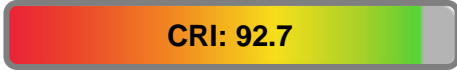


Light efficiency:



Light quality:



Color temperature:

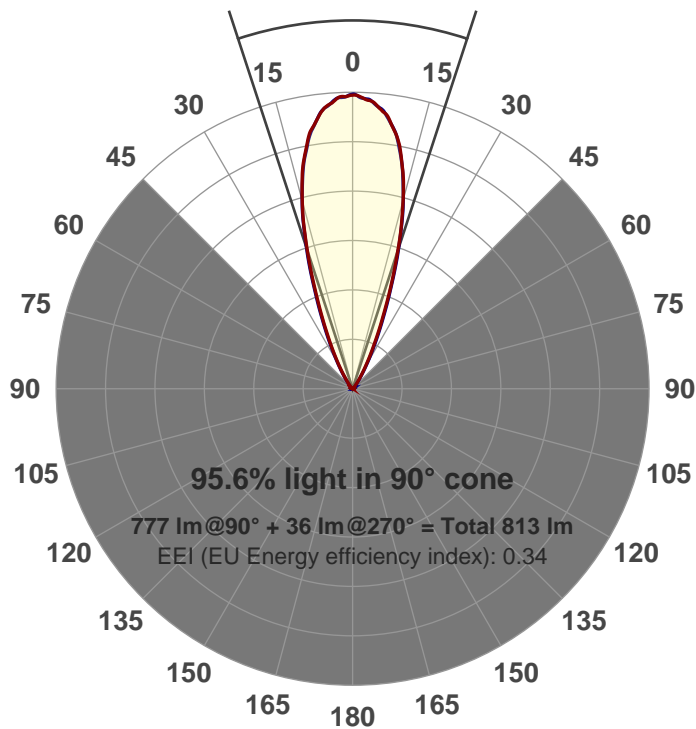


Output: 777 lm
Peak: 1971 cd
Power: 21.0 W
PF: 0.99



Beam angle

36.2°



Product name:
 GRF-CZ20-WF-RD-91A
Item number:
 GRF-CZ20-WF-RD-91A
Date and time:
 6/14/2017 3:49:02 PM
Description:
 V6

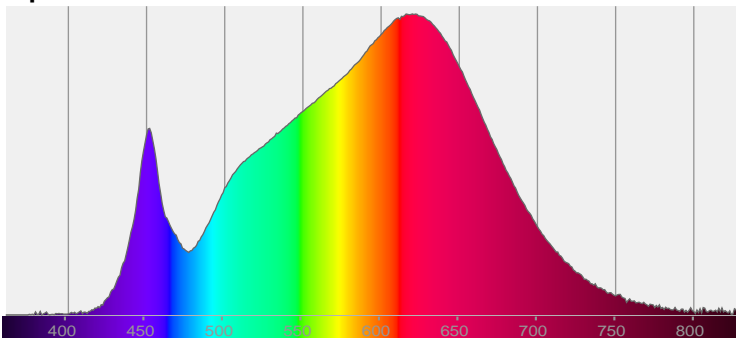
LUM: 777

PPF: 13.0

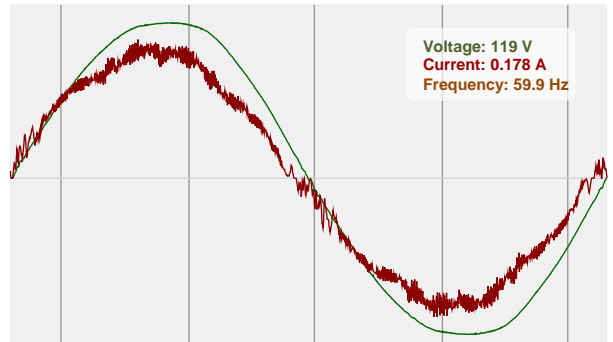


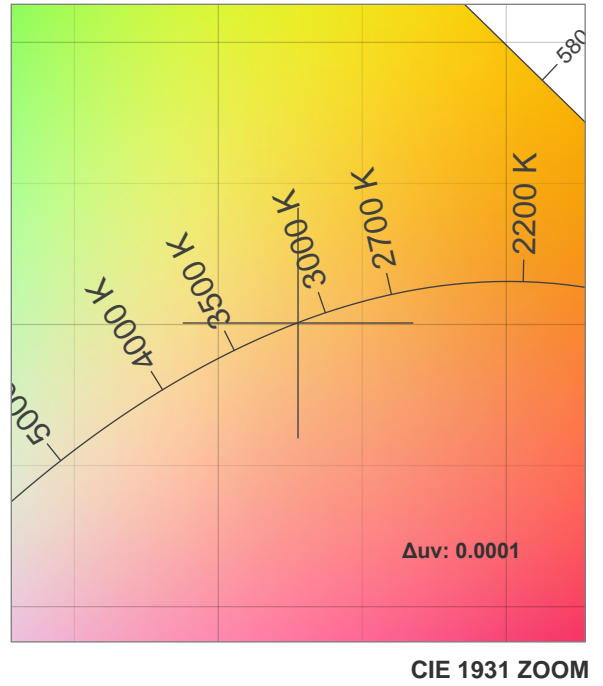
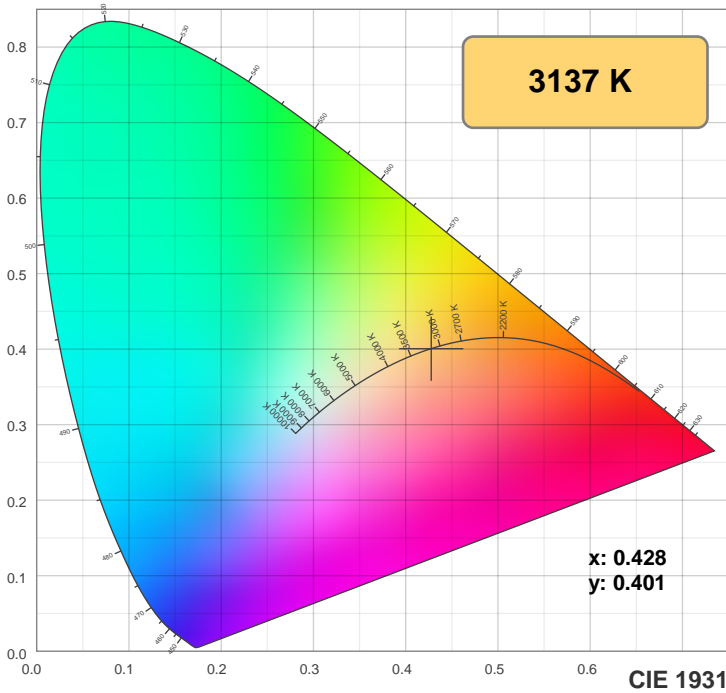
CIE 1931
 x: 0.428
 y: 0.401

Spectra

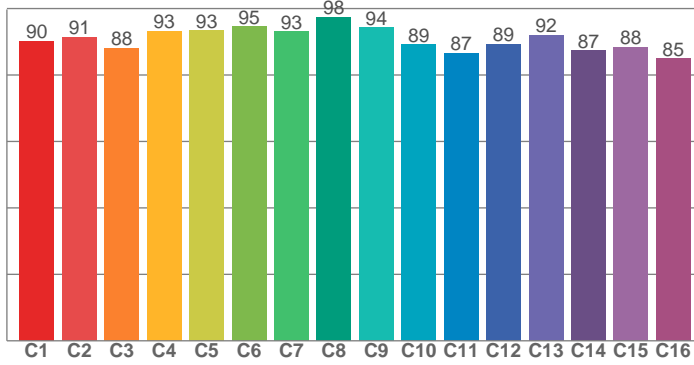


Power

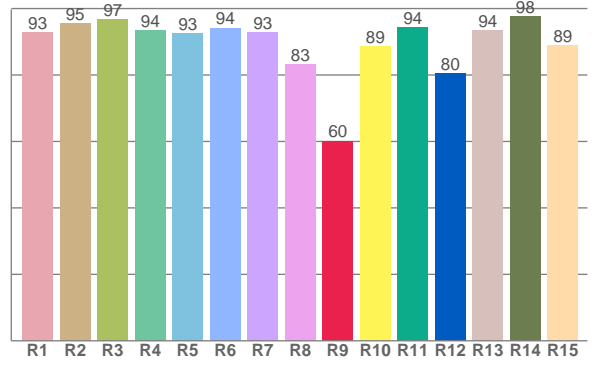




TM30: 90.9



CRI: 92.7 (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
92.9	95.5	96.8	93.5	92.5	94.2	93.0	83.1	60.2	88.7	94.3	80.4	93.5	97.6	89.0

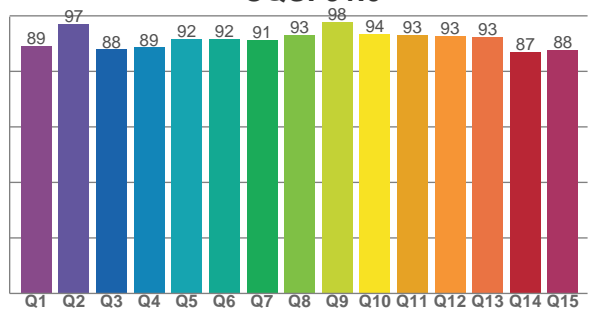
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90.2	91.5	88.2	93.2	93.4	94.6	93.2	97.5	94.3	89.1	86.6	89.4	92.0	87.3	88.5	84.9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
89.1	96.9	87.9	88.6	91.7	91.7	91.2	93.1	97.7	93.5	93.0	92.7	92.5	87.1	87.6

CQS: 91.0



Color parameters

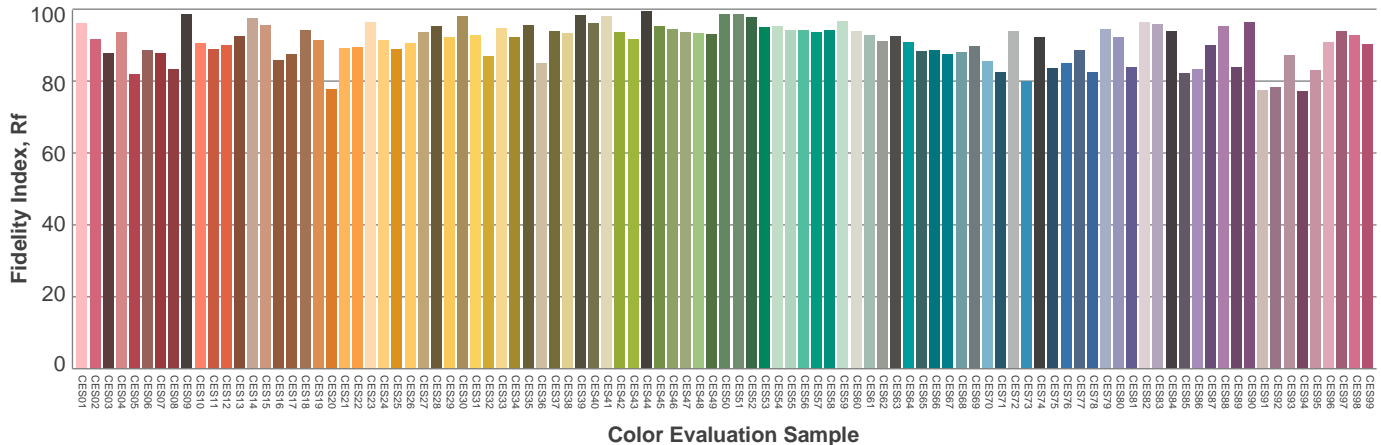
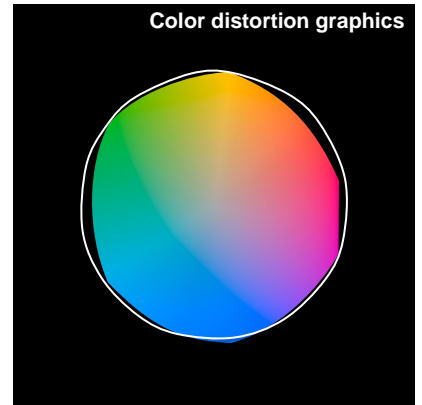
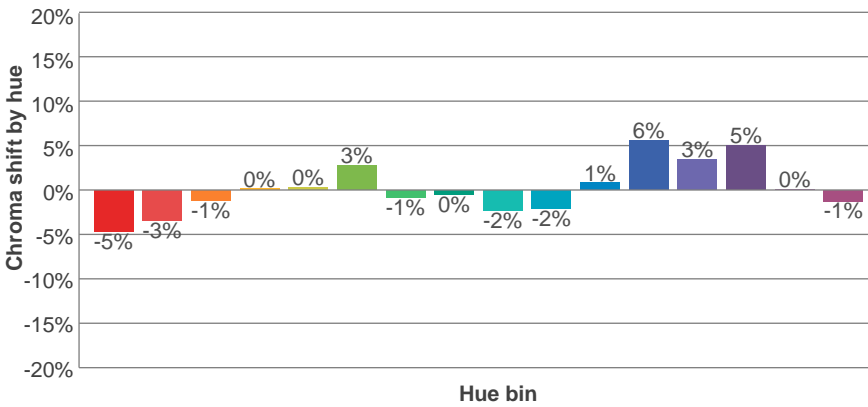
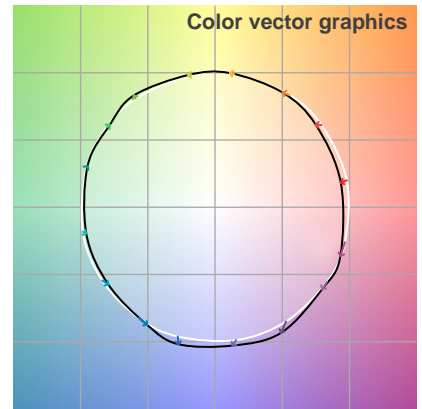
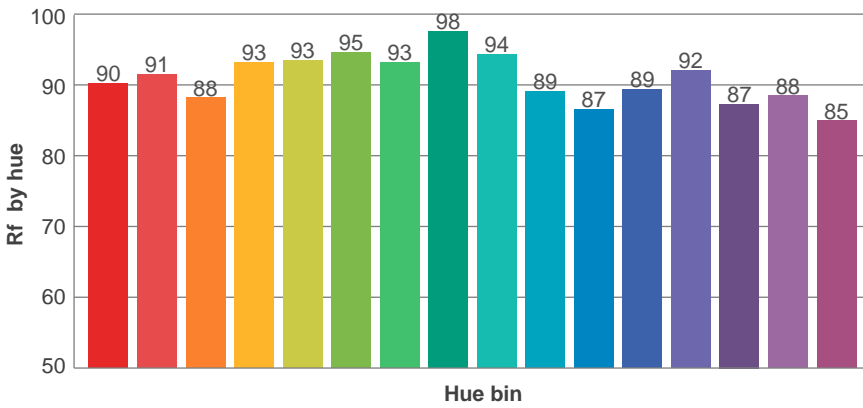
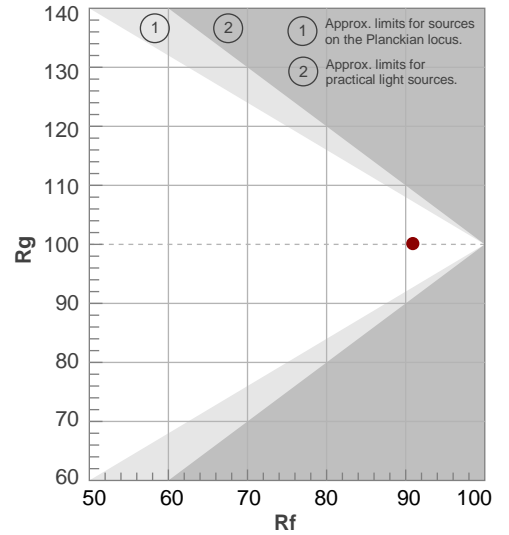
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color diviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3137 K	92.7	60.2	90.9	100.1	91.0	0.428	0.401	0.246	0.346	0.0001

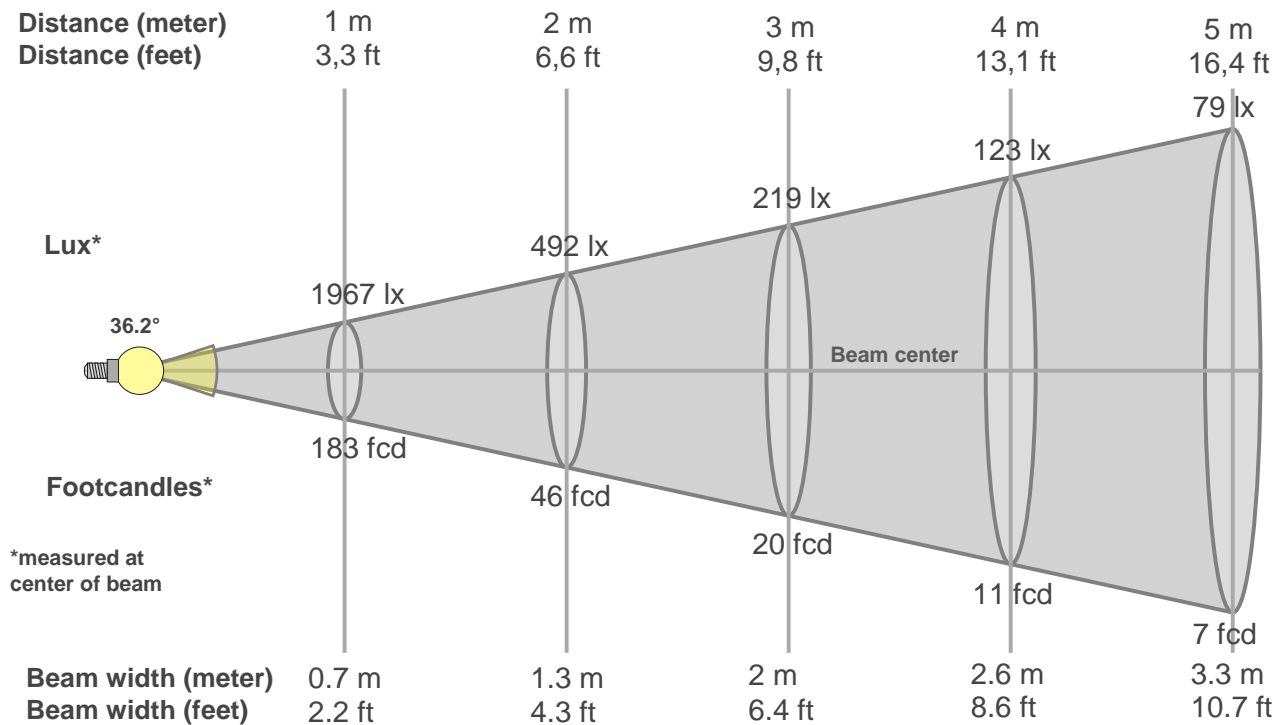
TM30 details

Rf 90.9
Fidelity index Rf

Rg 100.1
Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	90	-5%	-1%
2	91	-3%	3%
3	88	-1%	5%
4	93	0%	3%
5	93	0%	3%
6	95	3%	0%
7	93	-1%	-3%
8	98	0%	-1%
9	94	-2%	2%
10	89	-2%	5%
11	87	1%	8%
12	89	6%	2%
13	92	3%	-3%
14	87	5%	-8%
15	88	0%	-7%
16	85	-1%	-11%





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
1967lx	492lx	219lx	123lx	79lx	55lx	40lx	31lx	24lx	20lx	16lx	14lx	12lx	10lx	9lx	8lx	7lx	6lx	5lx	5lx
182.8fcd	45.7fcd	20.3fcd	11.4fcd	7.3fcd	5.1fcd	3.7fcd	2.9fcd	2.3fcd	1.8fcd	1.5fcd	1.3fcd	1.1fcd	0.9fcd	0.8fcd	0.7fcd	0.6fcd	0.6fcd	0.5fcd	0.5fcd

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°
1967	1956	1920	1879	1796	1705	1567	1398	1206	989	781	599	455	344	253	185	134	93	65	45
100%	99%	98%	96%	91%	87%	80%	71%	61%	50%	40%	30%	23%	17%	13%	9%	7%	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°
1967	1950	1925	1879	1794	1694	1559	1391	1213	1003	804	625	478	365	272	200	146	103	73	52
100%	99%	98%	96%	91%	86%	79%	71%	62%	51%	41%	32%	24%	19%	14%	10%	7%	5%	4%	3%

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°
1967	1947	1925	1872	1806	1711	1572	1407	1202	989	778	590	444	325	240	171	121	84	57	40
100%	99%	98%	95%	92%	87%	80%	72%	61%	50%	40%	30%	23%	17%	12%	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°
1967	1944	1923	1879	1802	1708	1568	1396	1215	1003	799	619	472	356	263	189	134	95	67	47
100%	99%	98%	96%	92%	87%	80%	71%	62%	51%	41%	31%	24%	18%	13%	10%	7%	5%	3%	2%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
36.2°	59.3°	75.2°	1.0%	1.0%

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