

Light efficiency:

136 Lumen/Watt

Output: 13428 lm

Light quality:

CRI: 81.8

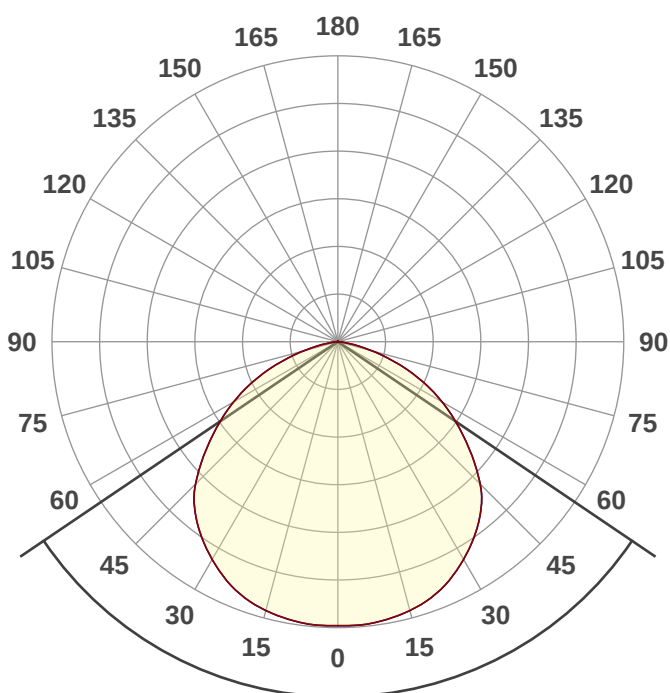
Peak: 4777 cd

Color temperature:

5035 K

Power: 98.6 W

PF: 1.0



Product name:

UHBD-50K100AH-110

Date and time:

4/29/2019 2:09:04 PM

Beam angle

111.8°

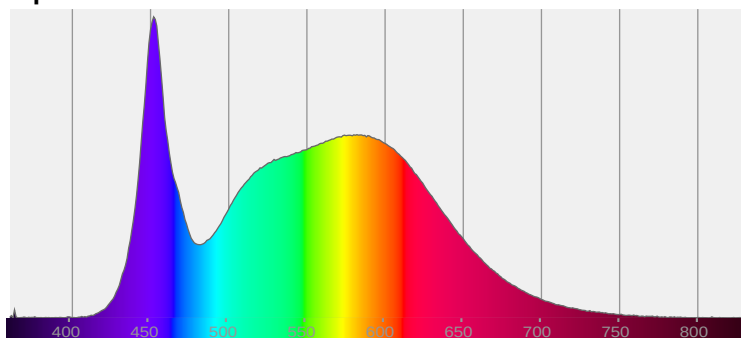


CIE 1931

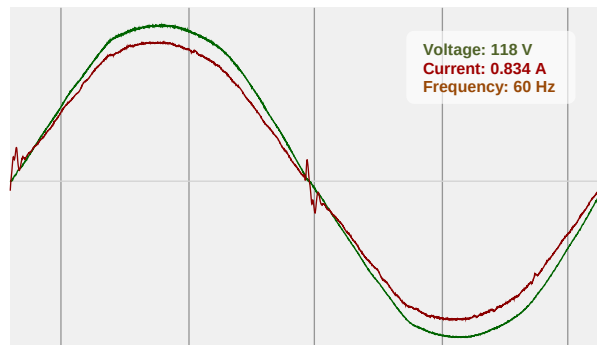
x: 0.345

y: 0.359

Spectra



Power



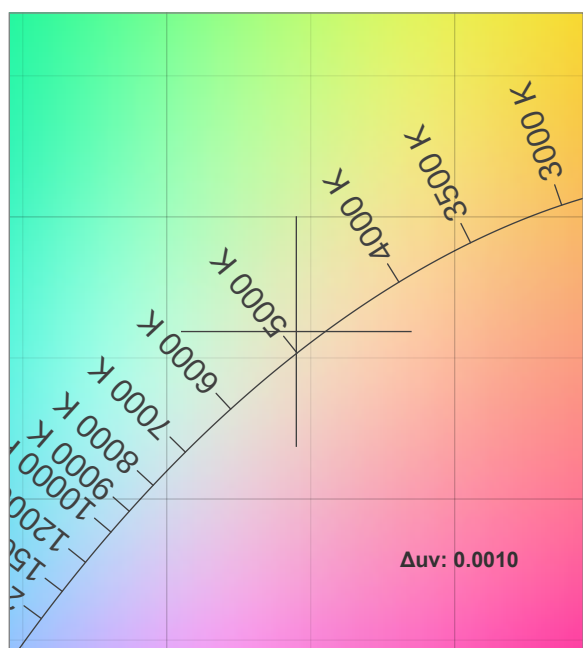
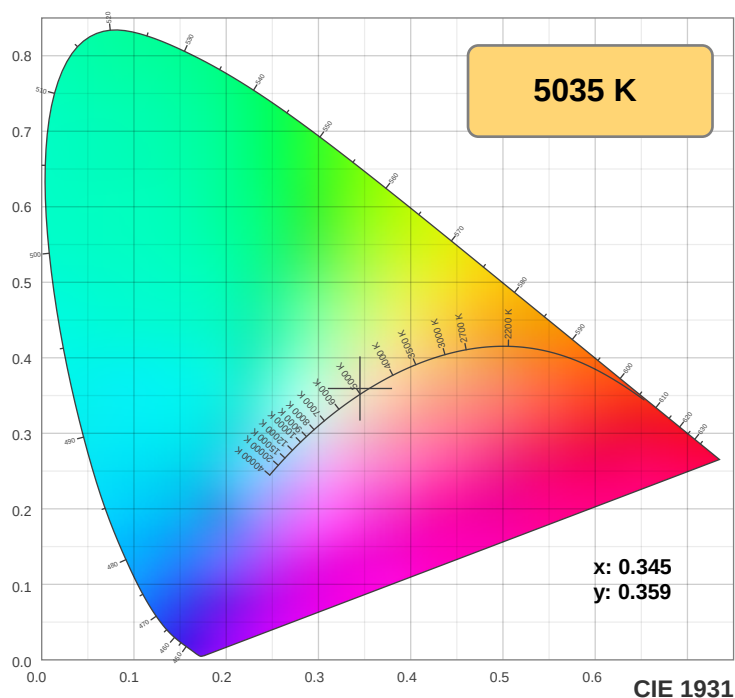
T 314.743.3067

F 314.972.6202

email: commercial-sales@superbrightleds.com

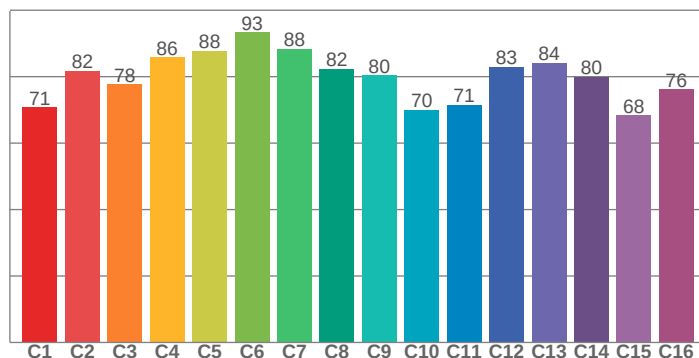
www.superbrightleds.com/

Color Specifications

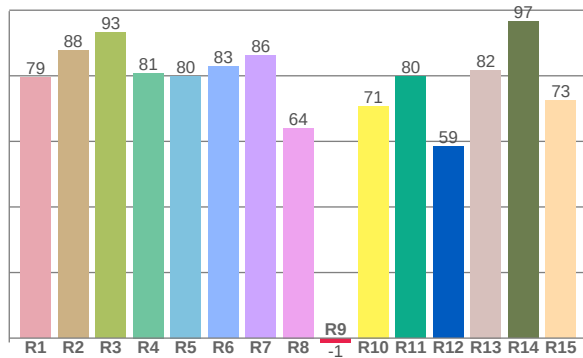


CIE 1931 ZOOM

TM30: 80.5



CRI: 81.8 (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
79.4	87.8	93.3	80.8	80.0	82.7	86.1	64.1	-1.3	70.8	79.8	58.5	81.7	96.6	72.5

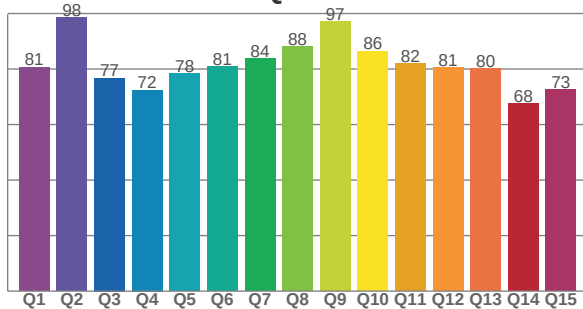
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
70.8	81.7	77.7	85.8	87.7	93.4	88.3	82.3	80.4	69.9	71.5	82.9	84.1	80.0	68.3	76.2

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
80.7	98.5	76.7	72.5	78.3	80.9	83.8	88.1	97.0	86.4	82.0	80.5	80.1	67.6	72.5

CQS: 80.0



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
5035 K	81.8	-1.3	80.5	93.0	80.0	0.345	0.359	0.208	0.326	0.0010



TM30 Report

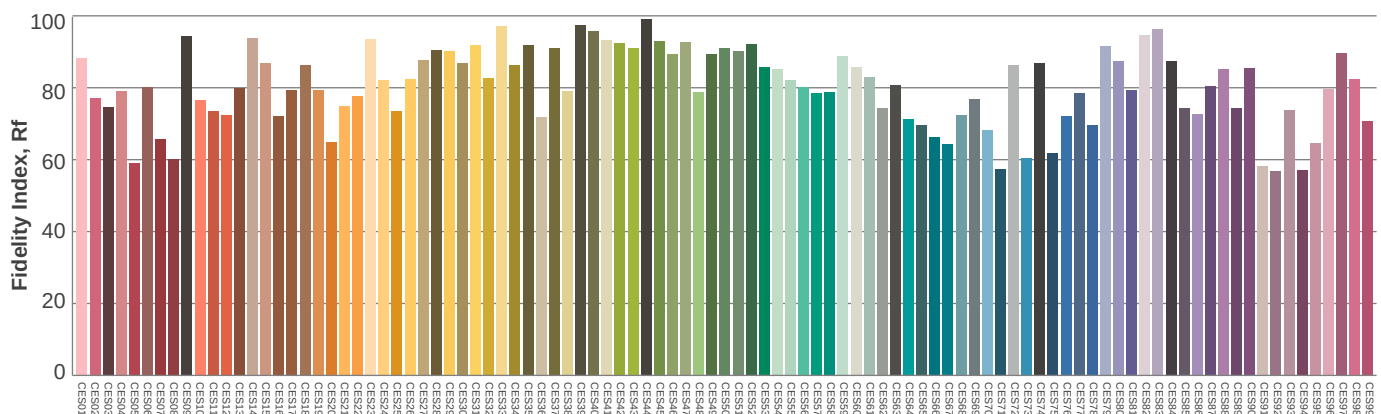
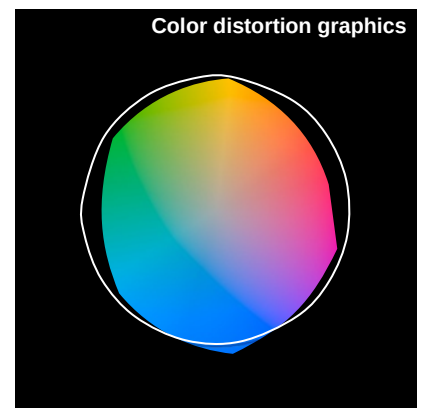
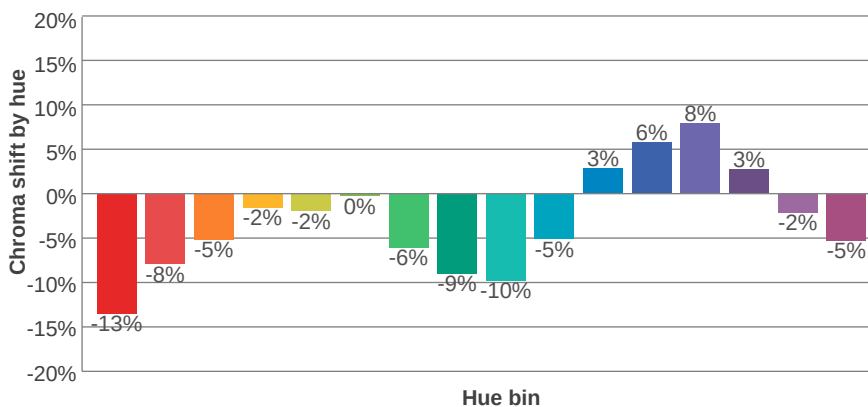
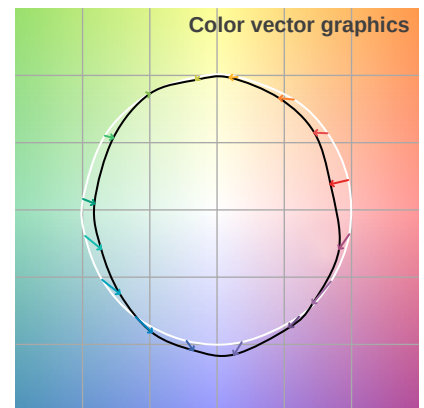
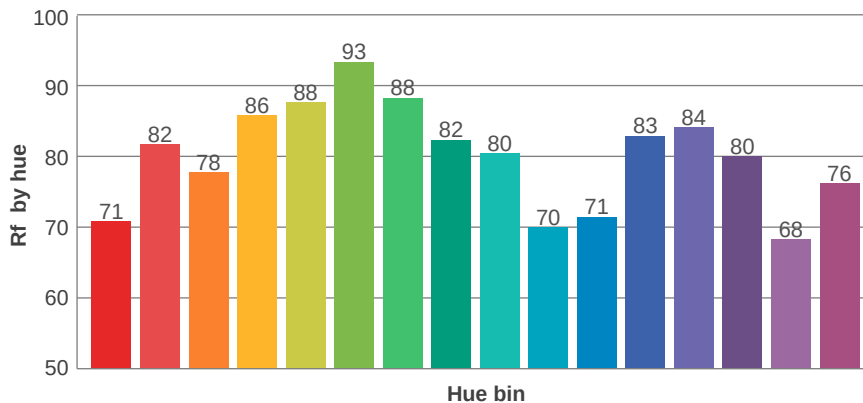
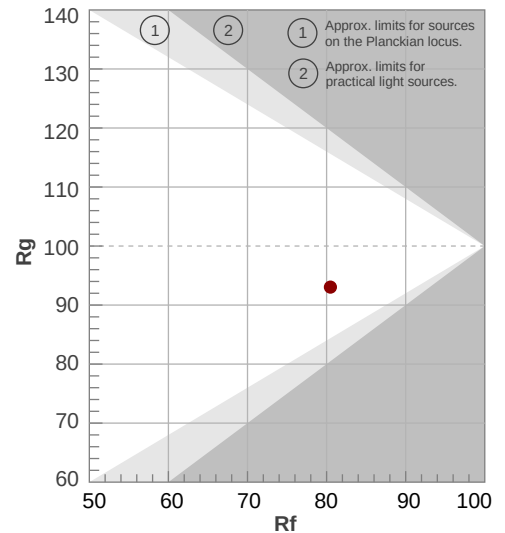
Rf 80.5

Fidelity index Rf

Rg 93.0

Gamut index Rg

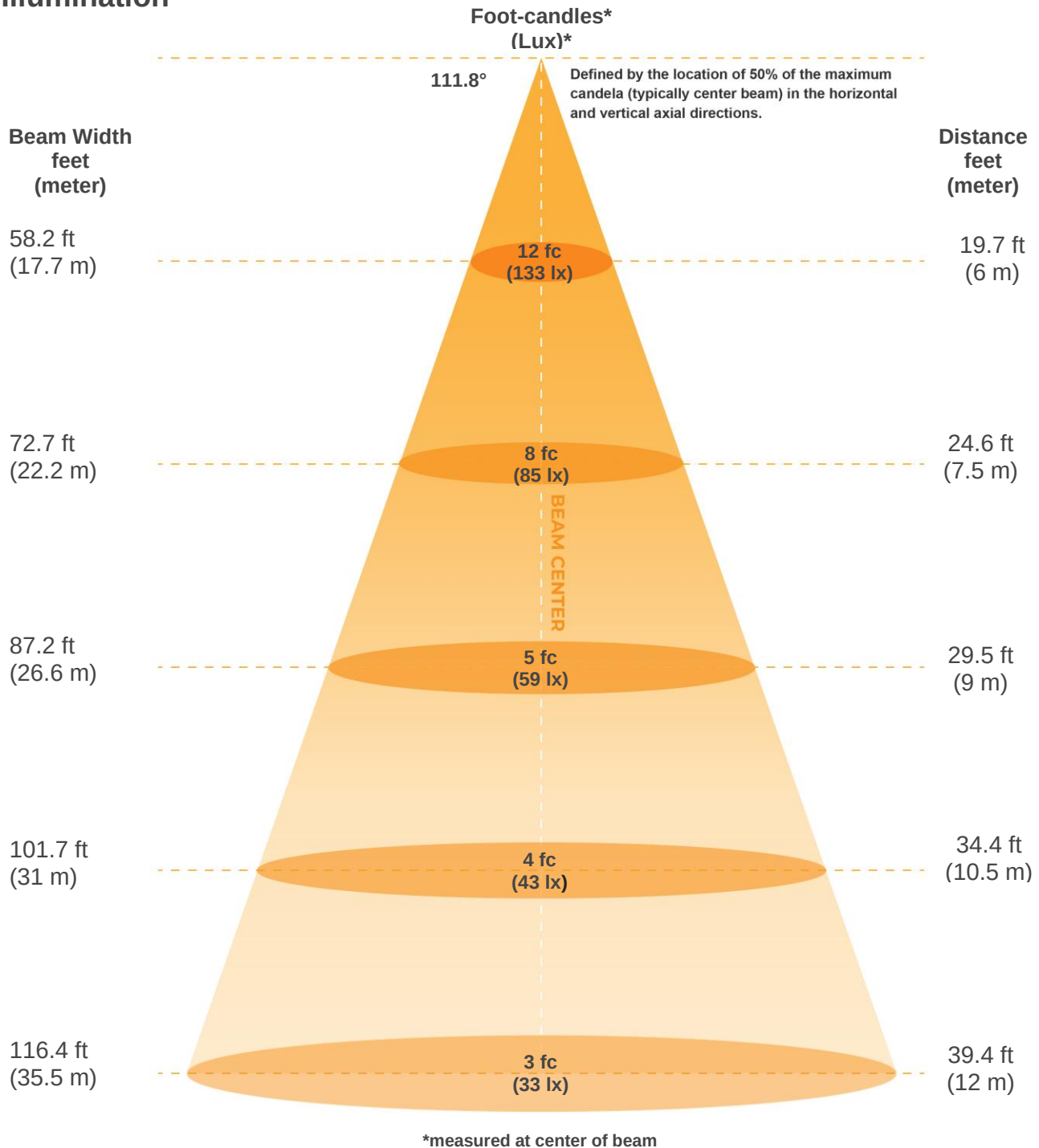
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	71	-13%	0%
2	82	-8%	6%
3	78	-5%	10%
4	86	-2%	6%
5	88	-2%	3%
6	93	0%	-1%
7	88	-6%	-2%
8	82	-9%	2%
9	80	-10%	12%
10	70	-5%	16%
11	71	3%	16%
12	83	6%	6%
13	84	8%	-7%
14	80	3%	-10%
15	68	-2%	-21%
16	76	-5%	-12%



Color Evaluation Sample



Illumination



Beam intensities from 1-20m

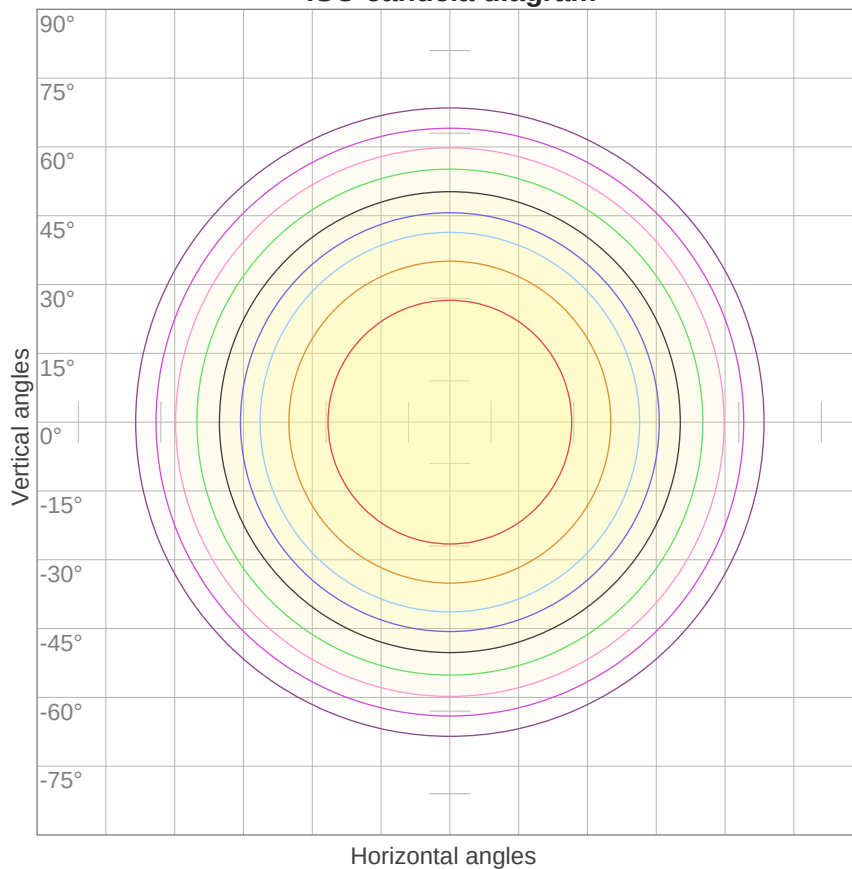
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
3.3ft	6.6ft	9.8ft	13.1ft	16.4ft	19.7ft	23ft	26.2ft	29.5ft	32.8ft	36.1ft	39.4ft	42.7ft	45.9ft	49.2ft	52.5ft	55.8ft	59.1ft	62.3ft	65.6ft
4777lx	1194lx	531lx	299lx	191lx	133lx	97lx	75lx	59lx	48lx	39lx	33lx	28lx	24lx	21lx	19lx	17lx	15lx	13lx	12lx
443.8fc	111fcd	49.3fcd	27.7fcd	17.8fcd	12.3fcd	9.1fcd	6.9fcd	5.5fcd	4.4fcd	3.7fcd	3.1fcd	2.6fcd	2.3fcd	2fcd	1.7fcd	1.5fcd	1.4fcd	1.2fcd	1.1fcd

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
111.8°	153.4°	165.5°	82.8%	56.9%



ISO Diagrams

ISO candela diagram



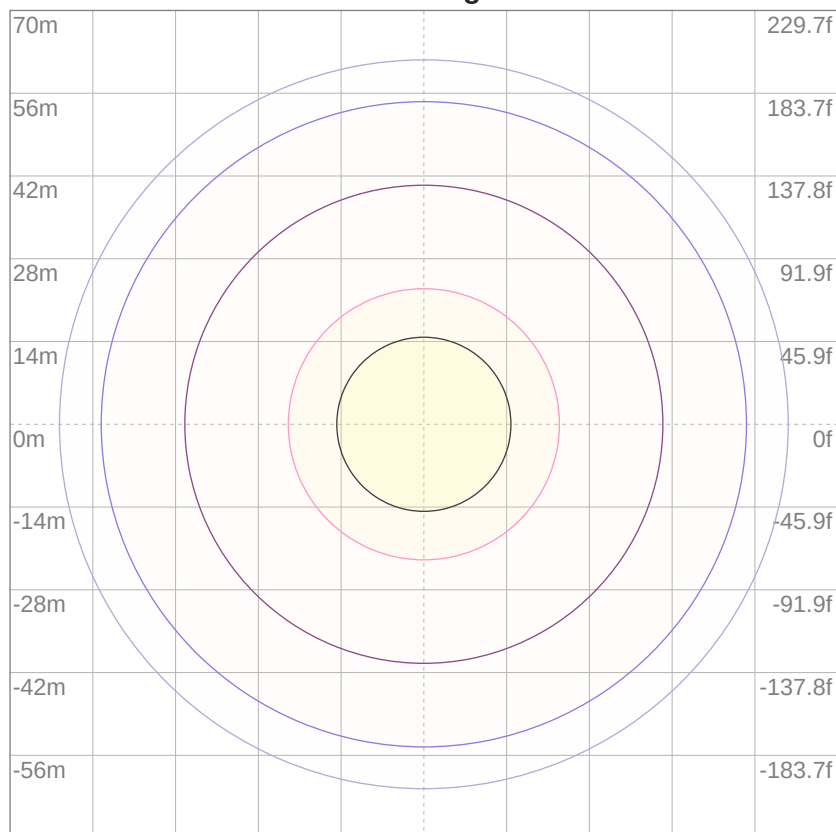
10%	478 cd
20%	955 cd
30%	1433 cd
40%	1911 cd
50%	2389 cd
60%	2866 cd
70%	3344 cd
80%	3822 cd
90%	4299 cd

Conditions:

Number of c-planes: 16

Candela at center: 4777 cd

ISO lux diagram



3%	1.43 lx
5%	2.39 lx
10%	4.78 lx
30%	14.3 lx
50%	23.9 lx

Conditions:

Number of c-planes: 16

Lux at center: 47.8 lx

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



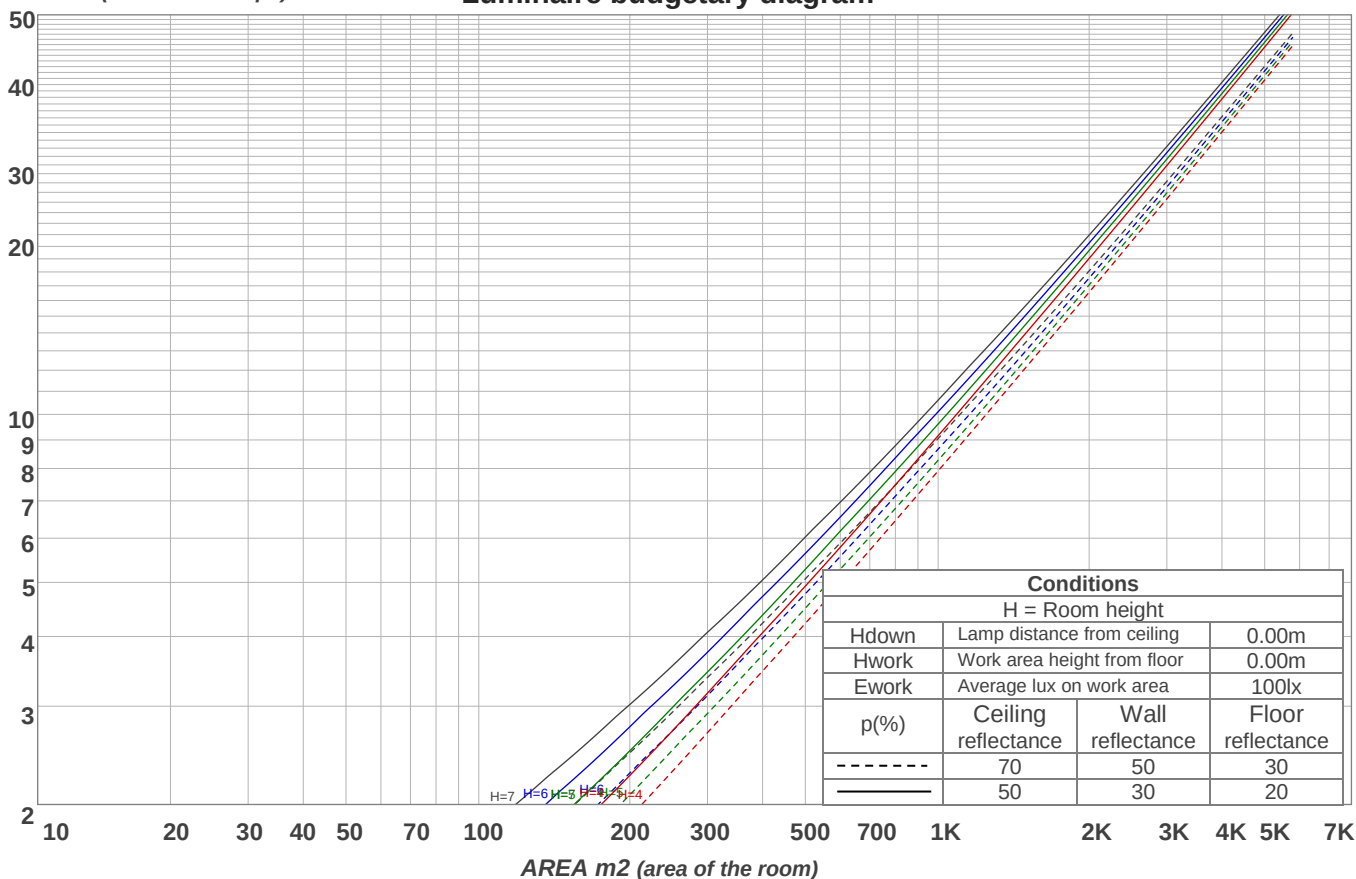
Light Planning

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	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	92	86	80	97	90	84	79	87	82	77	83	79	76	80	77	74	72
3	91	81	73	67	89	80	72	66	77	70	65	74	69	64	71	67	63	61
4	84	72	64	57	81	71	63	57	68	61	56	66	60	55	64	59	54	52
5	77	64	56	49	75	63	55	49	61	54	48	59	53	48	57	52	47	45
6	71	58	49	43	69	57	49	43	55	48	42	54	47	42	52	46	42	39
7	66	53	44	38	64	52	44	38	50	43	37	49	42	37	47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	43	37	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25

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°
455 lm	1322 lm	2039 lm	2501 lm	2595 lm	2210 lm	1537 lm	654 lm	83.5 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
3.09 lm	3.28 lm	3.96 lm	4.70 lm	4.72 lm	4.54 lm	3.87 lm	2.46 lm	0.859 lm

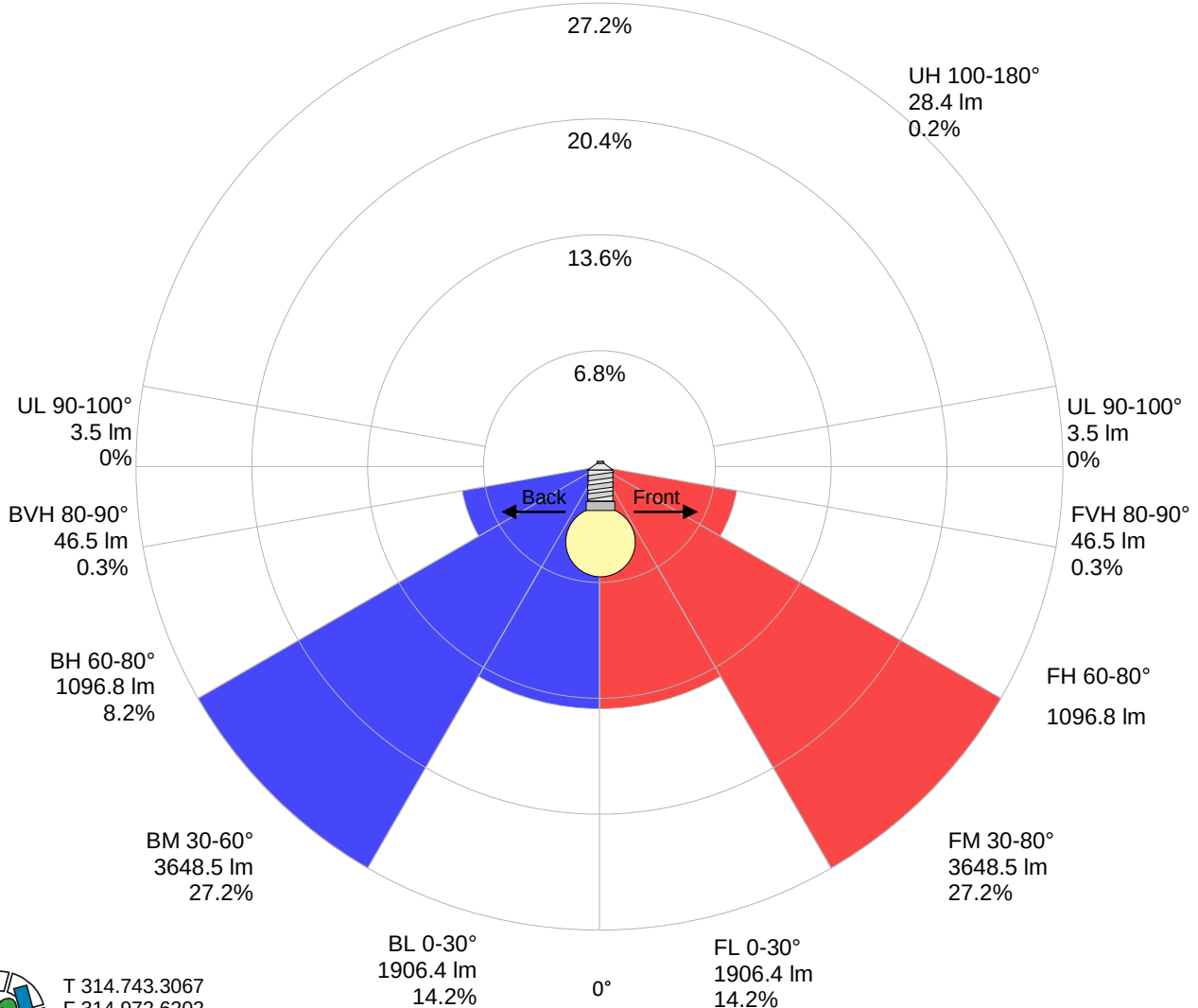


Road Report

LCS table

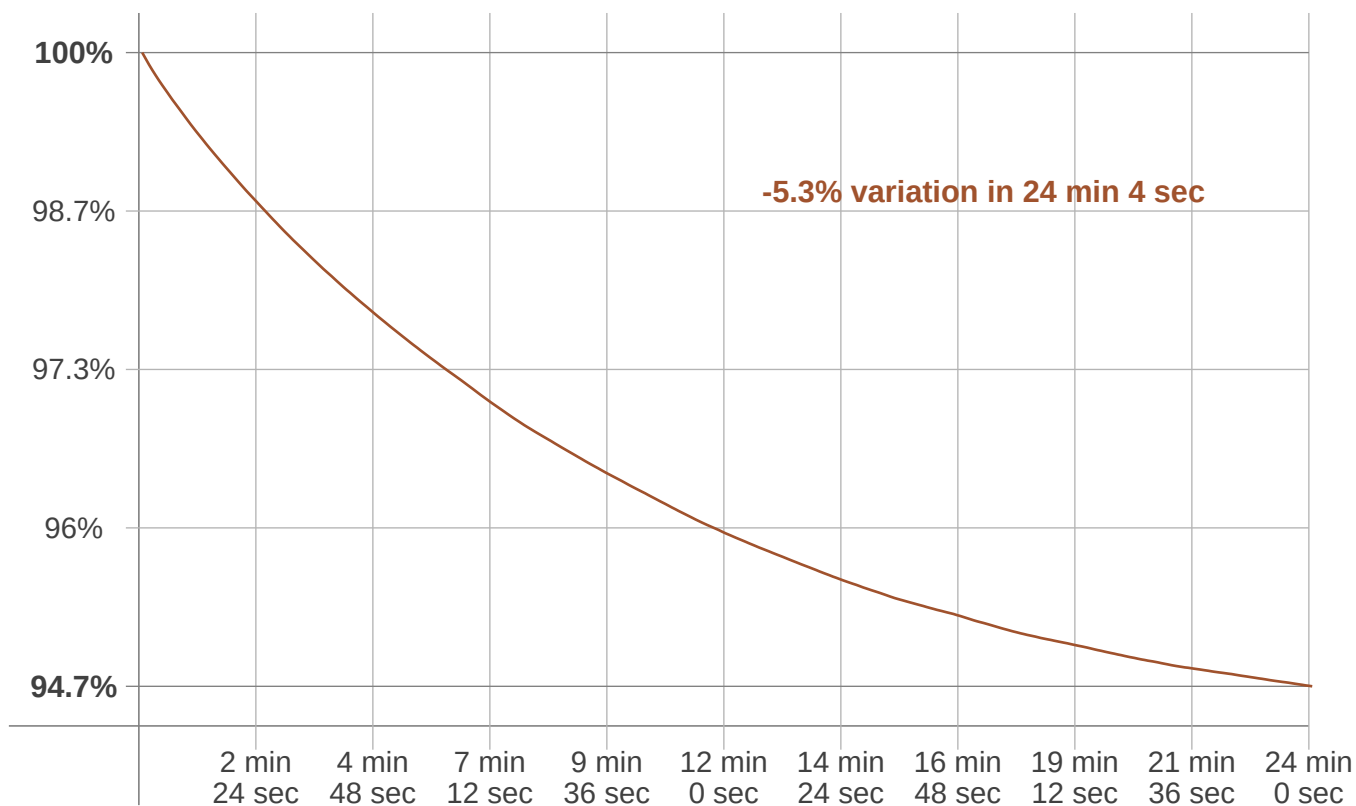
BUG rating:	B3 U2 G1	
Forward light	Lumens	Lumens %
Low(0-30):	1906.4	14.2%
Medium(30-60):	3648.5	27.2%
High(60-80):	1096.8	8.2%
Very high(80-90):	46.5	0.3%
Back light		
Low(0-30):	1906.4	14.2%
Medium(30-60):	3648.5	27.2%
High(60-80):	1096.8	8.2%
Very high(80-90):	46.5	0.3%
Uplight		
Low(90-100):	3.5	0%
High(100-180):	28.4	0.2%

LCS graph



Stabilization

Warmup curve



Warmup result

Warmup time:	24 min 4 sec
Warmup variation	-5.4%

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
4954 K	+81 K	5035 K

Output change

Output start	Output change	Output end
14168 lm	-740 lm	13428 lm

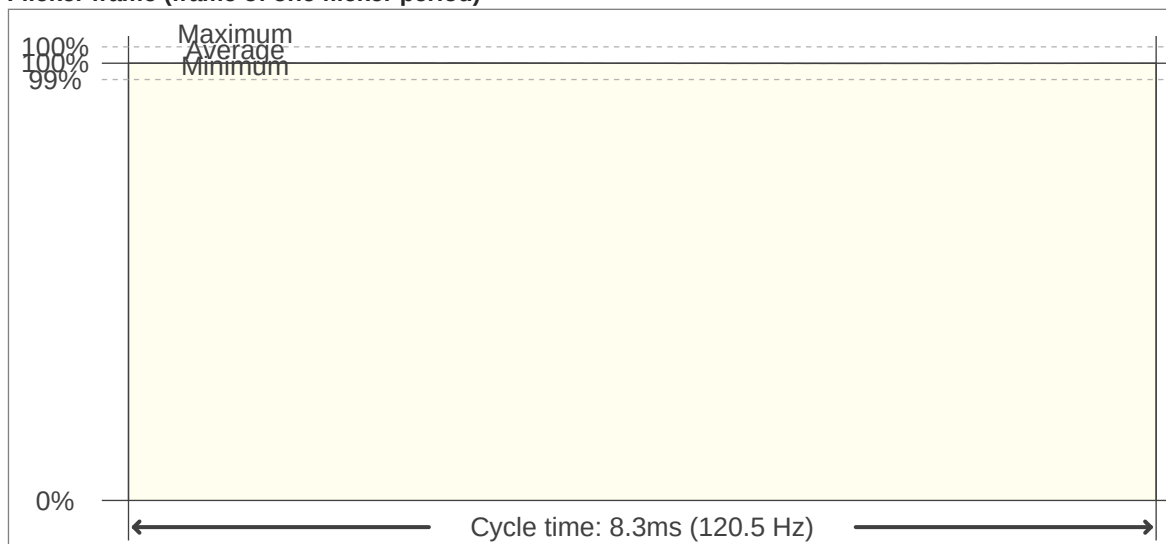


Flicker

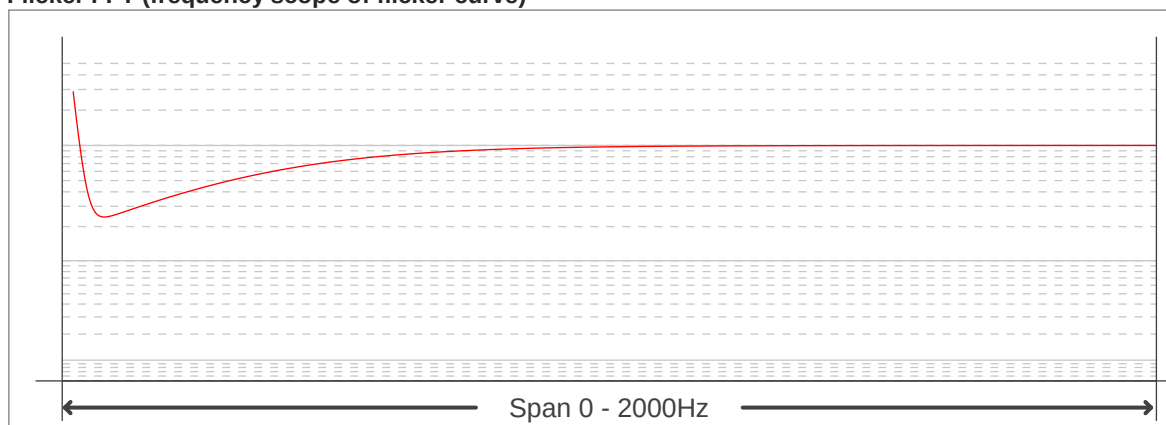
Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

Flicker frequency:	120.48 Hz
Flicker index:	0
Flicker percentage:	0.11 %
SVM: (Visual flicker)	0

Flicker conditions:

Sample rate:	40000 samples/second
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