Light efficiency:

128 Lumen/Watt

Light quality:

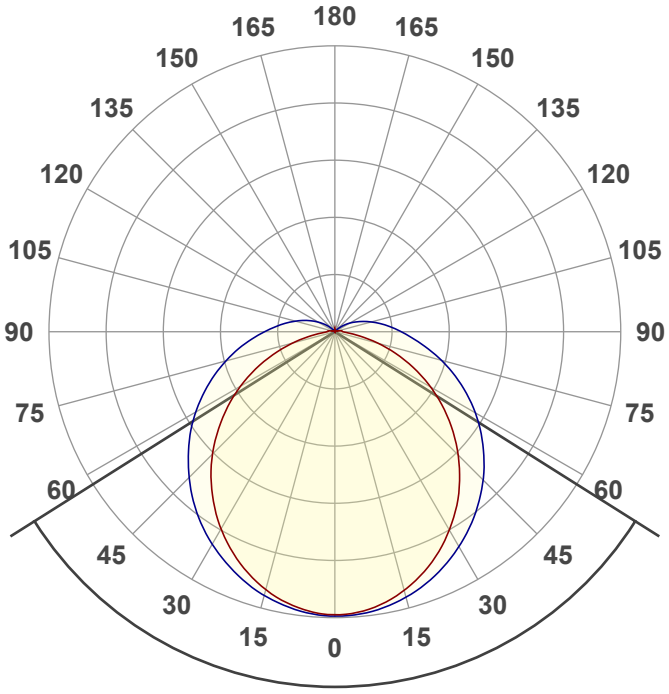
CRI: 82.3

Color temperature:

5032 K

Output: 2783 lm
Peak: 813 cd

Power: 21.7 W
PF: 0.99



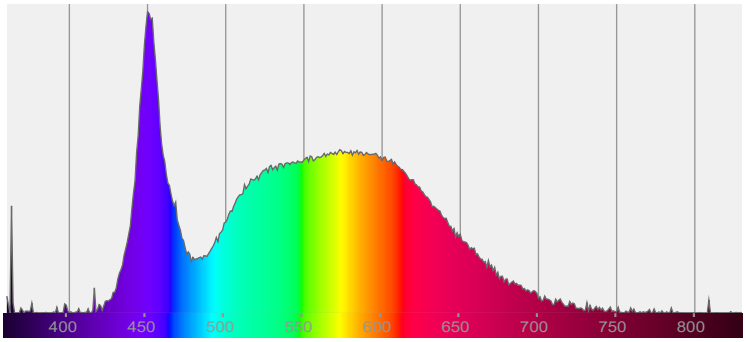
Beam angle 115.5°

CIE 1931
x: 0.345
y: 0.356

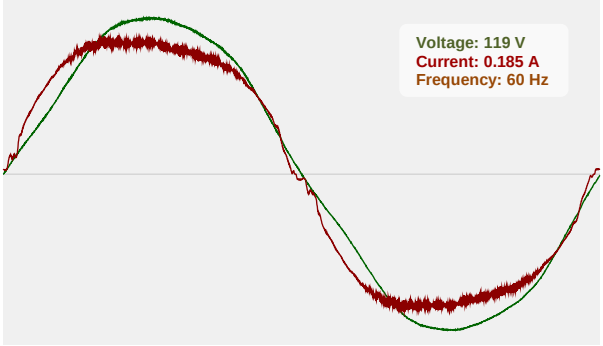
Product name:
C2103-252F (20 W)

Date and time:
5/23/2023 10:41:36 AM

Spectra



Power



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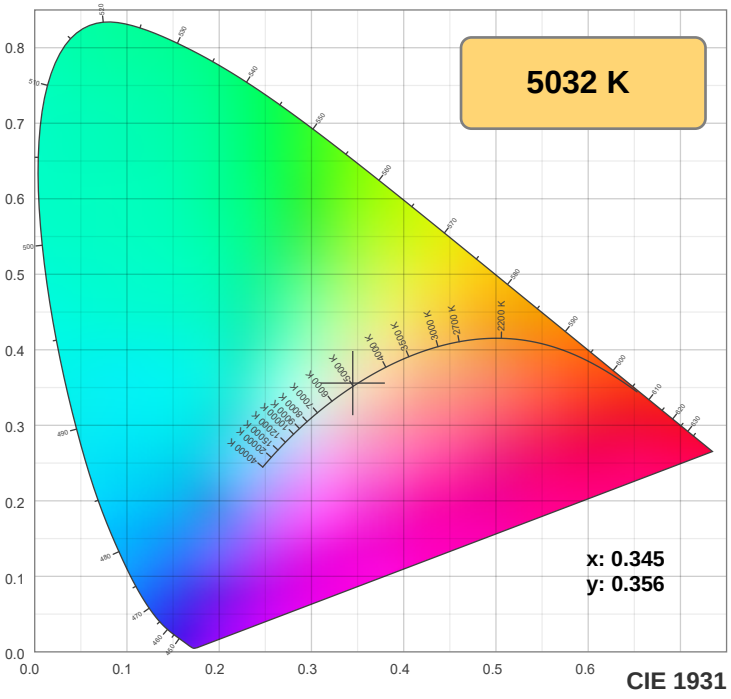
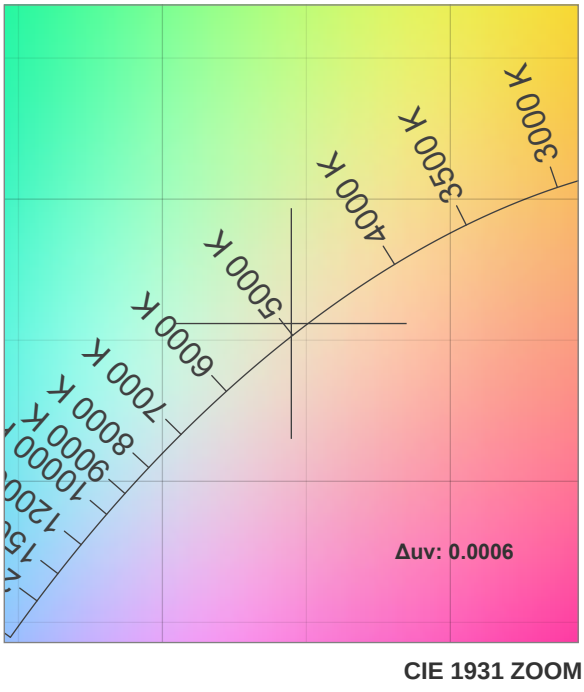
Color Specifications

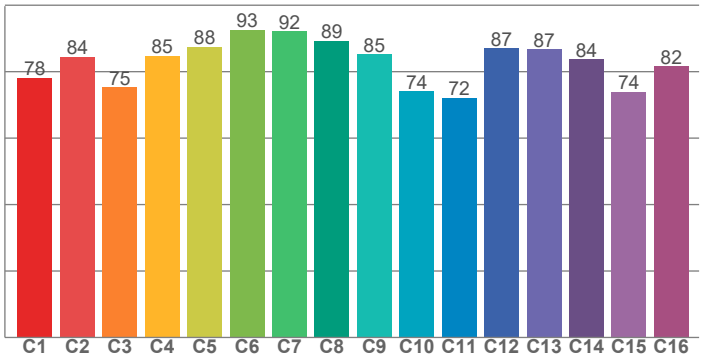


CIE 1931

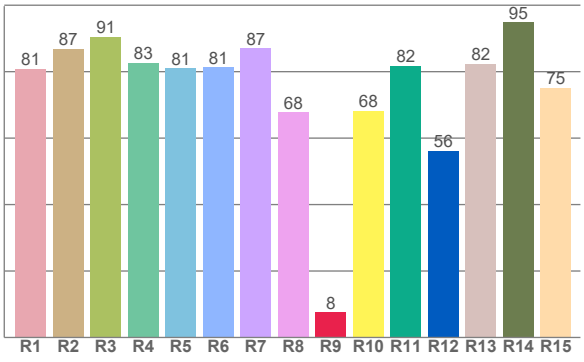


CIE 1931 ZOOM

TM30: 82.6



CRI: 82.3 (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
80.9	86.9	90.6	82.7	81.0	81.3	87.1	67.8	7.7	68.2	81.8	56.2	82.4	94.9	75.2

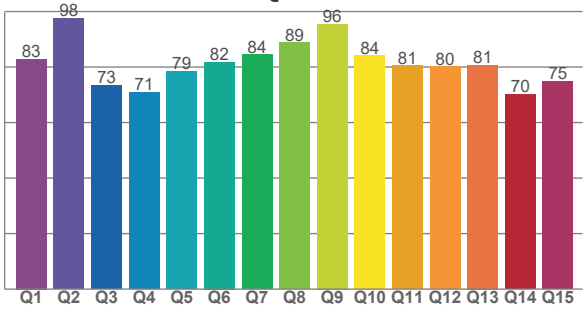
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
78.1	84.4	75.2	84.7	87.5	92.5	92.1	89.3	85.2	74.1	72.0	87.0	86.7	83.8	74.0	81.6

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82.9	97.6	73.5	70.9	78.5	81.8	84.5	88.8	95.5	84.1	80.5	80.1	80.8	70.2	74.9

CQS: 80.1



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 diviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
5032 K	82.3	7.7	82.6	96.6	80.1	0.345	0.356	0.210	0.324	0.0006

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TM30 Report

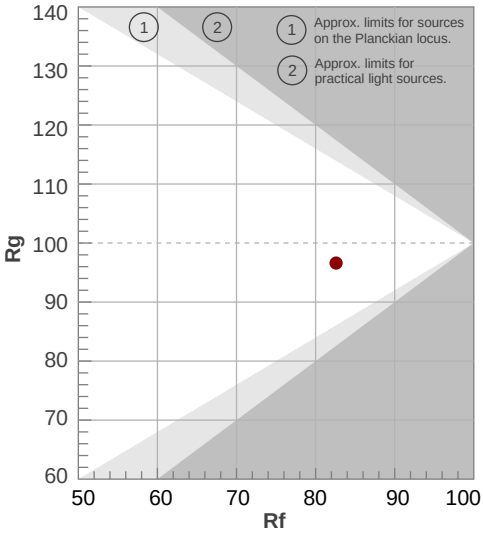
Rf 82.6

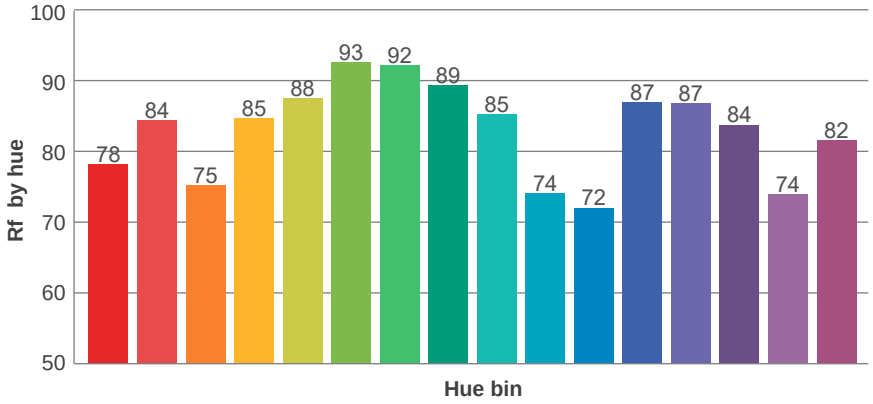
Fidelity index Rf

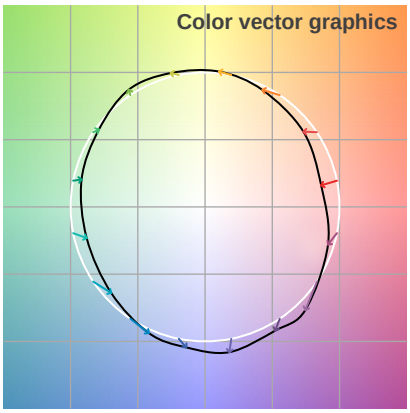
Rg 96.6

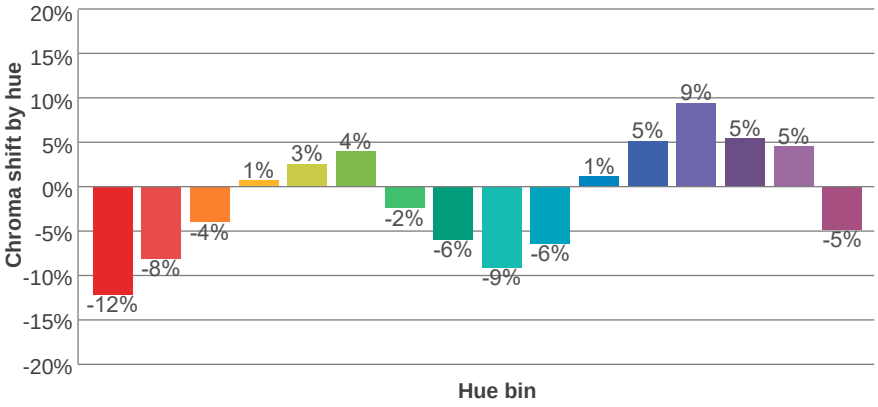
Gammut index Rg

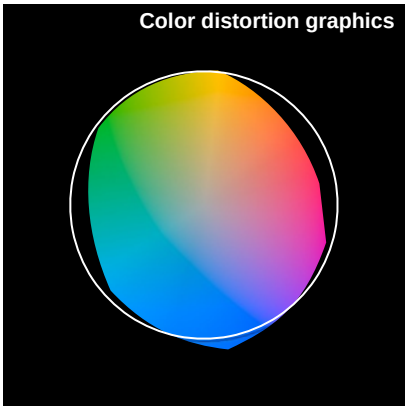
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	78	-12%	-1%
2	84	-8%	6%
3	75	-4%	13%
4	85	1%	9%
5	88	3%	6%
6	93	4%	-1%
7	92	-2%	-4%
8	89	-6%	-2%
9	85	-9%	6%
10	74	-6%	14%
11	72	1%	17%
12	87	5%	7%
13	87	9%	-3%
14	84	5%	-8%
15	74	5%	-22%
16	82	-5%	-10%

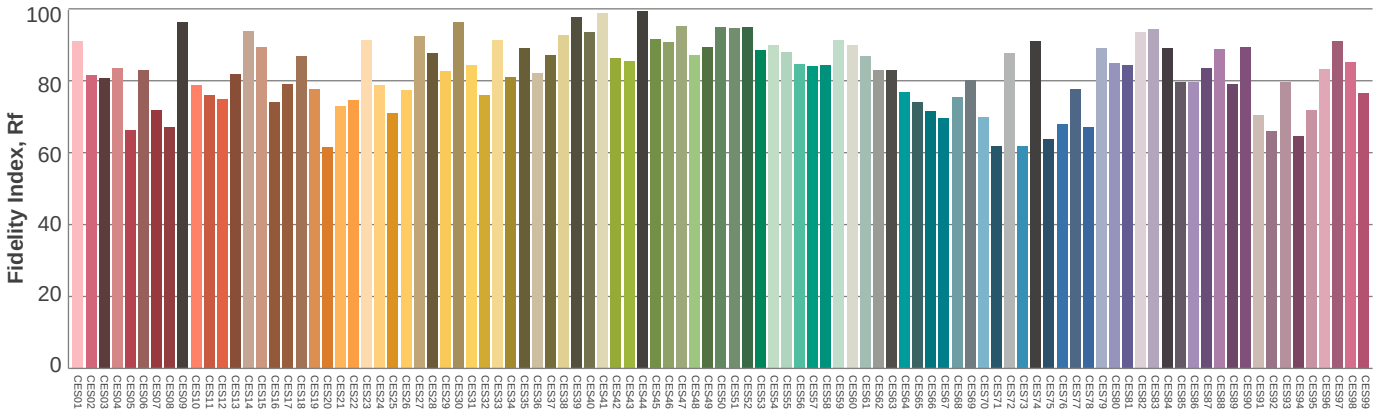












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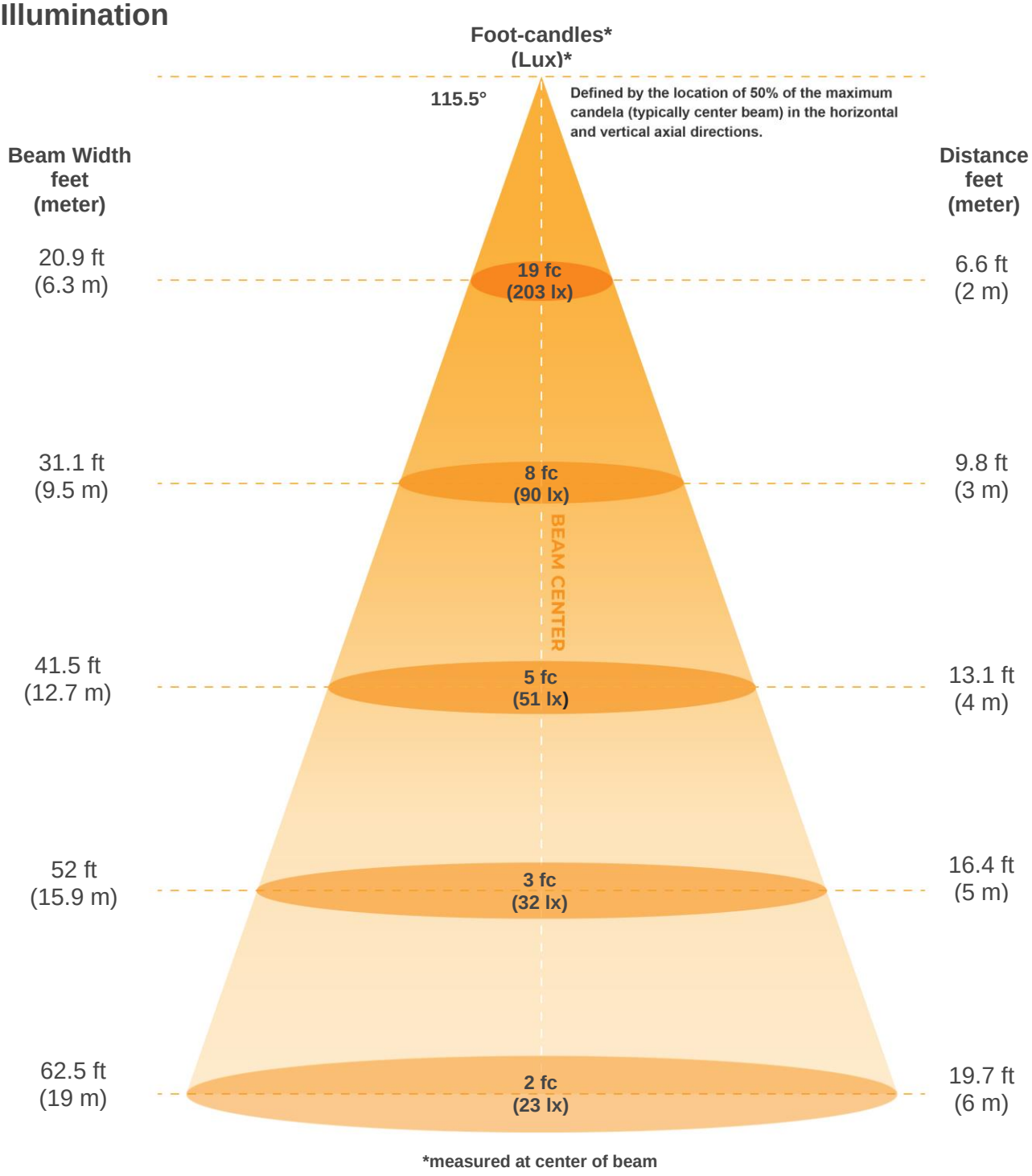
Illumination



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
810lx	203lx	90lx	51lx	32lx	23lx	17lx	13lx	10lx	8lx	7lx	6lx	5lx	4lx	4lx	3lx	3lx	3lx	2lx	2lx
75.3fcd	18.8fcd	8.4fcd	4.7fcd	3fcd	2.1fcd	1.5fcd	1.2fcd	0.9fcd	0.8fcd	0.6fcd	0.5fcd	0.4fcd	0.4fcd	0.3fcd	0.3fcd	0.3fcd	0.2fcd	0.2fcd	0.2fcd

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
115.5°	**197.9°**	**235.2°**	**65.0%**	**43.8%**

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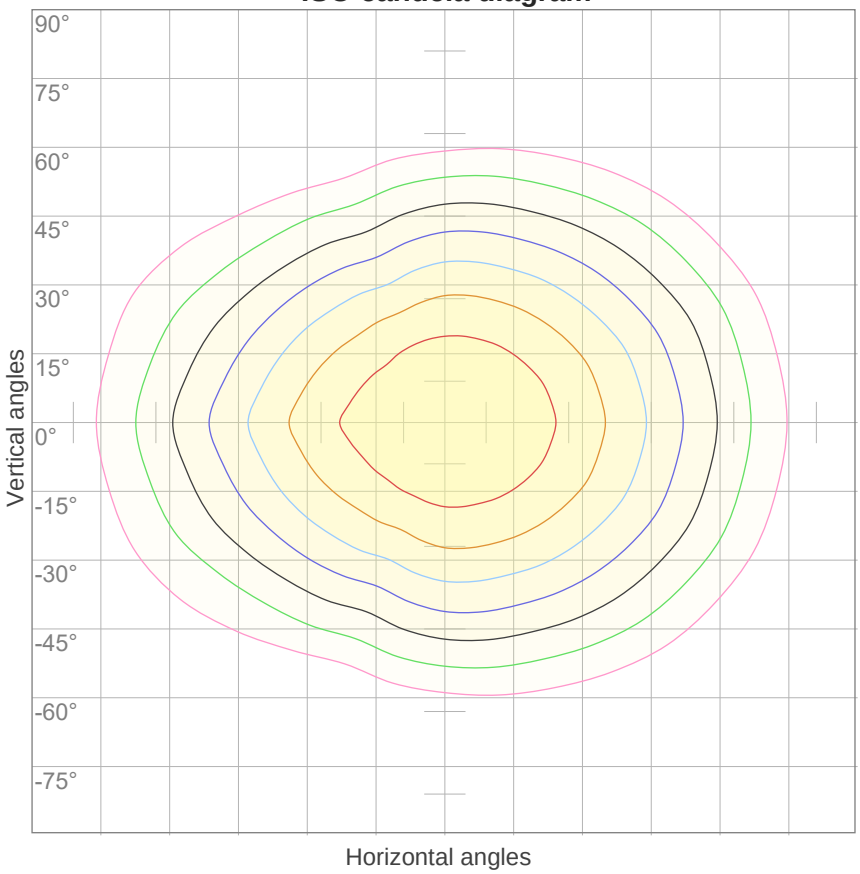
ISO Diagrams

ISO candela diagram



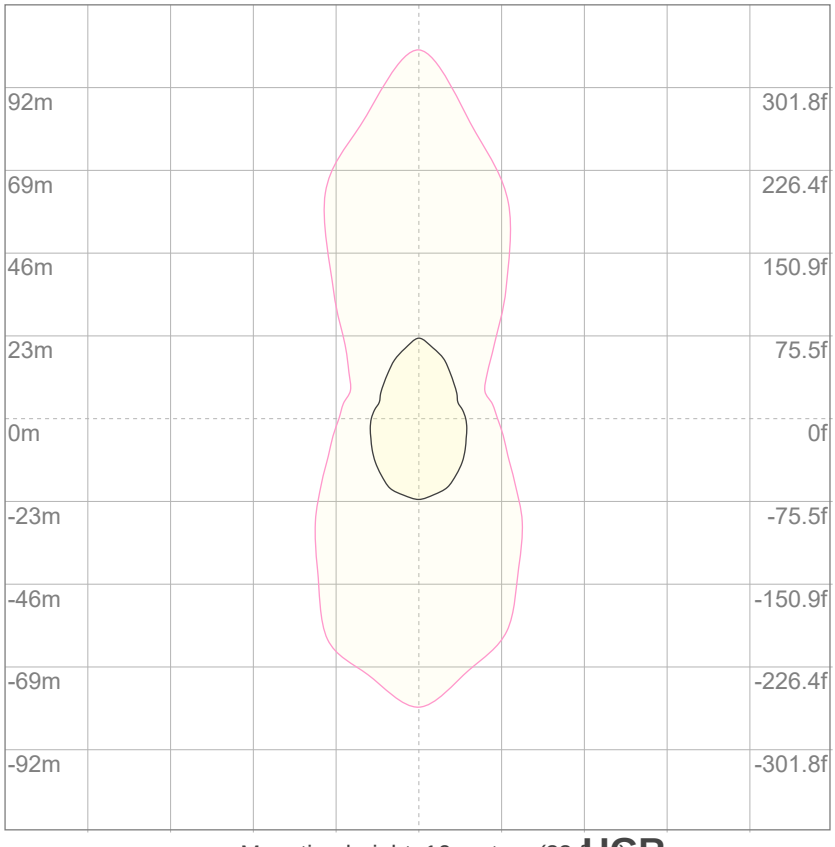
10%	81 cd
20%	162 cd
30%	243 cd
40%	324 cd
50%	405 cd
60%	486 cd
70%	567 cd
80%	648 cd
90%	729 cd

Conditions:

Number of c-planes: 16

Candela at center: 810 cd

ISO lux diagram



3%	0.243 lx
5%	0.405 lx
10%	0.810 lx
30%	2.43 lx
50%	4.05 lx

Conditions:

Number of c-planes: 16

Lux at center: 8.10 lx

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

UGR

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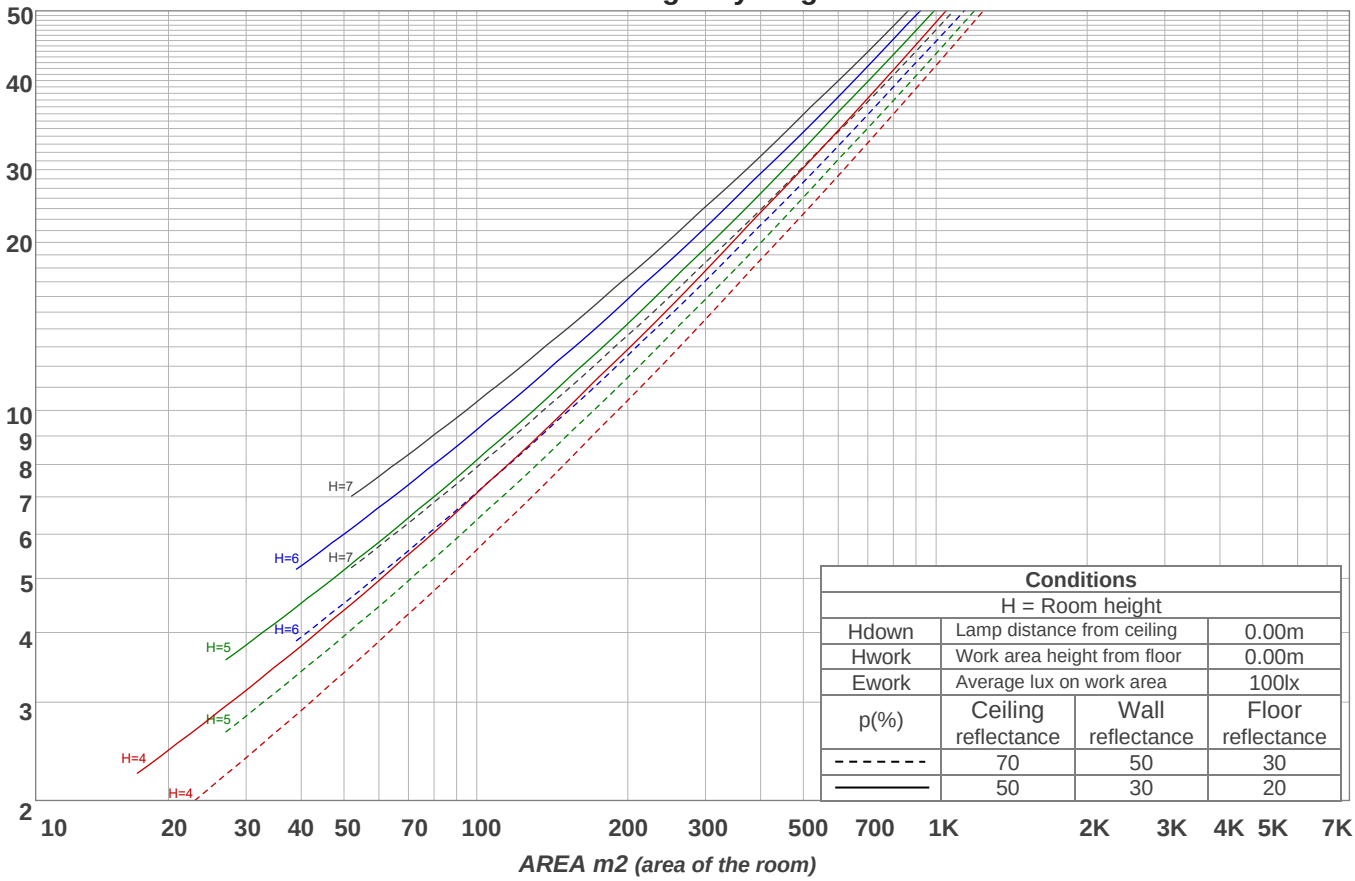
Light Planning

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	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	91
1	105	99	94	89	101	96	91	87	90	86	83	84	81	79	79	77	75	72
2	95	85	78	71	91	83	76	70	78	72	67	73	68	64	69	65	61	59
3	86	74	66	59	82	72	64	58	68	61	56	64	58	53	60	56	51	49
4	78	66	56	49	75	64	55	49	60	53	47	57	50	45	54	48	44	41
5	72	59	49	42	69	57	48	42	54	46	40	51	44	39	48	42	38	36
6	66	53	43	37	64	51	43	36	48	41	35	46	39	34	44	38	33	31
7	62	48	39	32	59	46	38	32	44	37	31	42	35	30	40	34	29	27
8	57	43	35	29	55	42	34	28	40	33	28	38	32	27	37	31	26	24
9	53	40	31	26	52	39	31	26	37	30	25	35	29	24	34	28	24	22
10	50	37	29	23	48	36	28	23	34	27	23	33	26	22	31	26	22	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°
76.6 lm	218 lm	327 lm	392 lm	411 lm	384 lm	322 lm	242 lm	169 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
113 lm	68.6 lm	36.5 lm	15.5 lm	4.59 lm	1.89 lm	1.24 lm	0.711 lm	0.245 lm

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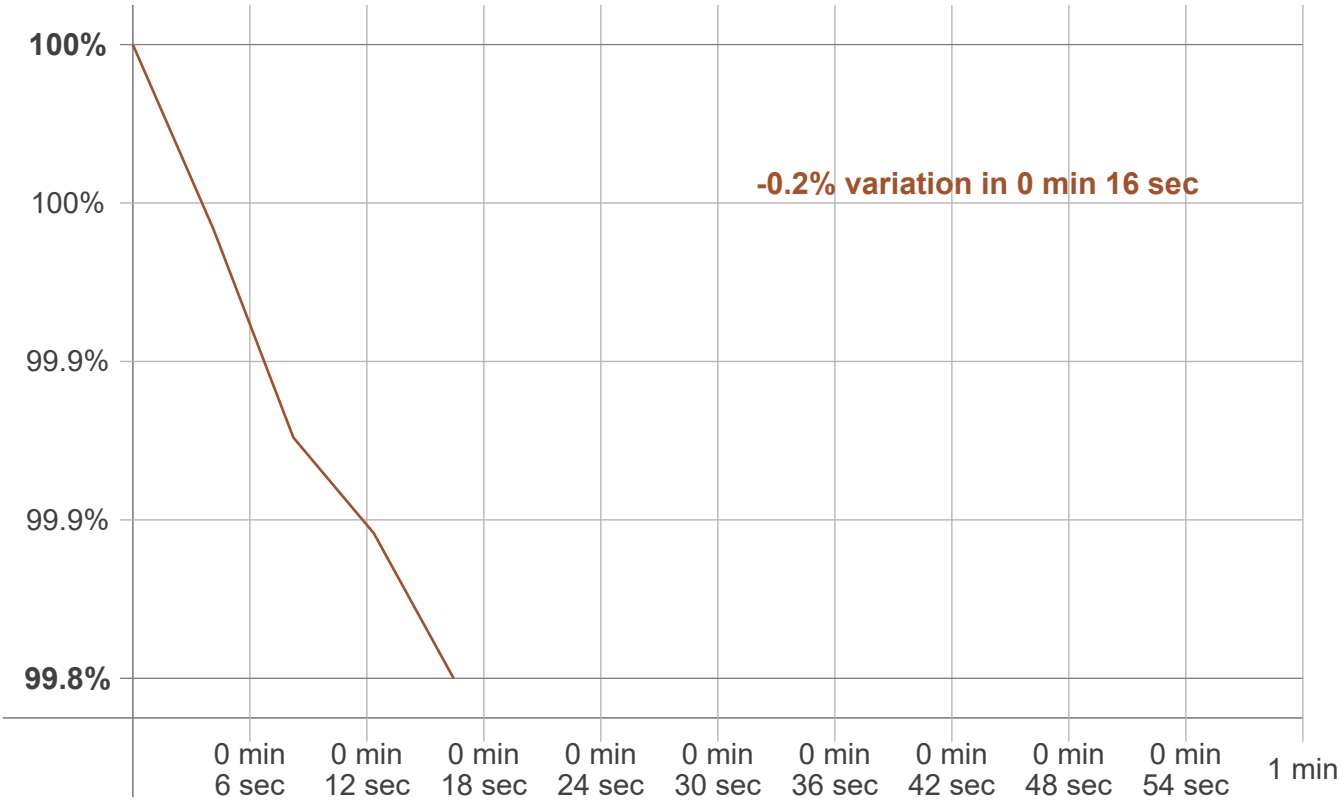
Stabilization

Warmup curve



Warmup result

Warmup time:	**Not completed**
Warmup variation	**-0.2%**

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
5030 K	+2 K	5032 K

Output change

Output start	Output change	Output end
2787 lm	-4 lm	2783 lm

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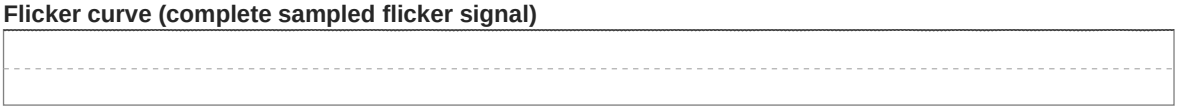
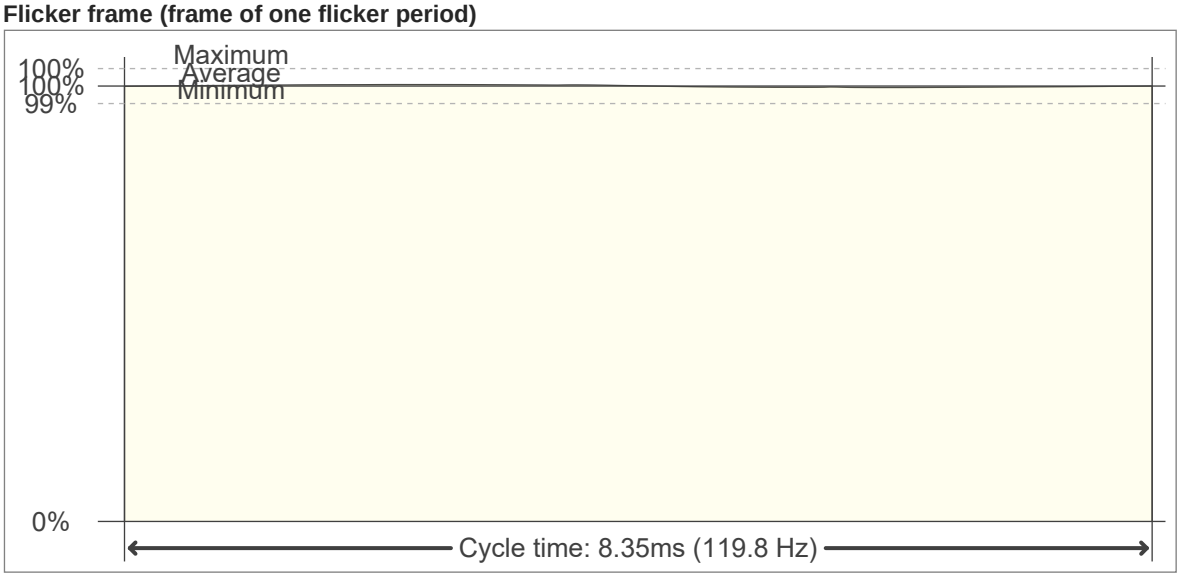
Flicker Specifications

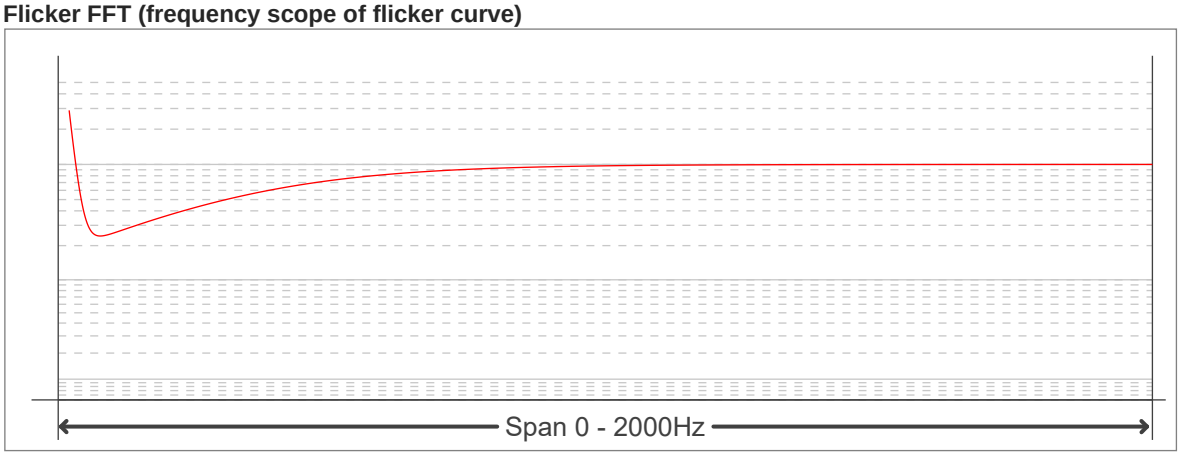
Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

Flicker frequency:	**119.76 Hz**
Flicker index:	**0**
Flicker percentage:	**0.59 %**
SVM: (Visual flicker)	**0.01**

Flicker conditions:

Sample rate:	**20000 samples/second**

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