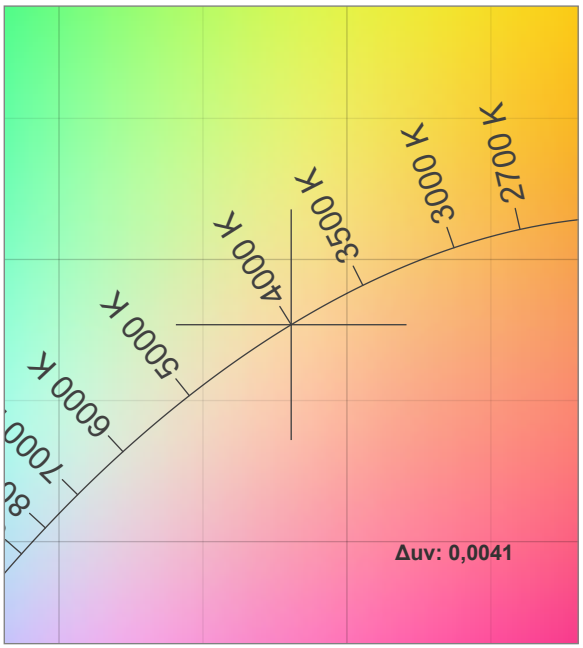
Power



Color details

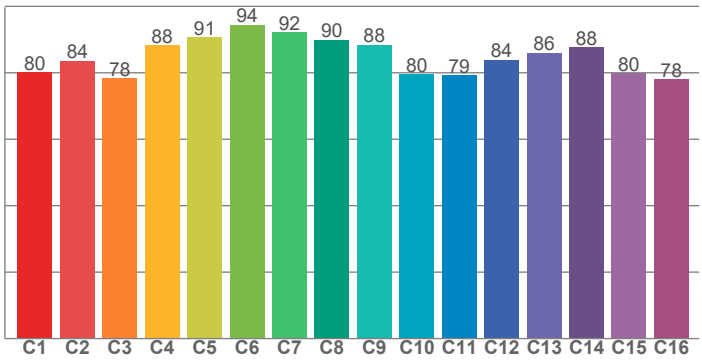


CIE 1931

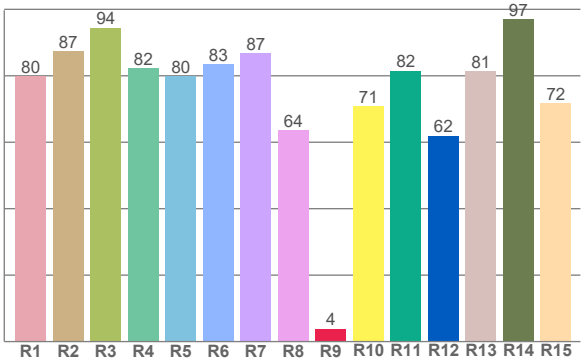


CIE 1931 ZOOM

TM-30: 84,8



CRI: 82,2 (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
79,8	87,3	94,5	82,3	79,9	83,4	86,7	63,6	3,9	70,8	81,5	61,9	81,4	96,9	71,8

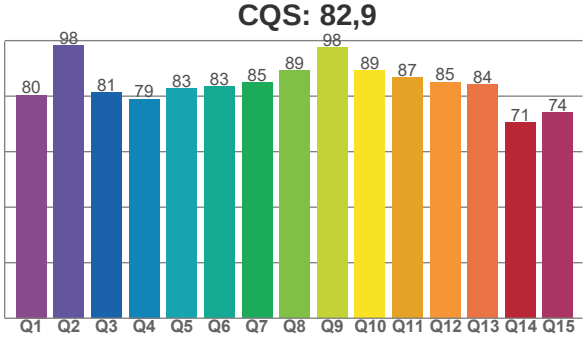
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
80,1	83,6	78,4	88,2	90,7	94,5	92,3	89,9	88,4	79,6	79,3	83,9	86,0	87,6	79,8	78,1

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
80,5	98,2	81,2	79,0	82,7	83,5	85,0	89,3	97,6	89,2	86,8	85,1	84,1	70,6	74,2

CQS: 82,9



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 diviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
4000 K	82,2	3,9	84,8	95,5	82,9	0,381	0,377	0,225	0,334	0,0041

TM-30 details

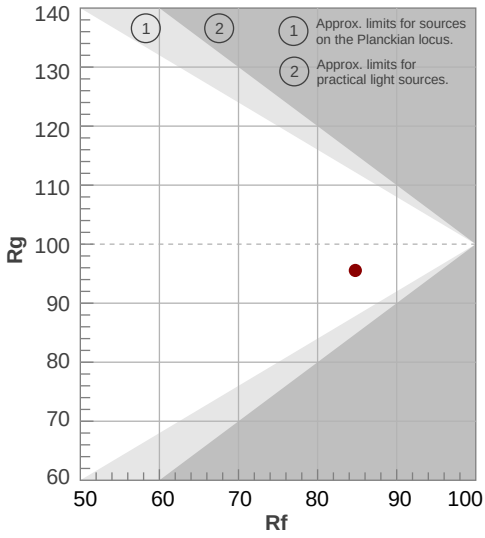
Rf 84,8

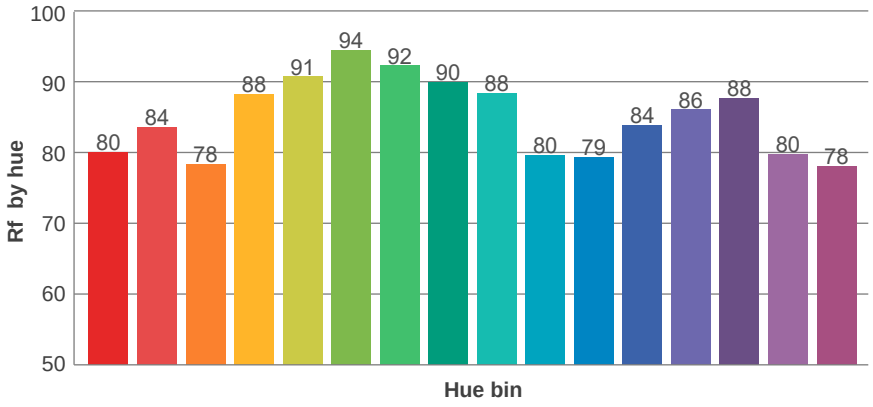
Fidelity index Rf

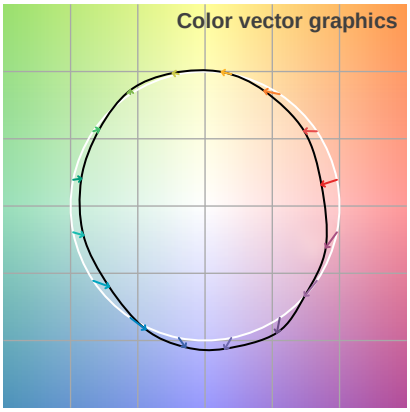
Rg 95,5

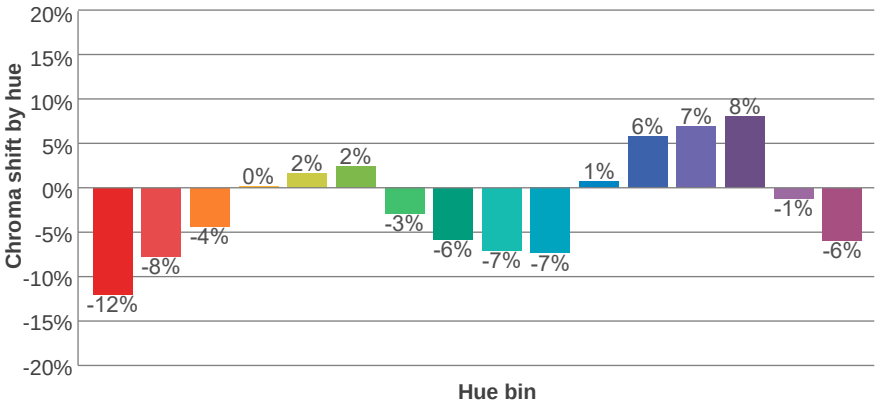
Gamut index Rg

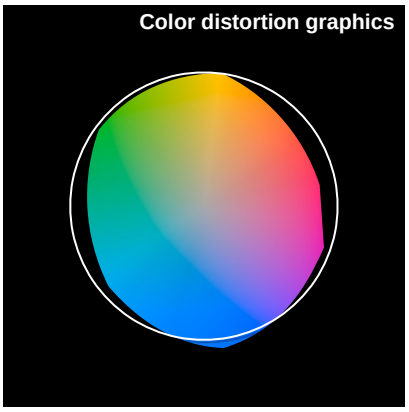
		Shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	80	-12%	-1%
2	84	-8%	5%
3	78	-4%	11%
4	88	0%	7%
5	91	2%	4%
6	94	2%	-2%
7	92	-3%	-4%
8	90	-6%	-2%
9	88	-7%	4%
10	80	-7%	10%
11	79	1%	14%
12	84	6%	6%
13	86	7%	-6%
14	88	8%	-8%
15	80	-1%	-14%
16	78	-6%	-13%

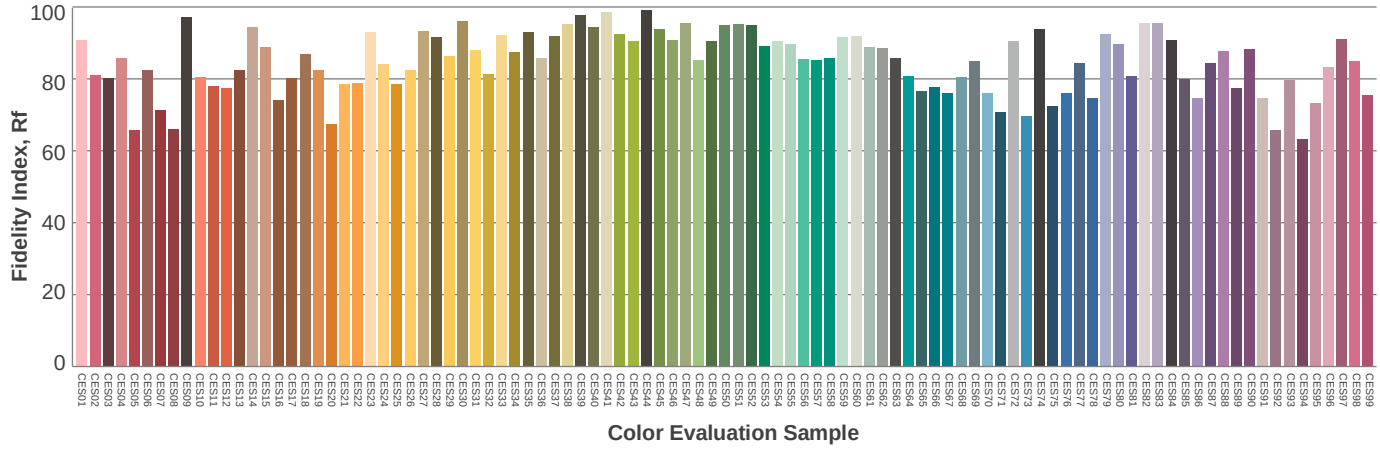




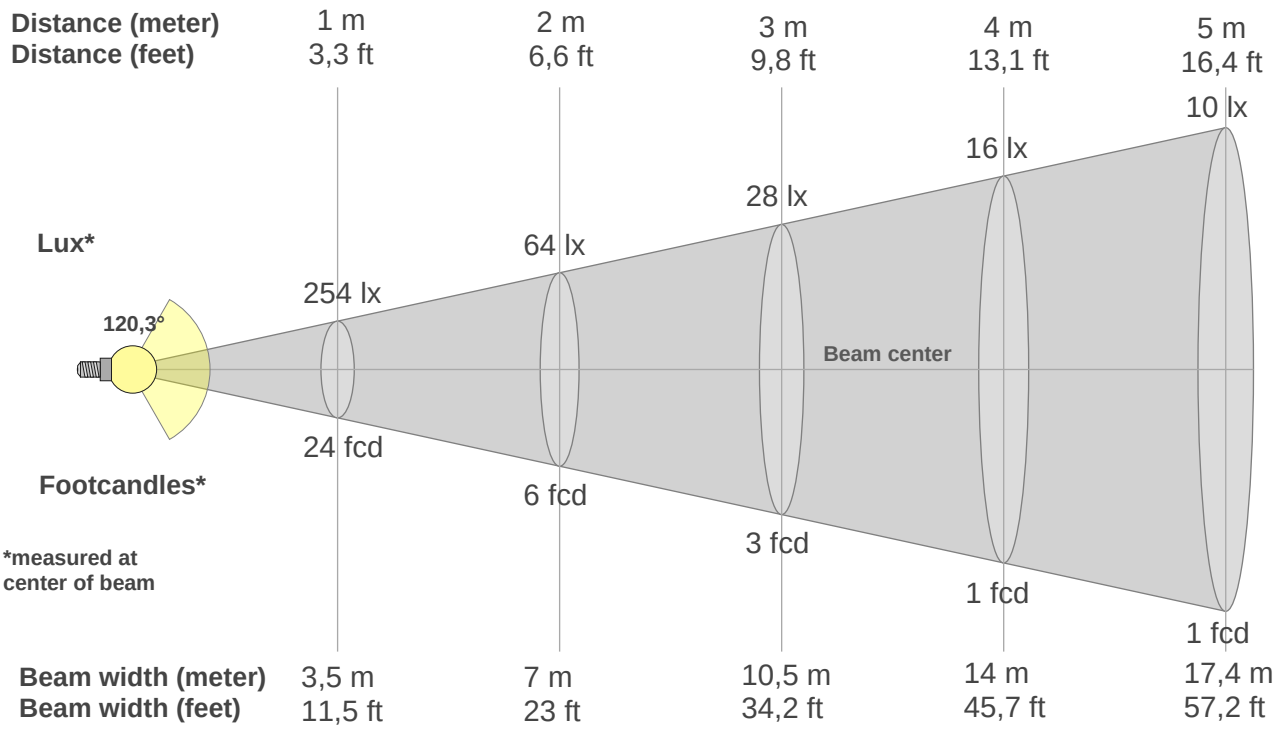








Beam details



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
254lx	64lx	28lx	16lx	10lx	7lx	5lx	4lx	3lx	3lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx
23,6fcd	5,9fcd	2,6fcd	1,5fcd	0,9fcd	0,7fcd	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°	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°	99°	108°	117°	126°	135°	144°	153°	162°	171°
254	251	240	224	202	177	148	118	88	59	35	13	7	2	0	0	0	0	0	0
100%	99%	95%	88%	80%	69%	58%	47%	34%	23%	14%	5%	3%	1%	0%	0%	0%	0%	0%	0%

Intensities in 90° c-plane

0°	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°	99°	108°	117°	126°	135°	144°	153°	162°	171°
254	251	240	223	201	176	147	117	86	59	38	25	15	7	3	0	0	0	0	0
100%	99%	94%	88%	79%	69%	58%	46%	34%	23%	15%	10%	6%	3%	1%	0%	0%	0%	0%	0%

Intensities in 180° c-plane

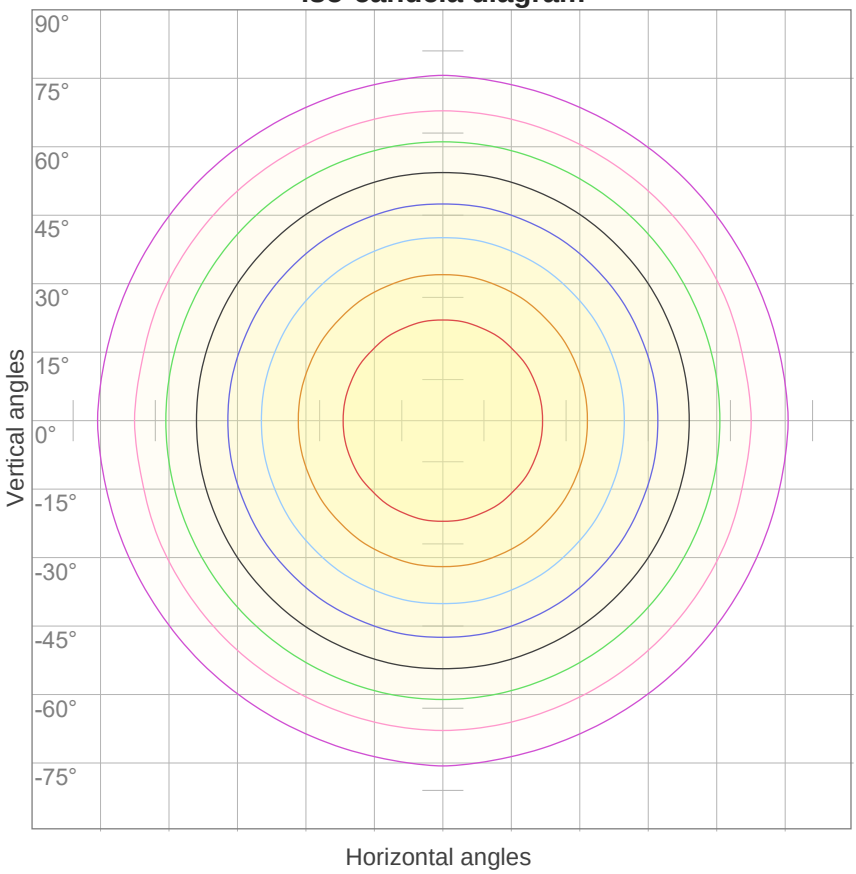
0°	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°	99°	108°	117°	126°	135°	144°	153°	162°	171°
254	251	240	224	202	177	148	118	88	59	35	13	7	2	0	0	0	0	0	0
100%	99%	95%	88%	80%	69%	58%	47%	34%	23%	14%	5%	3%	1%	0%	0%	0%	0%	0%	0%

Intensities in 270° c-plane

0°	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°	99°	108°	117°	126°	135°	144°	153°	162°	171°
254	251	240	223	201	176	147	117	86	59	38	25	15	7	3	0	0	0	0	0
100%	99%	94%	88%	79%	69%	58%	46%	34%	23%	15%	10%	6%	3%	1%	0%	0%	0%	0%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
120,3°	195°	231,6°	66,4%	44,3%

iso-candela diagram



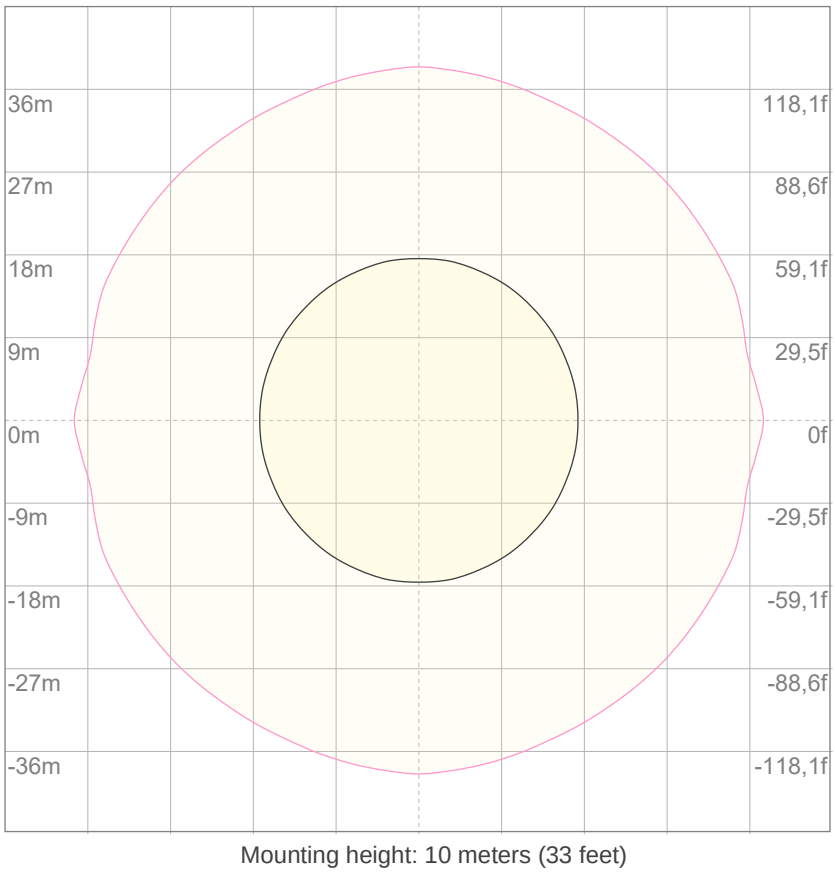
10%	25 cd
20%	51 cd
30%	76 cd
40%	102 cd
50%	127 cd
60%	153 cd
70%	178 cd
80%	204 cd
90%	229 cd

Conditions:

Number of c-planes: 32

Candela at center: 254 cd

iso-lux diagram



3%	76,3m lx
5%	0,127 lx
10%	0,254 lx
30%	0,763 lx
50%	1,27 lx

Conditions:

Number of c-planes: 32

Lux at center: 2,54 lx

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

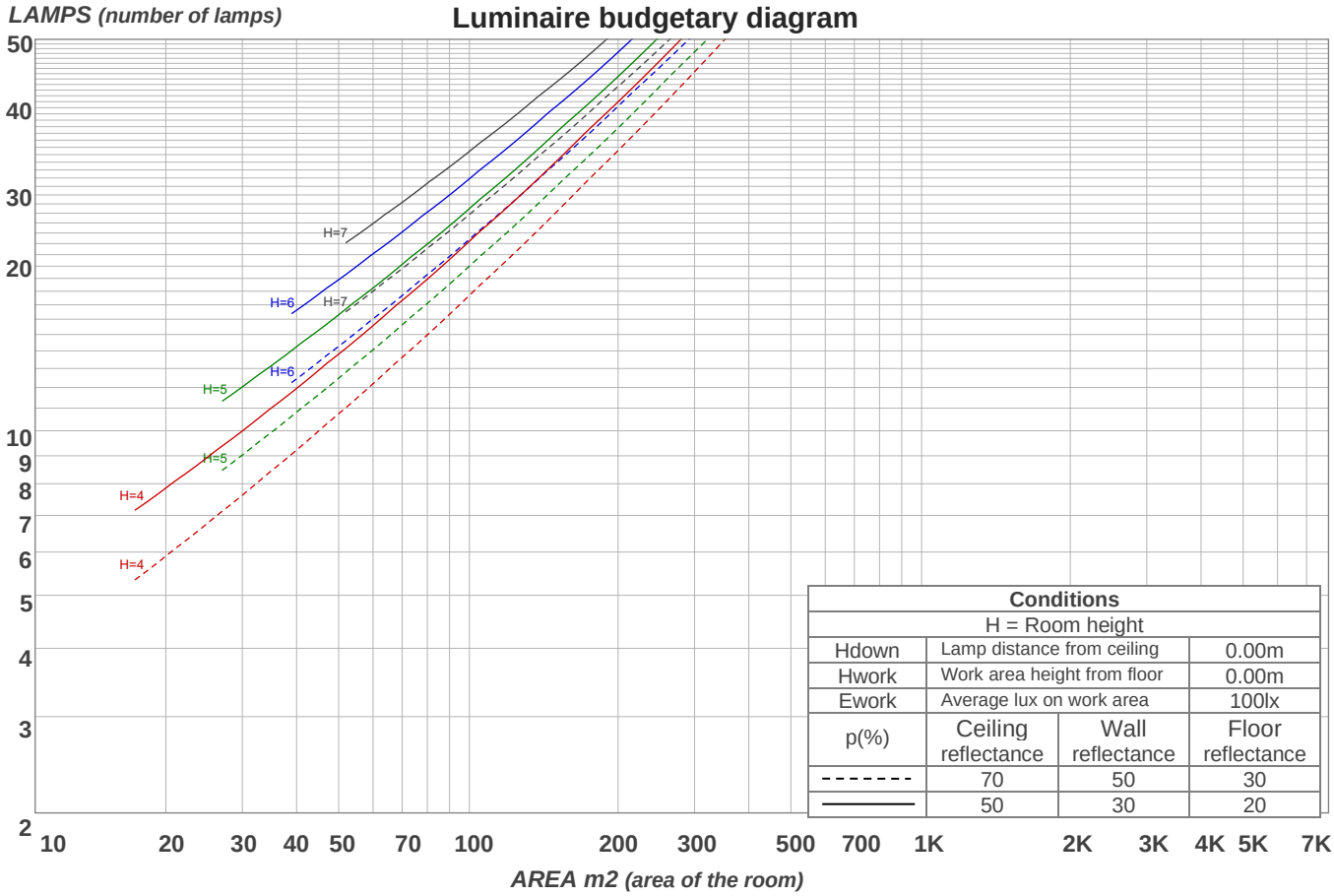
Glare evaluation according to UGR

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	21,6	22,9	22,0	23,3	23,7	21,6	22,8	21,9	23,2	23,6
	3H	23,4	24,6	23,9	25,0	25,4	23,3	24,6	23,8	25,0	25,3
	4H	24,2	25,4	24,7	25,8	26,2	24,1	25,4	24,6	25,8	26,1
	6H	25,1	26,1	25,5	26,5	27,0	25,0	26,1	25,4	26,5	27,0
	8H	25,4	26,5	25,9	26,9	27,4	25,3	26,4	25,8	26,8	27,3
	12H	25,8	26,8	26,2	27,2	27,8	25,7	26,7	26,2	27,2	27,7
4H	2H	22,3	23,5	22,8	23,9	24,3	22,3	23,5	22,8	23,9	24,3
	3H	24,4	25,4	24,8	25,8	26,4	24,3	25,3	24,8	25,8	26,3
	4H	25,3	26,3	25,8	26,7	27,4	25,2	26,2	25,7	26,7	27,3
	6H	26,2	27,1	26,8	27,6	28,1	26,1	27,0	26,7	27,5	28,0
	8H	26,7	27,5	27,2	28,0	28,5	26,6	27,4	27,2	27,9	28,4
	12H	27,1	27,8	27,7	28,3	28,9	27,0	27,7	27,6	28,2	28,8
8H	4H	25,7	26,5	26,3	27,0	27,5	25,6	26,4	26,2	26,9	27,4
	6H	26,8	27,5	27,4	28,0	28,7	26,8	27,4	27,4	28,0	28,6
	8H	27,4	28,0	28,0	28,6	29,3	27,4	27,9	28,0	28,5	29,3
	12H	28,0	28,5	28,7	29,1	29,8	27,9	28,4	28,6	29,0	29,8
12H	4H	25,7	26,4	26,3	26,9	27,5	25,7	26,4	26,2	26,9	27,5
	6H	27,0	27,5	27,6	28,2	28,9	26,9	27,5	27,5	28,1	28,8
	8H	27,6	28,1	28,3	28,7	29,4	27,6	28,1	28,2	28,7	29,4
Variation of the observer position for the luminaire distance S											
S = 1.0H		0,1 / -0,1					0,1 / -0,1				
S = 1.5H		0,1 / -0,1					0,1 / -0,1				
S = 2.0H		0,2 / -0,3					0,2 / -0,3				
CIE 117-1995. Corrected glare indices referring to 892 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	118	118	118	118	114	114	114	114	108	108	108	102	102	102	96	96	96	94
1	105	100	94	90	102	97	92	88	91	87	84	86	83	80	81	79	77	74
2	95	86	78	72	92	83	76	70	79	73	68	74	69	65	70	66	63	60
3	86	75	66	59	83	73	64	58	69	62	56	65	59	54	61	57	52	50
4	79	66	56	49	76	64	55	49	61	53	47	57	51	46	55	49	45	42
5	72	59	49	42	69	57	48	42	54	46	41	51	45	39	49	43	38	36
6	66	53	43	37	64	51	42	36	49	41	35	46	40	34	44	38	34	31
7	62	48	38	32	59	46	38	32	44	37	31	42	35	30	40	34	30	28
8	57	43	35	29	55	42	34	28	40	33	28	39	32	27	37	31	27	25
9	53	40	31	26	52	39	31	25	37	30	25	36	29	24	34	28	24	22
10	50	37	28	23	48	36	28	23	34	27	22	33	27	22	32	26	22	20

Luminaire budgetary diagram



Zonal Lumen Summary

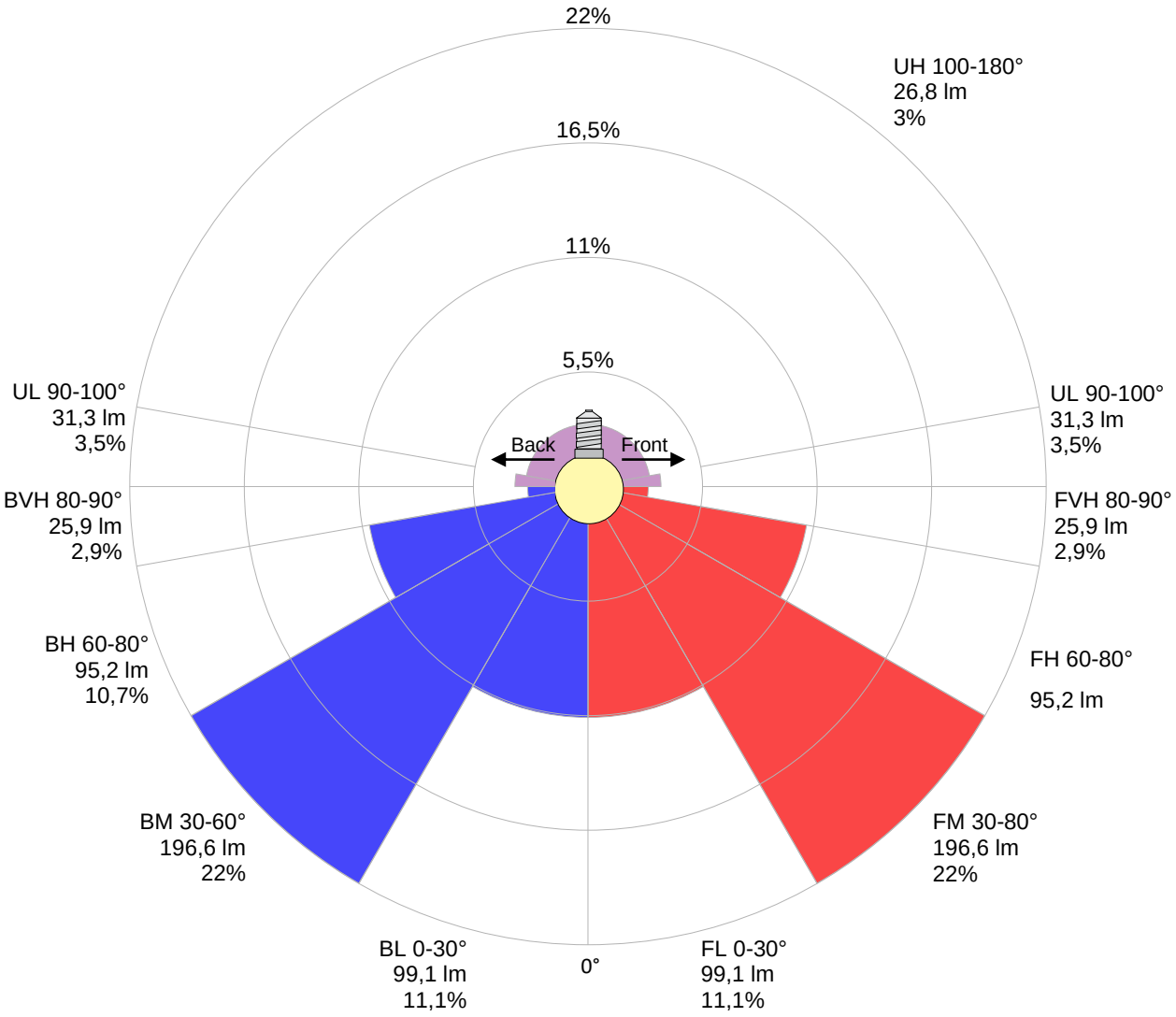
0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
{LUM0-10}	69,2 lm	105 lm	128 lm	136 lm	129 lm	110 lm	80,8 lm	51,4 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
31,2 lm	17,3 lm	7,12 lm	1,64 lm	0,186 lm	0,084 lm	0,067 lm	0,043 lm	0,015 lm

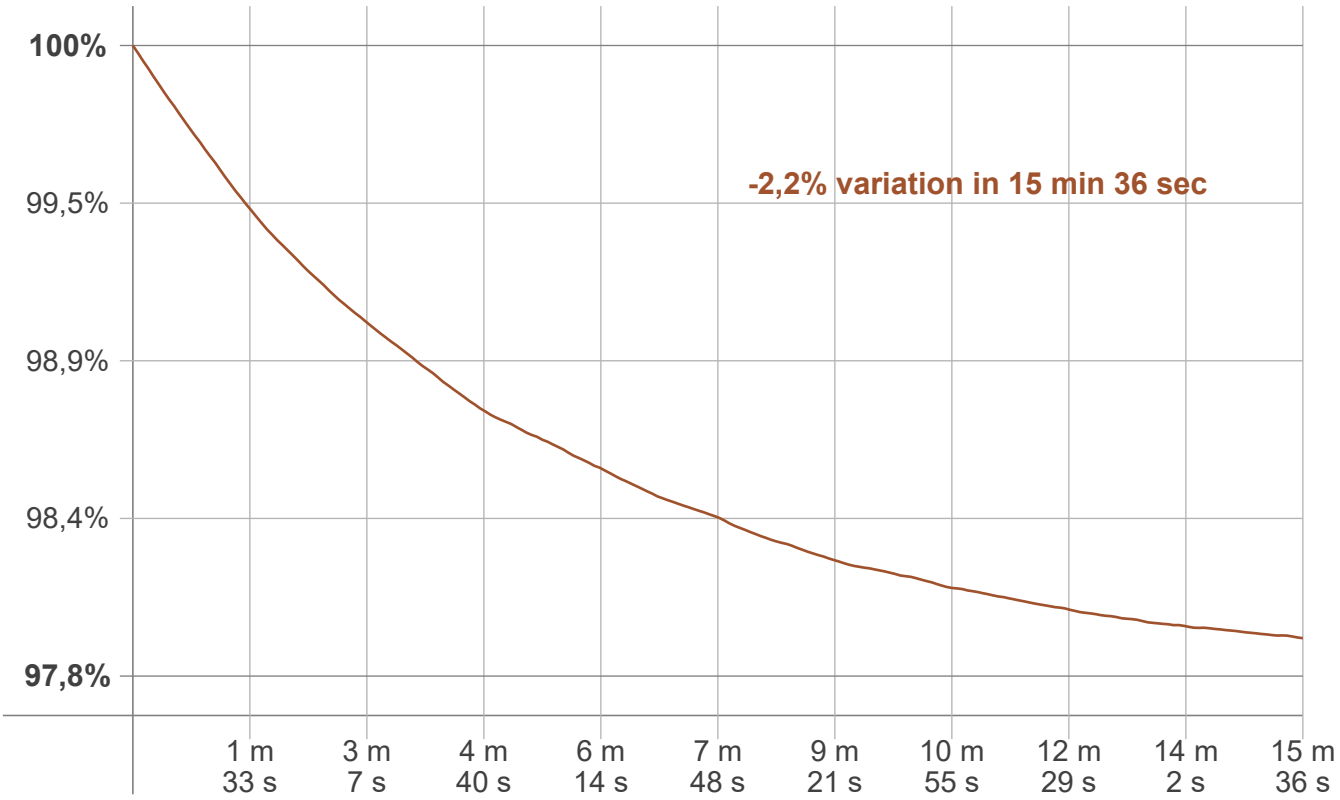
LCS table

BUG rating:	B0 U2 G1	
Forward light	Lumens	Lumens %
Low(0-30):	99,1	11,1%
Medium(30-60):	196,6	22%
High(60-80):	95,2	10,7%
Very high(80-90):	25,9	2,9%
Back light		
Low(0-30):	99,1	11,1%
Medium(30-60):	196,6	22%
High(60-80):	95,2	10,7%
Very high(80-90):	25,9	2,9%
Uplight		
Low(90-100):	31,3	3,5%
High(100-180):	26,8	3%

LCS graph



Warmup curve



Warmup result

Warmup time:	**Lamp stabilized in 15 min 36 sec**
Warmup variation	**-2,2%**

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
3987 K	+13 K	4000 K

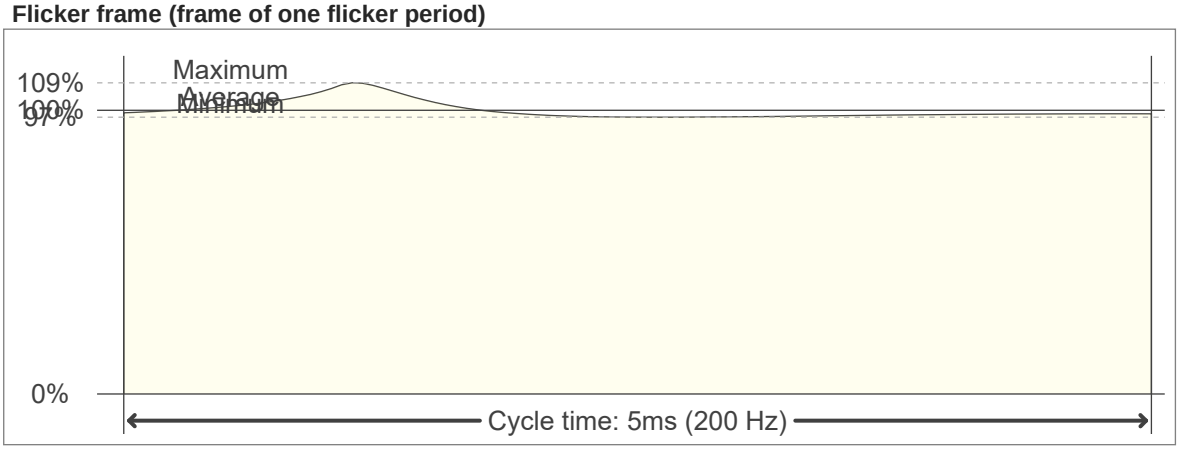
Output change

Output start	Output change	Output end
911 lm	-19 lm	892 lm

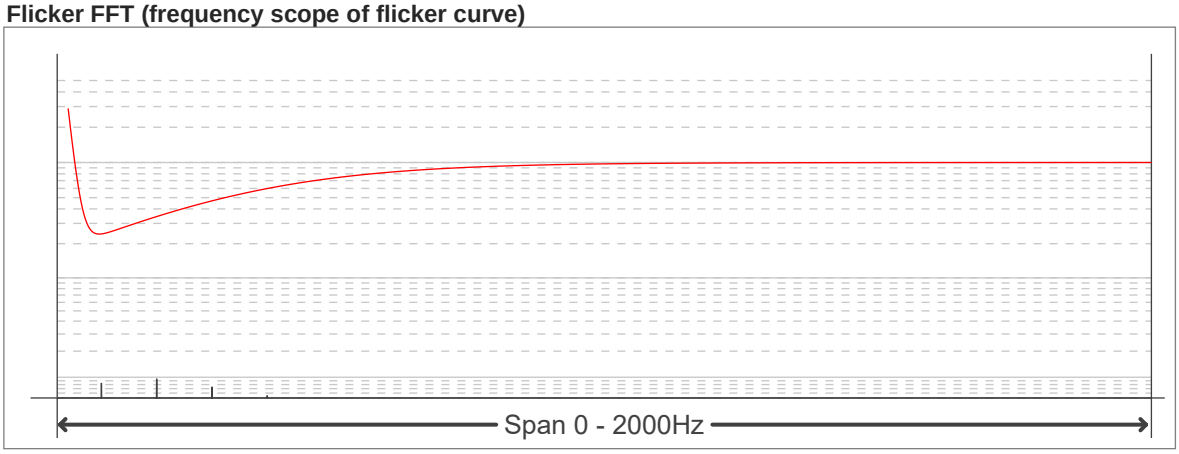
Flicker

Flicker curve (complete sampled flicker signal)

Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

Flicker frequency:		200 Hz	
Flicker index:	0,01	JA8/10 40Hz	0,03 %
Flicker percentage:	5,92 %	JA8/10 90Hz	0,03 %
SVM: (Visual flicker)	0,07	JA8/10 200Hz	2,2 %
PstLM	0,02	JA8/10 400Hz	3,87 %
Mp	0,01	JA8/10 1000Hz	5,15 %

Flicker conditions:

Sample rate:	20000 samples/second