

Light efficiency:

103 Lumen/Watt

Output: 3197 lm

Light quality:

CRI: 84.1

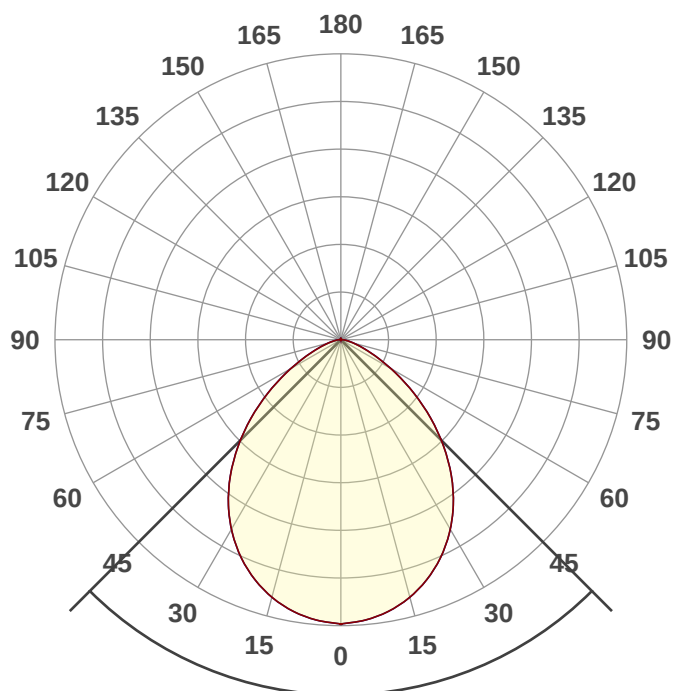
Peak: 1572 cd

Color temperature:

4013 K

Power: 31.1 W

PF: 0.99



Product name:

CDL10D-SW3B-SP33W

Date and time:

12/2/2020 1:53:46 PM

Beam angle

89.9°

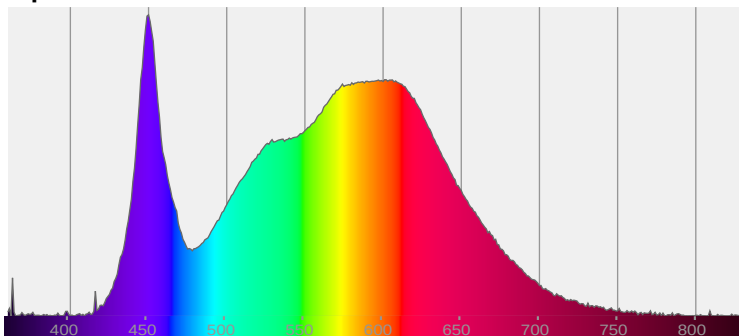


CIE 1931

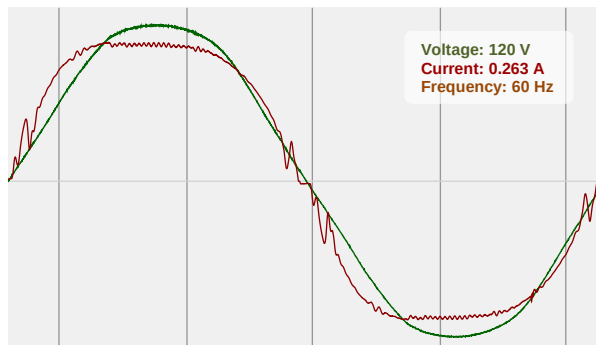
x: 0.378

y: 0.370

Spectra



Power



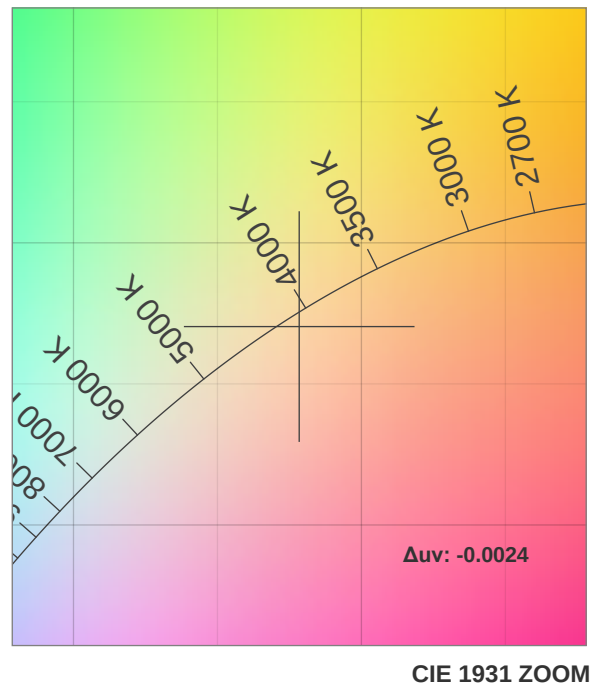
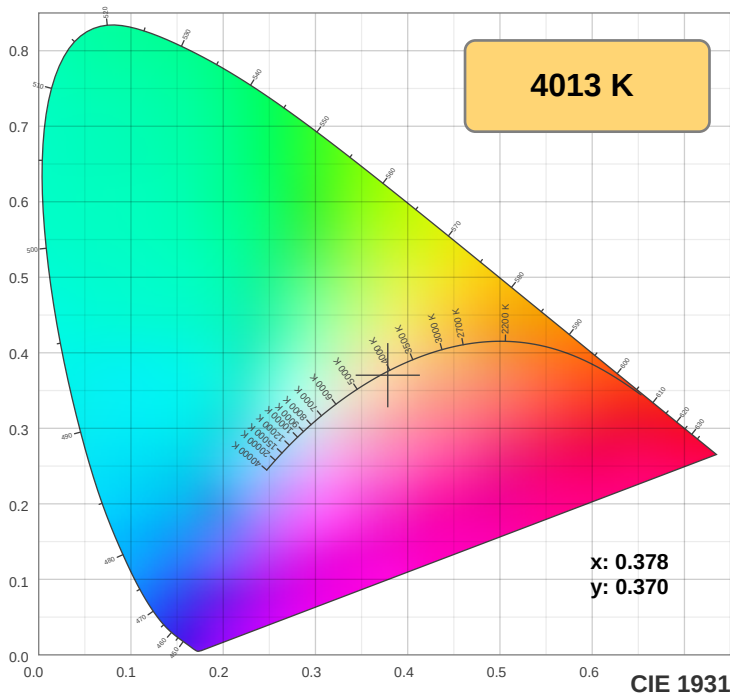
T 314.743.3067

F 314.972.6202

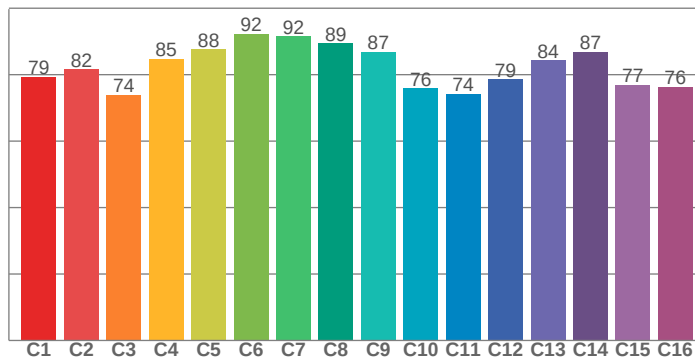
email: commercial-sales@superbrightleds.com

www.superbrightleds.com/

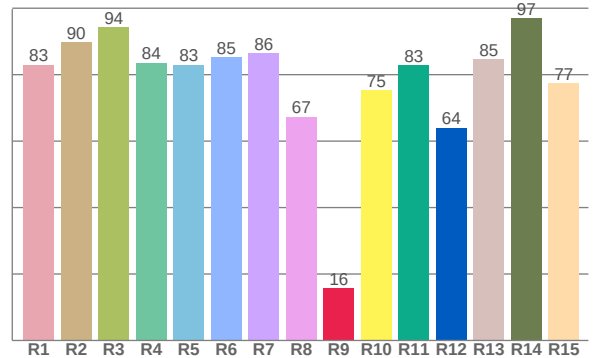
Color Specifications



TM30: 82.2



CRI: 84.1 (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
83.0	89.7	94.2	83.6	83.0	85.3	86.4	67.4	15.8	75.3	82.9	64.0	84.6	96.9	77.5

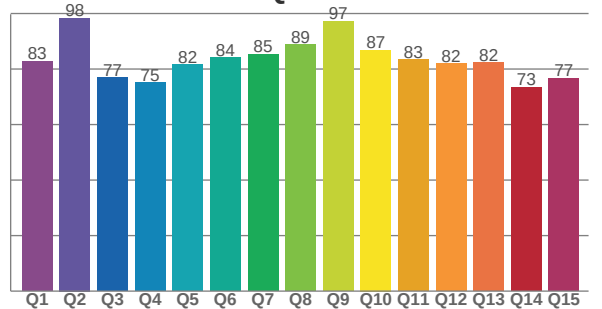
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
79.3	81.6	74.0	84.7	87.6	92.3	91.5	89.5	86.8	75.9	74.2	78.6	84.3	86.9	76.9	76.4

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82.8	98.4	77.0	75.2	81.6	84.1	85.3	88.8	97.2	86.9	83.4	82.0	82.4	73.5	76.7

CQS: 82.3



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
4013 K	84.1	15.8	82.2	97.3	82.3	0.378	0.370	0.226	0.332	-0.0024



TM30 Report

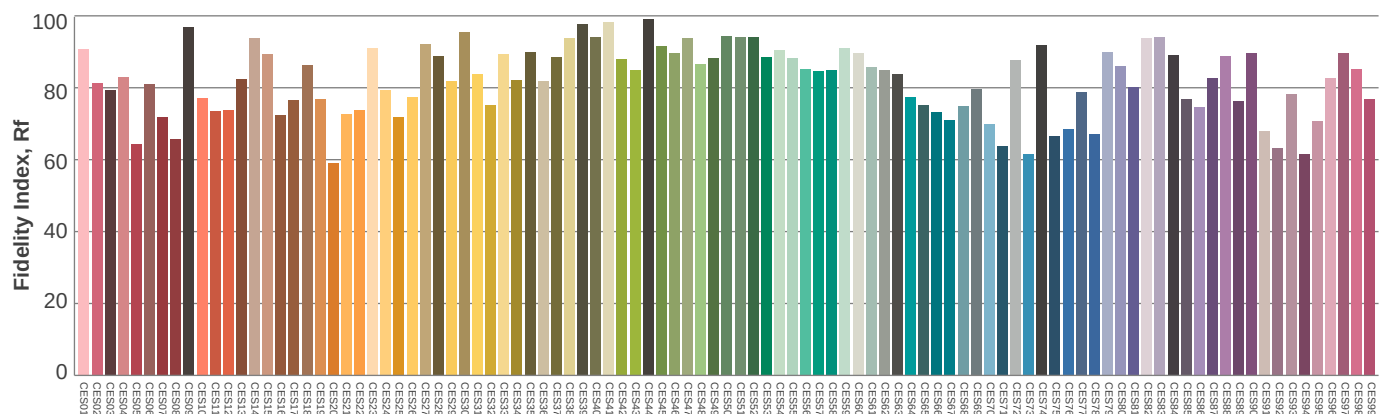
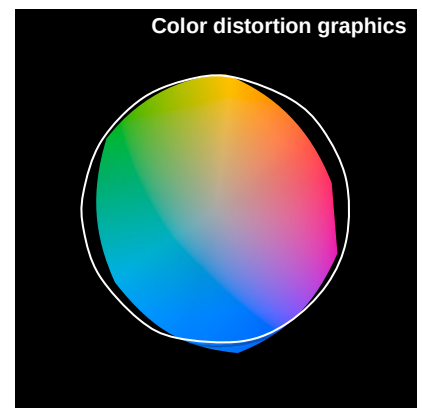
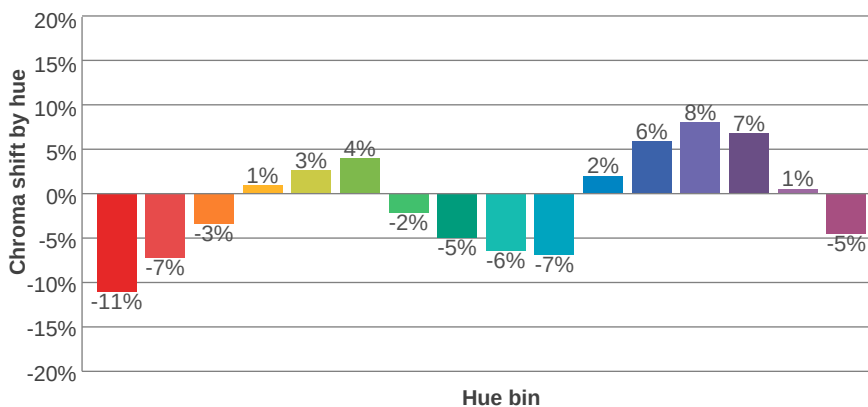
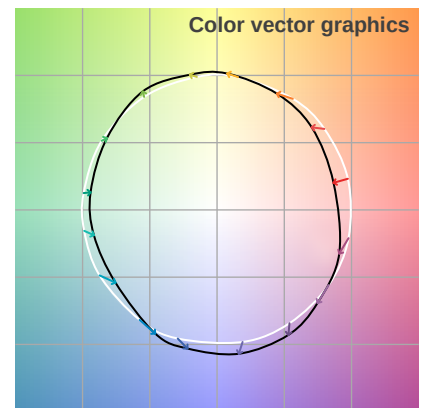
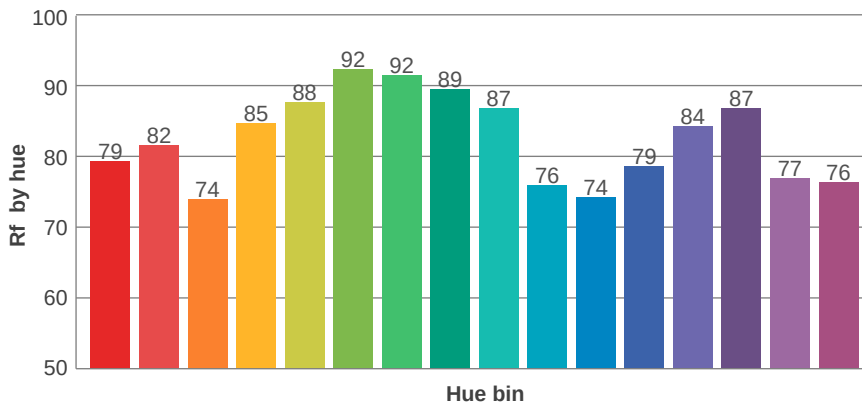
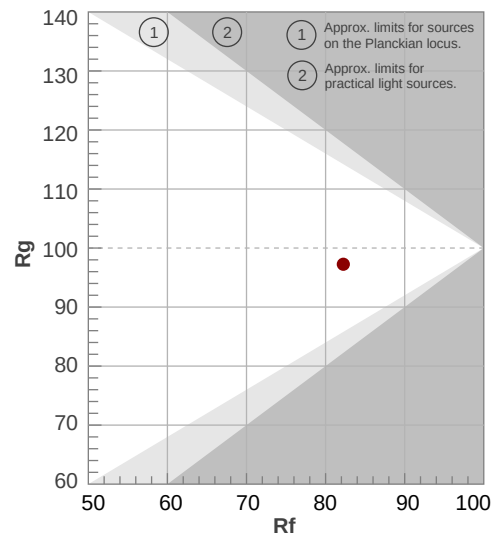
Rf 82.2

Fidelity index Rf

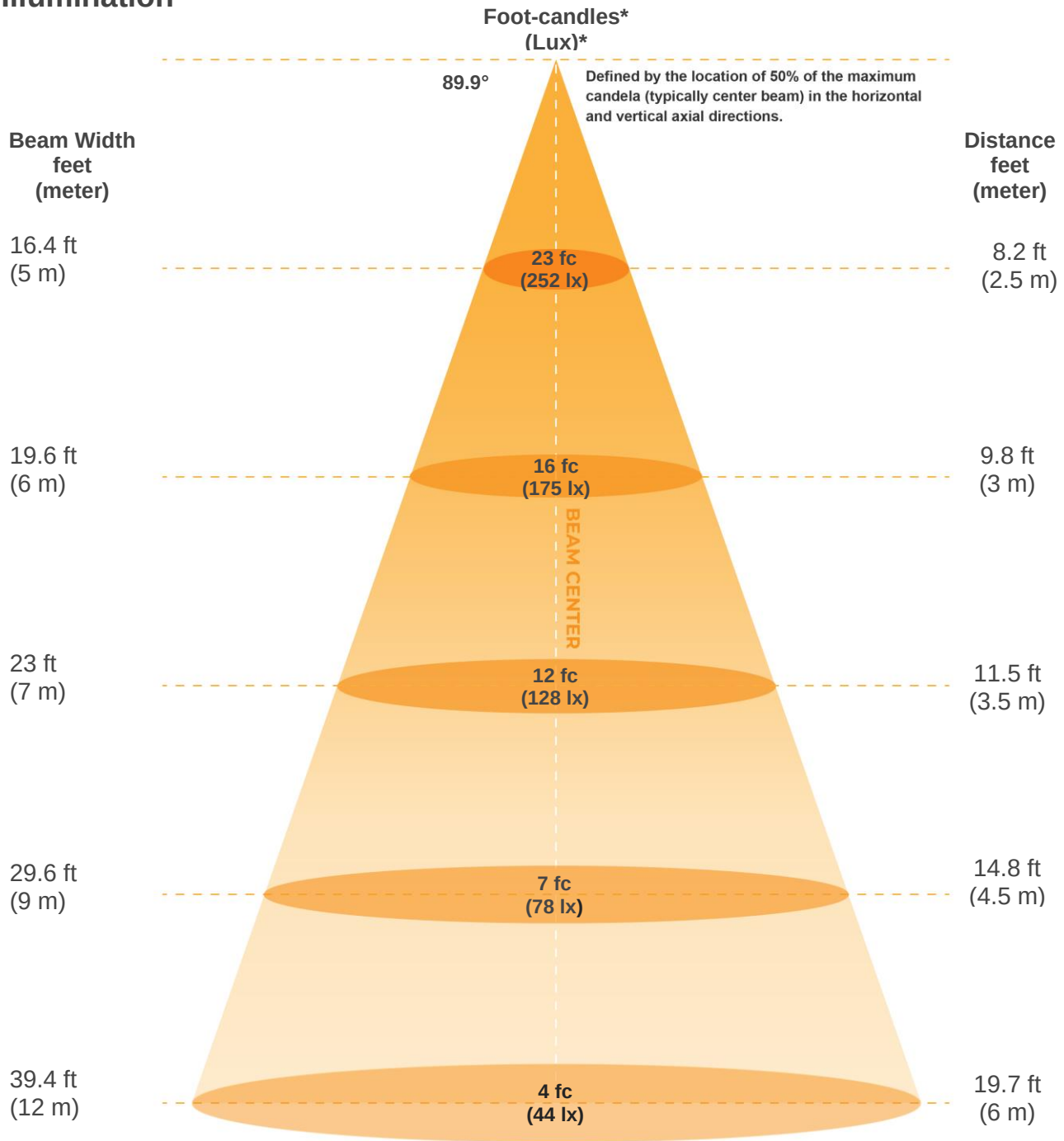
Rg 97.3

Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	79	-11%	-1%
2	82	-7%	6%
3	74	-3%	12%
4	85	1%	8%
5	88	3%	5%
6	92	4%	-1%
7	92	-2%	-4%
8	89	-5%	-2%
9	87	-6%	5%
10	76	-7%	11%
11	74	2%	15%
12	79	6%	9%
13	84	8%	-4%
14	87	7%	-5%
15	77	1%	-16%
16	76	-5%	-13%



Illumination



*measured at center of beam

Beam intensities from 1-20m

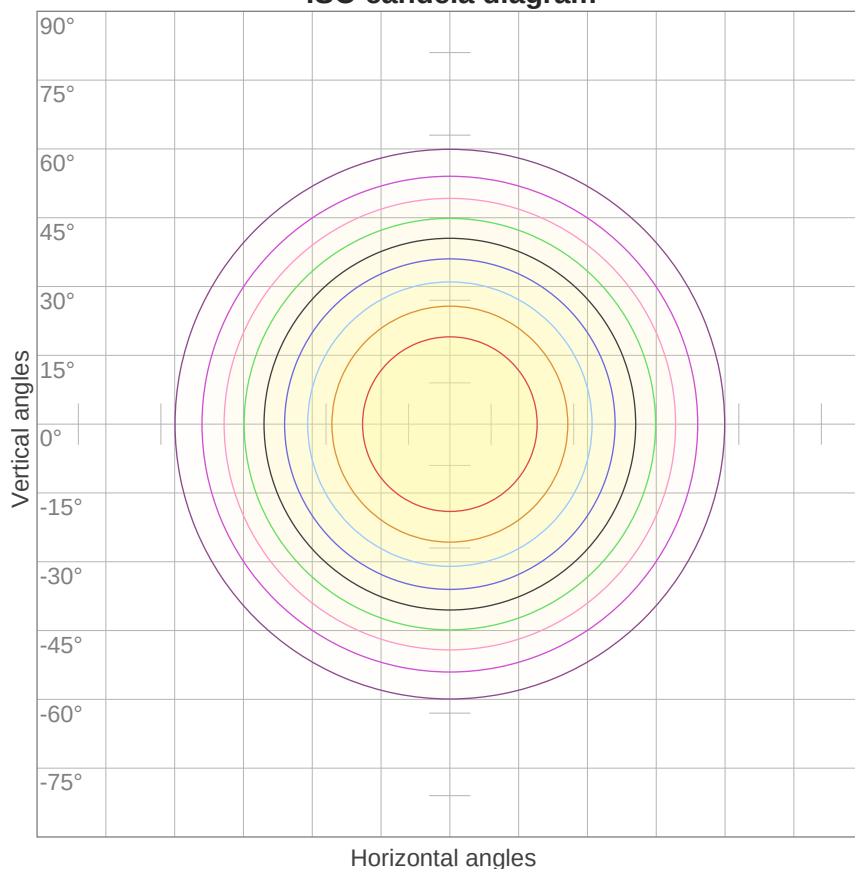
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
3.3ft	6.6ft	9.8ft	13.1ft	16.4ft	19.7ft	23ft	26.2ft	29.5ft	32.8ft	36.1ft	39.4ft	42.7ft	45.9ft	49.2ft	52.5ft	55.8ft	59.1ft	62.3ft	65.6ft
1572lx	393lx	175lx	98lx	63lx	44lx	32lx	25lx	19lx	16lx	13lx	11lx	9lx	8lx	7lx	6lx	5lx	5lx	4lx	4lx
146.1fc	36.5fcd	16.2fcd	9.1fcd	5.8fcd	4.1fcd	3fcd	2.3fcd	1.8fcd	1.5fcd	1.2fcd	1fcd	0.9fcd	0.7fcd	0.6fcd	0.6fcd	0.5fcd	0.5fcd	0.4fcd	0.4fcd

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
89.9°	135.6°	161.7°	89.6%	67.7%



ISO Diagrams

ISO candela diagram



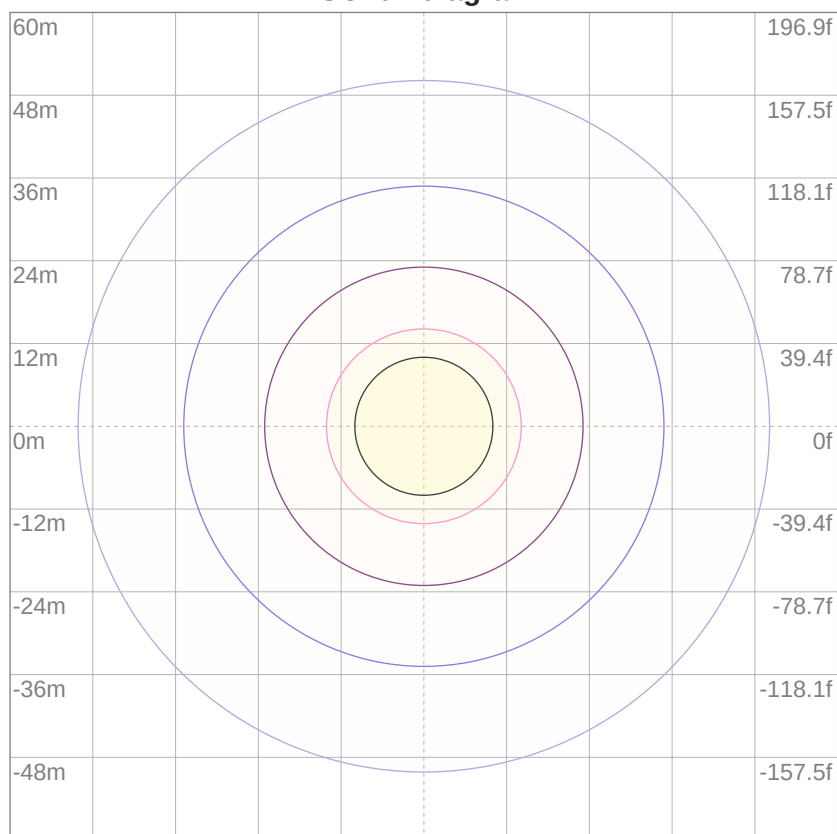
10%	157 cd
20%	314 cd
30%	472 cd
40%	629 cd
50%	786 cd
60%	943 cd
70%	1101 cd
80%	1258 cd
90%	1415 cd

Conditions:

Number of c-planes: 16

Candela at center: 1572 cd

ISO lux diagram



3%	0.472 lx
5%	0.786 lx
10%	1.57 lx
30%	4.72 lx
50%	7.86 lx

Conditions:

Number of c-planes: 16

Lux at center: 15.7 lx

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



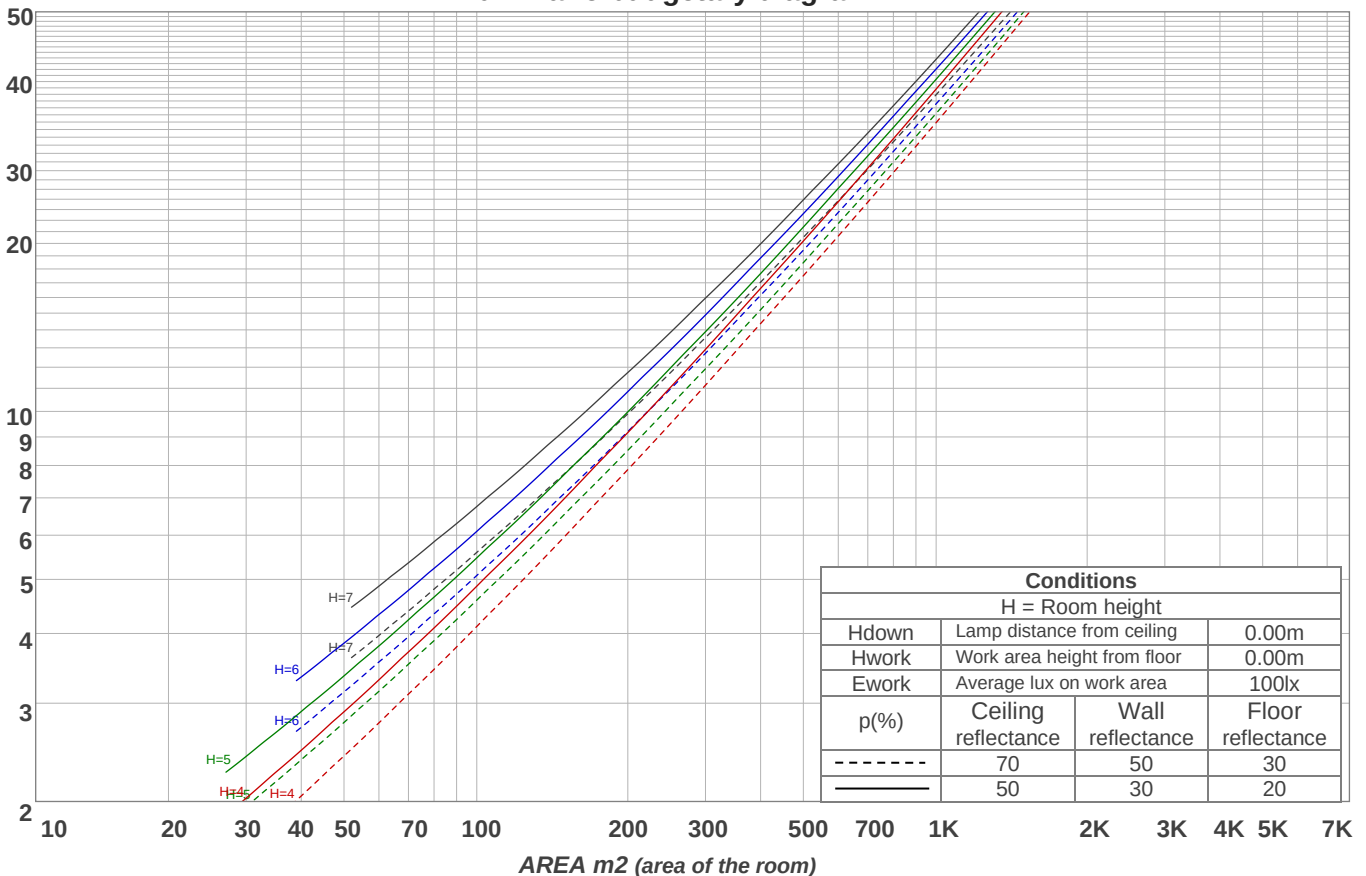
Light Planning

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	99
1	111	107	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76
3	94	85	78	73	92	84	77	72	81	75	71	78	73	69	76	72	68	66
4	87	77	69	63	85	75	68	63	73	67	62	71	65	61	68	64	60	58
5	81	69	61	55	79	68	61	55	66	60	54	64	58	54	62	57	53	51
6	75	63	55	49	73	62	55	49	60	54	49	59	53	48	57	52	48	46
7	70	58	50	44	68	57	49	44	55	48	44	54	48	43	53	47	43	41
8	65	53	45	40	64	52	45	40	51	44	39	50	44	39	49	43	39	37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	36	45	39	35	34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	36	32	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°
147 lm	415 lm	605 lm	676 lm	604 lm	417 lm	209 lm	81.1 lm	26.1 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
3.66 lm	1.80 lm	2.05 lm	2.17 lm	2.31 lm	1.85 lm	1.44 lm	0.986 lm	0.348 lm

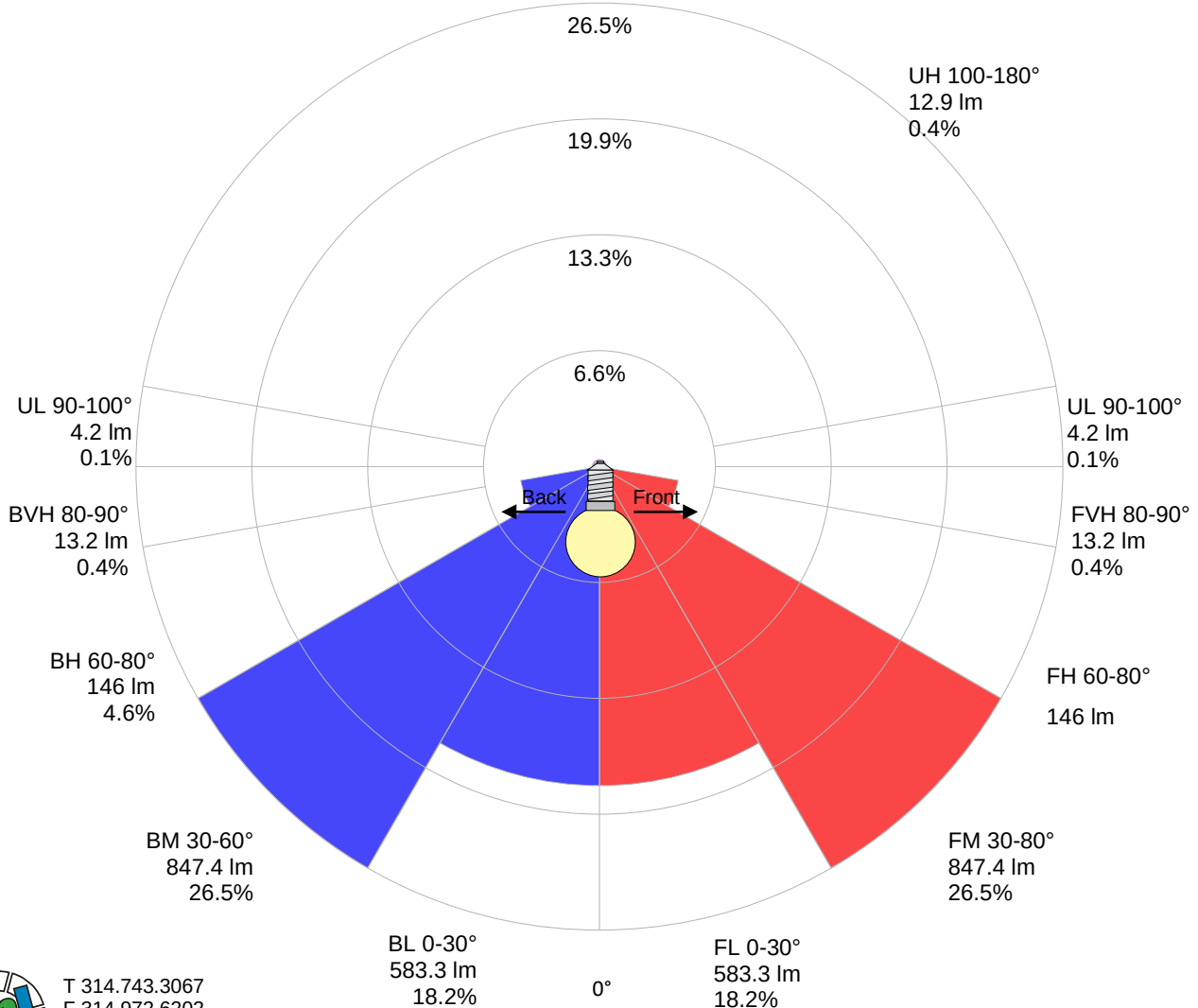


Road Report

LCS table

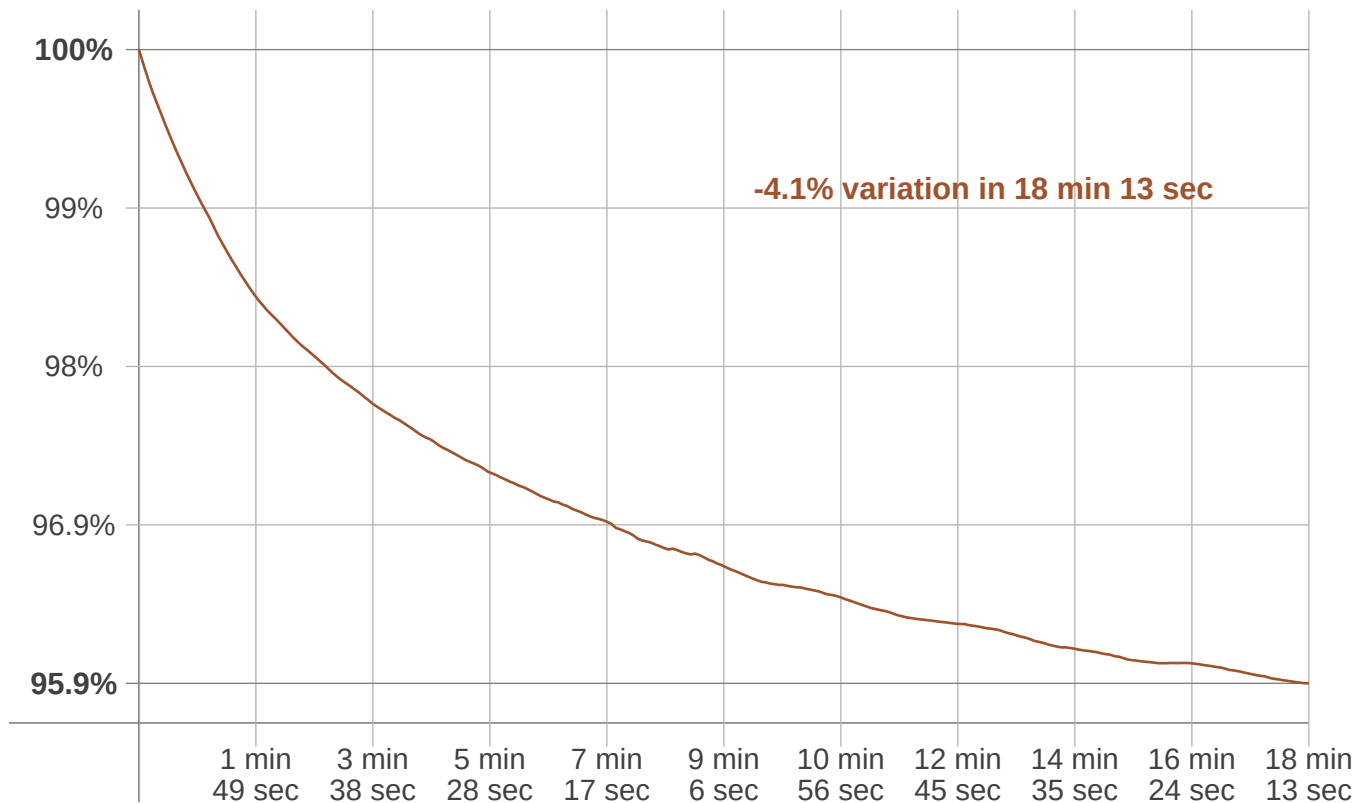
BUG rating:	B2 U2 G1	
Forward light	Lumens	Lumens %
Low(0-30):	583.3	18.2%
Medium(30-60):	847.4	26.5%
High(60-80):	146	4.6%
Very high(80-90):	13.2	0.4%
Back light		
Low(0-30):	583.3	18.2%
Medium(30-60):	847.4	26.5%
High(60-80):	146	4.6%
Very high(80-90):	13.2	0.4%
Uplight		
Low(90-100):	4.2	0.1%
High(100-180):	12.9	0.4%

LCS graph



Stabilization

Warmup curve



Warmup result

Warmup time:	18 min 13 sec
Warmup variation	-4.1%

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
3978 K	+35 K	4013 K

Output change

Output start	Output change	Output end
3326 lm	-129 lm	3197 lm

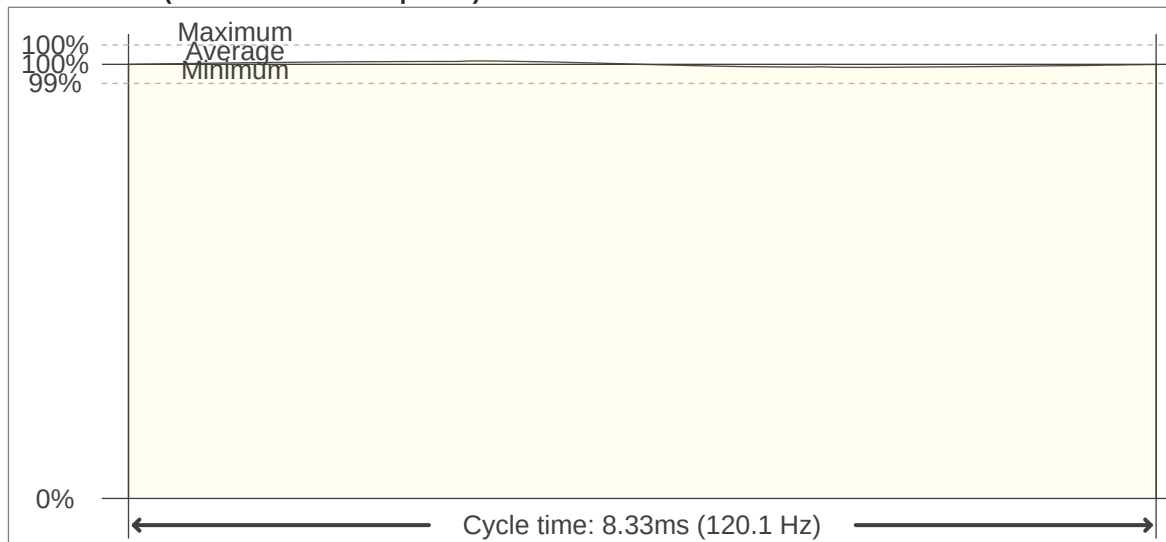


Flicker

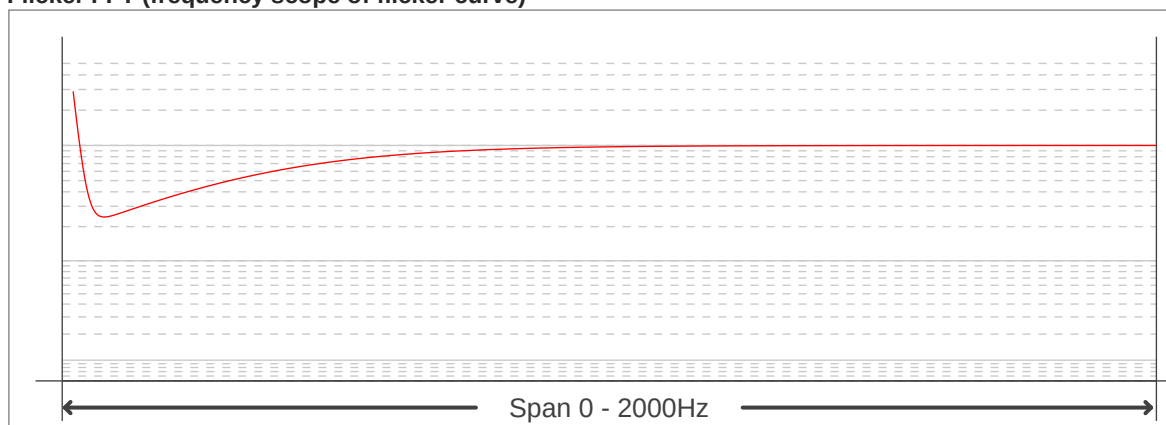
Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

Flicker frequency:	120.12 Hz
Flicker index:	0
Flicker percentage:	0.86 %
SVM: (Visual flicker)	0.02

Flicker conditions:

Sample rate:	40000 samples/second
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