Light efficiency:

122 Lumen/Watt

Light quality:

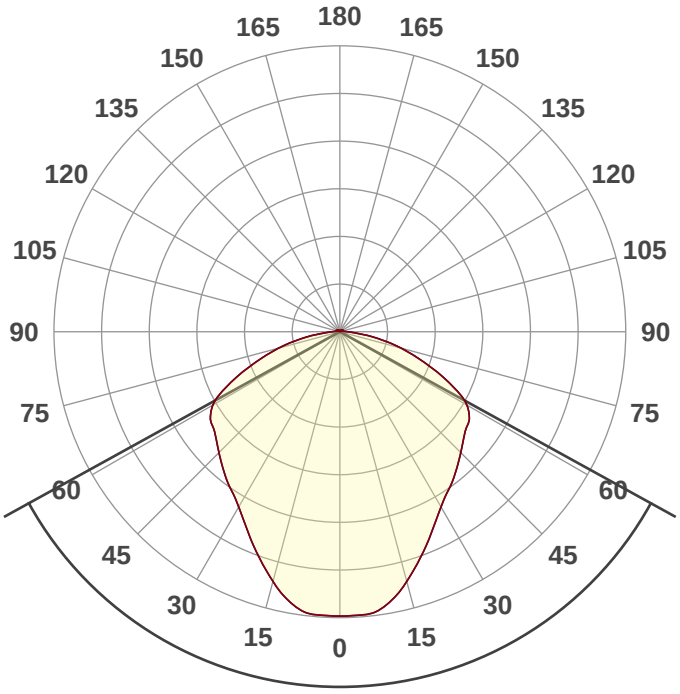
CRI: 72.1

Color temperature:

4102 K

Output: 8352 lm
Peak: 2905 cd

Power: 68.6 W
PF: 0.99



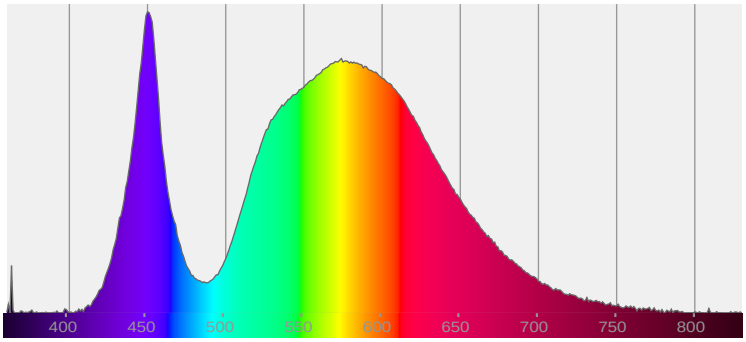
Beam angle **122.3°**

CIE 1931
x: 0.377
y: 0.376

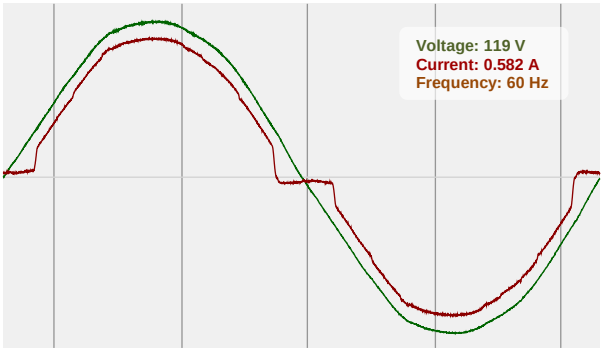
Product name:
DDAL-40K70-LBRS

Date and time:
10/2/2019 10:12:41 AM

Spectra



Power



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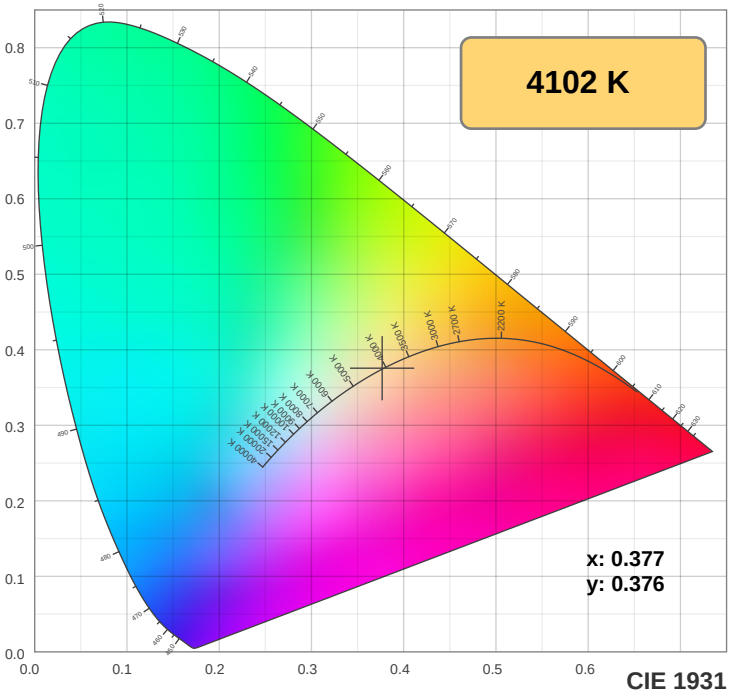
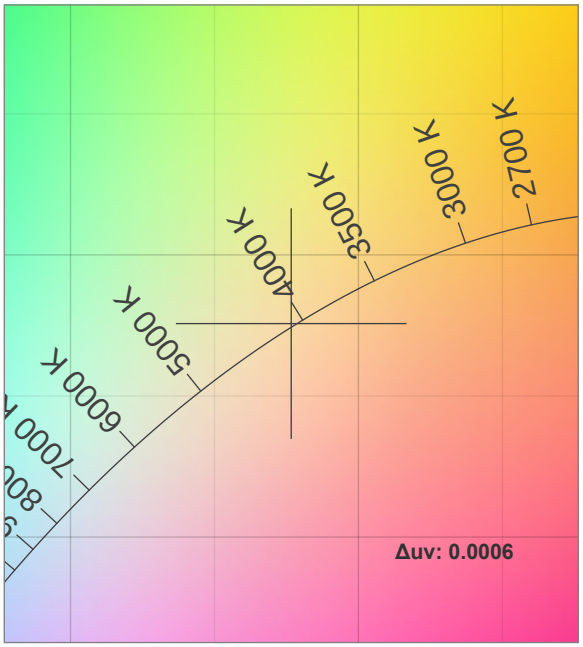
Color Specifications

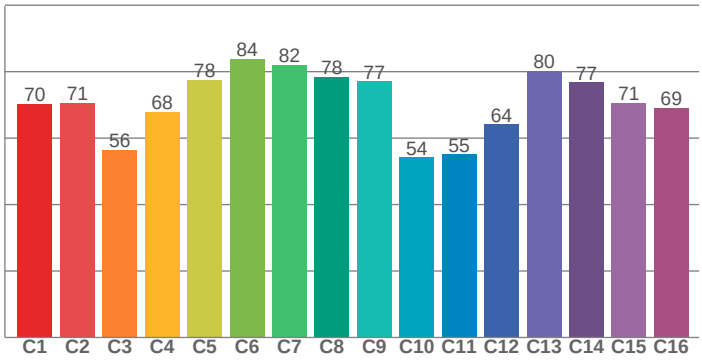


CIE 1931

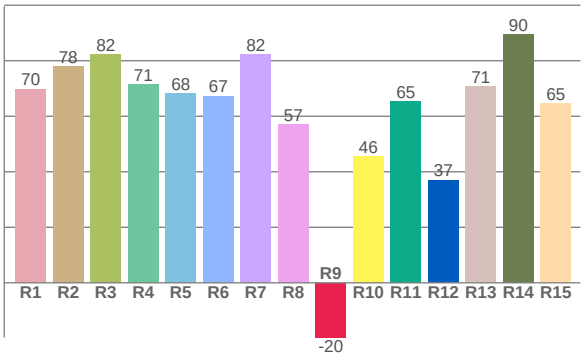


CIE 1931 ZOOM

TM30: 70.3



CRI: 72.1 (R1-R8)



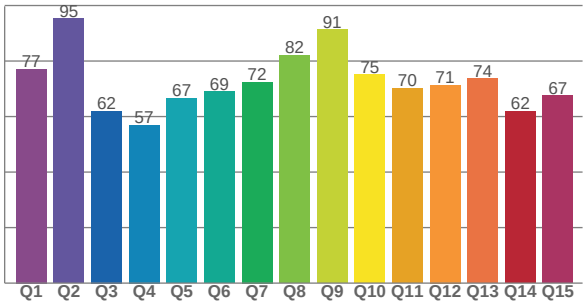
CRI R values, only R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
69.9	77.8	82.3	71.5	68.3	67.4	82.3	57.1	-19.7	45.5	65.4	37.1	70.9	89.6	64.7

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
70.2	70.7	56.4	68.0	77.5	83.8	82.1	78.5	77.0	54.2	55.1	64.2	80.3	76.8	70.7	69.1

CQS: 71.0



CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
77.1	95.3	62.0	57.0	66.6	69.0	72.4	82.1	91.4	75.2	70.2	71.4	73.7	61.9	67.5

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 diviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
4102 K	72.1	-19.7	70.3	94.5	71.0	0.377	0.376	0.223	0.334	0.0006

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TM30 Report

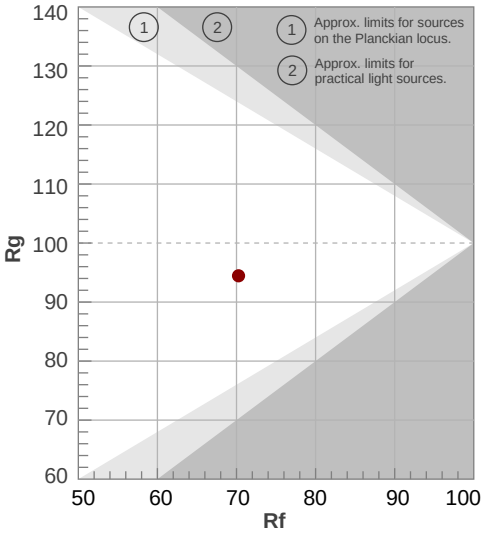
Rf 70.3

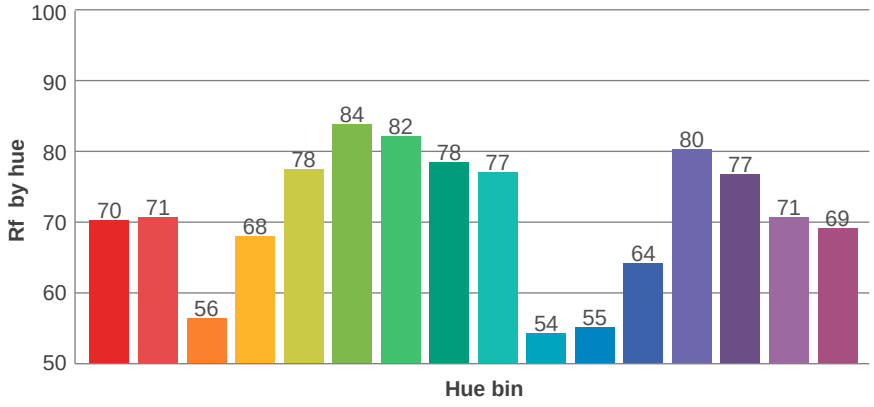
Fidelity index Rf

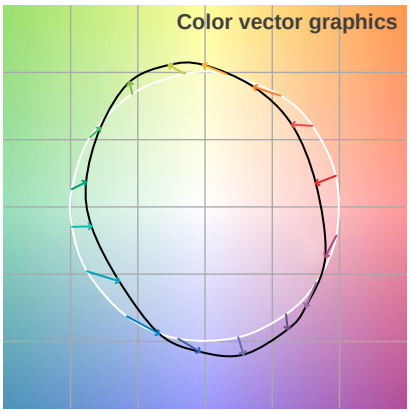
Rg 94.5

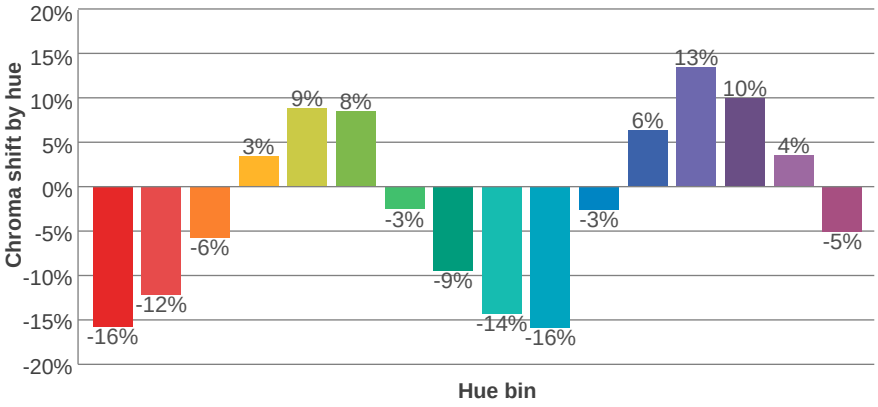
Gamut index Rg

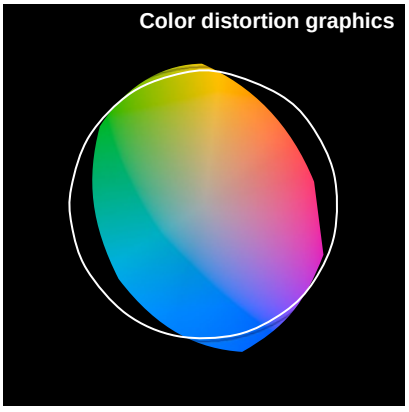
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	70	-16%	-3%
2	71	-12%	9%
3	56	-6%	20%
4	68	3%	18%
5	78	9%	10%
6	84	8%	-3%
7	82	-3%	-10%
8	78	-9%	-7%
9	77	-14%	3%
10	54	-16%	19%
11	55	-3%	27%
12	64	6%	18%
13	80	13%	1%
14	77	10%	-5%
15	71	4%	-19%
16	69	-5%	-17%

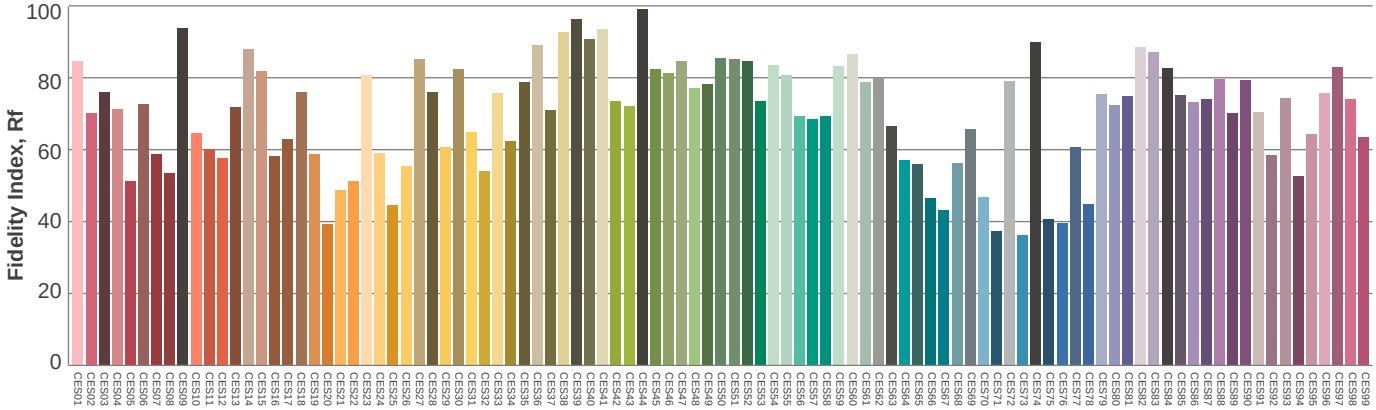












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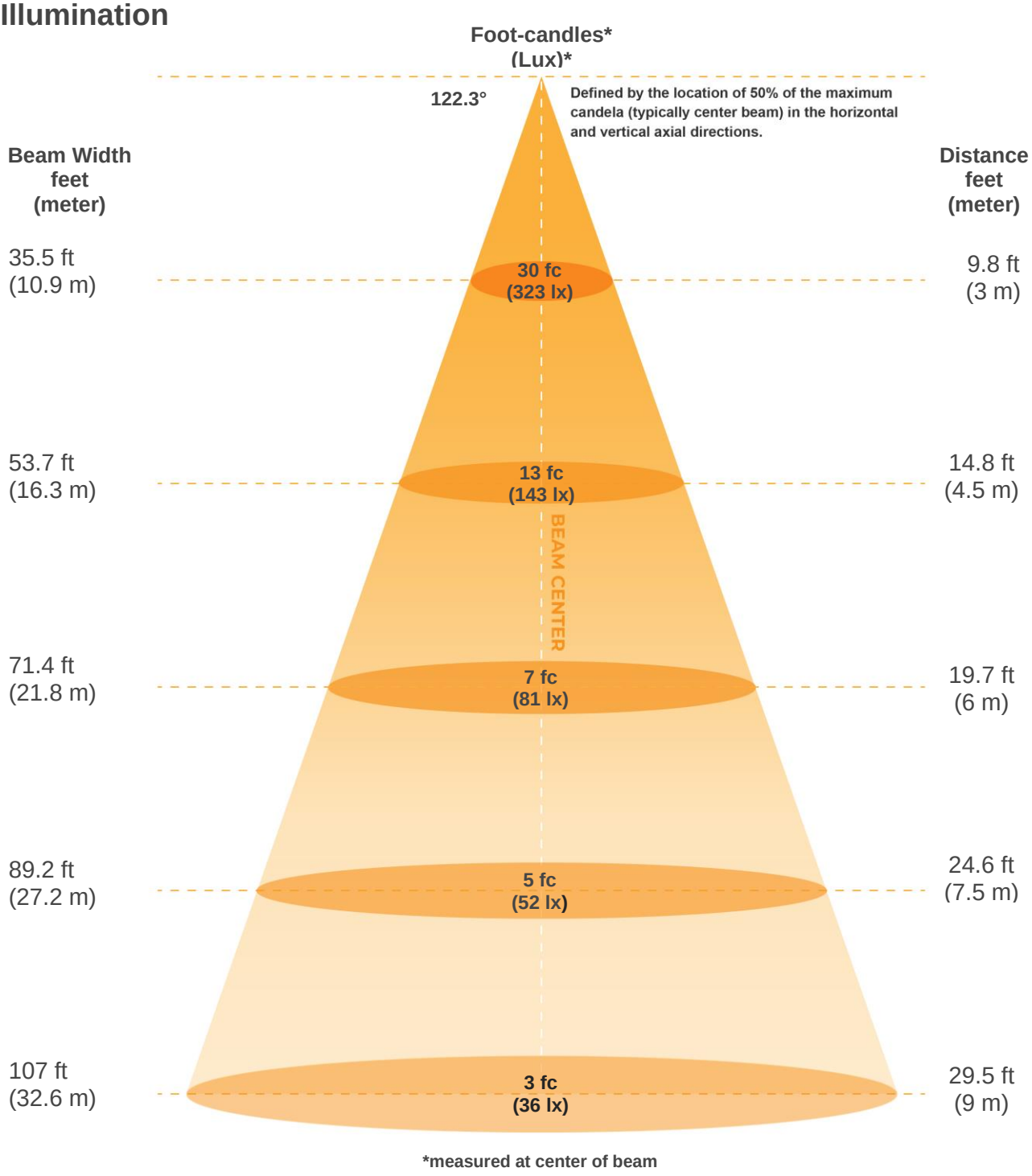
Illumination



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
2905lx	726lx	323lx	182lx	116lx	81lx	59lx	45lx	36lx	29lx	24lx	20lx	17lx	15lx	13lx	11lx	10lx	9lx	8lx	7lx
269.9fc	67.5fcd	30fcd	16.9fcd	10.8fcd	7.5fcd	5.5fcd	4.2fcd	3.3fcd	2.7fcd	2.2fcd	1.9fcd	1.6fcd	1.4fcd	1.2fcd	1.1fcd	0.9fcd	0.8fcd	0.7fcd	0.7fcd

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
122.3°	**164.6°**	**180.7°**	**72.5%**	**47.2%**

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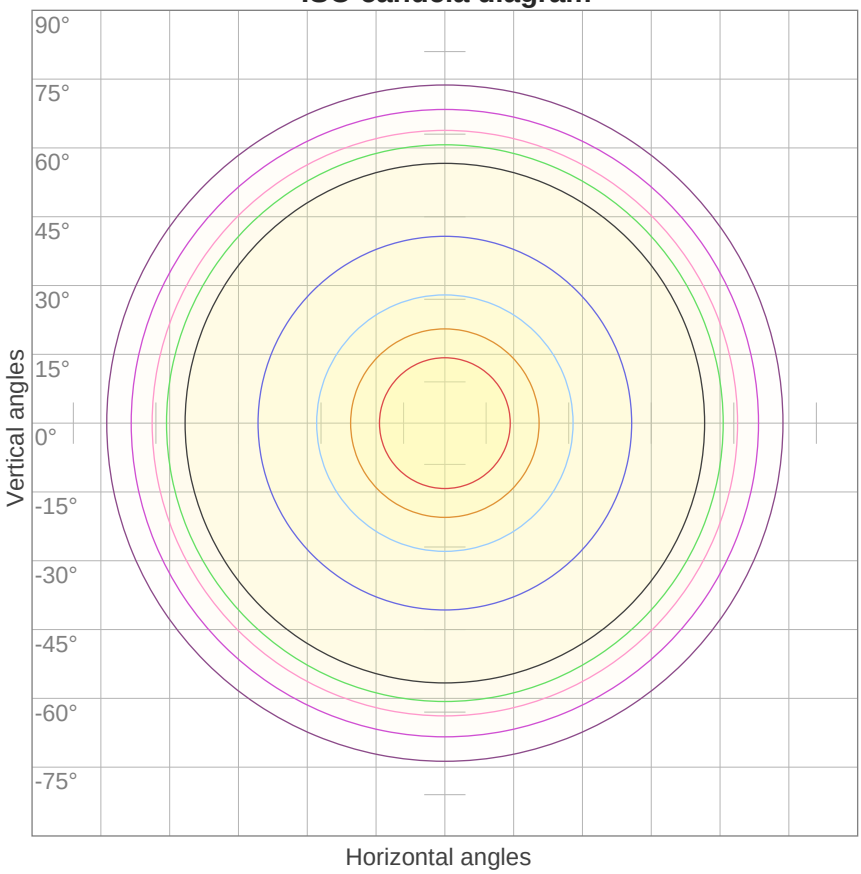
ISO Diagrams

ISO candela diagram



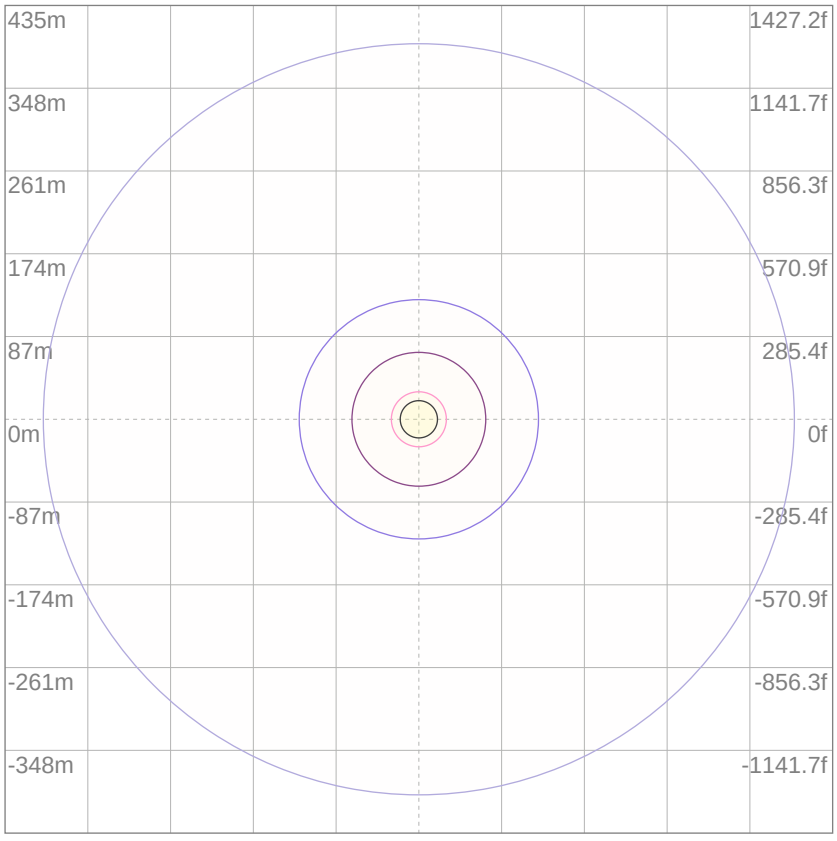
10%	291 cd
20%	581 cd
30%	872 cd
40%	1162 cd
50%	1453 cd
60%	1743 cd
70%	2034 cd
80%	2324 cd
90%	2615 cd

Conditions:

Number of c-planes: 16

Candela at center: 2905 cd

ISO lux diagram



3%	0.872 lx
5%	1.45 lx
10%	2.91 lx
30%	8.72 lx
50%	14.5 lx

Conditions:

Number of c-planes: 16

Lux at center: 29.1 lx

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

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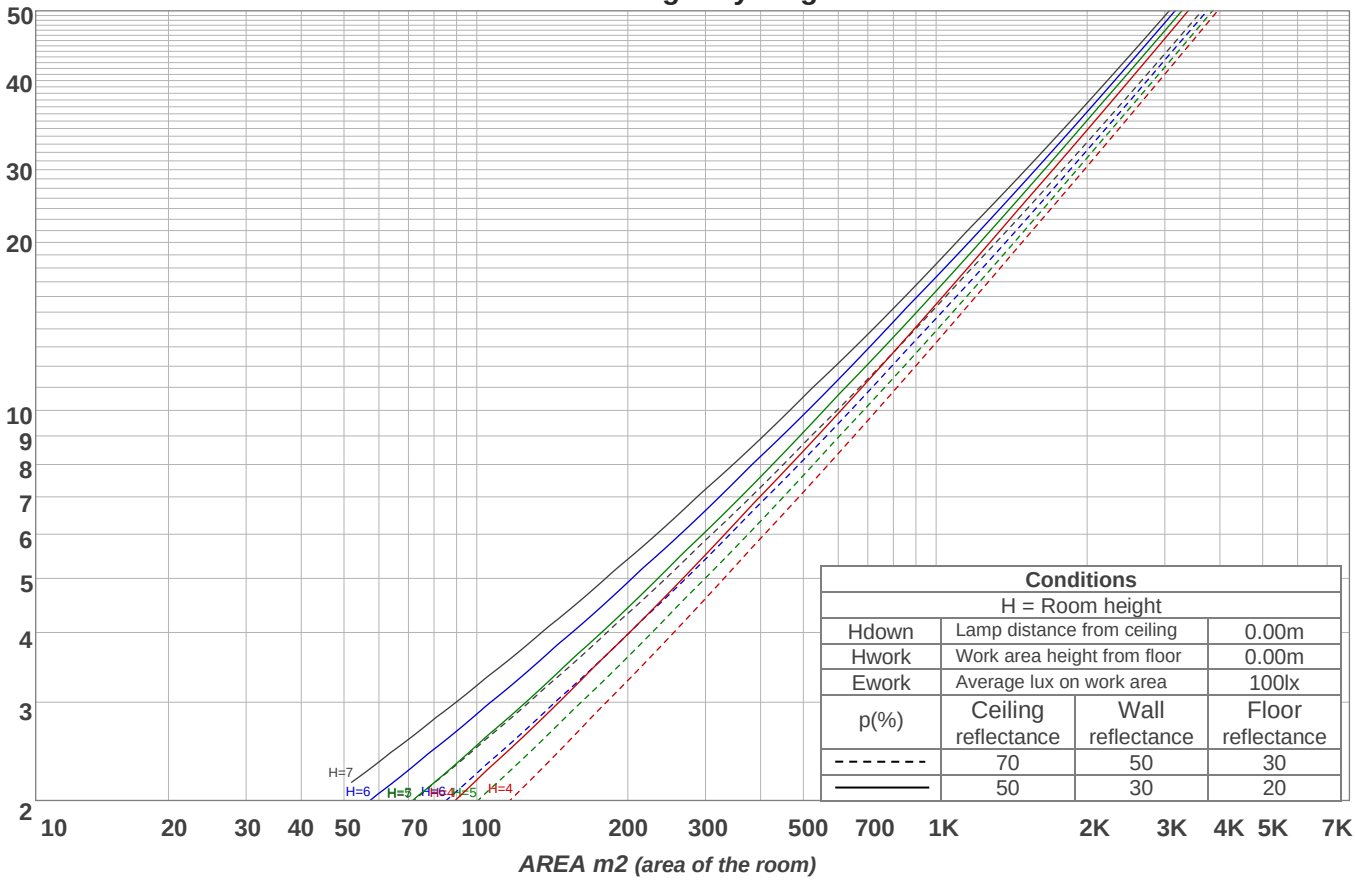
Light Planning

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	110	110	110	105	105	105	100	100	100	98
1	107	102	98	94	104	100	96	92	95	92	88	91	88	85	87	85	82	80
2	97	88	81	75	94	86	80	74	82	77	72	79	74	70	75	71	68	66
3	88	77	68	61	85	75	67	61	72	65	59	69	63	58	66	61	57	54
4	80	68	59	52	78	66	58	51	63	56	50	61	54	49	58	53	48	46
5	74	60	51	44	71	59	50	44	57	49	43	54	48	42	52	46	42	39
6	68	54	45	38	66	53	44	38	51	43	37	49	42	37	47	41	36	34
7	63	49	40	34	61	48	39	33	46	39	33	45	38	33	43	37	32	30
8	58	45	36	30	57	44	36	30	42	35	29	41	34	29	40	33	29	27
9	55	41	33	27	53	40	32	27	39	32	26	38	31	26	36	30	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	28	24	34	28	24	22

Luminaire budgetary diagram



Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
275 lm	743 lm	1033 lm	1224 lm	1353 lm	1427 lm	1213 lm	685 lm	218 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
52.9 lm	35.9 lm	34.3 lm	20.5 lm	18.1 lm	11.4 lm	4.01 lm	1.36 lm	0.472 lm

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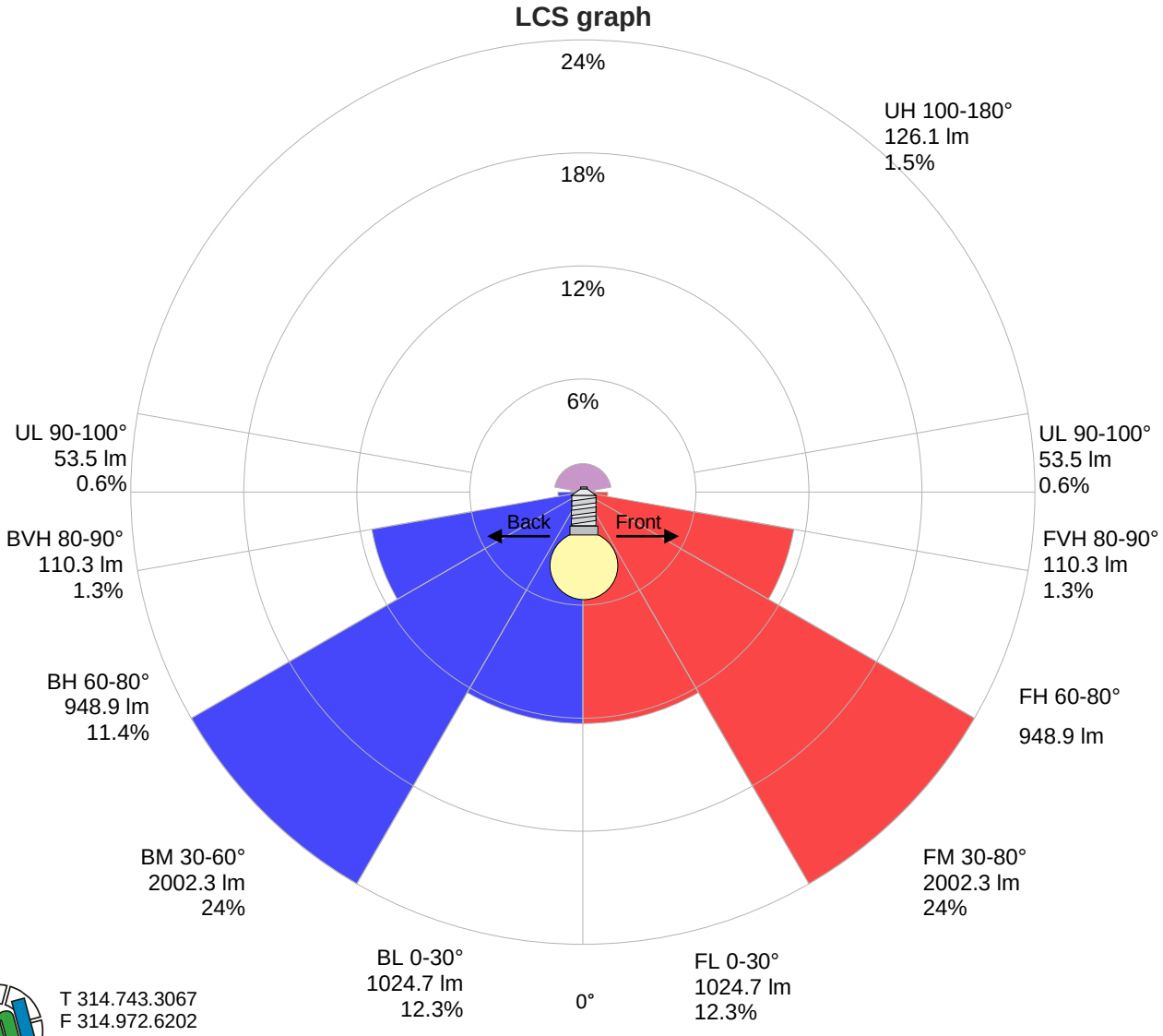
Road Report

LCS table

BUG rating:	B3 U3 G2	
Forward light	Lumens	Lumens %
Low(0-30):	1024.7	12.3%
Medium(30-60):	2002.3	24%
High(60-80):	948.9	11.4%
Very high(80-90):	110.3	1.3%
Back light		
Low(0-30):	1024.7	12.3%
Medium(30-60):	2002.3	24%
High(60-80):	948.9	11.4%
Very high(80-90):	110.3	1.3%
Uplight		
Low(90-100):	53.5	0.6%
High(100-180):	126.1	1.5%

LCS graph



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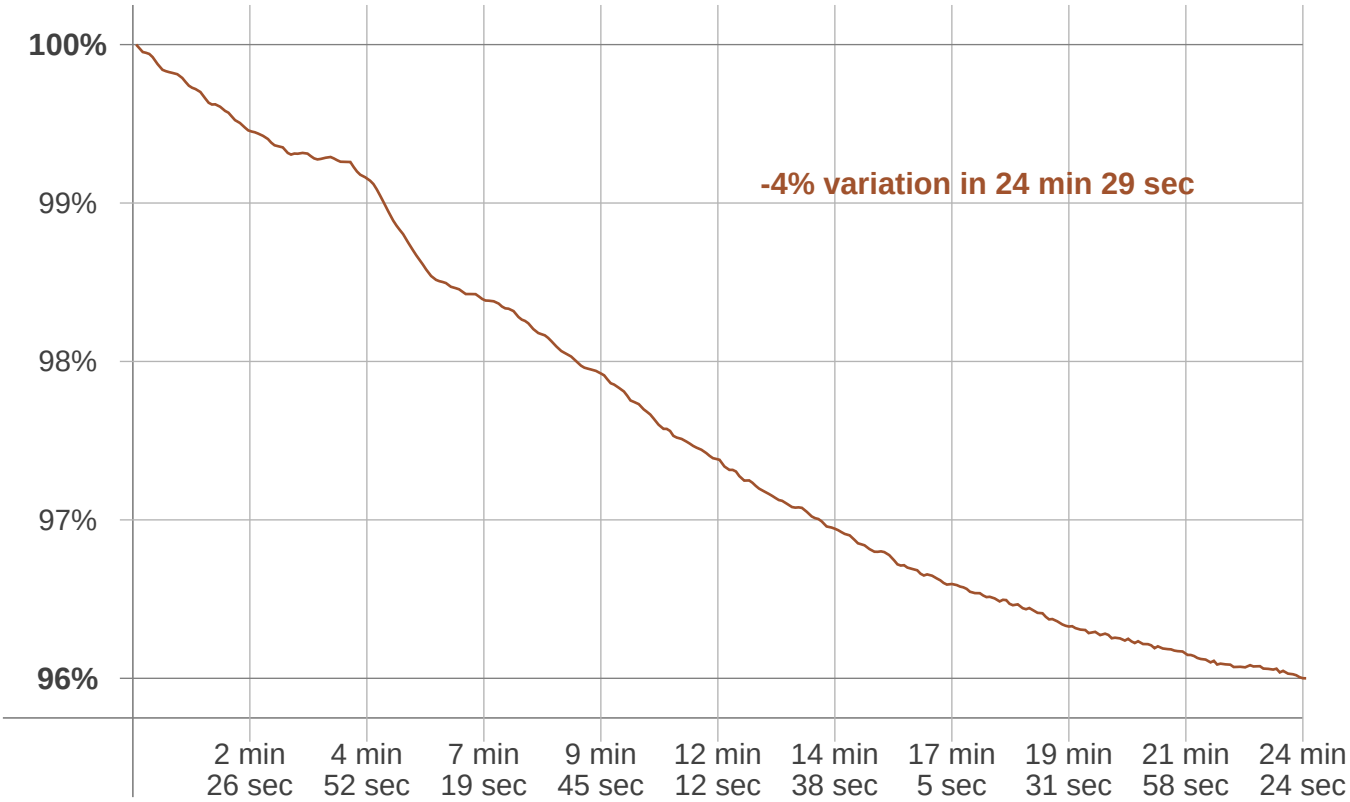
Stabilization

Warmup curve



Warmup result

Warmup time:	**24 min 29 sec**
Warmup variation	**-4.0%**

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
4063 K	+39 K	4102 K

Output change

Output start	Output change	Output end
8673 lm	-321 lm	8352 lm

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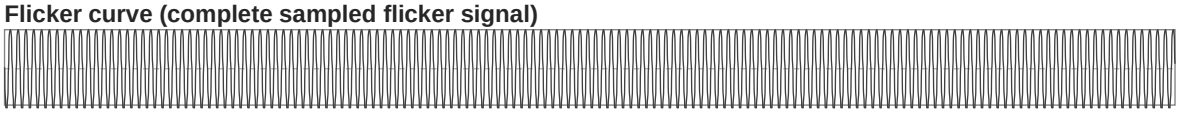
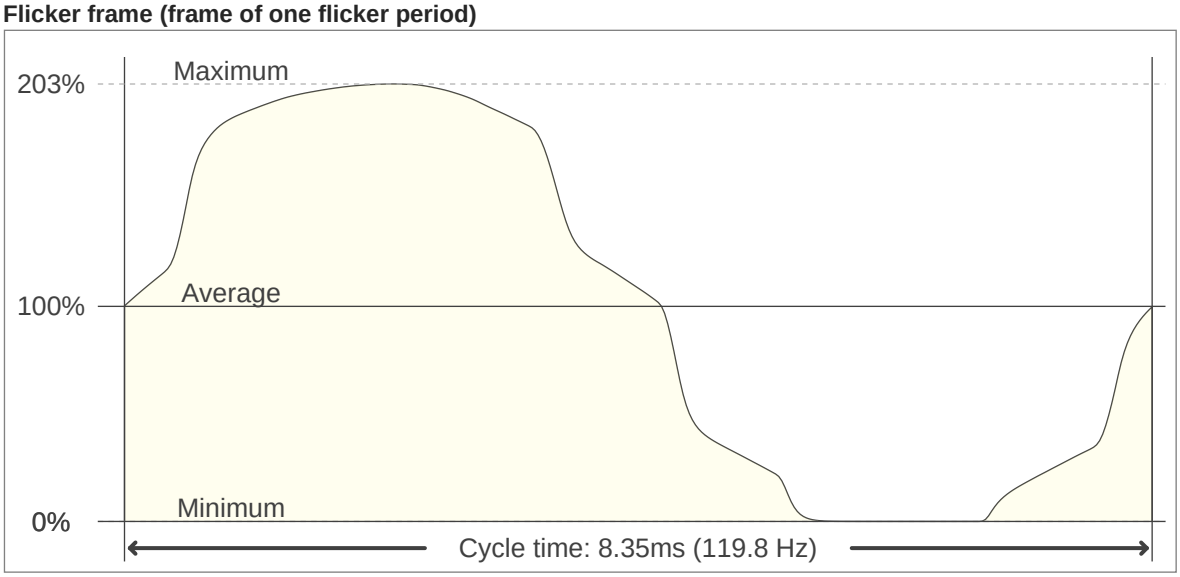
Flicker

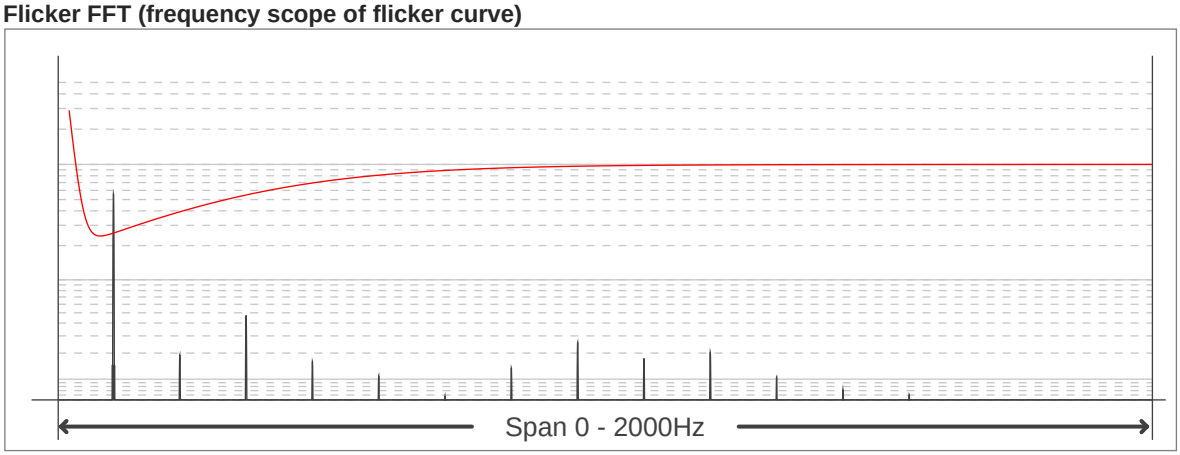
Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

Flicker frequency:	**119.76 Hz**
Flicker index:	**0.36**
Flicker percentage:	**100 %**
SVM: (Visual flicker)	**4.05**

Flicker conditions:

Sample rate:	**40000 samples/second**

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