

Light efficiency:

75 Lumen/Watt

Light quality:

CRI: 92.4

Color temperature:

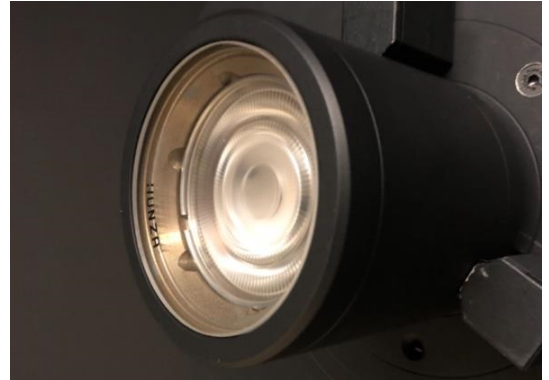
3029 K

Output: 968 lm

Peak: 1083 cd

Power: 12.8 W

PF: 0.5



Tracking number: [n/a](#)

Product name:

**Ultra 12 Dim to Warm 60 deg 3000K  
350mA**

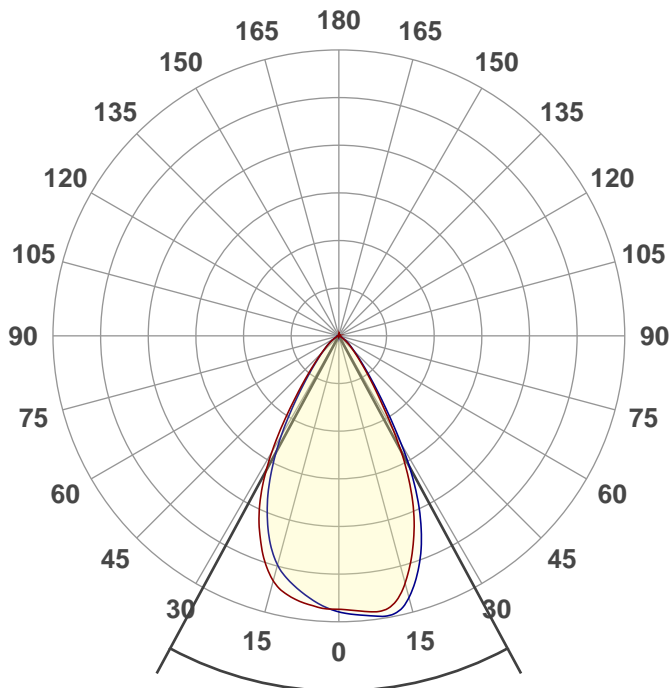
Item number:

**U12-DW-57-30**

Date and time:

**3/09/2020 6:18:31 PM**

Description:



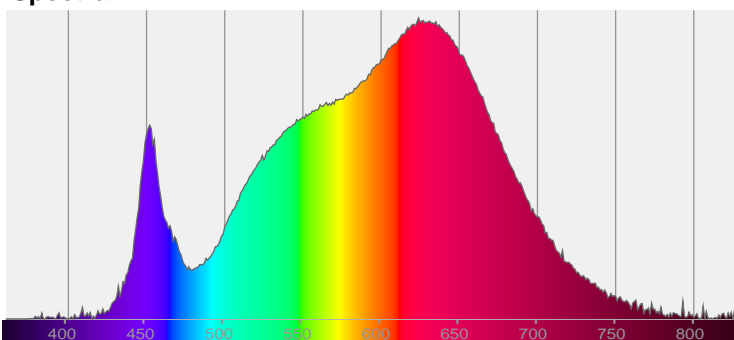
Beam angle

**56.7°**

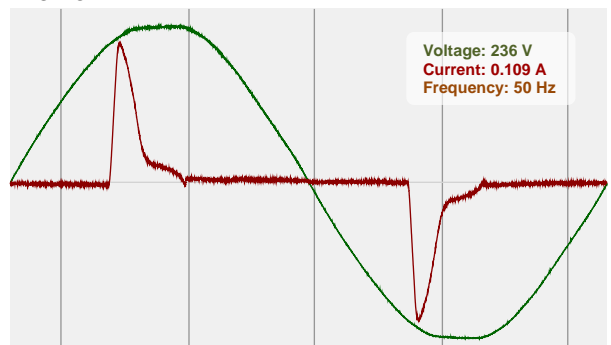


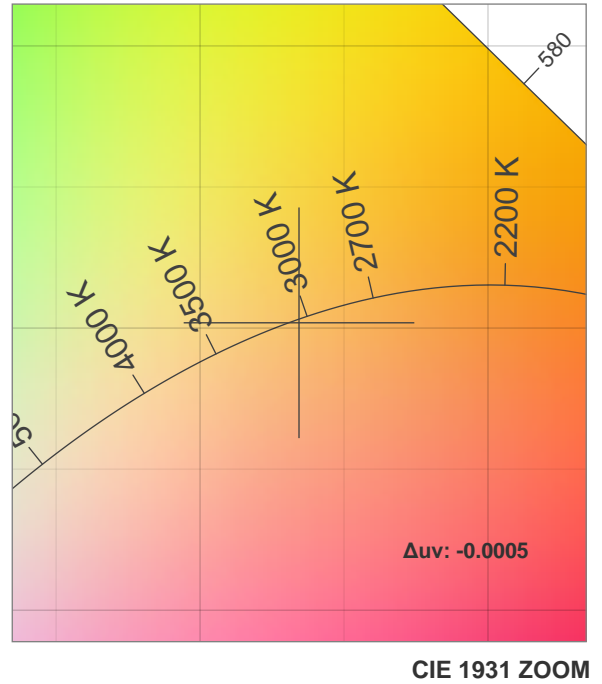
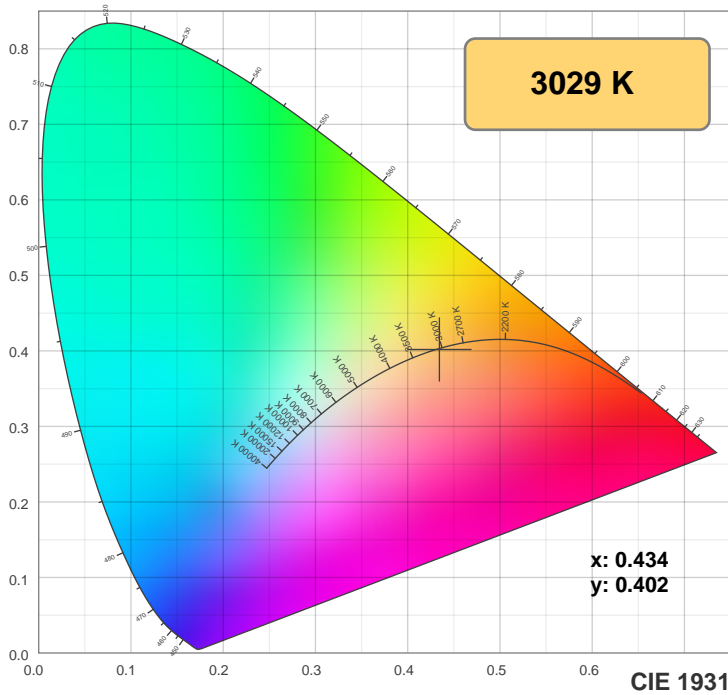
CIE 1931  
x: 0.434  
y: 0.402

Spectra

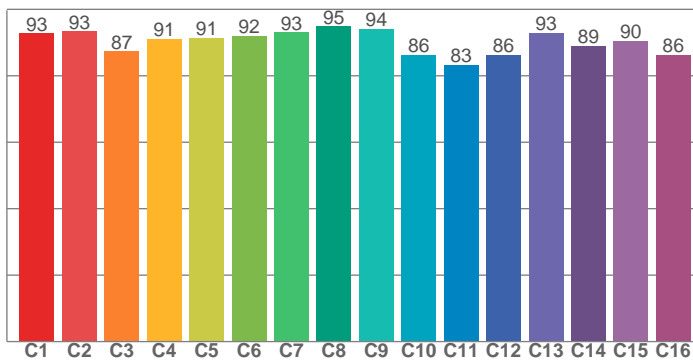


Power

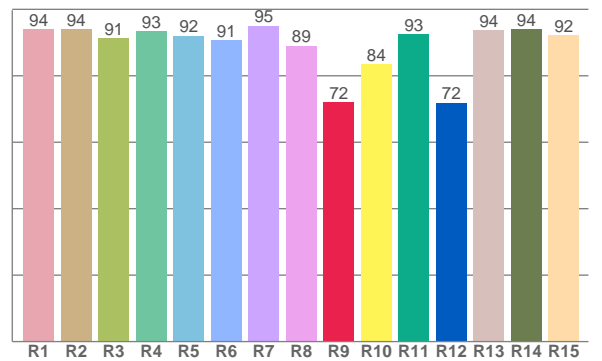




**TM-30: 90.3**



**CRI: 92.4 (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
93.9	94.1	91.3	93.4	92.0	90.8	95.1	89.0	72.1	83.5	92.5	71.9	93.8	94.0	92.3

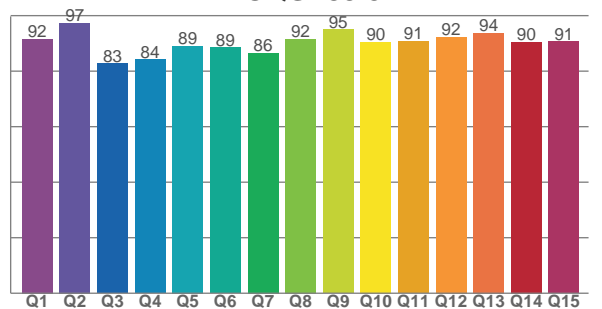
**TM30 C values, 16 binned values out of total of 99 C values**

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
92.7	93.3	87.4	91.1	91.4	92.1	93.1	94.8	94.1	86.3	83.2	86.3	92.8	89.1	90.5	86.2

**CQS Q values**

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
91.6	97.4	82.8	84.1	89.1	88.6	86.5	91.5	95.0	90.5	90.7	92.3	93.7	90.5	90.6

**CQS: 89.5**



**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
3029 K	92.4	72.1	90.3	101.9	89.5	0.434	0.402	0.250	0.347	-0.0005

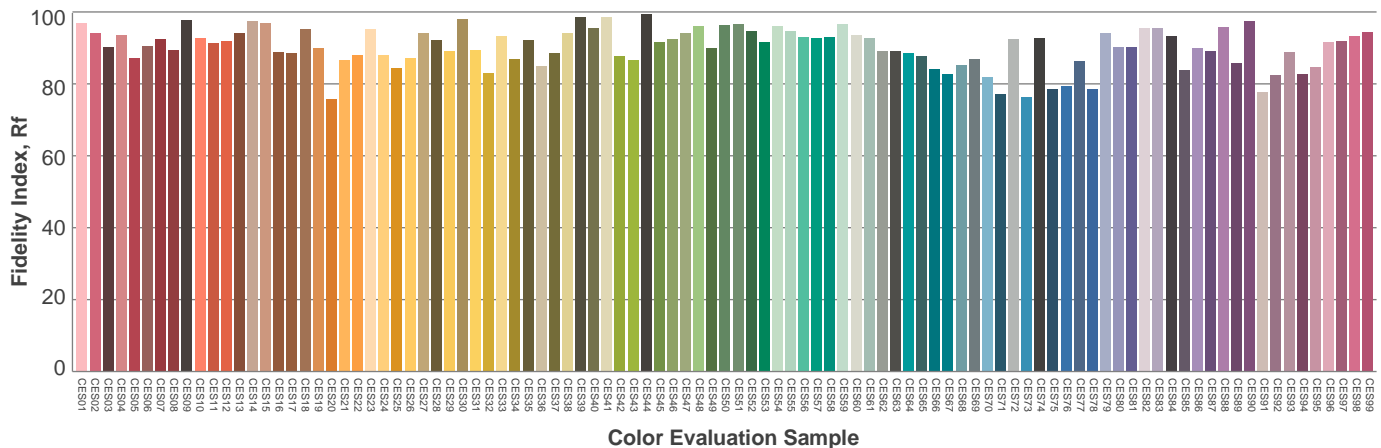
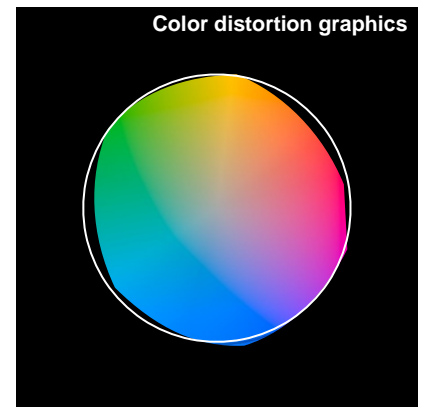
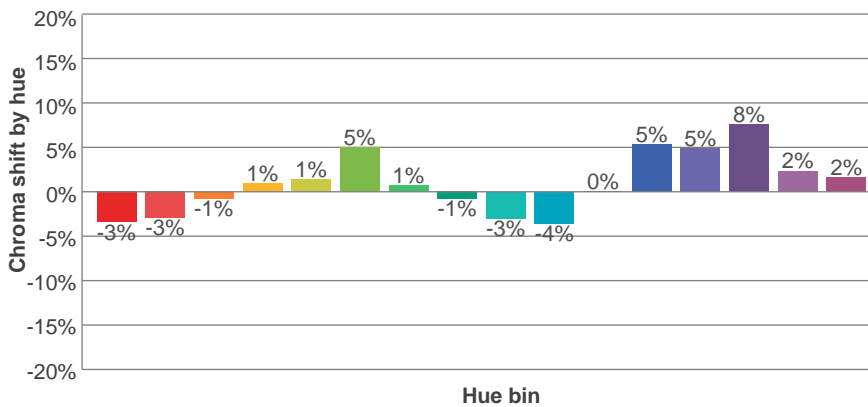
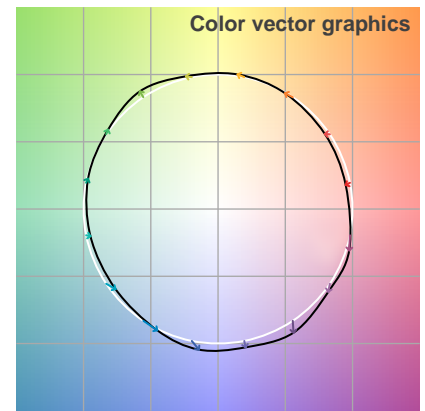
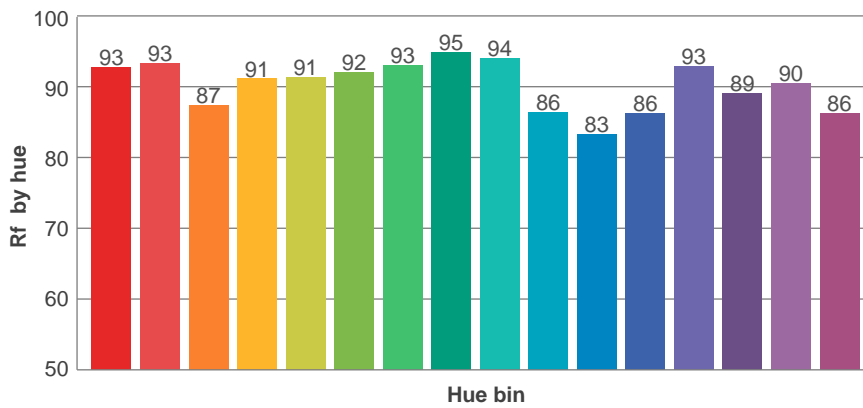
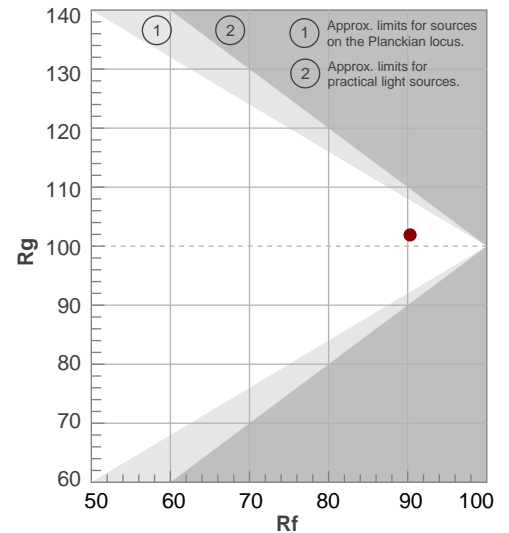
**Rf 90.3**

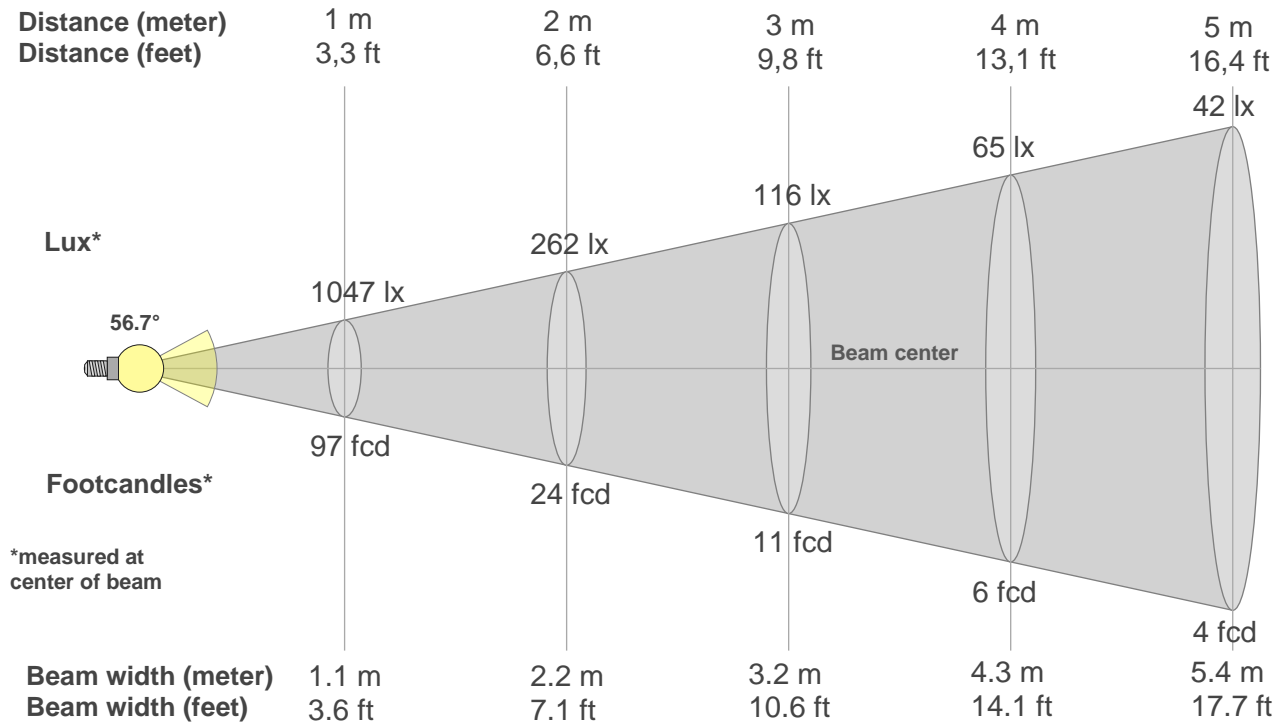
Fidelity index Rf

**Rg 101.9**

Gamut index Rg

Hue Bin	R <sub>f</sub>	Shifts (%)	
		Chroma	Hue
1	93	-3%	-1%
2	93	-3%	2%
3	87	-1%	6%
4	91	1%	5%
5	91	1%	4%
6	92	5%	0%
7	93	1%	-4%
8	95	-1%	-3%
9	94	-3%	1%
10	86	-4%	7%
11	83	0%	12%
12	86	5%	6%
13	93	5%	0%
14	89	8%	-4%
15	90	2%	-6%
16	86	2%	-11%





**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
1047lx	262lx	116lx	65lx	42lx	29lx	21lx	16lx	13lx	10lx	9lx	7lx	6lx	5lx	5lx	4lx	4lx	3lx	3lx	3lx
97.3fcd	24.3fcd	10.8fcd	6.1fcd	3.9fcd	2.7fcd	2fcd	1.5fcd	1.2fcd	1fcd	0.8fcd	0.7fcd	0.6fcd	0.5fcd	0.4fcd	0.4fcd	0.3fcd	0.3fcd	0.3fcd	0.2fcd

**Intensities in 0° c-plane**

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
1047	1046	1051	1057	1061	1056	1036	1000	949	894	832	766	692	608	517	416	322	254	201	159
100%	100%	100%	101%	101%	101%	99%	95%	91%	85%	79%	73%	66%	58%	49%	40%	31%	24%	19%	15%

**Intensities in 90° c-plane**

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
1047	1060	1066	1073	1079	1082	1074	1050	1010	961	905	839	764	679	583	477	374	291	227	178
100%	101%	102%	102%	103%	103%	103%	100%	96%	92%	86%	80%	73%	65%	56%	46%	36%	28%	22%	17%

**Intensities in 180° c-plane**

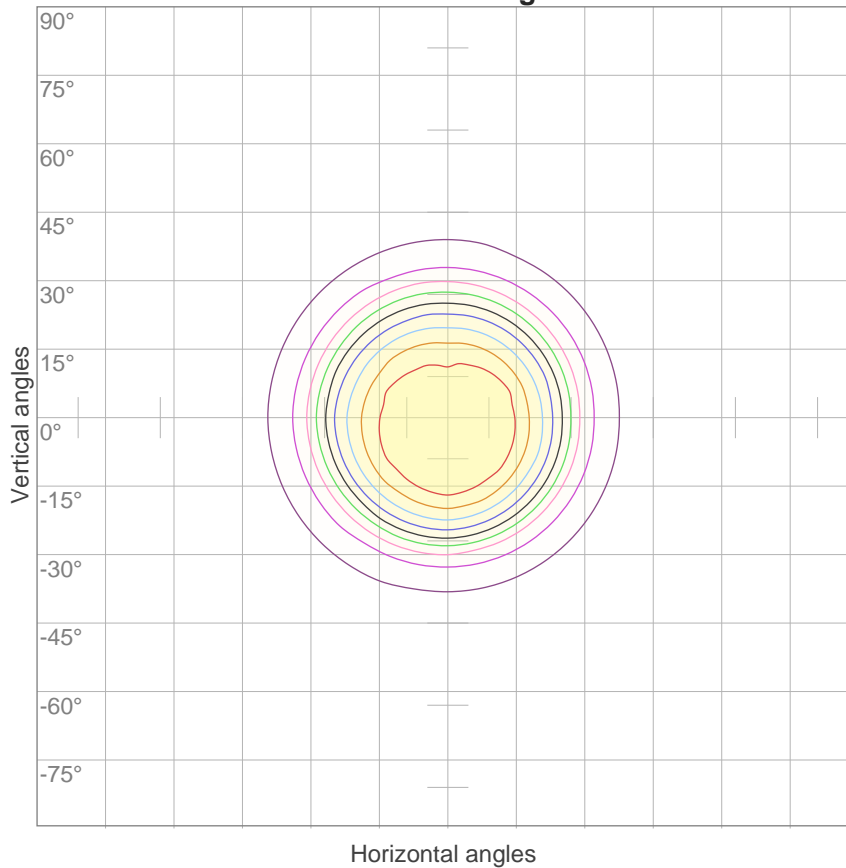
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
1047	1042	1039	1032	1025	1014	1000	980	949	908	860	806	747	678	598	510	419	333	262	207
100%	99%	99%	99%	98%	97%	96%	94%	91%	87%	82%	77%	71%	65%	57%	49%	40%	32%	25%	20%

**Intensities in 270° c-plane**

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
1047	1041	1027	1009	990	969	947	920	885	840	788	729	666	594	518	440	359	287	229	184
100%	99%	98%	96%	95%	93%	90%	88%	84%	80%	75%	70%	64%	57%	49%	42%	34%	27%	22%	18%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
56.7°	85.5°	113°	97.1%	91.2%

**iso-candela diagram**



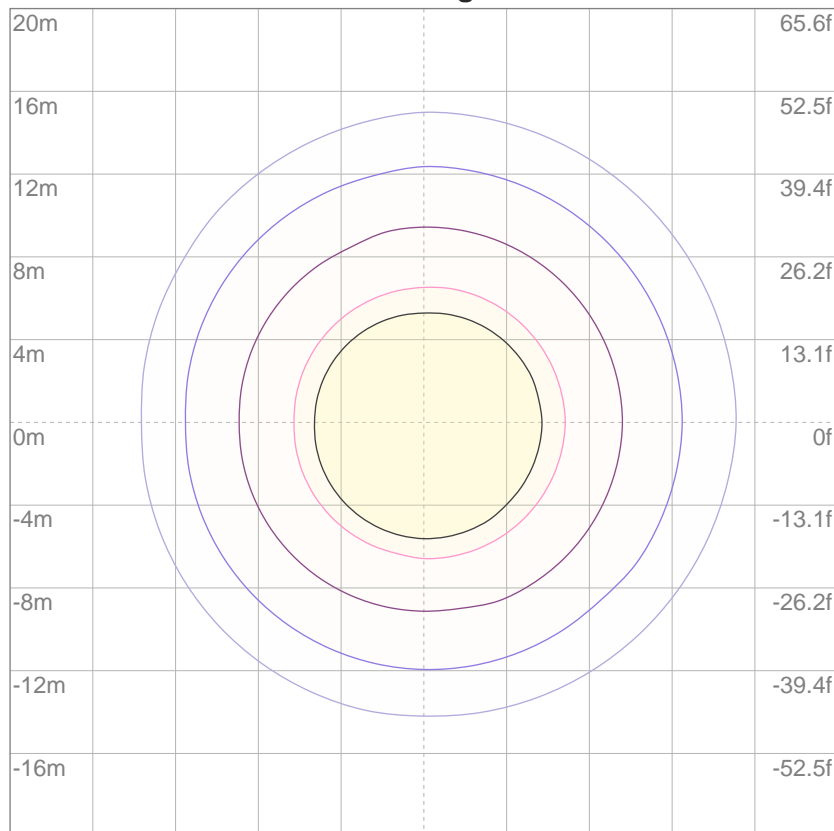
10%	105 cd
20%	209 cd
30%	314 cd
40%	419 cd
50%	524 cd
60%	628 cd
70%	733 cd
80%	838 cd
90%	943 cd

Conditions:

Number of c-planes: 4

Candela at center: 1047 cd

**iso-lux diagram**



3%	0.314 lx
5%	0.524 lx
10%	1.05 lx
30%	3.14 lx
50%	5.24 lx

Conditions:

Number of c-planes: 4

Lux at center: 10.5 lx

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

## Glare Evaluation According to UGR

p Ceiling	70	70	50	50	30	70	70	50	50	30
p Walls	50	30	50	30	30	50	30	50	30	30
p Floor	20	20	20	20	20	20	20	20	20	20
Room size X      Y	Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Variation of the observer position for the luminaire distance S										
n/a	n/a					n/a				
n/a	n/a					n/a				
n/a	n/a					n/a				
Standard table	n/a					n/a				
Correction summand	n/a					n/a				
Corrected glare indices referring to 968 lm total luminous flux										

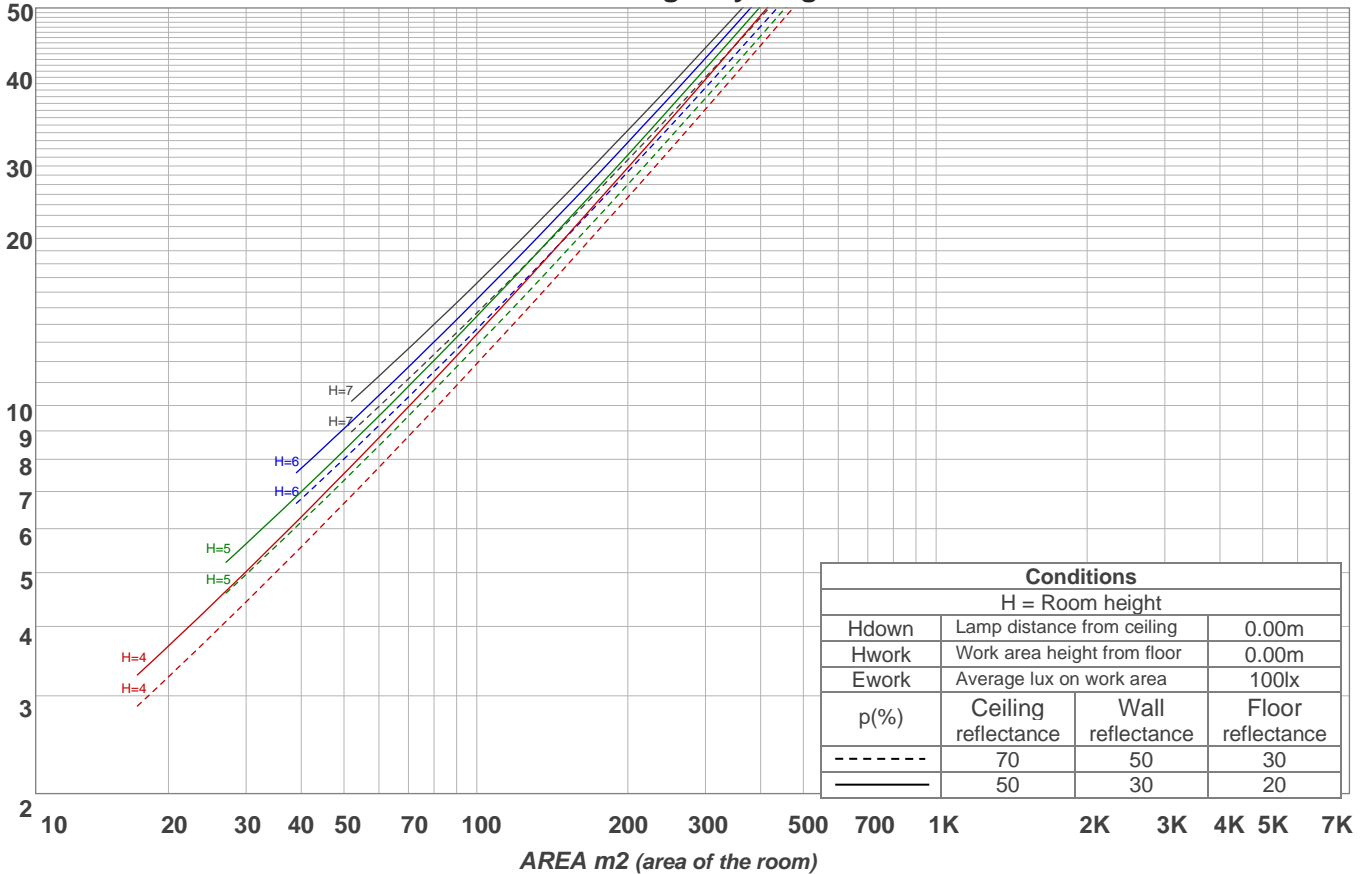
UGR data could not be calculated due to missing/wrong symmetry. Goto Edit->Photometric->Corrections and select Correct asymmetry.

## 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	101	101	101	99
1	113	110	107	105	110	108	105	103	103	102	100	99	98	97	96	95	94	92
2	107	102	98	94	105	100	96	93	97	94	91	93	91	89	91	88	87	85
3	101	95	90	85	99	93	89	85	90	86	83	88	84	82	85	83	80	79
4	96	88	83	78	94	87	82	78	85	80	77	83	79	76	81	77	75	73
5	91	82	76	72	89	81	76	72	80	75	71	78	73	70	76	72	69	68
6	86	77	71	67	85	76	71	66	75	70	66	73	69	65	72	68	65	63
7	82	73	66	62	81	72	66	62	70	65	61	69	65	61	68	64	61	59
8	78	68	62	58	77	68	62	58	67	61	58	65	61	57	64	60	57	56
9	74	65	59	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52
10	71	61	55	51	70	61	55	51	60	54	51	59	54	51	58	54	50	49

LAMPS (number of lamps)

## Luminaire budgetary diagram



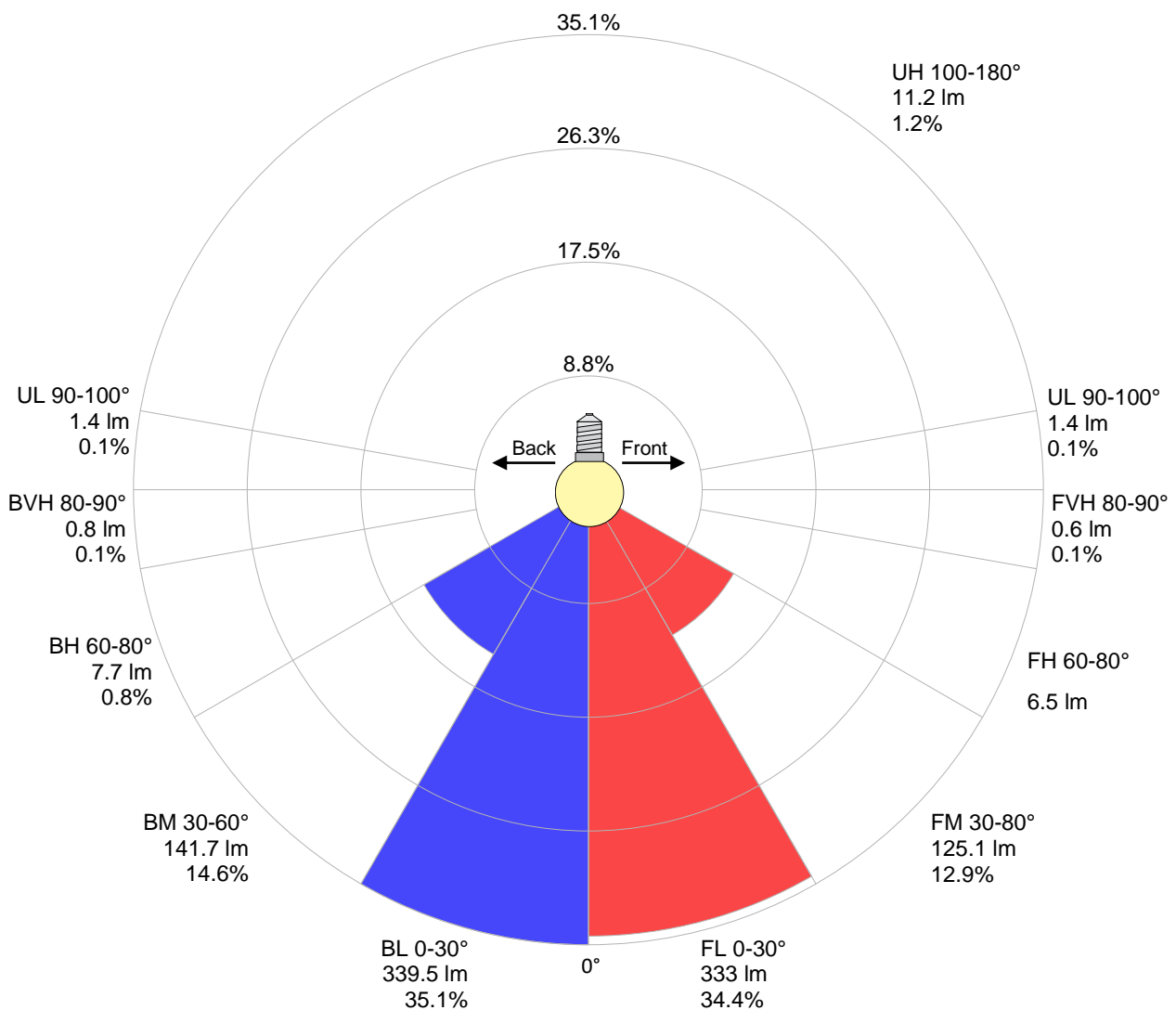
## Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
{LUM0-10}	269 lm	305 lm	167 lm	68.9 lm	29.7 lm	10.5 lm	3.67 lm	1.46 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
1.42 lm	1.88 lm	2.00 lm	1.95 lm	1.94 lm	1.57 lm	1.06 lm	0.590 lm	0.199 lm

LCS table

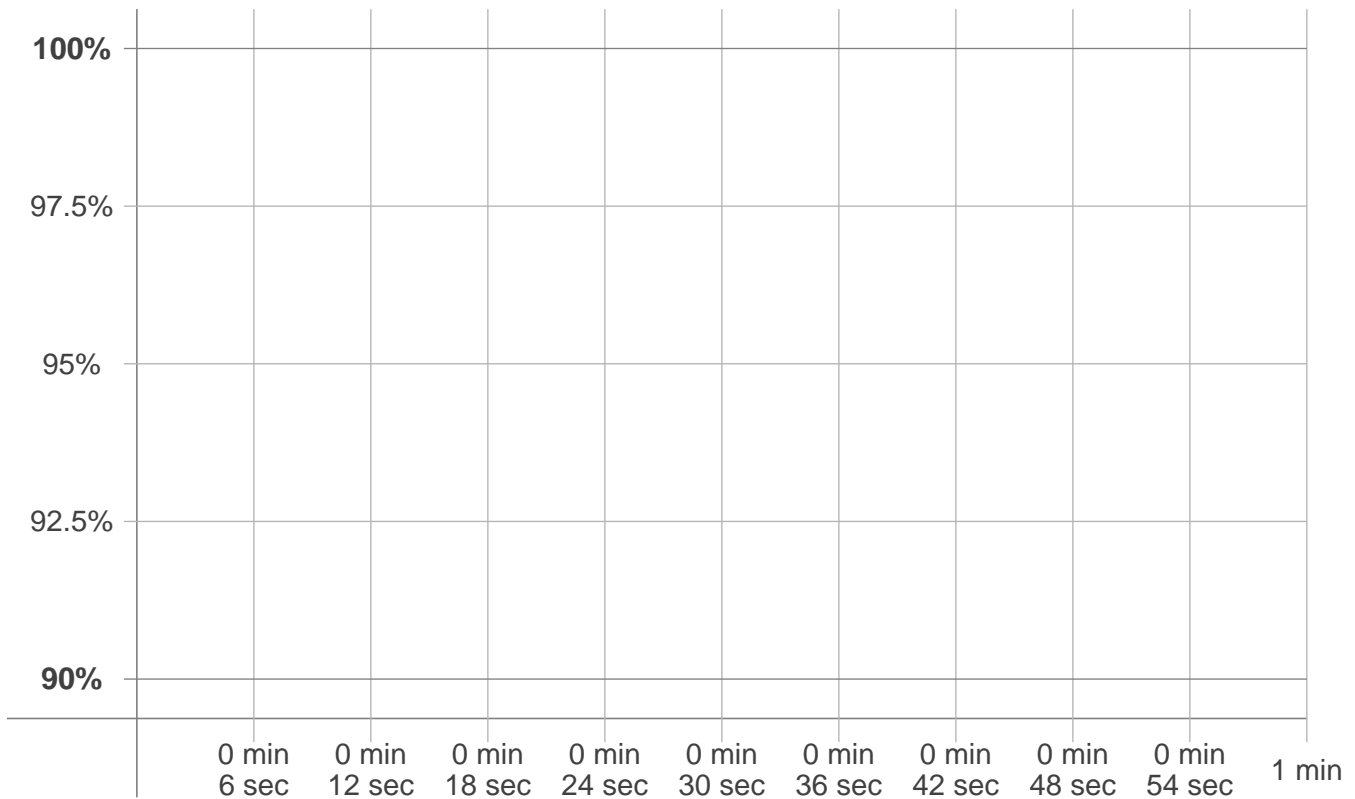
BUG rating:	B1 U2 G0	
Forward light	Lumens	Lumens %
Low(0-30):	333	34.4%
Medium(30-60):	125.1	12.9%
High(60-80):	6.5	0.7%
Very high(80-90):	0.6	0.1%
Back light		
Low(0-30):	339.5	35.1%
Medium(30-60):	141.7	14.6%
High(60-80):	7.7	0.8%
Very high(80-90):	0.8	0.1%
Uplight		
Low(90-100):	1.4	0.1%
High(100-180):	11.2	1.2%

LCS graph





**Warmup curve**



**Warmup result**

Warmup time:	n/a
Warmup variation	n/a%

**Warmup conditions**

Stable period:	n/a
Stable change max:	n/a%
Minimum time:	n/a

**Color temperature change**

CCT start	CCT change	CCT end
n/a K	n/a K	3029 K

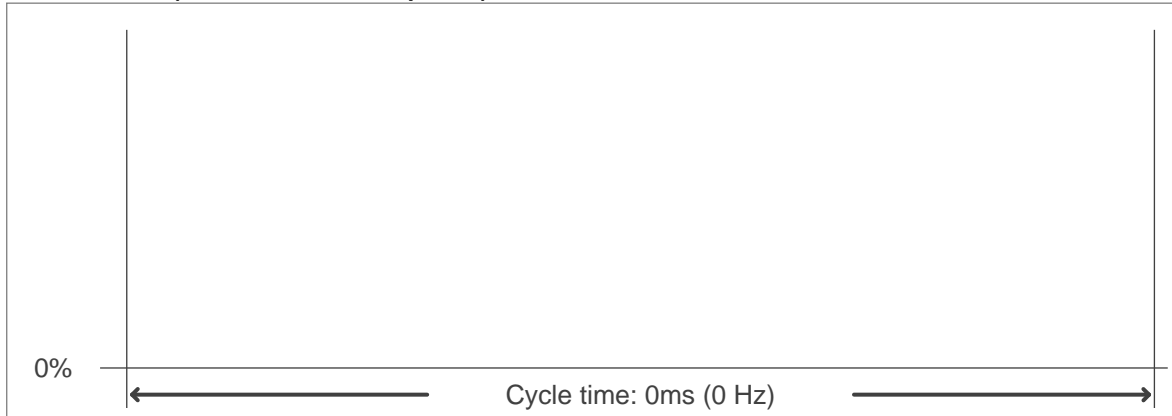
**Output change**

Output start	Output change	Output end
n/a lm	n/a lm	968 lm

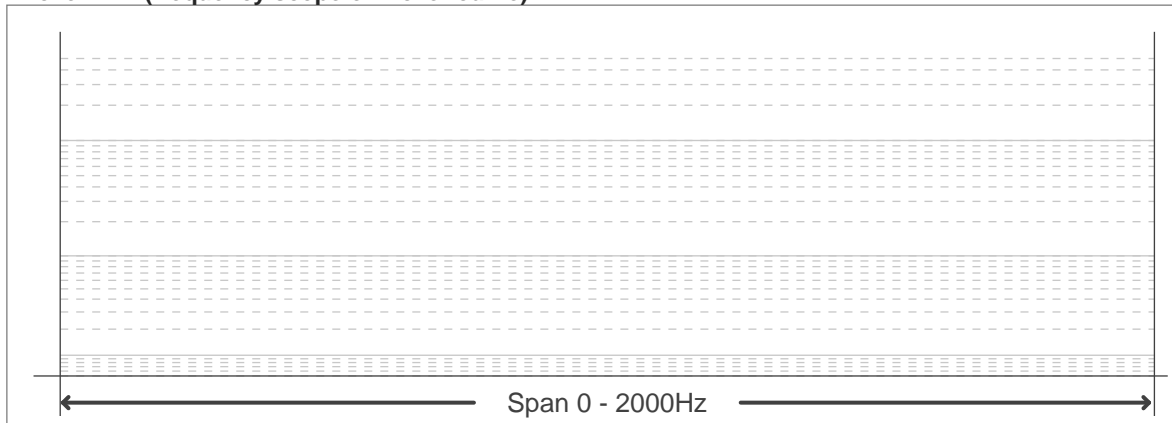
**Flicker curve (complete sampled flicker signal)**



**Flicker frame (frame of one flicker period)**



**Flicker FFT (frequency scope of flicker curve)**



**Flicker results:**

<b>Flicker frequency:</b>	<b>n/a Hz</b>	<b>JA8/10 40Hz</b>	<b>n/a %</b>
<b>Flicker index:</b>	<b>n/a</b>	<b>JA8/10 90Hz</b>	<b>n/a %</b>
<b>Flicker percentage:</b>	<b>n/a %</b>	<b>JA8/10 200Hz</b>	<b>n/a %</b>
<b>SVM: (Visual flicker)</b>	<b>n/a</b>	<b>JA8/10 400Hz</b>	<b>n/a %</b>
<b>PstLM</b>	<b>n/a</b>	<b>JA8/10 1000Hz</b>	<b>n/a %</b>

**Flicker conditions:**

<b>Sample rate:</b>	<b>0 samples/second</b>
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