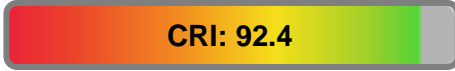


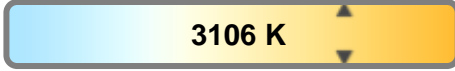
Light efficiency:



Light quality:



Color temperature:

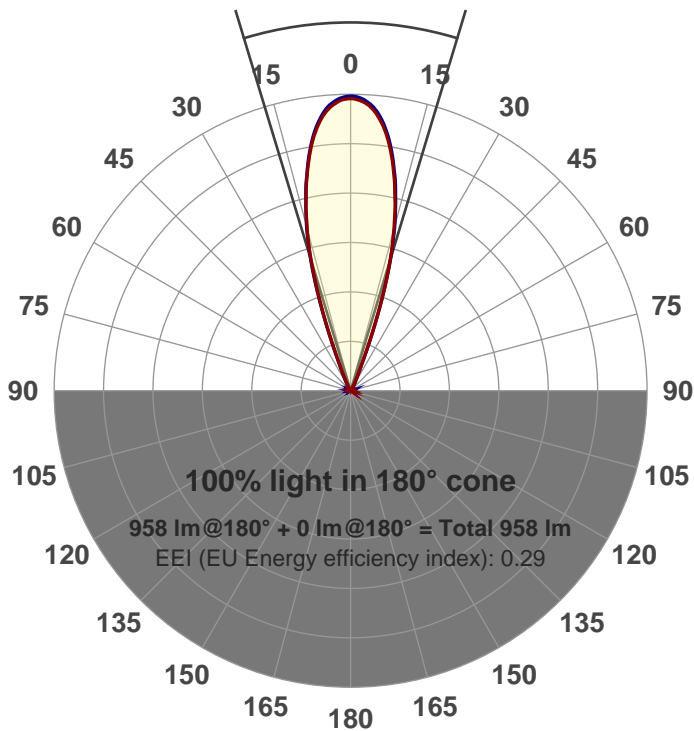


Output: 958 lm
Peak: 3173 cd
Power: 21.2 W
PF: 0.99



Beam angle

33.7°



Product name:
GRF-CZ20-FL-SQ
Item number:
GRF-CZ20-FL-SQ
Date and time:
4/3/2017 1:23:47 PM
Description:

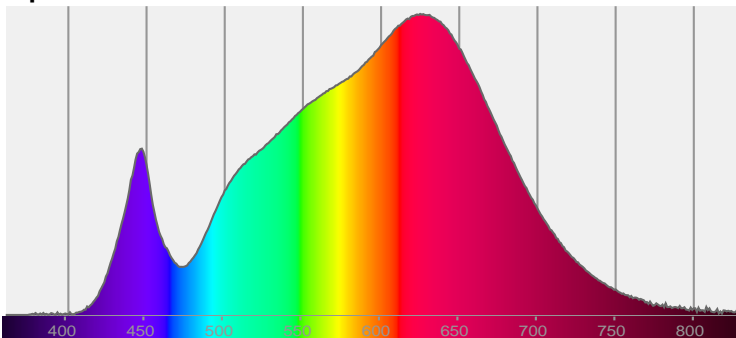
LUM: 958

PPF: 15.5

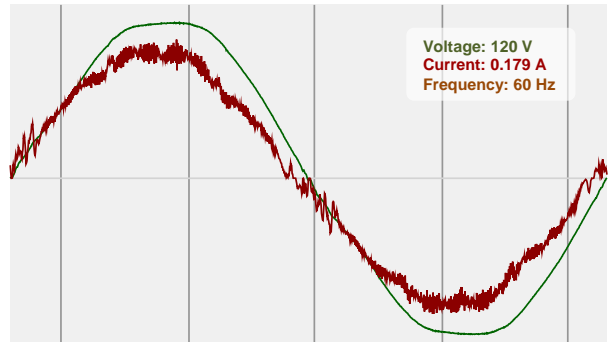


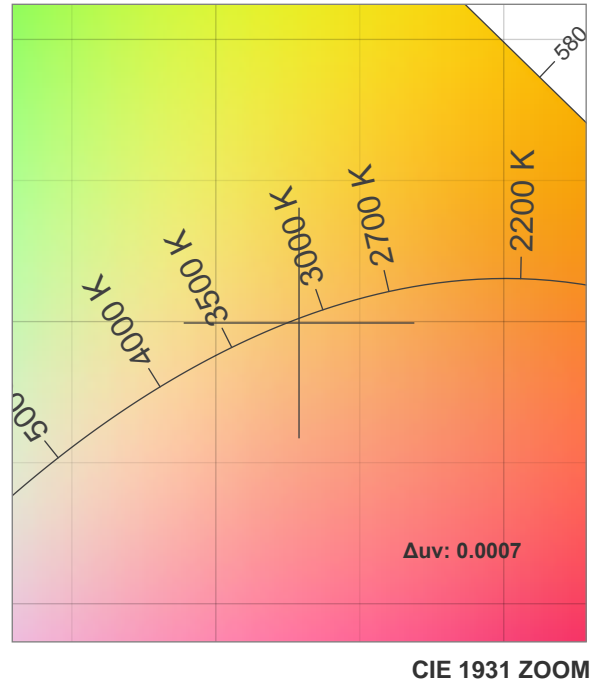
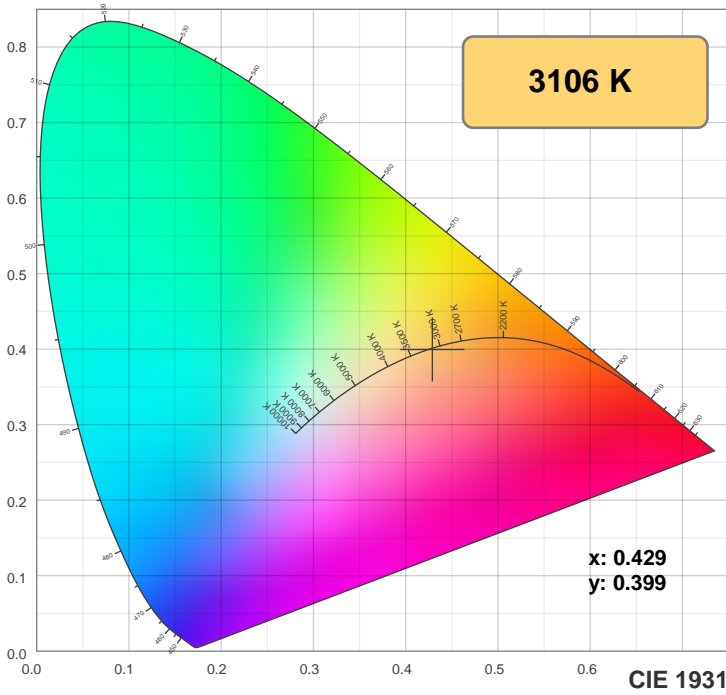
CIE 1931
x: 0.429
y: 0.399

Spectra

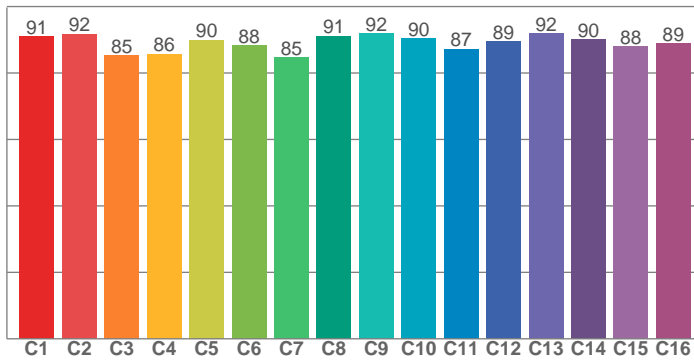


Power

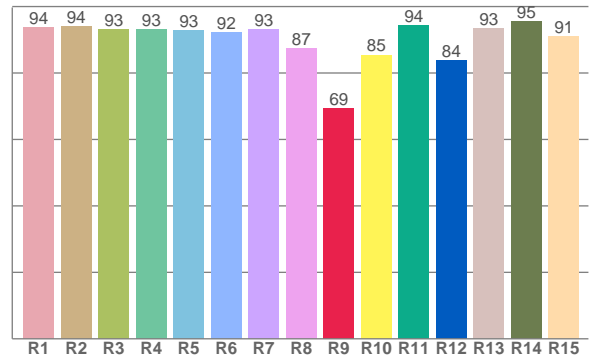




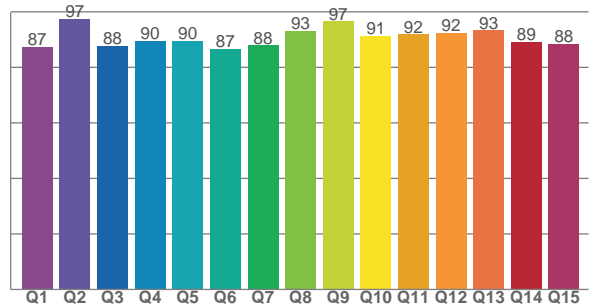
TM30: 89.2



CRI: 92.4 (R1-R8)



CQS: 90.2



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
93.6	94.0	93.1	93.2	92.8	92.3	93.2	87.4	69.3	85.5	94.2	83.8	93.4	95.5	91.0

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
90.9	91.8	85.2	85.7	89.9	88.2	84.7	91.2	92.0	90.3	87.3	89.5	91.8	90.1	88.0	89.0

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
87.5	97.3	87.8	89.6	89.5	86.5	87.9	93.0	96.5	91.4	91.8	92.5	93.3	89.2	88.4

Color parameters

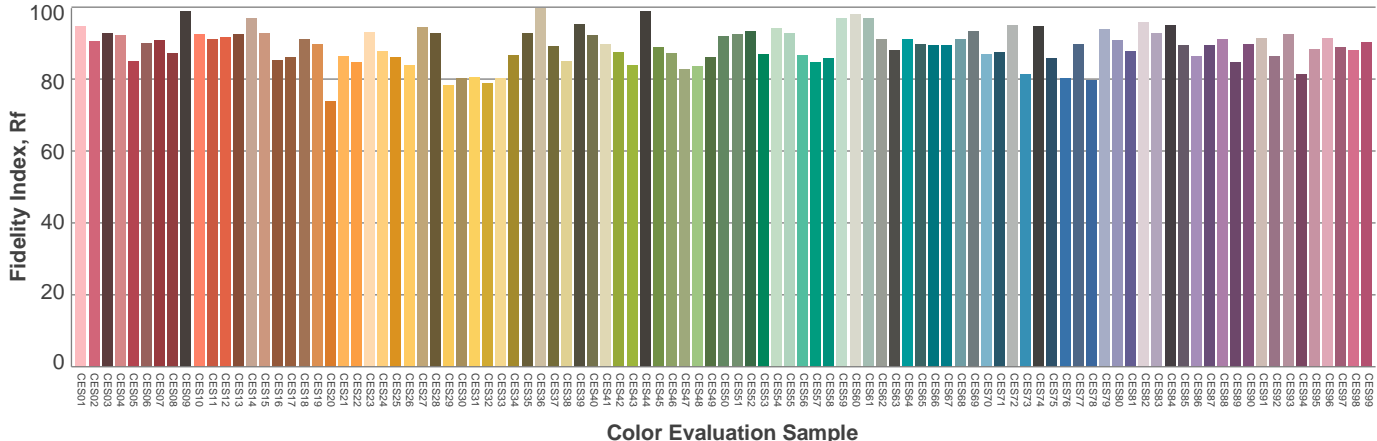
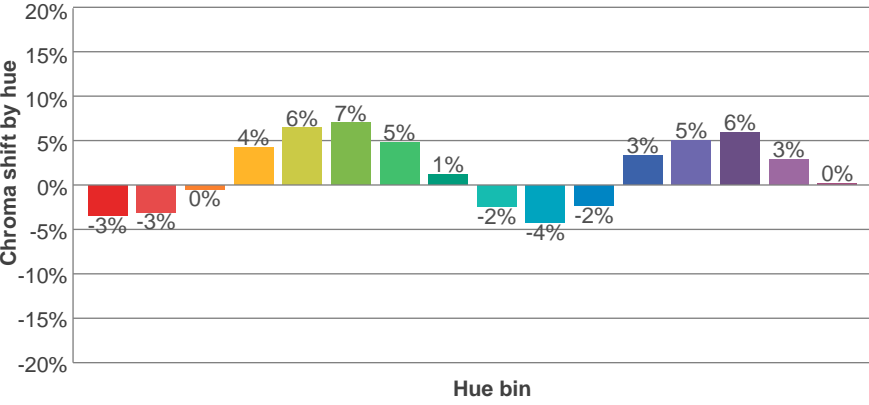
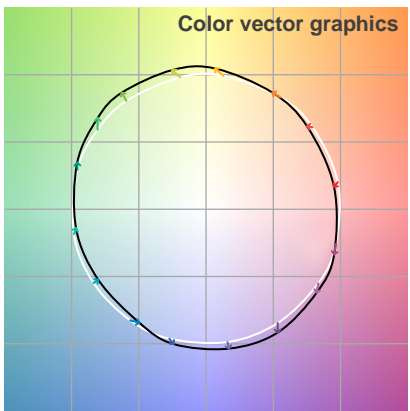
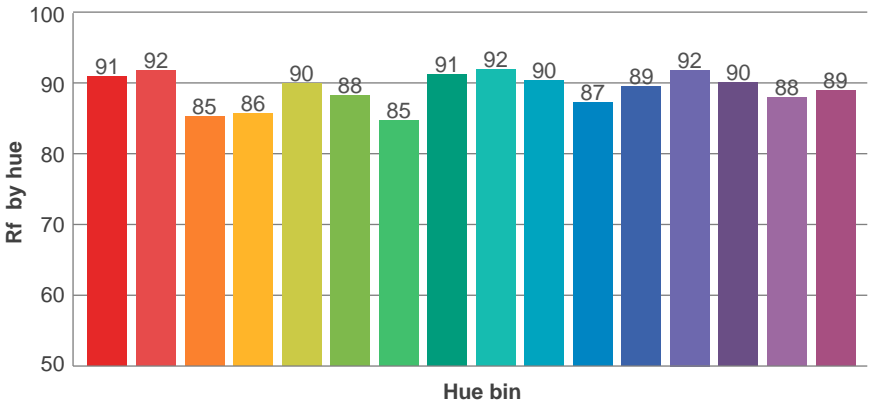
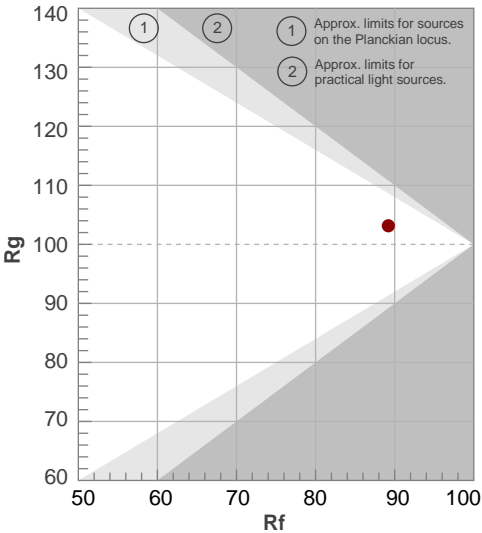
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color diviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3106 K	92.4	69.3	89.2	103.1	90.2	0.429	0.399	0.247	0.346	0.0007

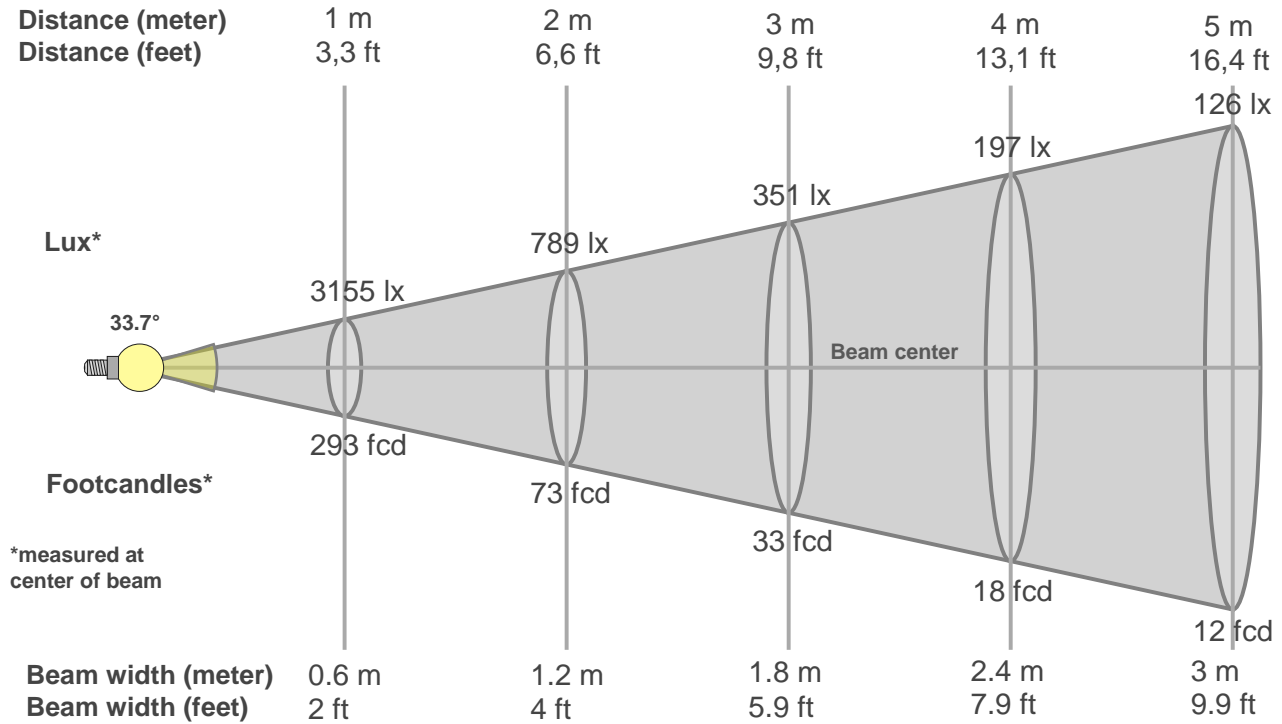
TM30 details

Rf 89.2
Fidelity index Rf

Rg 103.1
Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	91	-3%	-3%
2	92	-3%	3%
3	85	0%	7%
4	86	4%	7%
5	90	6%	5%
6	88	7%	0%
7	85	5%	-7%
8	91	1%	-5%
9	92	-2%	-4%
10	90	-4%	0%
11	87	-2%	7%
12	89	3%	4%
13	92	5%	0%
14	90	6%	-4%
15	88	3%	-6%
16	89	0%	-8%





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
3155lx	789lx	351lx	197lx	126lx	88lx	64lx	49lx	39lx	32lx	26lx	22lx	19lx	16lx	14lx	12lx	11lx	10lx	9lx	8lx
293.1fc	73.3fcd	32.6fcd	18.3fcd	11.7fcd	8.1fcd	6fcd	4.6fcd	3.6fcd	2.9fcd	2.4fcd	2fcd	1.7fcd	1.5fcd	1.3fcd	1.1fcd	1fcd	0.9fcd	0.8fcd	0.7fcd

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°
3155	3124	3062	2952	2783	2556	2283	1977	1634	1216	777	404	225	136	80	46	28	20	16	13
100%	99%	97%	94%	88%	81%	72%	63%	52%	39%	25%	13%	7%	4%	3%	1%	1%	1%	1%	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°
3155	3150	3091	2976	2806	2573	2298	1983	1640	1242	795	415	229	140	82	47	27	20	15	12
100%	100%	98%	94%	89%	82%	73%	63%	52%	39%	25%	13%	7%	4%	3%	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°
3155	3120	3060	2944	2776	2549	2279	1969	1634	1235	784	412	224	138	80	43	25	19	15	12
100%	99%	97%	93%	88%	81%	72%	62%	52%	39%	25%	13%	7%	4%	3%	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°
3155	3150	3088	2976	2804	2579	2310	1993	1638	1232	784	407	223	134	78	43	26	20	16	12
100%	100%	98%	94%	89%	82%	73%	63%	52%	39%	25%	13%	7%	4%	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
33.7°	48.5°	56.2°	1.0%	1.0%

