

Light efficiency:



Light quality:



Color temperature:

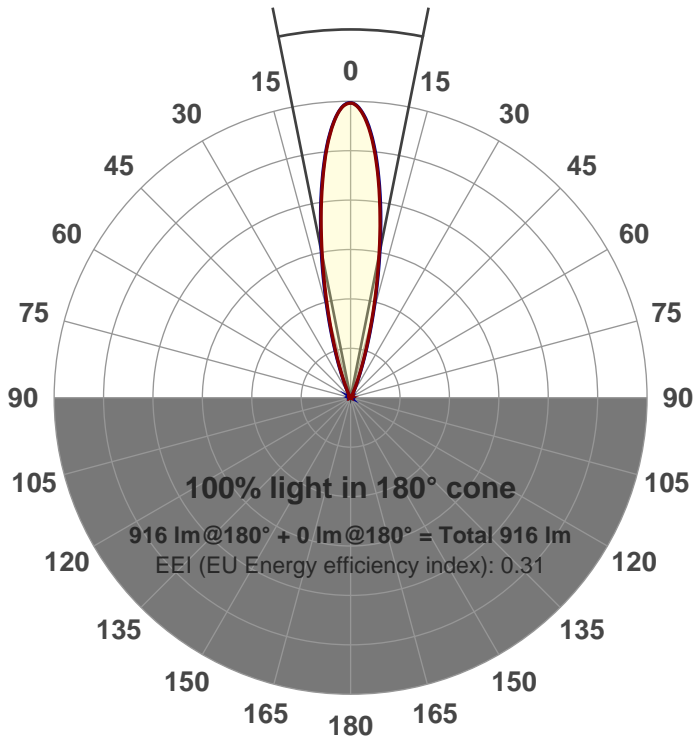


Output: 916 lm
Peak: 4993 cd
Power: 21.2 W
PF: 0.99



Beam angle

22.6°



Product name:
GRF-CZ20-NF-RD-91A
Item number:
GRF-CZ20-NF-RD-91A
Date and time:
6/6/2017 11:21:10 AM
Description:
V6

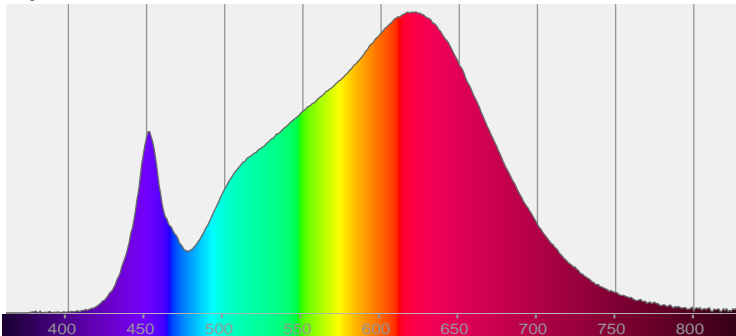
LUM: 916

PPF: 15.6

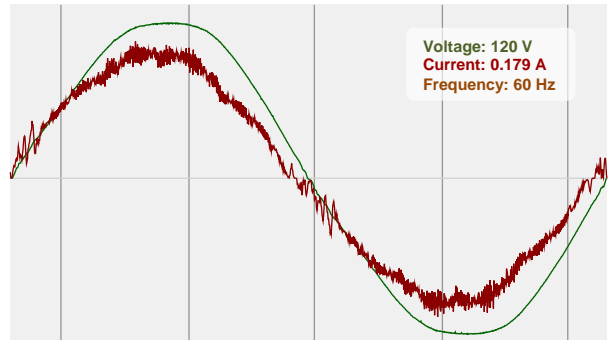


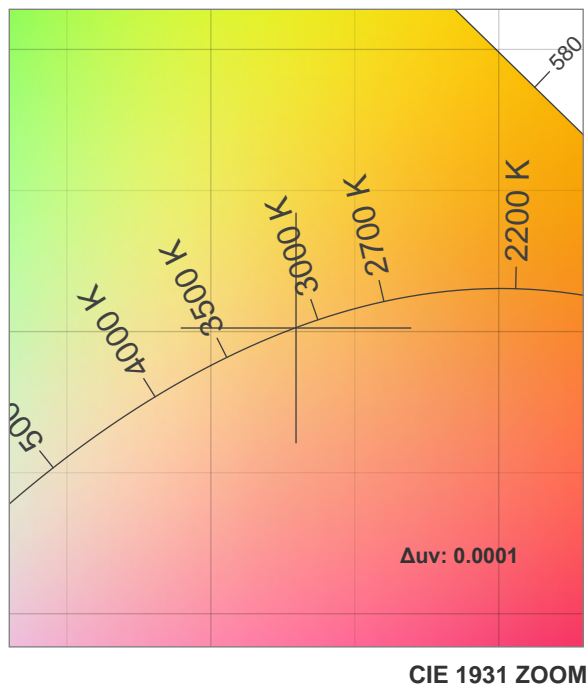
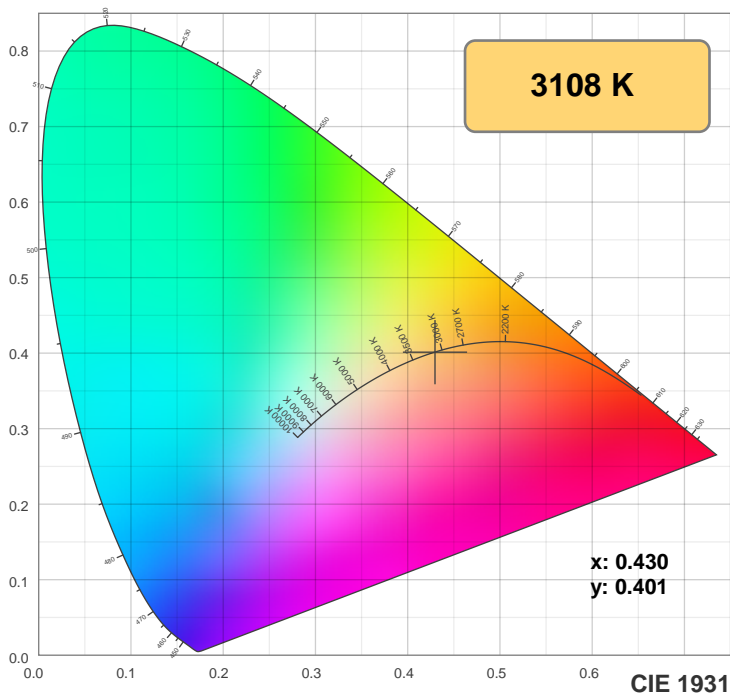
CIE 1931
x: 0.430
y: 0.401

Spectra

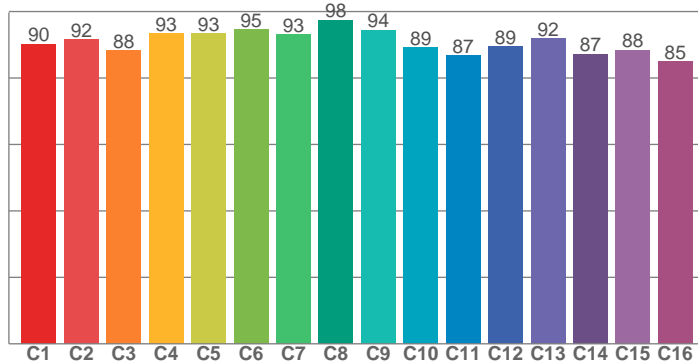


Power

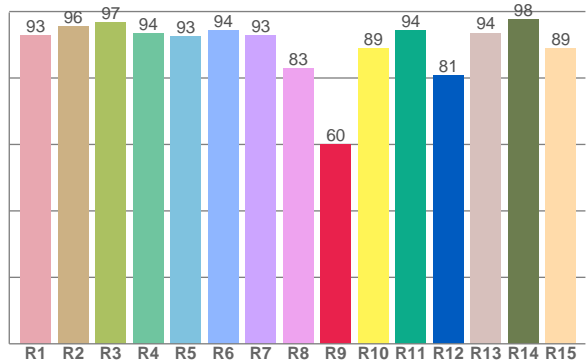




TM30: 90.9



CRI: 92.7 (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
92.9	95.5	96.9	93.5	92.6	94.3	92.9	83.0	60.1	88.9	94.4	80.7	93.6	97.7	89.0

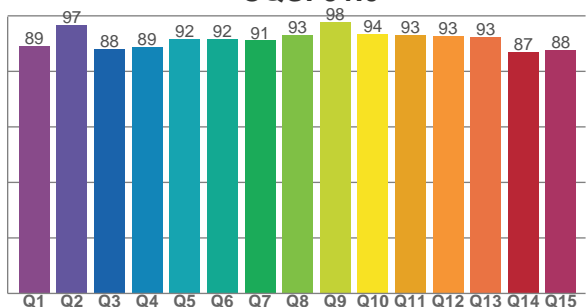
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90.2	91.5	88.2	93.4	93.3	94.6	93.2	97.5	94.4	89.3	86.8	89.4	91.9	87.3	88.4	85.0

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
89.0	96.9	88.0	88.8	91.8	91.7	91.1	93.0	97.7	93.5	93.0	92.7	92.5	87.1	87.6

CQS: 91.0



Color parameters

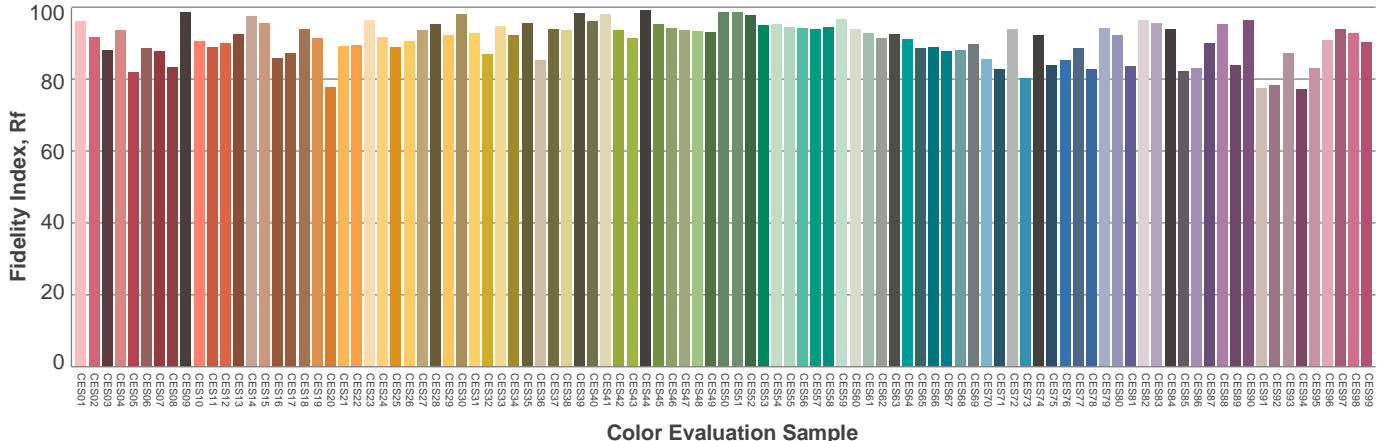
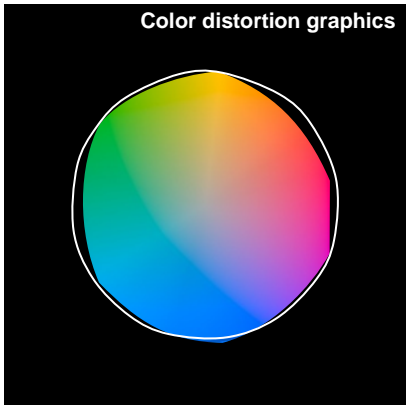
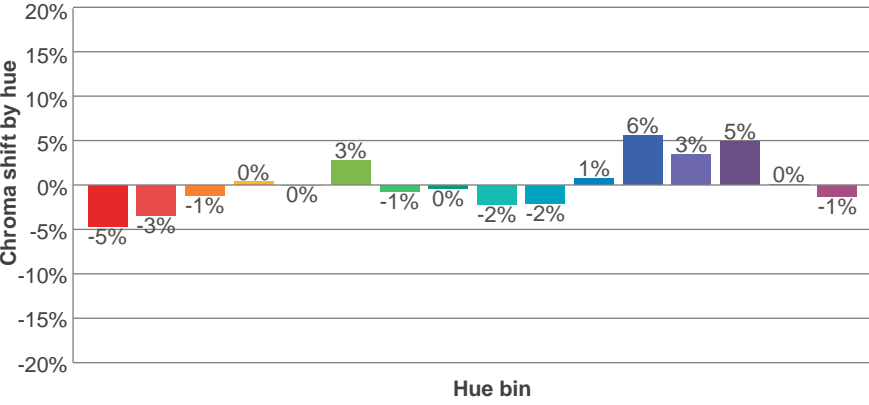
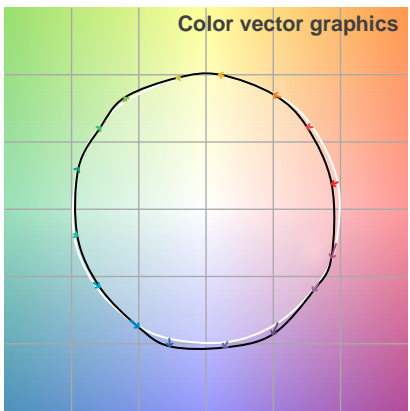
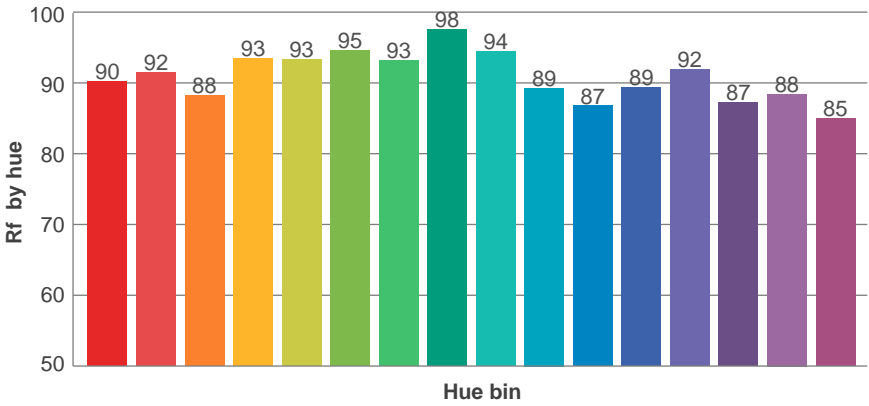
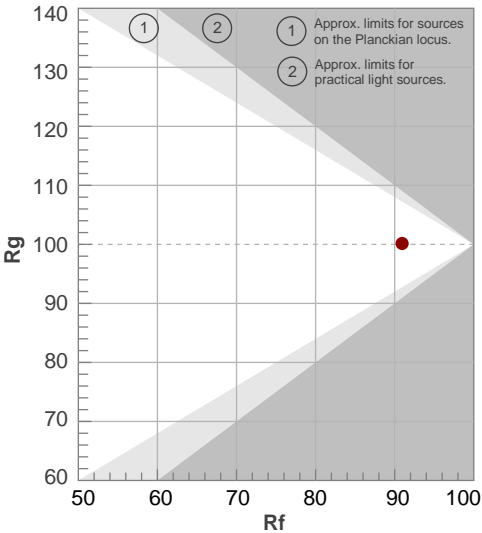
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3108 K	92.7	60.1	90.9	100.2	91.0	0.430	0.401	0.247	0.346	0.0001

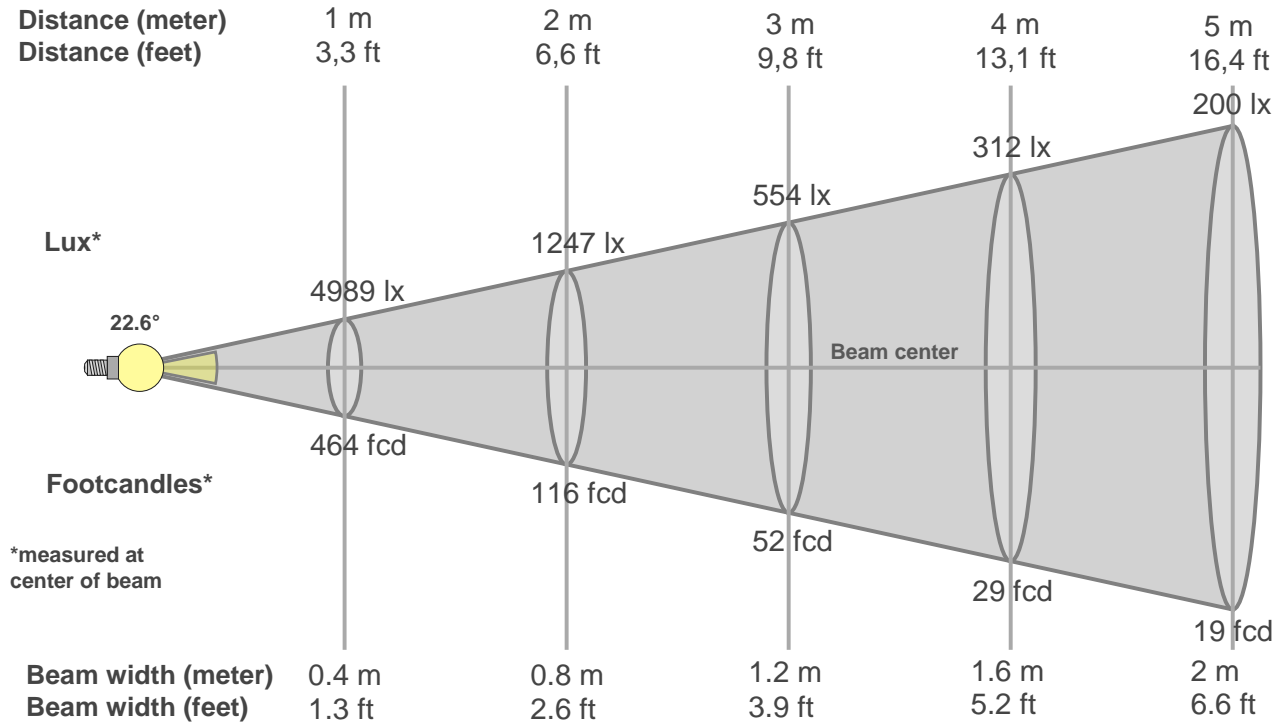
TM30 details

Rf 90.9
Fidelity index Rf

Rg 100.2
Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	90	-5%	-1%
2	92	-3%	3%
3	88	-1%	5%
4	93	0%	3%
5	93	0%	3%
6	95	3%	0%
7	93	-1%	-3%
8	98	0%	-1%
9	94	-2%	2%
10	89	-2%	5%
11	87	1%	8%
12	89	6%	1%
13	92	3%	-4%
14	87	5%	-8%
15	88	0%	-7%
16	85	-1%	-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
4989lx	1247lx	554lx	312lx	200lx	139lx	102lx	78lx	62lx	50lx	41lx	35lx	30lx	25lx	22lx	19lx	17lx	15lx	14lx	12lx
463.5fcd	115.9fcd	51.5fcd	29fcd	18.5fcd	12.9fcd	9.5fcd	7.2fcd	5.7fcd	4.6fcd	3.8fcd	3.2fcd	2.7fcd	2.4fcd	2.1fcd	1.8fcd	1.6fcd	1.4fcd	1.3fcd	1.2fcd

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°
4989	4886	4571	4094	3504	2869	2246	1674	1196	802	505	300	179	109	69	47	34	27	21	17
100%	98%	92%	82%	70%	58%	45%	34%	24%	16%	10%	6%	4%	2%	1%	1%	1%	1%	0%	0%

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°
4989	4891	4586	4125	3552	2928	2325	1761	1280	882	578	361	220	136	87	57	39	29	22	18
100%	98%	92%	83%	71%	59%	47%	35%	26%	18%	12%	7%	4%	3%	2%	1%	1%	1%	0%	0%

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°
4989	4864	4548	4073	3493	2869	2244	1687	1195	811	513	311	185	113	71	47	35	27	21	17
100%	97%	91%	82%	70%	58%	45%	34%	24%	16%	10%	6%	4%	2%	1%	1%	1%	1%	0%	0%

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°
4989	4876	4576	4116	3553	2938	2320	1756	1267	872	571	360	220	138	88	59	41	30	23	19
100%	98%	92%	83%	71%	59%	47%	35%	25%	17%	11%	7%	4%	3%	2%	1%	1%	1%	0%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
22.6°	40.7°	52°	1.0%	1.0%

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