Light efficiency:

133 Lumen/Watt

Light quality:

CRI: 83.3

Color temperature:

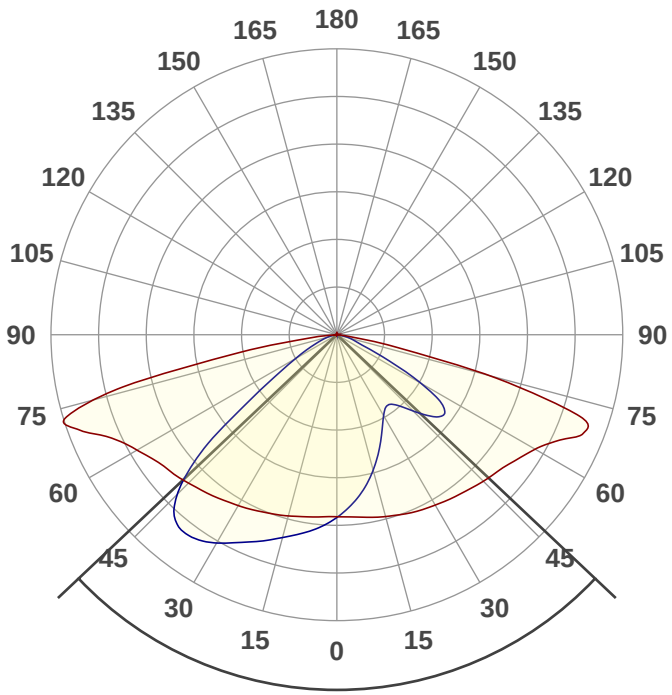
4035 K

Output: 7936 lm

Peak: 3741 cd

Power: 59.7 W

PF: 0.99



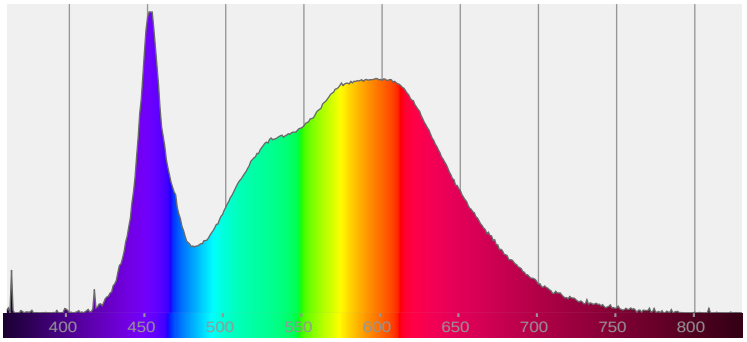
Product name:
RWLA-40K60AT2-GRSF test 2

Date and time:
7/15/2020 3:37:29 PM

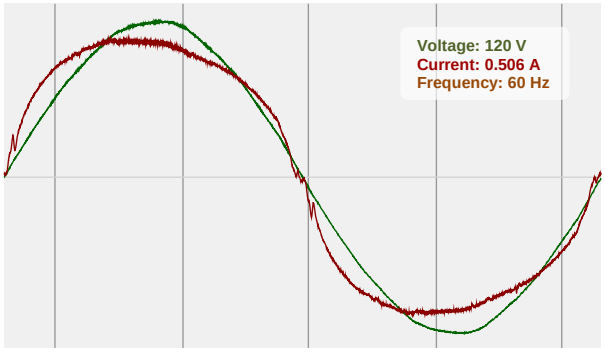
Beam angle **93.3°**

CIE 1931
x: 0.378
y: 0.372

Spectra



Power



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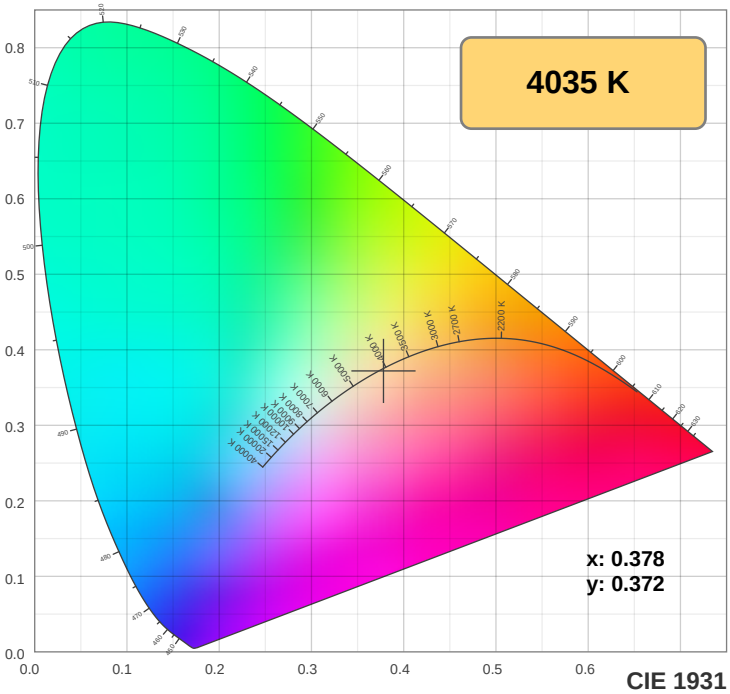
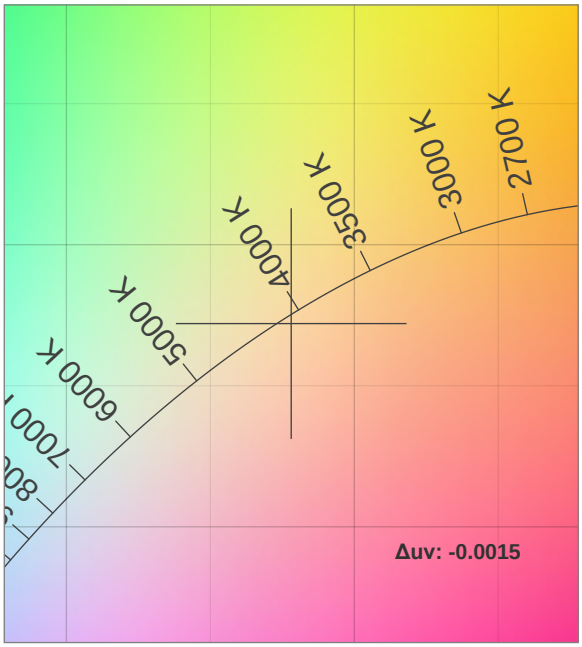
Color Specifications

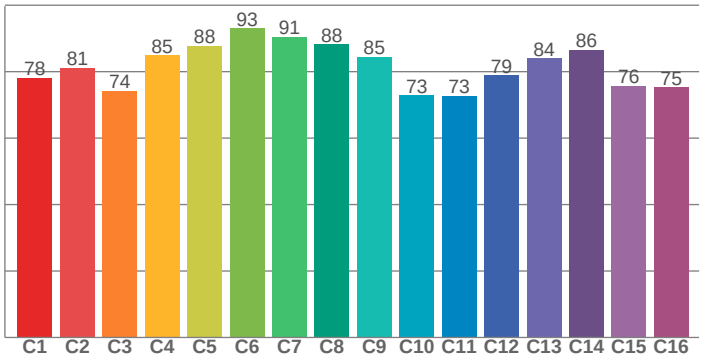


CIE 1931

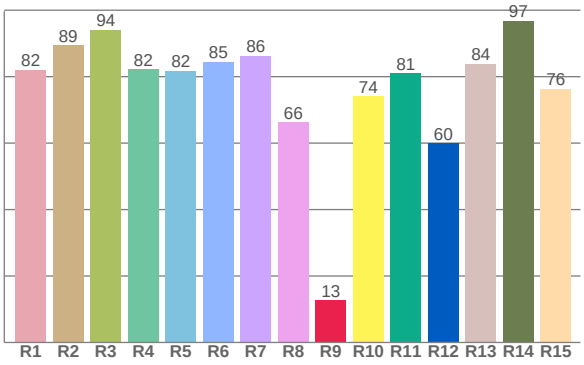


CIE 1931 ZOOM

TM30: 81.5



CRI: 83.3 (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
82.1	89.4	94.1	82.3	81.7	84.5	86.3	66.2	12.7	74.2	81.0	60.1	83.9	96.8	76.4

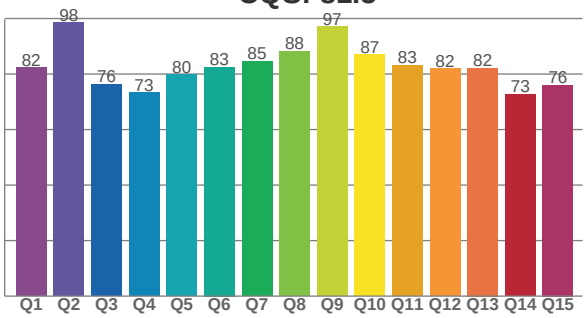
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
78.1	81.1	74.2	84.9	87.7	93.0	90.5	88.2	84.6	72.9	72.7	78.8	84.0	86.5	75.8	75.2

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82.2	98.5	76.3	73.2	79.7	82.5	84.6	88.2	97.1	87.0	83.2	81.9	82.2	72.7	76.1

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 diviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
4035 K	83.3	12.7	81.5	96.1	81.5	0.378	0.372	0.225	0.333	-0.0015

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RWLA-40K60AT2-GRSF test 2

TM30 Report

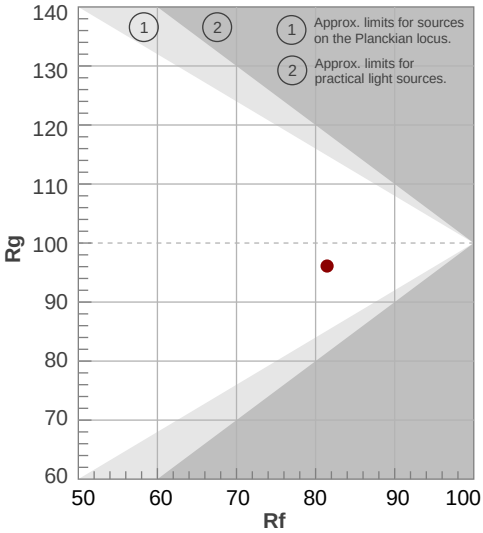
Rf 81.5

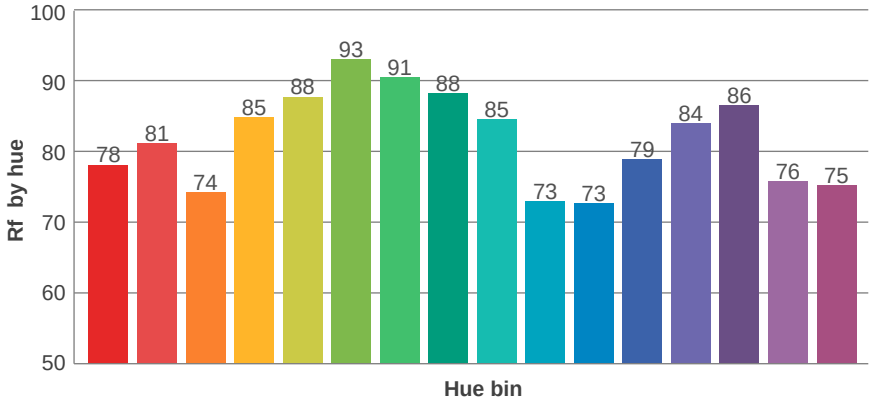
Fidelity index Rf

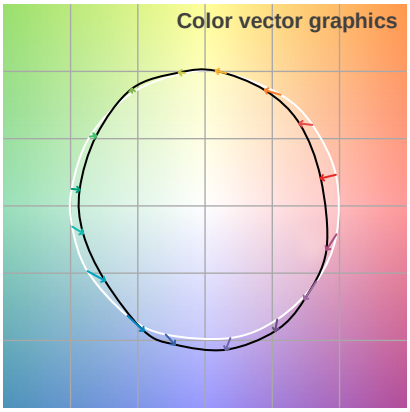
Rg 96.1

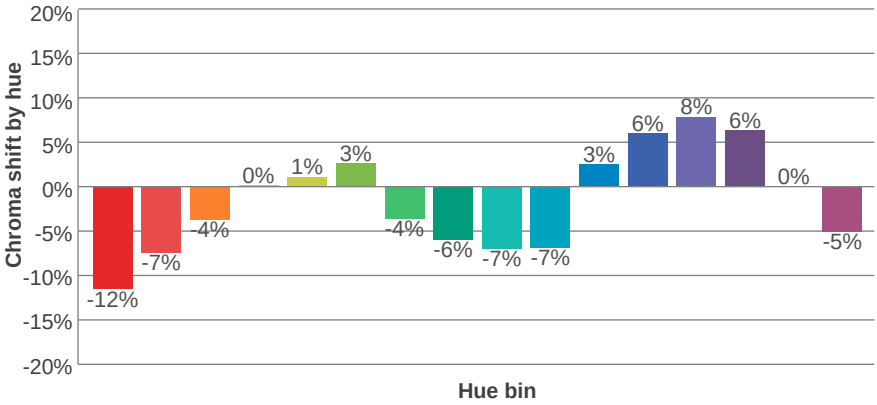
Gammut index Rg

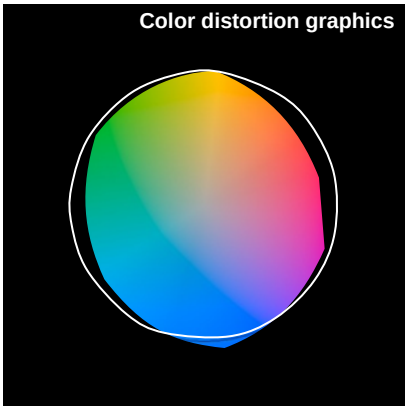
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	78	-12%	0%
2	81	-7%	6%
3	74	-4%	12%
4	85	0%	8%
5	88	1%	4%
6	93	3%	-1%
7	91	-4%	-3%
8	88	-6%	0%
9	85	-7%	7%
10	73	-7%	13%
11	73	3%	16%
12	79	6%	8%
13	84	8%	-5%
14	86	6%	-6%
15	76	0%	-16%
16	75	-5%	-13%

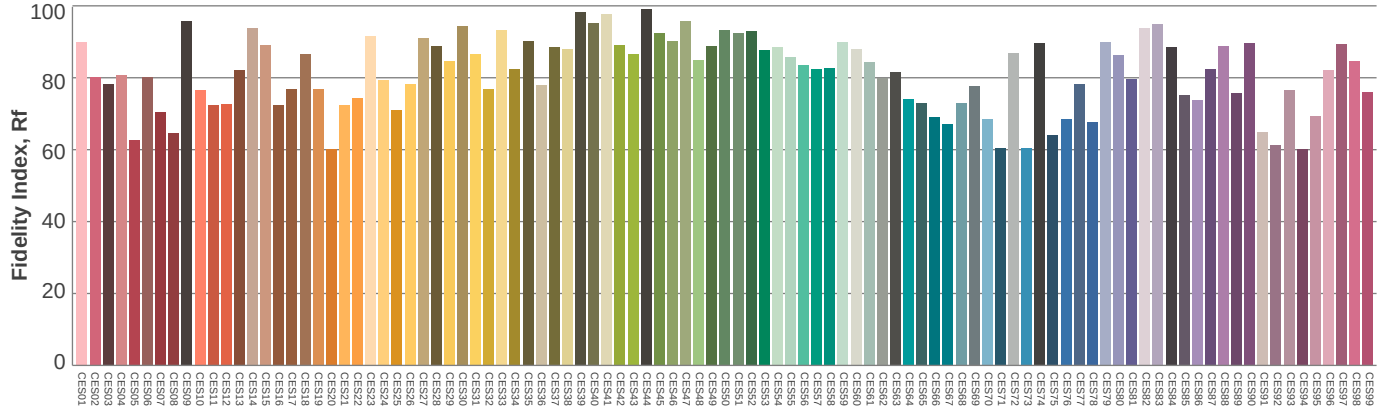












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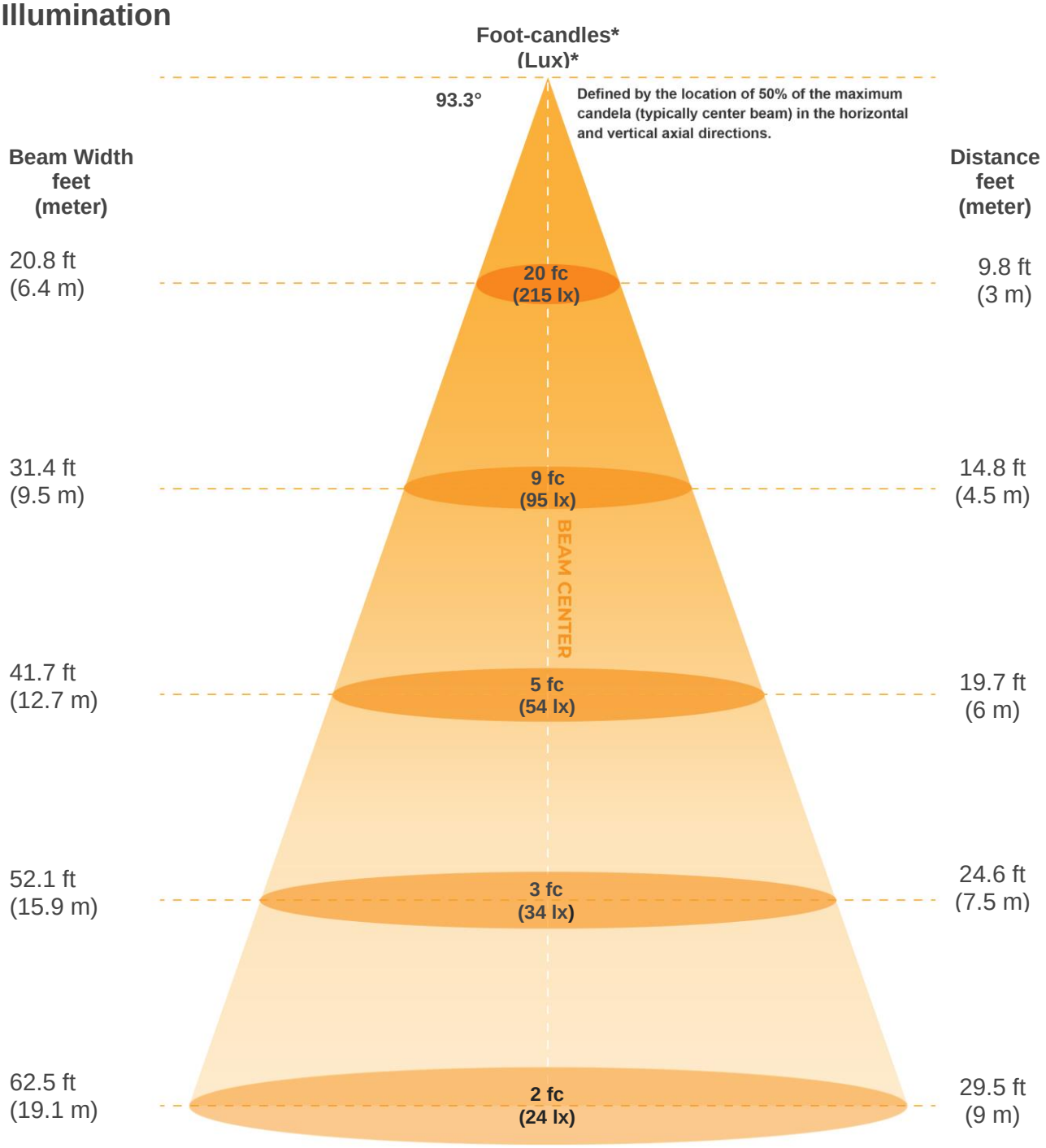
Illumination



*measured at center of beam

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
1933lx	483lx	215lx	121lx	77lx	54lx	39lx	30lx	24lx	19lx	16lx	13lx	11lx	10lx	9lx	8lx	7lx	6lx	5lx	5lx
179.6fc	44.9fcd	20fcd	11.2fcd	7.2fcd	5fcd	3.7fcd	2.8fcd	2.2fcd	1.8fcd	1.5fcd	1.2fcd	1.1fcd	0.9fcd	0.8fcd	0.7fcd	0.6fcd	0.6fcd	0.5fcd	0.4fcd

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
93.3°	**145.8°**	**161°**	**74.3%**	**44.8%**

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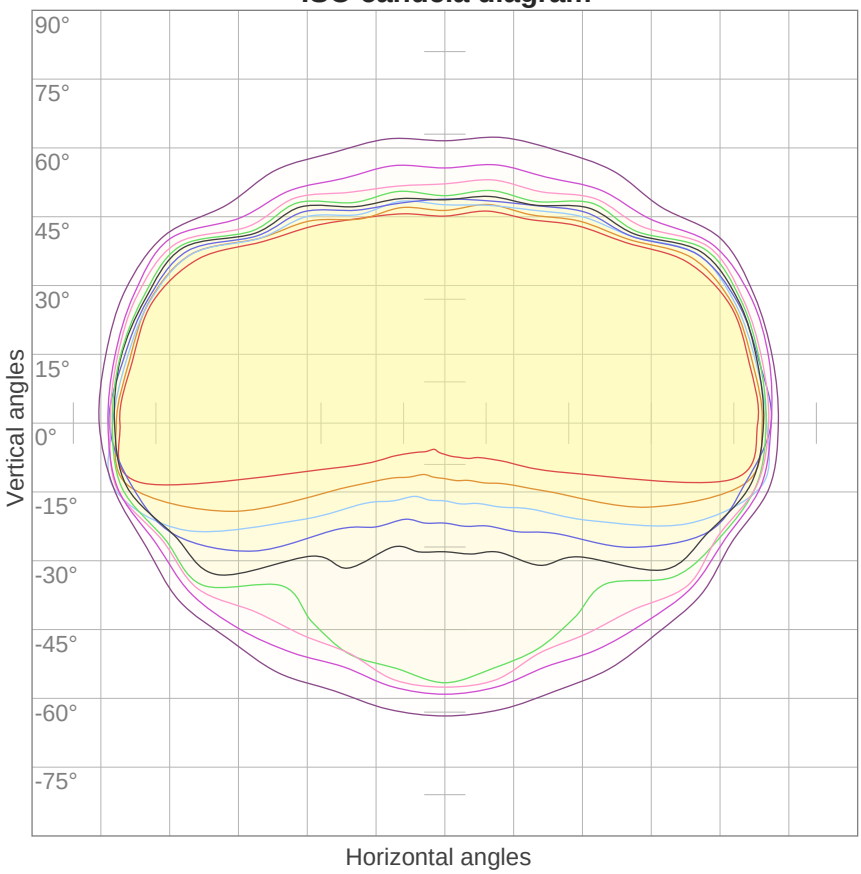
ISO Diagrams

ISO candela diagram



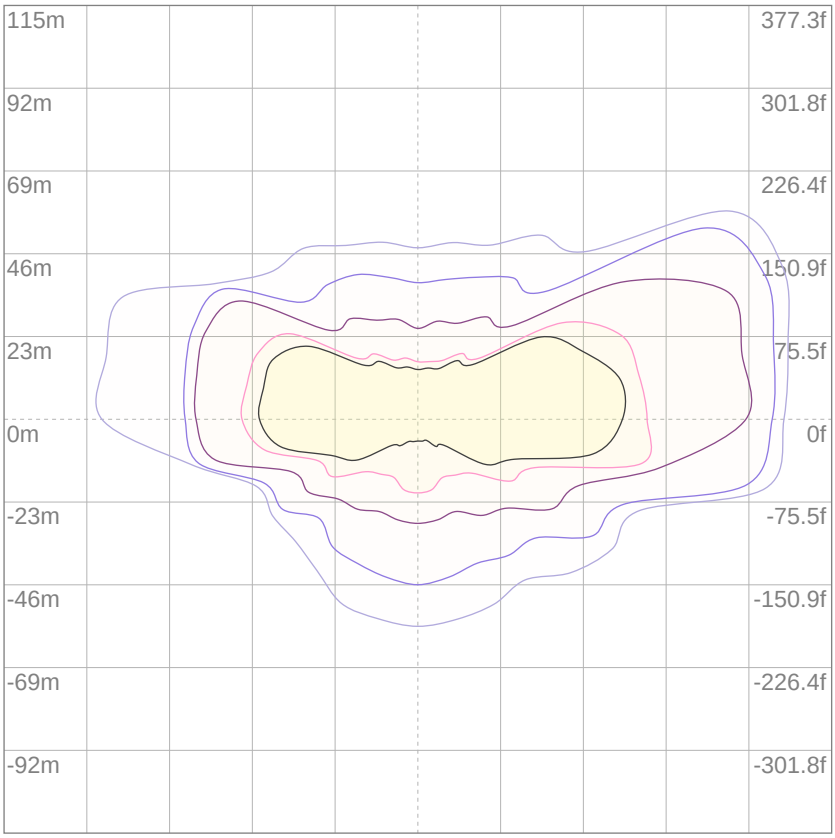
10%	193 cd
20%	387 cd
30%	580 cd
40%	773 cd
50%	966 cd
60%	1160 cd
70%	1353 cd
80%	1546 cd
90%	1739 cd

Conditions:

Number of c-planes: 16

Candela at center: 1933 cd

ISO lux diagram



Mounting height: 10 meters (33 feet)

3%	0.580 lx
5%	0.966 lx
10%	1.93 lx
30%	5.80 lx
50%	9.66 lx

Conditions:

Number of c-planes: 16

Lux at center: 19.3 lx

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

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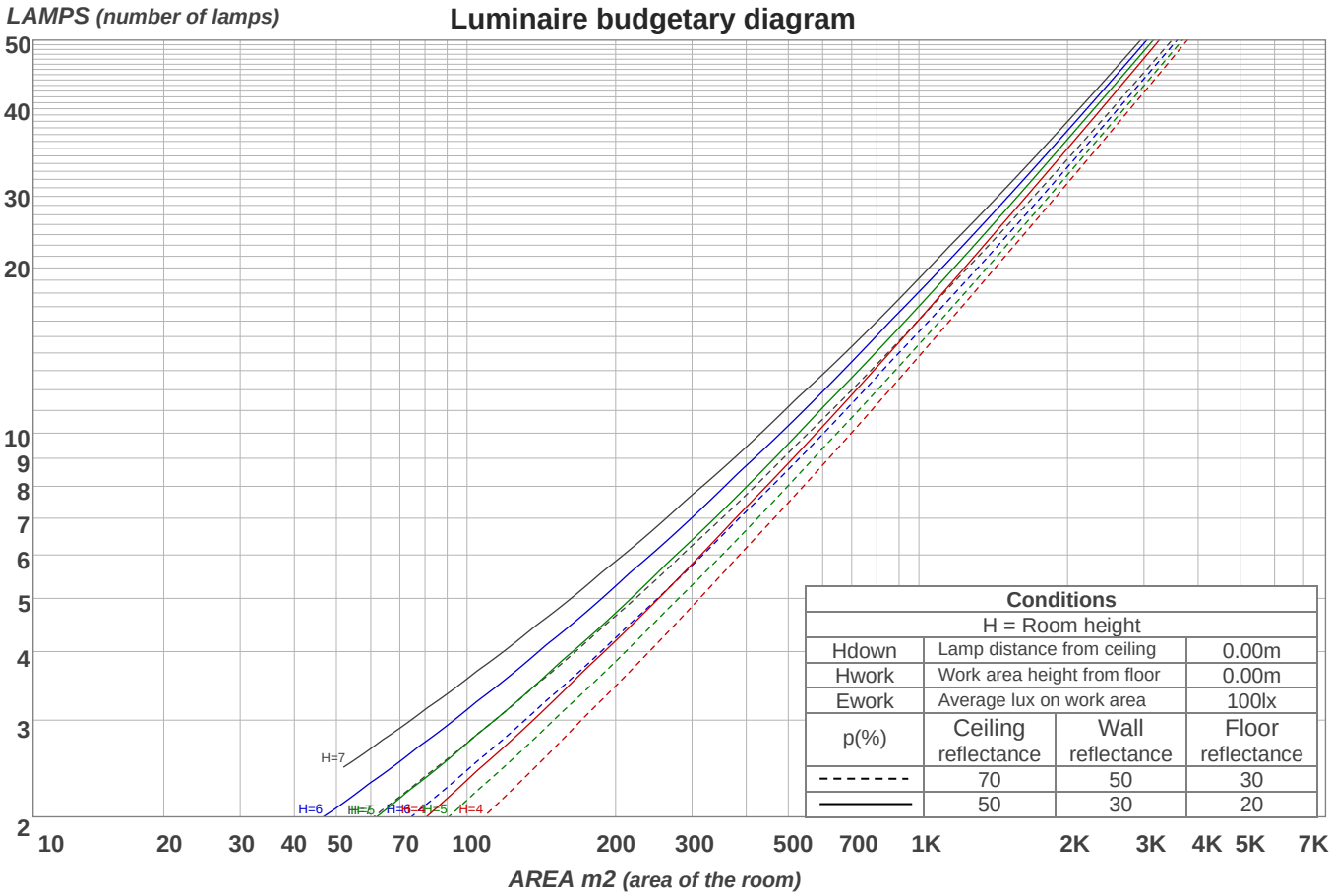
Light Planning

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	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	105	101	97	93	96	93	90	92	90	87	89	87	84	82
2	97	89	81	75	95	87	80	74	83	77	72	79	75	71	76	72	69	67
3	88	77	68	61	85	75	67	60	72	65	59	69	63	58	66	61	57	55
4	80	67	57	50	77	65	57	50	63	55	49	60	54	48	58	52	48	45
5	73	59	49	42	71	58	49	42	56	48	41	53	46	41	52	45	40	38
6	67	53	43	36	65	52	43	36	50	42	36	48	41	35	46	40	35	33
7	62	47	38	31	60	46	37	31	45	37	31	43	36	31	42	35	30	28
8	57	43	34	28	55	42	33	27	41	33	27	39	32	27	38	32	27	25
9	53	39	30	24	52	38	30	24	37	29	24	36	29	24	35	28	24	22
10	50	36	27	22	48	35	27	22	34	27	22	33	26	22	32	26	21	20

Luminaire budgetary diagram



Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
184 lm	544 lm	884 lm	1215 lm	1516 lm	1557 lm	1280 lm	667 lm	54.8 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
3.86 lm	4.49 lm	4.98 lm	5.11 lm	5.02 lm	4.49 lm	3.47 lm	2.29 lm	0.795 lm

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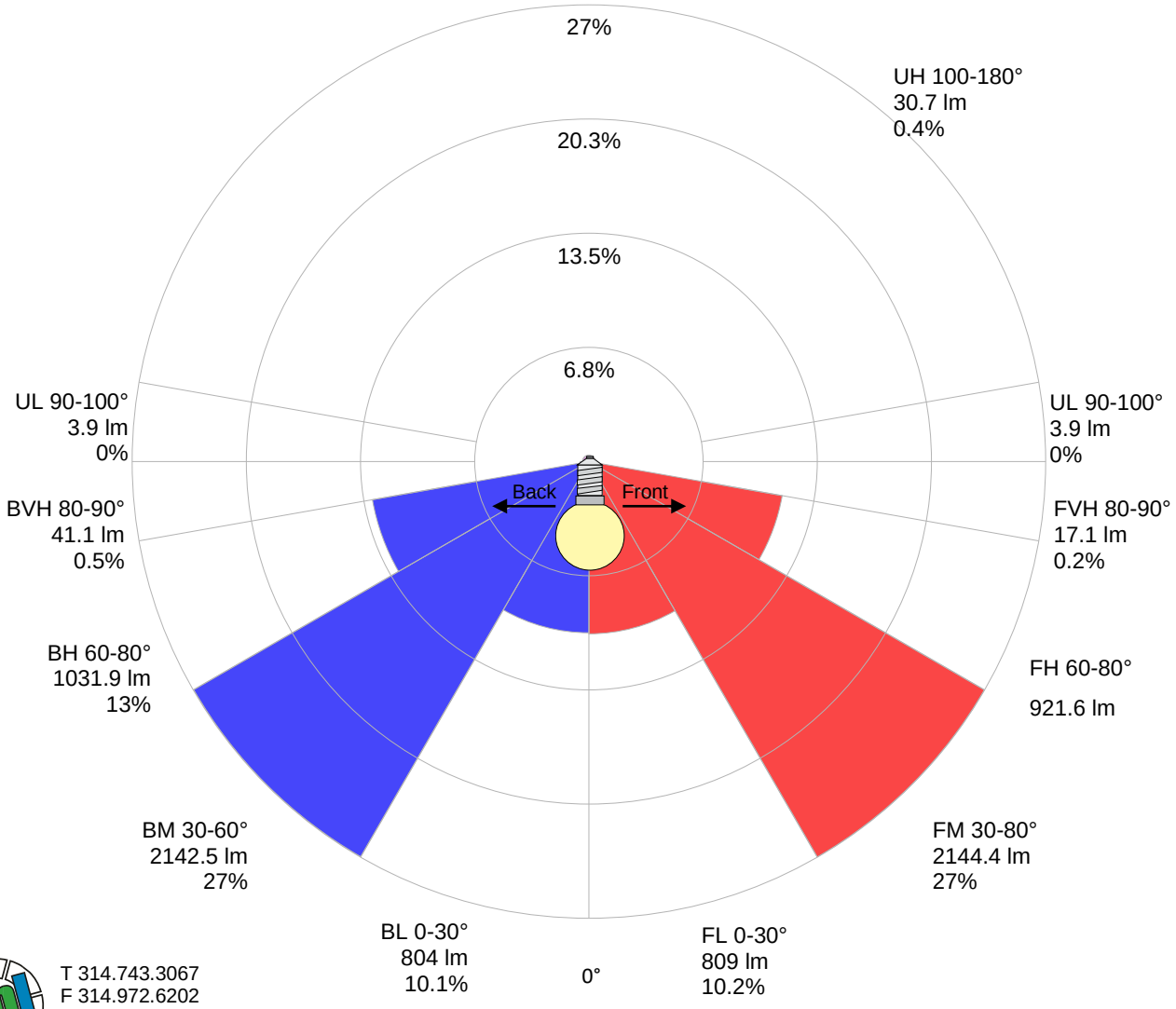
Road Report

LCS table

BUG rating:	B3 U2 G3	
Forward light	Lumens	Lumens %
Low(0-30):	809	10.2%
Medium(30-60):	2144.4	27%
High(60-80):	921.6	11.6%
Very high(80-90):	17.1	0.2%
Back light		
Low(0-30):	804	10.1%
Medium(30-60):	2142.5	27%
High(60-80):	1031.9	13%
Very high(80-90):	41.1	0.5%
Uplight		
Low(90-100):	3.9	0%
High(100-180):	30.7	0.4%

LCS graph



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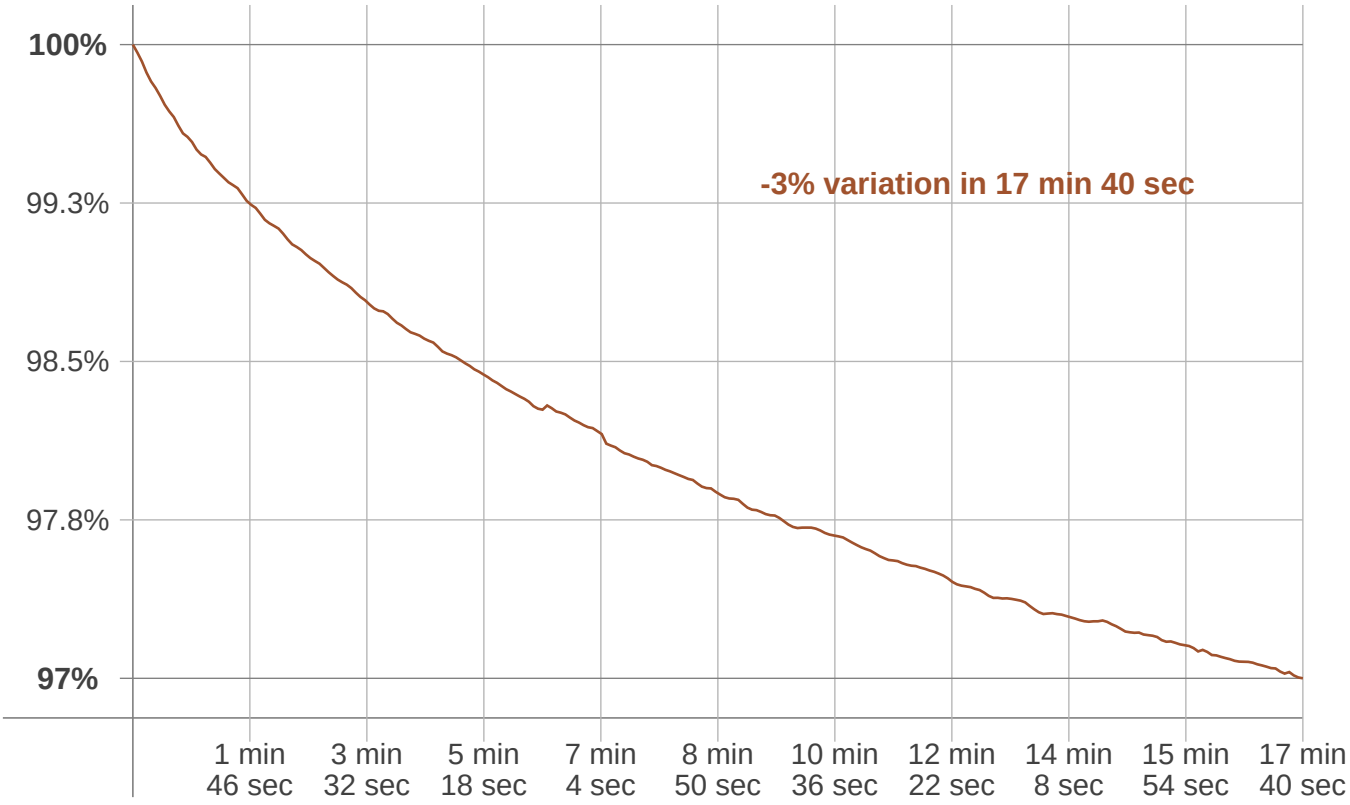
Stabilization

Warmup curve



Warmup result

Warmup time:	**17 min 40 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
4007 K	+28 K	4035 K

Output change

Output start	Output change	Output end
8168 lm	-231 lm	7936 lm

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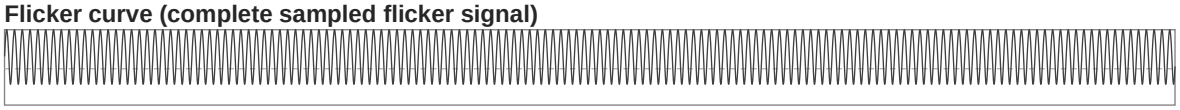
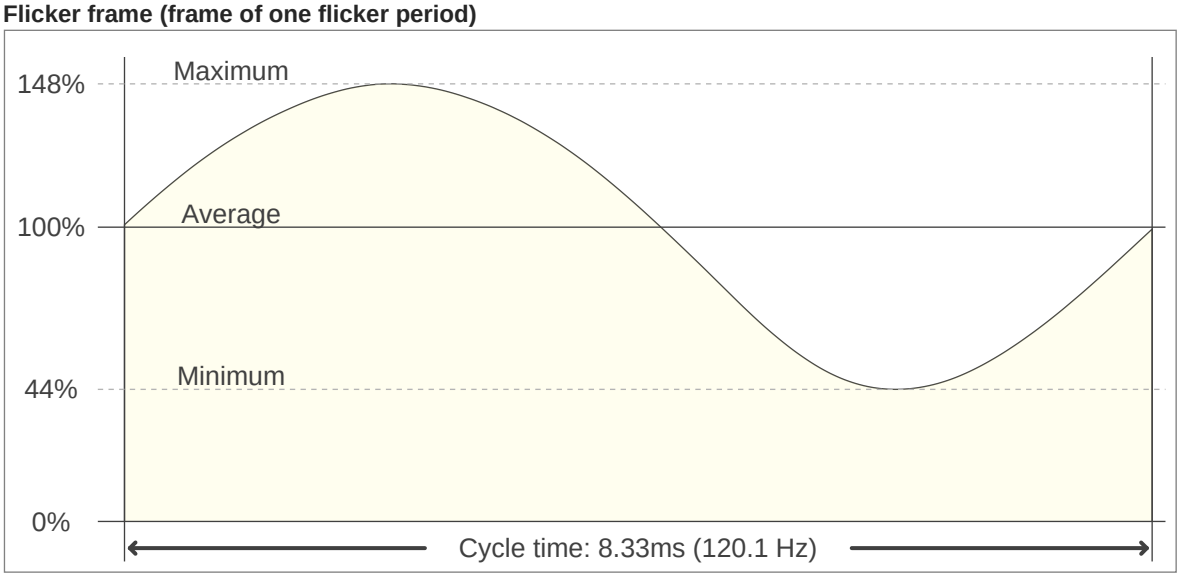
Flicker

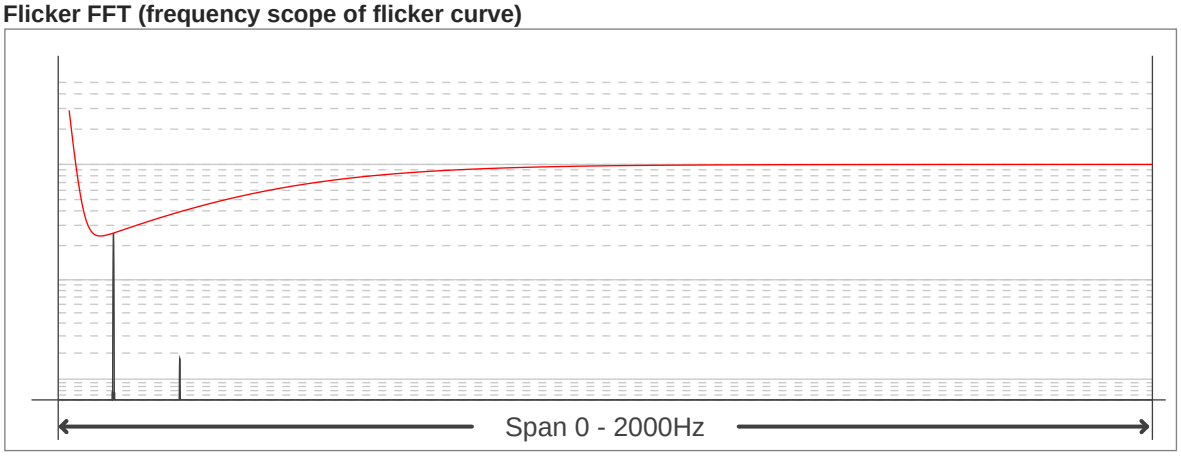
Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

Flicker frequency:	**120.12 Hz**
Flicker index:	**0.16**
Flicker percentage:	**53.69 %**
SVM: (Visual flicker)	**1.87**

Flicker conditions:

Sample rate:	**40000 samples/second**

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