

Light efficiency:

79 Lumen/Watt

Light quality:

CRI: 92.5

Color temperature:

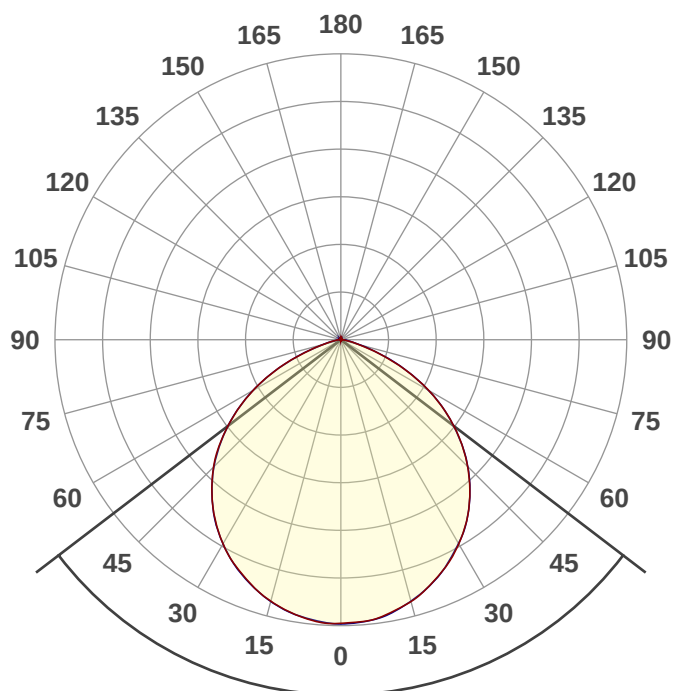
4168 K

Output: 1005 lm

Peak: 403 cd

Power: 12.8 W

PF: 1.0



Product name:

DL56D-NW12W

Date and time:

3/27/2020 2:09:00 PM

Beam angle

105.3°

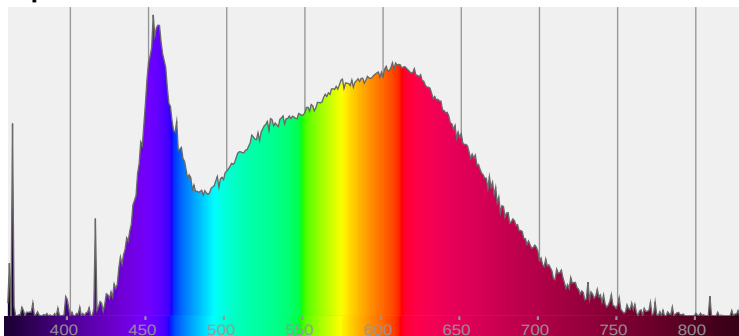


CIE 1931

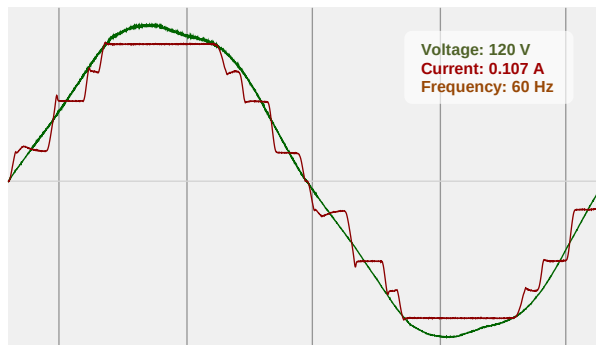
x: 0.372

y: 0.366

Spectra



Power



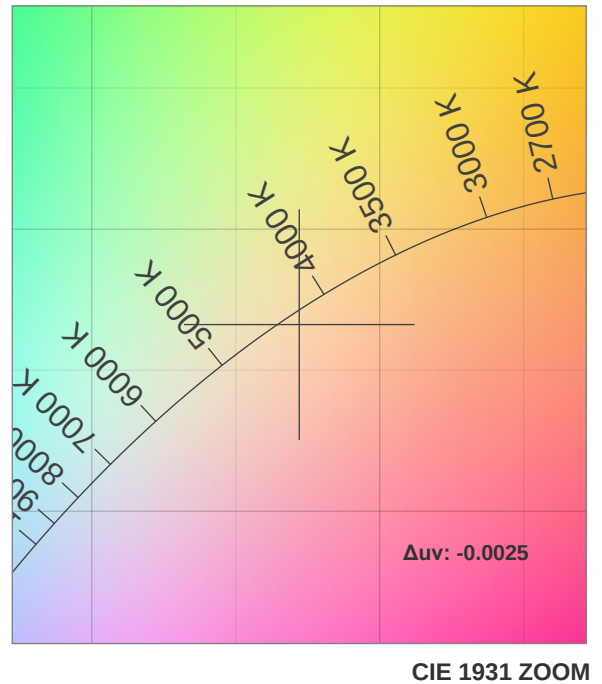
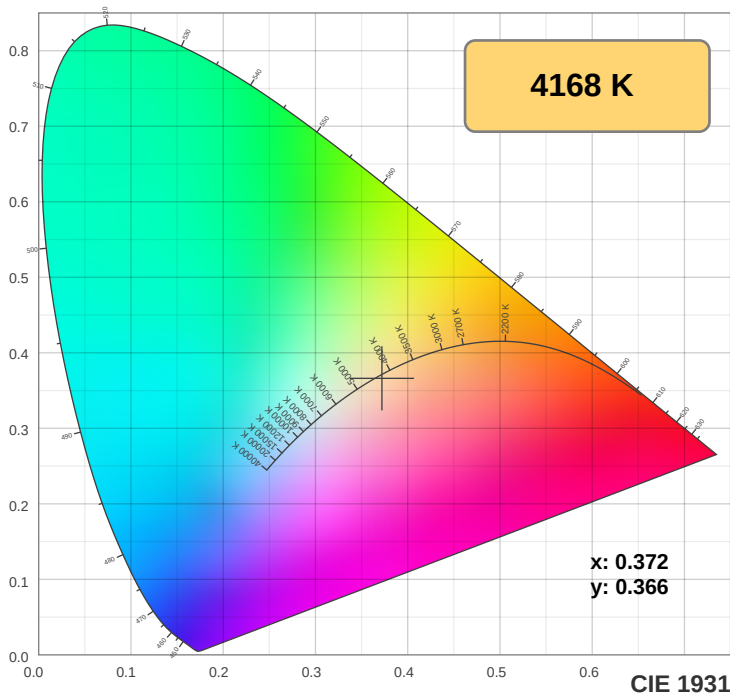
T 314.743.3067

F 314.972.6202

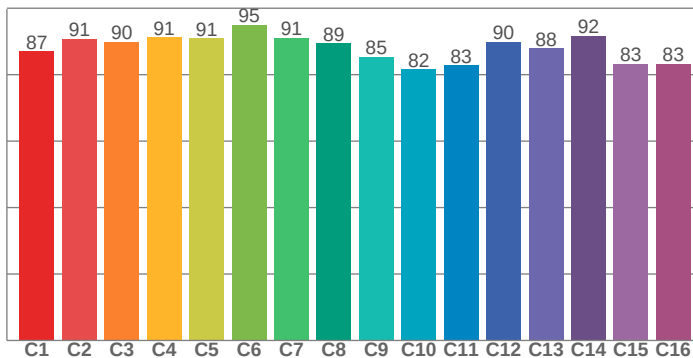
email: commercial-sales@superbrightleds.com

www.superbrightleds.com/

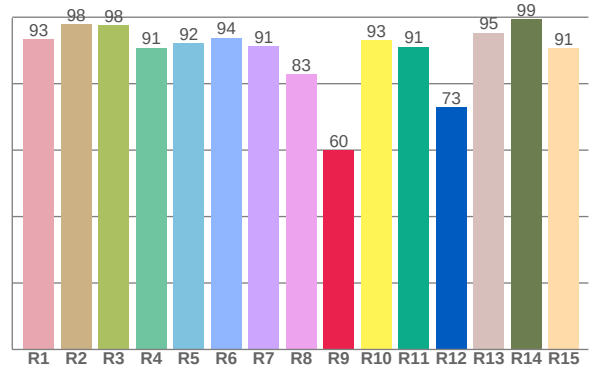
Color Specifications



TM30: 88.0



CRI: 92.5 (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
93.4	97.8	97.5	90.8	92.2	93.9	91.2	82.9	60.0	93.2	91.2	72.9	95.3	99.4	90.7

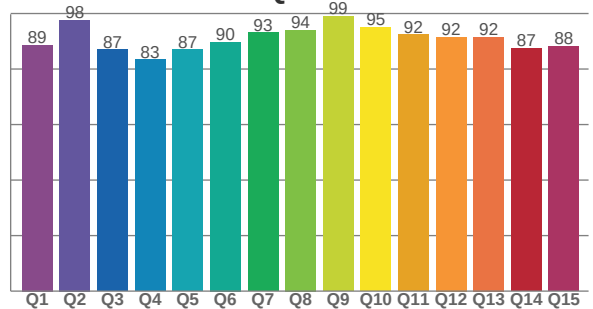
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
87.0	90.7	89.8	91.2	90.9	94.9	91.0	89.4	85.4	81.6	82.8	89.8	87.9	91.8	83.3	83.4

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
88.7	97.6	87.0	83.3	87.0	89.7	93.1	94.1	99.0	95.1	92.5	91.5	91.5	87.4	88.2

CQS: 90.1



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
4168 K	92.5	60.0	88.0	97.0	90.1	0.372	0.366	0.224	0.330	-0.0025



TM30 Report

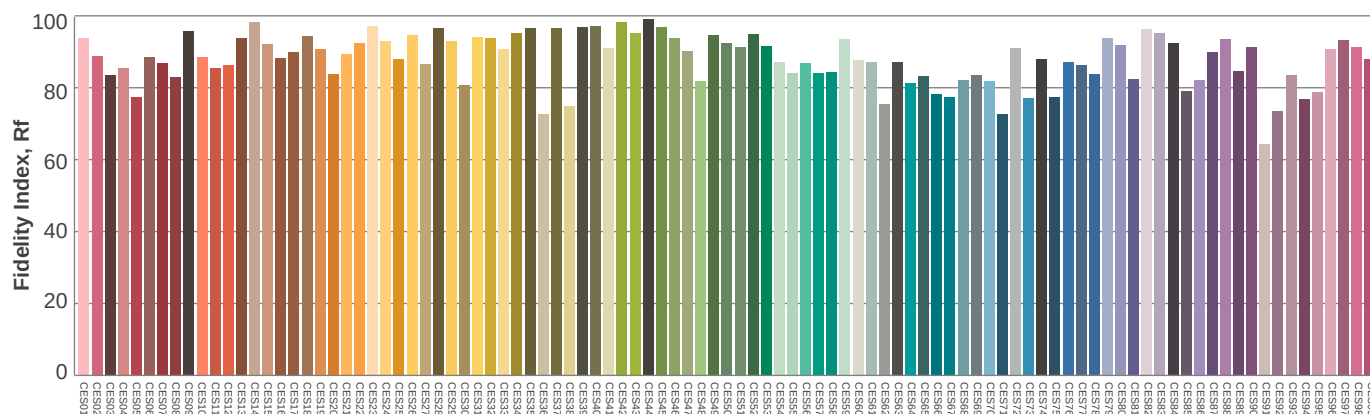
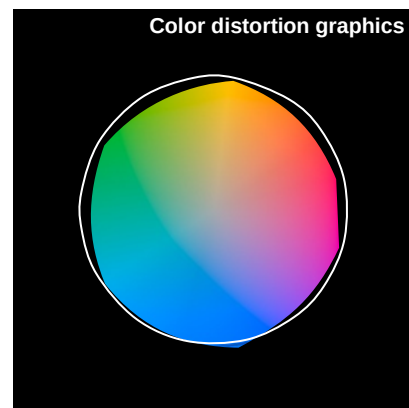
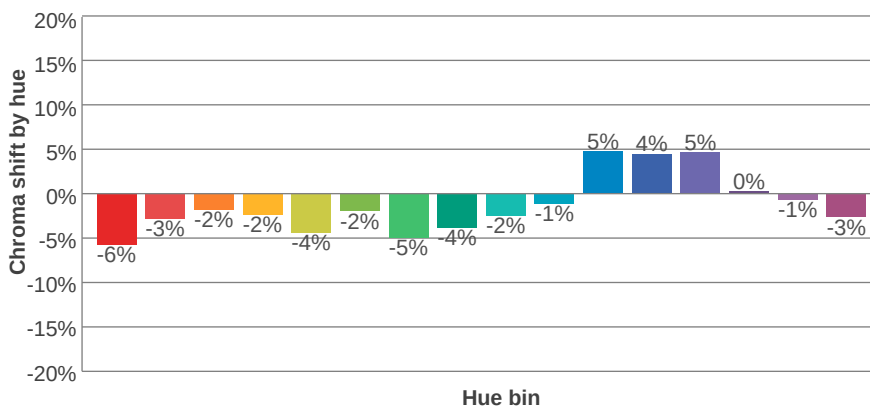
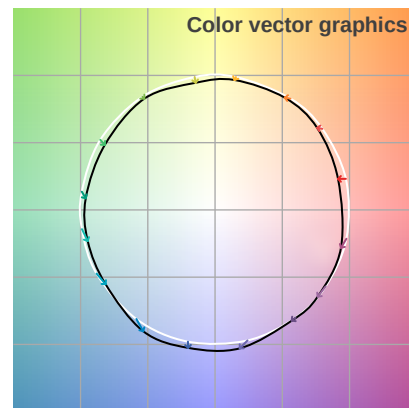
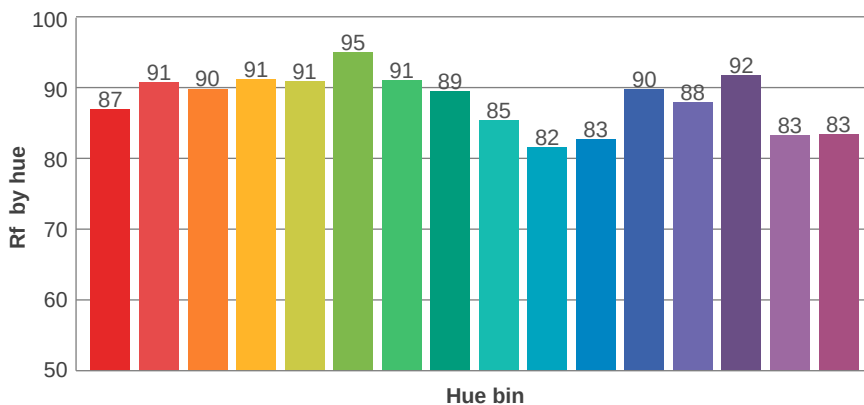
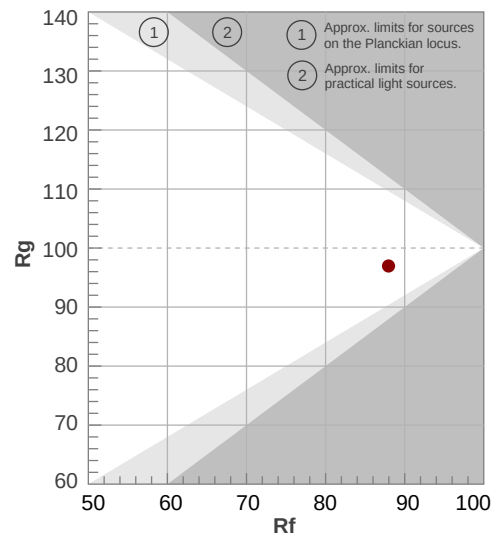
Rf 88.0

Fidelity index Rf

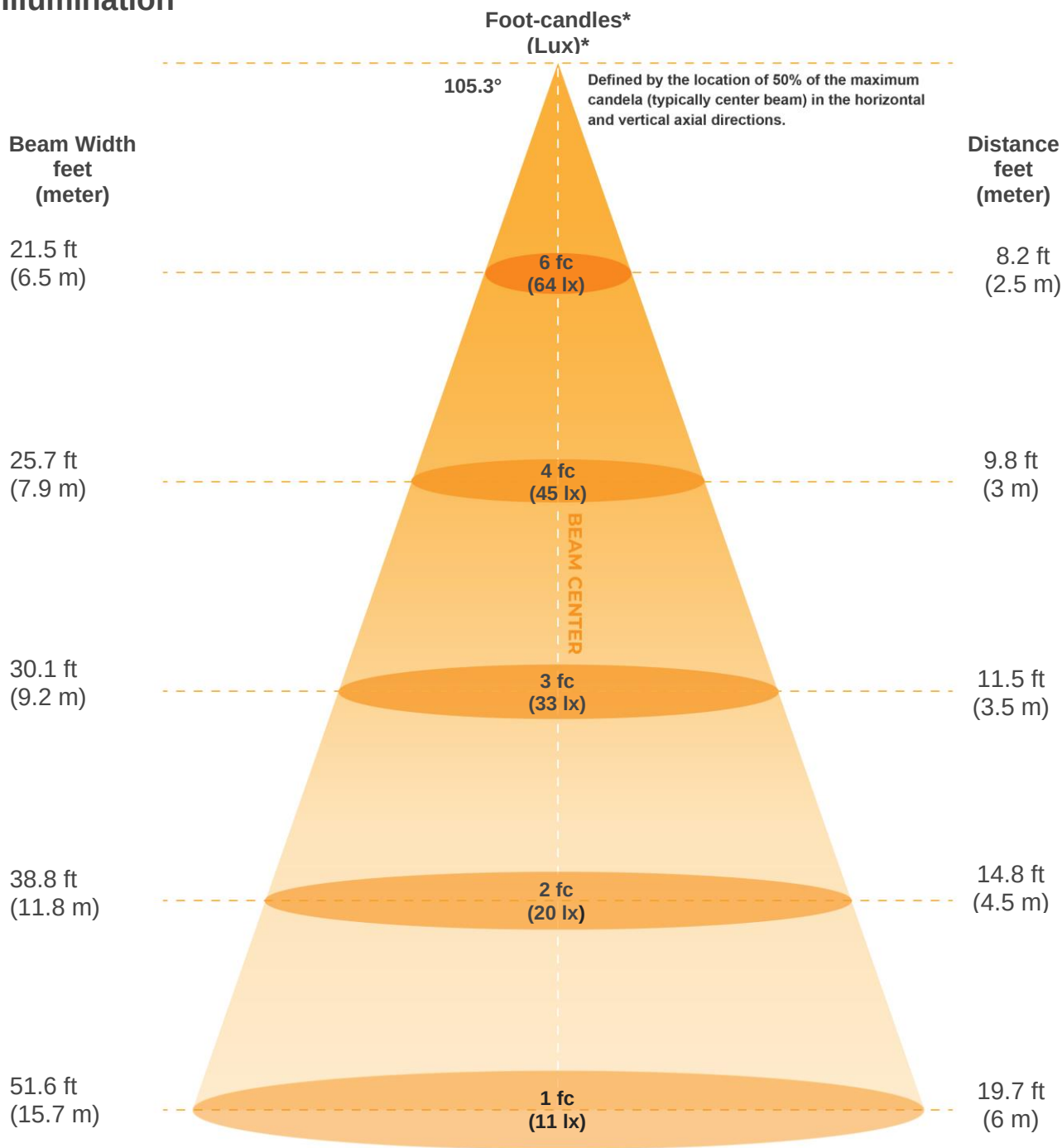
Rg 97.0

Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	87	-6%	1%
2	91	-3%	3%
3	90	-2%	4%
4	91	-2%	1%
5	91	-4%	0%
6	95	-2%	0%
7	91	-5%	1%
8	89	-4%	4%
9	85	-2%	9%
10	82	-1%	10%
11	83	5%	9%
12	90	4%	1%
13	88	5%	-7%
14	92	0%	-4%
15	83	-1%	-10%
16	83	-3%	-7%



Illumination



Beam intensities from 1-20m

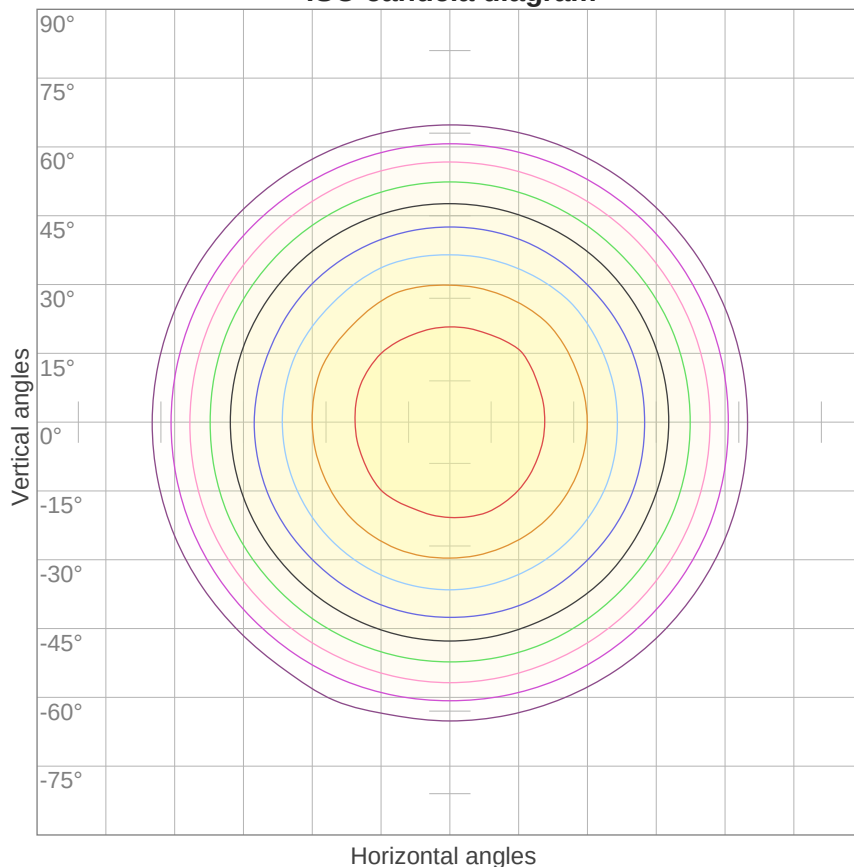
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
3.3ft	6.6ft	9.8ft	13.1ft	16.4ft	19.7ft	23ft	26.2ft	29.5ft	32.8ft	36.1ft	39.4ft	42.7ft	45.9ft	49.2ft	52.5ft	55.8ft	59.1ft	62.3ft	65.6ft
401lx	100lx	45lx	25lx	16lx	11lx	8lx	6lx	5lx	4lx	3lx	3lx	2lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx
37.3fcd	9.3fcd	4.1fcd	2.3fcd	1.5fcd	1fcd	0.8fcd	0.6fcd	0.5fcd	0.4fcd	0.3fcd	0.3fcd	0.2fcd	0.2fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
105.3°	145.4°	162.2°	85.7%	59.9%



ISO Diagrams

ISO candela diagram



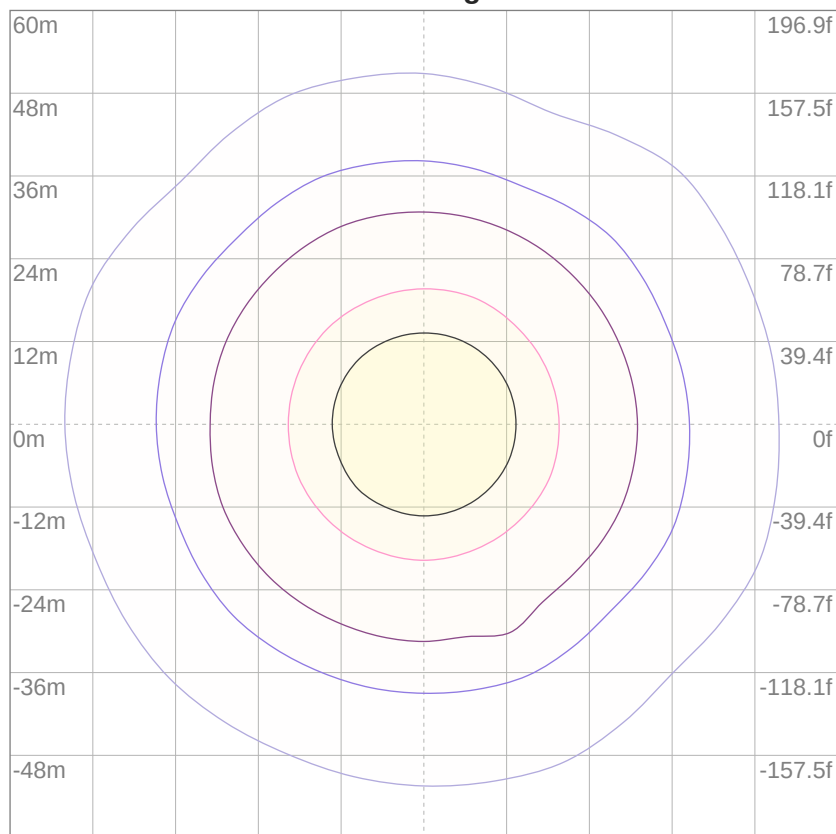
10%	40 cd
20%	80 cd
30%	120 cd
40%	161 cd
50%	201 cd
60%	241 cd
70%	281 cd
80%	321 cd
90%	361 cd

Conditions:

Number of c-planes: 16

Candela at center: 401 cd

ISO lux diagram



3%	0.120 lx
5%	0.201 lx
10%	0.401 lx
30%	1.20 lx
50%	2.01 lx

Conditions:

Number of c-planes: 16

Lux at center: 4.01 lx

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



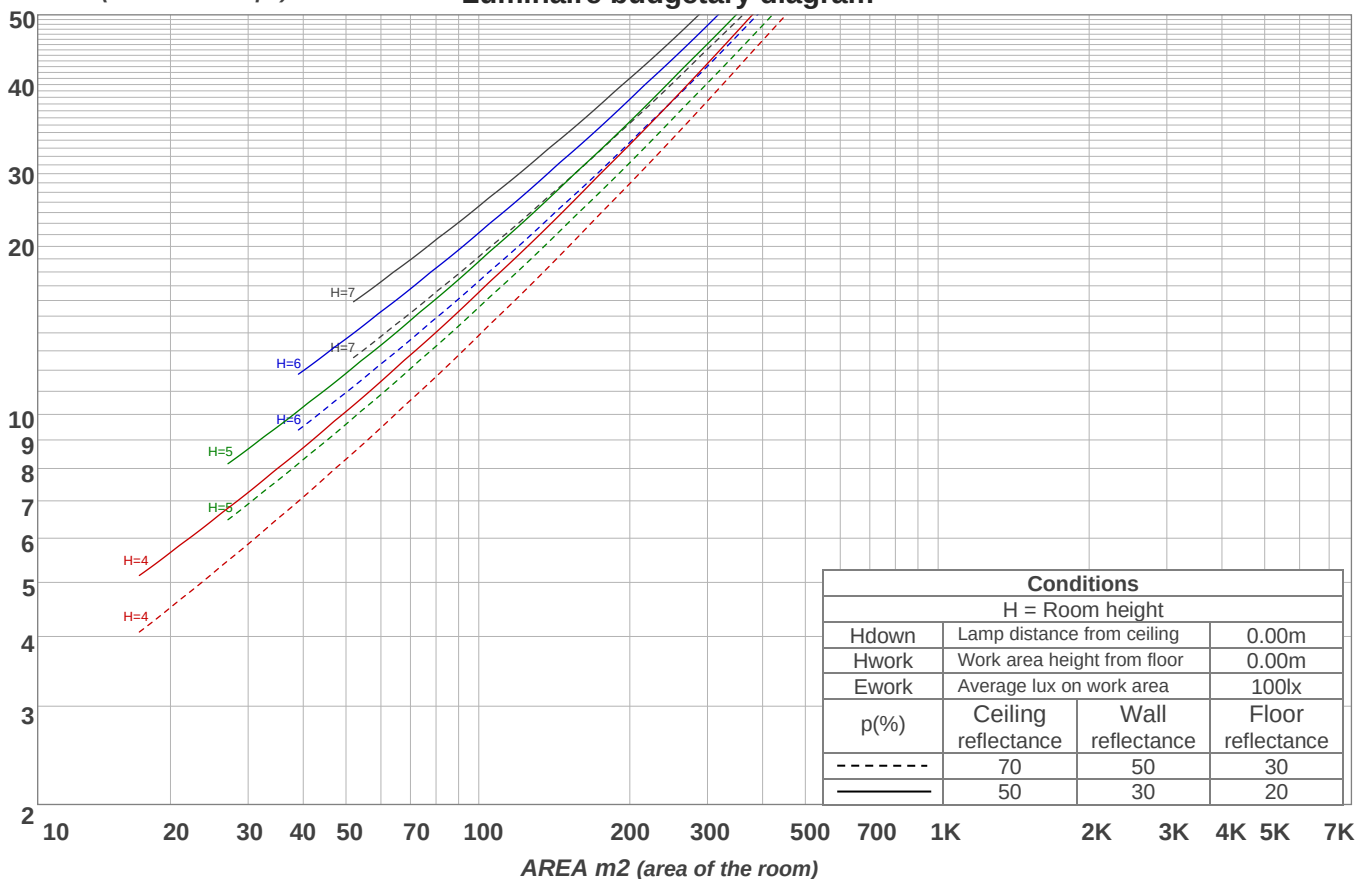
Light Planning

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	110	106	102	99	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73
3	92	83	75	69	90	81	74	69	78	72	67	75	70	66	73	68	65	63
4	85	74	65	59	83	72	65	59	70	63	58	67	62	57	65	60	56	54
5	78	66	58	51	76	65	57	51	63	56	50	61	55	50	59	54	49	47
6	72	60	51	45	70	59	51	45	57	50	44	55	49	44	54	48	43	41
7	67	54	46	40	65	53	45	40	52	45	39	50	44	39	49	43	39	37
8	63	50	41	36	61	49	41	36	47	40	35	46	40	35	45	39	35	33
9	58	45	38	32	57	45	37	32	44	37	32	43	36	32	42	36	31	30
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27

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°
37.9 lm	108 lm	163 lm	194 lm	195 lm	163 lm	99.7 lm	31.5 lm	5.49 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
1.01 lm	1.03 lm	1.06 lm	1.01 lm	0.972 lm	0.807 lm	0.626 lm	0.384 lm	0.132 lm

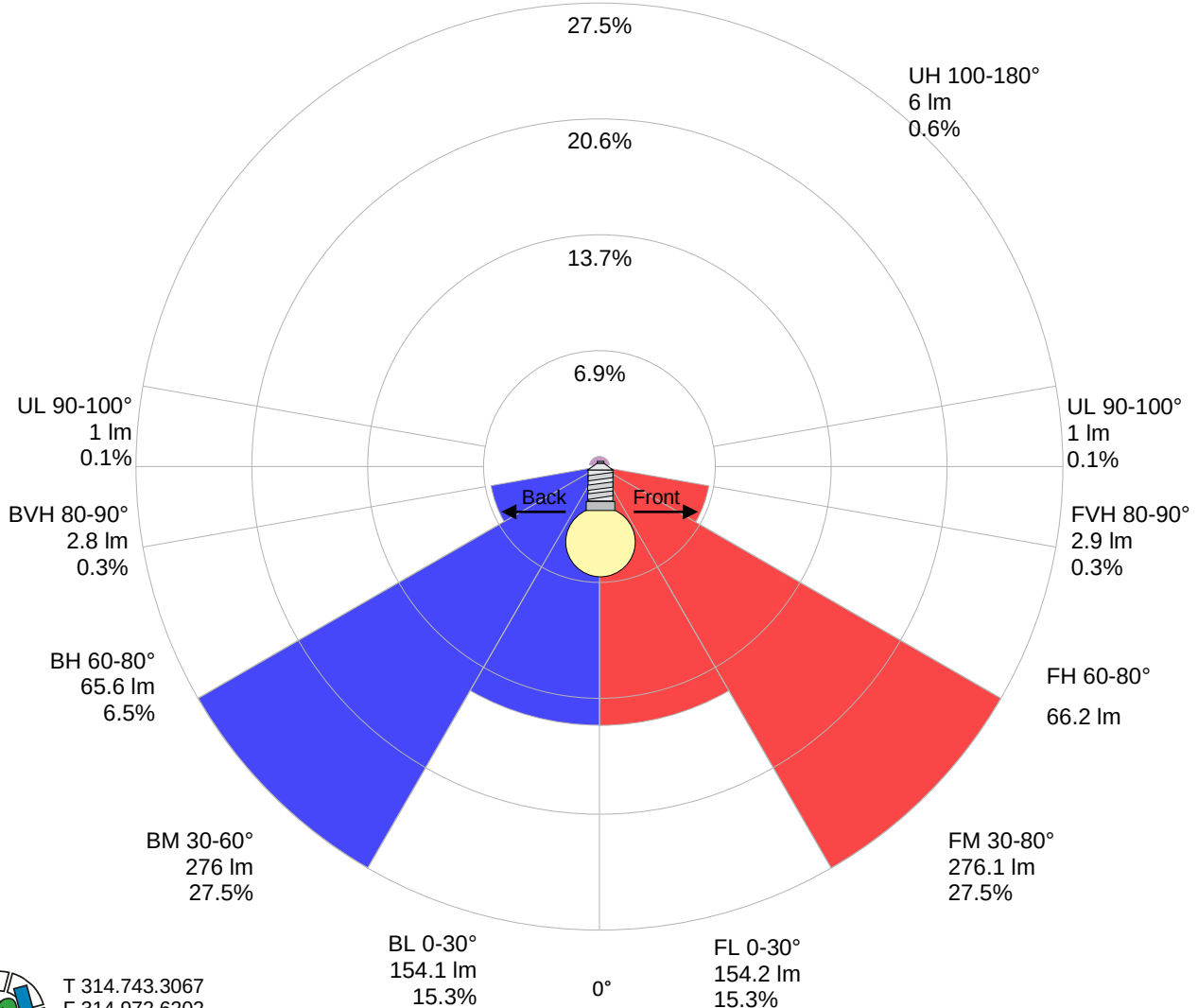


Road Report

LCS table

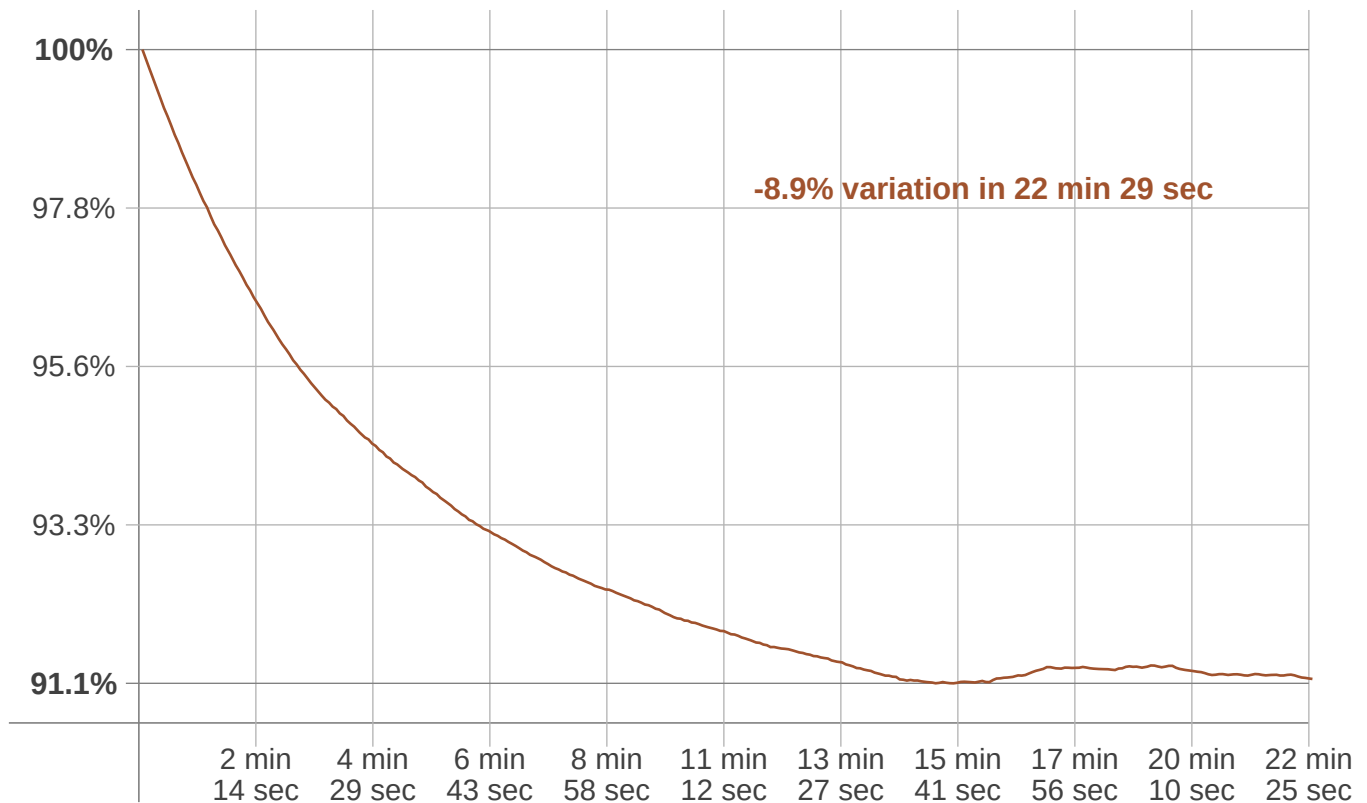
BUG rating:	B1 U1 G0	
Forward light	Lumens	Lumens %
Low(0-30):	154.2	15.3%
Medium(30-60):	276.1	27.5%
High(60-80):	66.2	6.6%
Very high(80-90):	2.9	0.3%
Back light		
Low(0-30):	154.1	15.3%
Medium(30-60):	276	27.5%
High(60-80):	65.6	6.5%
Very high(80-90):	2.8	0.3%
Uplight		
Low(90-100):	1	0.1%
High(100-180):	6	0.6%

LCS graph



Stabilization

Warmup curve



Warmup result

Warmup time:	22 min 29 sec
Warmup variation	-9.0%

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
4118 K	+50 K	4168 K

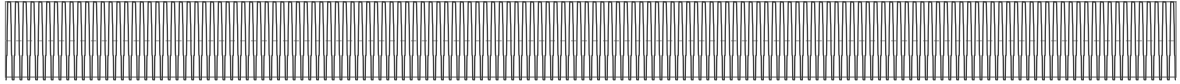
Output change

Output start	Output change	Output end
1096 lm	-91 lm	1005 lm

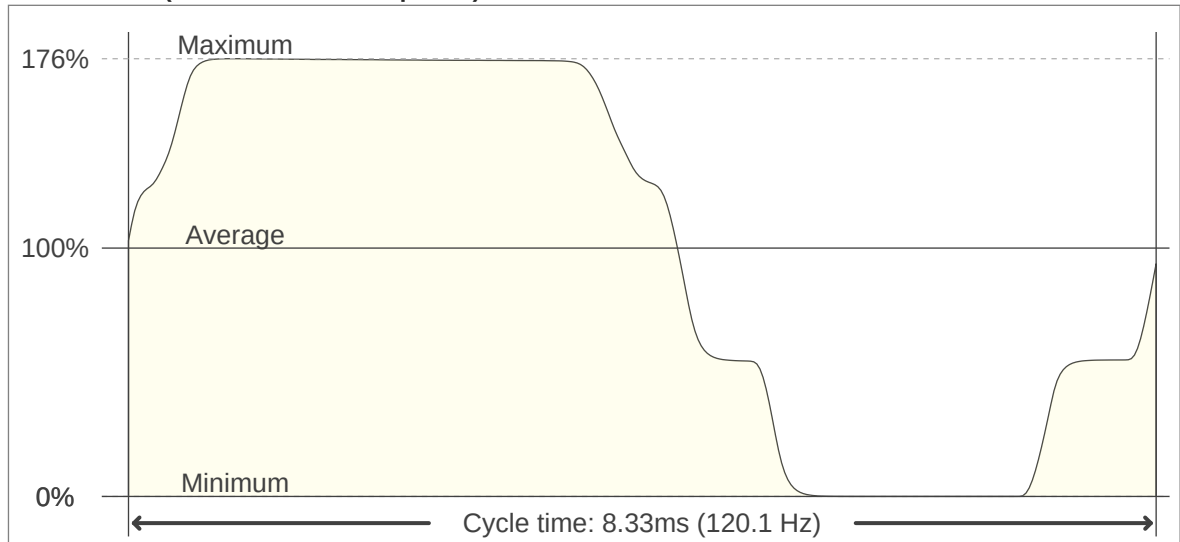


Flicker

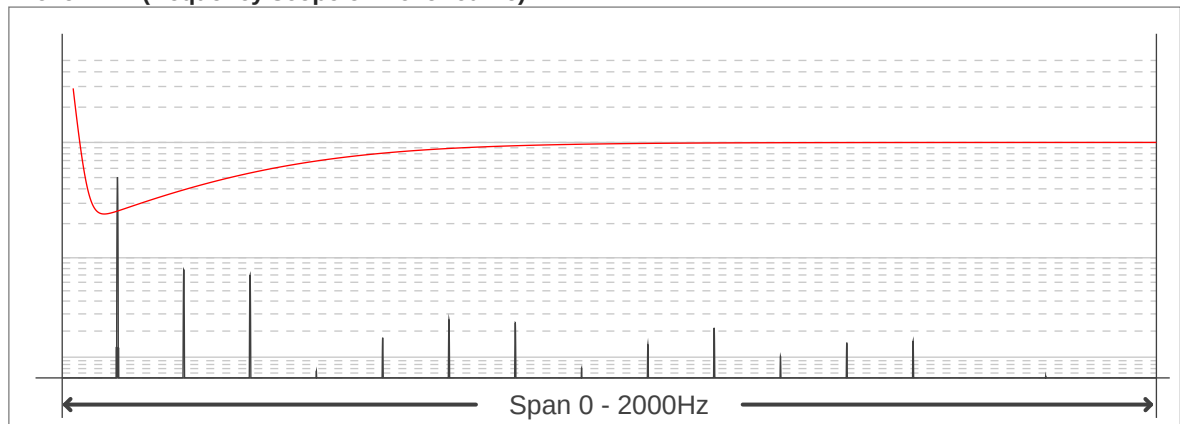
Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

Flicker frequency:	120.12 Hz
Flicker index:	0.34
Flicker percentage:	100 %
SVM: (Visual flicker)	3.66

Flicker conditions:

Sample rate:	40000 samples/second
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