

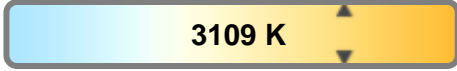
Light efficiency:



Light quality:



Color temperature:

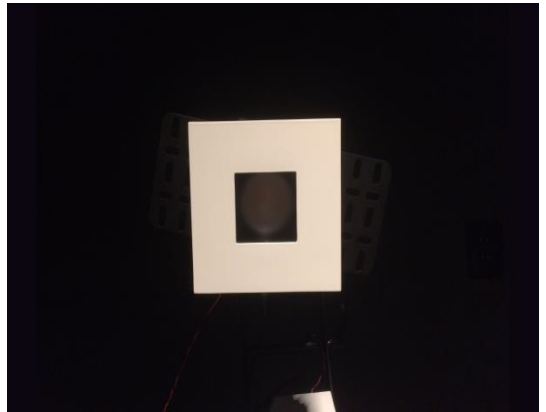


Output: 1040 lm

Peak: 6917 cd

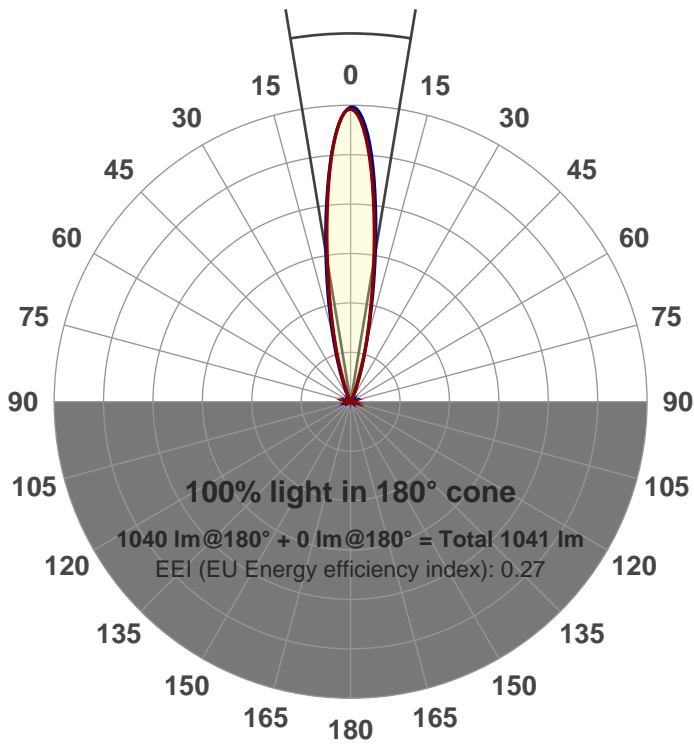
Power: 21.2 W

PF: 0.99



Beam angle

18.8°



Product name:

GRF-CZ20-SP-SQ-91A

Item number:

GRF-CZ20-SP-SQ-91A

Date and time:

4/3/2017 12:32:18 PM

Description:

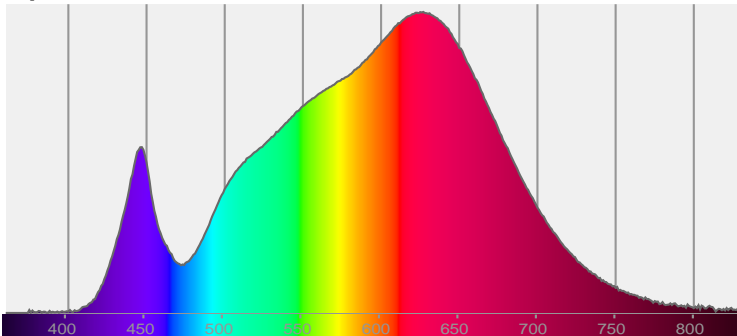
LUM: 1040

PPF: 16.8

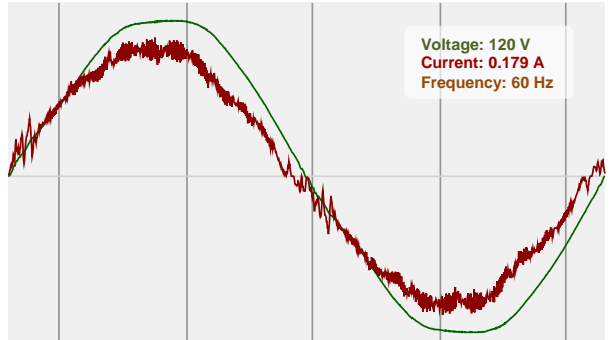


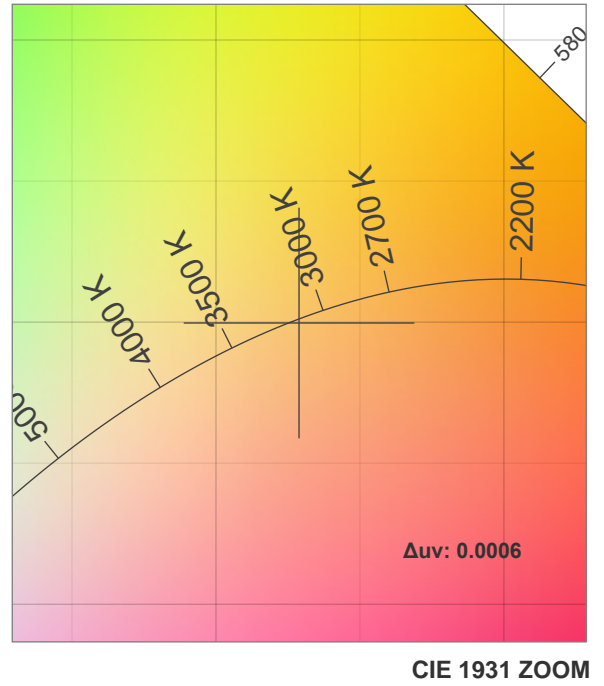
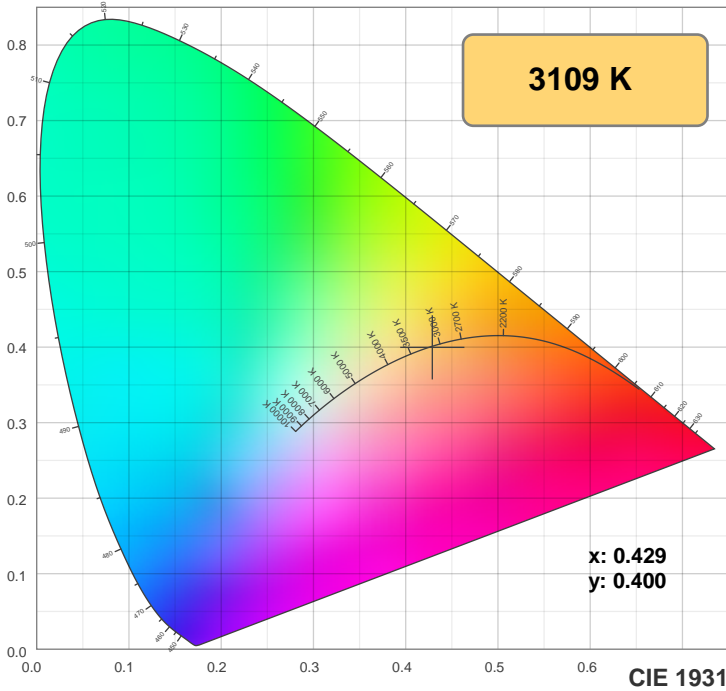
CIE 1931
x: 0.429
y: 0.400

Spectra

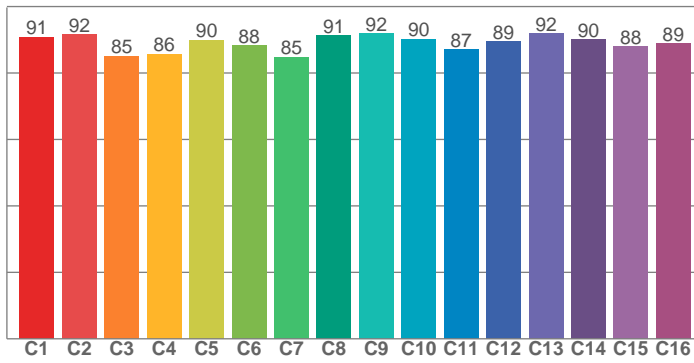


Power

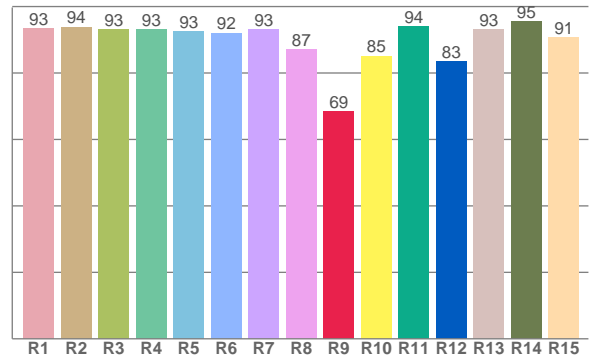




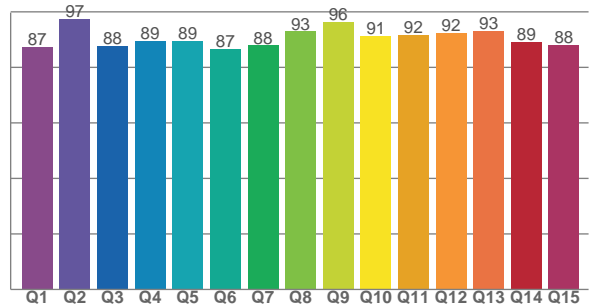
TM30: 89.1



CRI: 92.3 (R1-R8)



CQS: 90.1



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
93.4	93.9	93.0	93.1	92.6	92.1	93.2	87.1	68.5	85.2	94.2	83.5	93.2	95.4	90.7

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	91.6	85.1	85.7	89.9	88.3	84.8	91.3	92.0	90.2	87.1	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	86.5	87.9	93.0	96.5	91.3	91.8	92.4	93.2	89.0	88.2

Color parameters

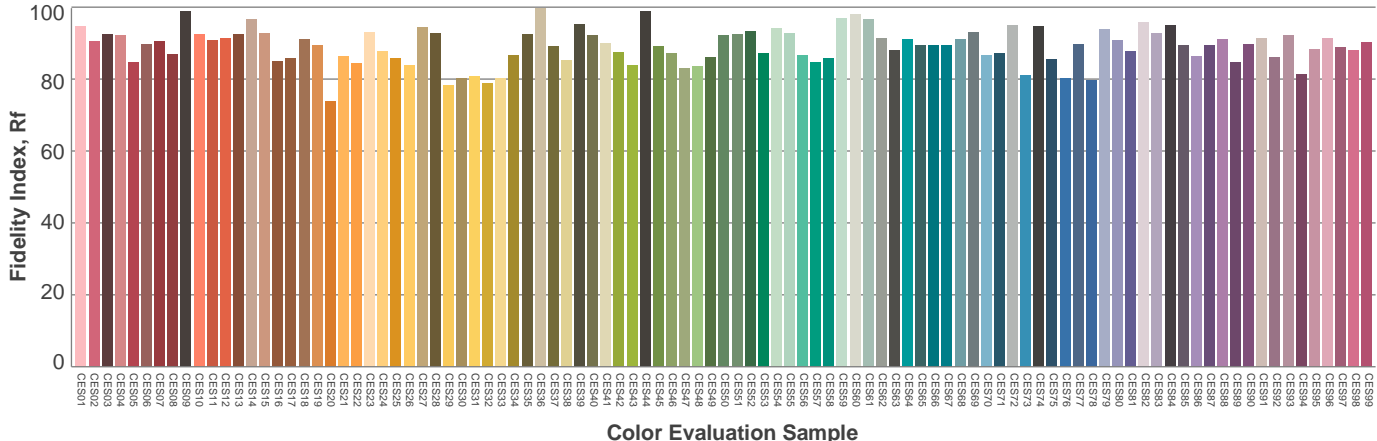
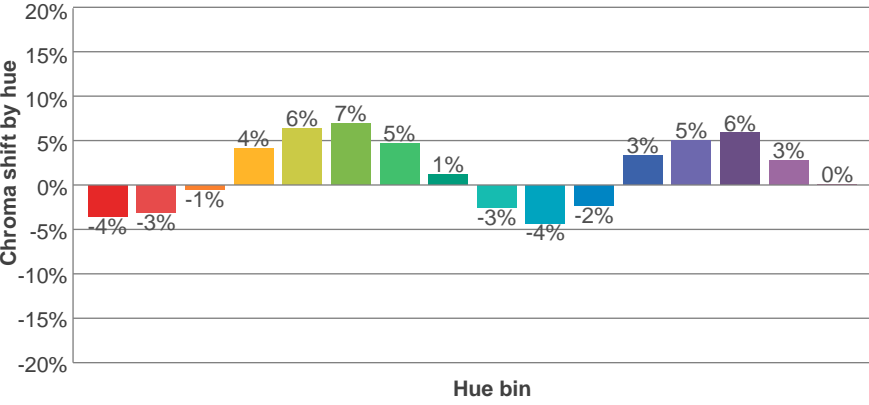
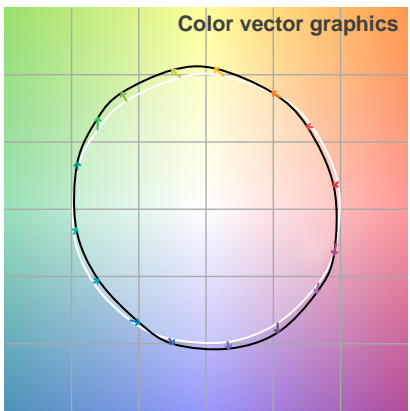
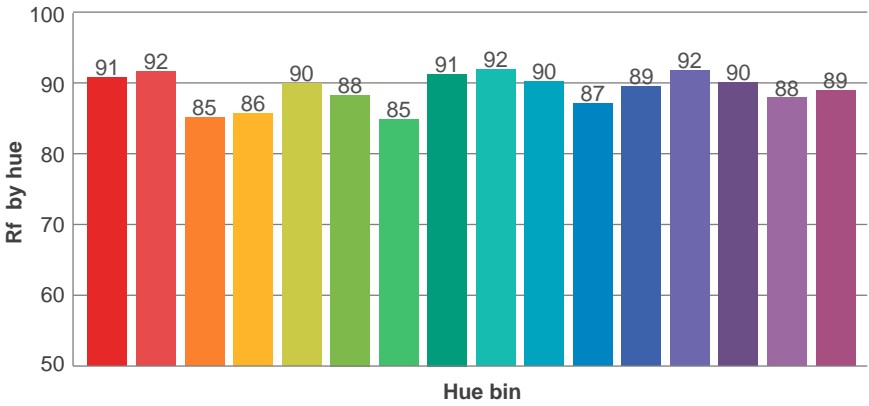
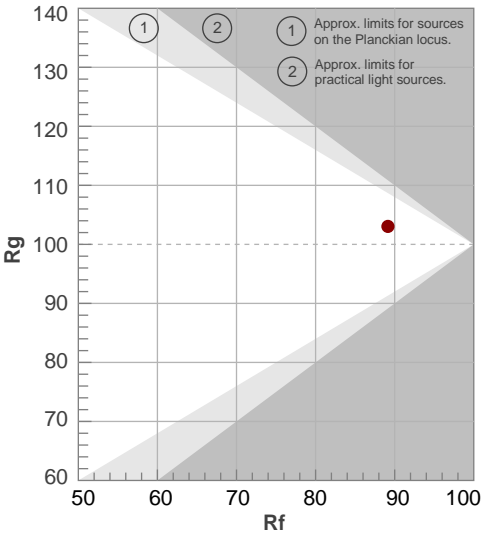
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3109 K	92.3	68.5	89.1	103.0	90.1	0.429	0.400	0.247	0.346	0.0006

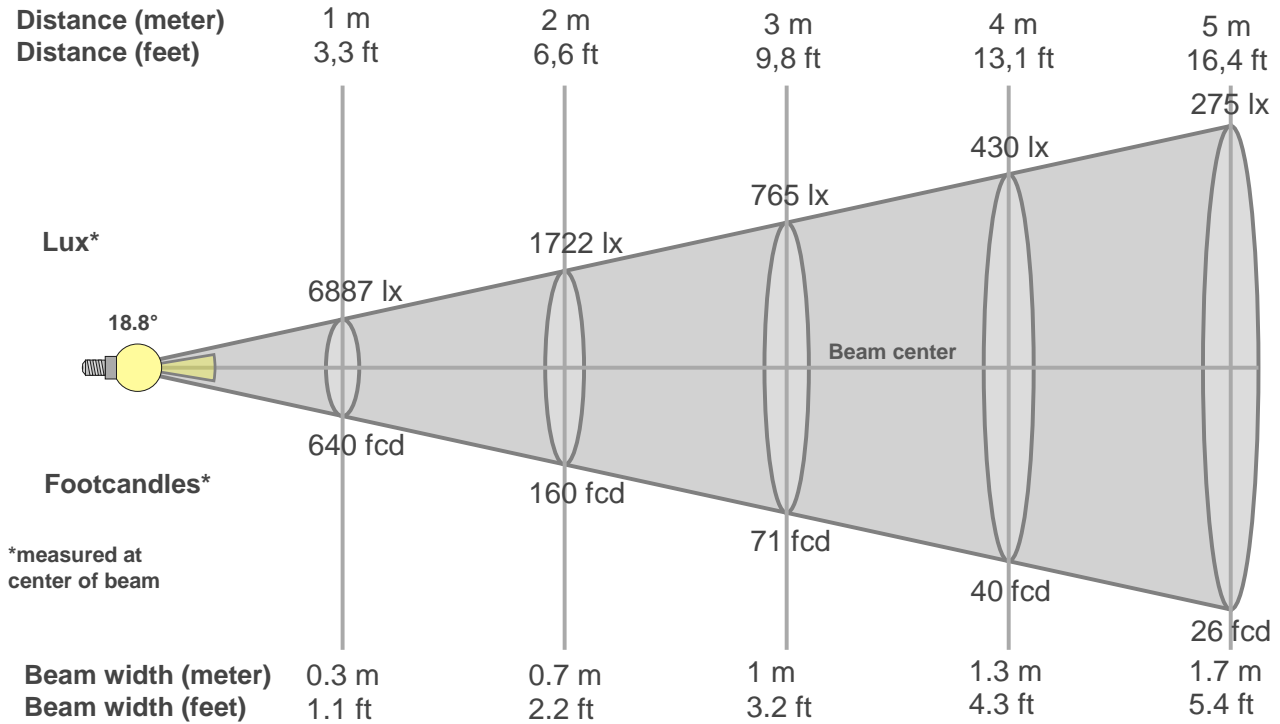
TM30 details

Rf 89.1
Fidelity index Rf

Rg 103.0
Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	91	-4%	-3%
2	92	-3%	3%
3	85	-1%	7%
4	86	4%	7%
5	90	6%	5%
6	88	7%	0%
7	85	5%	-7%
8	91	1%	-5%
9	92	-3%	-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
6887lx	1722lx	765lx	430lx	275lx	191lx	141lx	108lx	85lx	69lx	57lx	48lx	41lx	35lx	31lx	27lx	24lx	21lx	19lx	17lx
639.8fcd	160fcd	71.1fcd	40fcd	25.6fcd	17.8fcd	13.1fcd	10fcd	7.9fcd	6.4fcd	5.3fcd	4.4fcd	3.8fcd	3.3fcd	2.8fcd	2.5fcd	2.2fcd	2fcd	1.8fcd	1.6fcd

Intensities in 0° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
6887	6808	6631	6333	5958	5513	5016	4505	4001	3516	3059	2642	2268	1919	1621	1363	1127	924	744	591
100%	99%	96%	92%	87%	80%	73%	65%	58%	51%	44%	38%	33%	28%	24%	20%	16%	13%	11%	9%

Intensities in 90° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
6887	6816	6621	6336	5978	5556	5098	4622	4169	3713	3279	2886	2508	2168	1860	1588	1339	1118	929	757
100%	99%	96%	92%	87%	81%	74%	67%	61%	54%	48%	42%	36%	31%	27%	23%	19%	16%	13%	11%

Intensities in 180° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
6887	6791	6603	6303	5933	5487	4992	4491	3991	3517	3063	2650	2287	1954	1669	1413	1178	975	796	639
100%	99%	96%	92%	86%	80%	72%	65%	58%	51%	44%	38%	33%	28%	24%	21%	17%	14%	12%	9%

Intensities in 270° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
6887	6883	6736	6486	6145	5724	5249	4735	4231	3732	3259	2822	2411	2045	1724	1439	1188	965	779	619
100%	100%	98%	94%	89%	83%	76%	69%	61%	54%	47%	41%	35%	30%	25%	21%	17%	14%	11%	9%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
18.8°	39.2°	51.6°	1.0%	1.0%

