

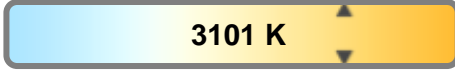
Light efficiency:



Light quality:



Color temperature:

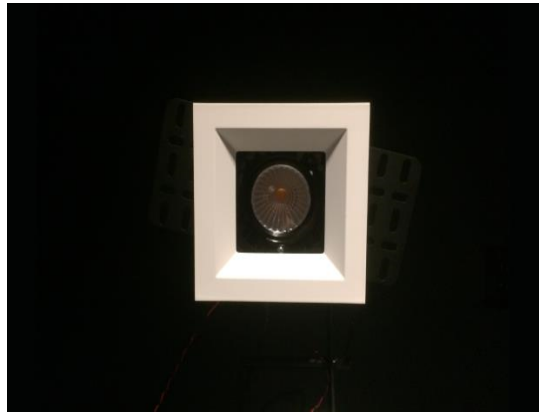


Output: 1454 lm

Peak: 5560 cd

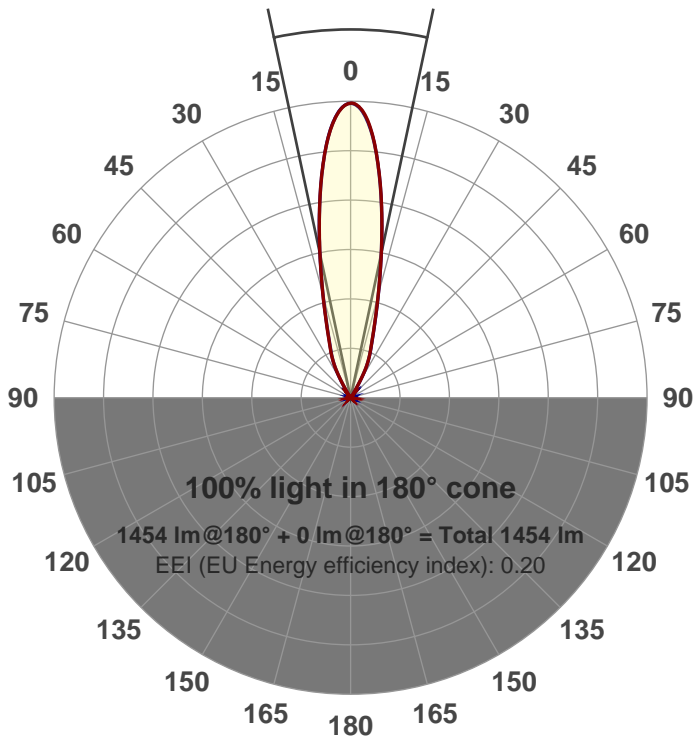
Power: 21.3 W

PF: 0.99



Beam angle

24°



Product name:

GRO-CZ20-NF-SQ

Item number:

GRO-CZ20-NF-SQ

Date and time:

3/31/2017 12:52:28 PM

Description:

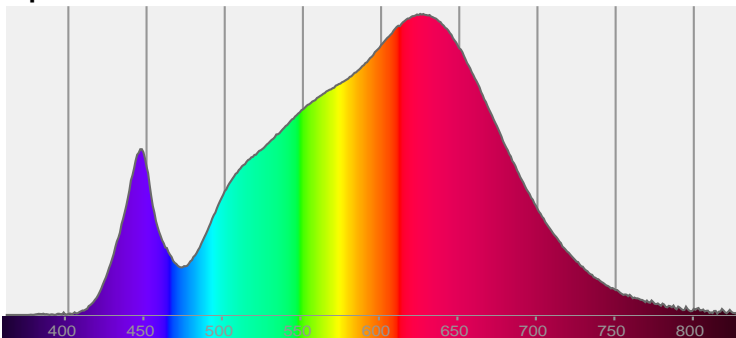
LUM: 1454

PPF: 23.4

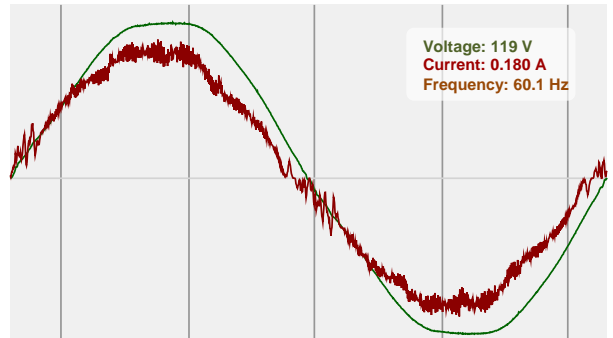


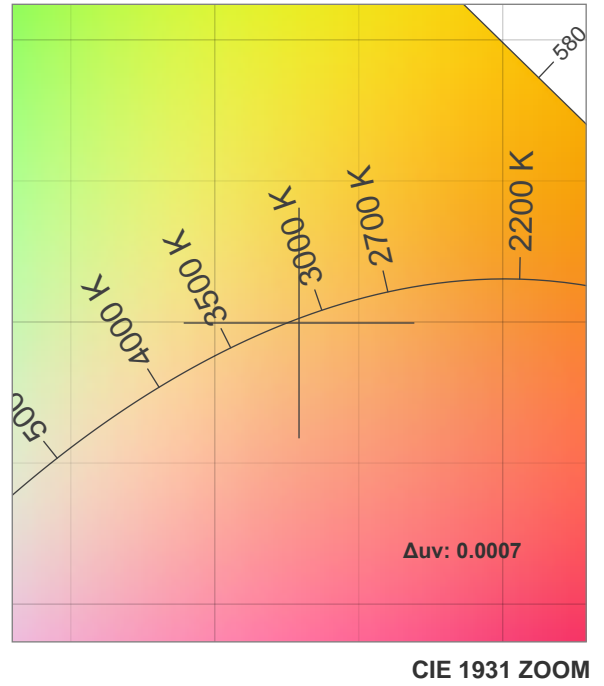
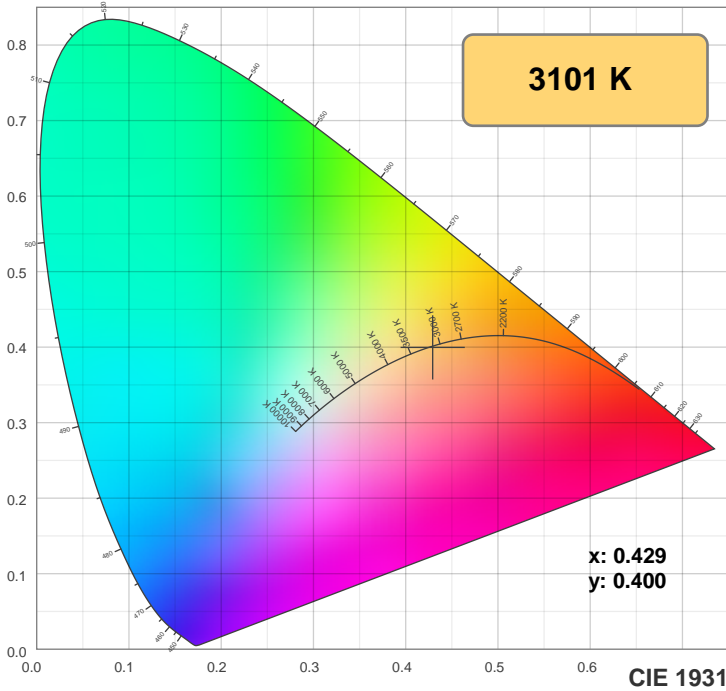
CIE 1931
x: 0.429
y: 0.400

Spectra



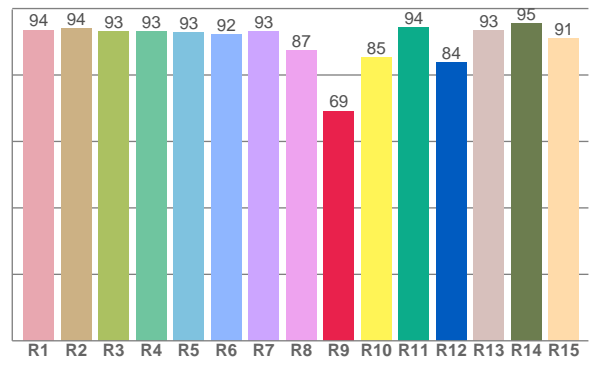
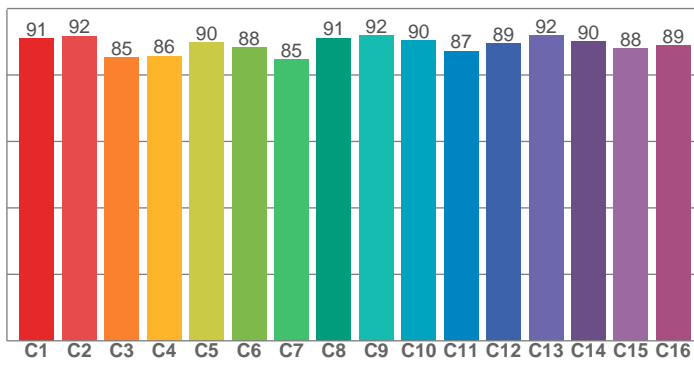
Power





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	93.1	93.1	92.8	92.3	93.2	87.3	69.2	85.4	94.2	83.8	93.3	95.5	91.0

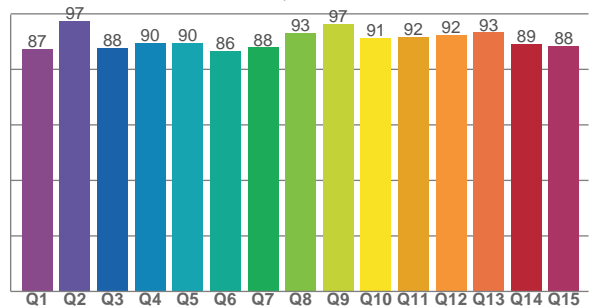
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90.9	91.7	85.2	85.7	89.9	88.2	84.7	91.2	91.9	90.3	87.2	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	87.7	89.6	89.5	86.5	87.9	93.0	96.5	91.4	91.8	92.4	93.3	89.2	88.3

CQS: 90.2



Color parameters

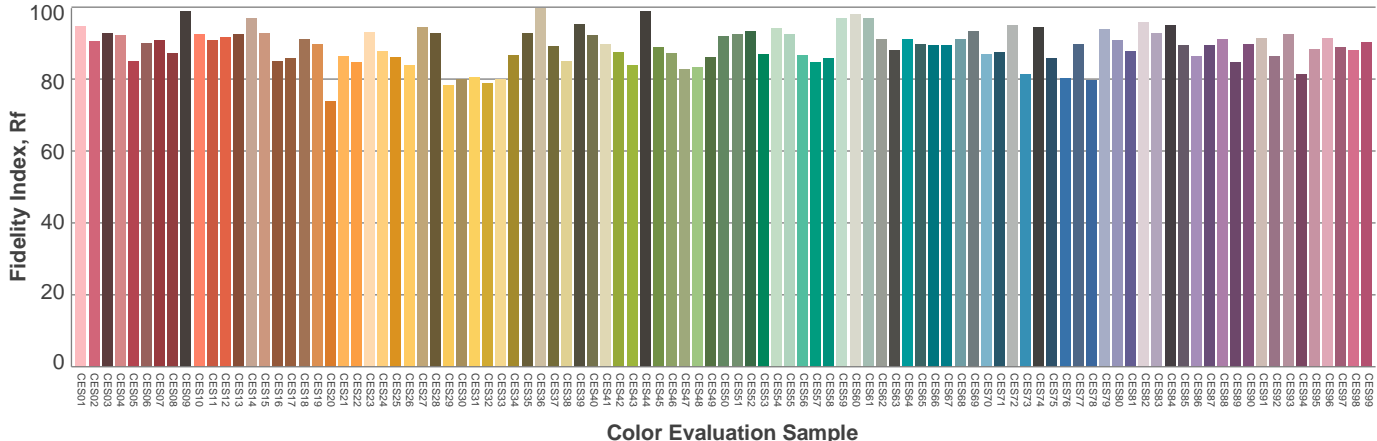
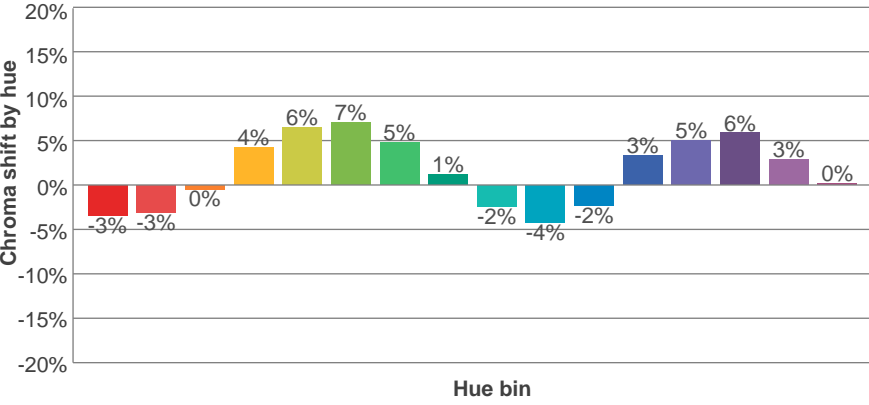
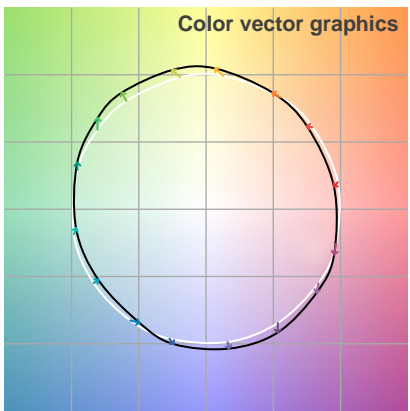
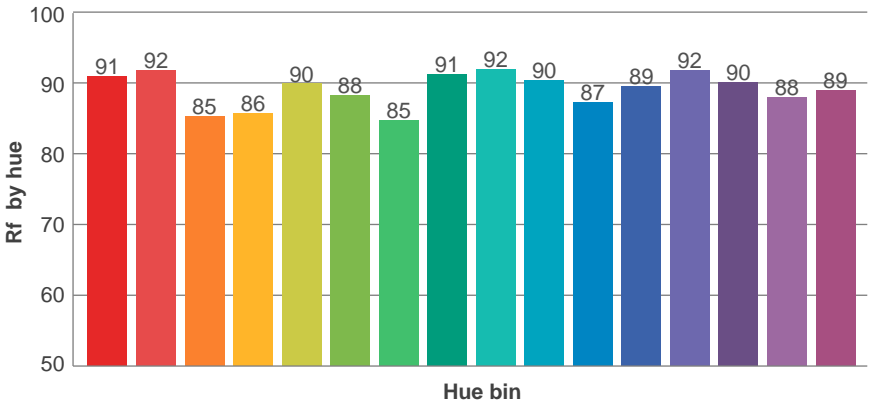
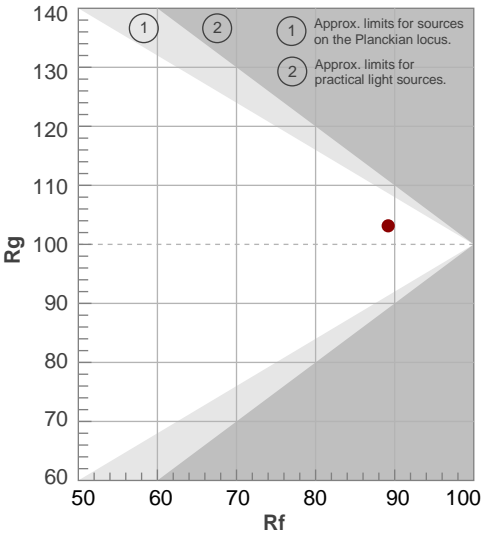
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3101 K	92.4	69.2	89.2	103.1	90.2	0.429	0.400	0.248	0.346	0.0007

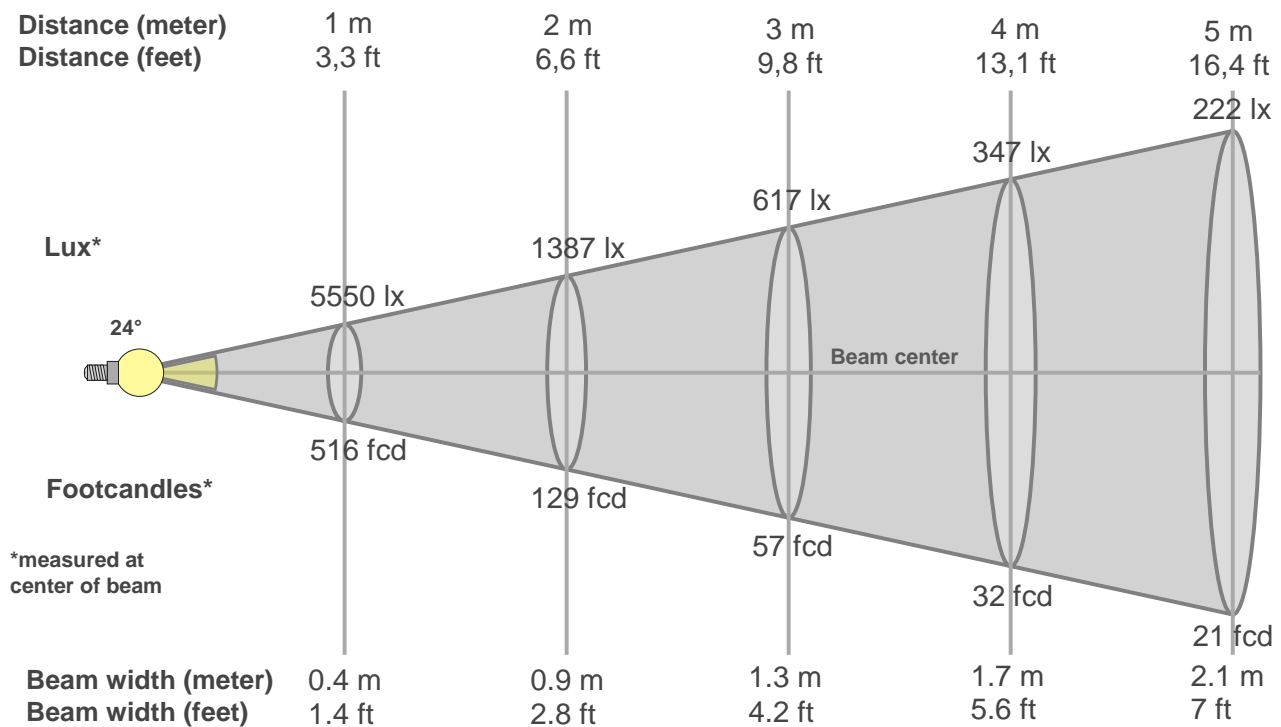
TM30 details

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
5550lx	1387lx	617lx	347lx	222lx	154lx	113lx	87lx	69lx	55lx	46lx	39lx	33lx	28lx	25lx	22lx	19lx	17lx	15lx	14lx
515.6fcd	128.9fcd	57.3fcd	32.2fcd	20.6fcd	14.3fcd	10.5fcd	8.1fcd	6.4fcd	5.2fcd	4.3fcd	3.6fcd	3.1fcd	2.6fcd	2.3fcd	2fcd	1.8fcd	1.6fcd	1.4fcd	1.3fcd

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°
5550	5441	5129	4649	4048	3398	2784	2246	1815	1474	1222	1036	888	728	528	291	98	43	34	27
100%	98%	92%	84%	73%	61%	50%	40%	33%	27%	22%	19%	16%	13%	10%	5%	2%	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°
5550	5447	5136	4646	4040	3399	2781	2242	1799	1457	1199	1014	871	719	531	294	101	44	34	27
100%	98%	93%	84%	73%	61%	50%	40%	32%	26%	22%	18%	16%	13%	10%	5%	2%	1%	1%	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°
5550	5460	5149	4644	4040	3399	2784	2247	1810	1469	1213	1028	881	731	542	303	109	45	34	27
100%	98%	93%	84%	73%	61%	50%	40%	33%	26%	22%	19%	16%	13%	10%	5%	2%	1%	1%	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°
5550	5448	5126	4636	4032	3391	2781	2248	1819	1476	1221	1032	884	729	534	293	98	43	33	27
100%	98%	92%	84%	73%	61%	50%	41%	33%	27%	22%	19%	16%	13%	10%	5%	2%	1%	1%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
24°	56.9°	67°	1.0%	1.0%

