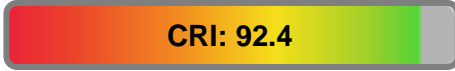


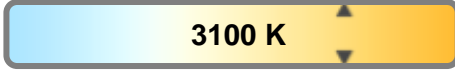
Light efficiency:



Light quality:



Color temperature:

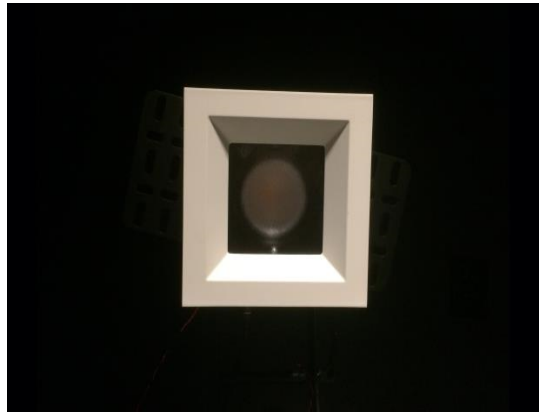


Output: 1366 lm

Peak: 2800 cd

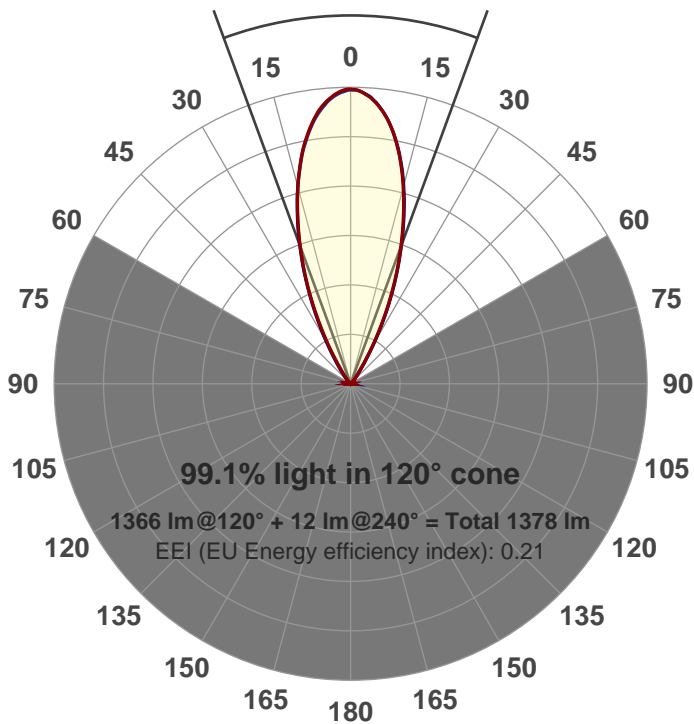
Power: 21.1 W

PF: 0.99



Beam angle

40.3°



Product name:

GRO-CZ20-FL-SQ-91A

Item number:

GRO-CZ20-FL-SQ-91A

Date and time:

3/31/2017 2:01:43 PM

Description:

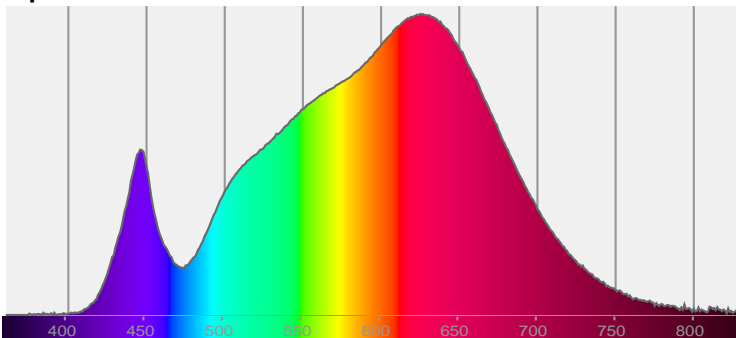
LUM: 1366

PPF: 22.0

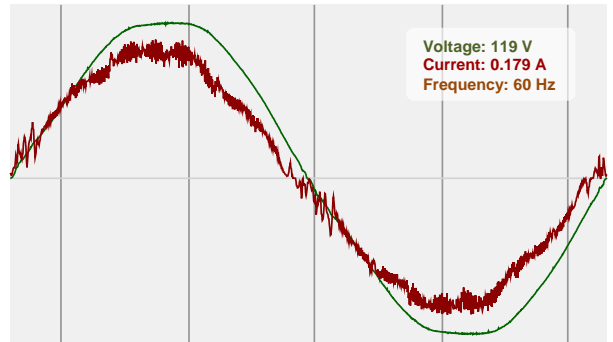


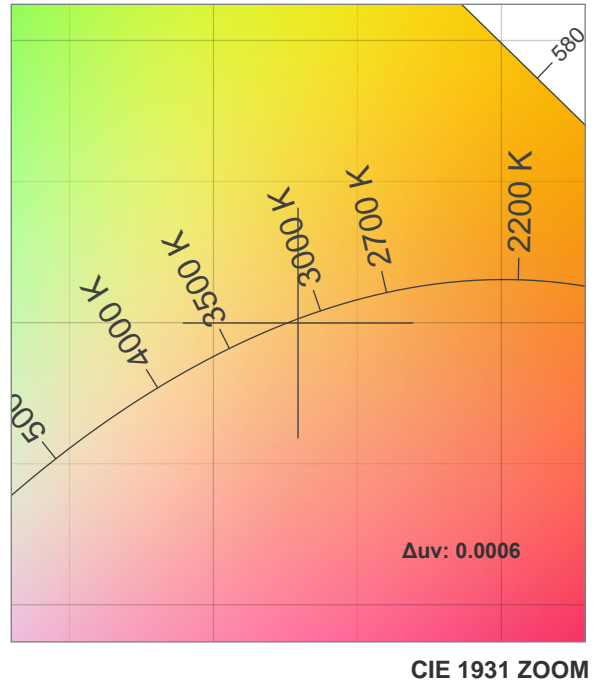
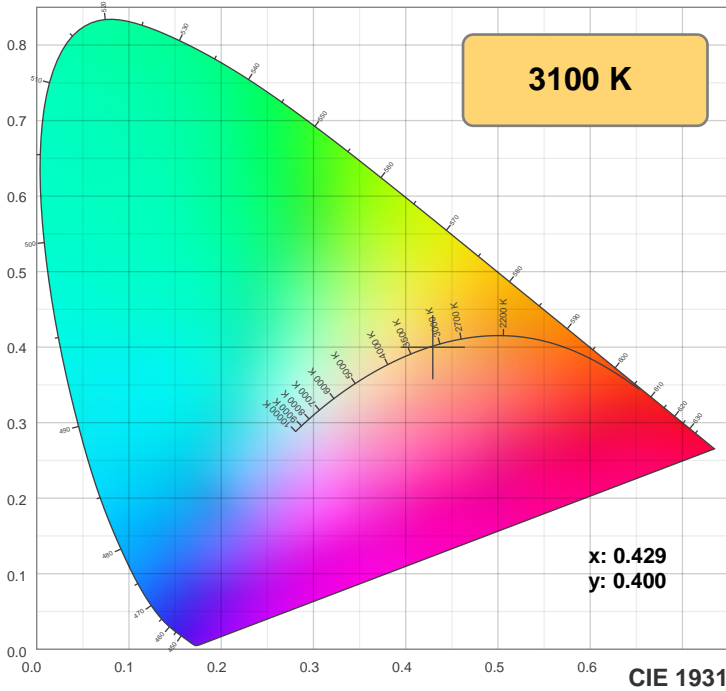
CIE 1931
x: 0.429
y: 0.400

Spectra



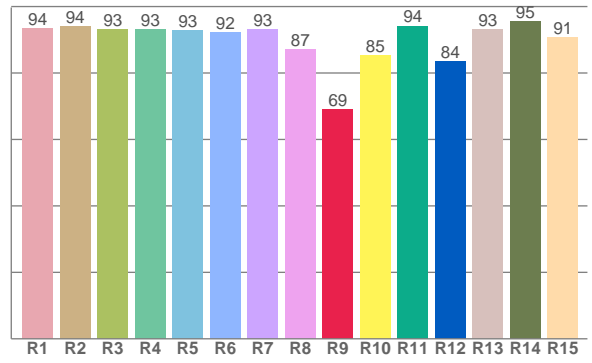
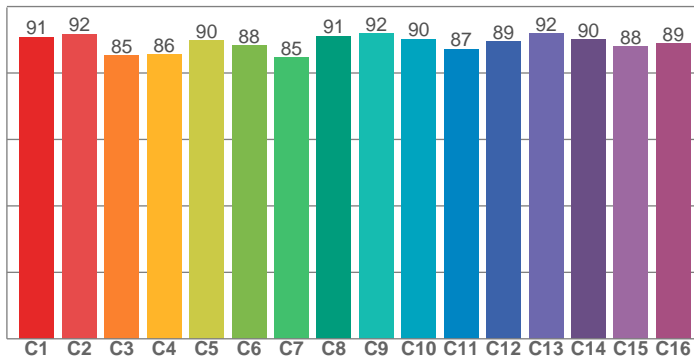
Power





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
93.5	94.0	93.1	93.1	92.7	92.2	93.2	87.2	69.0	85.3	94.2	83.6	93.3	95.4	90.8

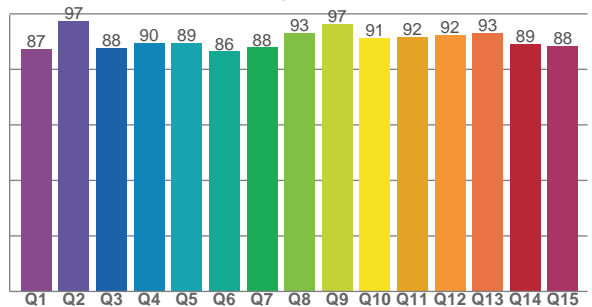
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90.8	91.7	85.2	85.7	89.9	88.2	84.7	91.2	91.9	90.3	87.2	89.5	91.8	90.0	87.9	88.9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
87.4	97.3	87.7	89.5	89.5	86.4	87.9	93.0	96.5	91.4	91.8	92.4	93.3	89.1	88.3

CQS: 90.1



Color parameters

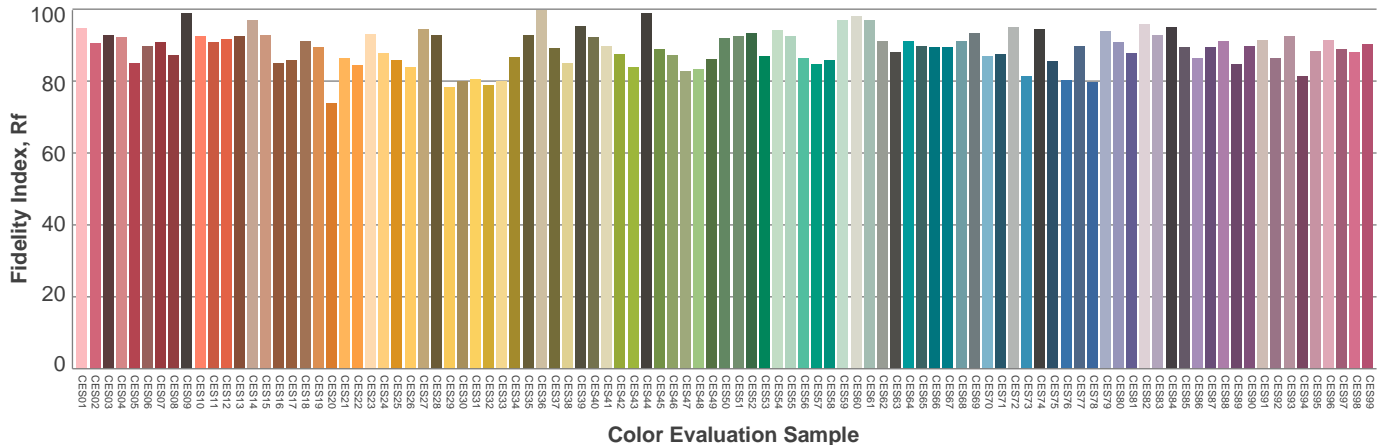
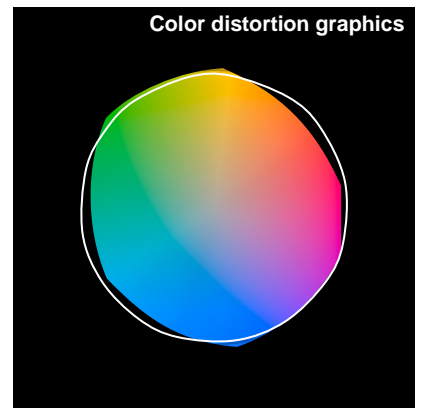
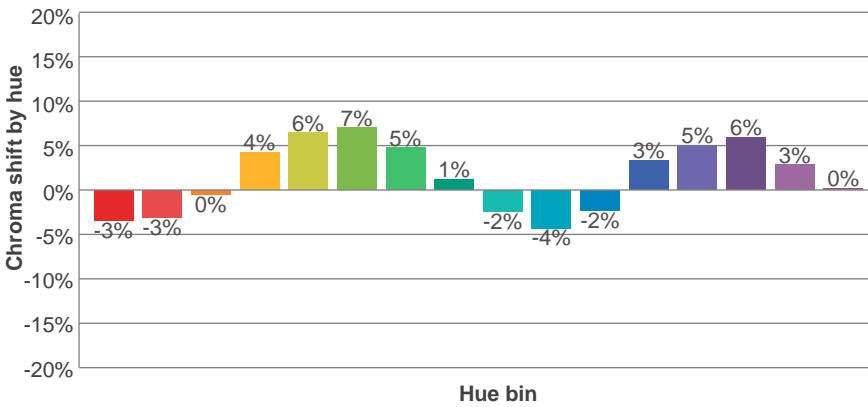
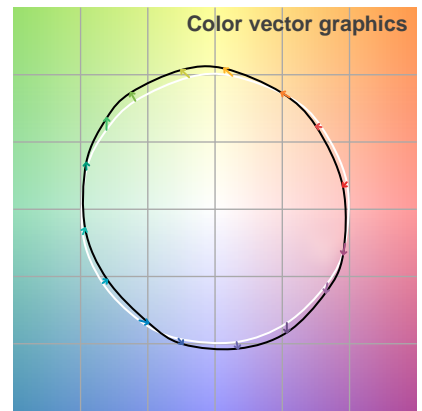
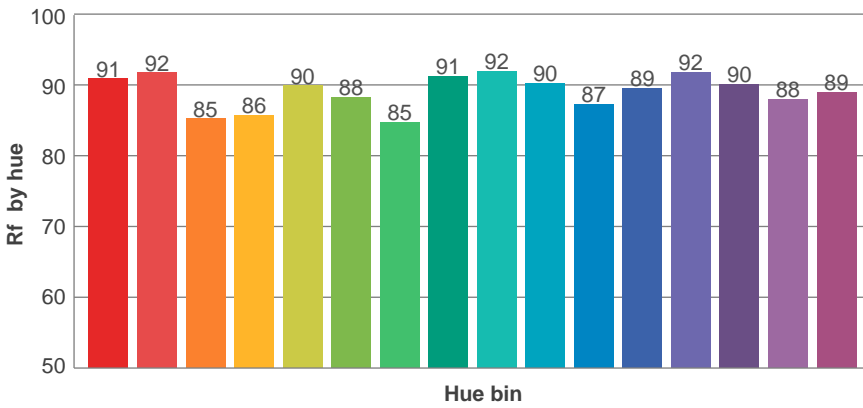
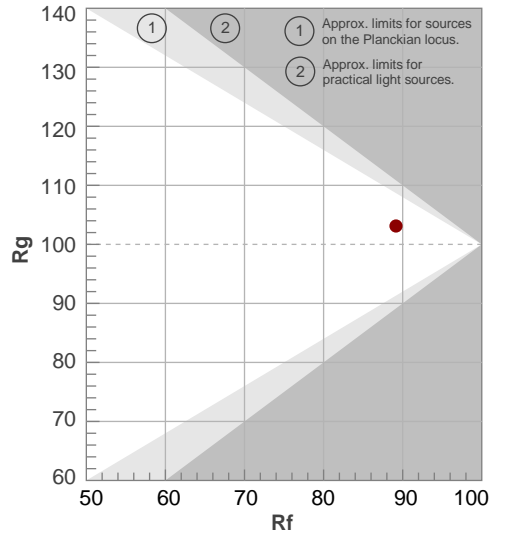
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3100 K	92.4	69.0	89.2	103.1	90.1	0.429	0.400	0.247	0.346	0.0006

TM30 details

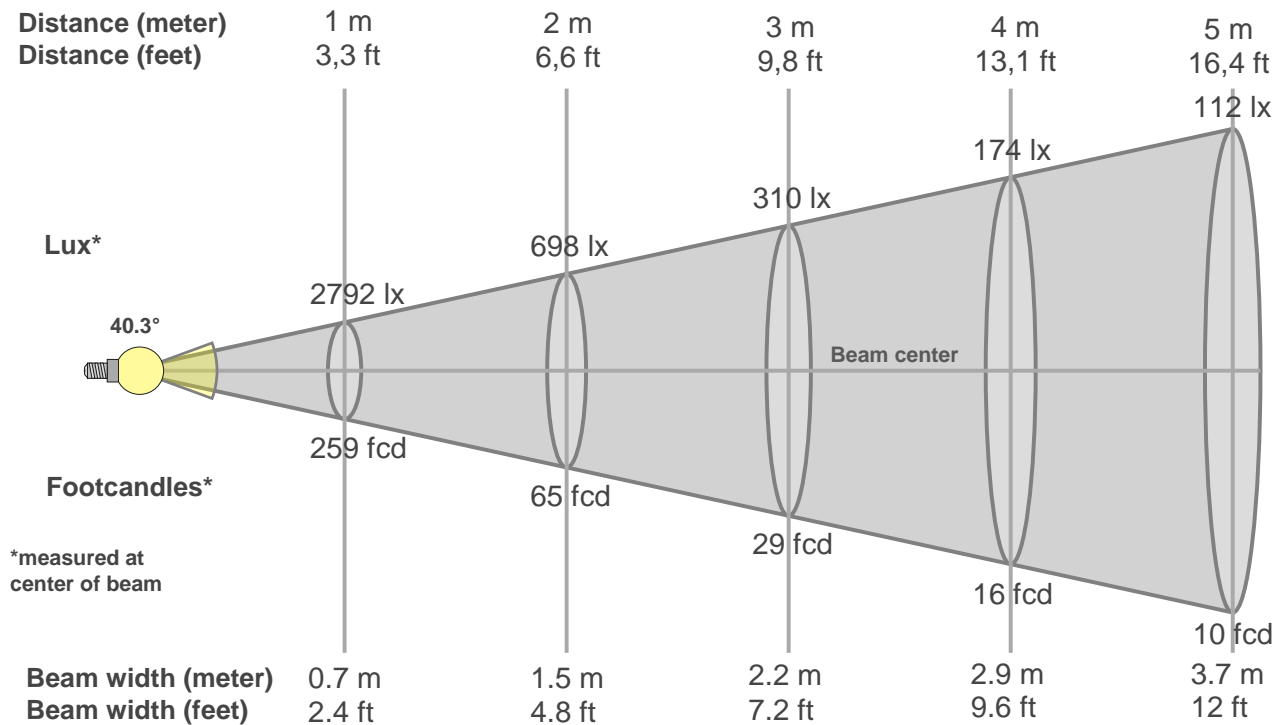
Rf 89.2
Fidelity index Rf

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%	7%
12	89	3%	4%
13	92	5%	0%
14	90	6%	-4%
15	88	3%	-6%
16	89	0%	-8%



Beam details



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
2792lx	698lx	310lx	174lx	112lx	78lx	57lx	44lx	34lx	28lx	23lx	19lx	17lx	14lx	12lx	11lx	10lx	9lx	8lx	7lx
259.4fcd	64.8fcd	28.8fcd	16.2fcd	10.4fcd	7.2fcd	5.3fcd	4.1fcd	3.2fcd	2.6fcd	2.1fcd	1.8fcd	1.5fcd	1.3fcd	1.2fcd	1fcd	0.9fcd	0.8fcd	0.7fcd	0.6fcd

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°
2792	2779	2723	2644	2530	2388	2226	2033	1832	1618	1405	1194	981	775	578	408	269	175	114	76
100%	100%	98%	95%	91%	86%	80%	73%	66%	58%	50%	43%	35%	28%	21%	15%	10%	6%	4%	3%

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°
2792	2767	2713	2628	2519	2379	2220	2034	1837	1629	1417	1208	998	800	618	460	326	227	160	114
100%	99%	97%	94%	90%	85%	80%	73%	66%	58%	51%	43%	36%	29%	22%	16%	12%	8%	6%	4%

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°
2792	2778	2725	2641	2534	2394	2225	2034	1829	1617	1405	1195	984	783	592	425	284	186	122	83
100%	100%	98%	95%	91%	86%	80%	73%	66%	58%	50%	43%	35%	28%	21%	15%	10%	7%	4%	3%

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°
2792	2777	2729	2643	2534	2391	2229	2046	1844	1632	1417	1205	1000	798	609	441	299	202	138	96
100%	99%	98%	95%	91%	86%	80%	73%	66%	58%	51%	43%	36%	29%	22%	16%	11%	7%	5%	3%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
40.3°	66.1°	81.6°	1.0%	1.0%

