Light efficiency:

77 Lumen/Watt

Light quality:

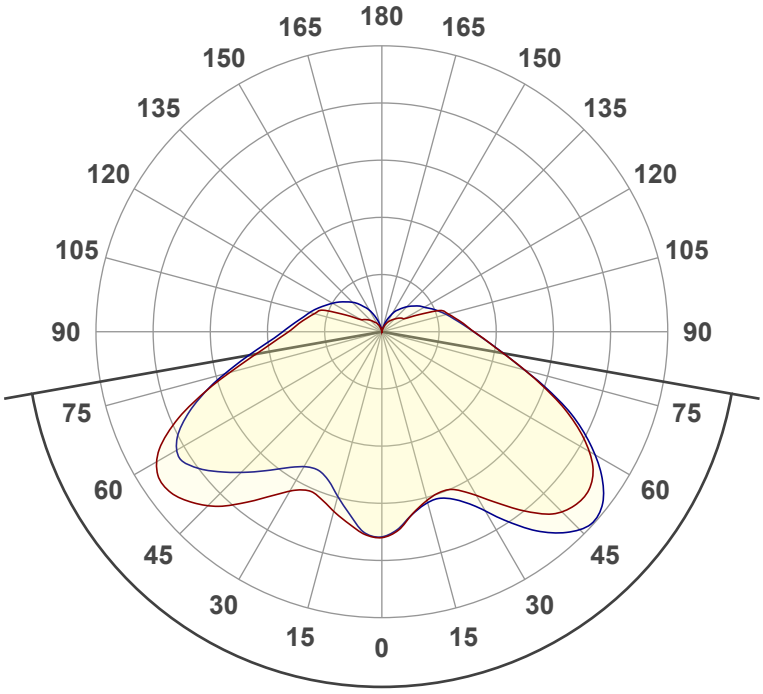
CRI: 90.4

Color temperature:

3970 K

Output: 1507 lm
Peak: 285 cd

Power: 19.5 W
PF: 0.99

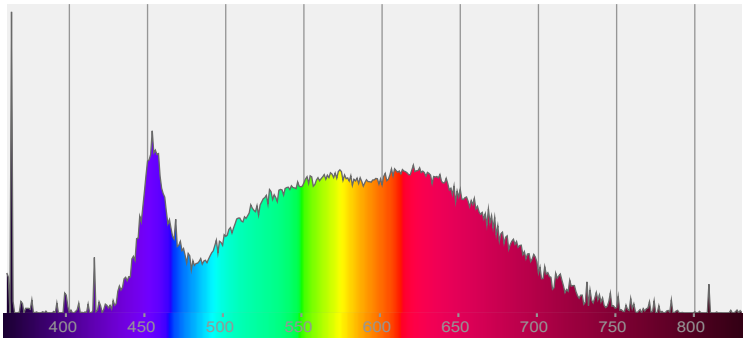


Beam angle 159.9°

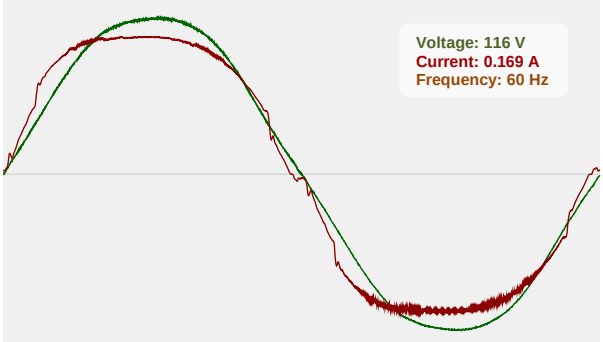
CIE 1931
x: 0.384
y: 0.385

Product name:
VTCJ-NW20
Date and time:
10/6/2022 11:27:47 AM

Spectra



Power



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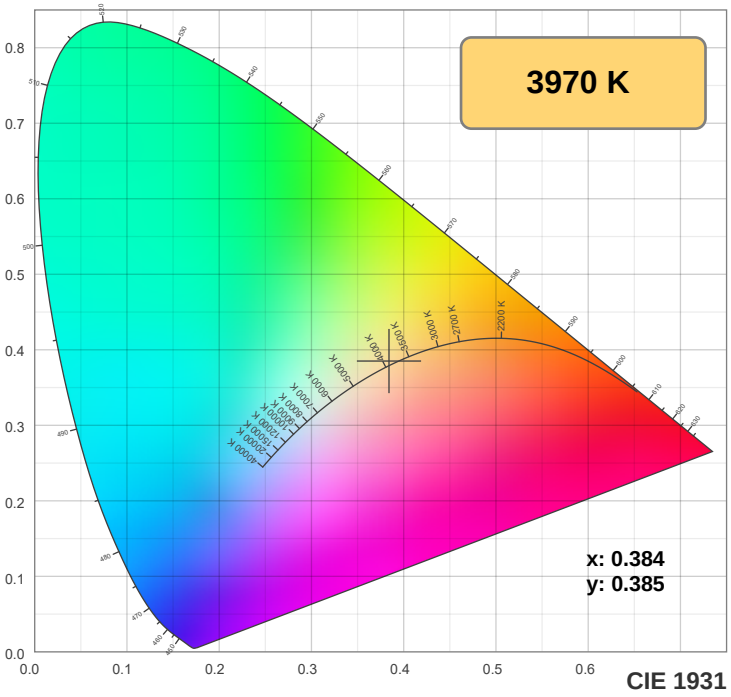
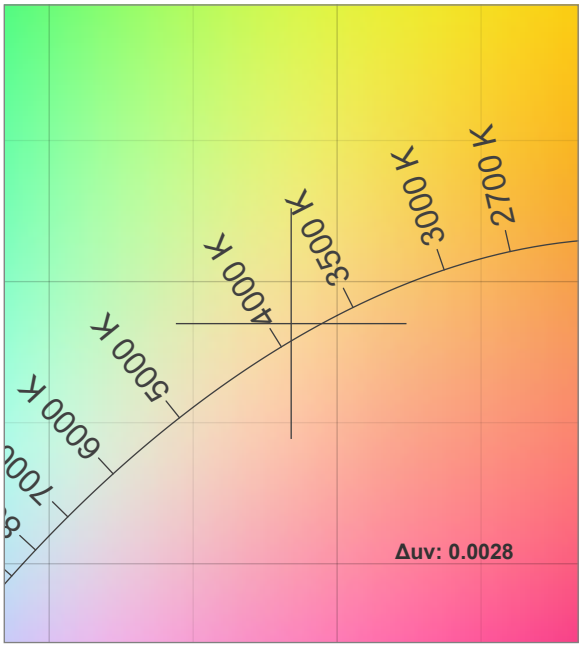
Color Specifications

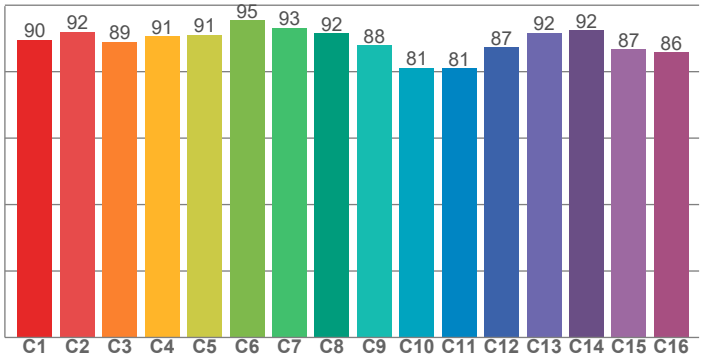


CIE 1931

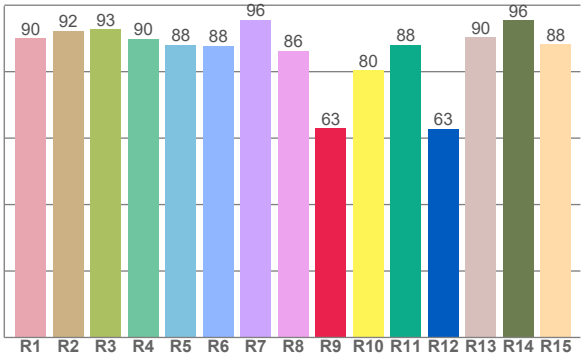


CIE 1931 ZOOM

TM30: 88.9



CRI: 90.4 (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
90.0	92.4	92.7	90.0	88.2	87.9	95.6	86.3	62.9	80.4	88.2	62.8	90.3	95.5	88.3

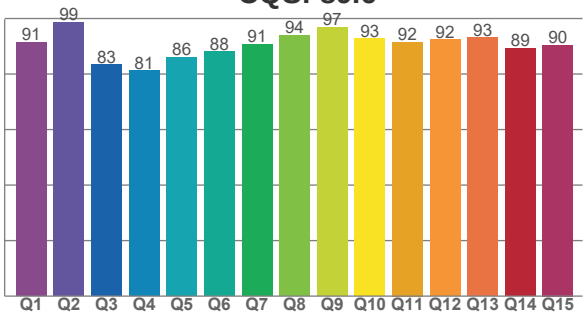
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
89.6	92.0	89.0	90.6	91.1	95.4	93.1	91.5	87.9	81.2	81.0	87.3	91.6	92.4	86.7	85.8

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
91.5	98.7	83.3	81.2	86.0	88.1	90.7	94.0	96.9	92.7	91.5	92.3	93.1	89.3	90.5

CQS: 89.6



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
3970 K	90.4	62.9	88.9	97.6	89.6	0.384	0.385	0.224	0.337	0.0028

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TM30 Report

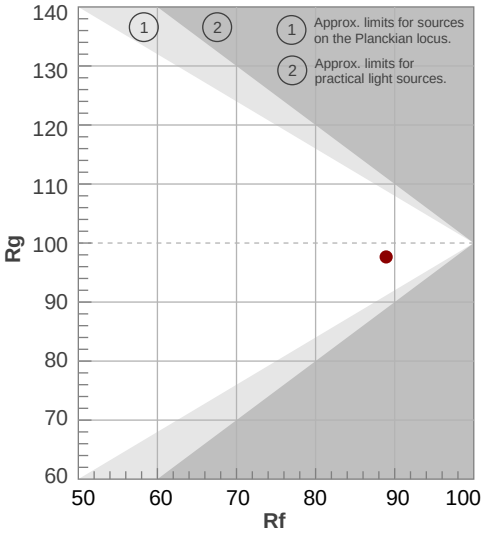
Rf 88.9

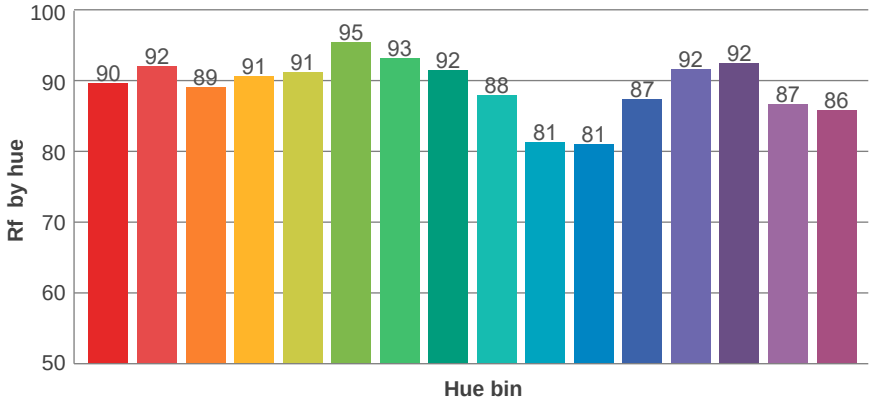
Fidelity index Rf

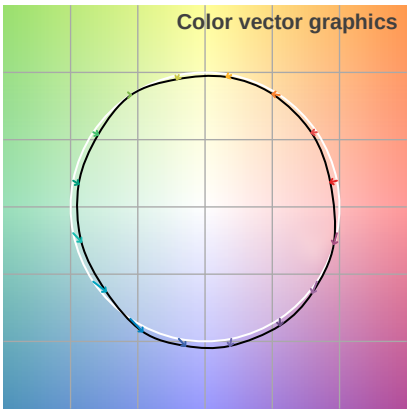
Rg 97.6

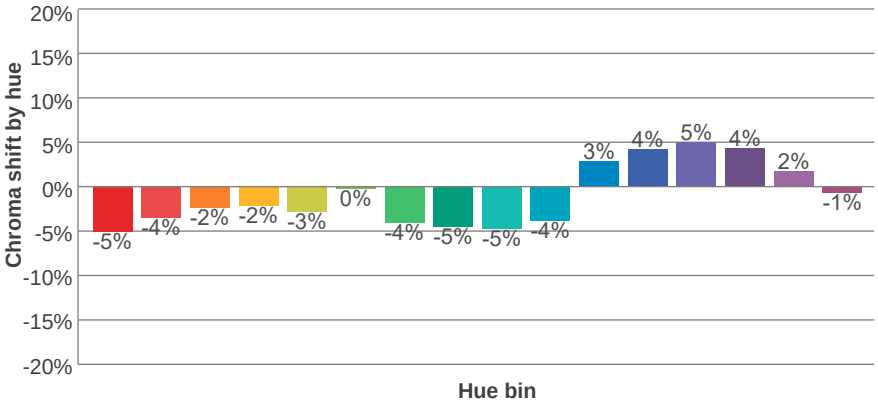
Gamut index Rg

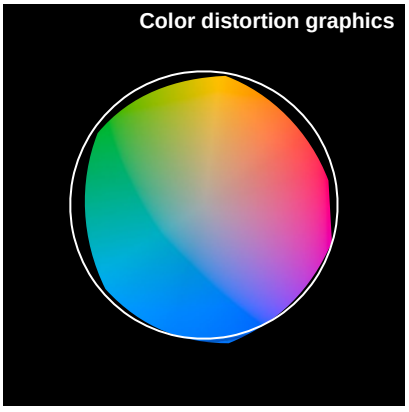
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	90	-5%	0%
2	92	-4%	2%
3	89	-2%	5%
4	91	-2%	3%
5	91	-3%	2%
6	95	0%	0%
7	93	-4%	-1%
8	92	-5%	2%
9	88	-5%	7%
10	81	-4%	11%
11	81	3%	13%
12	87	4%	6%
13	92	5%	-2%
14	92	4%	-3%
15	87	2%	-9%
16	86	-1%	-8%

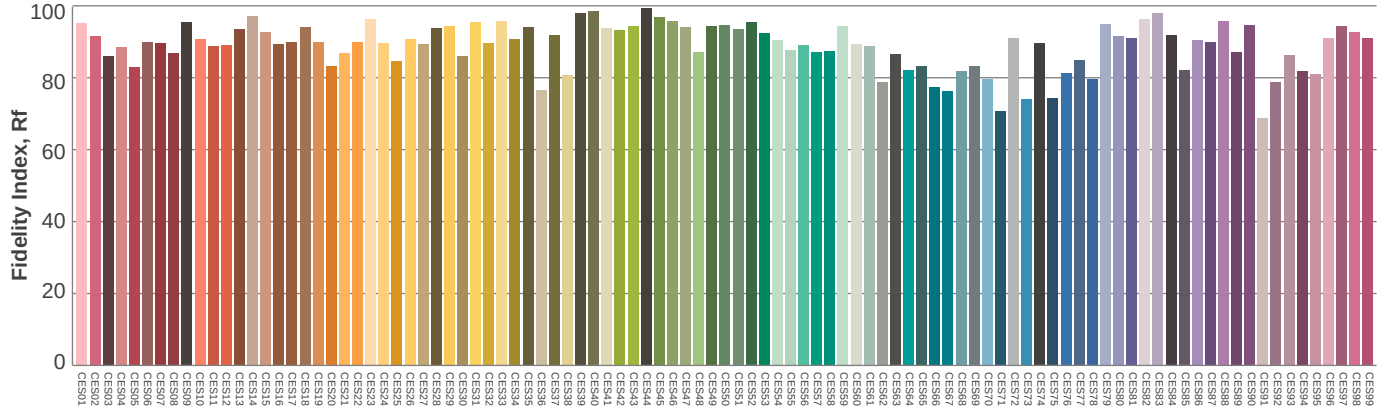












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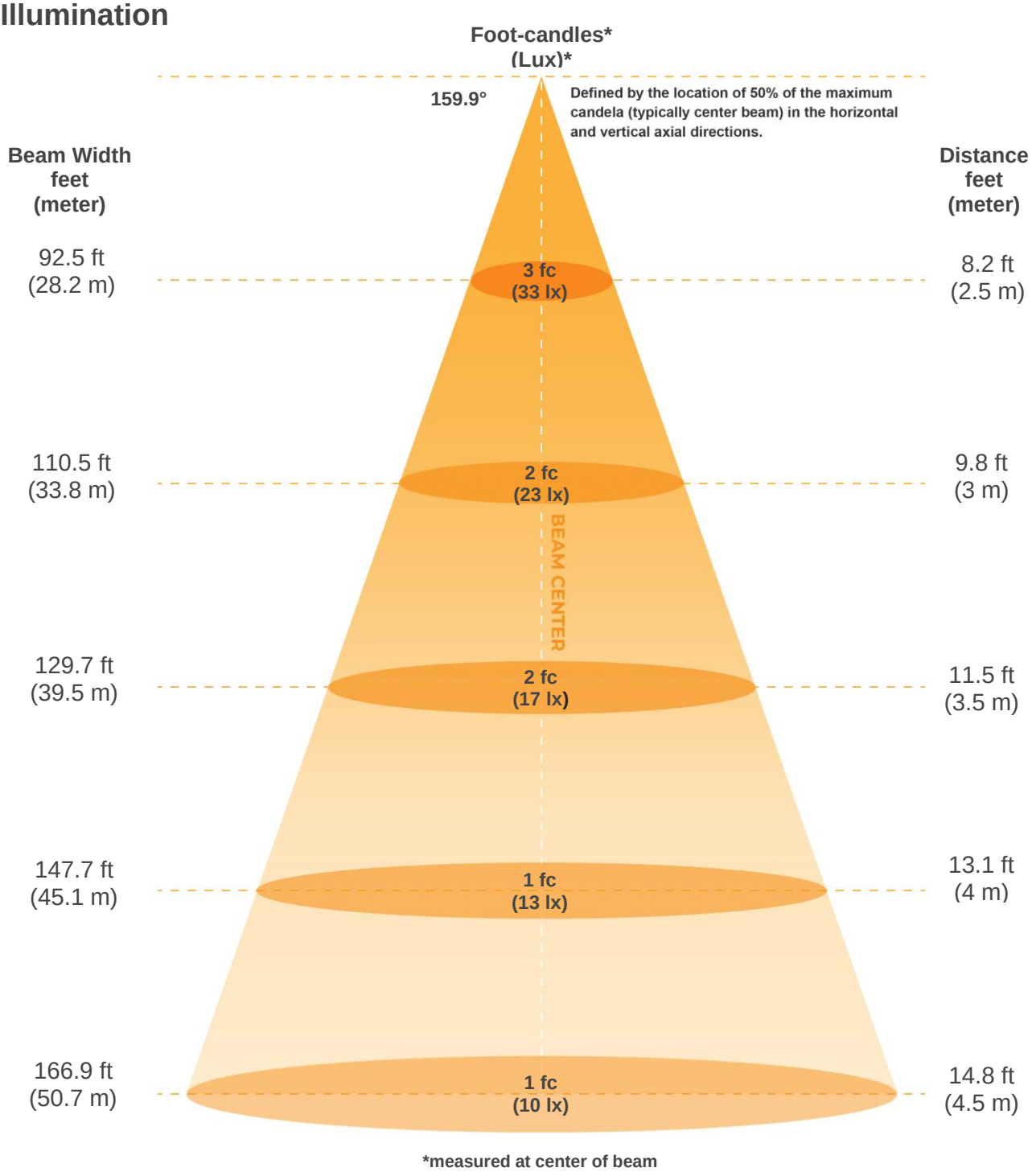
Illumination



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
205lx	51lx	23lx	13lx	8lx	6lx	4lx	3lx	3lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx
19.1fcd	4.8fcd	2.1fcd	1.2fcd	0.8fcd	0.5fcd	0.4fcd	0.3fcd	0.2fcd	0.2fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0fcd

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
159.9°	**287.4°**	**323.8°**	**44.9%**	**23.8%**

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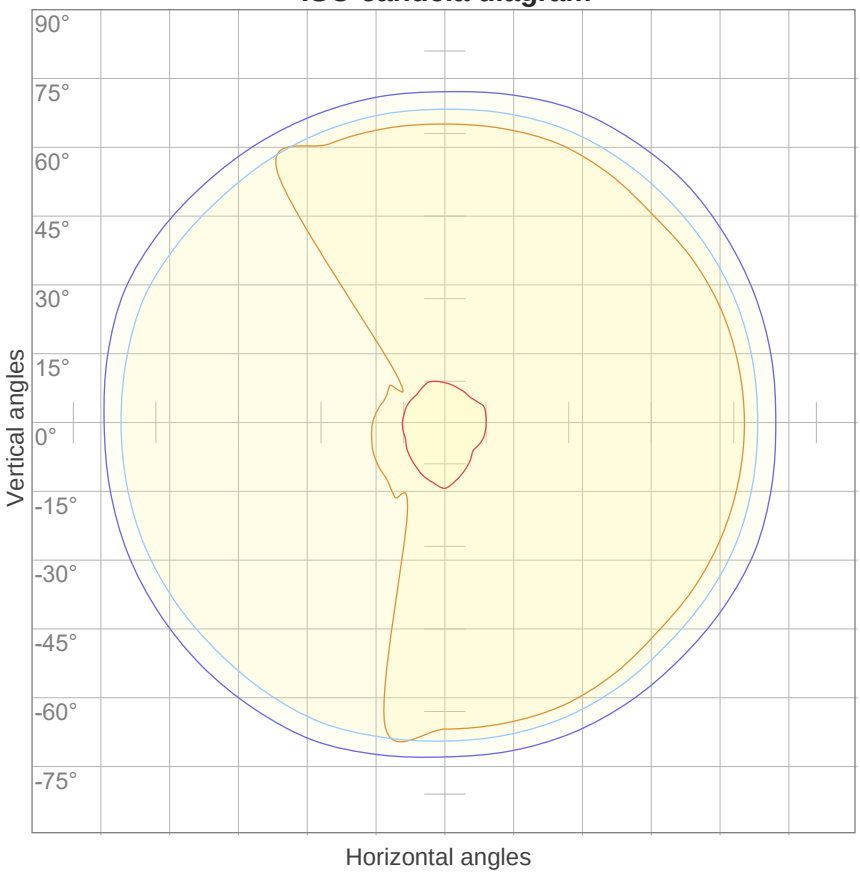
ISO Diagrams

ISO candela diagram



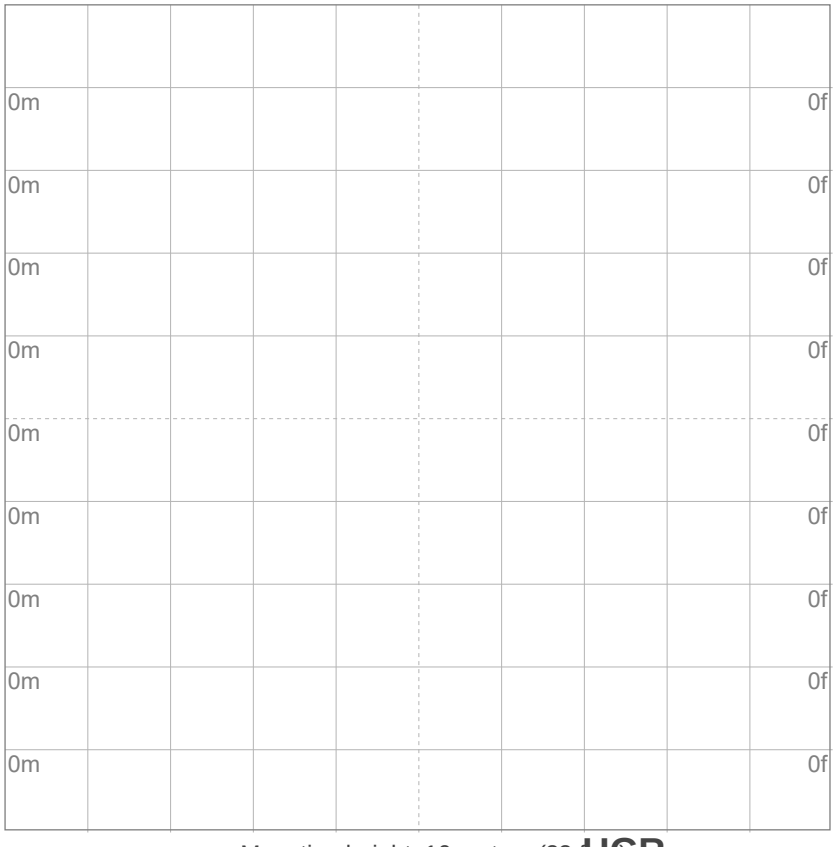
10%	21 cd
20%	41 cd
30%	62 cd
40%	82 cd
50%	103 cd
60%	123 cd
70%	144 cd
80%	164 cd
90%	185 cd

Conditions:

Number of c-planes: 16

Candela at center: 205 cd

ISO lux diagram



3%	61.6m lx
5%	0.103 lx
10%	0.205 lx
30%	0.616 lx
50%	1.03 lx

Conditions:

Number of c-planes: 16

Lux at center: 2.05 lx

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

UGR

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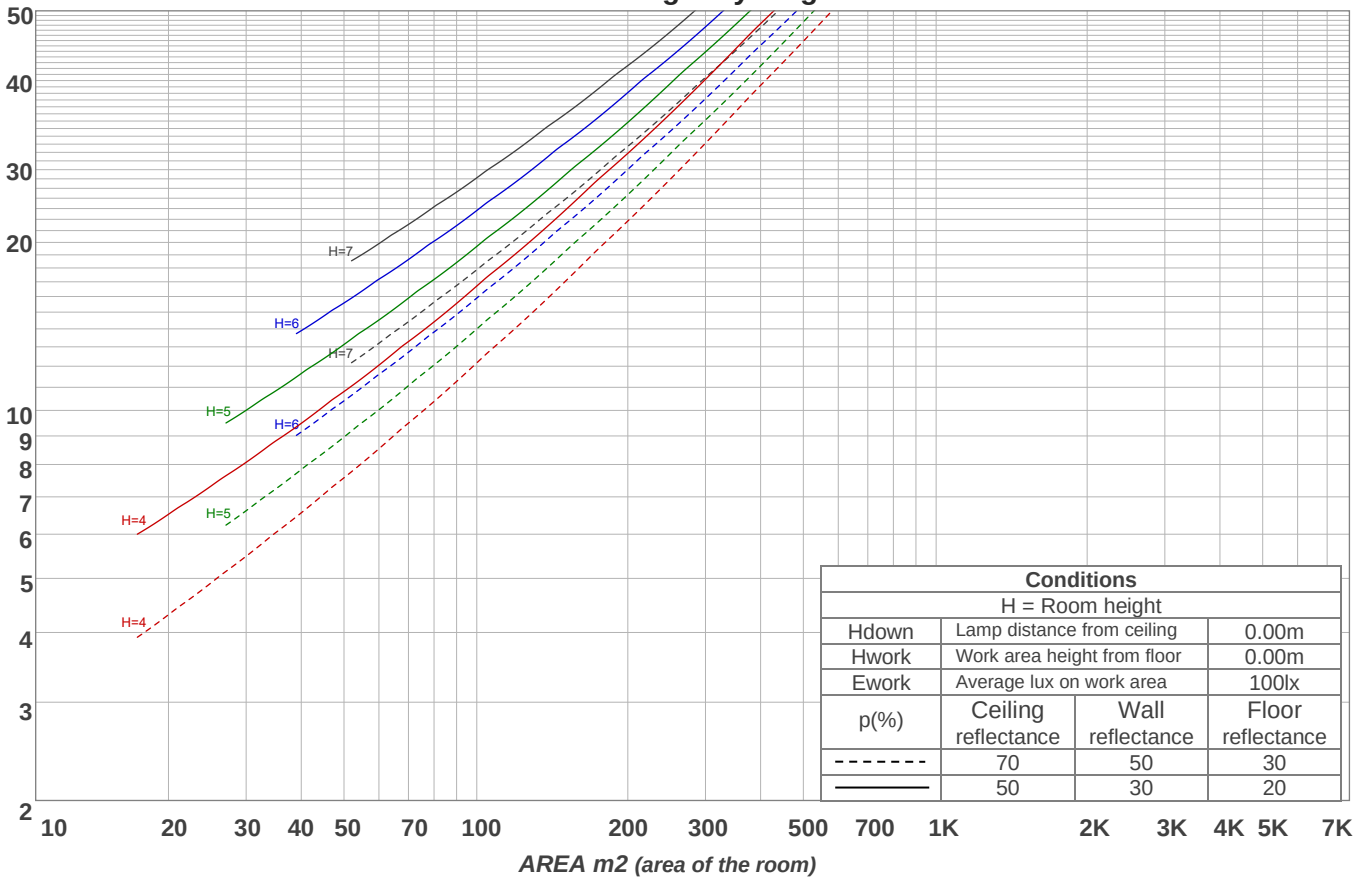
Light Planning

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	114	114	114	114	109	109	109	109	99	99	99	90	90	90	82	82	82	78
1	100	93	87	82	94	89	83	79	80	76	72	73	69	66	65	63	60	57
2	89	78	70	63	84	74	67	60	67	61	56	61	55	51	54	50	47	43
3	79	67	57	50	75	64	55	48	57	50	44	51	45	40	46	41	37	34
4	72	58	48	40	67	55	46	39	50	42	36	45	38	33	40	35	30	27
5	65	51	41	33	61	48	39	32	44	36	30	39	33	27	35	29	25	22
6	60	45	35	28	56	43	34	27	39	31	25	35	28	23	31	26	21	18
7	55	40	31	24	52	38	29	23	35	27	21	31	25	20	28	22	18	16
8	51	36	27	21	48	34	26	20	31	24	19	28	22	17	26	20	16	13
9	47	33	24	18	44	31	23	18	29	21	16	26	20	15	23	18	14	12
10	44	30	22	16	42	29	21	16	26	19	14	24	18	13	22	16	12	10

Luminaire budgetary diagram



Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
18.6 lm	49.6 lm	79.7 lm	126 lm	182 lm	220 lm	212 lm	165 lm	123 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
97.4 lm	78.2 lm	58.7 lm	42.1 lm	28.7 lm	17.0 lm	7.32 lm	1.31 lm	0.113 lm

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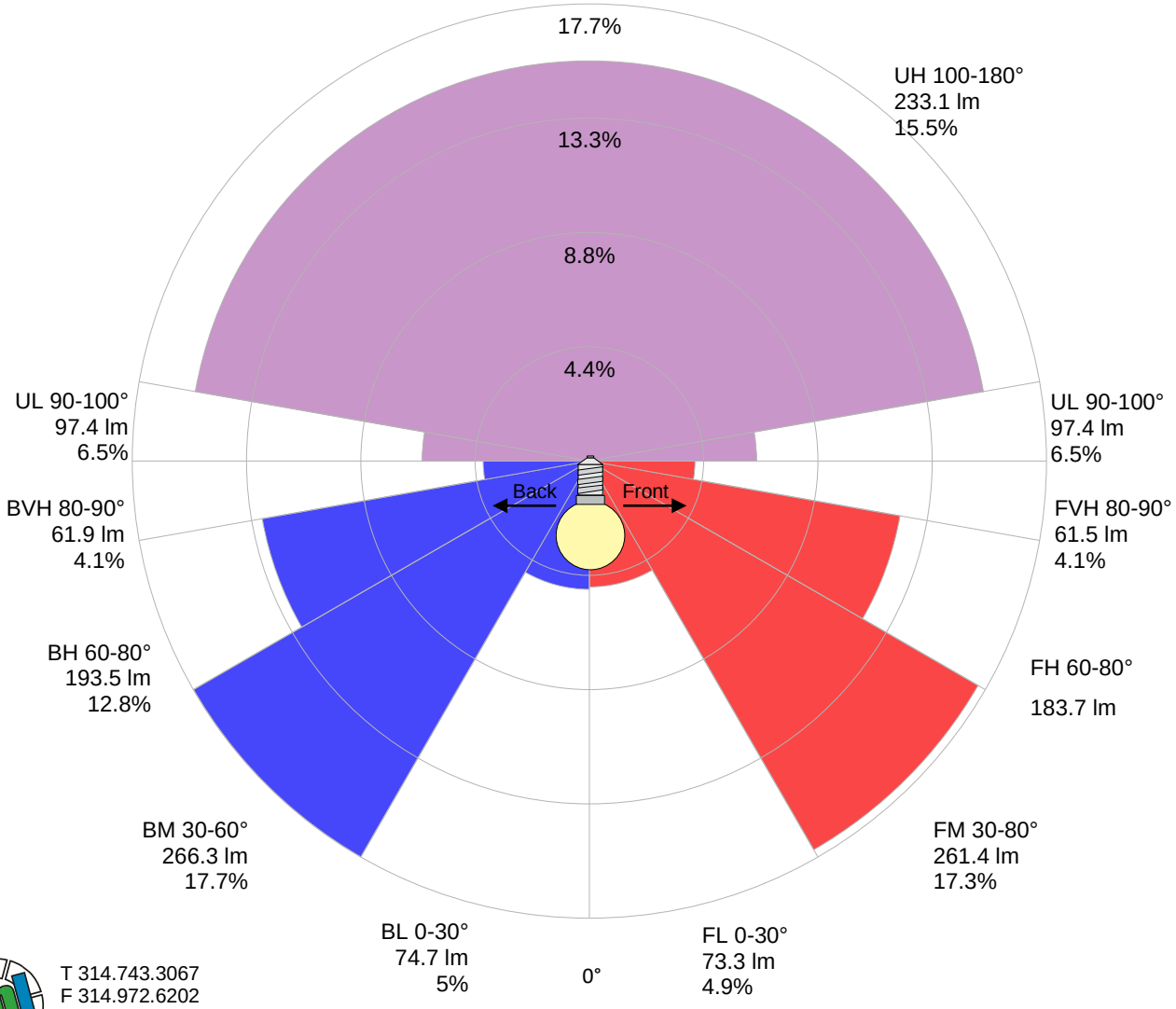
Road Report

LCS table

BUG rating:	B1 U3 G1	
Forward light	Lumens	Lumens %
Low(0-30):	73.3	4.9%
Medium(30-60):	261.4	17.3%
High(60-80):	183.7	12.2%
Very high(80-90):	61.5	4.1%
Back light		
Low(0-30):	74.7	5%
Medium(30-60):	266.3	17.7%
High(60-80):	193.5	12.8%
Very high(80-90):	61.9	4.1%
Uplight		
Low(90-100):	97.4	6.5%
High(100-180):	233.1	15.5%

LCS graph



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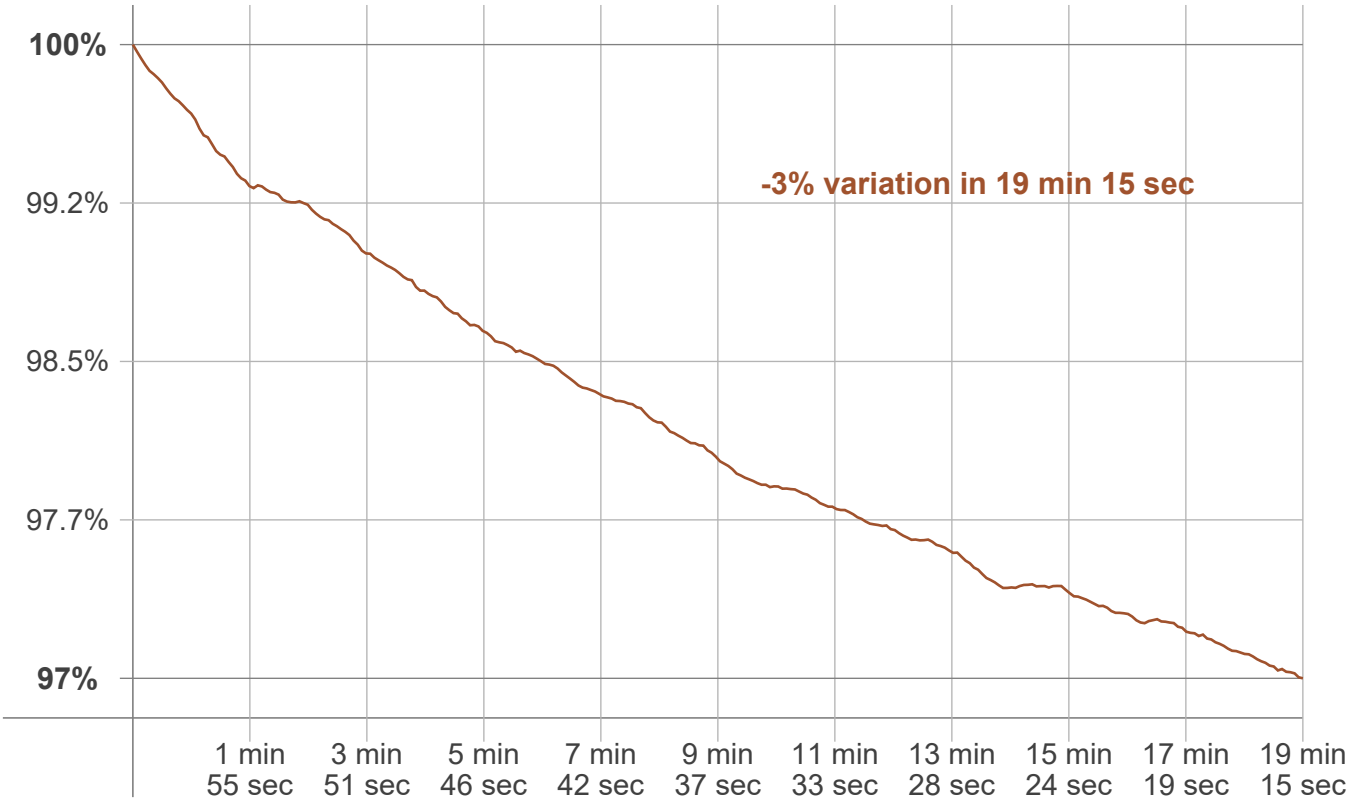
Stabilization

Warmup curve



Warmup result

Warmup time:	**Lamp stabilized in 19 min 15 sec**
Warmup variation	**-3.0%**

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
3971 K	-1 K	3970 K

Output change

Output start	Output change	Output end
1551 lm	-44 lm	1507 lm

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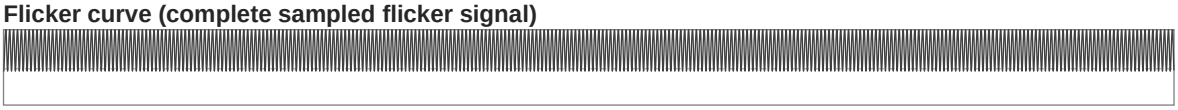
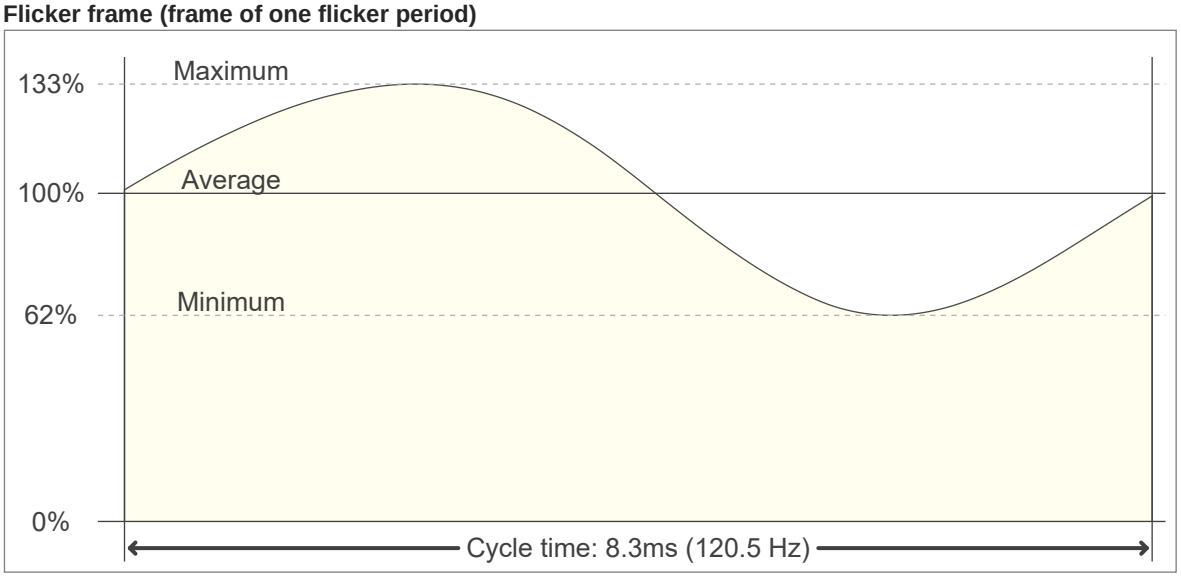
Flicker Specifications

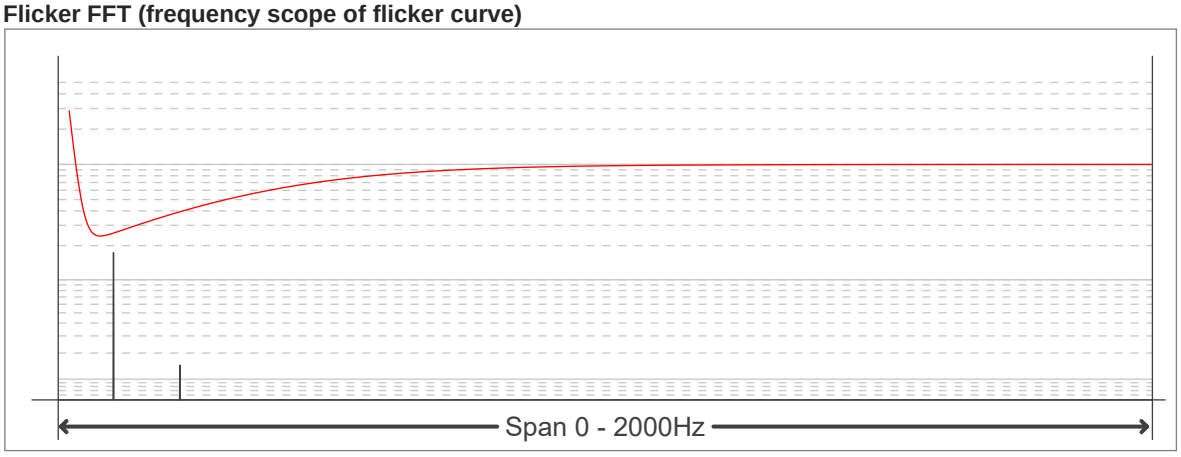
Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

Flicker frequency:	**120.48 Hz**
Flicker index:	**0.11**
Flicker percentage:	**36.05 %**
SVM: (Visual flicker)	**1.27**

Flicker conditions:

Sample rate:	**20000 samples/second**

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