

Light efficiency:



Light quality:



Color temperature:



Output: 1464 lm

Peak: 2208 cd

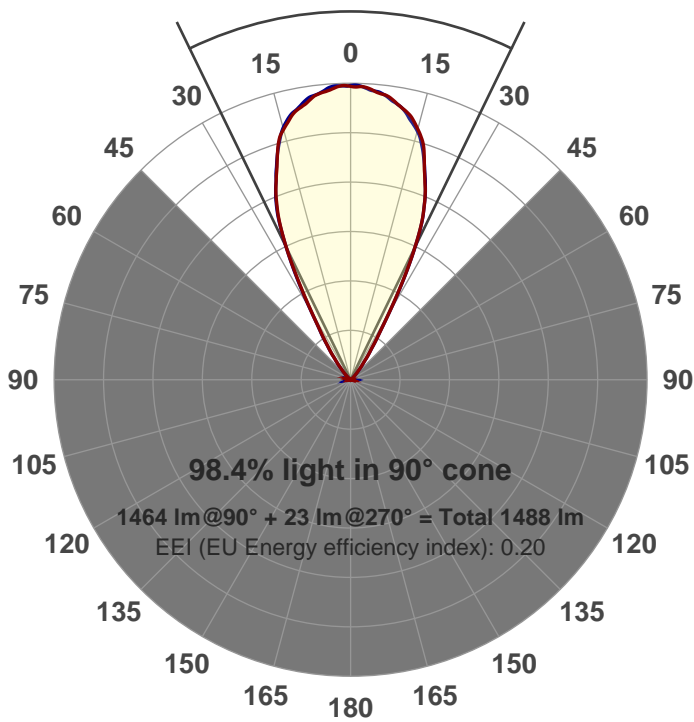
Power: 21.1 W

PF: 0.99



Beam angle

51.8°



Product name:  
**GR-CZ20-WF-RD**

Item number:  
**GR-CZ20-WF-RD**

Date and time:  
**6/14/2017 2:10:56 PM**

Description:  
**V6**

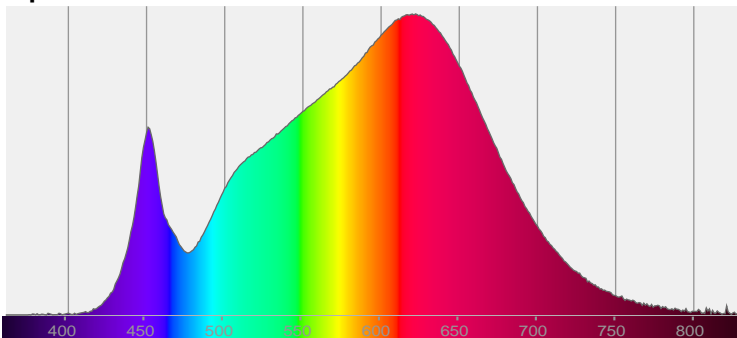
**LUM: 1464**

**PPF: 24.5**

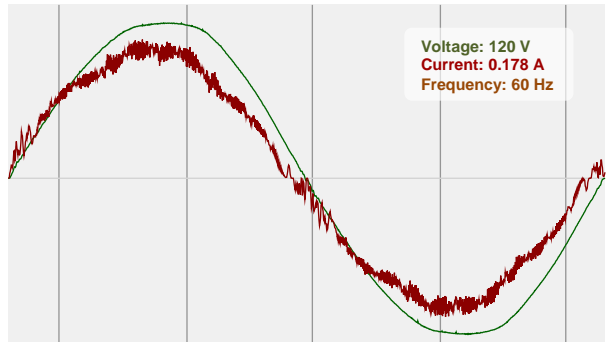


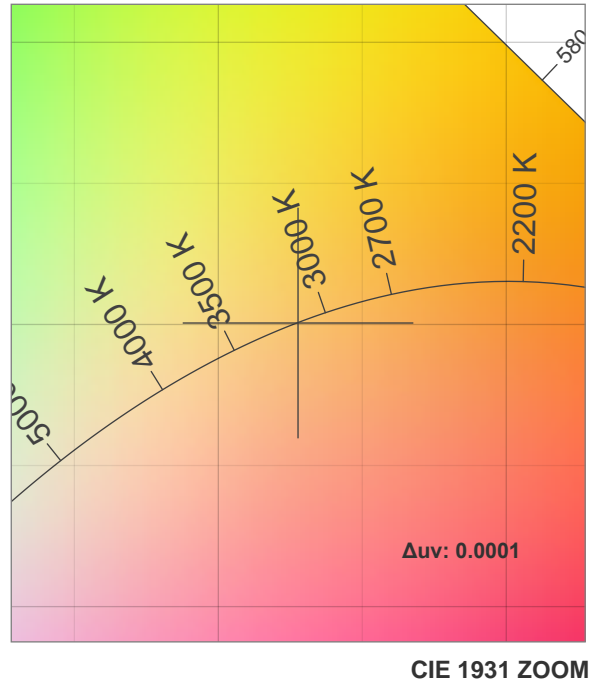
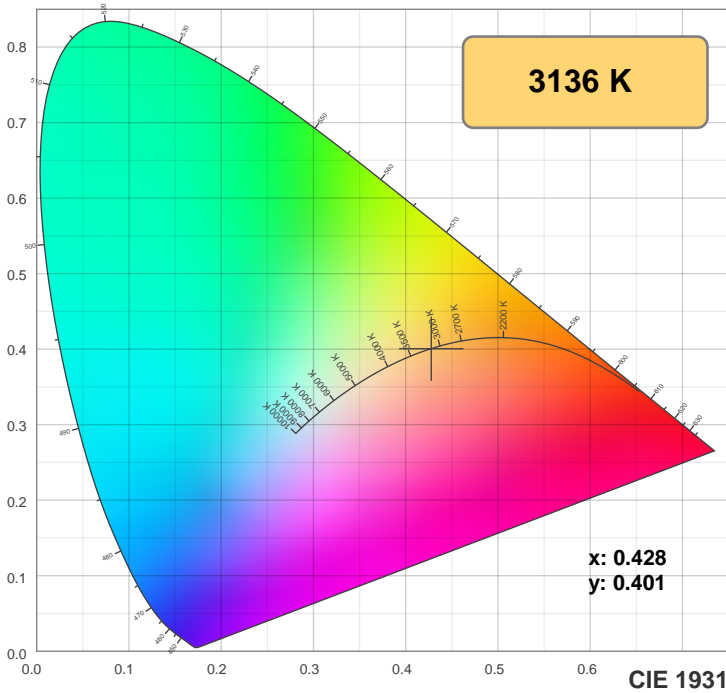
CIE 1931  
x: 0.428  
y: 0.401

Spectra

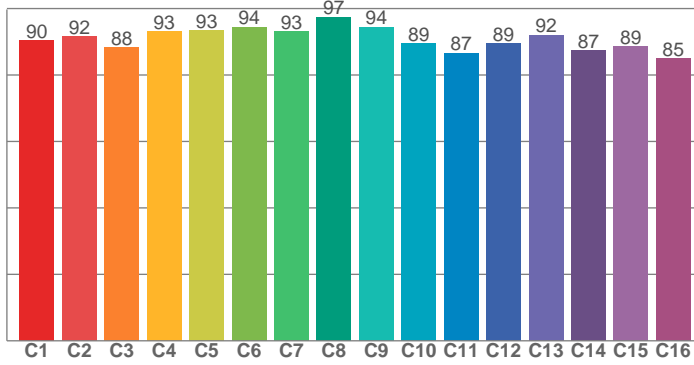


Power

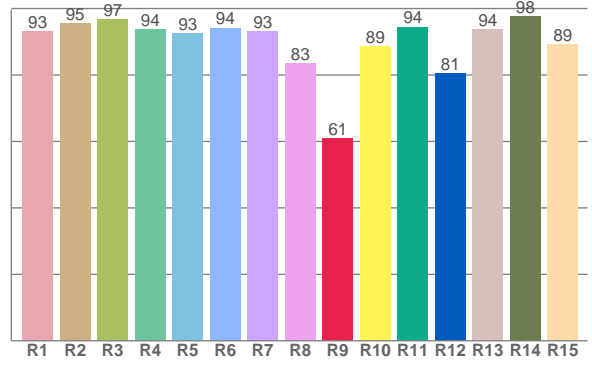




### TM30: 91.0



### CRI: 92.8 (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
93.0	95.5	96.7	93.6	92.6	94.2	93.1	83.4	60.8	88.7	94.5	80.6	93.6	97.6	89.2

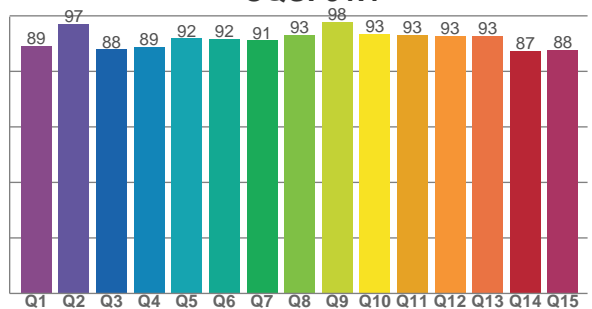
#### TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90.4	91.6	88.2	93.2	93.4	94.4	93.2	97.5	94.5	89.4	86.7	89.4	92.0	87.4	88.5	85.0

#### CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
89.2	97.0	87.9	88.8	91.9	91.7	91.1	93.1	97.7	93.5	93.1	92.8	92.7	87.3	87.8

### CQS: 91.1



## Color parameters

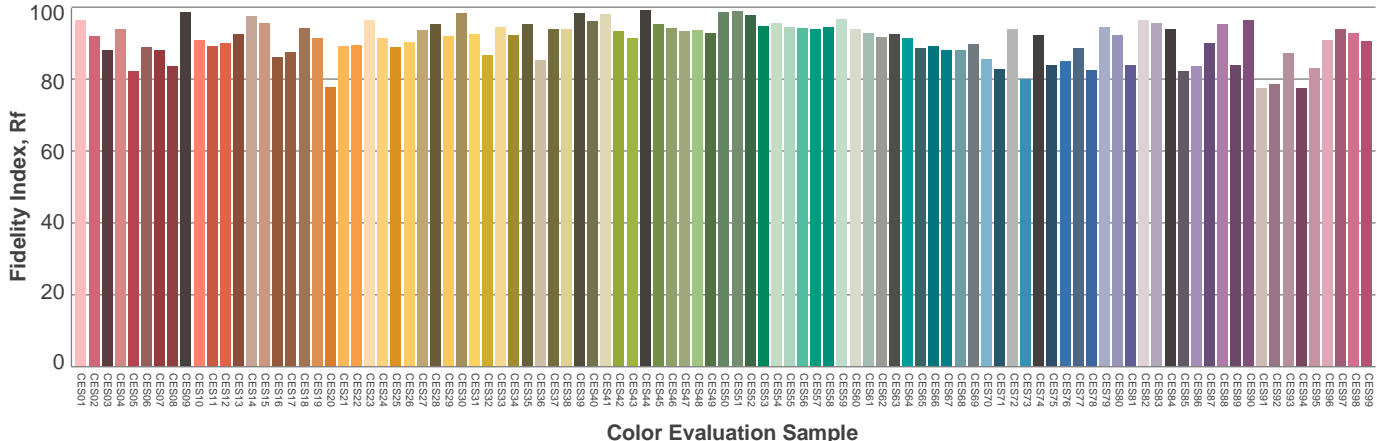
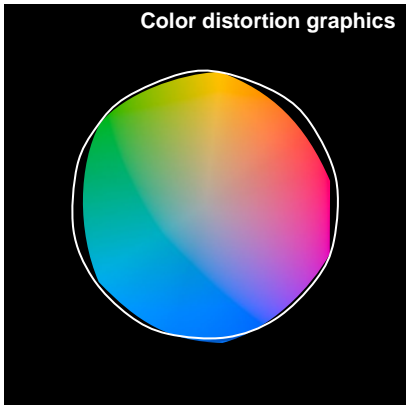
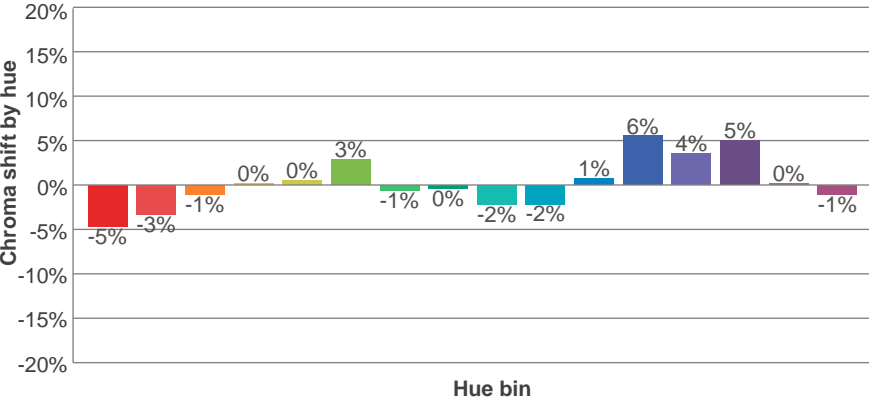
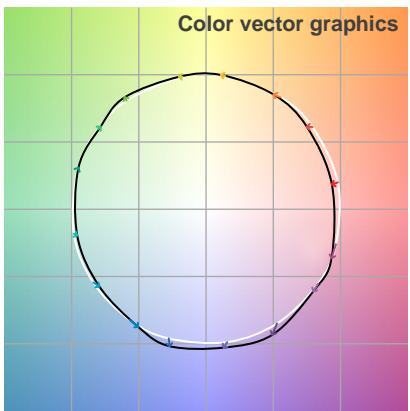
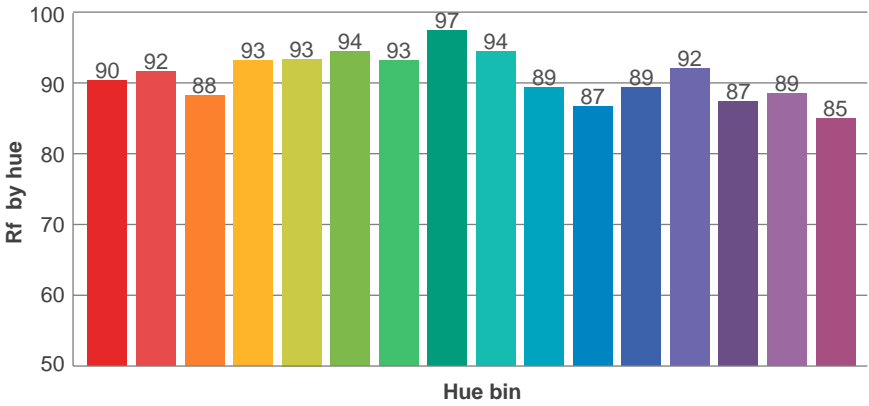
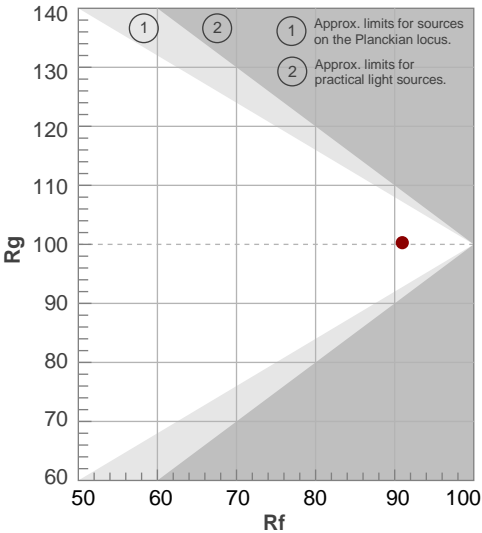
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3136 K	92.8	60.8	91.0	100.3	91.1	0.428	0.401	0.246	0.346	0.0001

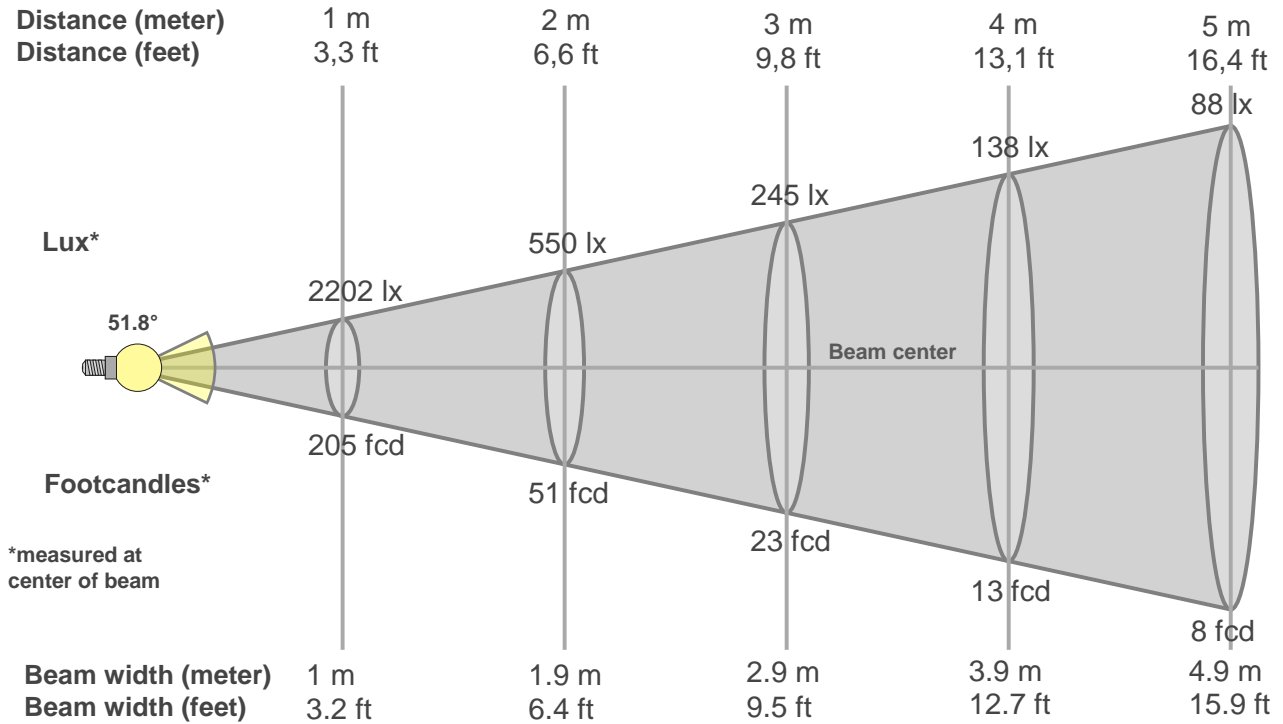
# TM30 details

**Rf 91.0**  
Fidelity index Rf

**Rg 100.3**  
Gammut index Rg

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	90	-5%	-1%
2	92	-3%	3%
3	88	-1%	5%
4	93	0%	3%
5	93	0%	3%
6	94	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	4%	-3%
14	87	5%	-8%
15	89	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
2202lx	550lx	245lx	138lx	88lx	61lx	45lx	34lx	27lx	22lx	18lx	15lx	13lx	11lx	10lx	9lx	8lx	7lx	6lx	6lx
204.5fcd	51.1fcd	22.7fcd	12.8fcd	8.2fcd	5.7fcd	4.2fcd	3.2fcd	2.5fcd	2fcd	1.7fcd	1.4fcd	1.2fcd	1fcd	0.9fcd	0.8fcd	0.7fcd	0.6fcd	0.6fcd	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°
2202	2202	2178	2159	2126	2081	2043	1976	1907	1774	1627	1492	1323	1092	818	583	423	314	241	170
100%	100%	99%	98%	97%	95%	93%	90%	87%	81%	74%	68%	60%	50%	37%	26%	19%	14%	11%	8%

### 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°
2202	2202	2198	2163	2142	2099	2052	1993	1901	1775	1634	1499	1334	1093	836	586	428	318	239	172
100%	100%	100%	98%	97%	95%	93%	91%	86%	81%	74%	68%	61%	50%	38%	27%	19%	14%	11%	8%

### 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°
2202	2198	2182	2155	2134	2088	2047	1985	1903	1783	1624	1490	1326	1091	820	569	394	277	207	144
100%	100%	99%	98%	97%	95%	93%	90%	86%	81%	74%	68%	60%	50%	37%	26%	18%	13%	9%	7%

### 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°
2202	2201	2175	2162	2123	2087	2033	1964	1887	1767	1629	1492	1328	1093	825	565	387	279	206	145
100%	100%	99%	98%	96%	95%	92%	89%	86%	80%	74%	68%	60%	50%	37%	26%	18%	13%	9%	7%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
51.8°	72°	87.7°	1.0%	1.0%



THIS PAGE INTENSIONALLY LEFT BLANK