

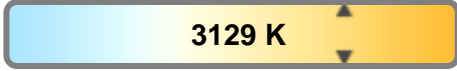
Light efficiency:



Light quality:



Color temperature:



Output: 1493 lm

Peak: 7559 cd

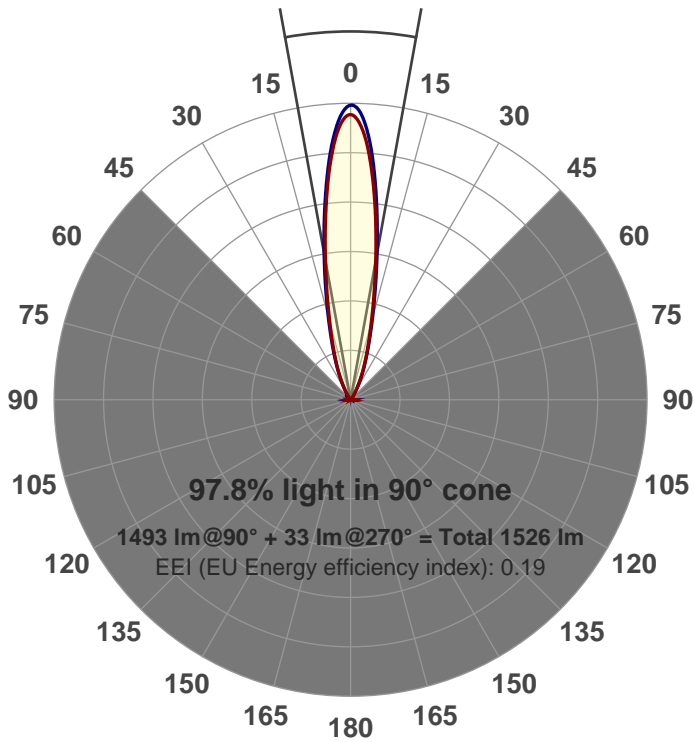
Power: 21.1 W

PF: 0.99



Beam angle

20.5°



Product name:

GR-CZ20-SP-RD-91A

Item number:

GR-CZ20-SP-RD-91A

Date and time:

6/14/2017 1:51:38 PM

Description:

V6

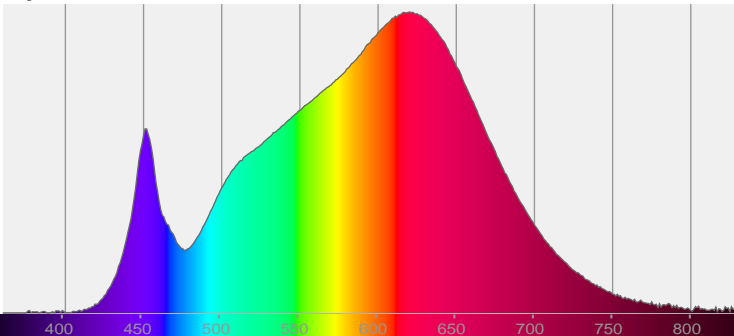
LUM: 1493

PPF: 25.1

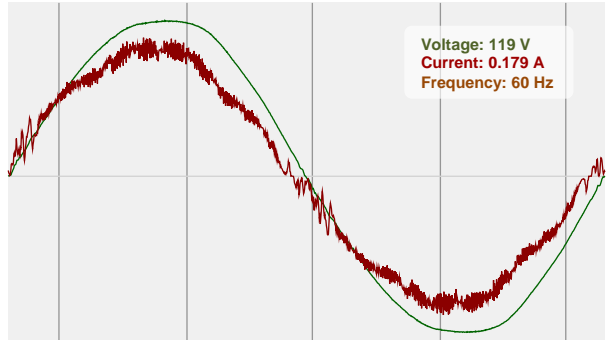


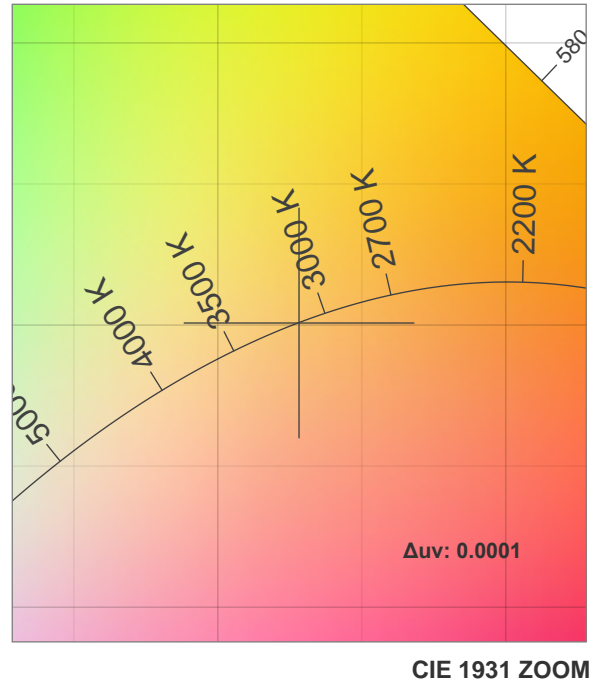
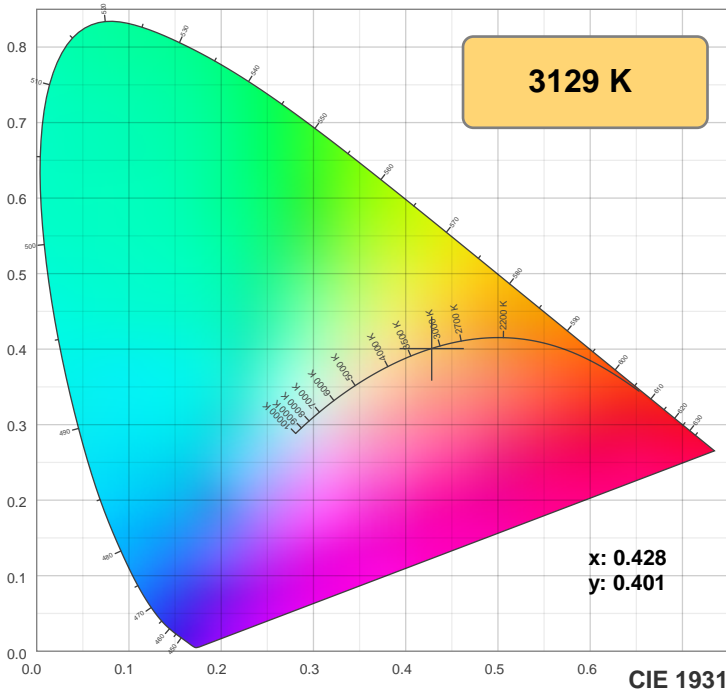
CIE 1931  
x: 0.428  
y: 0.401

Spectra

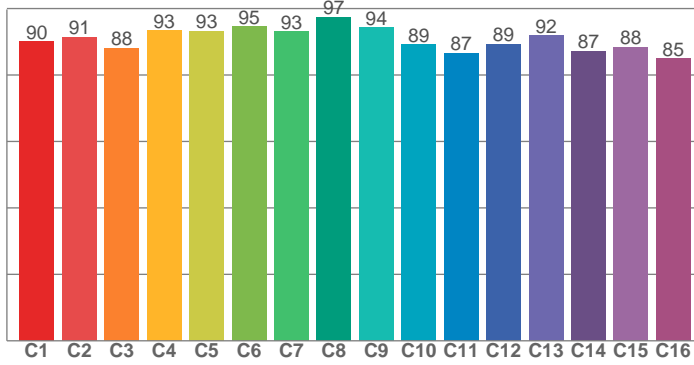


Power

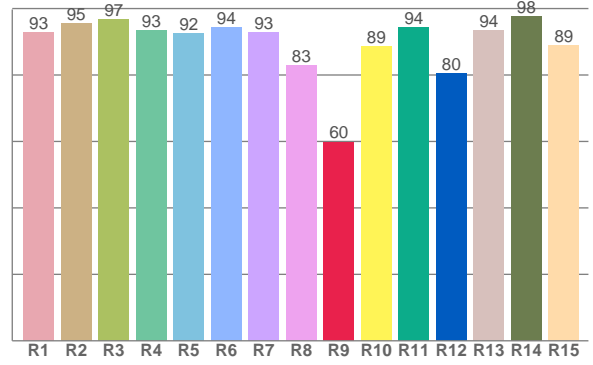




**TM30: 90.9**



**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	92.9	83.0	59.9	88.7	94.3	80.5	93.5	97.6	88.9

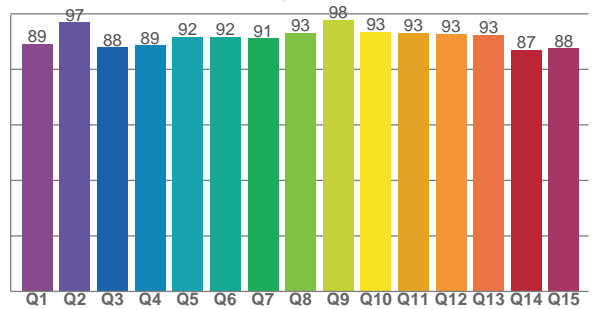
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90.2	91.4	88.1	93.3	93.3	94.6	93.2	97.5	94.3	89.1	86.6	89.4	91.9	87.3	88.4	84.9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
89.0	96.9	87.9	88.6	91.7	91.7	91.1	93.0	97.7	93.5	93.0	92.7	92.5	87.0	87.5

**CQS: 90.9**



## Color parameters

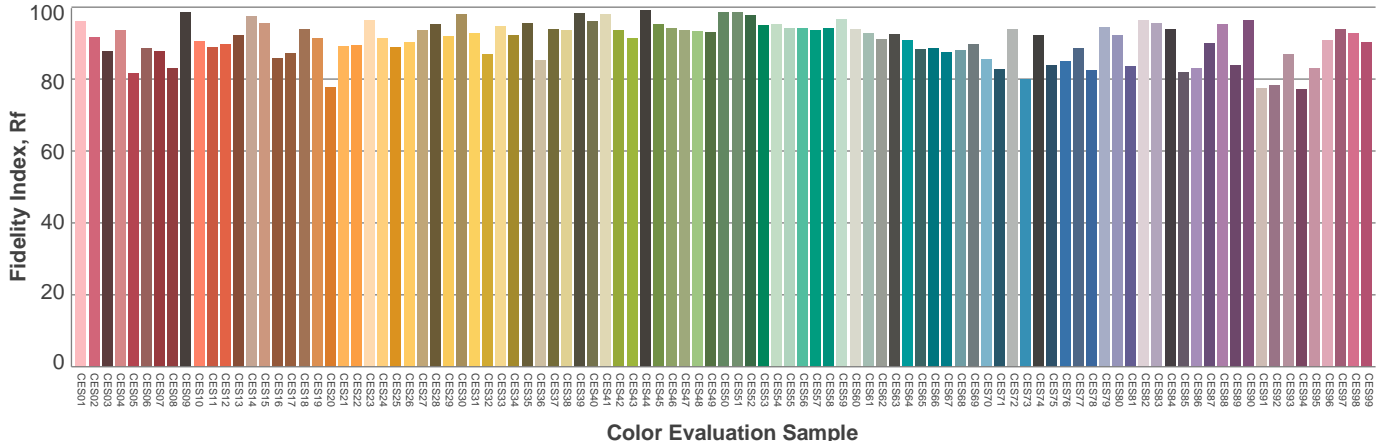
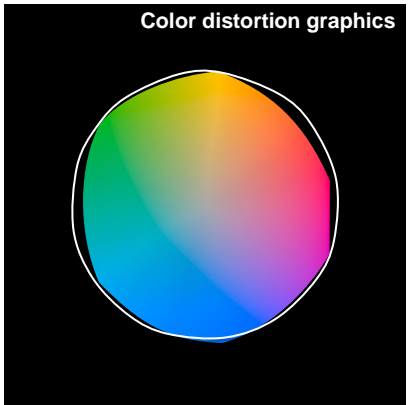
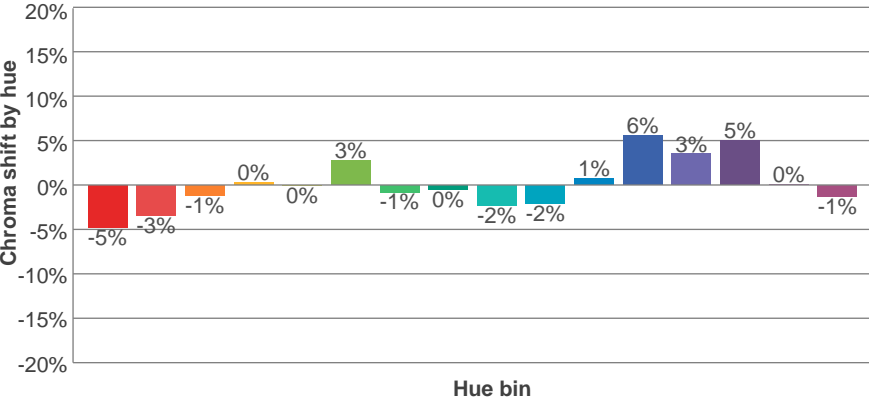
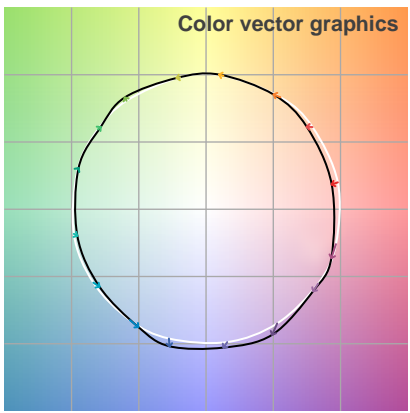
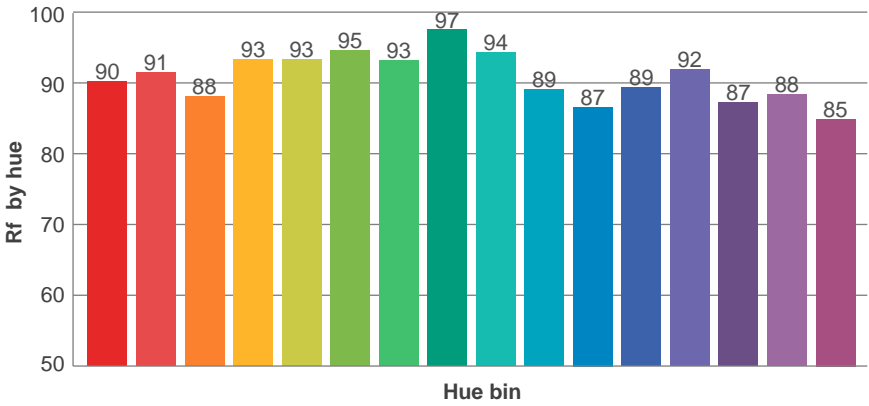
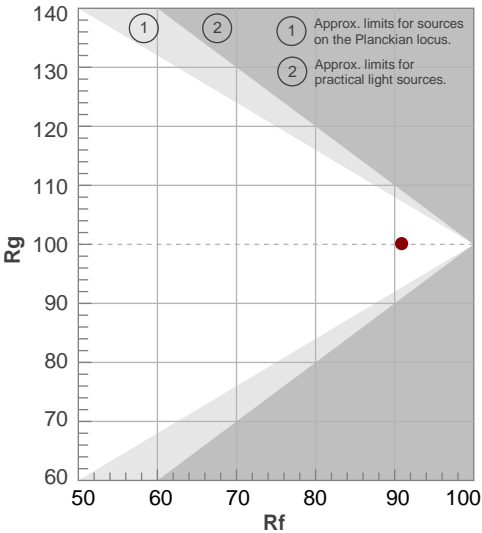
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3129 K	92.7	59.9	90.9	100.1	90.9	0.428	0.401	0.246	0.346	0.0001

# TM30 details

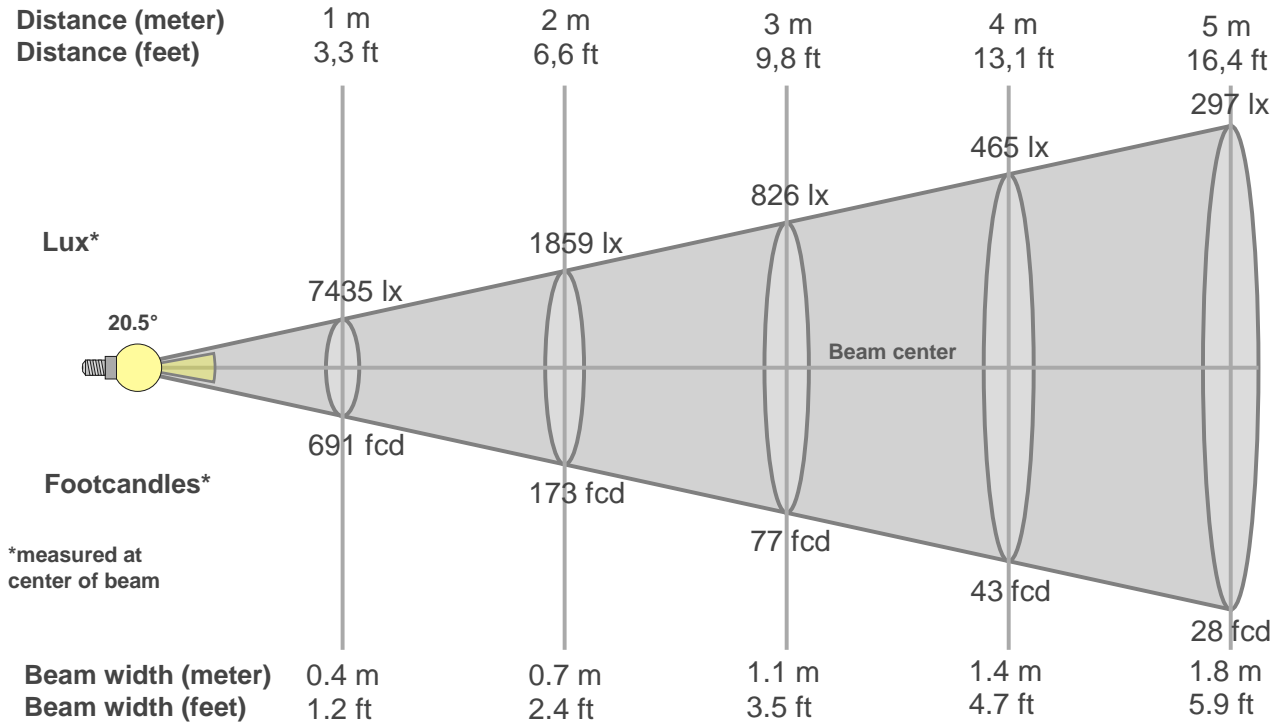
**Rf 90.9**  
Fidelity index Rf

**Rg 100.1**  
Gammut index Rg

Hue Bin	R <sub>f</sub>	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	97	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 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
7435lx	1859lx	826lx	465lx	297lx	207lx	152lx	116lx	92lx	74lx	61lx	52lx	44lx	38lx	33lx	29lx	26lx	23lx	21lx	19lx
690.8fc	172.7fc	76.8fcd	43.2fcd	27.6fcd	19.2fcd	14.1fcd	10.8fcd	8.5fcd	6.9fcd	5.7fcd	4.8fcd	4.1fcd	3.5fcd	3.1fcd	2.7fcd	2.4fcd	2.1fcd	1.9fcd	1.7fcd

### 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°
7435	7091	6461	5588	4631	3726	2960	2324	1844	1464	1168	924	719	541	394	277	188	133	93	65
100%	95%	87%	75%	62%	50%	40%	31%	25%	20%	16%	12%	10%	7%	5%	4%	3%	2%	1%	1%

### 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°
7435	7290	6639	5762	4811	3919	3140	2489	1971	1558	1229	961	740	555	401	283	197	139	100	71
100%	98%	89%	77%	65%	53%	42%	33%	27%	21%	17%	13%	10%	7%	5%	4%	3%	2%	1%	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°
7435	7063	6437	5564	4623	3727	2940	2314	1818	1442	1146	904	700	522	375	258	176	121	85	60
100%	95%	87%	75%	62%	50%	40%	31%	24%	19%	15%	12%	9%	7%	5%	3%	2%	2%	1%	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°
7435	7361	6736	5843	4851	3925	3108	2441	1919	1510	1196	949	741	564	414	296	208	148	107	79
100%	99%	91%	79%	65%	53%	42%	33%	26%	20%	16%	13%	10%	8%	6%	4%	3%	2%	1%	1%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
<b>20.5°</b>	<b>47.6°</b>	<b>64.4°</b>	<b>1.0%</b>	<b>1.0%</b>



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