

Light efficiency:

126 Lumen/Watt

Output: 13134 lm

Light quality:

CRI: 83.7

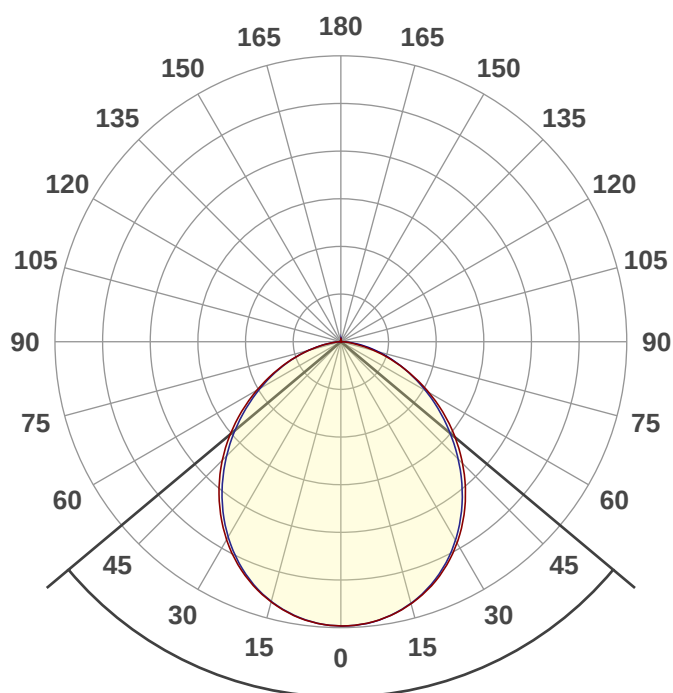
Peak: 5279 cd

Color temperature:

5362 K

Power: 104.4 W

PF: 1.0



Product name:

LHBD2-50K1-110W-H

Date and time:

5/22/2020 1:34:12 PM

Beam angle

100.1°

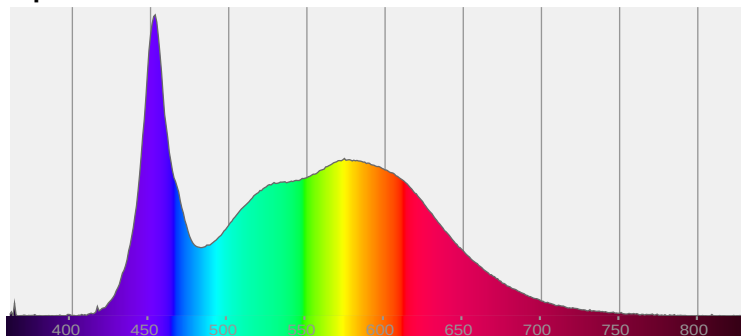


CIE 1931

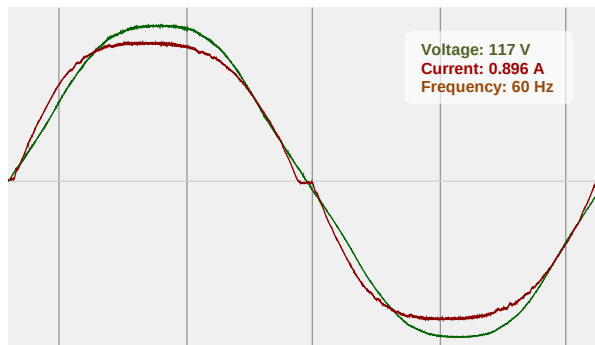
x: 0.336

y: 0.342

Spectra



Power



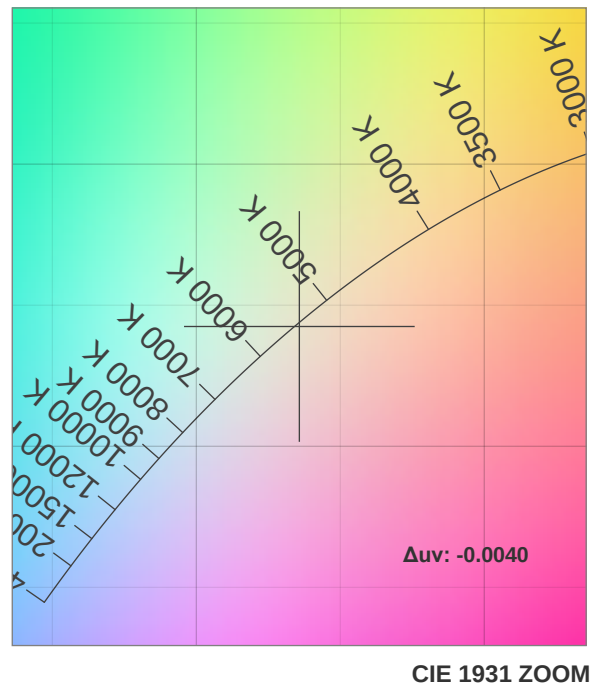
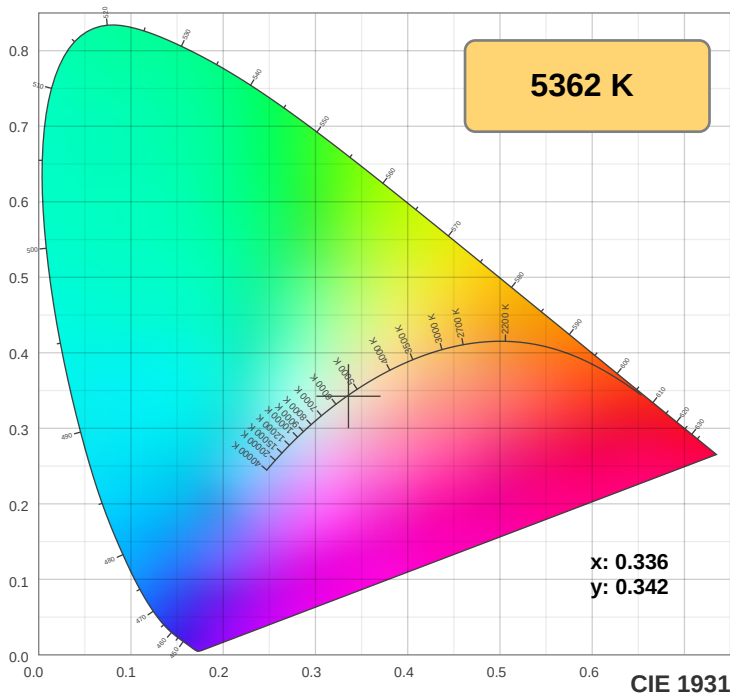
T 314.743.3067

F 314.972.6202

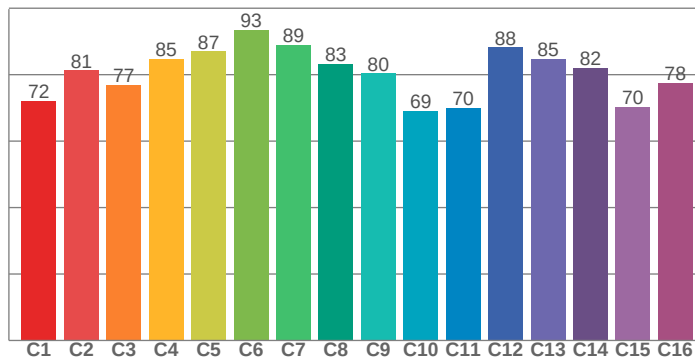
email: commercial-sales@superbrightleds.com

www.superbrightleds.com/

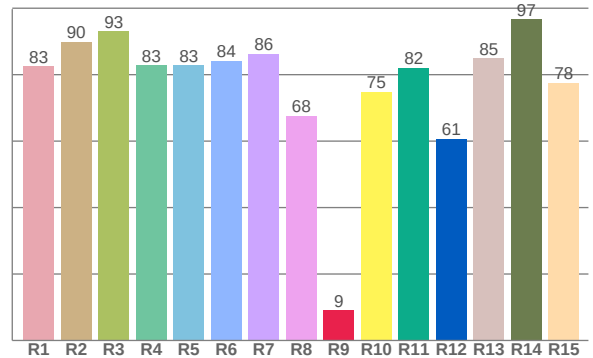
Color Specifications



TM30: 80.5



CRI: 83.7 (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
82.6	89.9	93.1	82.9	82.9	84.2	86.3	67.7	9.1	74.8	82.1	60.7	84.9	96.6	77.5

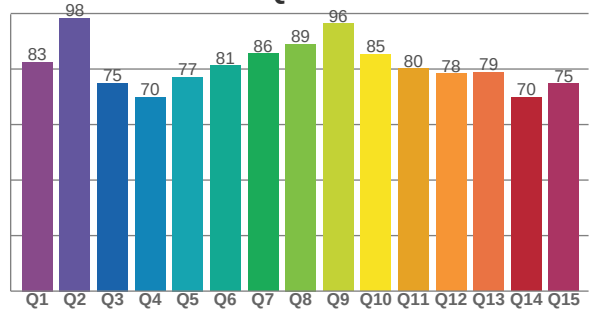
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
72.2	81.3	77.0	84.8	87.0	93.5	89.0	83.3	80.4	69.2	70.0	88.2	84.7	82.0	70.4	77.6

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82.5	98.4	75.0	69.9	77.1	81.3	85.5	89.0	96.4	85.3	80.1	78.4	78.8	69.8	74.7

CQS: 79.8



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
5362 K	83.7	9.1	80.5	94.2	79.8	0.336	0.342	0.209	0.319	-0.0040



TM30 Report

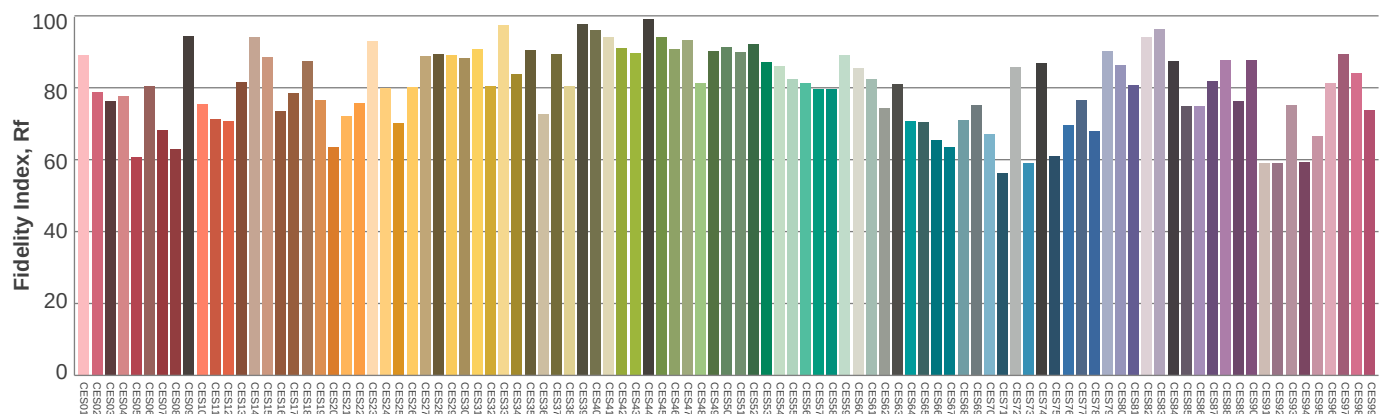
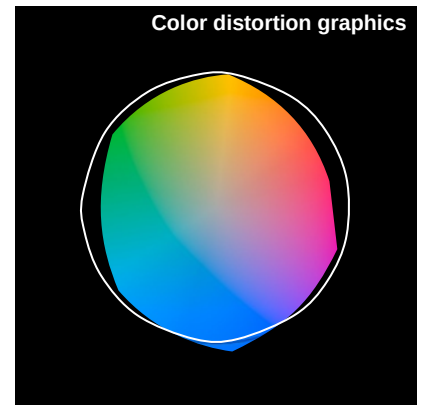
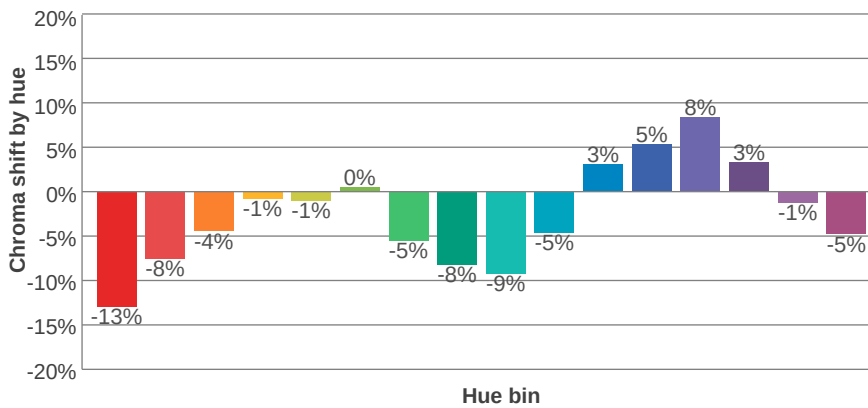
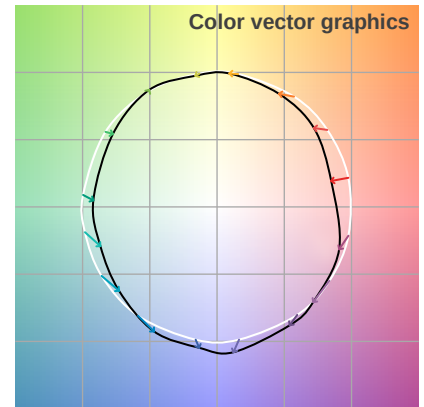
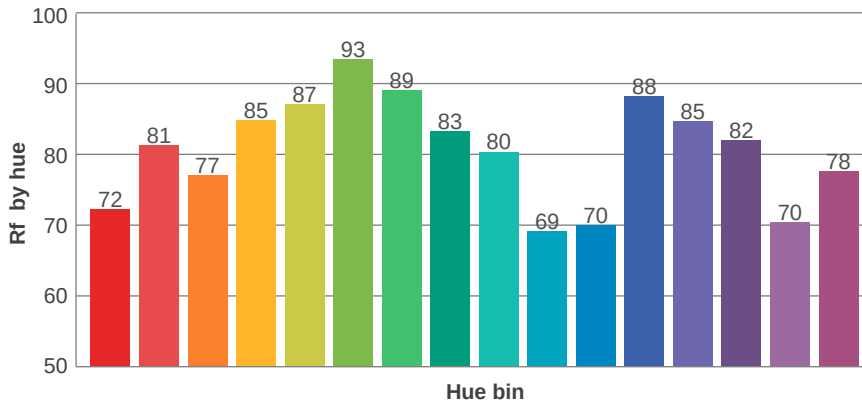
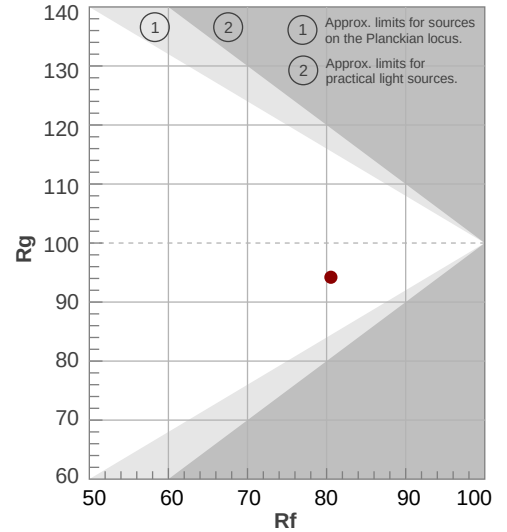
Rf 80.5

Fidelity index Rf

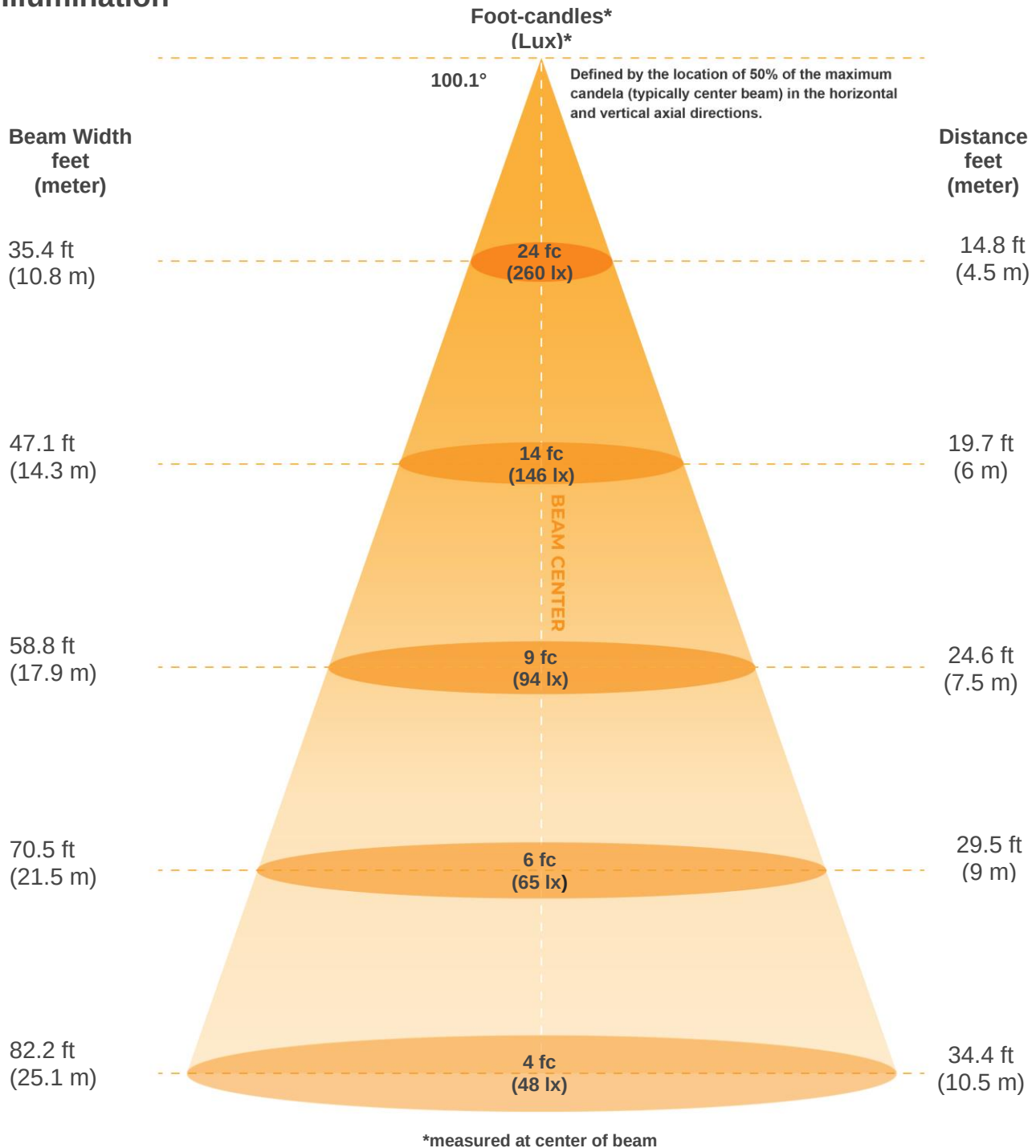
Rg 94.2

Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	72	-13%	0%
2	81	-8%	7%
3	77	-4%	10%
4	85	-1%	7%
5	87	-1%	3%
6	93	0%	-1%
7	89	-5%	-2%
8	83	-8%	2%
9	80	-9%	12%
10	69	-5%	16%
11	70	3%	16%
12	88	5%	4%
13	85	8%	-6%
14	82	3%	-9%
15	70	-1%	-20%
16	78	-5%	-11%



Illumination



Beam intensities from 1-20m

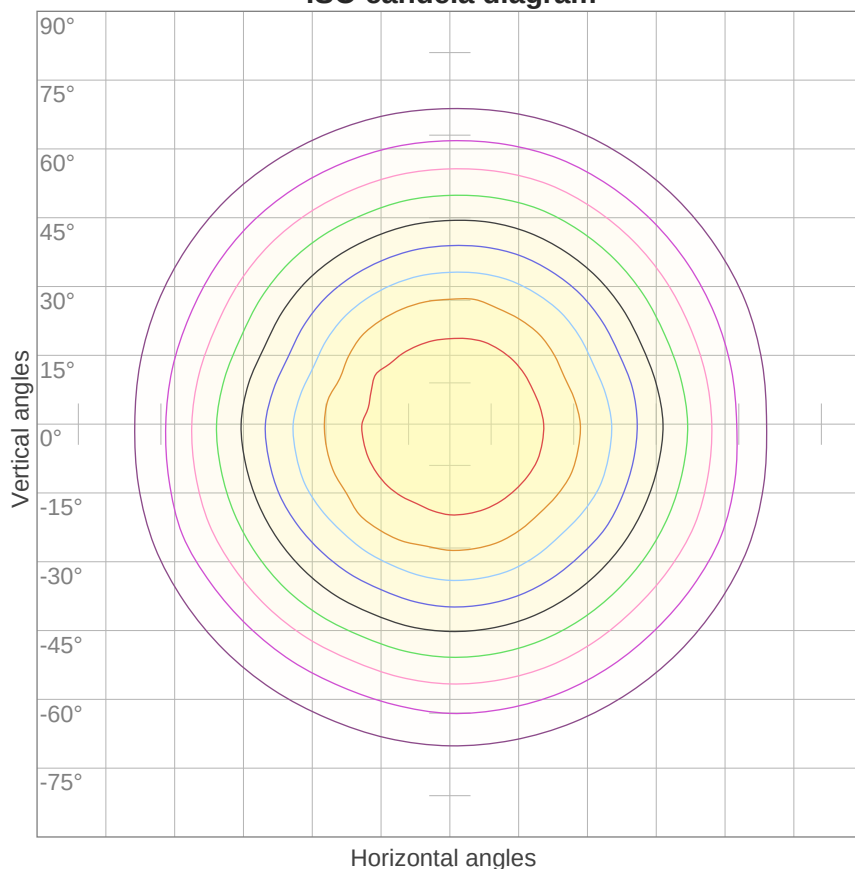
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
3.3ft	6.6ft	9.8ft	13.1ft	16.4ft	19.7ft	23ft	26.2ft	29.5ft	32.8ft	36.1ft	39.4ft	42.7ft	45.9ft	49.2ft	52.5ft	55.8ft	59.1ft	62.3ft	65.6ft
5270lx	1317lx	586lx	329lx	211lx	146lx	108lx	82lx	65lx	53lx	44lx	37lx	31lx	27lx	23lx	21lx	18lx	16lx	15lx	13lx
489.6fc	122.4fc	54.4fcd	30.6fcd	19.6fcd	13.6fcd	10fcd	7.6fcd	6fcd	4.9fcd	4fcd	3.4fcd	2.9fcd	2.5fcd	2.2fcd	1.9fcd	1.7fcd	1.5fcd	1.4fcd	1.2fcd

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
100.1°	154.9°	171°	82.0%	58.1%



ISO Diagrams

ISO candela diagram



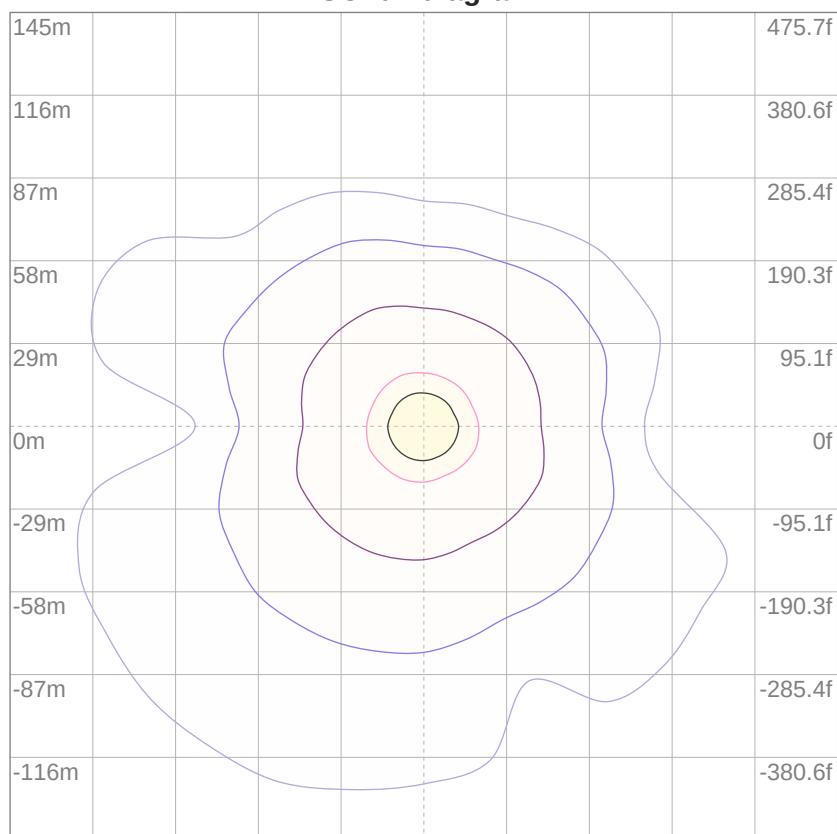
10%	527 cd
20%	1054 cd
30%	1581 cd
40%	2108 cd
50%	2635 cd
60%	3162 cd
70%	3689 cd
80%	4216 cd
90%	4743 cd

Conditions:

Number of c-planes: 16

Candela at center: 5270 cd

ISO lux diagram



3%	1.58 lx
5%	2.63 lx
10%	5.27 lx
30%	15.8 lx
50%	26.3 lx

Conditions:

Number of c-planes: 16

Lux at center: 52.7 lx

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



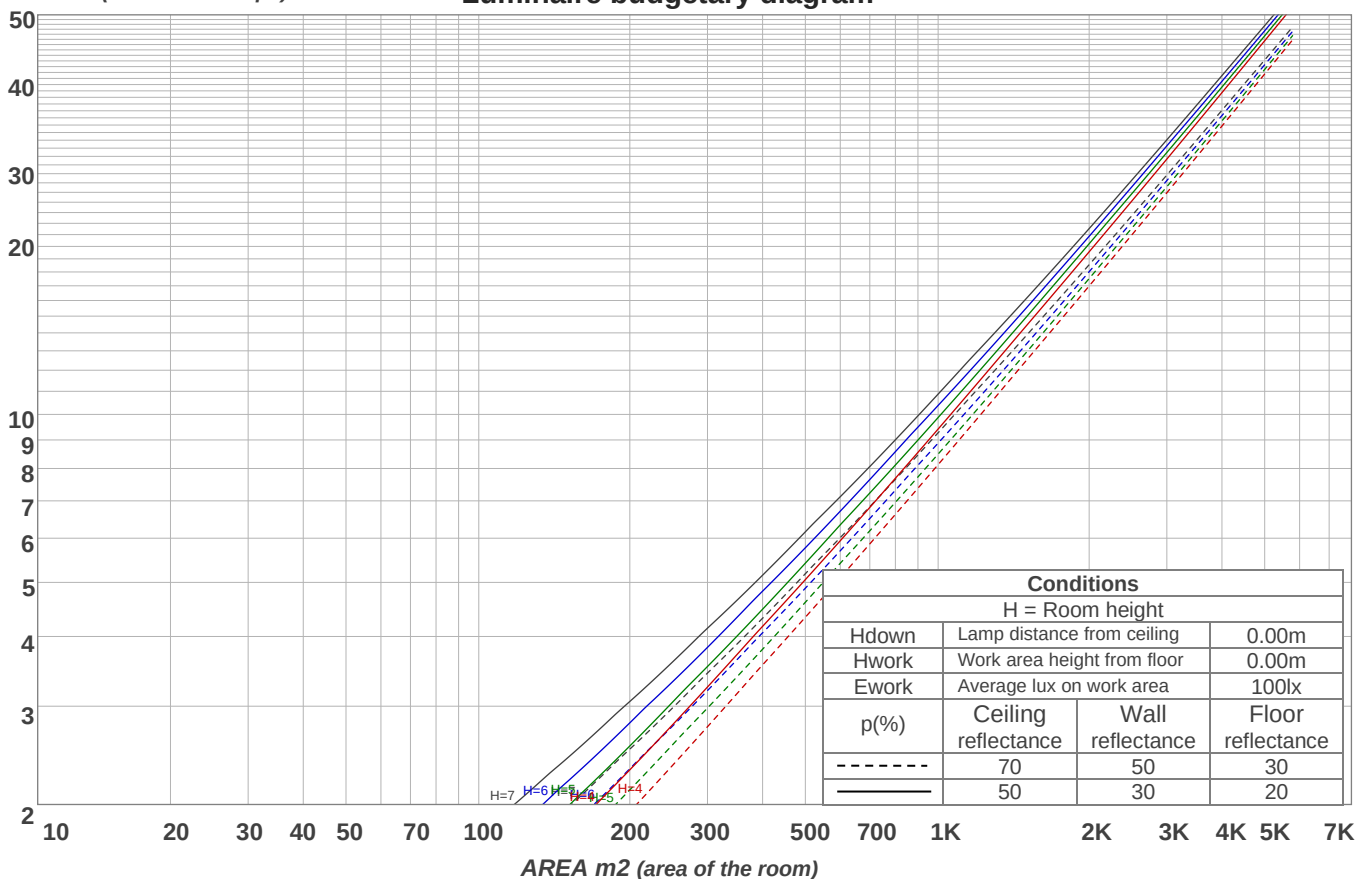
Light Planning

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	109	105	101	97	107	102	99	95	98	95	92	94	92	89	90	89	87	85
2	100	92	86	80	97	90	84	79	86	81	77	83	79	75	80	77	74	71
3	91	81	73	67	89	80	72	67	77	70	65	74	69	64	71	67	63	61
4	84	72	64	57	82	71	63	57	68	62	56	66	60	55	64	59	55	52
5	77	65	56	50	75	64	56	50	62	54	49	60	53	48	58	52	48	46
6	72	59	50	44	70	58	49	44	56	49	43	54	48	43	53	47	42	40
7	67	53	45	39	65	53	44	39	51	44	38	49	43	38	48	42	38	36
8	62	49	40	35	60	48	40	35	47	40	34	45	39	34	44	38	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	34	28	40	33	28	39	33	28	38	32	28	26

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°
498 lm	1412 lm	2091 lm	2421 lm	2367 lm	1981 lm	1387 lm	724 lm	178 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
10.0 lm	9.07 lm	10.1 lm	10.7 lm	10.8 lm	9.91 lm	8.09 lm	5.40 lm	1.90 lm

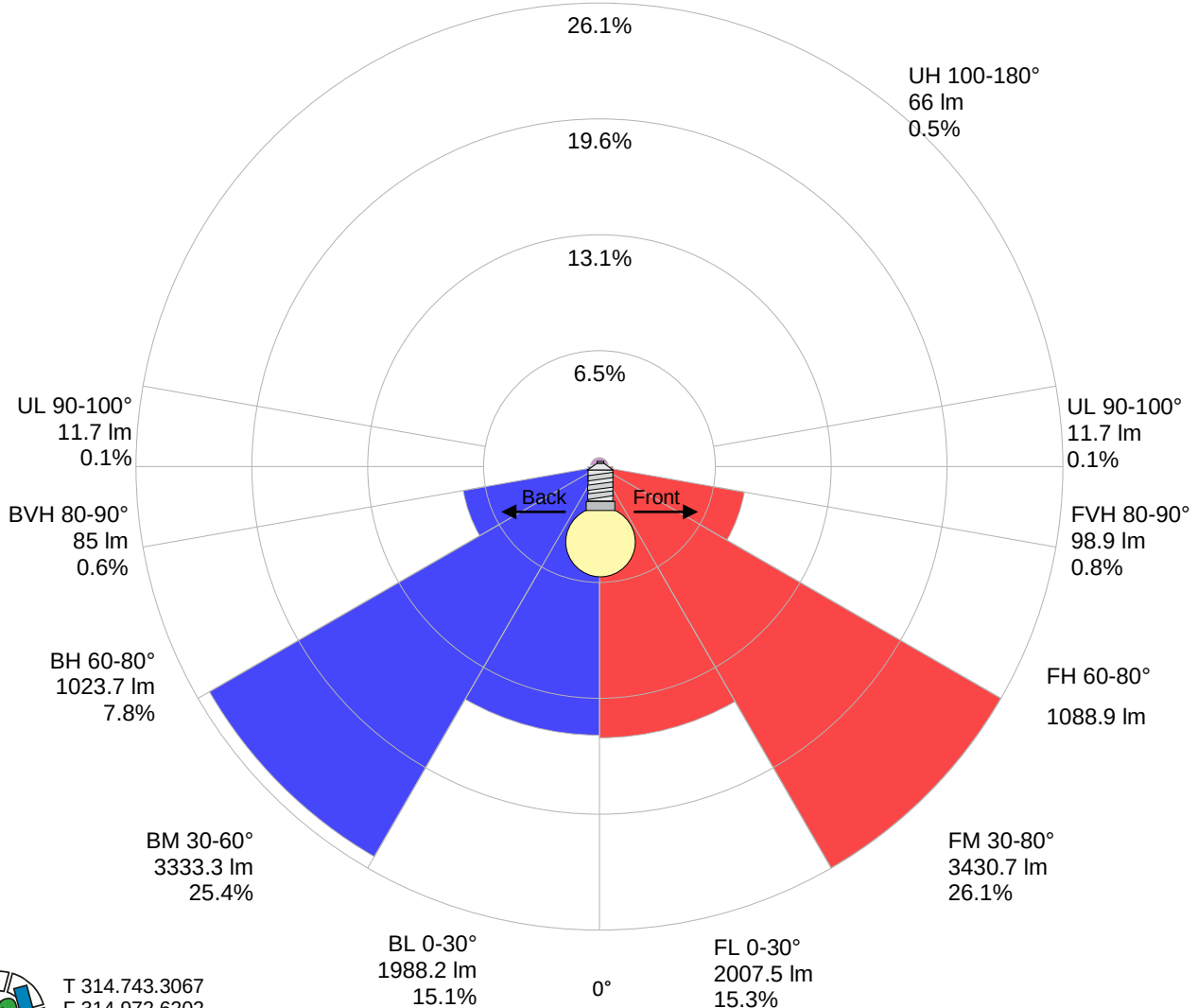


Road Report

LCS table

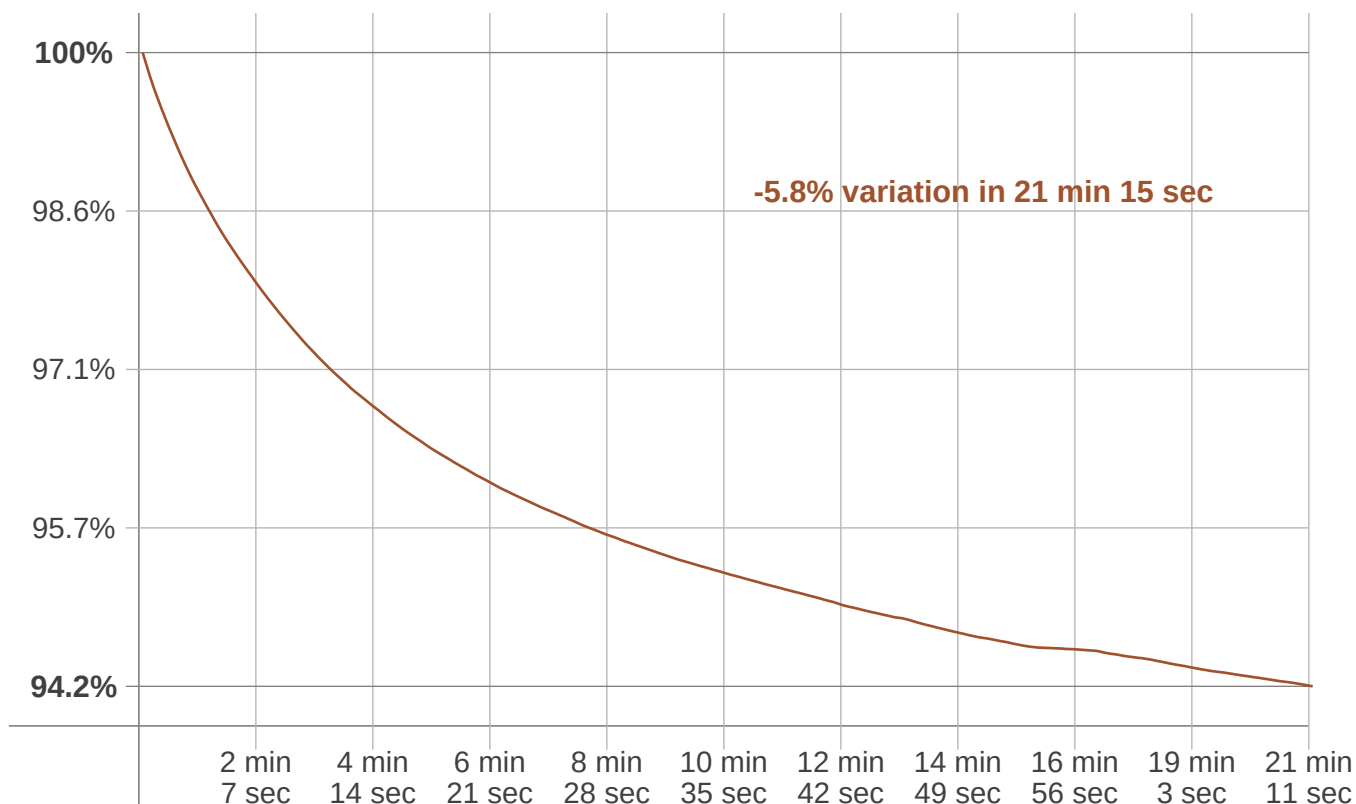
BUG rating:	B3 U3 G3	
Forward light	Lumens	Lumens %
Low(0-30):	2007.5	15.3%
Medium(30-60):	3430.7	26.1%
High(60-80):	1088.9	8.3%
Very high(80-90):	98.9	0.8%
Back light		
Low(0-30):	1988.2	15.1%
Medium(30-60):	3333.3	25.4%
High(60-80):	1023.7	7.8%
Very high(80-90):	85	0.6%
Uplight		
Low(90-100):	11.7	0.1%
High(100-180):	66	0.5%

LCS graph



Stabilization

Warmup curve



Warmup result

Warmup time:	21 min 15 sec
Warmup variation	-5.9%

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
5224 K	+138 K	5362 K

Output change

Output start	Output change	Output end
13915 lm	-782 lm	13134 lm

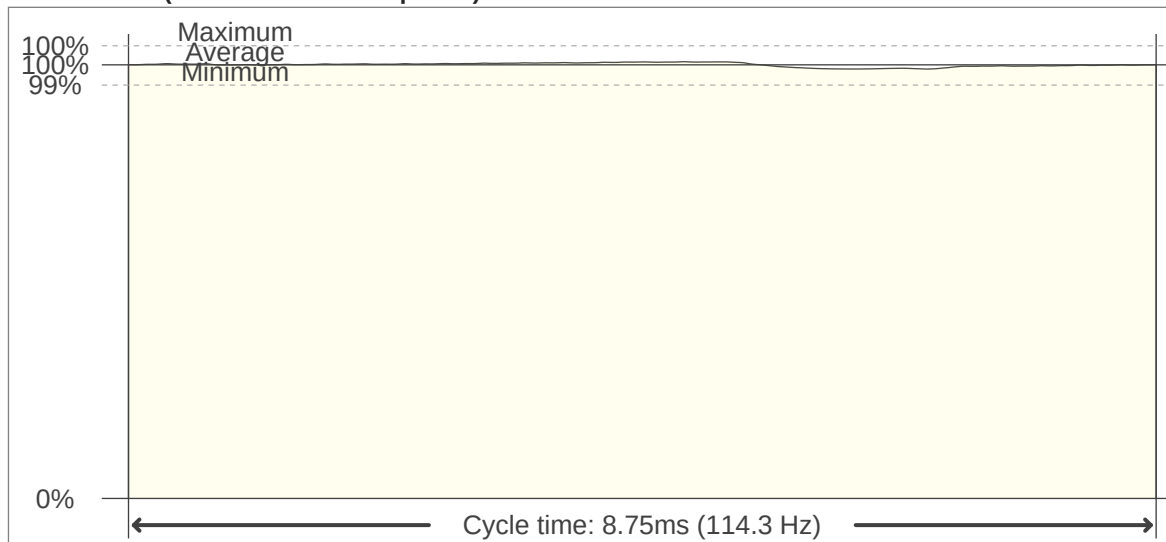


Flicker

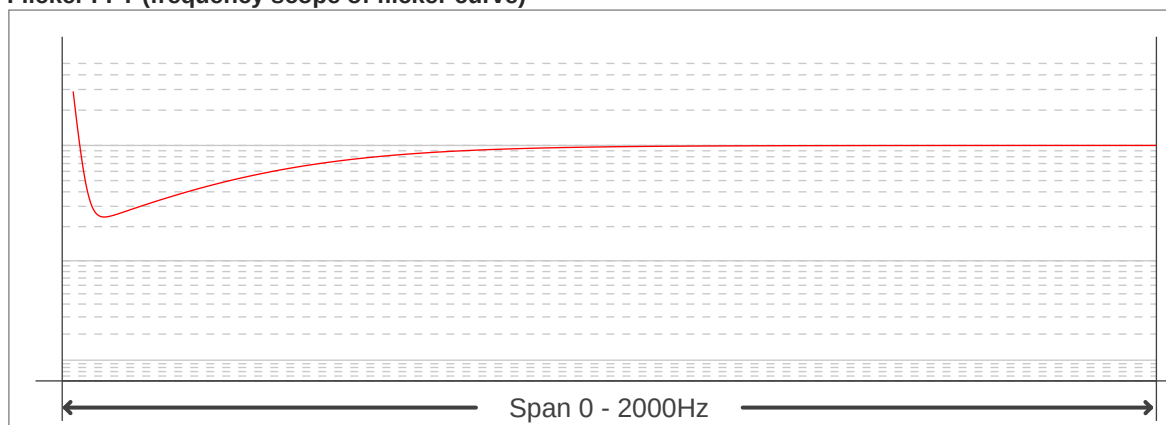
Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

Flicker frequency:	114.29 Hz
Flicker index:	0
Flicker percentage:	1.09 %
SVM: (Visual flicker)	0.02

Flicker conditions:

Sample rate:	40000 samples/second
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