

Light efficiency:

134 Lumen/Watt

Output: 13585 lm

Light quality:

CRI: 71.6

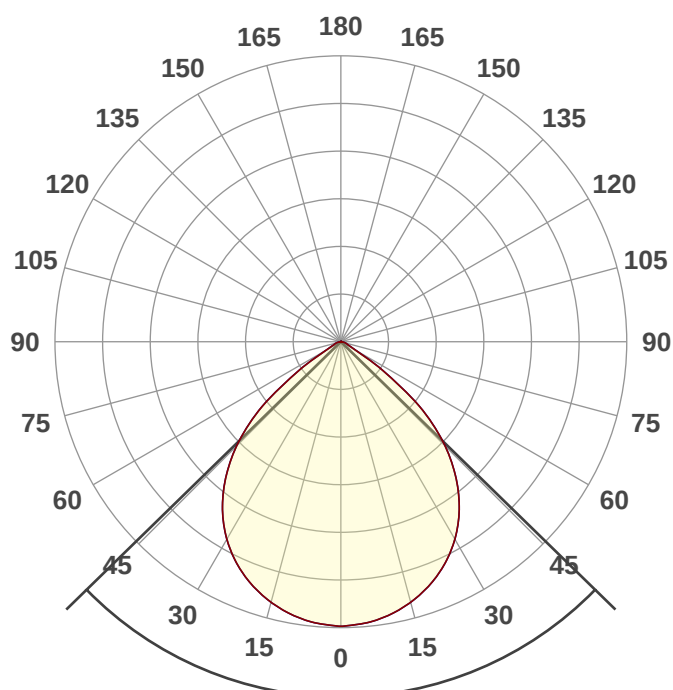
Peak: 7351 cd

Color temperature:

5048 K

Power: 101.3 W

PF: 1.0



Product name:

HPAL-NW100-BP9

Date and time:

4/25/2019 9:13:54 AM

Beam angle

91.4°

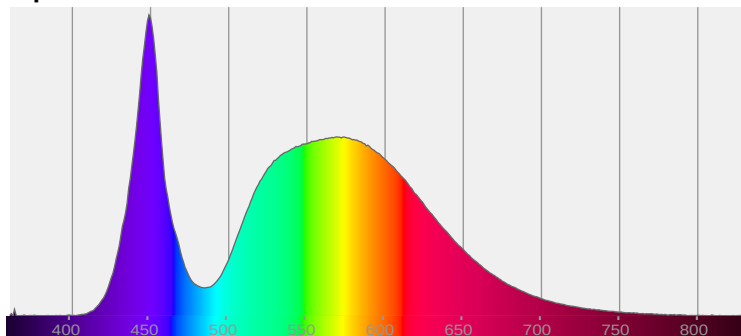


CIE 1931

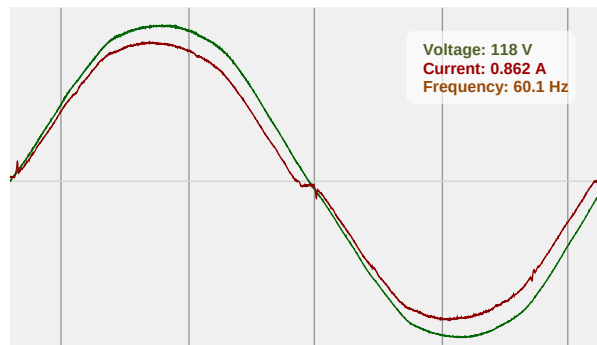
x: 0.344

y: 0.355

Spectra



Power



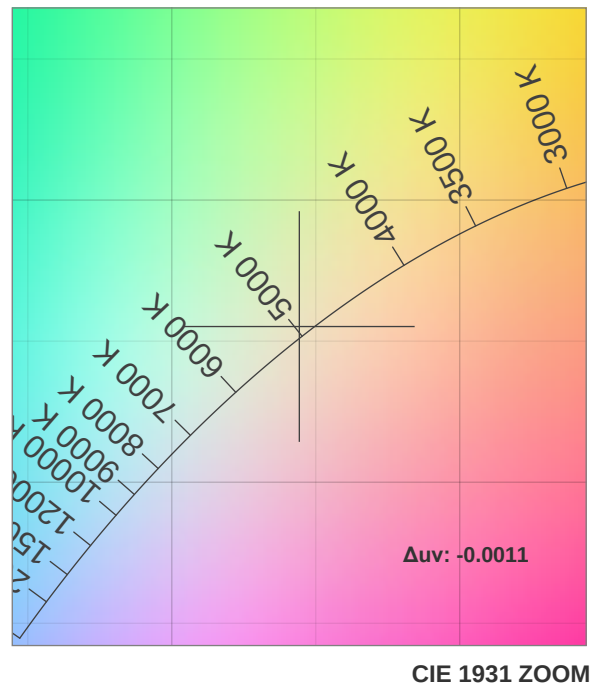
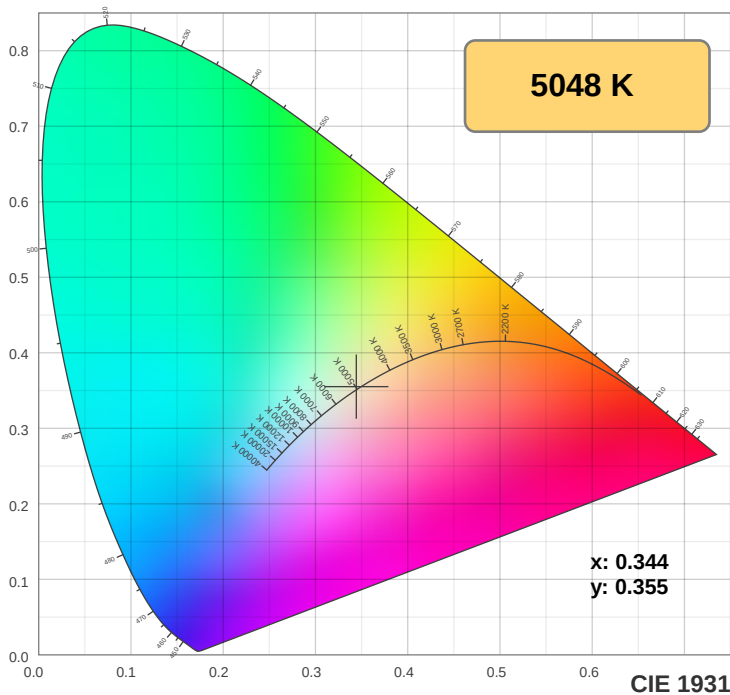
T 314.743.3067

F 314.972.6202

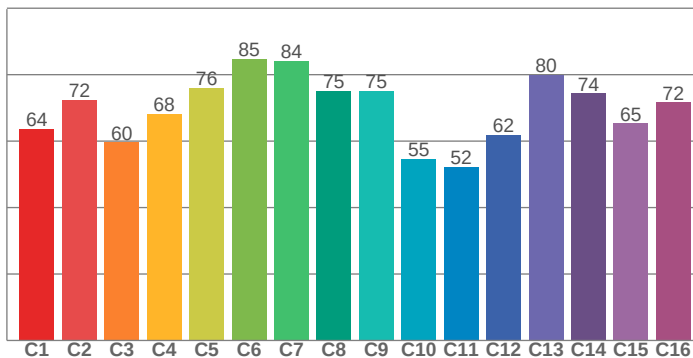
email: commercial-sales@superbrightleds.com

www.superbrightleds.com/

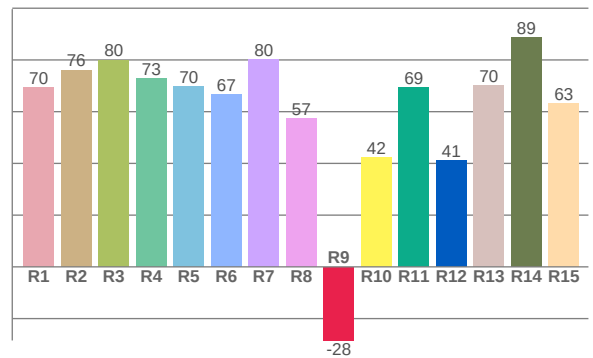
Color Specifications



TM30: 70.0



CRI: 71.6 (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
69.5	76.2	80.0	72.7	69.8	66.8	80.2	57.3	-28.5	42.5	69.5	41.0	70.2	88.6	63.2

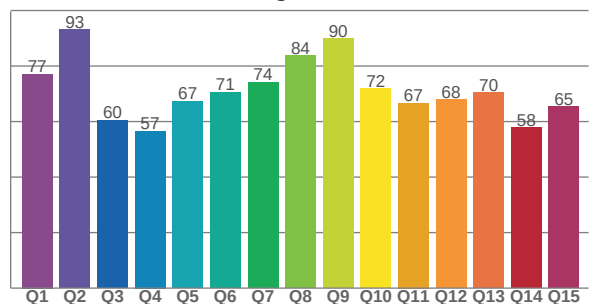
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
63.6	72.4	59.6	68.2	76.0	84.7	84.1	75.2	75.0	54.7	52.2	62.0	79.9	74.4	65.4	71.7

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
77.1	93.1	60.4	56.6	67.3	70.5	74.2	83.7	89.9	71.9	66.7	67.8	70.4	57.8	65.4

CQS: 69.7



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
5048 K	71.6	-28.5	70.0	93.6	69.7	0.344	0.355	0.210	0.324	-0.0011



TM30 Report

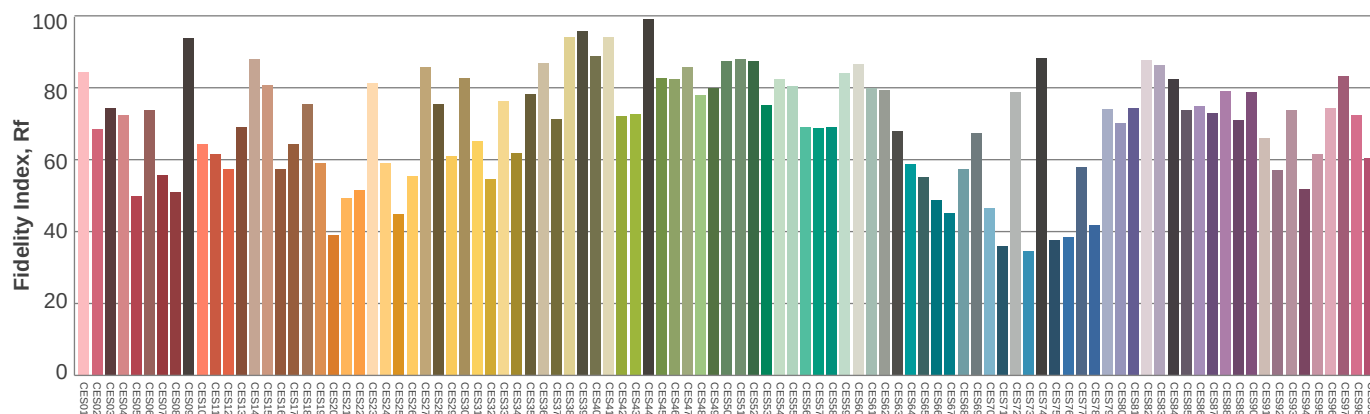
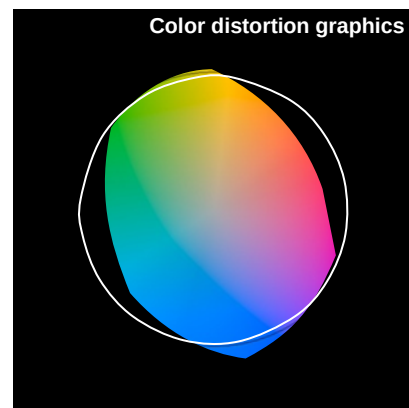
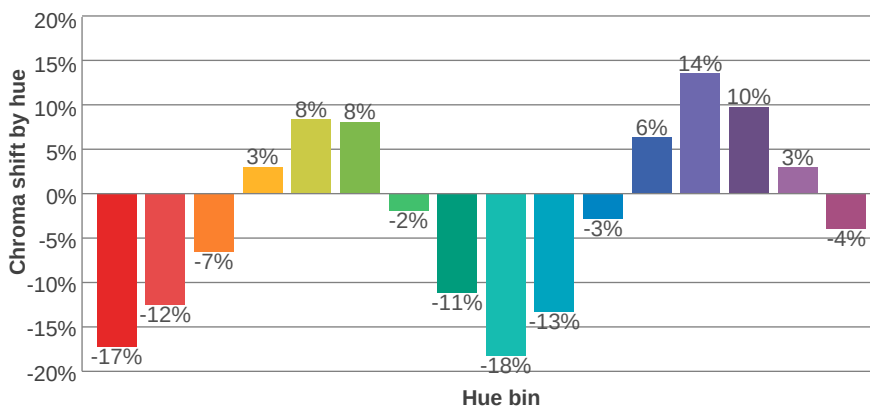
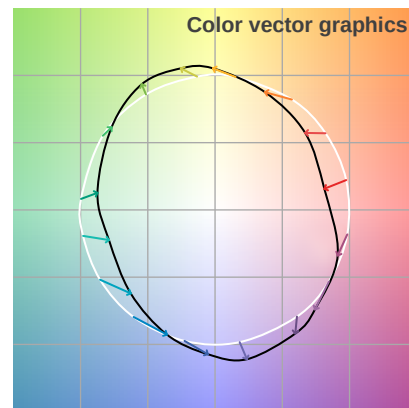
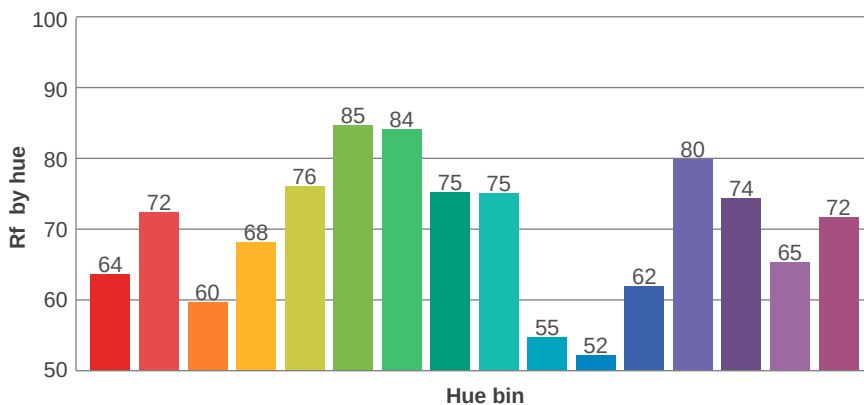
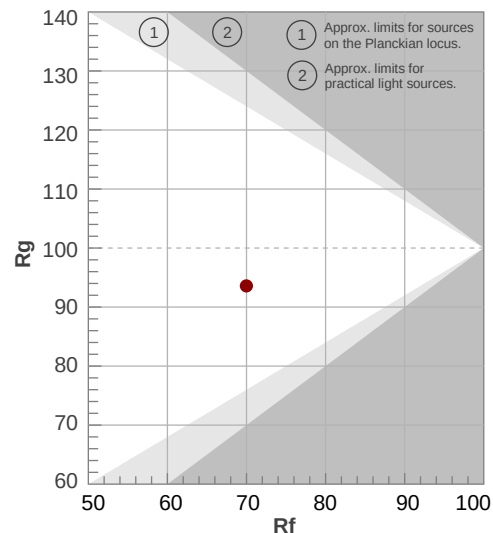
Rf 70.0

Fidelity index Rf

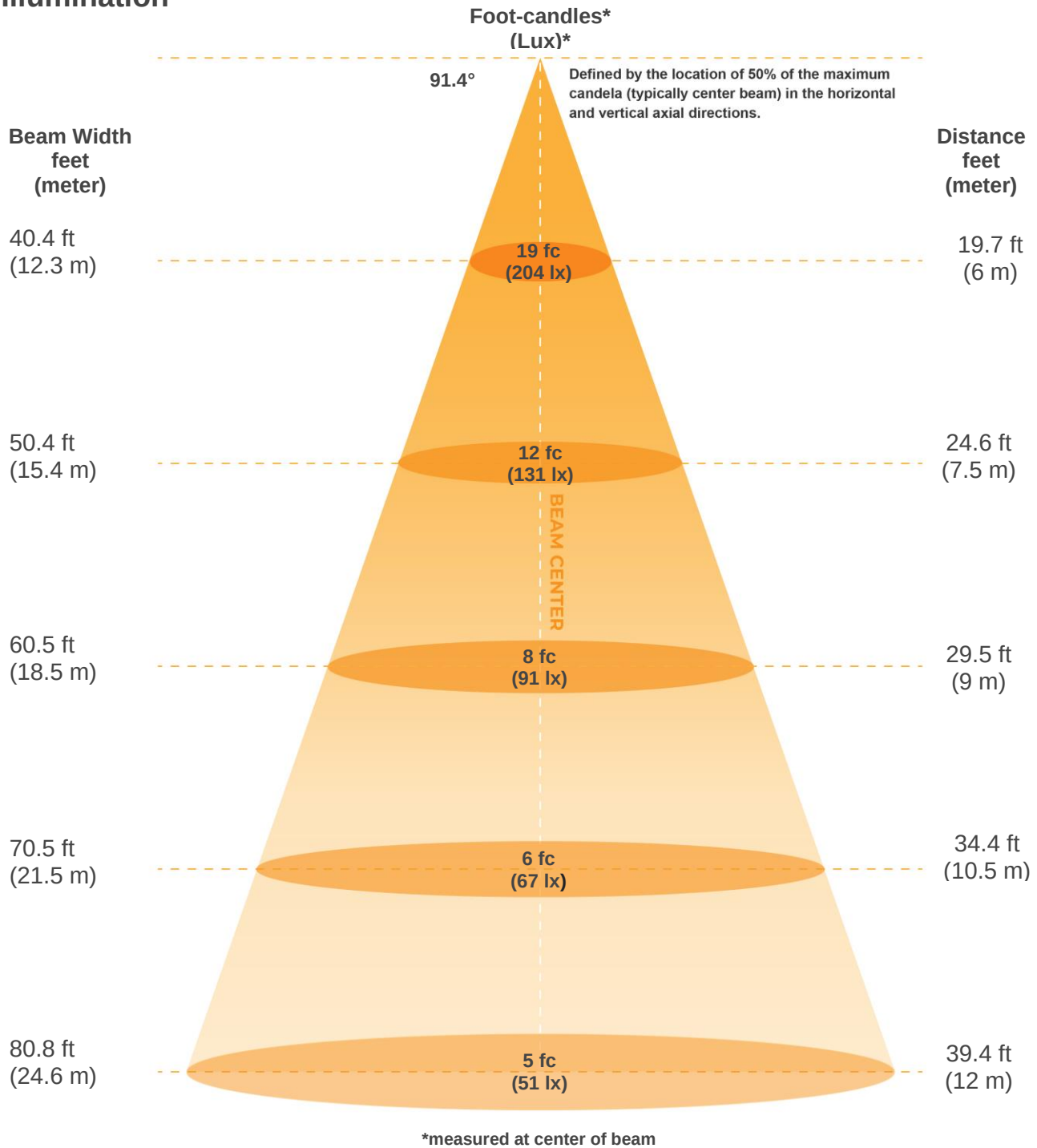
Rg 93.6

Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	64	-17%	-3%
2	72	-12%	9%
3	60	-7%	20%
4	68	3%	18%
5	76	8%	11%
6	85	8%	-2%
7	84	-2%	-9%
8	75	-11%	-7%
9	75	-18%	7%
10	55	-13%	21%
11	52	-3%	28%
12	62	6%	19%
13	80	14%	3%
14	74	10%	-8%
15	65	3%	-23%
16	72	-4%	-17%



Illumination



Beam intensities from 1-20m

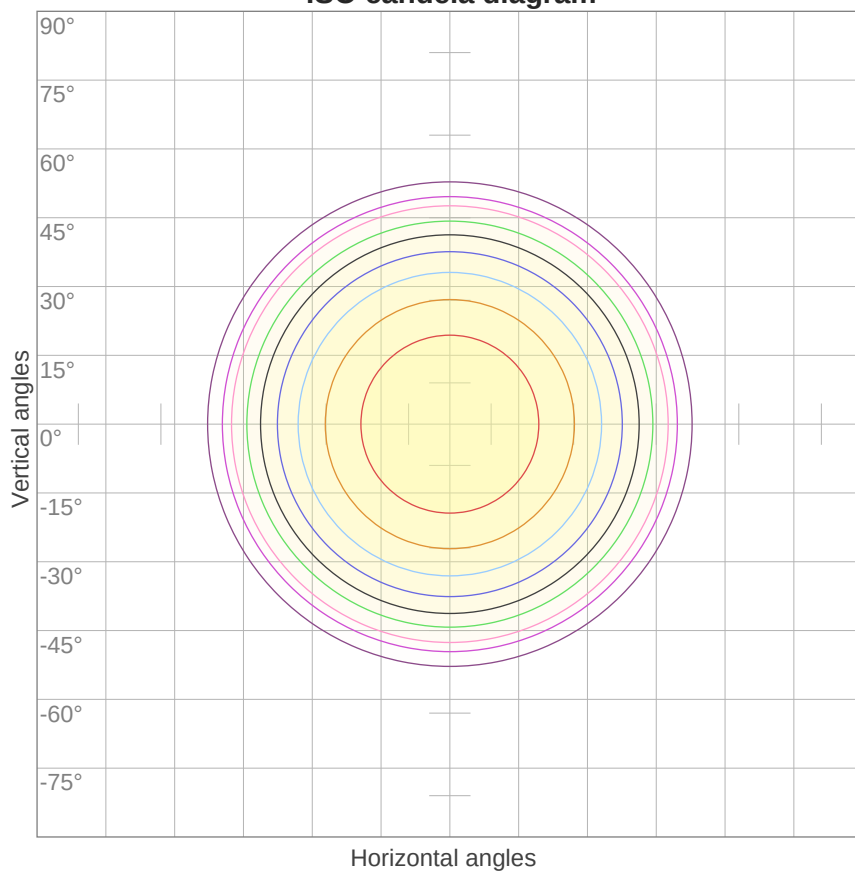
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
3.3ft	6.6ft	9.8ft	13.1ft	16.4ft	19.7ft	23ft	26.2ft	29.5ft	32.8ft	36.1ft	39.4ft	42.7ft	45.9ft	49.2ft	52.5ft	55.8ft	59.1ft	62.3ft	65.6ft
735lx	1838lx	817lx	459lx	294lx	204lx	150lx	115lx	91lx	74lx	61lx	51lx	43lx	38lx	33lx	29lx	25lx	23lx	20lx	18lx
682.9fc	170.7fc	75.9fcd	42.7fcd	27.3fcd	19fcd	13.9fcd	10.7fcd	8.4fcd	6.8fcd	5.6fcd	4.7fcd	4fcd	3.5fcd	3fcd	2.7fcd	2.4fcd	2.1fcd	1.9fcd	1.7fcd

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
91.4°	117.5°	136.4°	96.7%	76.9%



ISO Diagrams

ISO candela diagram



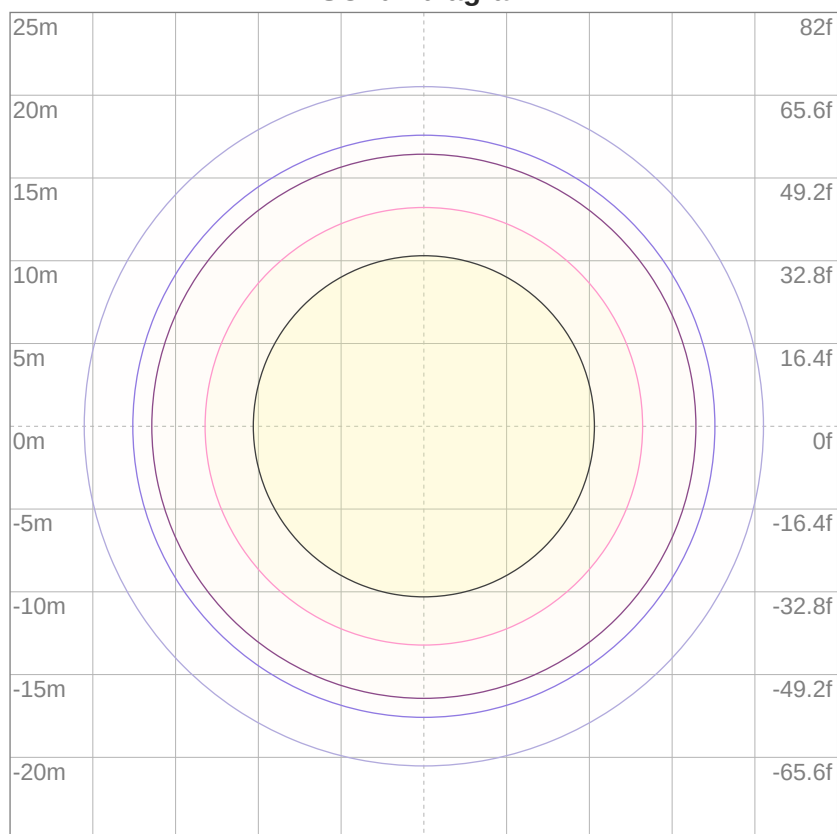
10%	735 cd
20%	1470 cd
30%	2205 cd
40%	2940 cd
50%	3675 cd
60%	4410 cd
70%	5145 cd
80%	5881 cd
90%	6616 cd

Conditions:

Number of c-planes: 16

Candela at center: 7351 cd

ISO lux diagram



3%	2.21 lx
5%	3.68 lx
10%	7.35 lx
30%	22.1 lx
50%	36.8 lx

Conditions:

Number of c-planes: 16

Lux at center: 73.5 lx

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



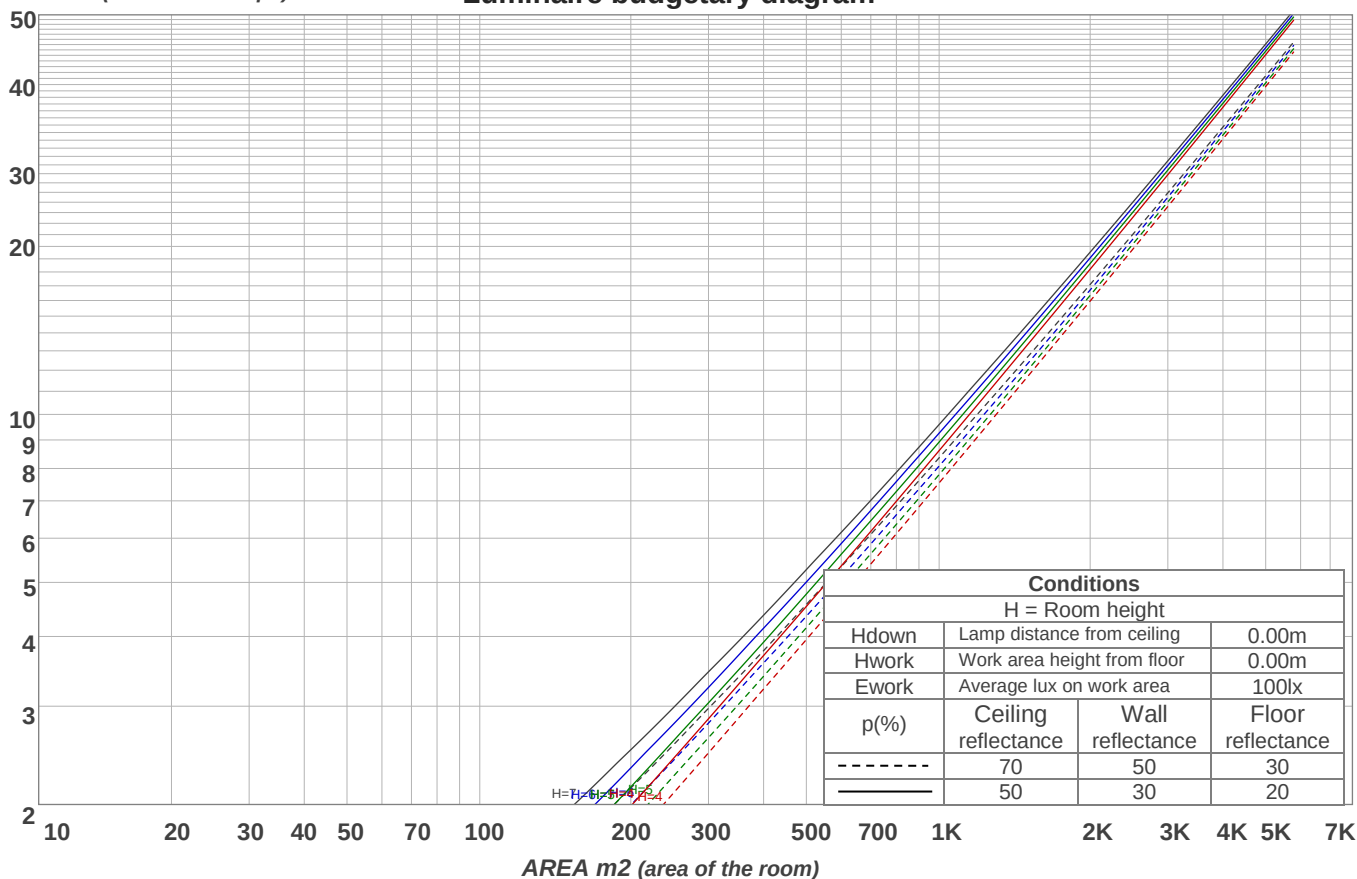
Light Planning

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	112	108	105	102	109	106	103	101	102	100	97	98	96	95	95	93	92	90
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80
3	97	89	82	77	95	87	81	76	84	79	75	82	77	74	79	76	73	71
4	90	80	73	68	88	79	73	67	77	71	67	75	70	66	73	68	65	63
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56
6	78	67	59	54	76	66	59	54	64	58	53	63	57	53	61	56	52	51
7	73	61	54	49	71	61	53	48	59	53	48	58	52	48	57	51	47	46
8	68	56	49	44	67	56	49	44	55	48	44	53	48	43	52	47	43	41
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	43	39	38
10	60	48	41	37	59	48	41	37	47	41	36	46	40	36	45	40	36	35

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°
693 lm	1965 lm	2915 lm	3315 lm	2888 lm	1361 lm	256 lm	124 lm	36.7 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
2.96 lm	2.53 lm	3.23 lm	4.42 lm	5.03 lm	4.83 lm	4.33 lm	2.91 lm	1.06 lm

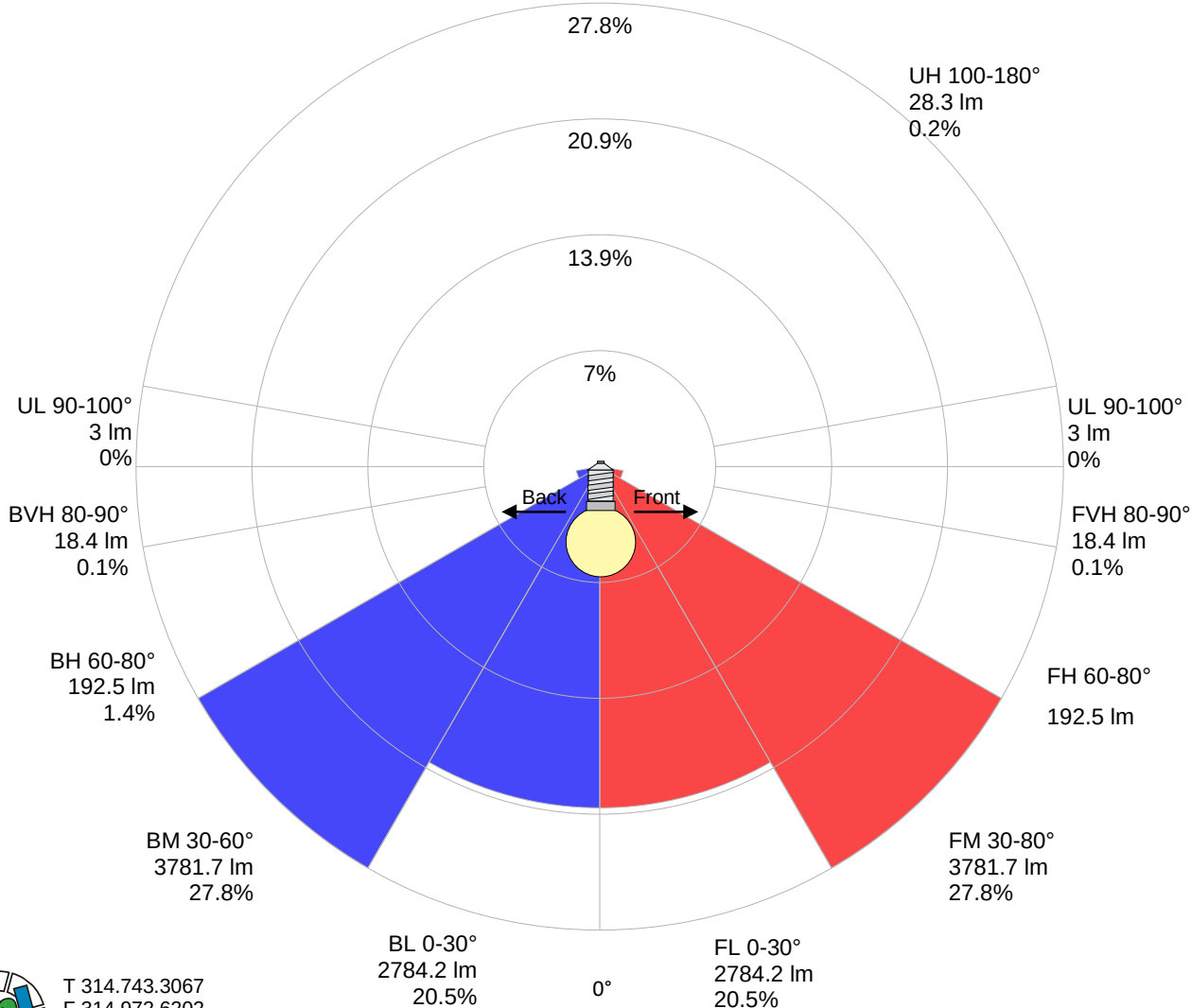


Road Report

LCS table

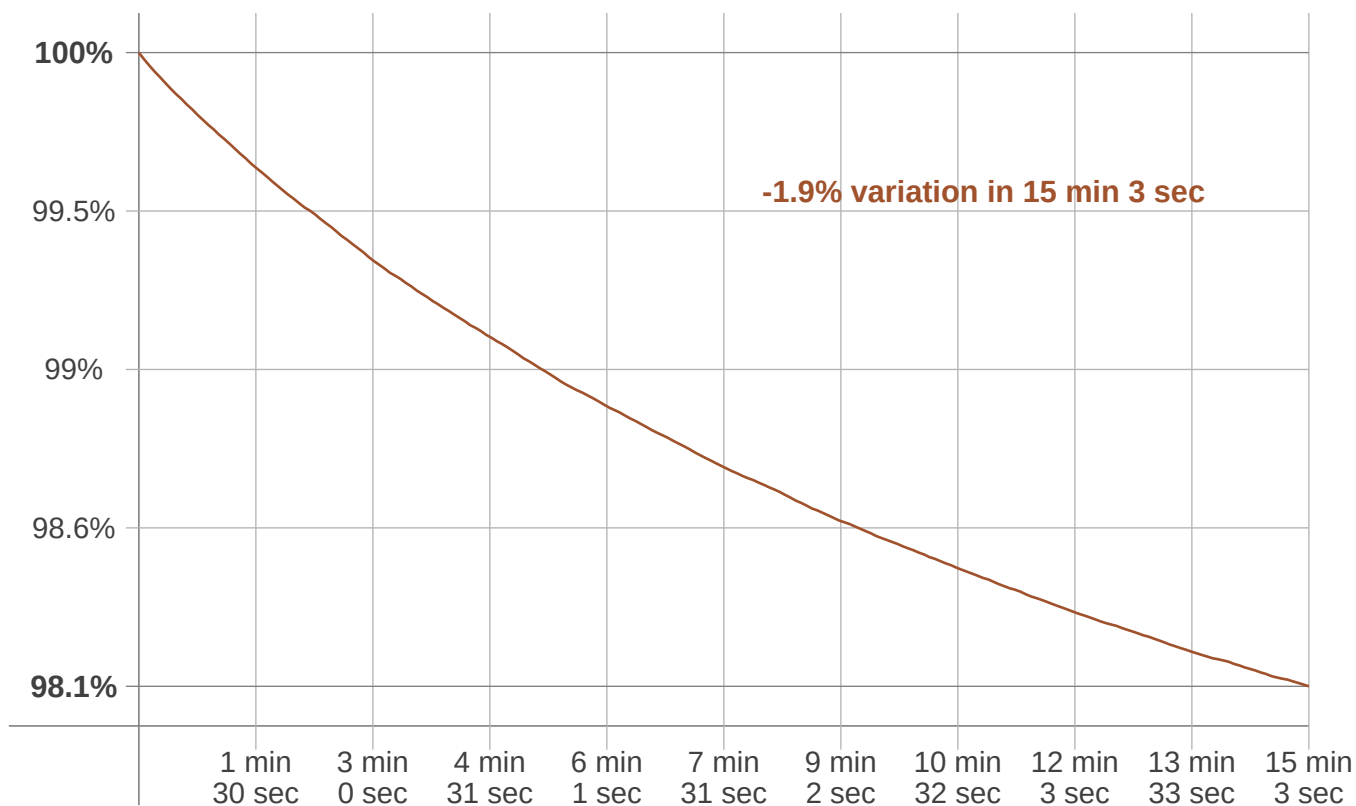
BUG rating:	B4 U2 G1	
Forward light	Lumens	Lumens %
Low(0-30):	2784.2	20.5%
Medium(30-60):	3781.7	27.8%
High(60-80):	192.5	1.4%
Very high(80-90):	18.4	0.1%
Back light		
Low(0-30):	2784.2	20.5%
Medium(30-60):	3781.7	27.8%
High(60-80):	192.5	1.4%
Very high(80-90):	18.4	0.1%
Uplight		
Low(90-100):	3	0%
High(100-180):	28.3	0.2%

LCS graph



Stabilization

Warmup curve



Warmup result

Warmup time:	15 min 3 sec
Warmup variation	-1.9%

Warmup conditions

Stable period:	15 min
Stable change max:	2.0%
Minimum time:	15 min

Color temperature change

CCT start	CCT change	CCT end
5023 K	+25 K	5048 K

Output change

Output start	Output change	Output end
13845 lm	-260 lm	13585 lm

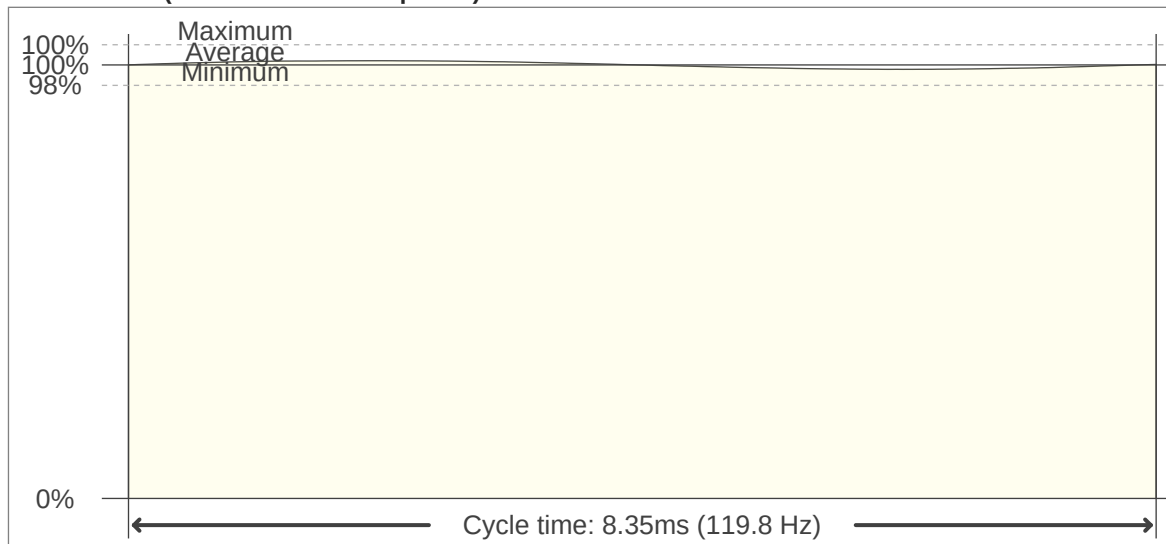


Flicker

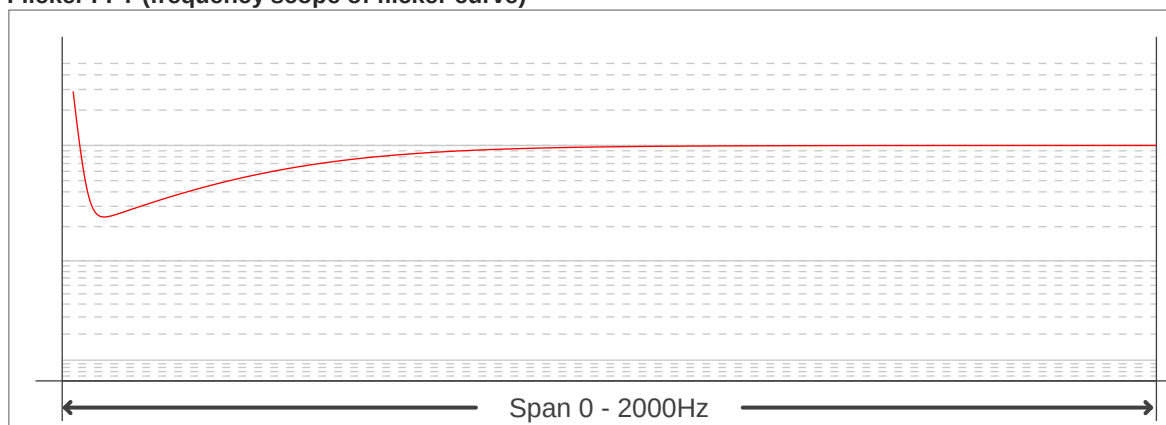
Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

Flicker frequency:	119.76 Hz
Flicker index:	0
Flicker percentage:	1.01 %
SVM: (Visual flicker)	0.04

Flicker conditions:

Sample rate:	40000 samples/second
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