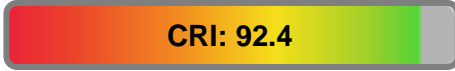


Light efficiency:



Light quality:



Color temperature:

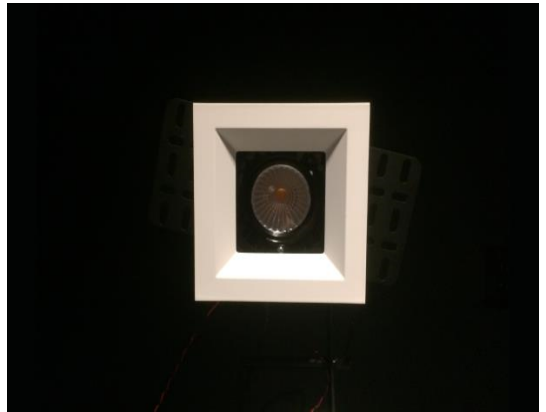


Output: 1461 lm

Peak: 3203 cd

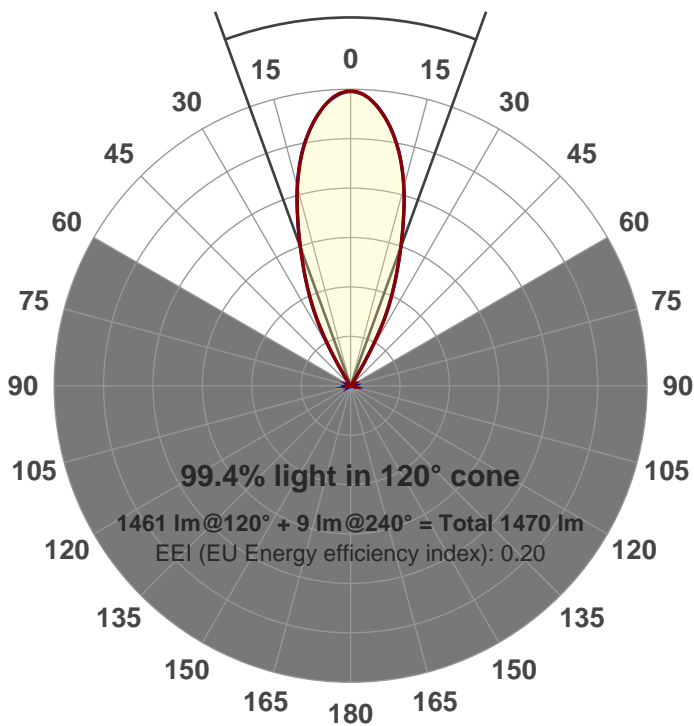
Power: 21.2 W

PF: 0.99



Beam angle

39.8°



Product name:

GRO-CZ20-FL-SQ

Item number:

GRO-CZ20-FL-SQ

Date and time:

3/31/2017 1:48:55 PM

Description:

LUM: 1461

PPF: 23.5

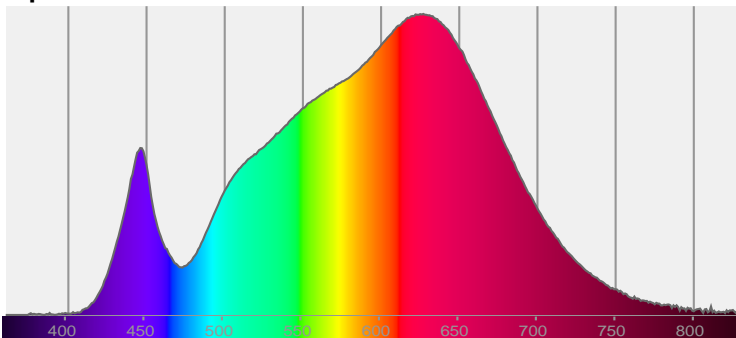


CIE 1931

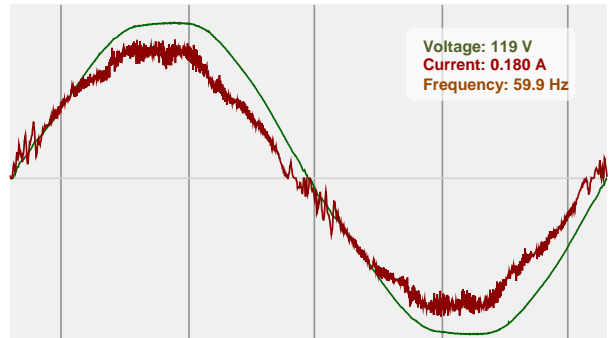
x: 0.429

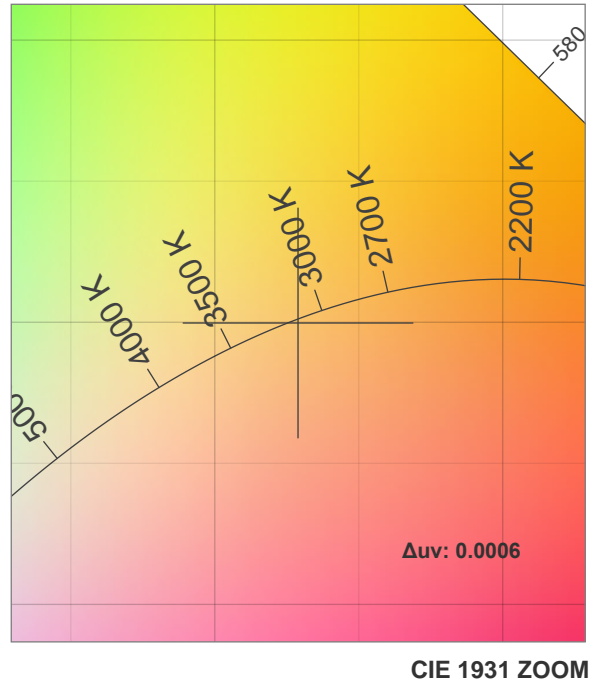
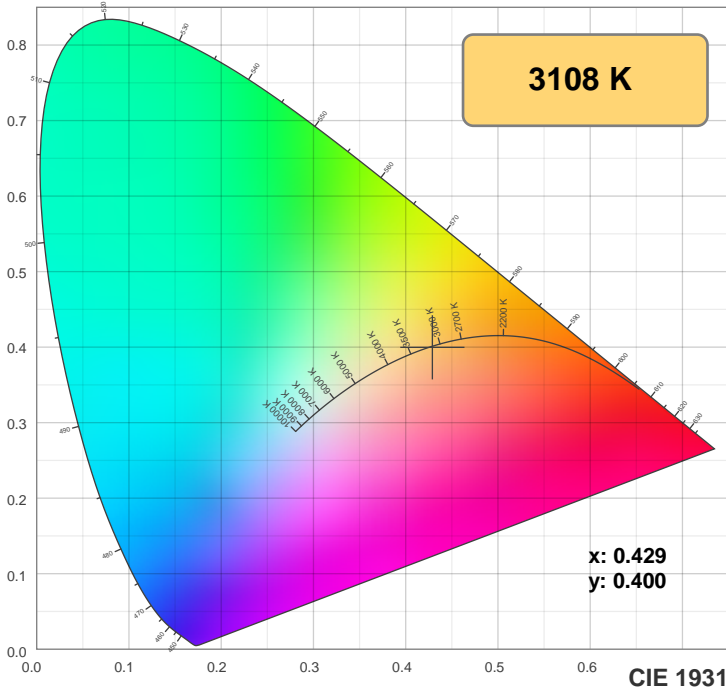
y: 0.400

Spectra



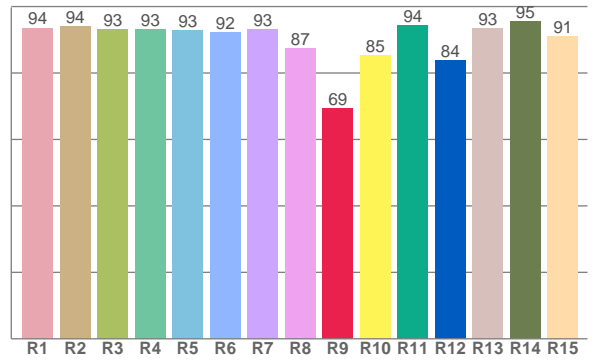
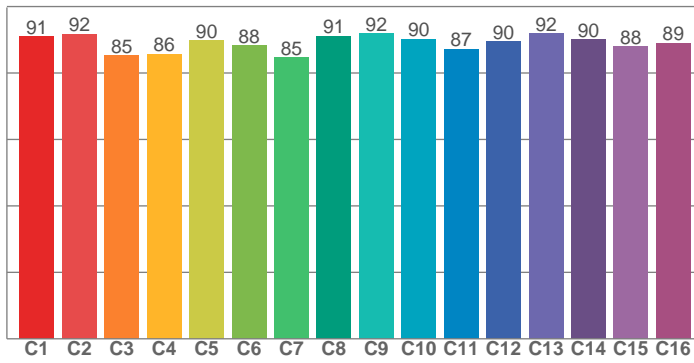
Power





TM30: 89.2

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
93.6	94.0	93.0	93.2	92.8	92.2	93.2	87.4	69.3	85.3	94.3	83.7	93.3	95.4	91.0

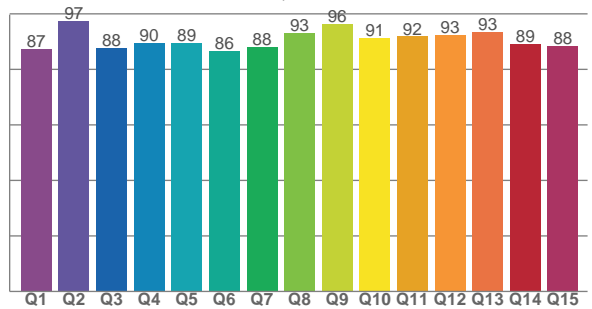
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90.9	91.8	85.3	85.7	89.9	88.2	84.7	91.2	91.9	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	88.0	93.1	96.5	91.4	91.9	92.5	93.3	89.2	88.4

CQS: 90.2



Color parameters

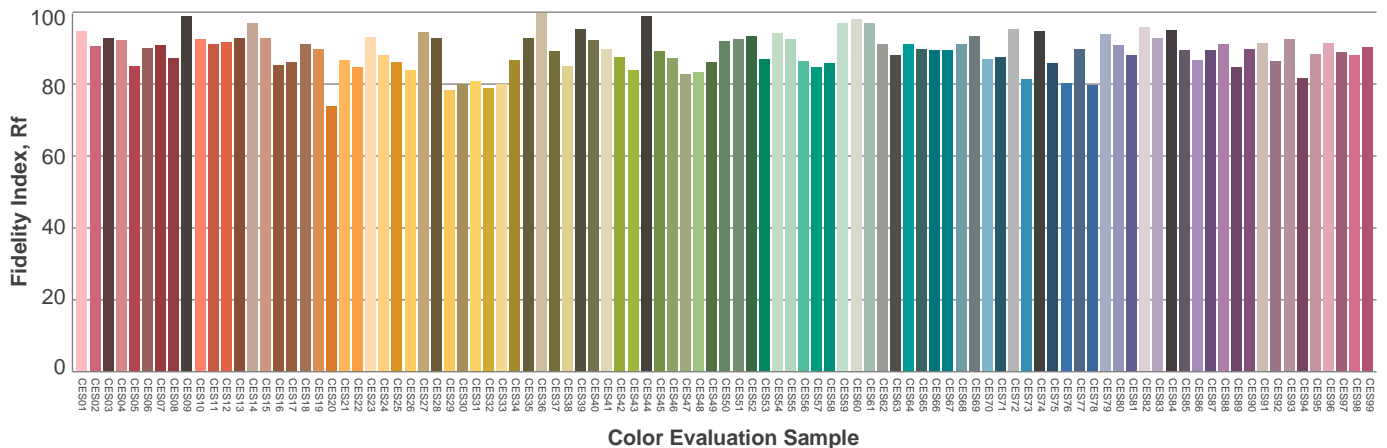
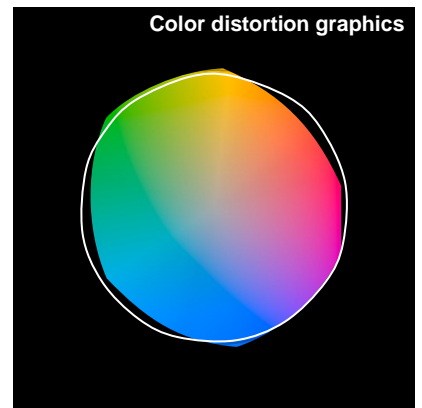
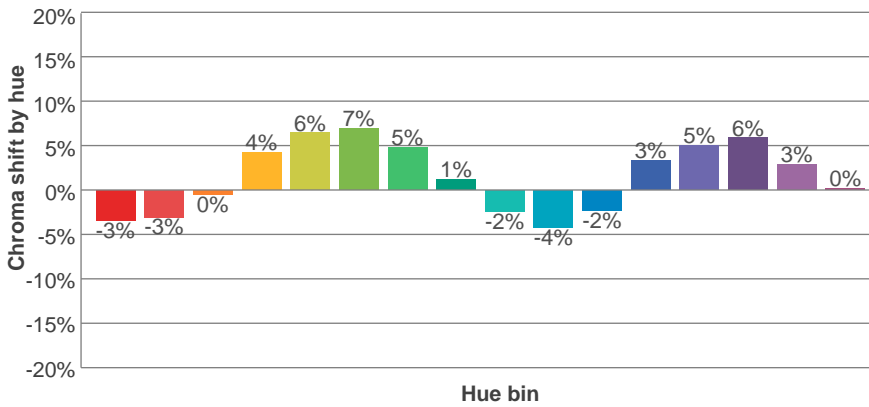
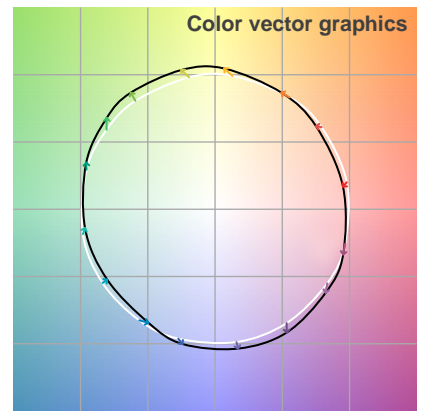
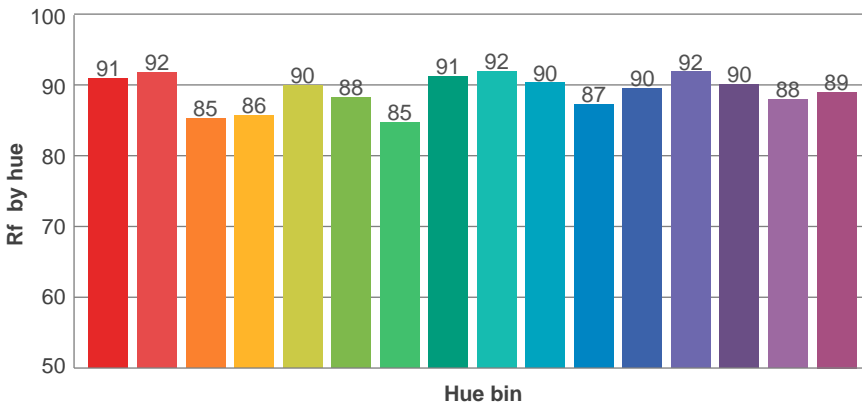
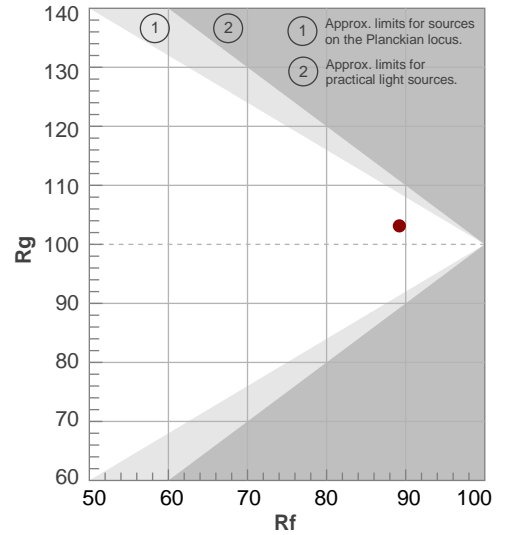
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3108 K	92.4	69.3	89.2	103.1	90.2	0.429	0.400	0.247	0.346	0.0006

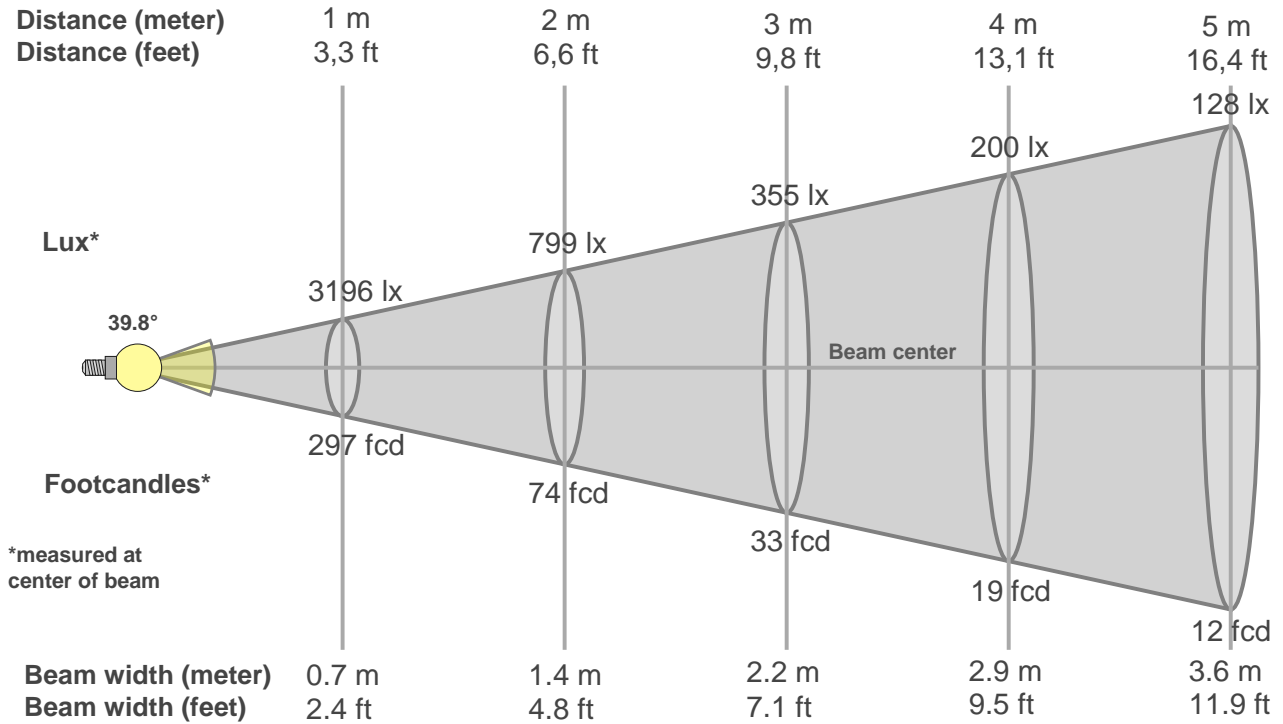
TM30 details

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%	6%
12	90	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
3196lx	799lx	355lx	200lx	128lx	89lx	65lx	50lx	39lx	32lx	26lx	22lx	19lx	16lx	14lx	12lx	11lx	10lx	9lx	8lx
296.9fc	74.2fcd	33fcd	18.6fcd	11.9fcd	8.2fcd	6.1fcd	4.6fcd	3.7fcd	3fcd	2.5fcd	2.1fcd	1.8fcd	1.5fcd	1.3fcd	1.2fcd	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°
3196	3183	3120	3021	2896	2740	2560	2347	2106	1846	1590	1355	1128	900	628	338	113	52	40	33
100%	100%	98%	95%	91%	86%	80%	73%	66%	58%	50%	42%	35%	28%	20%	11%	4%	2%	1%	1%

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°
3196	3175	3114	3019	2892	2743	2568	2358	2115	1853	1592	1353	1132	919	677	390	146	55	41	34
100%	99%	97%	94%	90%	86%	80%	74%	66%	58%	50%	42%	35%	29%	21%	12%	5%	2%	1%	1%

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°
3196	3183	3116	3017	2891	2739	2562	2352	2108	1846	1589	1350	1132	919	668	385	144	54	40	34
100%	100%	98%	94%	90%	86%	80%	74%	66%	58%	50%	42%	35%	29%	21%	12%	5%	2%	1%	1%

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°
3196	3177	3119	3022	2896	2743	2563	2351	2112	1848	1592	1352	1129	898	623	329	108	50	39	33
100%	99%	98%	95%	91%	86%	80%	74%	66%	58%	50%	42%	35%	28%	19%	10%	3%	2%	1%	1%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
39.8°	62.9°	70.2°	1.0%	1.0%

