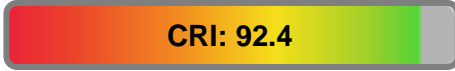


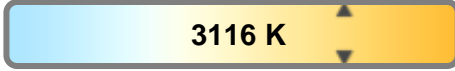
Light efficiency:



Light quality:



Color temperature:

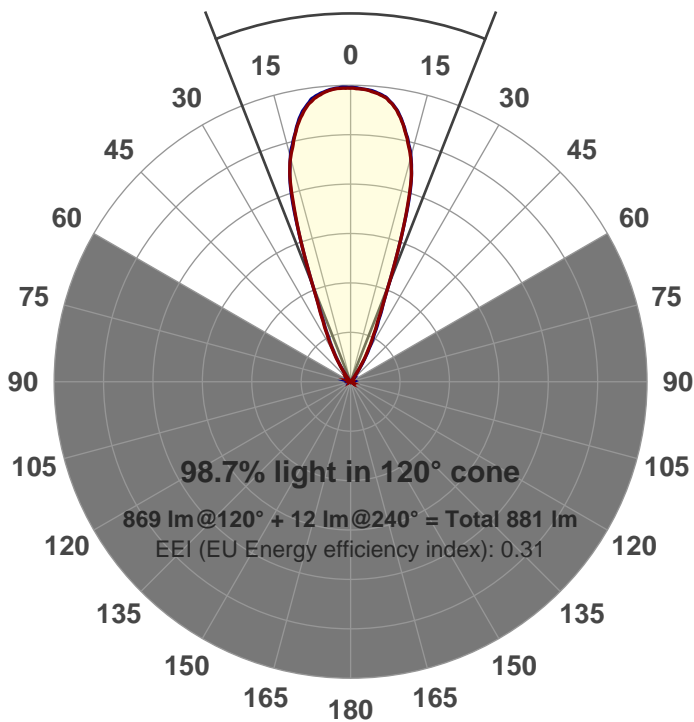


Output: 869 lm
Peak: 1812 cd
Power: 21.2 W
PF: 0.99



Beam angle

42.9°



Product name:
GRF-CZ20-WF-SQ
Item number:
GRF-CZ20-WF-SQ
Date and time:
3/31/2017 2:29:38 PM
Description:

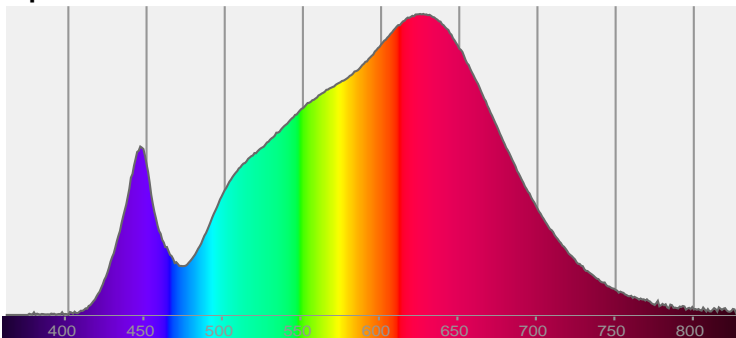
LUM: 869

PPF: 14.0

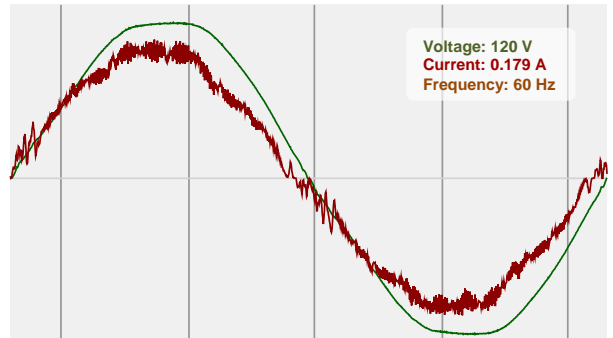


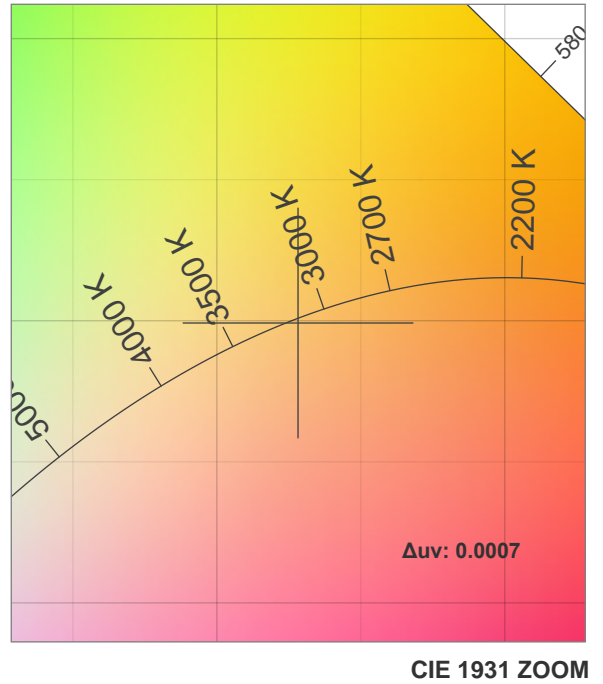
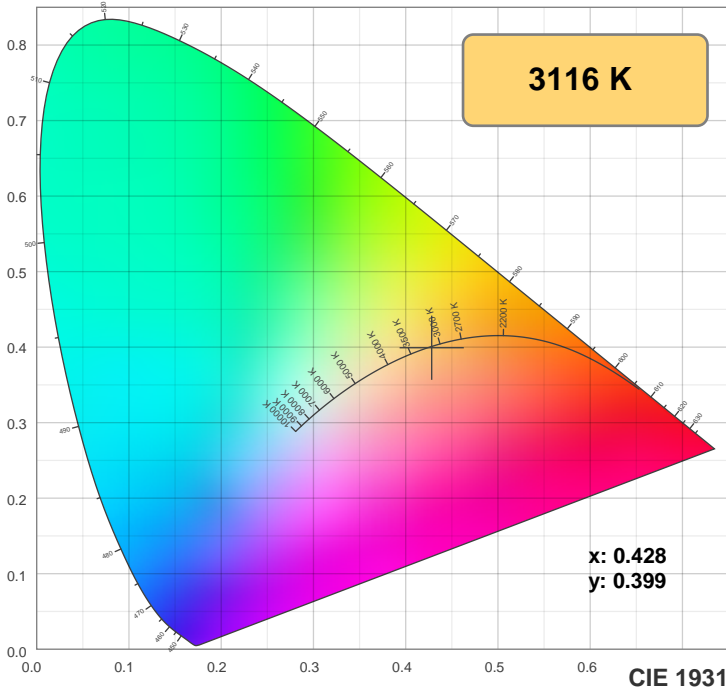
CIE 1931
x: 0.428
y: 0.399

Spectra



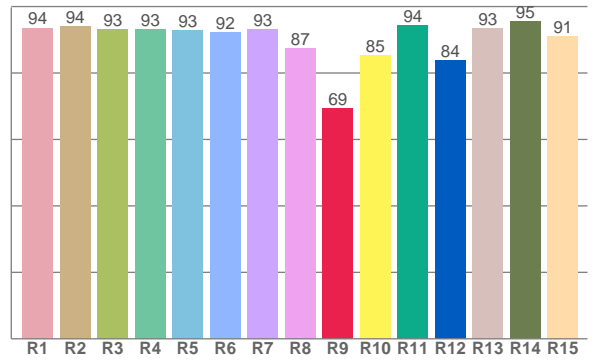
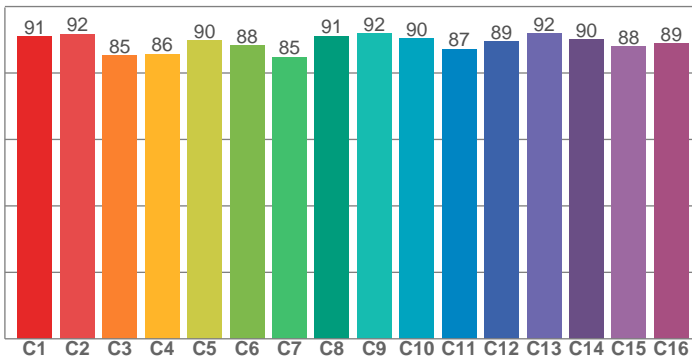
Power





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	92.2	93.2	87.4	69.2	85.4	94.2	83.8	93.3	95.5	91.0

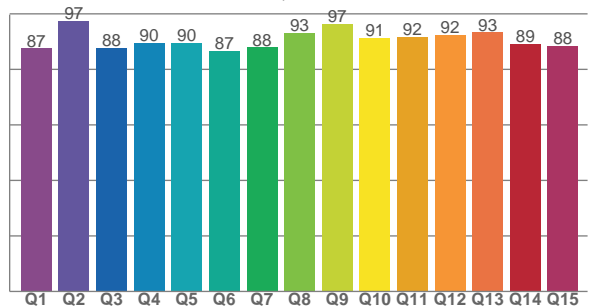
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90.9	91.8	85.2	85.7	89.9	88.2	84.8	91.2	92.0	90.3	87.2	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	87.7	89.6	89.6	86.5	87.9	93.0	96.5	91.4	91.8	92.4	93.3	89.2	88.4

CQS: 90.2



Color parameters

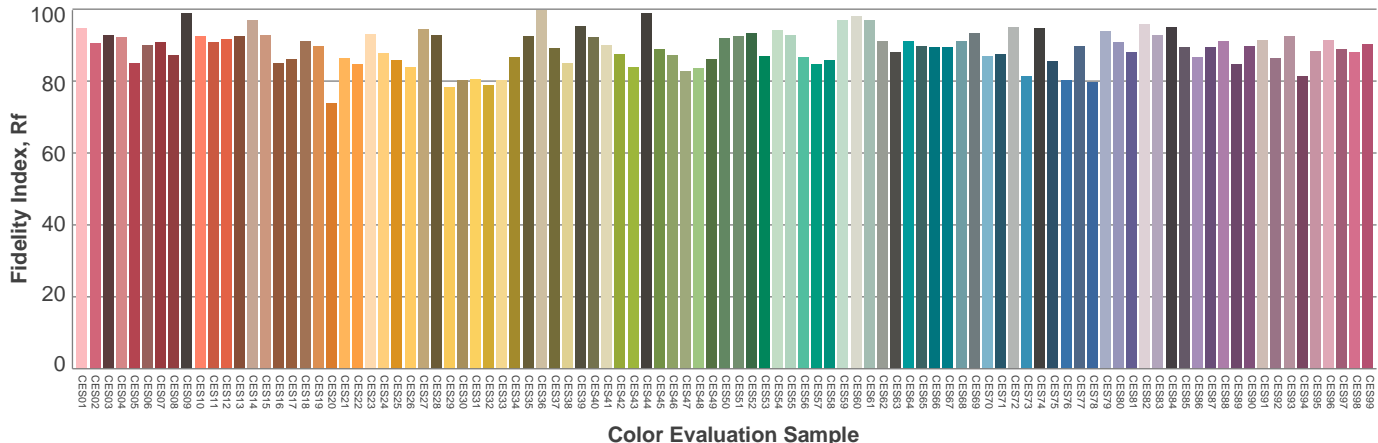
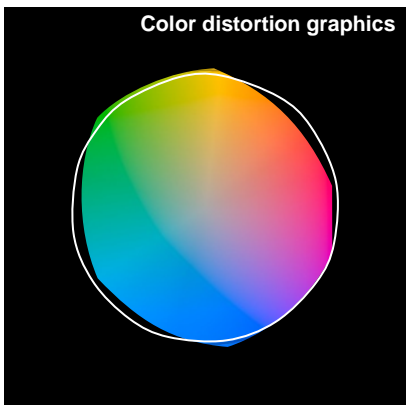
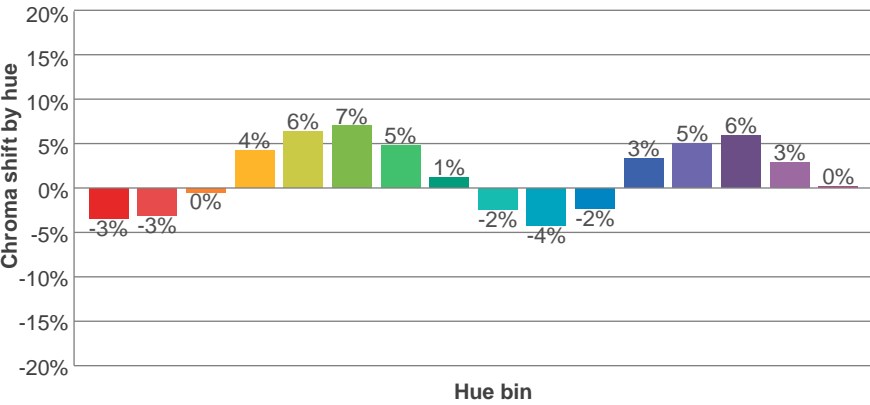
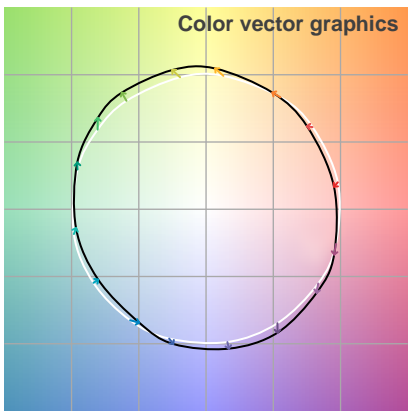
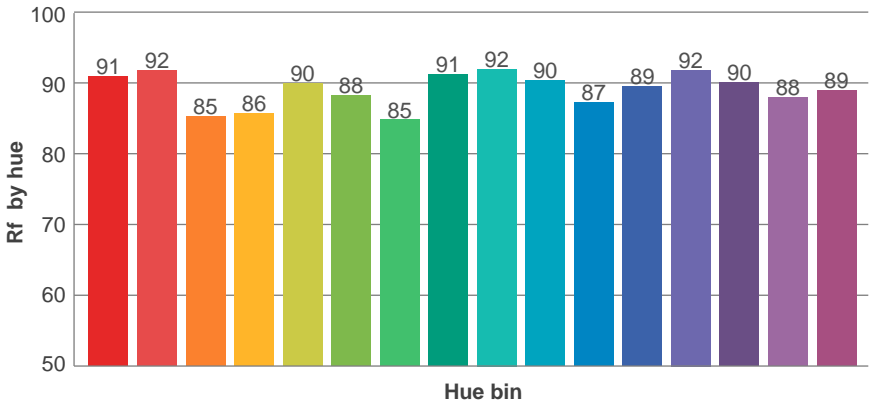
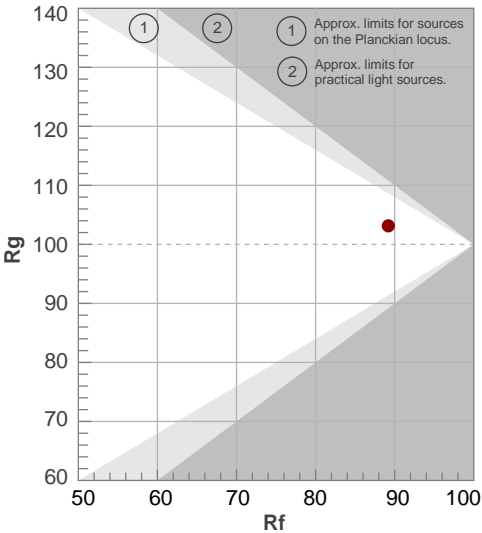
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3116 K	92.4	69.2	89.2	103.1	90.2	0.428	0.399	0.247	0.345	0.0007

TM30 details

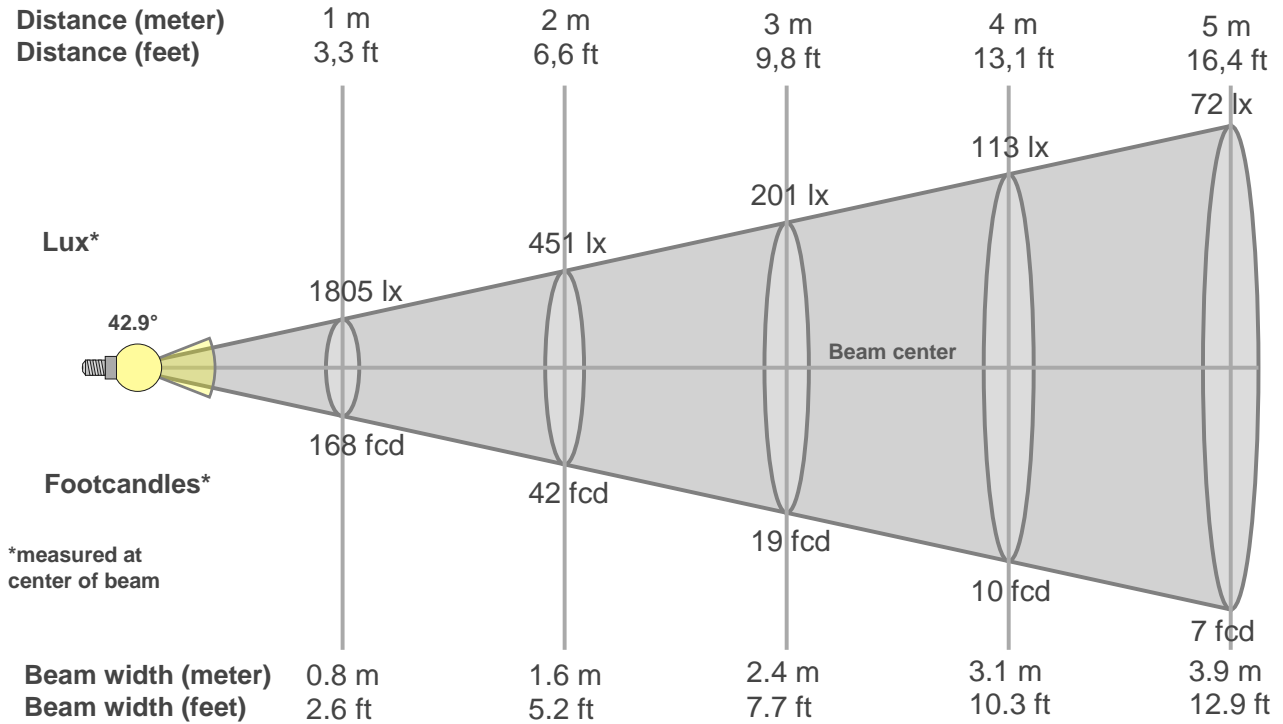
Rf 89.2
Fidelity index Rf

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 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
1805lx	451lx	201lx	113lx	72lx	50lx	37lx	28lx	22lx	18lx	15lx	13lx	11lx	9lx	8lx	7lx	6lx	6lx	5lx	5lx
167.7fcd	41.9fcd	18.6fcd	10.5fcd	6.7fcd	4.7fcd	3.4fcd	2.6fcd	2.1fcd	1.7fcd	1.4fcd	1.2fcd	1fcd	0.9fcd	0.7fcd	0.7fcd	0.6fcd	0.5fcd	0.5fcd	0.4fcd

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°
1805	1801	1793	1770	1735	1676	1590	1476	1353	1120	837	574	440	343	270	202	144	97	54	28
100%	100%	99%	98%	96%	93%	88%	82%	75%	62%	46%	32%	24%	19%	15%	11%	8%	5%	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°
1805	1806	1797	1778	1748	1688	1596	1488	1350	1142	836	567	415	318	249	184	126	77	44	22
100%	100%	100%	99%	97%	93%	88%	82%	75%	63%	46%	31%	23%	18%	14%	10%	7%	4%	2%	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°
1805	1797	1786	1768	1733	1674	1586	1480	1352	1126	836	576	419	325	256	190	126	82	47	24
100%	100%	99%	98%	96%	93%	88%	82%	75%	62%	46%	32%	23%	18%	14%	11%	7%	5%	3%	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°
1805	1800	1791	1773	1737	1680	1592	1487	1354	1141	837	576	448	353	277	212	149	98	57	29
100%	100%	99%	98%	96%	93%	88%	82%	75%	63%	46%	32%	25%	20%	15%	12%	8%	5%	3%	2%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
42.9°	61.5°	74°	1.0%	1.0%

