

Light efficiency:

120 Lumen/Watt

Output: 4816 lm

Light quality:

CRI: 82.7

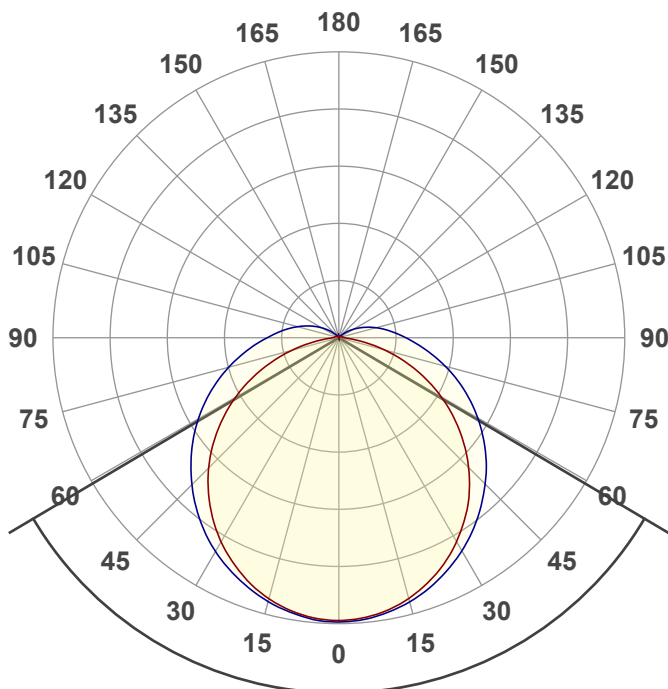
Peak: 1372 cd

Color temperature:

5092 K

Power: 40.2 W

PF: 1.0



Product name:

C2103-504F (40 W)

Date and time:

5/23/2023 11:35:09 AM

Beam angle

118.7°

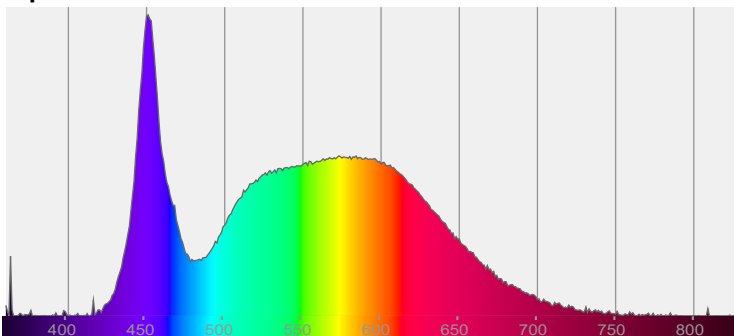


CIE 1931

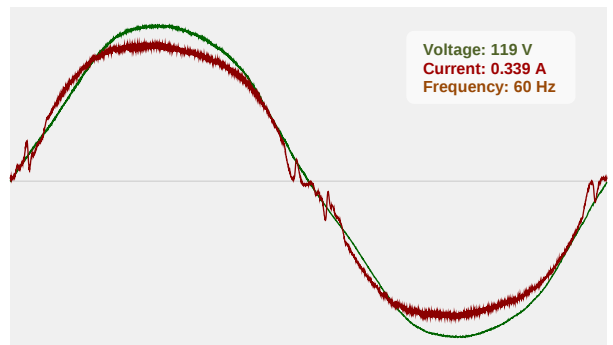
x: 0.343

y: 0.354

Spectra



Power



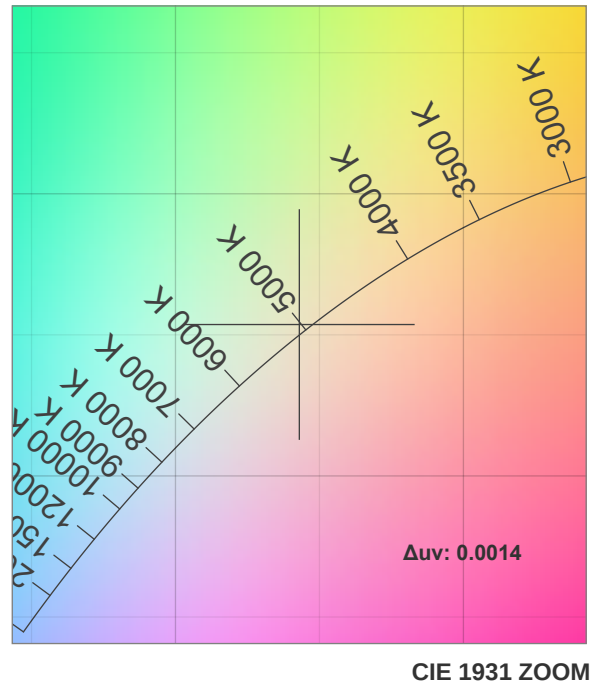
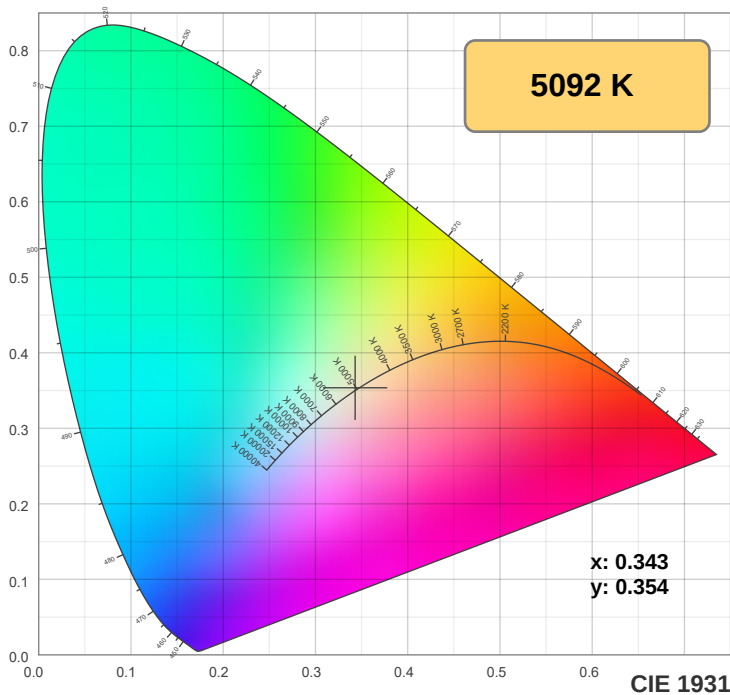
T 314.743.3067

F 314.972.6202

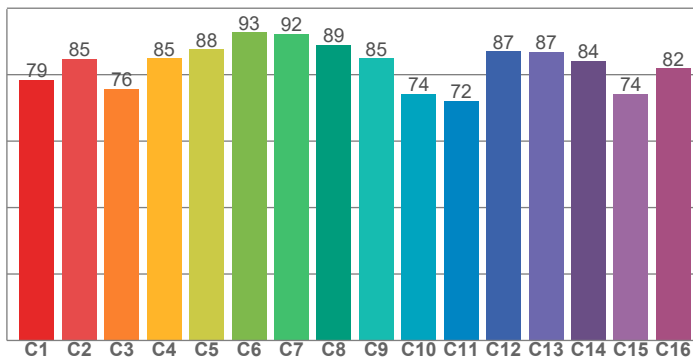
email: commercial-sales@superbrightleds.com

www.superbrightleds.com/

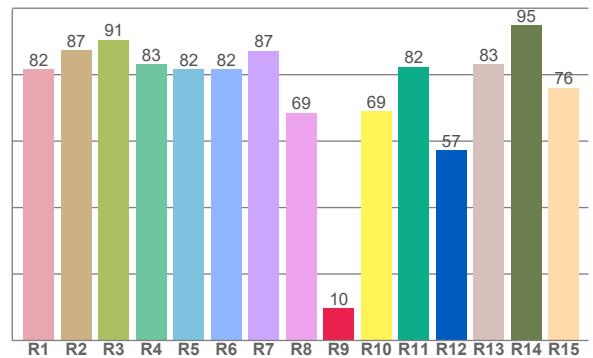
Color Specifications



TM30: 82.8



CRI: 82.7 (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
81.5	87.3	90.6	83.2	81.6	81.7	87.2	68.5	9.7	69.0	82.4	57.2	83.1	94.9	76.0

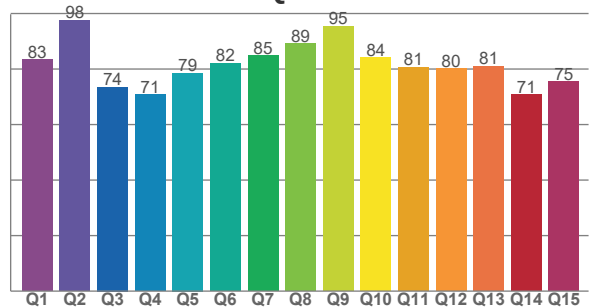
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
78.5	84.7	75.7	84.9	87.6	92.7	92.3	89.0	84.9	74.1	72.1	87.1	86.9	84.1	74.2	81.9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
83.3	97.6	73.5	70.8	78.6	82.1	84.9	89.1	95.5	84.1	80.6	80.2	81.0	70.8	75.5

CQS: 80.3



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
5092 K	82.7	9.7	82.8	96.6	80.3	0.343	0.354	0.209	0.324	0.0014



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TM30 Report

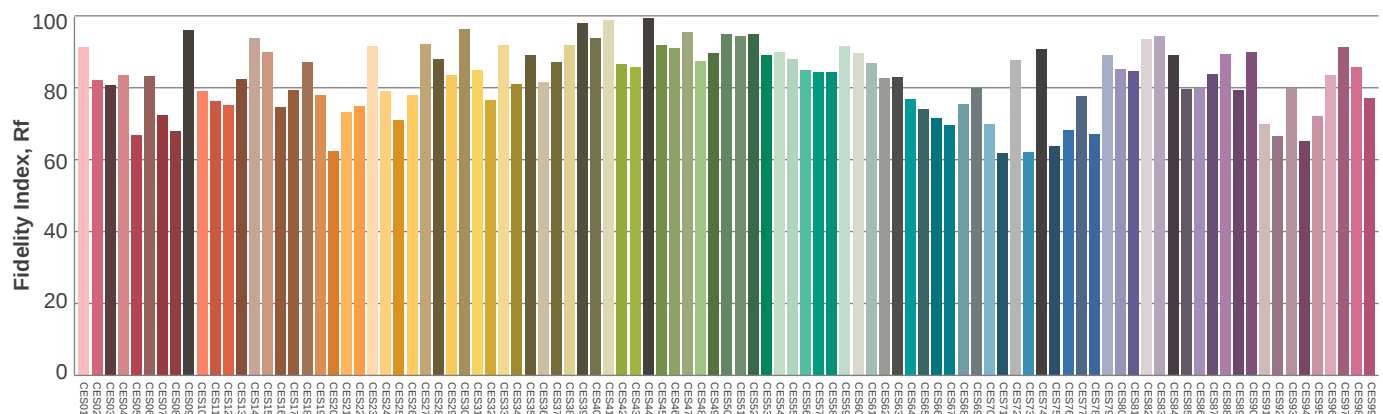
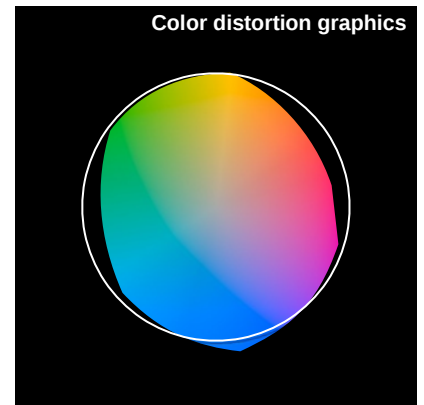
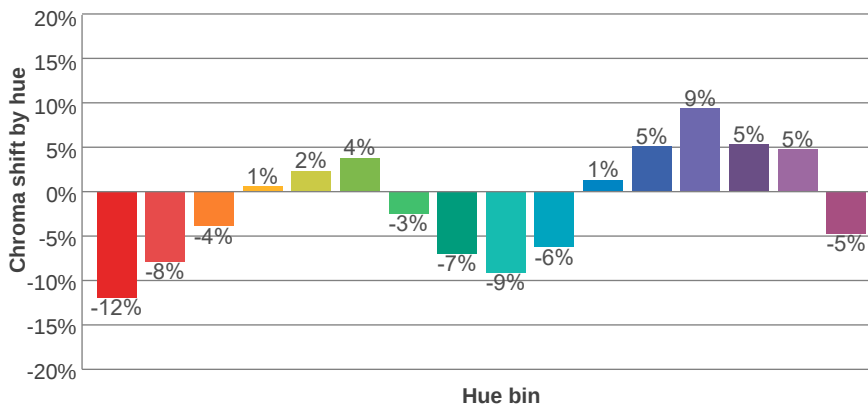
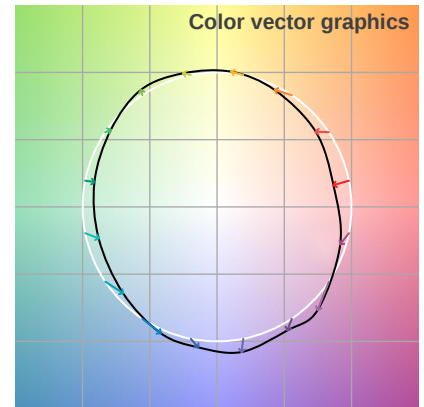
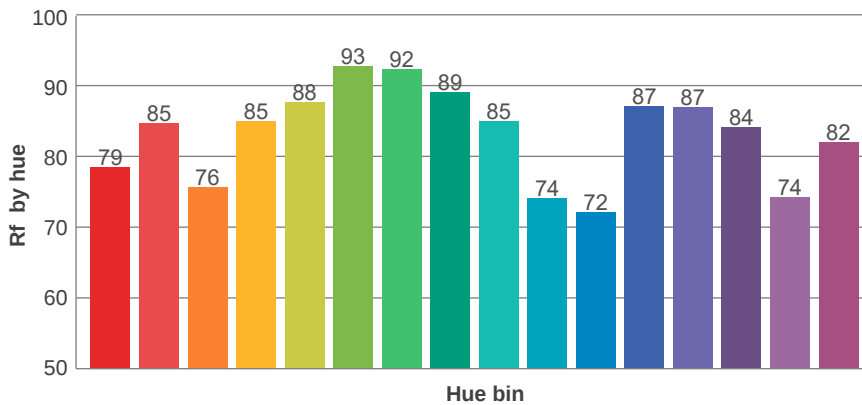
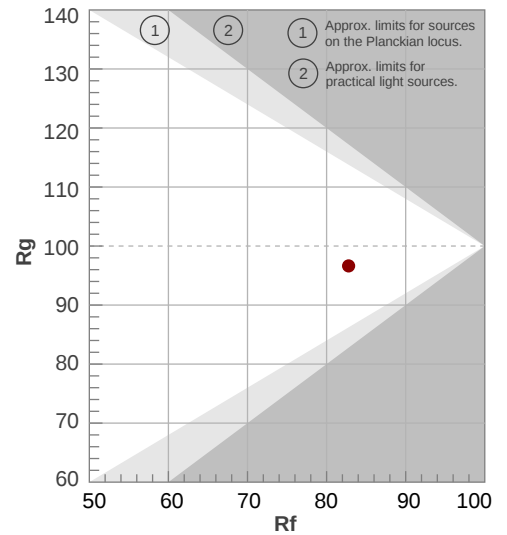
Rf 82.8

Fidelity index Rf

Rg 96.6

Gamut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	79	-12%	-1%
2	85	-8%	6%
3	76	-4%	13%
4	85	1%	9%
5	88	2%	5%
6	93	4%	-1%
7	92	-3%	-4%
8	89	-7%	0%
9	85	-9%	6%
10	74	-6%	15%
11	72	1%	17%
12	87	5%	7%
13	87	9%	-3%
14	84	5%	-8%
15	74	5%	-22%
16	82	-5%	-9%



Color Evaluation Sample



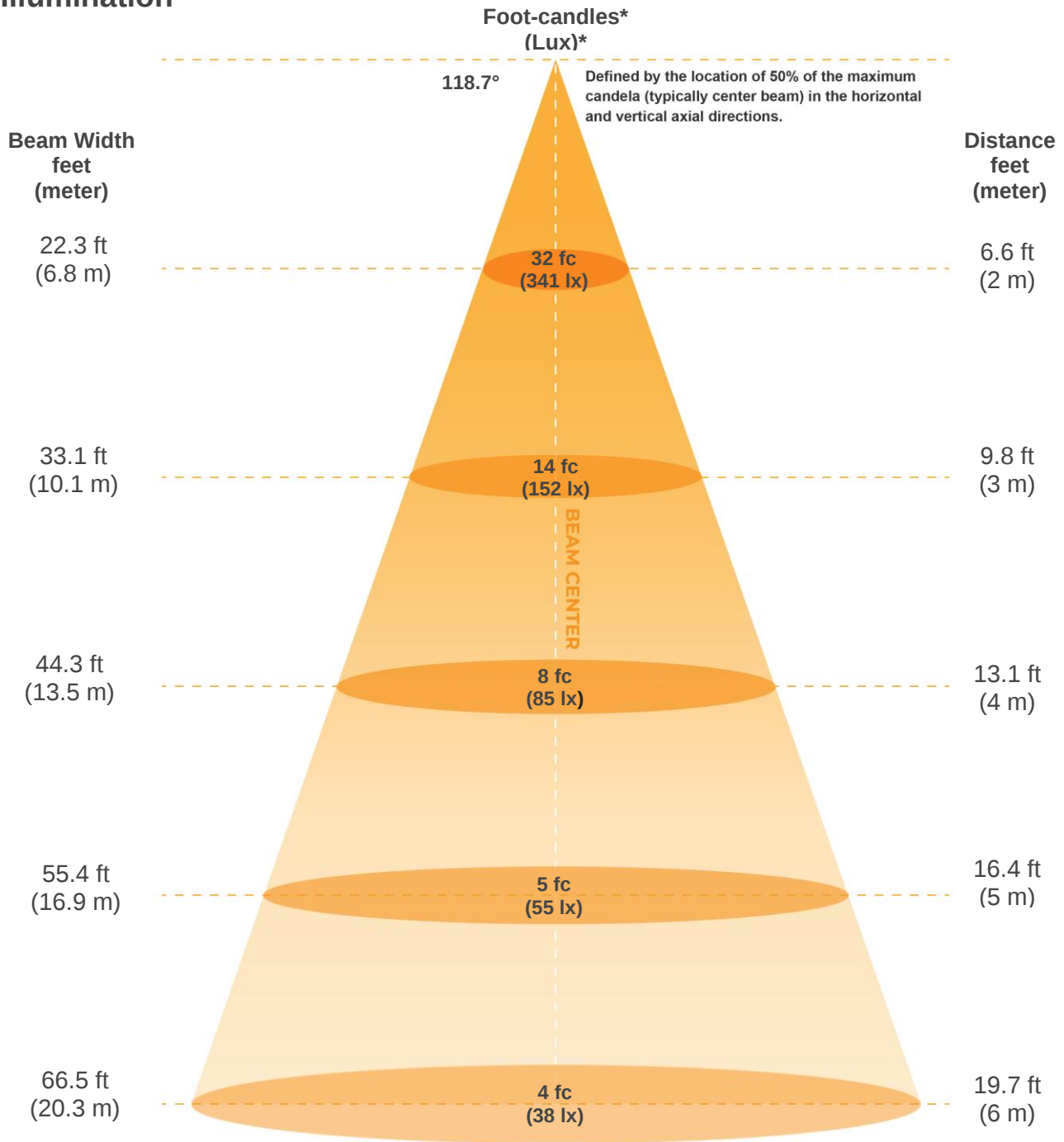
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Illumination



*measured at center of beam

Beam intensities from 1-20m

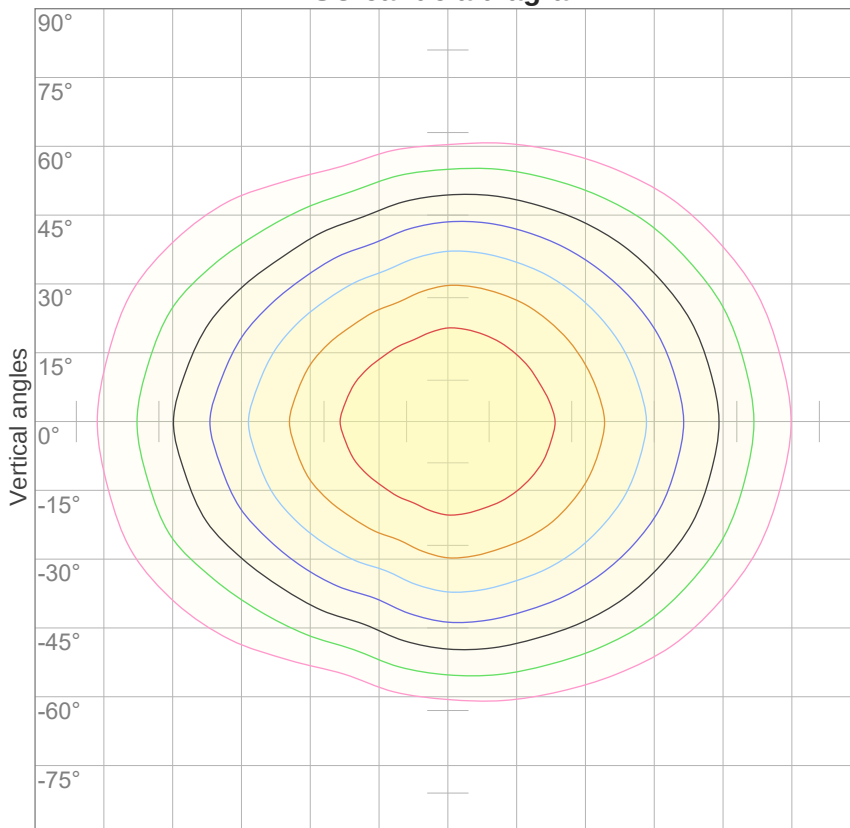
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
3.3ft	6.6ft	9.8ft	13.1ft	16.4ft	19.7ft	23ft	26.2ft	29.5ft	32.8ft	36.1ft	39.4ft	42.7ft	45.9ft	49.2ft	52.5ft	55.8ft	59.1ft	62.3ft	65.6ft
1366lx	341lx	152lx	85lx	55lx	38lx	28lx	21lx	17lx	14lx	11lx	9lx	8lx	7lx	6lx	5lx	5lx	4lx	4lx	3lx
126.9fcd	31.7fcd	14.1fcd	7.9fcd	5.1fcd	3.5fcd	2.6fcd	2fcd	1.6fcd	1.3fcd	1fcd	0.9fcd	0.8fcd	0.6fcd	0.6fcd	0.5fcd	0.4fcd	0.4fcd	0.4fcd	0.3fcd

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
118.7°	198.5°	231.7°	64.9%	43.5%



ISO Diagrams

ISO candela diagram



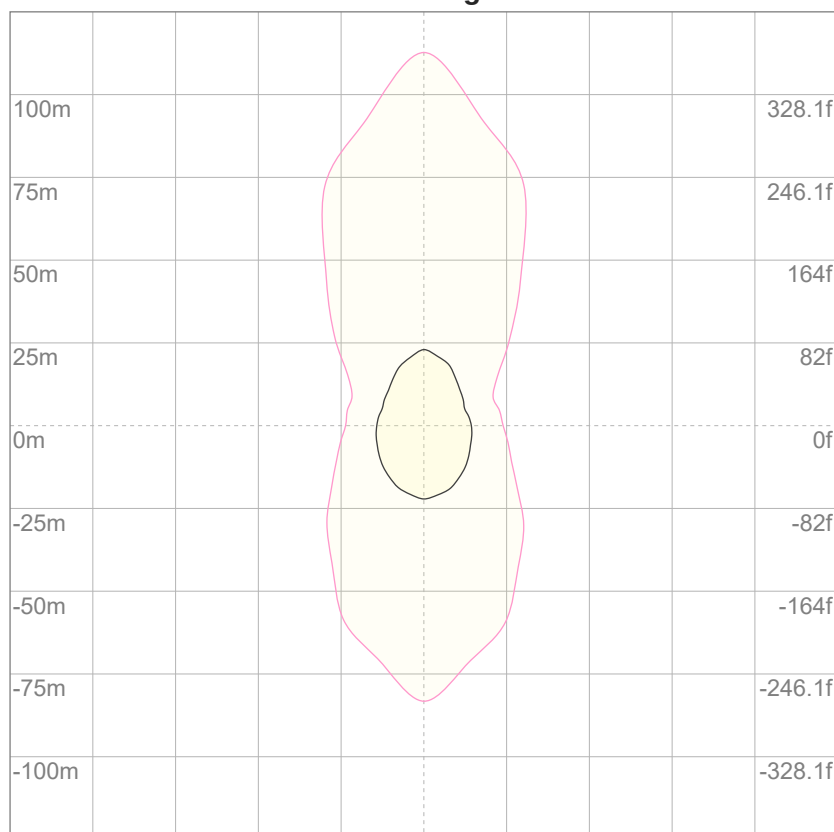
10%	137 cd
20%	273 cd
30%	410 cd
40%	546 cd
50%	683 cd
60%	819 cd
70%	956 cd
80%	1092 cd
90%	1229 cd

Conditions:

Number of c-planes: 16

Candela at center: 1366 cd

ISO lux diagram



3%	0.410 lx
5%	0.683 lx
10%	1.37 lx
30%	4.10 lx
50%	6.83 lx

Conditions:

Number of c-planes: 16

Lux at center: 13.7 lx

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



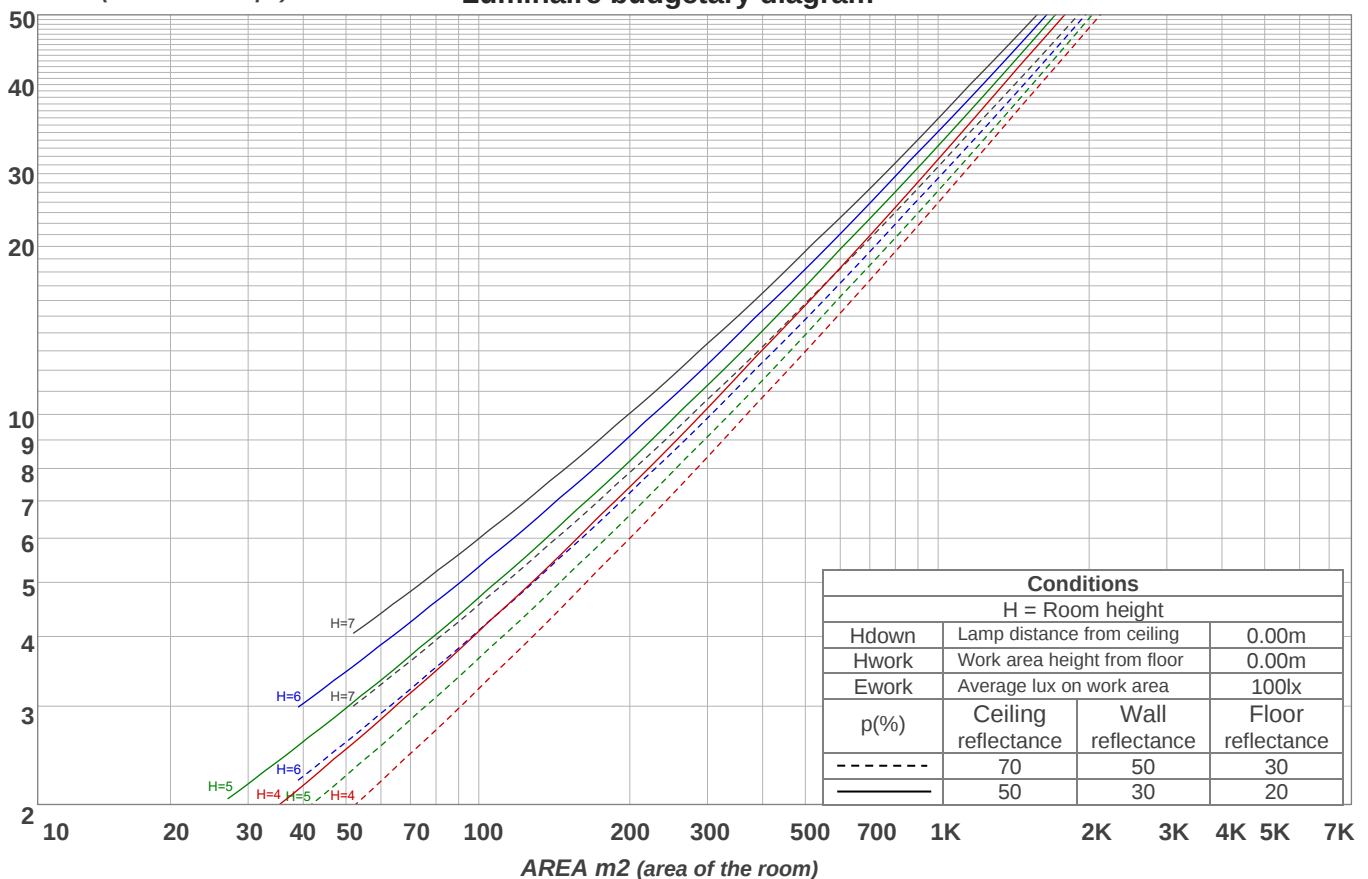
Light Planning

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	92
1	105	99	94	89	101	96	91	87	90	86	83	85	82	79	80	77	75	72
2	94	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	57	68	61	55	64	58	53	60	55	51	49
4	78	66	56	49	75	64	55	48	60	53	47	57	50	45	53	48	44	41
5	72	58	49	42	69	57	48	41	54	46	40	51	44	39	48	42	38	35
6	66	52	43	36	64	51	42	36	48	41	35	46	39	34	43	38	33	31
7	61	47	38	32	59	46	38	32	44	36	31	42	35	30	40	34	29	27
8	57	43	34	28	55	42	34	28	40	33	27	38	32	27	36	31	26	24
9	53	40	31	26	51	39	31	25	37	30	25	35	29	24	34	28	24	22
10	50	36	28	23	48	36	28	23	34	27	22	33	26	22	31	25	21	20

LAMPS (number of lamps)

Luminaire budgetary diagram



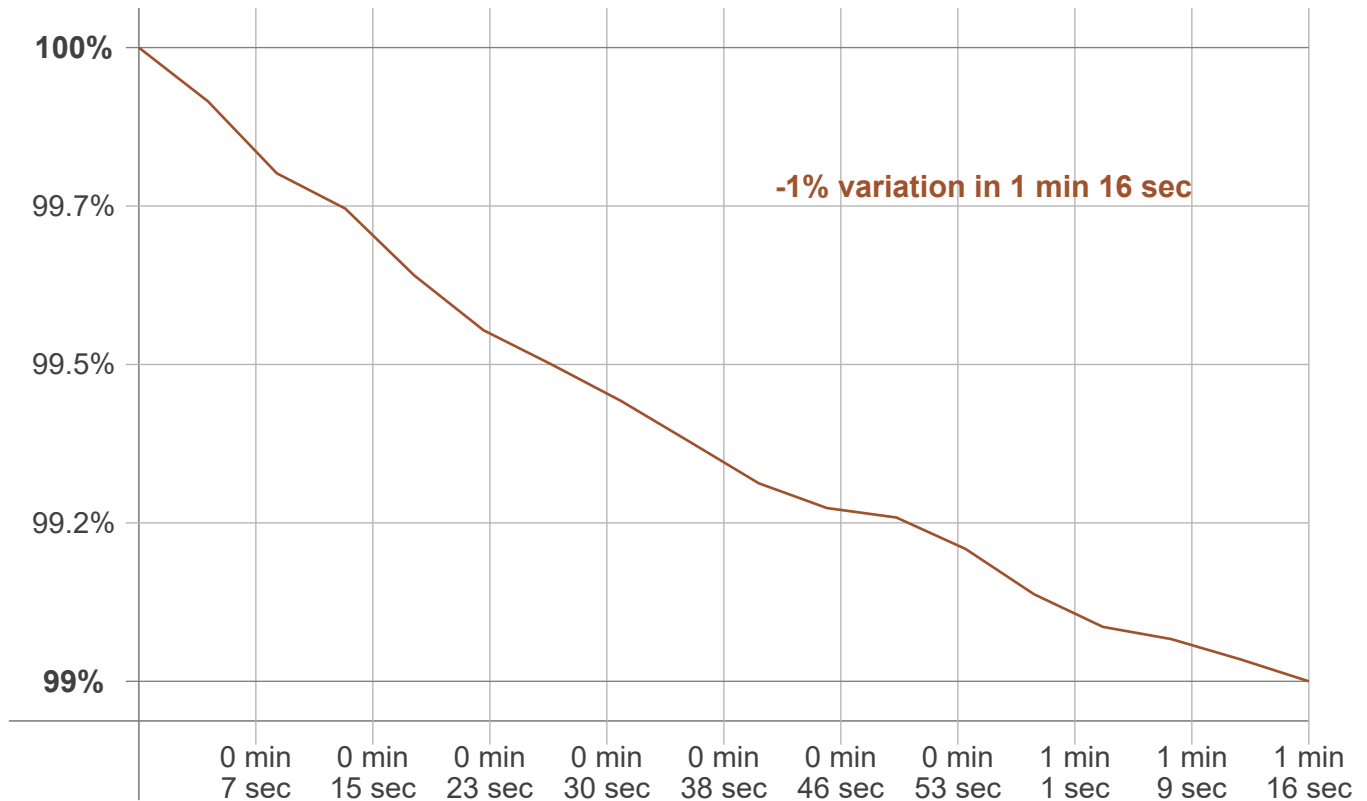
Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
129 lm	369 lm	558 lm	678 lm	716 lm	674 lm	568 lm	426 lm	290 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
190 lm	116 lm	60.6 lm	25.2 lm	7.83 lm	3.73 lm	2.33 lm	1.31 lm	0.445 lm



Stabilization

Warmup curve



Warmup result

Warmup time:	Not completed
Warmup variation	-1.0%

Warmup conditions

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

Color temperature change

CCT start	CCT change	CCT end
5088 K	+4 K	5092 K

Output change

Output start	Output change	Output end
4841 lm	-26 lm	4816 lm

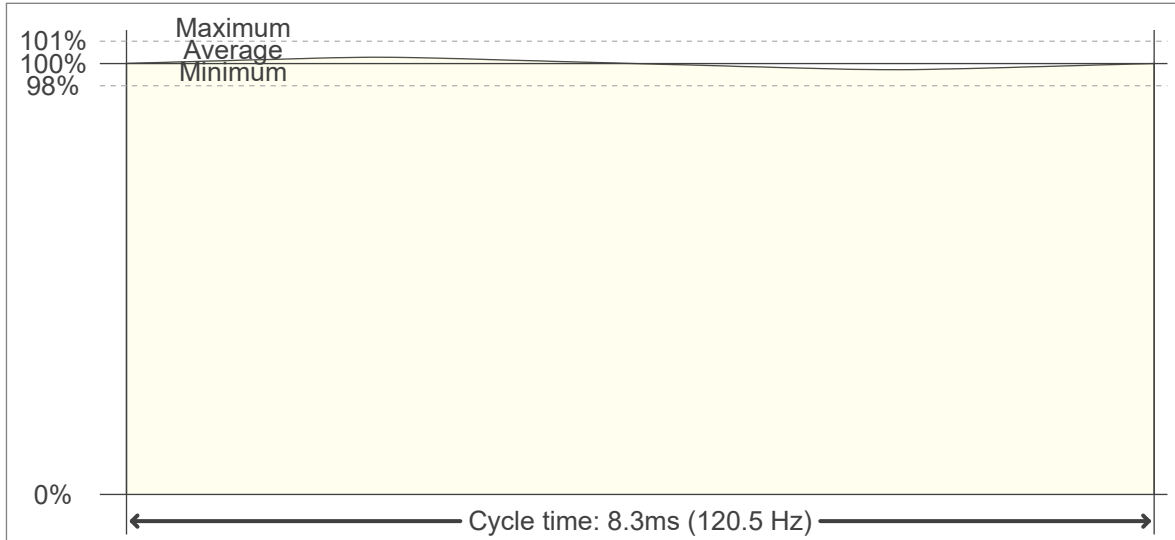


Flicker Specifications

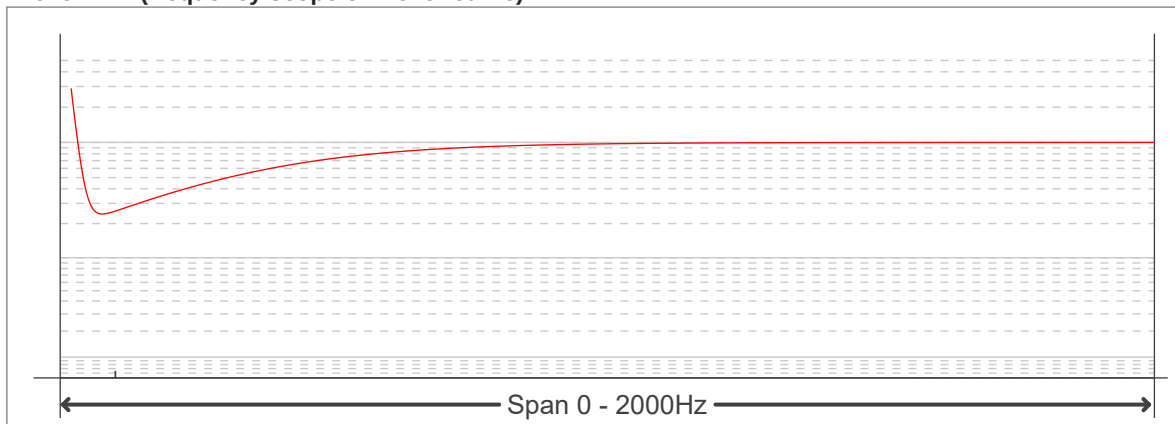
Flicker curve (complete sampled flicker signal)



Flicker frame (frame of one flicker period)



Flicker FFT (frequency scope of flicker curve)



Flicker results:

Flicker frequency:	120.48 Hz
Flicker index:	0
Flicker percentage:	1.58 %
SVM: (Visual flicker)	0.05

Flicker conditions:

Sample rate:	20000 samples/second
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