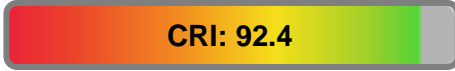


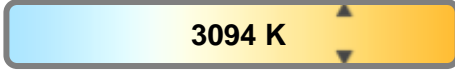
Light efficiency:



Light quality:



Color temperature:

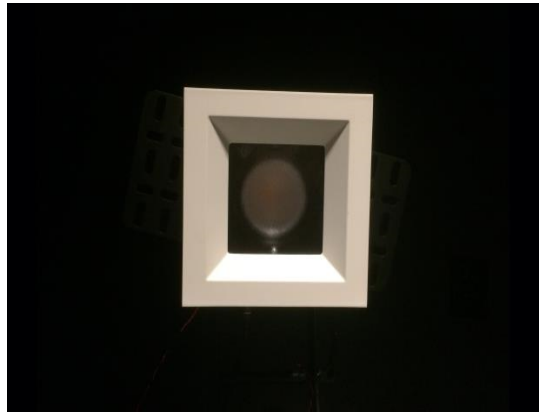


Output: 1356 lm

Peak: 4388 cd

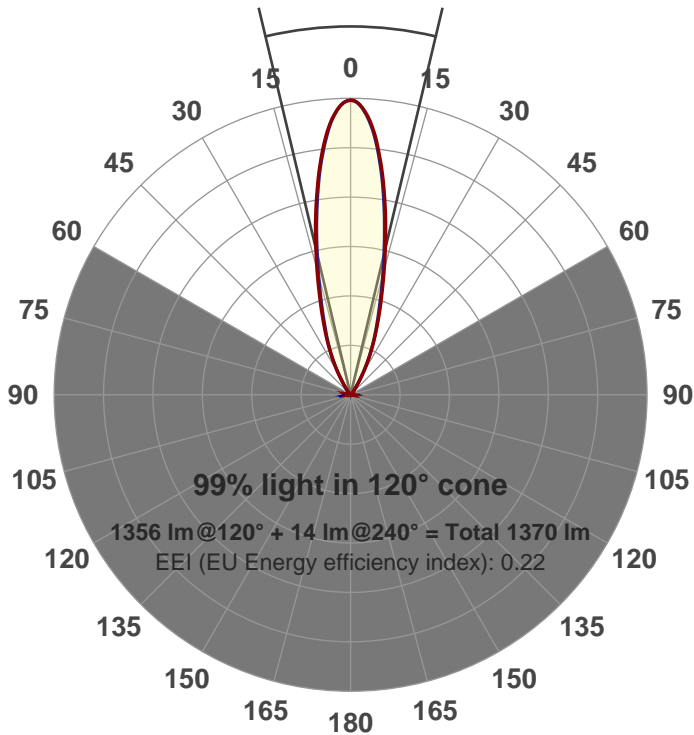
Power: 21.3 W

PF: 0.99



Beam angle

26.7°



Product name:

GRO-CZ20-NF-SQ-91A

Item number:

GRO-CZ20-NF-SQ-91A

Date and time:

3/31/2017 1:38:37 PM

Description:

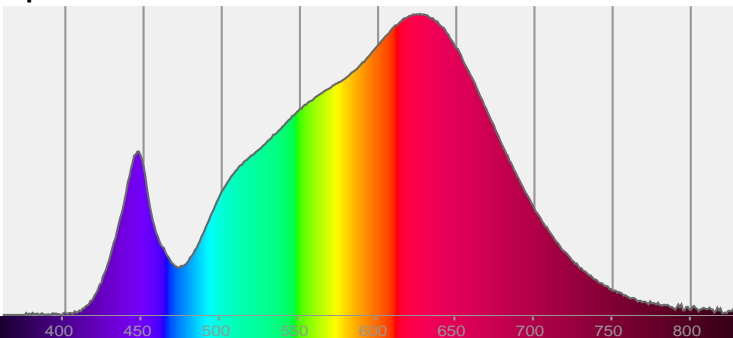
LUM: 1356

PPF: 21.9

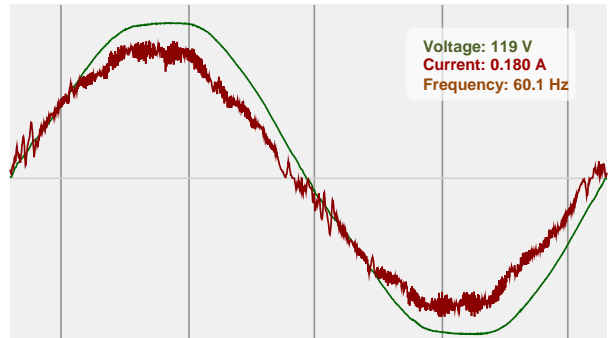


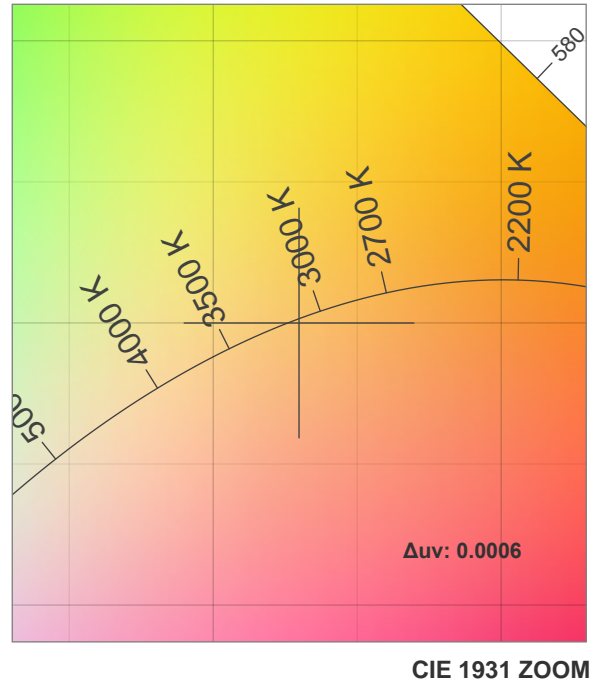
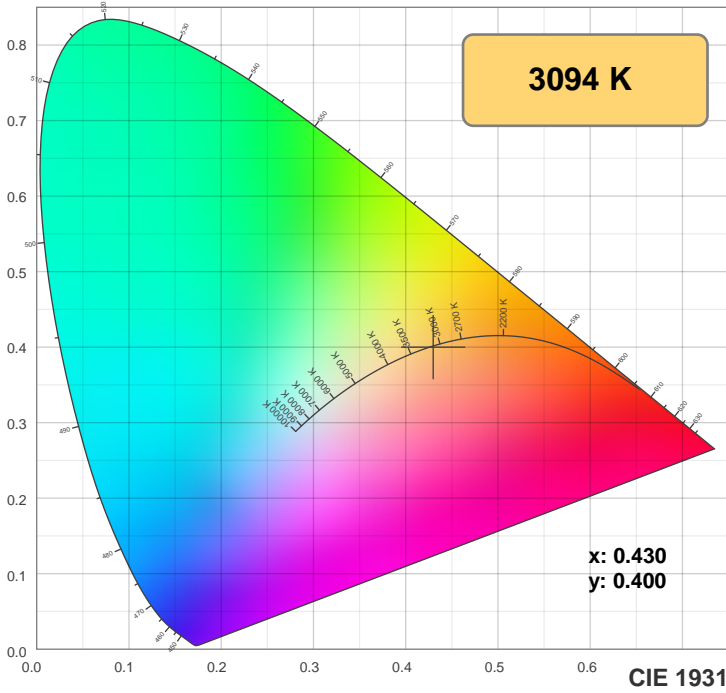
CIE 1931
x: 0.430
y: 0.400

Spectra



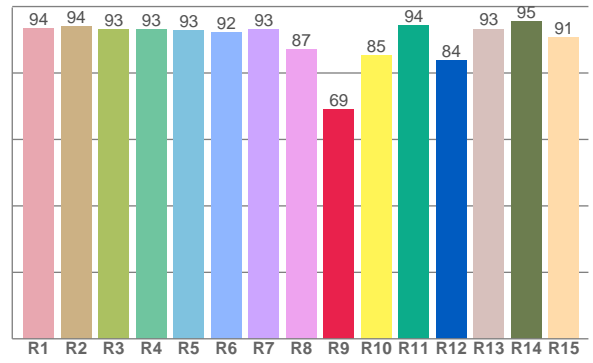
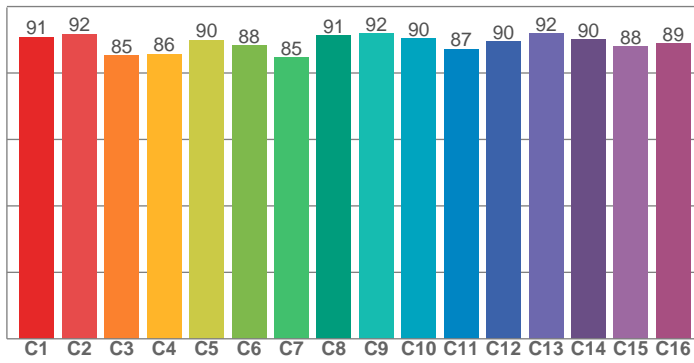
Power





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	92.8	92.2	93.2	87.2	68.9	85.4	94.2	83.7	93.3	95.5	90.9

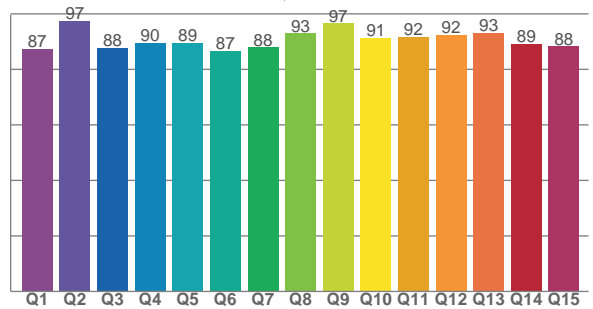
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90.9	91.7	85.2	85.7	89.9	88.3	84.8	91.2	92.0	90.3	87.3	89.5	91.8	90.1	87.9	89.0

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
87.4	97.3	87.8	89.6	89.5	86.5	87.9	92.9	96.5	91.4	91.8	92.4	93.2	89.1	88.3

CQS: 90.2



Color parameters

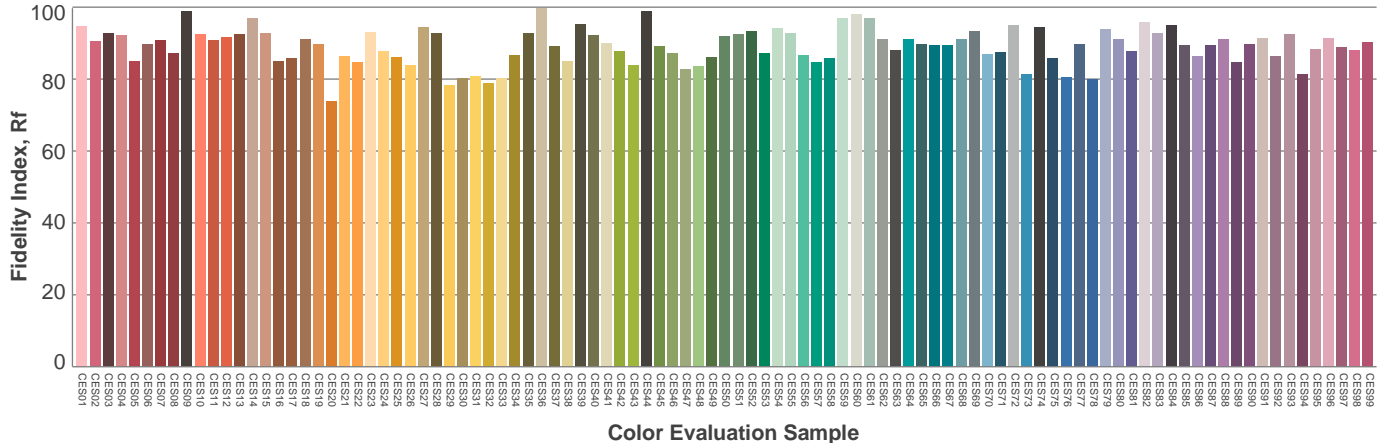
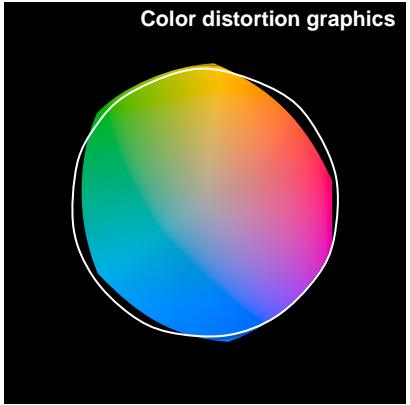
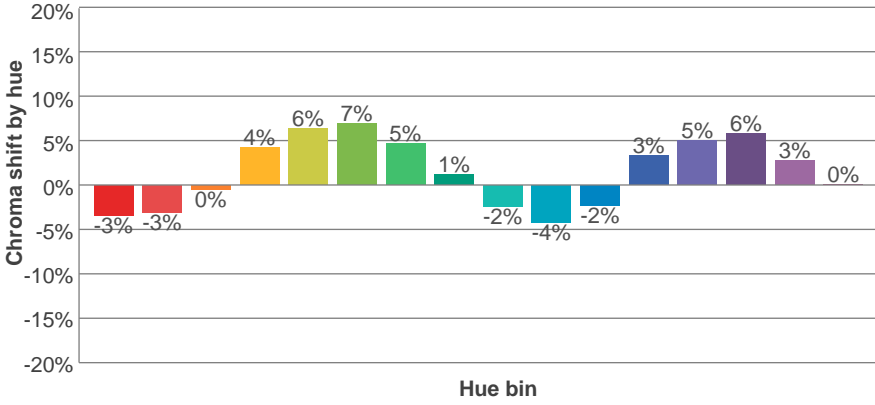
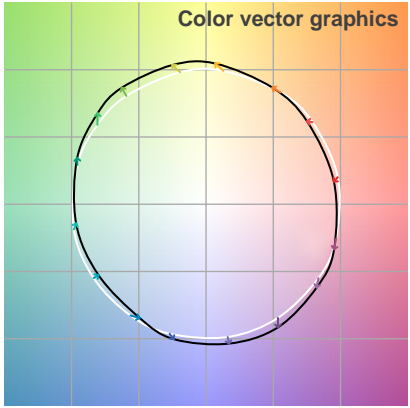
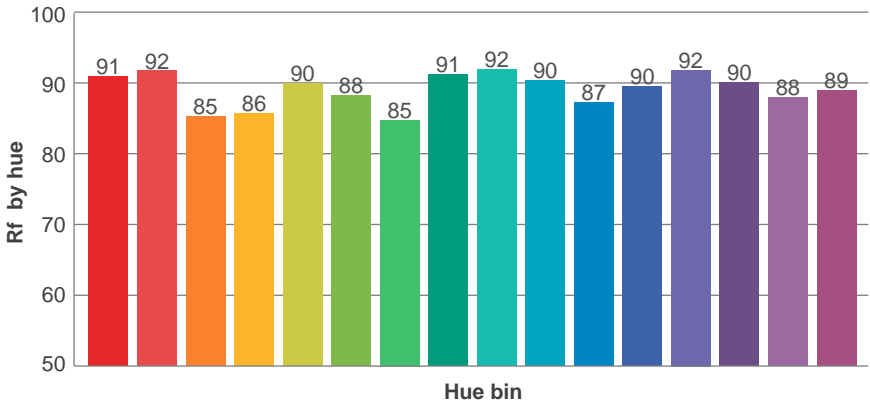
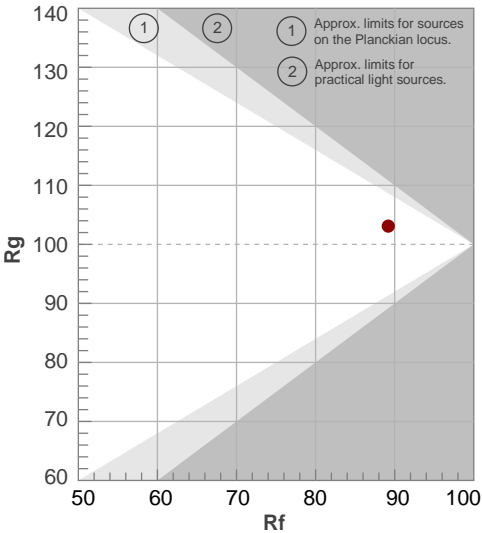
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3094 K	92.4	68.9	89.2	103.1	90.2	0.430	0.400	0.248	0.346	0.0006

TM30 details

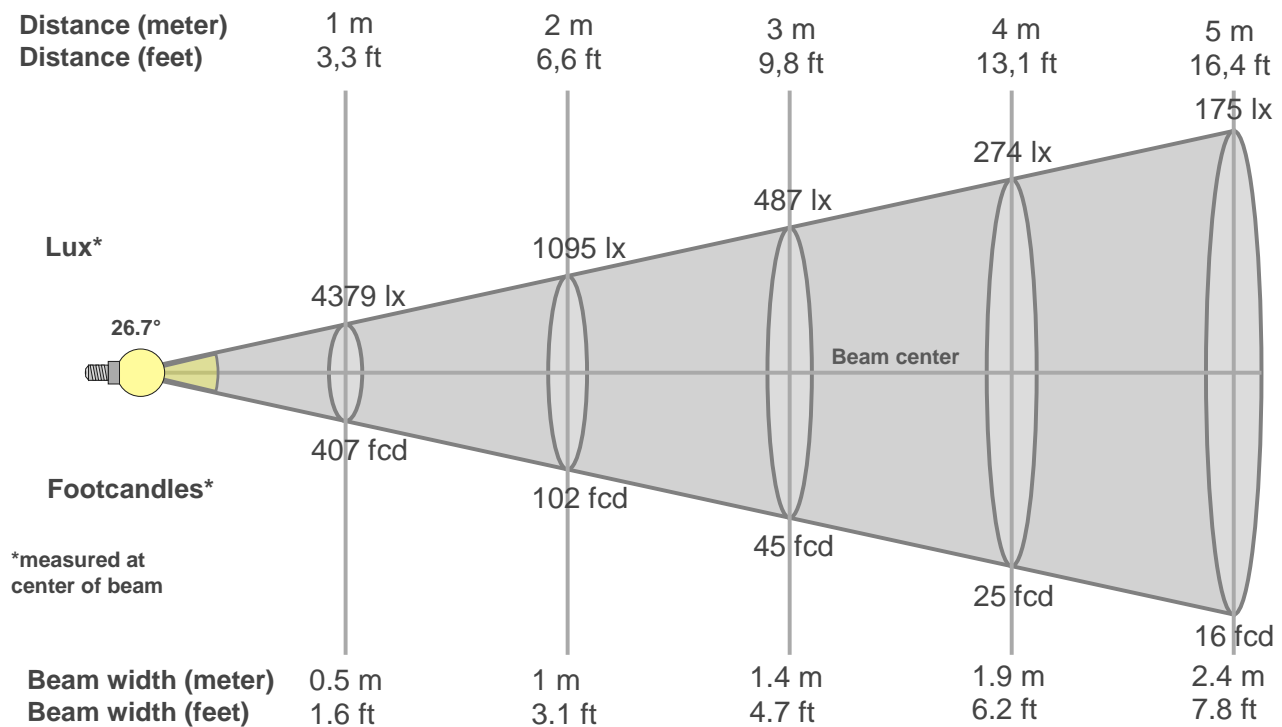
Rf 89.2
Fidelity index Rf

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	90	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
4379lx	1095lx	487lx	274lx	175lx	122lx	89lx	68lx	54lx	44lx	36lx	30lx	26lx	22lx	19lx	17lx	15lx	14lx	12lx	11lx
406.9fc	101.7fc	45.2fcd	25.4fcd	16.3fcd	11.3fcd	8.3fcd	6.4fcd	5fcd	4.1fcd	3.4fcd	2.8fcd	2.4fcd	2.1fcd	1.8fcd	1.6fcd	1.4fcd	1.3fcd	1.1fcd	1fcd

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°
4379	4311	4099	3770	3368	2936	2517	2113	1766	1464	1216	1006	822	655	503	367	250	168	114	79
100%	98%	94%	86%	77%	67%	57%	48%	40%	33%	28%	23%	19%	15%	11%	8%	6%	4%	3%	2%

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°
4379	4306	4082	3733	3325	2874	2435	2028	1677	1388	1149	958	789	631	484	349	237	156	103	68
100%	98%	93%	85%	76%	66%	56%	46%	38%	32%	26%	22%	18%	14%	11%	8%	5%	4%	2%	2%

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°
4379	4307	4096	3765	3365	2934	2512	2116	1765	1468	1219	1005	817	652	503	373	264	183	130	92
100%	98%	94%	86%	77%	67%	57%	48%	40%	34%	28%	23%	19%	15%	11%	9%	6%	4%	3%	2%

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°
4379	4300	4070	3730	3312	2864	2428	2033	1691	1400	1167	970	794	628	474	337	226	146	96	65
100%	98%	93%	85%	76%	65%	55%	46%	39%	32%	27%	22%	18%	14%	11%	8%	5%	3%	2%	1%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
26.7°	58.7°	74.7°	1.0%	1.0%

