

Light efficiency:

142 Lumen/Watt

Output: 33778 lm

Light quality:

CRI: 85.5

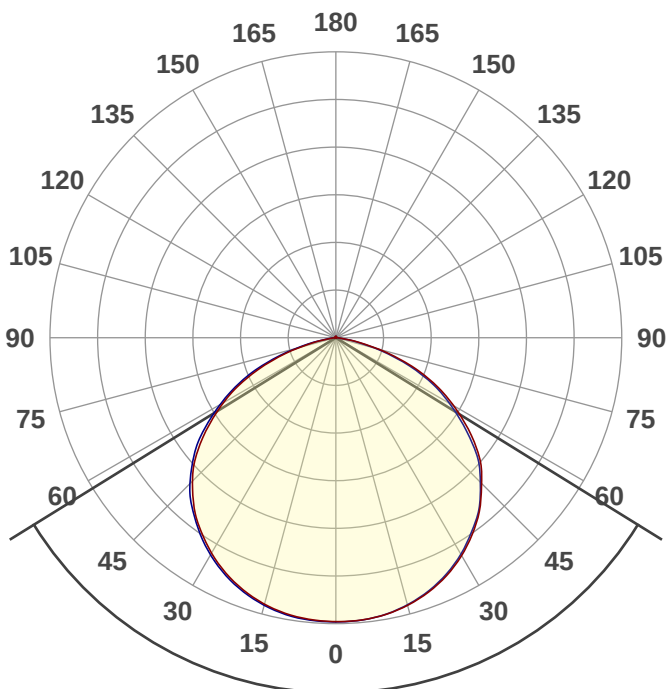
Peak: 11532 cd

Color temperature:

5368 K

Power: 238.1 W

PF: 1.0



Product name:

UHBD2-50K240H-110

Date and time:

5/28/2020 12:29:17 PM

Beam angle

116.5°

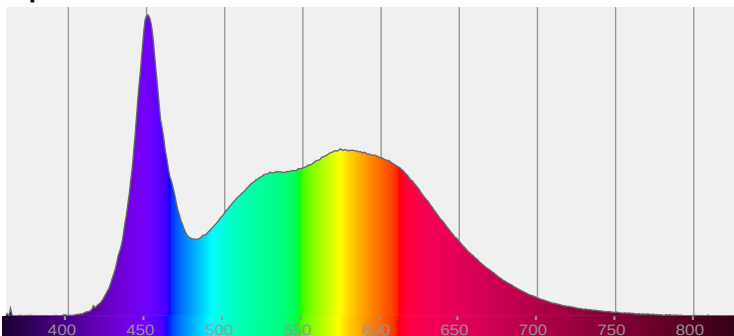


CIE 1931

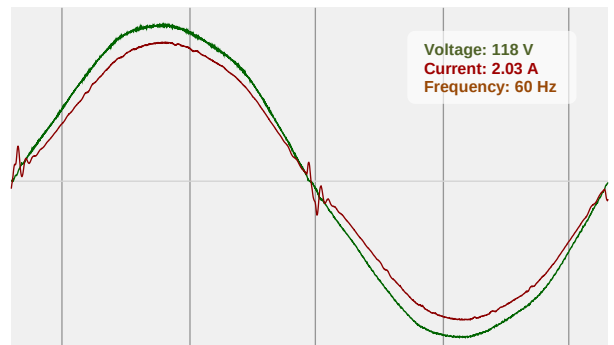
x: 0.336

y: 0.340

Spectra



Power



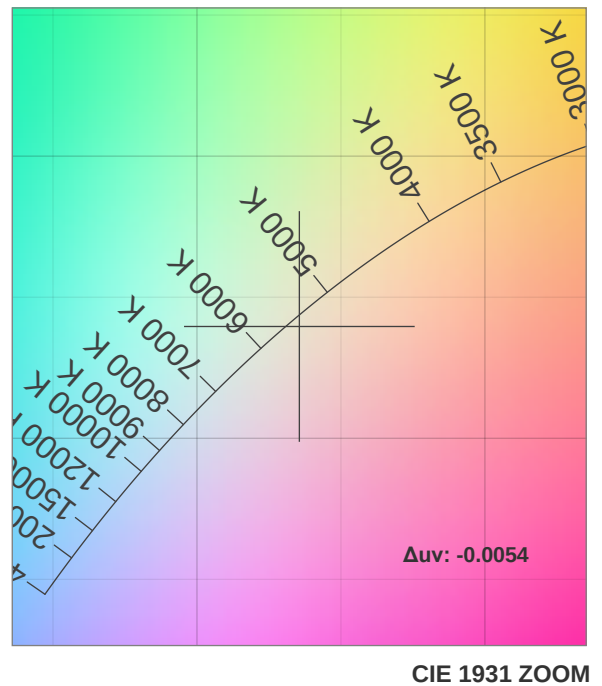
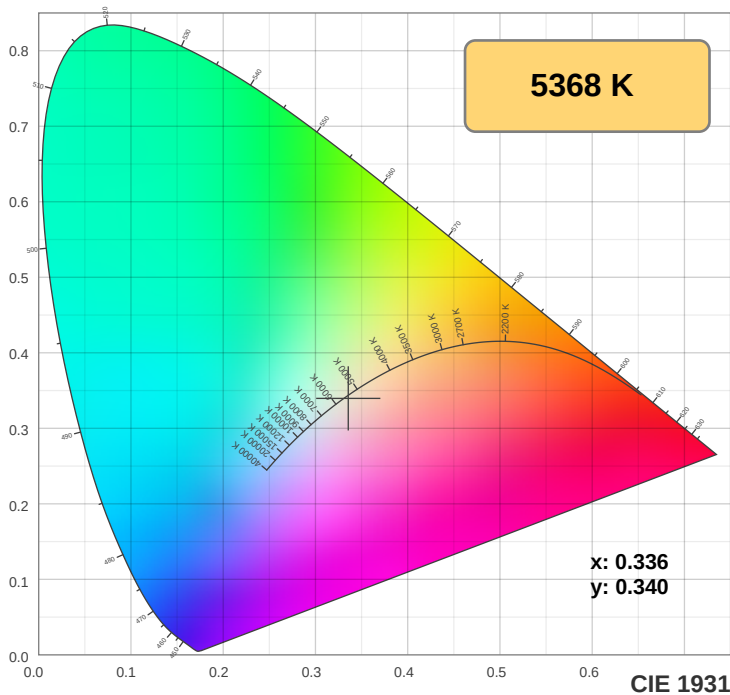
T 314.743.3067

F 314.972.6202

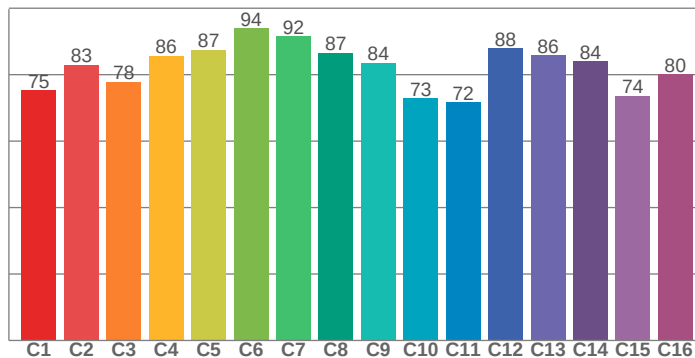
email: commercial-sales@superbrightleds.com

www.superbrightleds.com/

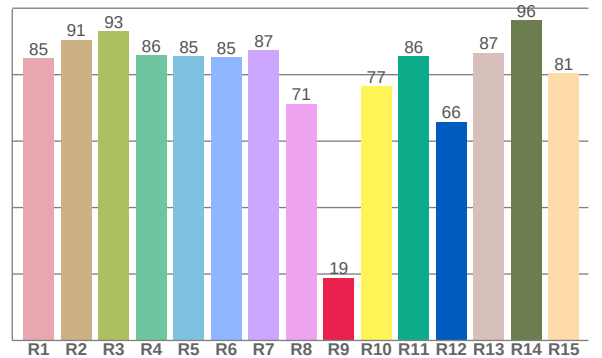
Color Specifications



TM30: 82.4



CRI: 85.5 (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
85.0	90.5	93.0	85.8	85.5	85.3	87.3	71.2	18.8	76.5	85.6	65.8	86.6	96.4	80.5

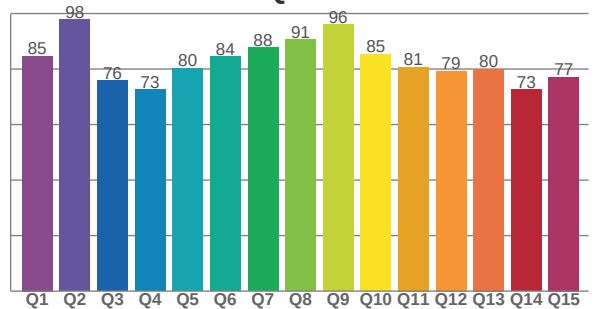
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
75.3	83.0	77.9	85.6	87.5	94.0	91.5	86.6	83.6	72.9	71.7	88.0	85.9	84.0	73.6	80.1

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
84.7	97.7	75.9	72.6	80.2	84.5	87.6	90.5	96.0	85.3	80.7	79.3	80.0	72.6	77.1

CQS: 81.5



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
5368 K	85.5	18.8	82.4	96.0	81.5	0.336	0.340	0.210	0.318	-0.0054



TM30 Report

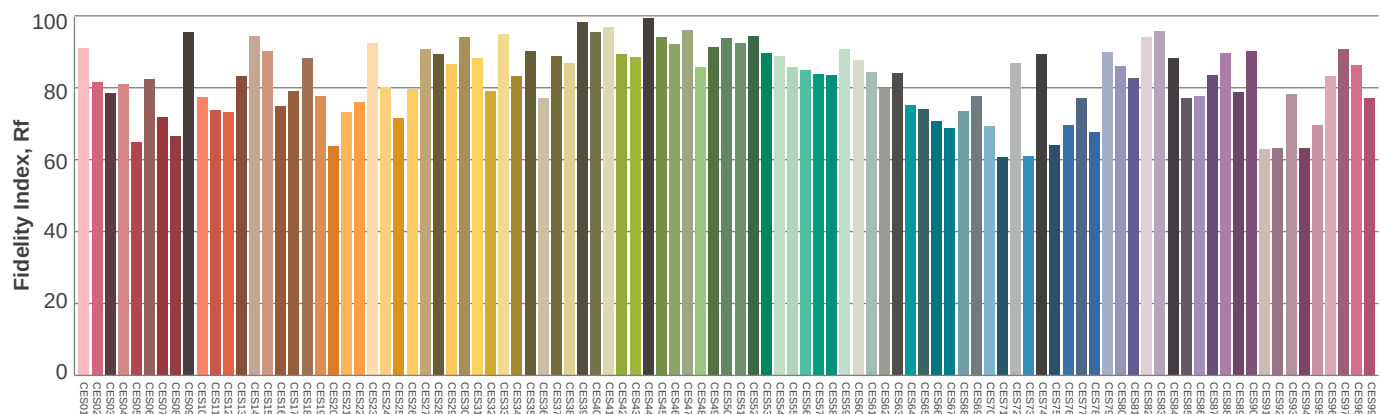
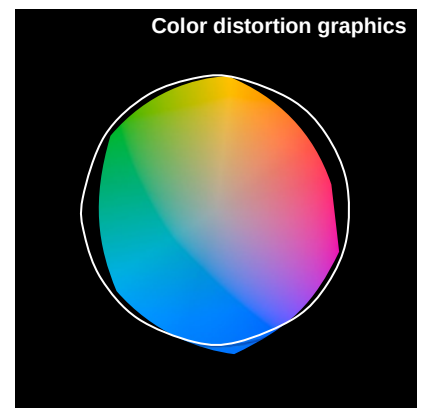
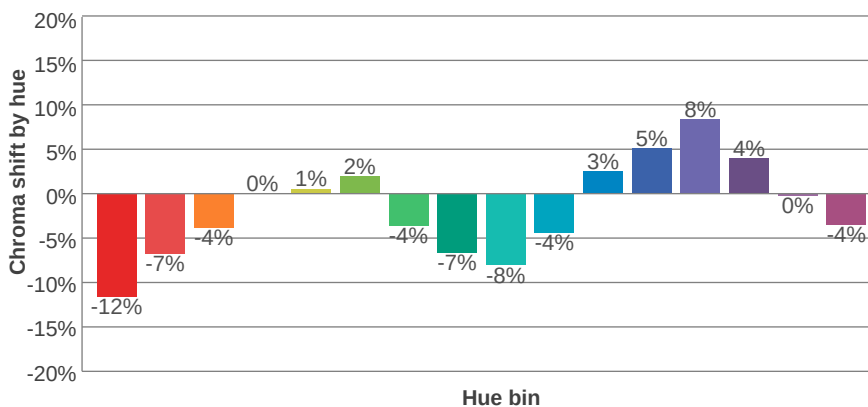
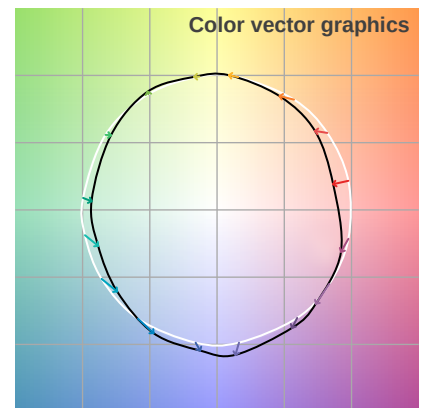
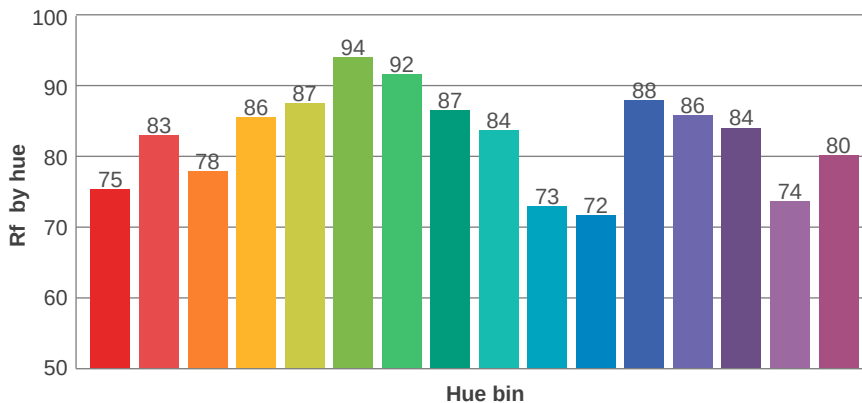
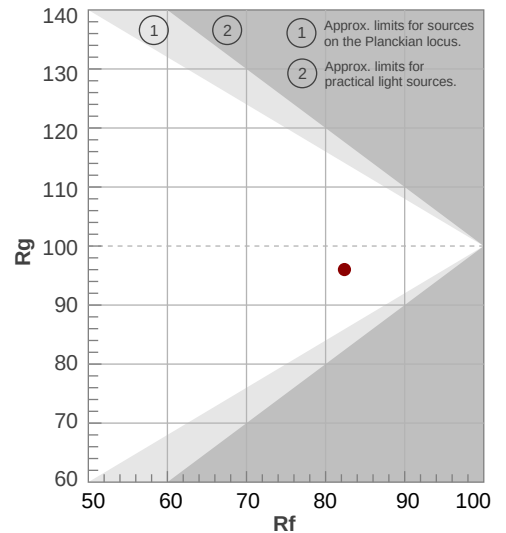
Rf 82.4

Fidelity index Rf

Rg 96.0

Gammut index Rg

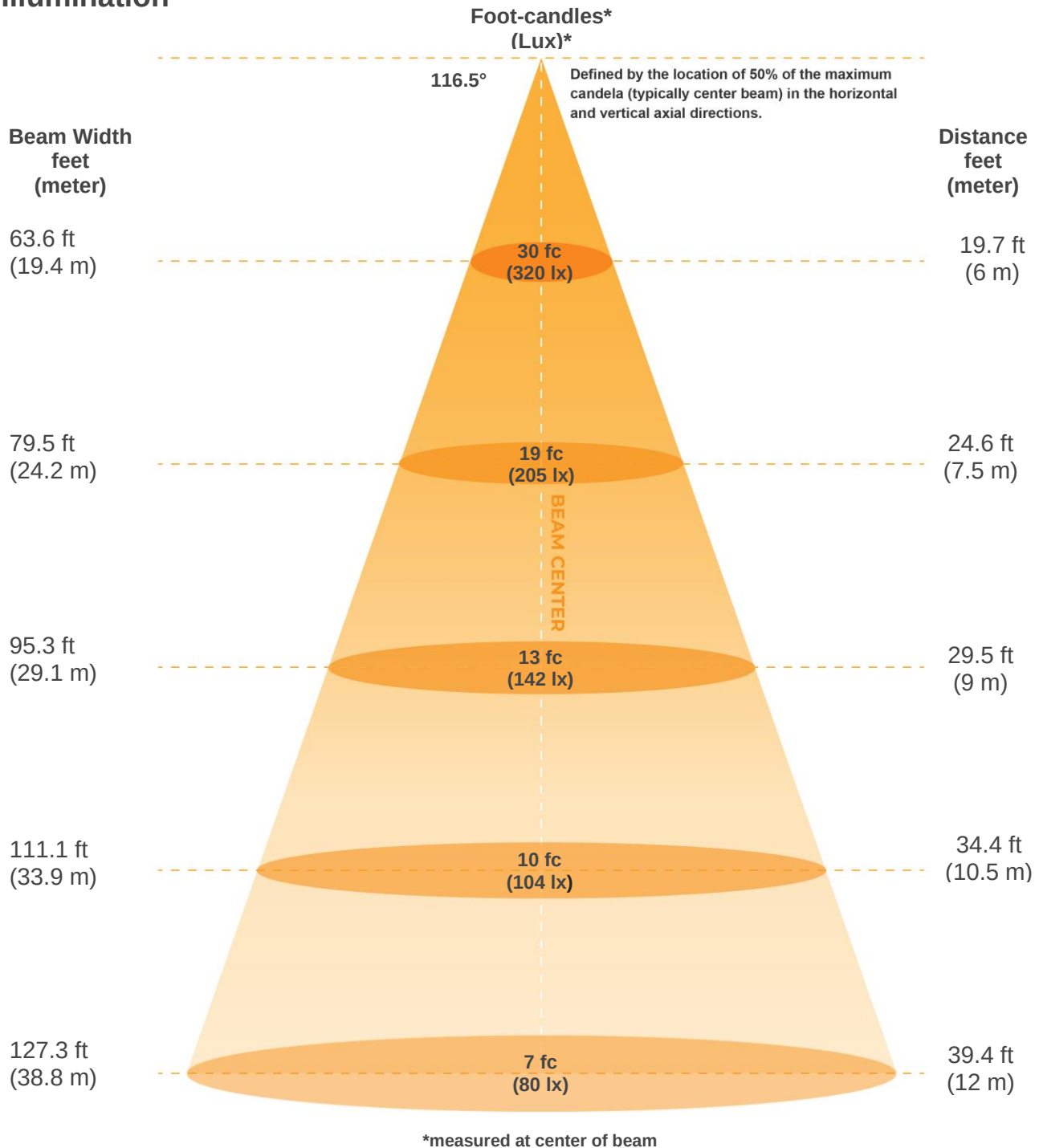
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	75	-12%	0%
2	83	-7%	6%
3	78	-4%	10%
4	86	0%	7%
5	87	1%	4%
6	94	2%	-1%
7	92	-4%	-2%
8	87	-7%	1%
9	84	-8%	10%
10	73	-4%	14%
11	72	3%	15%
12	88	5%	4%
13	86	8%	-4%
14	84	4%	-7%
15	74	0%	-18%
16	80	-4%	-11%



Color Evaluation Sample



Illumination



Beam intensities from 1-20m

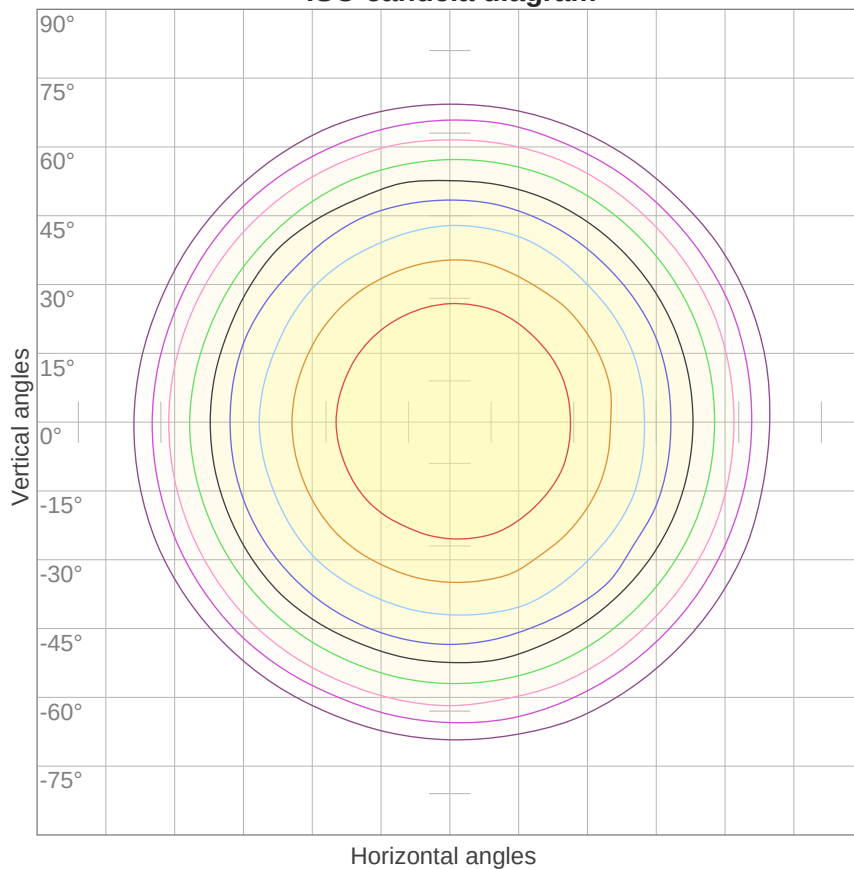
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
3.3ft	6.6ft	9.8ft	13.1ft	16.4ft	19.7ft	23ft	26.2ft	29.5ft	32.8ft	36.1ft	39.4ft	42.7ft	45.9ft	49.2ft	52.5ft	55.8ft	59.1ft	62.3ft	65.6ft
11519lx	2880lx	1280lx	720lx	461lx	320lx	235lx	180lx	142lx	115lx	95lx	80lx	68lx	59lx	51lx	45lx	40lx	36lx	32lx	29lx
1070.2fcd	267.5fcd	118.9fcd	66.9fcd	42.8fcd	29.7fcd	21.8fcd	16.7fcd	13.2fcd	10.7fcd	8.8fcd	7.4fcd	6.3fcd	5.5fcd	4.8fcd	4.2fcd	3.7fcd	3.3fcd	3fcd	2.7fcd

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
116.5°	154.7°	165.4°	81.0%	54.4%



ISO Diagrams

ISO candela diagram



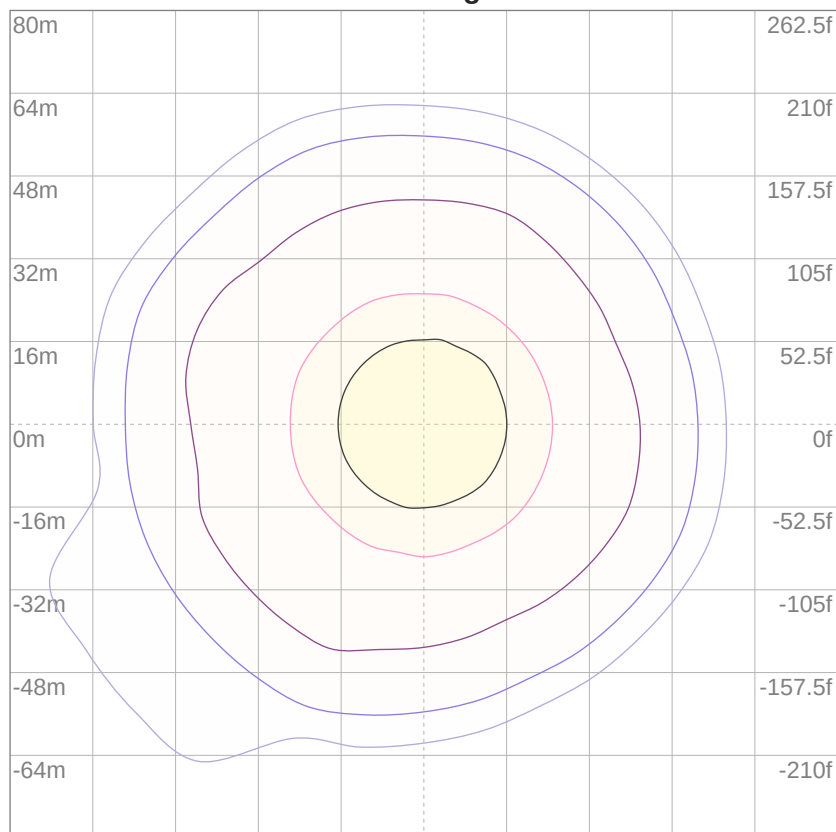
10%	1152 cd
20%	2304 cd
30%	3456 cd
40%	4608 cd
50%	5760 cd
60%	6911 cd
70%	8063 cd
80%	9215 cd
90%	10367 cd

Conditions:

Number of c-planes: 16

Candela at center: 11519 cd

ISO lux diagram



3%	3.46 lx
5%	5.76 lx
10%	11.5 lx
30%	34.6 lx
50%	57.6 lx

Conditions:

Number of c-planes: 16

Lux at center: 115 lx

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



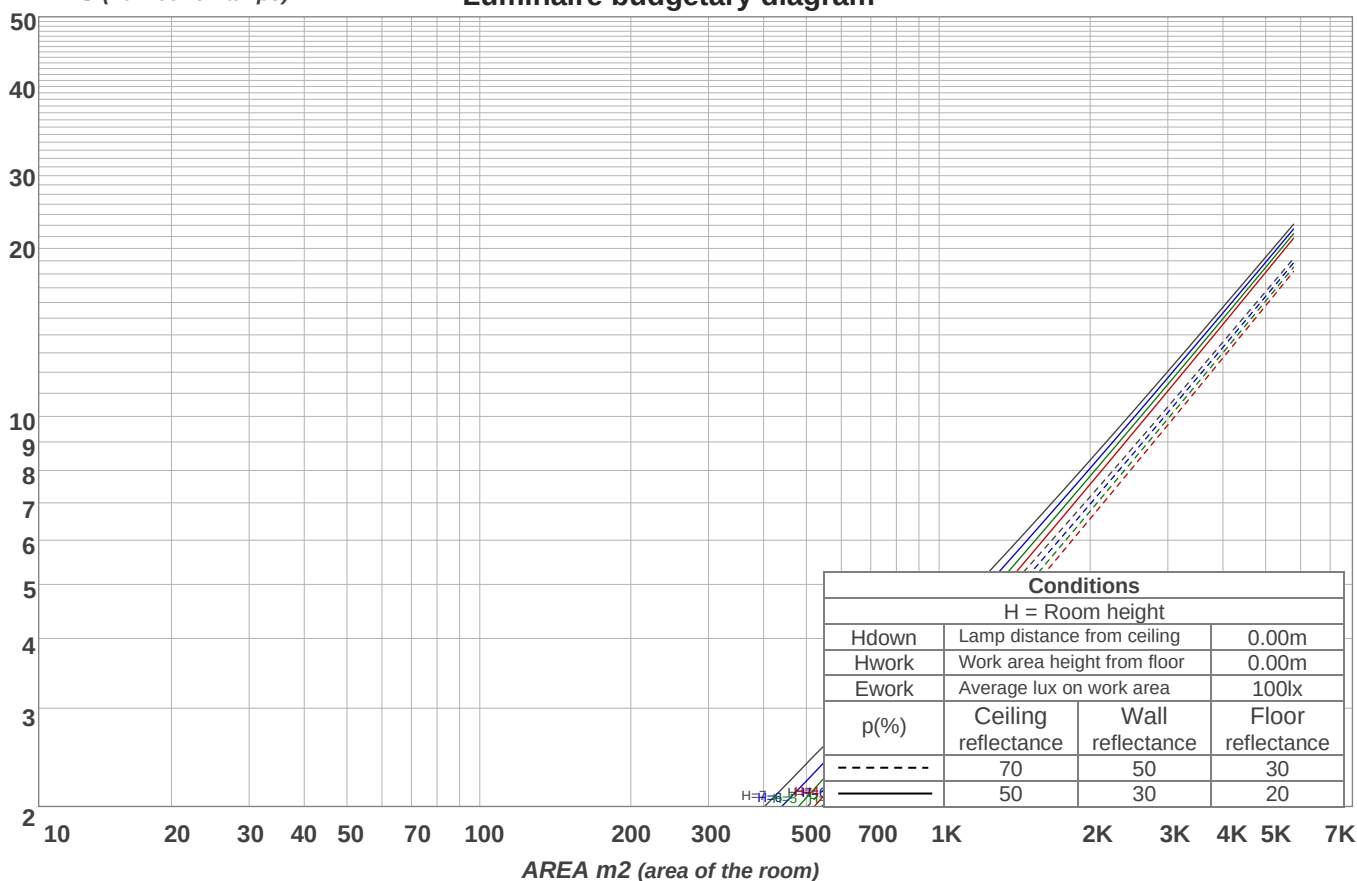
Light Planning

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	101	101	101	99
1	109	105	101	97	107	102	99	95	98	95	92	94	92	89	90	88	87	85
2	99	92	85	79	97	90	84	78	86	81	76	83	78	75	79	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	57	53	51
5	76	63	55	48	74	62	54	48	60	53	47	58	52	46	56	50	46	44
6	70	57	48	42	68	56	48	41	54	47	41	52	46	41	51	45	40	38
7	65	52	43	37	63	51	42	37	49	42	36	48	41	36	46	40	36	34
8	61	47	39	33	59	46	38	33	45	38	32	44	37	32	42	36	32	30
9	57	43	35	29	55	42	35	29	41	34	29	40	34	29	39	33	29	27
10	53	40	32	27	52	39	32	26	38	31	26	37	31	26	36	30	26	24

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°
1094 lm	3167 lm	4884 lm	6024 lm	6411 lm	5789 lm	4187 lm	1817 lm	189 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
22.1 lm	28.2 lm	33.1 lm	32.7 lm	30.5 lm	27.2 lm	21.9 lm	14.4 lm	5.03 lm

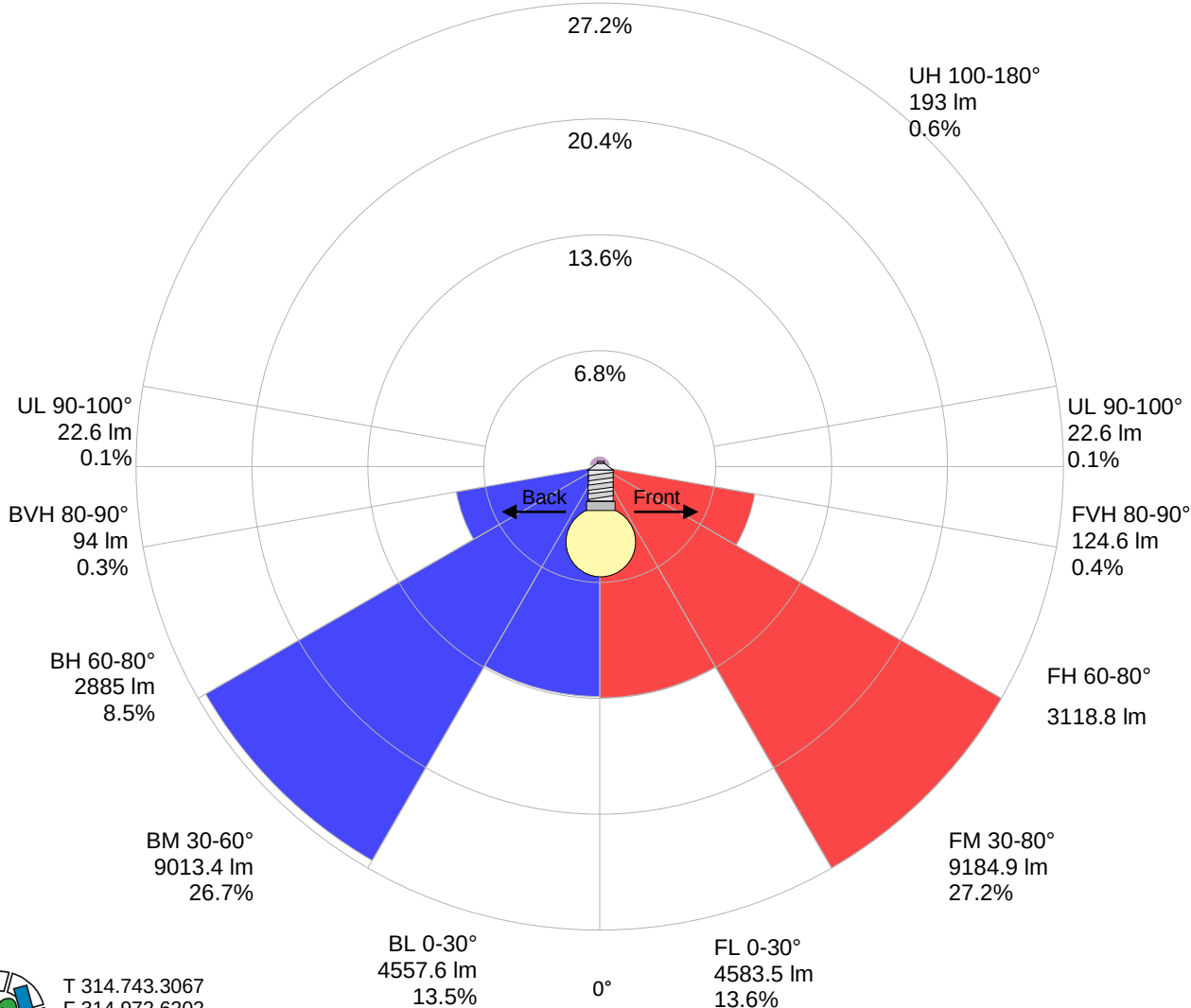


Road Report

LCS table

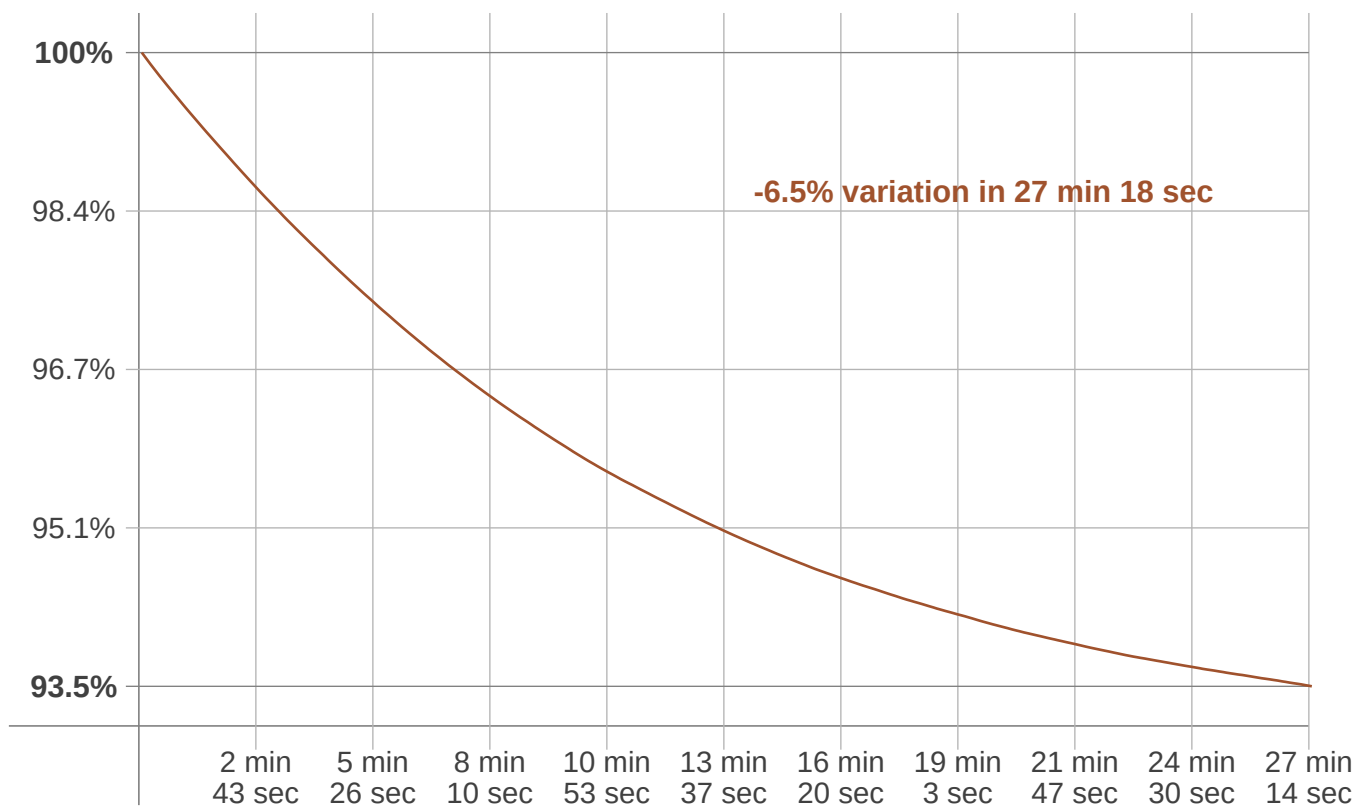
BUG rating:	B5 U3 G4	
Forward light	Lumens	Lumens %
Low(0-30):	4583.5	13.6%
Medium(30-60):	9184.9	27.2%
High(60-80):	3118.8	9.2%
Very high(80-90):	124.6	0.4%
Back light		
Low(0-30):	4557.6	13.5%
Medium(30-60):	9013.4	26.7%
High(60-80):	2885	8.5%
Very high(80-90):	94	0.3%
Uplight		
Low(90-100):	22.6	0.1%
High(100-180):	193	0.6%

LCS graph



Stabilization

Warmup curve



Warmup result

Warmup time:	27 min 18 sec
Warmup variation	-6.6%

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
5210 K	+158 K	5368 K

Output change

Output start	Output change	Output end
36126 lm	-2348 lm	33778 lm

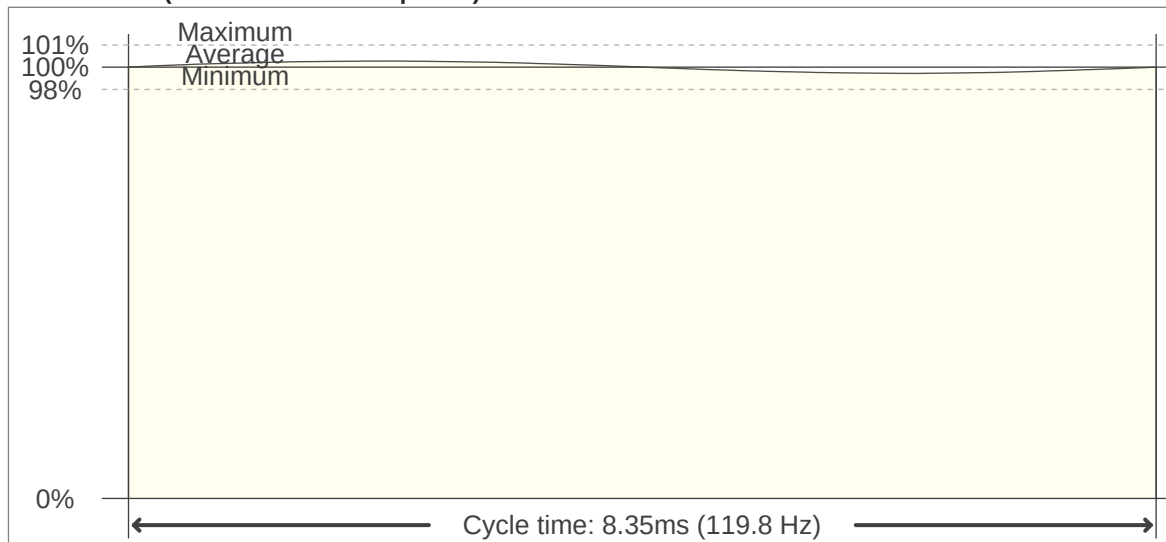


Flicker

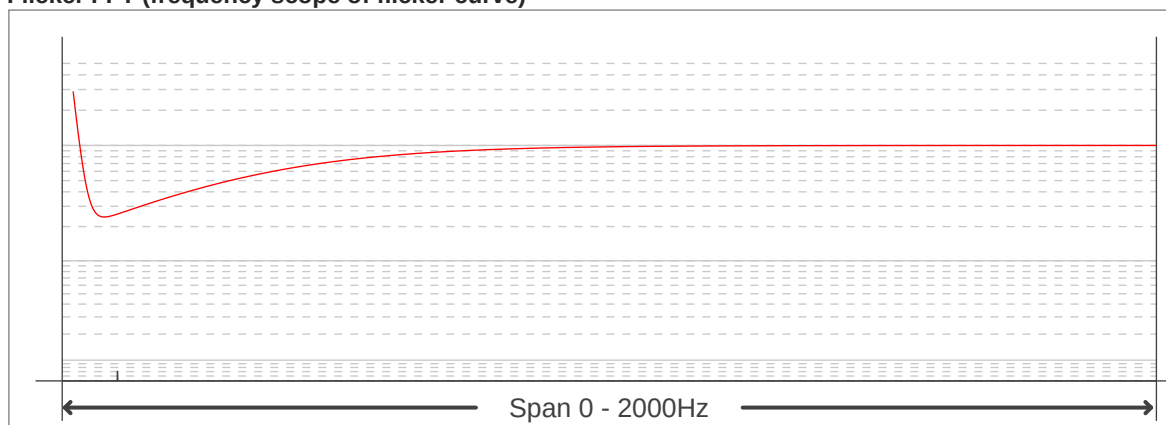
Flicker curve (complete sampled flicker signal)



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:	1.5 %
SVM: (Visual flicker)	0.05

Flicker conditions:

Sample rate:	40000 samples/second
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