

Light efficiency:

139 Lumen/Watt

Output: 14229 lm

Light quality:

CRI: 85.9

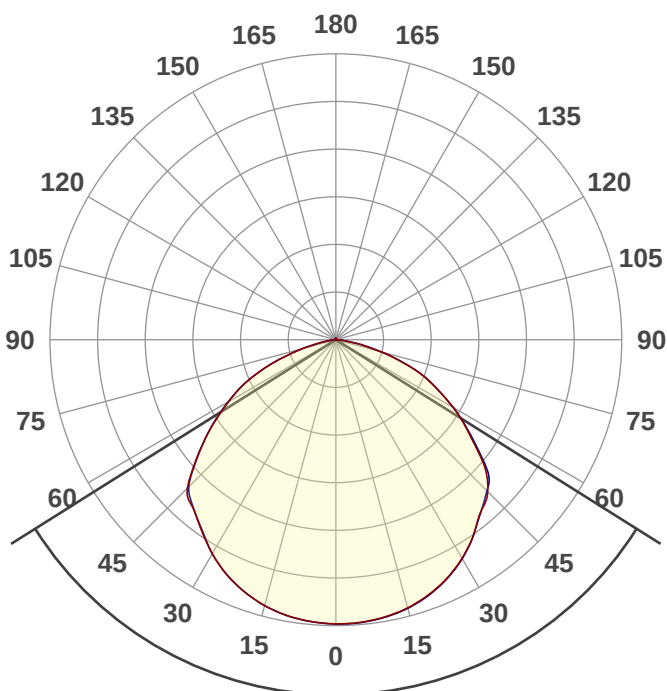
Peak: 4859 cd

Color temperature:

5416 K

Power: 102.2 W

PF: 0.99



Product name:

UHBD2-50K100H-110

Date and time:

5/27/2020 10:22:15 AM

Beam angle

115.7°

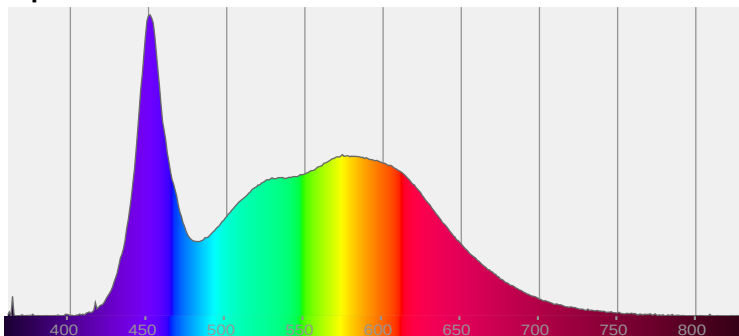


CIE 1931

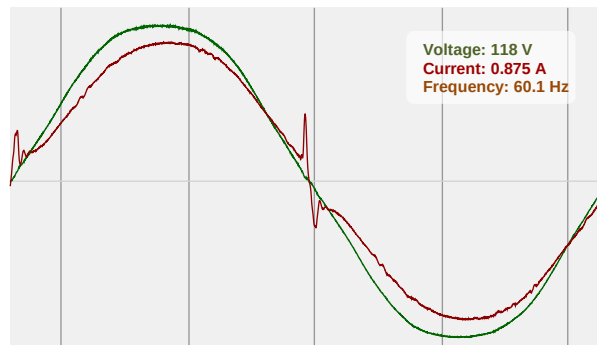
x: 0.334

y: 0.337

Spectra



Power



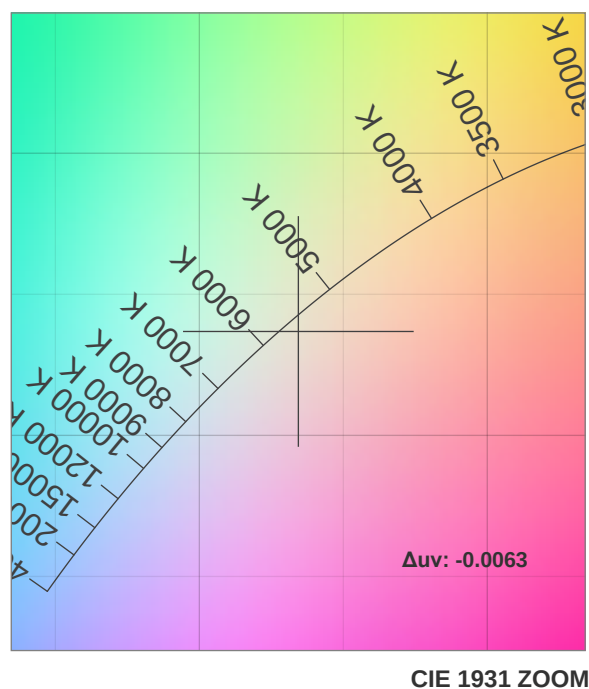
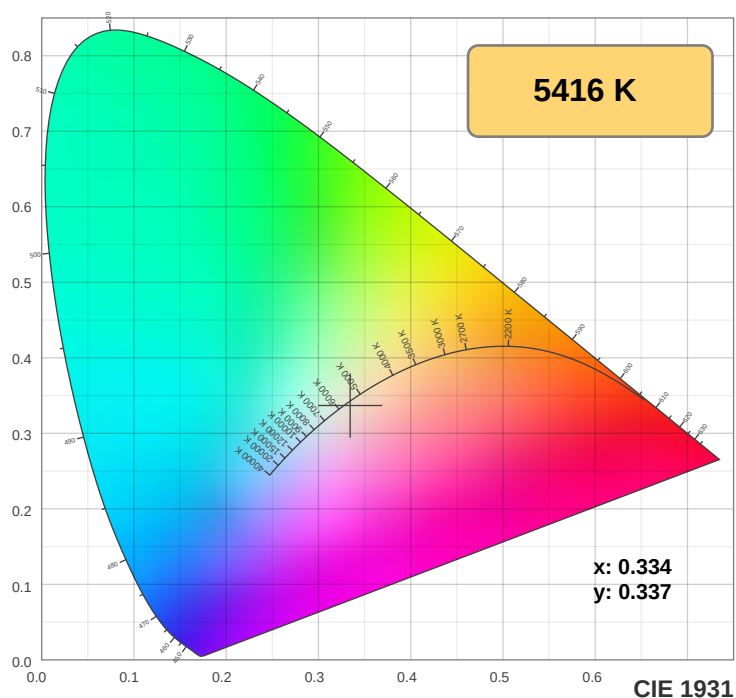
T 314.743.3067

F 314.972.6202

email: commercial-sales@superbrightleds.com

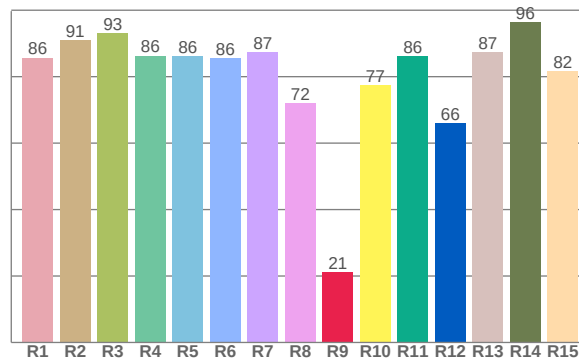
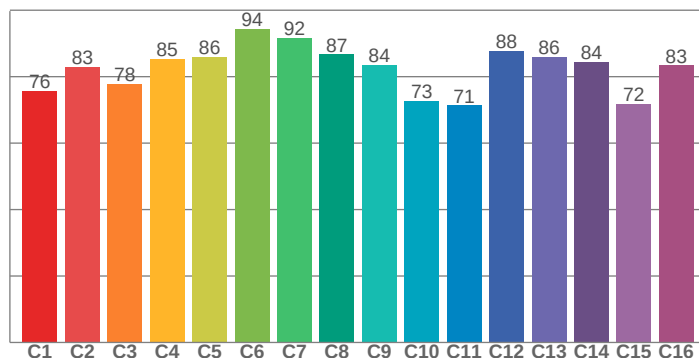
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Color Specifications



TM30: 82.4

CRI: 85.9 (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
85.7	91.0	93.0	86.3	86.1	85.6	87.4	72.0	21.2	77.5	86.2	66.0	87.3	96.4	81.6

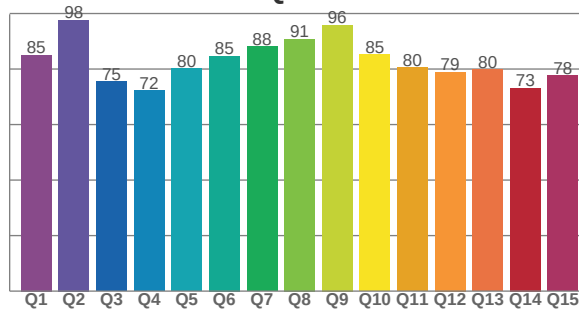
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
75.7	82.9	77.9	85.4	85.9	94.4	91.7	86.7	83.6	72.8	71.4	87.7	85.9	84.4	71.8	83.4

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
85.1	97.6	75.5	72.2	80.2	84.7	88.0	90.8	95.8	85.2	80.5	78.9	79.8	73.1	77.6

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
5416 K	85.9	21.2	82.4	96.5	81.5	0.334	0.337	0.210	0.317	-0.0063



TM30 Report

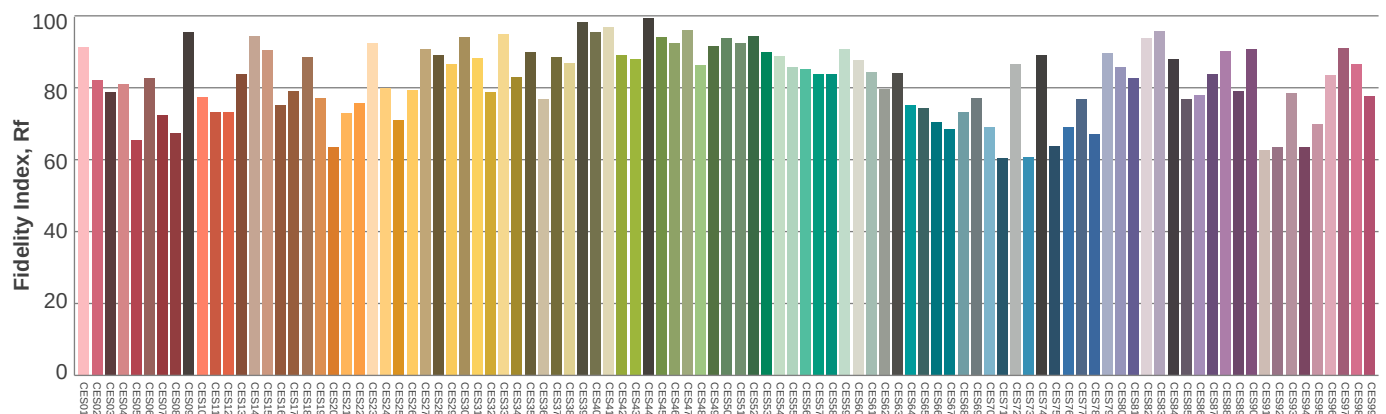
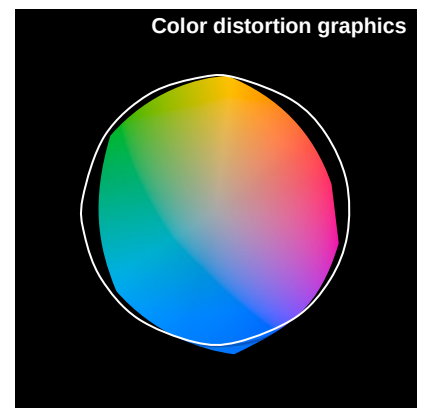
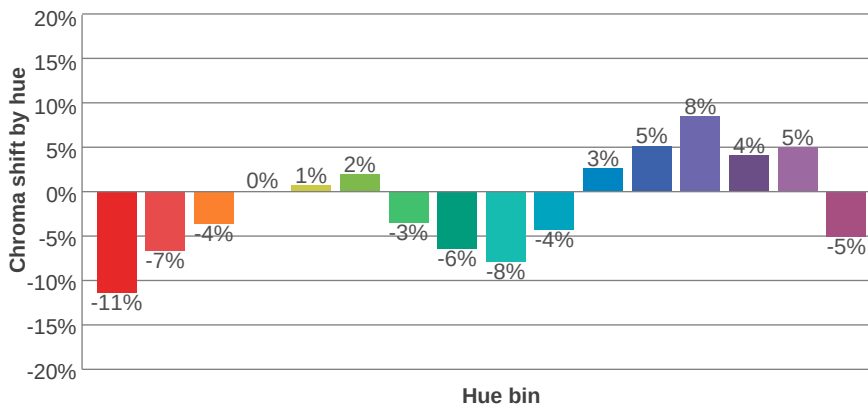
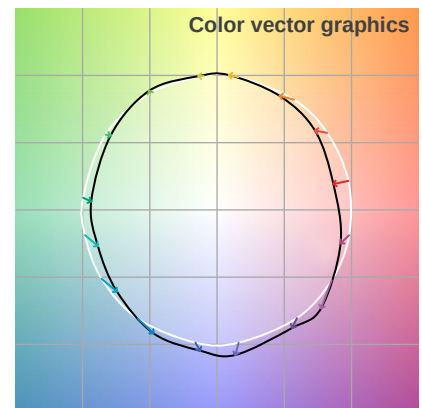
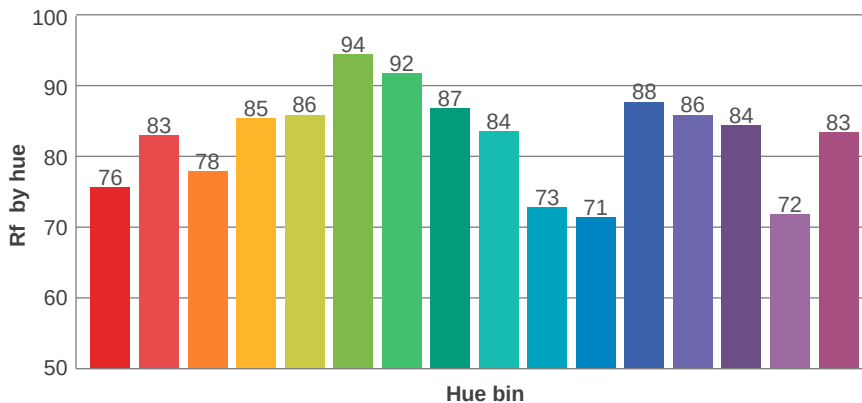
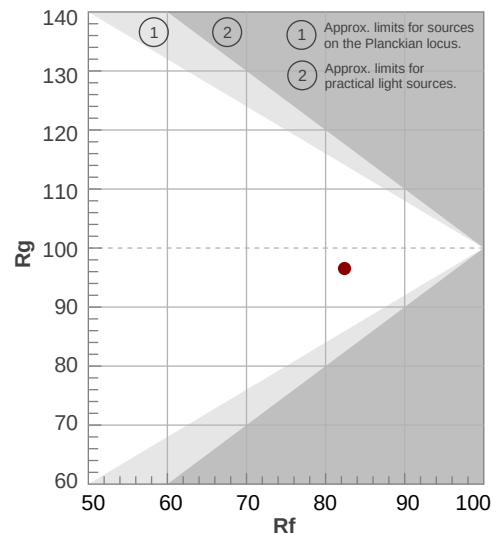
Rf 82.4

Fidelity index Rf

Rg 96.5

Gamut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	76	-11%	0%
2	83	-7%	6%
3	78	-4%	10%
4	85	0%	7%
5	86	1%	4%
6	94	2%	0%
7	92	-3%	-2%
8	87	-6%	1%
9	84	-8%	10%
10	73	-4%	14%
11	71	3%	16%
12	88	5%	5%
13	86	8%	-4%
14	84	4%	-7%
15	72	5%	-22%
16	83	-5%	-7%



Color Evaluation Sample



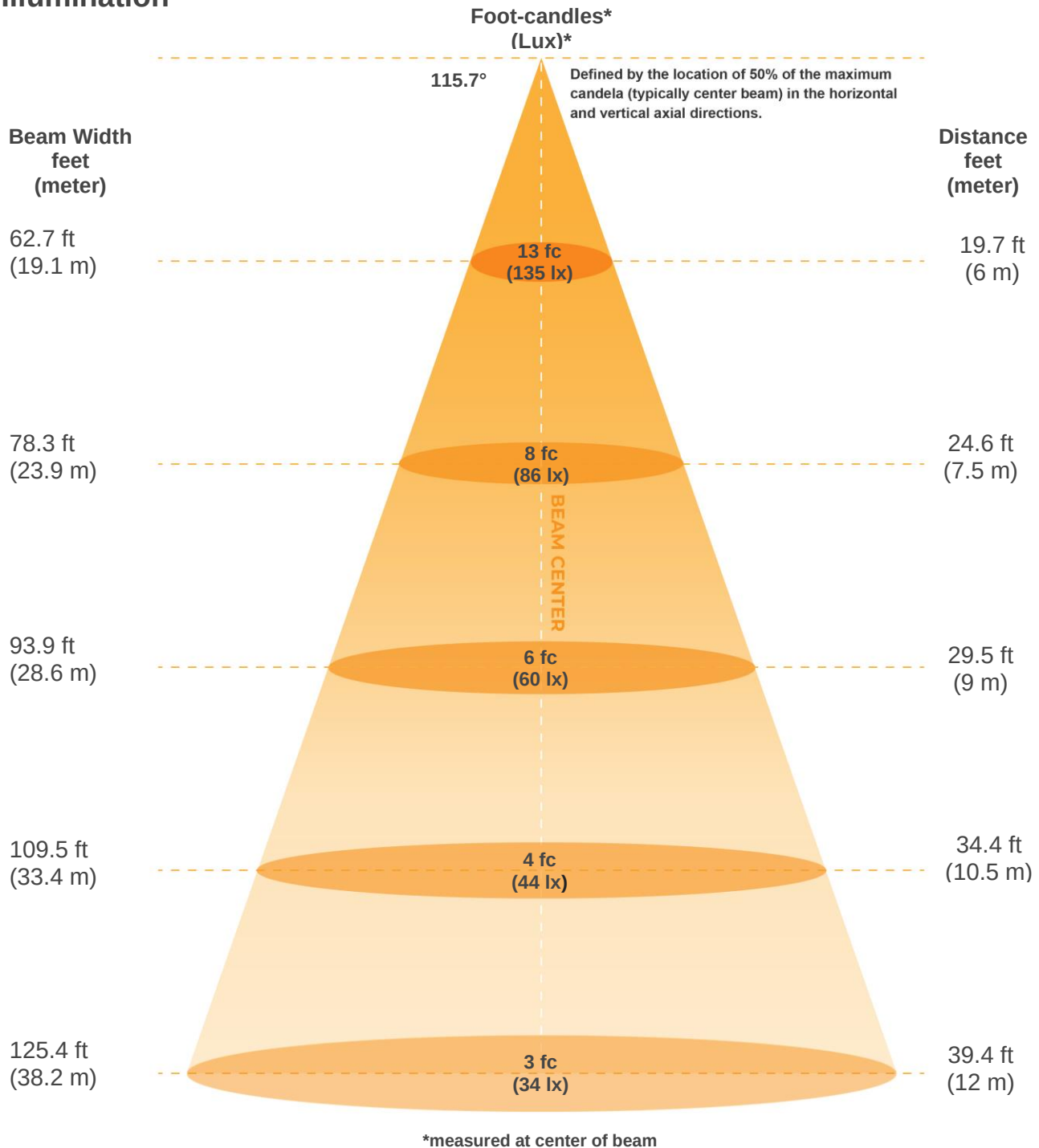
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Illumination



Beam intensities from 1-20m

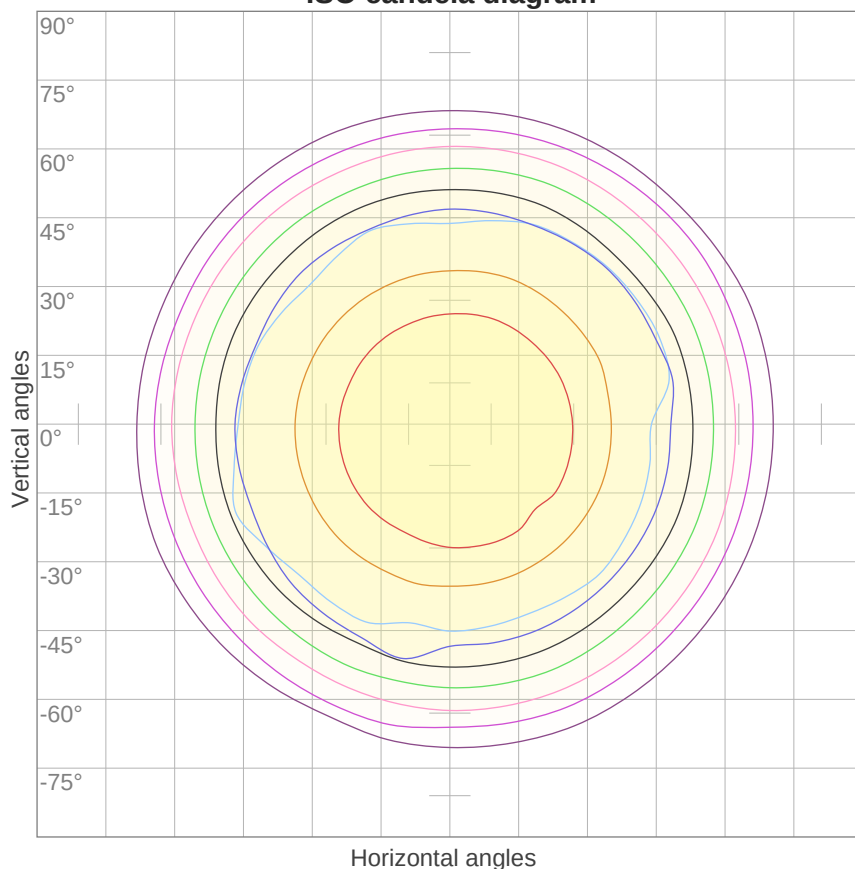
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
3.3ft	6.6ft	9.8ft	13.1ft	16.4ft	19.7ft	23ft	26.2ft	29.5ft	32.8ft	36.1ft	39.4ft	42.7ft	45.9ft	49.2ft	52.5ft	55.8ft	59.1ft	62.3ft	65.6ft
4854lx	1213lx	539lx	303lx	194lx	135lx	99lx	76lx	60lx	49lx	40lx	34lx	29lx	25lx	22lx	19lx	17lx	15lx	13lx	12lx
450.9fc	112.7fc	50.1fcd	28.2fcd	18fcd	12.5fcd	9.2fcd	7fcd	5.6fcd	4.5fcd	3.7fcd	3.1fcd	2.7fcd	2.3fcd	2fcd	1.8fcd	1.6fcd	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
115.7°	154.8°	166.7°	81.1%	54.5%



ISO Diagrams

ISO candela diagram



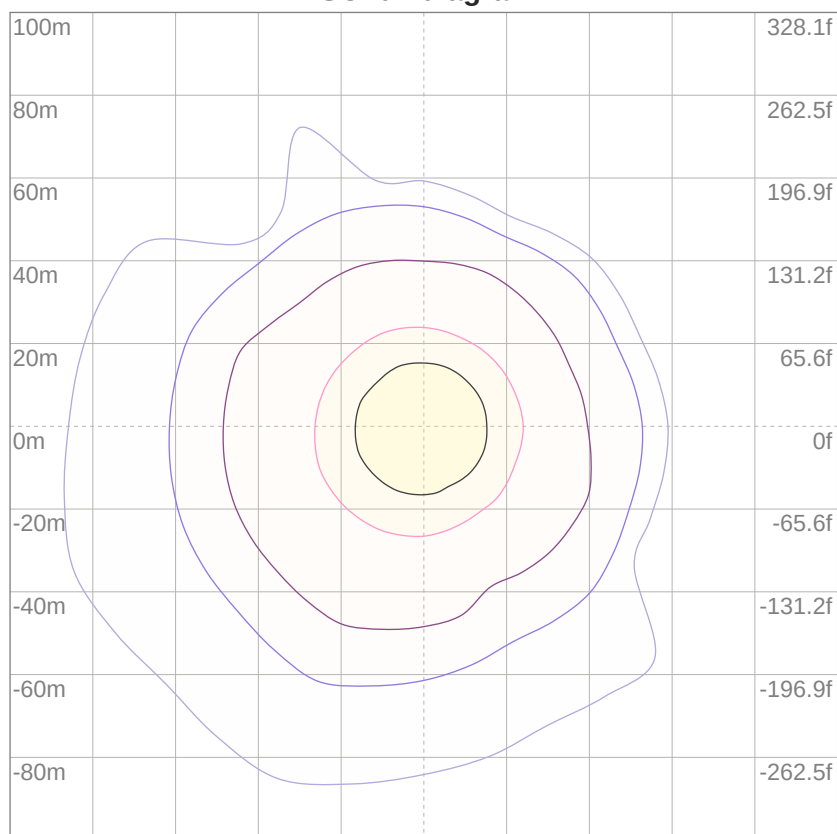
10%	485 cd
20%	971 cd
30%	1456 cd
40%	1941 cd
50%	2427 cd
60%	2912 cd
70%	3397 cd
80%	3883 cd
90%	4368 cd

Conditions:

Number of c-planes: 16

Candela at center: 4854 cd

ISO lux diagram



3%	1.46 lx
5%	2.43 lx
10%	4.85 lx
30%	14.6 lx
50%	24.3 lx

Conditions:

Number of c-planes: 16

Lux at center: 48.5 lx

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



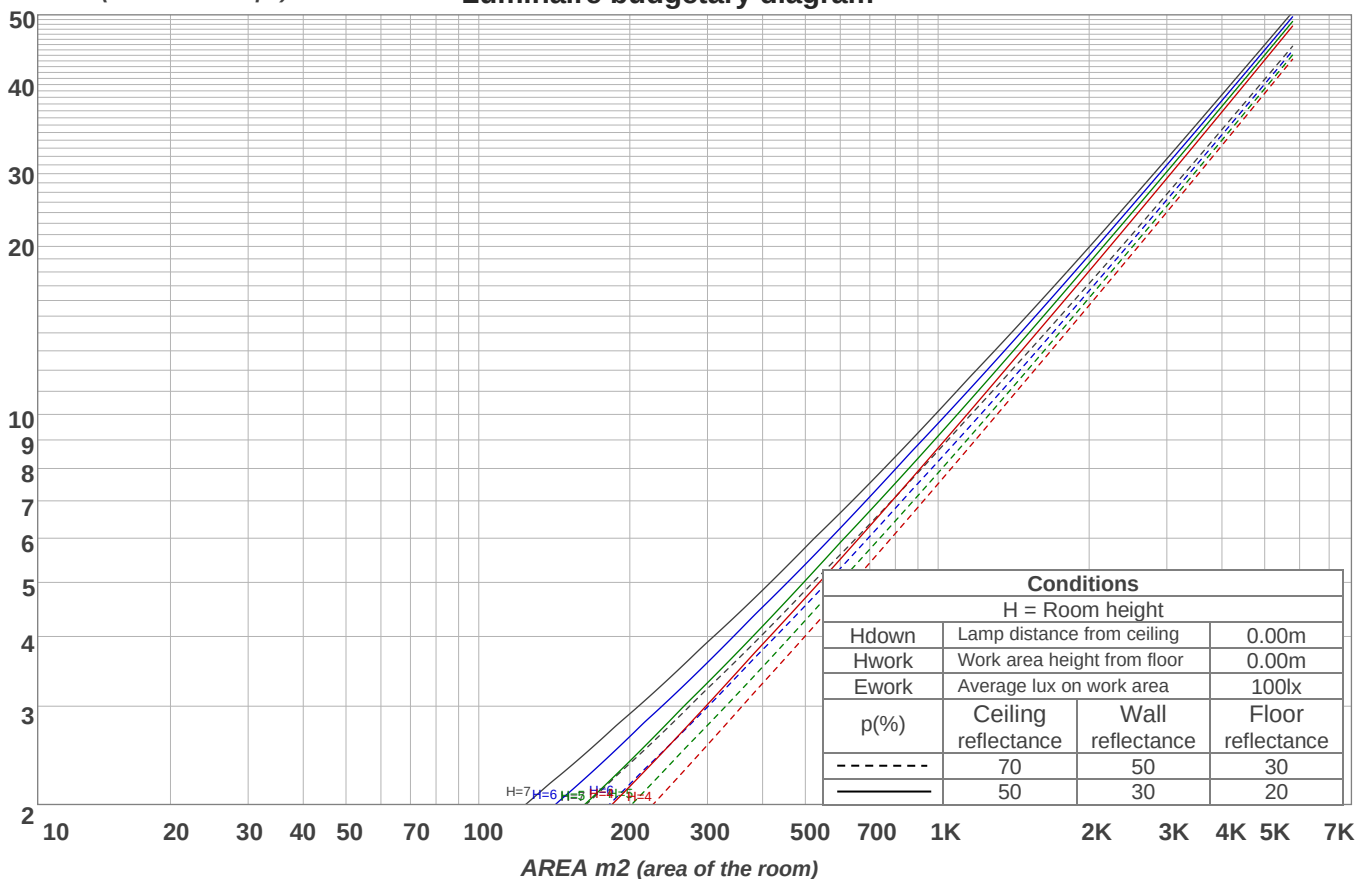
Light Planning

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	101	101	101	99
1	109	105	101	97	106	102	99	95	98	95	92	94	92	89	90	88	87	84
2	99	91	85	79	97	90	83	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	47	56	51	46	44
6	70	57	48	42	68	56	48	42	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°
461 lm	1333 lm	2055 lm	2531 lm	2756 lm	2411 lm	1724 lm	764 lm	105 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
8.79 lm	12.9 lm	15.6 lm	12.4 lm	11.9 lm	10.8 lm	8.72 lm	5.81 lm	2.03 lm

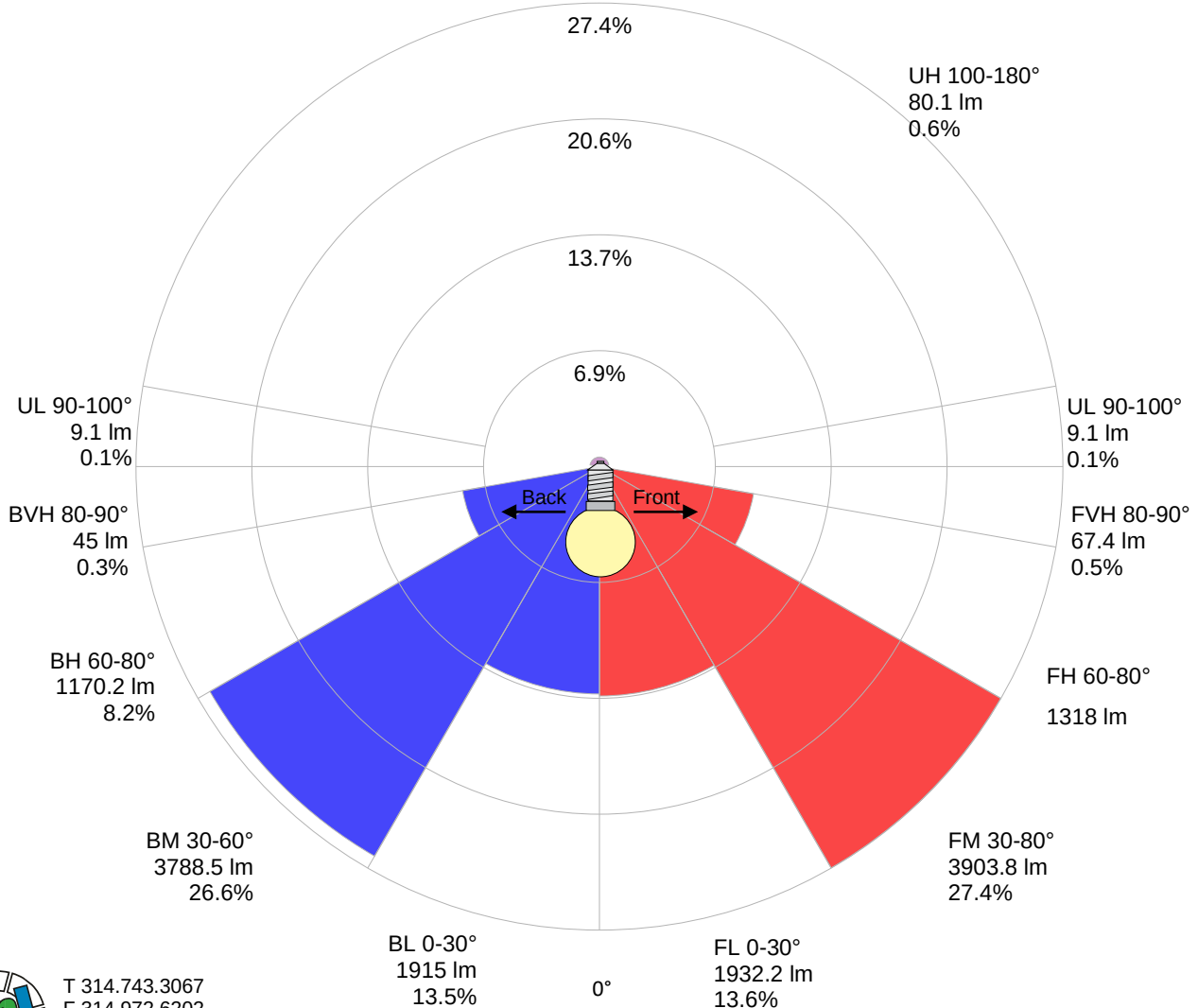


Road Report

LCS table

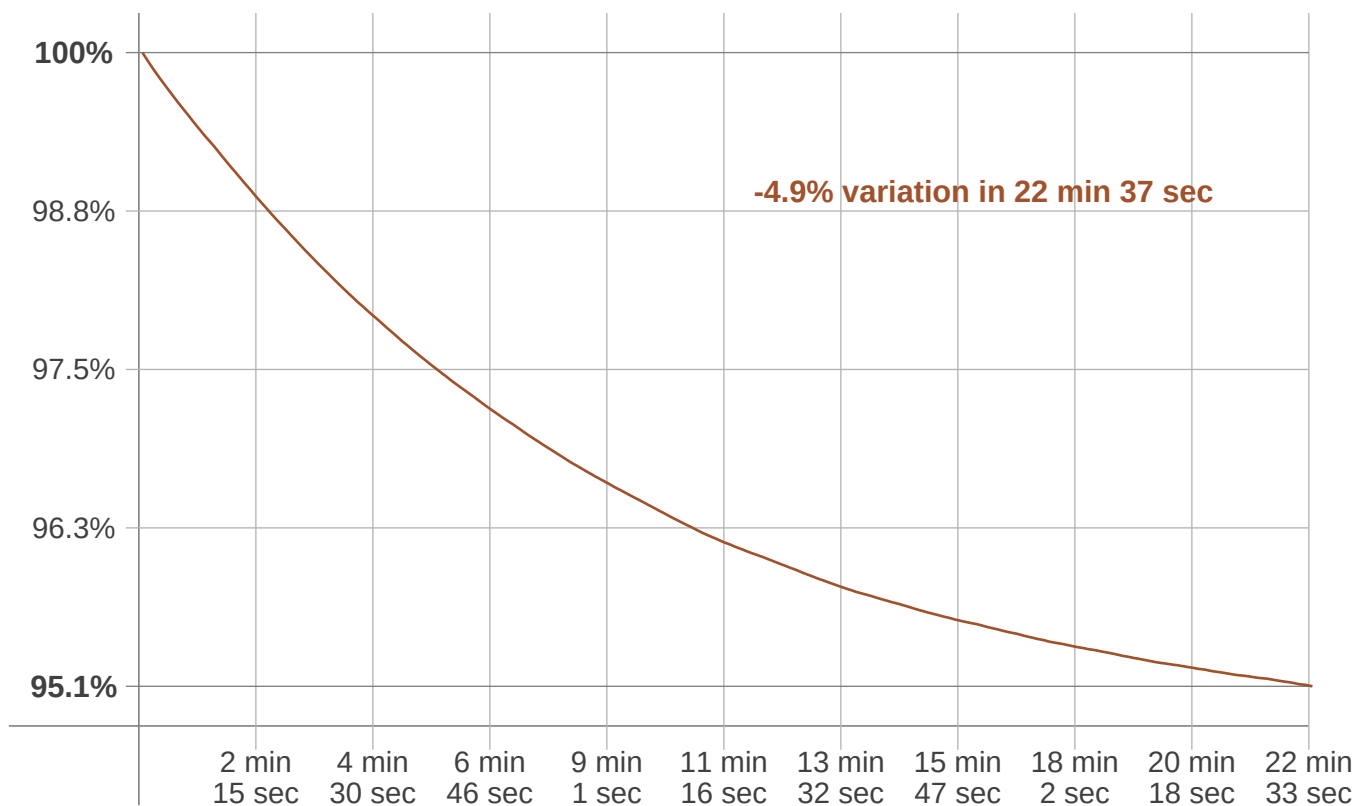
BUG rating:	B3 U3 G3	
Forward light	Lumens	Lumens %
Low(0-30):	1932.2	13.6%
Medium(30-60):	3903.8	27.4%
High(60-80):	1318	9.3%
Very high(80-90):	67.4	0.5%
Back light		
Low(0-30):	1915	13.5%
Medium(30-60):	3788.5	26.6%
High(60-80):	1170.2	8.2%
Very high(80-90):	45	0.3%
Uplight		
Low(90-100):	9.1	0.1%
High(100-180):	80.1	0.6%

LCS graph



Stabilization

Warmup curve



Warmup result

Warmup time:	22 min 37 sec
Warmup variation	-5.0%

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
5279 K	+137 K	5416 K

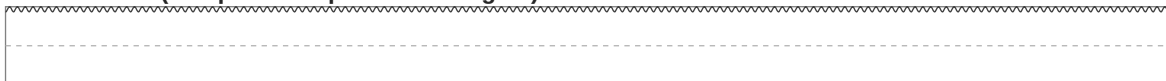
Output change

Output start	Output change	Output end
14955 lm	-726 lm	14229 lm

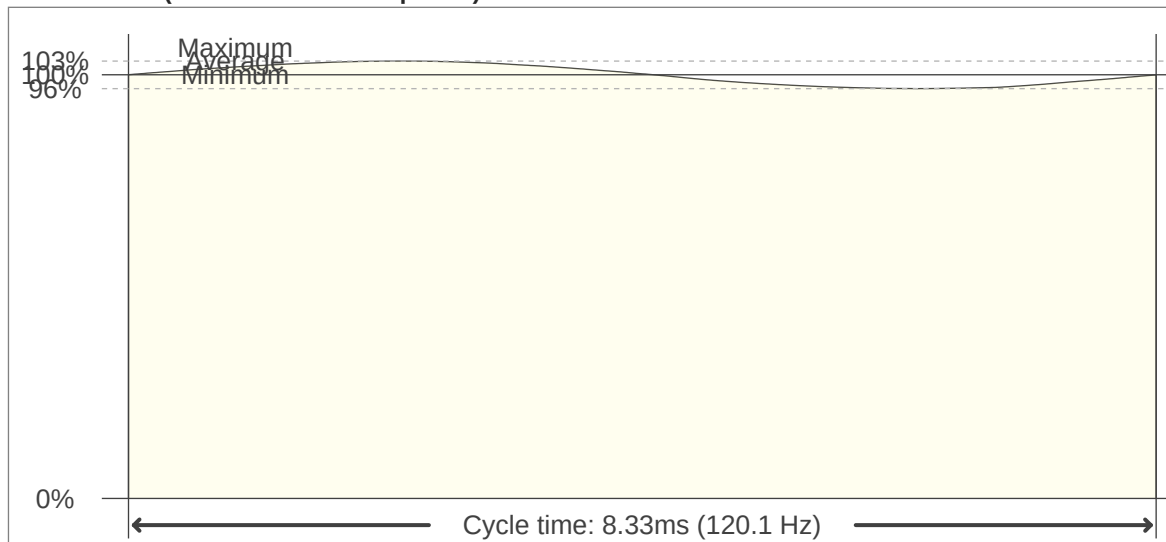


Flicker

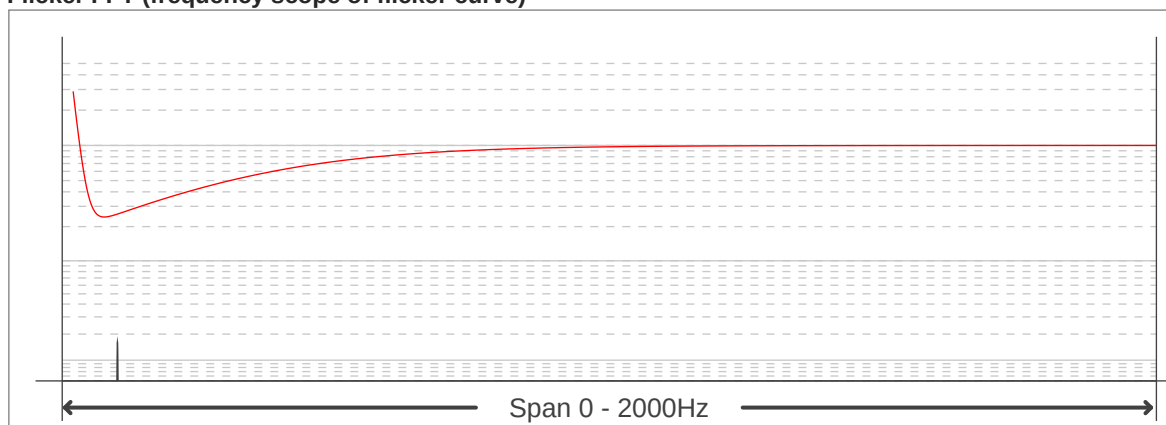
Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

Flicker frequency:	120.12 Hz
Flicker index:	0.01
Flicker percentage:	3.33 %
SVM: (Visual flicker)	0.12

Flicker conditions:

Sample rate:	40000 samples/second
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