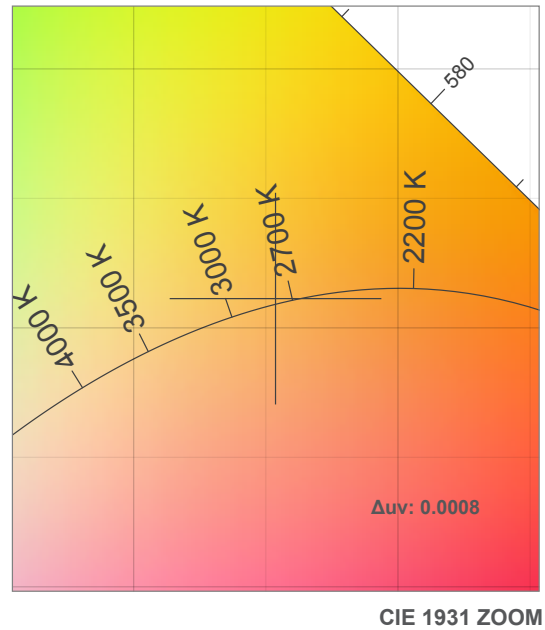
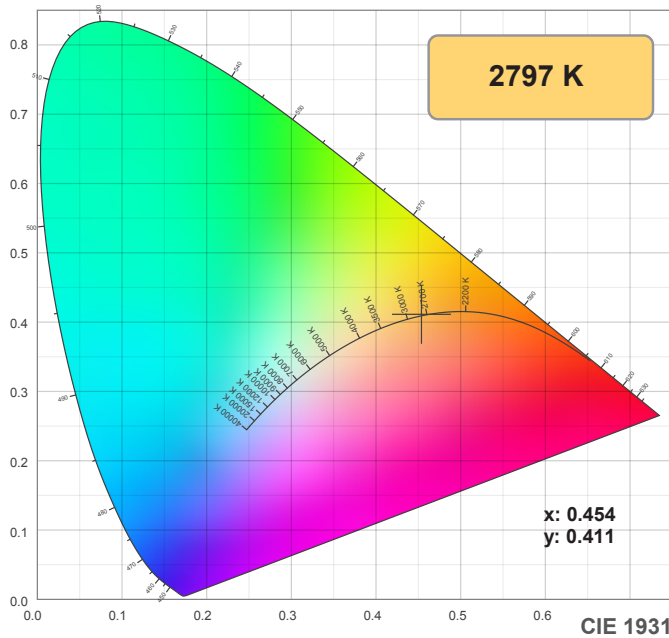
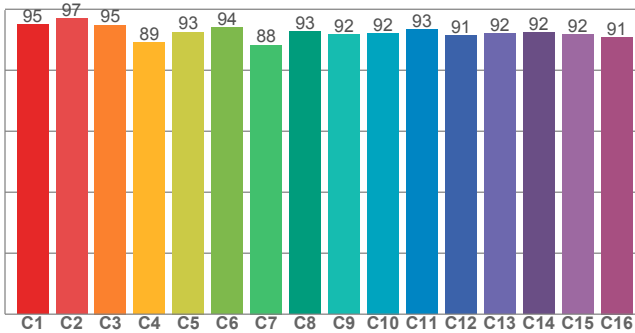


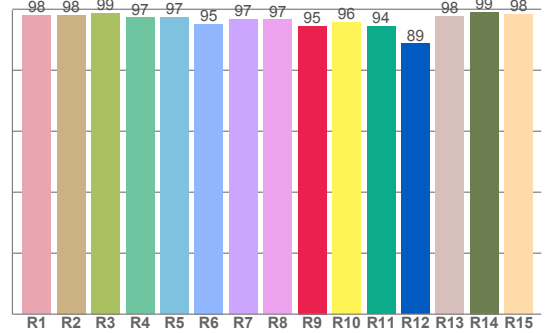
2700K



**TM30: 92.6**



**CRI: 97.2 (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
98.0	98.1	98.7	97.2	97.3	95.2	96.7	96.6	94.5	95.9	94.4	88.7	97.8	99.1	98.3

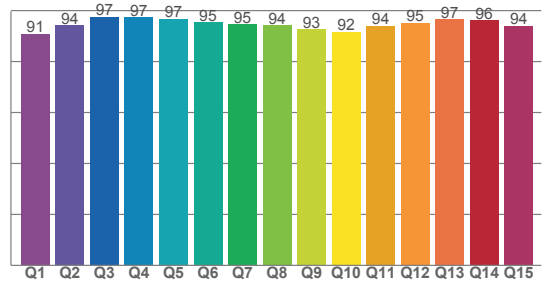
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
94.9	97.0	94.9	89.1	92.6	94.0	88.3	92.8	91.7	92.2	93.4	91.3	92.1	92.3	91.7	90.8

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
90.8	94.1	97.4	97.3	96.7	95.3	94.6	94.1	92.6	91.6	94.1	95.1	96.6	96.2	93.9

**CQS: 94.2**



## Color parameters

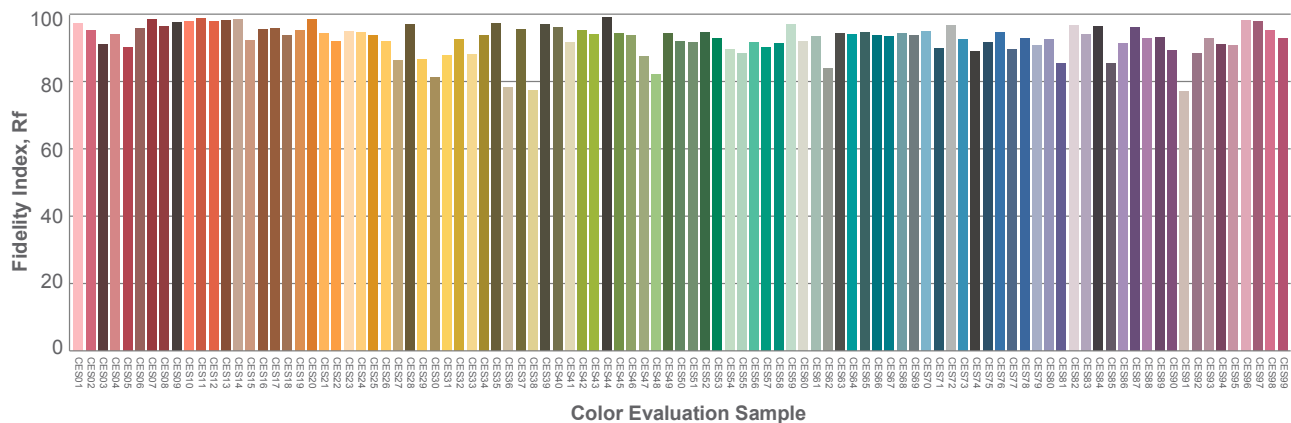
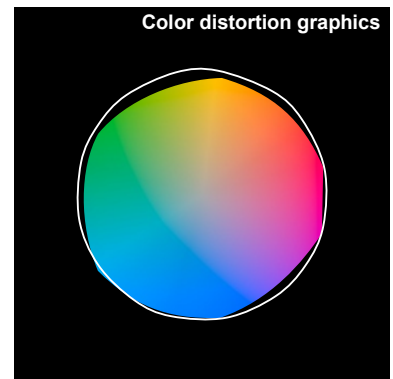
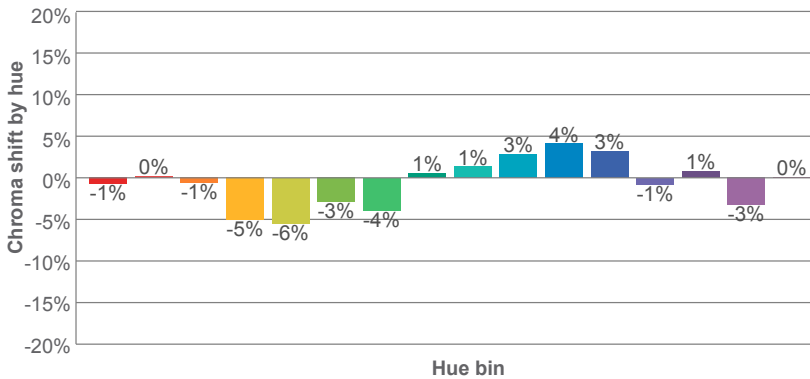
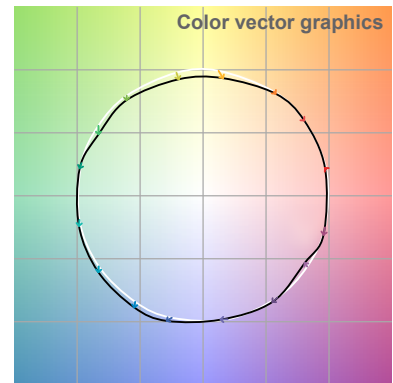
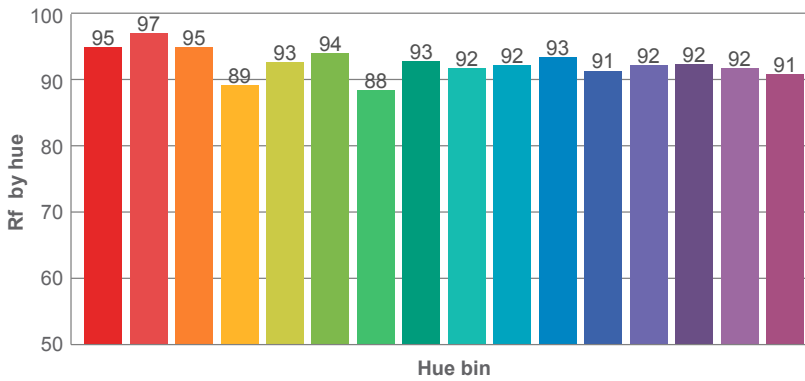
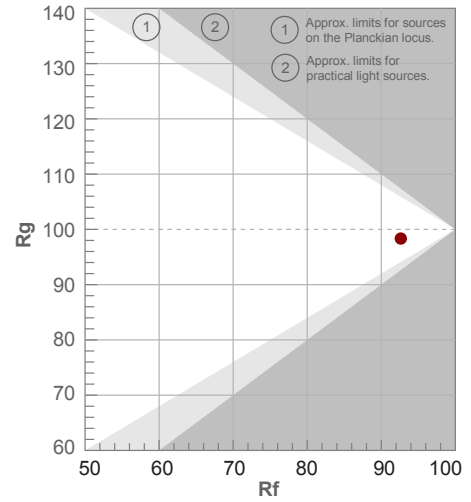
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color division from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2797 K	97.2	94.5	92.6	98.3	94.2	0.454	0.411	0.258	0.351	0.0008

2700K

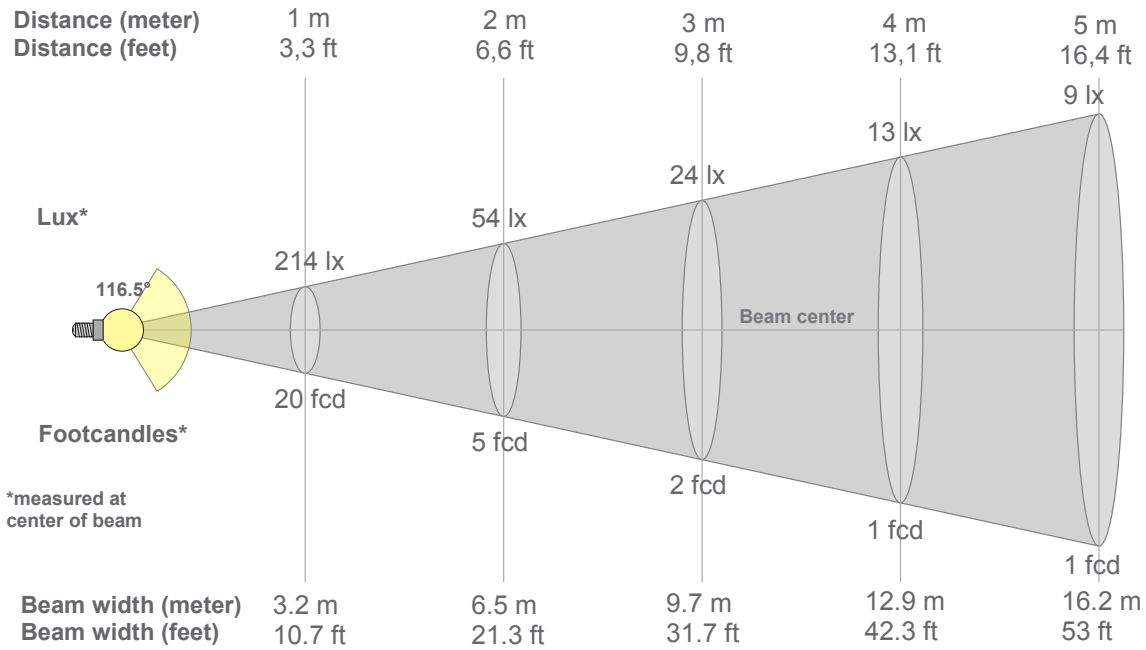
**Rf 92.6**  
Fidelity index Rf

**Rg 98.3**  
Gammut index Rg

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	95	-1%	1%
2	97	0%	-1%
3	95	-1%	-2%
4	89	-5%	-5%
5	93	-6%	-1%
6	94	-3%	2%
7	88	-4%	5%
8	93	1%	4%
9	92	1%	5%
10	92	3%	4%
11	93	4%	2%
12	91	3%	-3%
13	92	-1%	-5%
14	92	1%	-5%
15	92	-3%	1%
16	91	0%	-6%



2700K



### 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
214lx	54lx	24lx	13lx	9lx	6lx	4lx	3lx	3lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx
19.9fcd	5fcd	2.2fcd	1.2fcd	0.8fcd	0.6fcd	0.4fcd	0.3fcd	0.2fcd	0.2fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0fcd

### Intensities in 0° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
214	213	210	205	199	191	182	171	159	146	132	117	102	85	67	49	31	15	4	1
100%	99%	98%	96%	93%	89%	85%	80%	74%	68%	62%	55%	47%	40%	31%	23%	15%	7%	2%	1%

### Intensities in 90° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
214	213	210	205	199	191	182	171	159	146	132	117	102	85	67	49	31	15	4	1
100%	99%	98%	96%	93%	89%	85%	80%	74%	68%	62%	55%	47%	40%	31%	23%	15%	7%	2%	1%

### Intensities in 180° c-plane

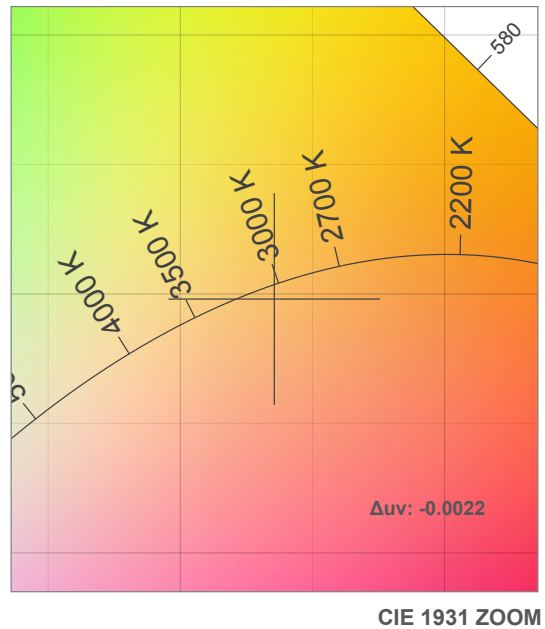
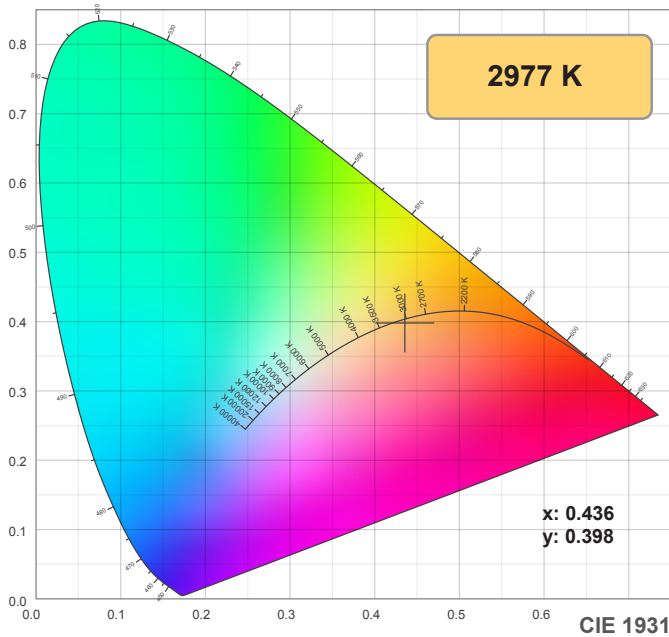
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
214	214	211	207	200	192	183	172	160	146	132	117	101	84	67	50	33	17	4	1
100%	100%	99%	96%	94%	90%	85%	80%	75%	68%	62%	55%	47%	39%	31%	23%	15%	8%	2%	0%

### Intensities in 270° c-plane

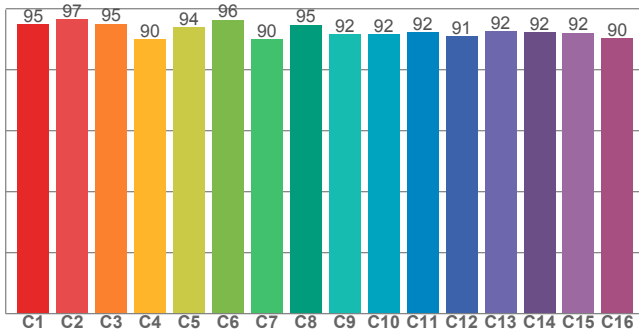
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
214	214	211	207	200	192	183	172	160	146	132	117	101	84	67	50	33	17	4	1
100%	100%	99%	96%	94%	90%	85%	80%	75%	68%	62%	55%	47%	39%	31%	23%	15%	8%	2%	0%

<b>Beam angle 50%</b>	<b>Field angle 10%</b>	<b>Cutoff angle 2,5%</b>	<b>Intensity ratio in 120° cone</b>	<b>Intensity ratio in 90° cone</b>
<b>116.5°</b>	<b>166.3°</b>	<b>178.4°</b>	<b>74.9%</b>	<b>50.4%</b>

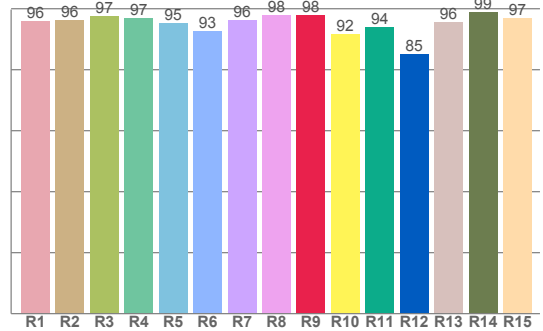
3000K



**TM30: 92.9**



**CRI: 96.1 (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
96.0	96.1	97.5	97.0	95.3	92.6	96.4	97.8	98.0	91.7	93.8	85.0	95.6	99.0	97.0

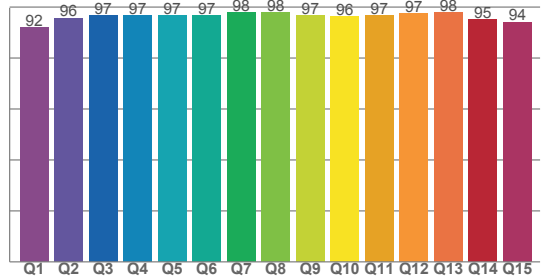
**TM30 C values, 16 binned values out of total of 99 C values**

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
95.0	96.5	95.1	90.0	93.8	96.3	90.0	94.7	91.6	91.5	92.2	91.0	92.5	92.2	92.1	90.4

**CQS Q values**

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
92.1	95.7	96.7	96.7	96.7	96.8	97.8	97.9	96.8	96.4	96.6	97.5	97.9	95.2	94.2

**CQS: 95.8**



## Color parameters

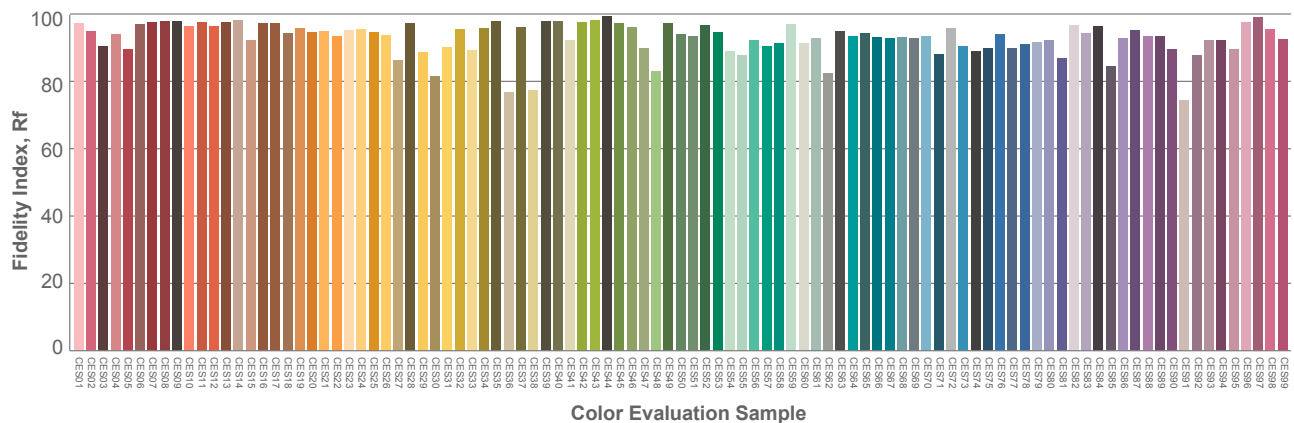
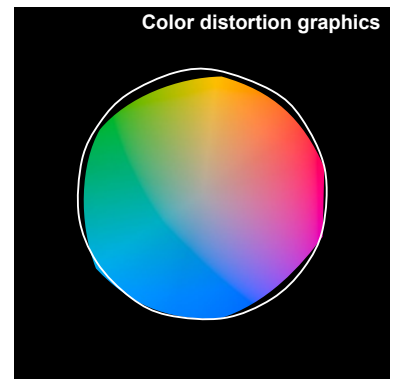
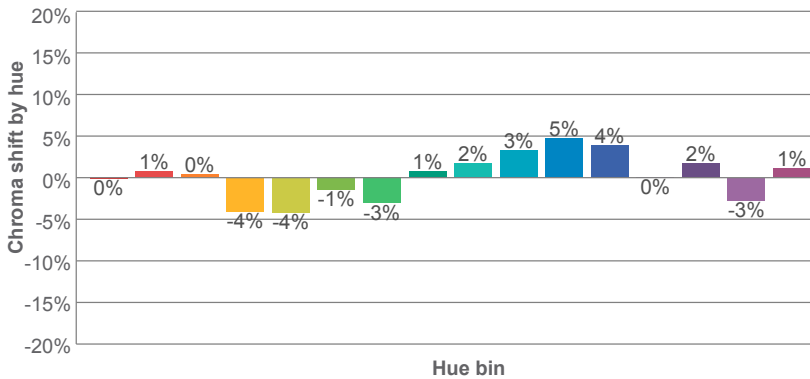
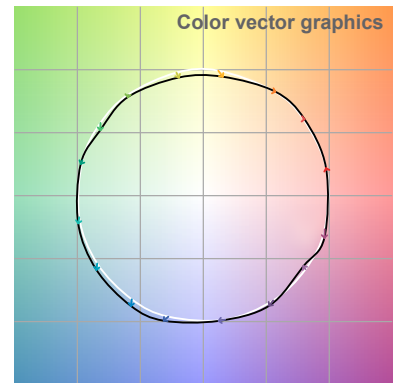
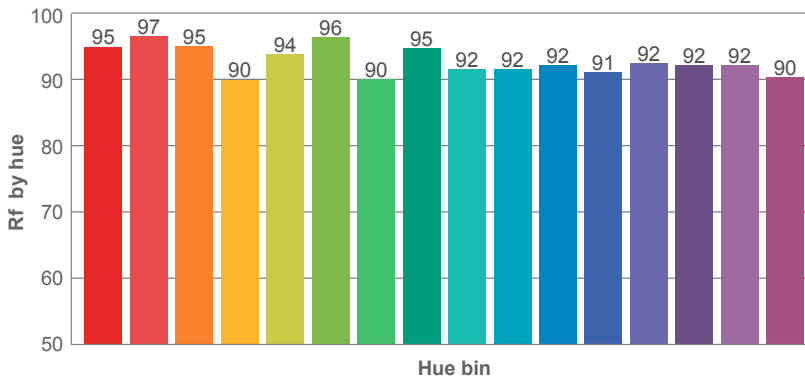
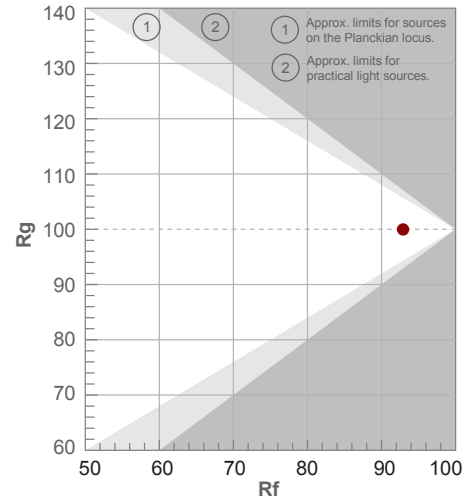
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2977 K	96.1	98.0	92.9	100.0	95.8	0.436	0.398	0.252	0.346	-0.0022

3000K

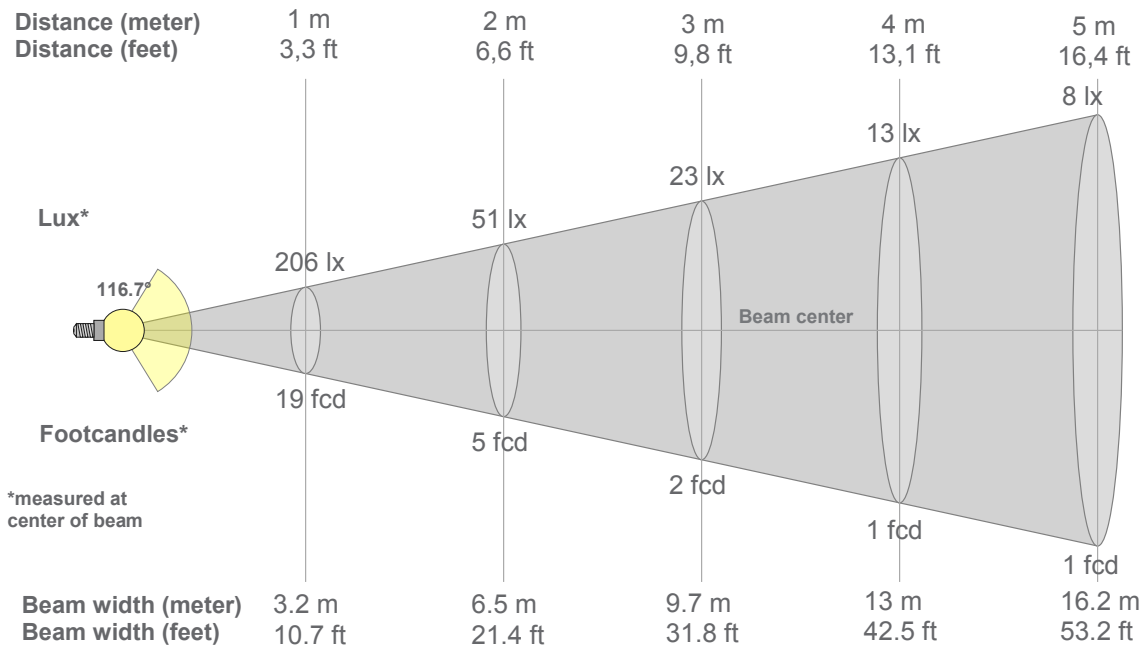
**Rf 92.9**  
Fidelity index Rf

**Rg 100.0**  
Gammut index Rg

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	95	0%	1%
2	97	1%	-1%
3	95	0%	-1%
4	90	-4%	-4%
5	94	-4%	-1%
6	96	-1%	1%
7	90	-3%	5%
8	95	1%	3%
9	92	2%	5%
10	92	3%	4%
11	92	5%	2%
12	91	4%	-3%
13	92	0%	-5%
14	92	2%	-5%
15	92	-3%	1%
16	90	1%	-7%



3000K



### 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
206lx	51lx	23lx	13lx	8lx	6lx	4lx	3lx	3lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx
19.1fcd	4.8fcd	2.1fcd	1.2fcd	0.8fcd	0.5fcd	0.4fcd	0.3fcd	0.2fcd	0.2fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0fcd

### Intensities in 0° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
206	205	202	197	191	184	174	164	152	140	127	113	98	82	65	48	31	16	4	1
100%	100%	98%	96%	93%	89%	85%	80%	74%	68%	62%	55%	48%	40%	32%	23%	15%	8%	2%	0%

### Intensities in 90° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
206	205	202	197	191	184	174	164	152	140	127	113	98	82	65	48	31	16	4	1
100%	100%	98%	96%	93%	89%	85%	80%	74%	68%	62%	55%	48%	40%	32%	23%	15%	8%	2%	0%

### Intensities in 180° c-plane

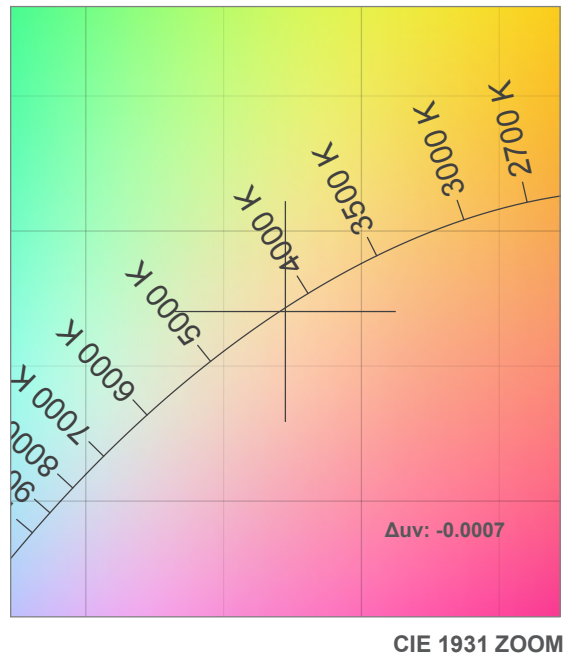
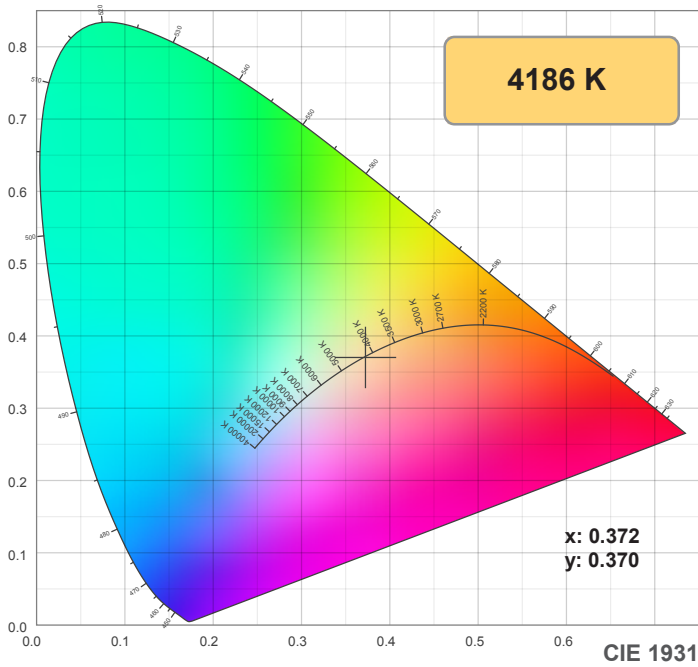
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
206	205	203	199	193	185	176	166	154	142	128	113	98	82	65	48	31	15	4	1
100%	100%	99%	97%	94%	90%	86%	81%	75%	69%	62%	55%	47%	40%	32%	23%	15%	7%	2%	0%

### Intensities in 270° c-plane

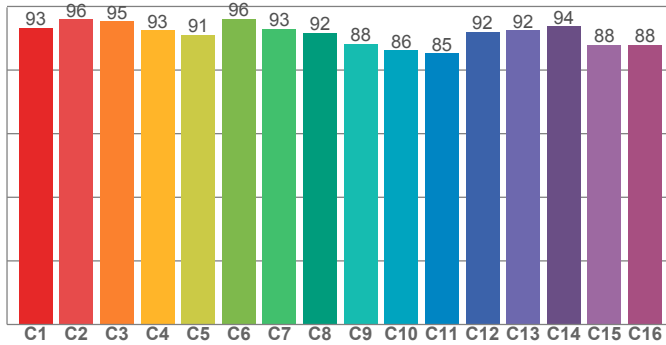
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
206	205	203	199	193	185	176	166	154	142	128	113	98	82	65	48	31	15	4	1
100%	100%	99%	97%	94%	90%	86%	81%	75%	69%	62%	55%	47%	40%	32%	23%	15%	7%	2%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
116.7°	166.5°	178.7°	75.0%	50.4%

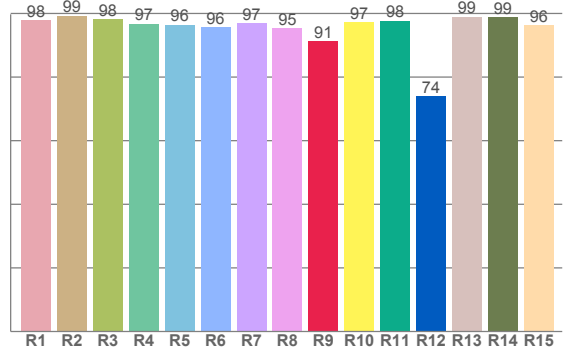
4200K



**TM30: 91.3**



**CRI: 97.1 (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
97.9	99.3	98.3	96.8	96.5	95.6	97.0	95.5	91.2	97.4	97.7	74.0	99.0	98.9	96.3

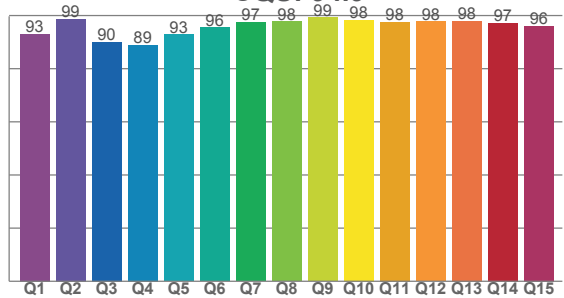
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
93.3	95.9	95.4	92.6	91.1	96.2	92.9	91.7	88.3	86.2	85.2	92.0	92.5	93.7	88.0	88.0

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
93.1	98.6	90.0	89.0	92.9	95.5	97.5	97.8	99.3	98.3	97.6	97.8	97.9	97.2	96.0

**CQS: 94.9**



### Color parameters

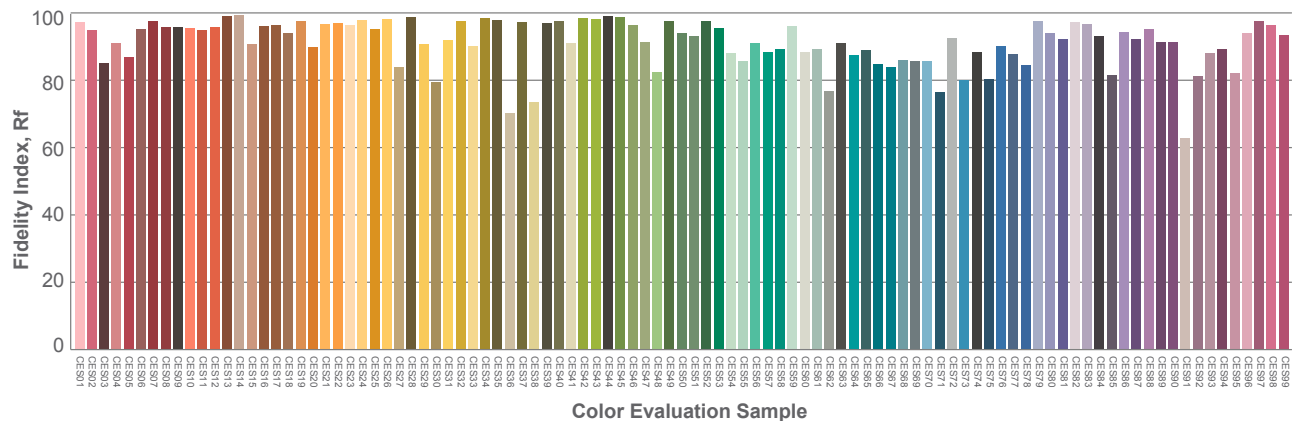
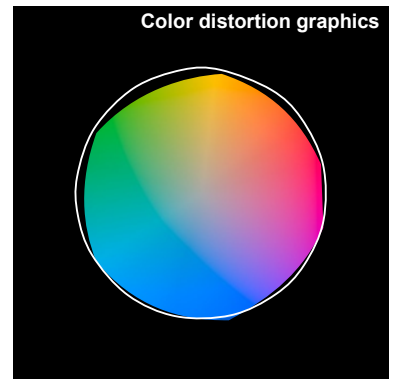
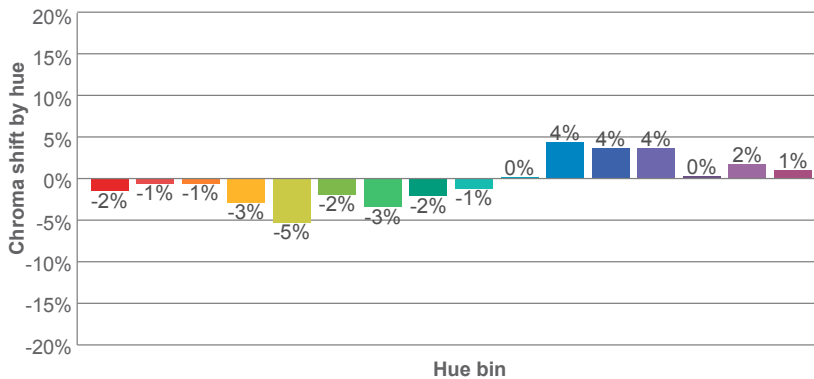
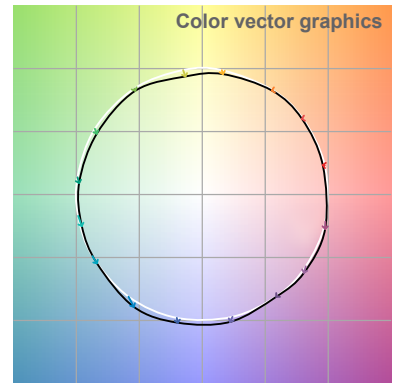
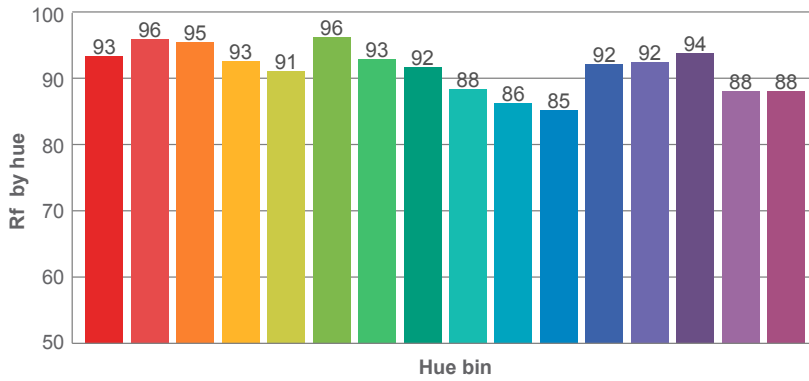
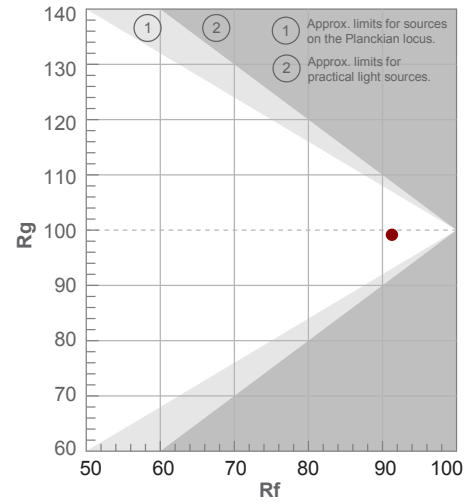
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
4186 K	97.1	91.2	91.3	99.2	94.9	0.372	0.370	0.222	0.332	-0.0007

4200K

**Rf 91.3**  
Fidelity index Rf

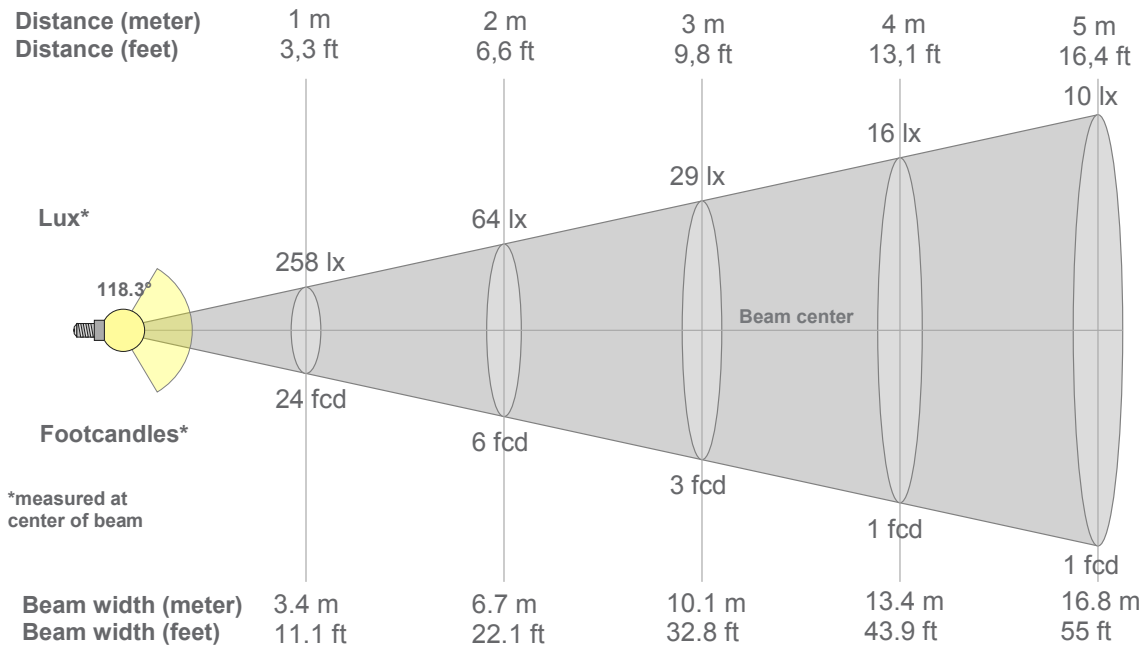
**Rg 99.2**  
Gammut index Rg

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	93	-2%	1%
2	96	-1%	0%
3	95	-1%	1%
4	93	-3%	-2%
5	91	-5%	-1%
6	96	-2%	0%
7	93	-3%	2%
8	92	-2%	4%
9	88	-1%	9%
10	86	0%	7%
11	85	4%	8%
12	92	4%	2%
13	92	4%	-3%
14	94	0%	-1%
15	88	2%	-5%
16	88	1%	-6%





4200K



### 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
258lx	64lx	29lx	16lx	10lx	7lx	5lx	4lx	3lx	3lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx
23.9fcd	6fcd	2.7fcd	1.5fcd	1fcd	0.7fcd	0.5fcd	0.4fcd	0.3fcd	0.2fcd	0.2fcd	0.2fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd

### Intensities in 0° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
258	257	254	249	242	234	223	210	195	180	163	145	126	106	85	64	43	23	8	2
100%	100%	98%	97%	94%	91%	86%	82%	76%	70%	63%	56%	49%	41%	33%	25%	17%	9%	3%	1%

### Intensities in 90° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
258	257	254	249	242	234	223	210	195	180	163	145	126	106	85	64	43	23	8	2
100%	100%	98%	97%	94%	91%	86%	82%	76%	70%	63%	56%	49%	41%	33%	25%	17%	9%	3%	1%

### Intensities in 180° c-plane

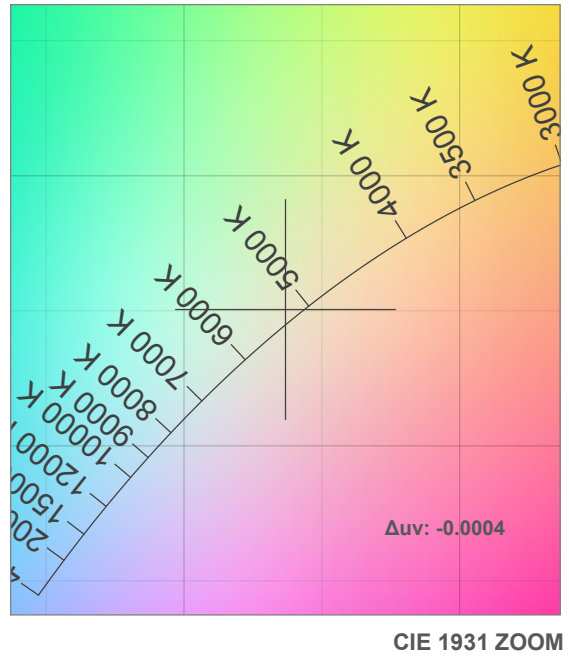
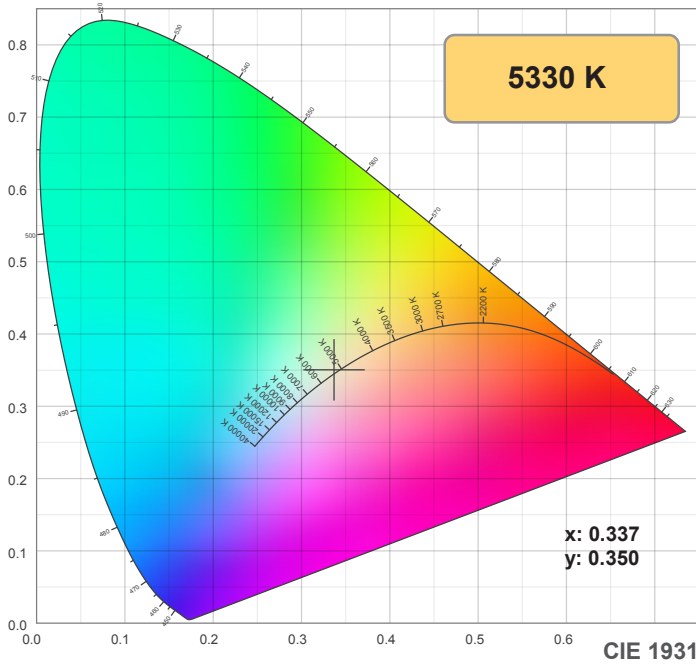
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
258	257	254	249	243	234	224	212	198	182	165	146	125	104	81	58	35	16	3	1
100%	100%	99%	97%	94%	91%	87%	82%	77%	71%	64%	57%	49%	40%	31%	22%	14%	6%	1%	0%

### Intensities in 270° c-plane

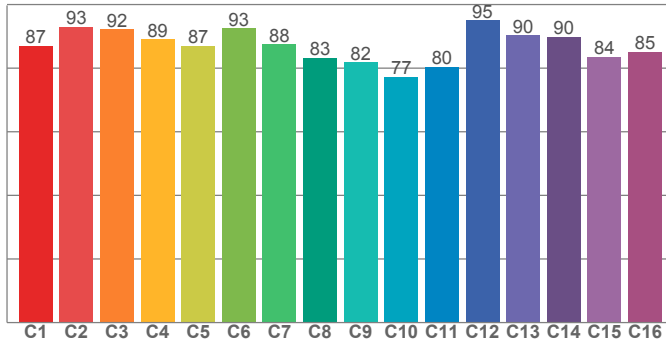
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
258	257	254	249	243	234	224	212	198	182	165	146	125	104	81	58	35	16	3	1
100%	100%	99%	97%	94%	91%	87%	82%	77%	71%	64%	57%	49%	40%	31%	22%	14%	6%	1%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
118.3°	166.7°	178.8°	75.0%	50.2%

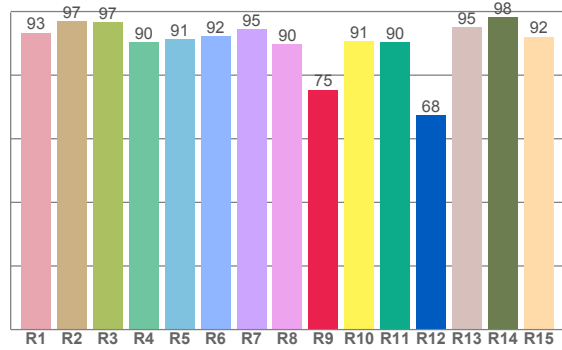
5000K



**TM30: 87.0**



**CRI: 93.1 (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
93.4	97.0	96.7	90.4	91.3	92.2	94.5	89.7	75.4	90.7	90.3	67.5	95.0	98.4	92.1

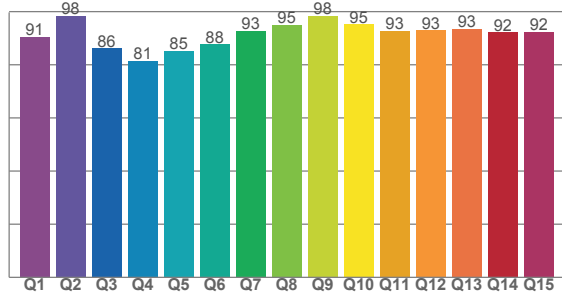
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
87.0	93.1	92.2	89.1	87.0	92.6	87.5	83.3	81.8	77.3	80.4	95.1	90.3	89.9	83.6	85.1

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
90.6	98.3	86.1	81.4	85.2	87.6	92.6	94.9	98.2	95.1	92.6	92.8	93.4	92.2	92.4

**CQS: 90.4**



## Color parameters

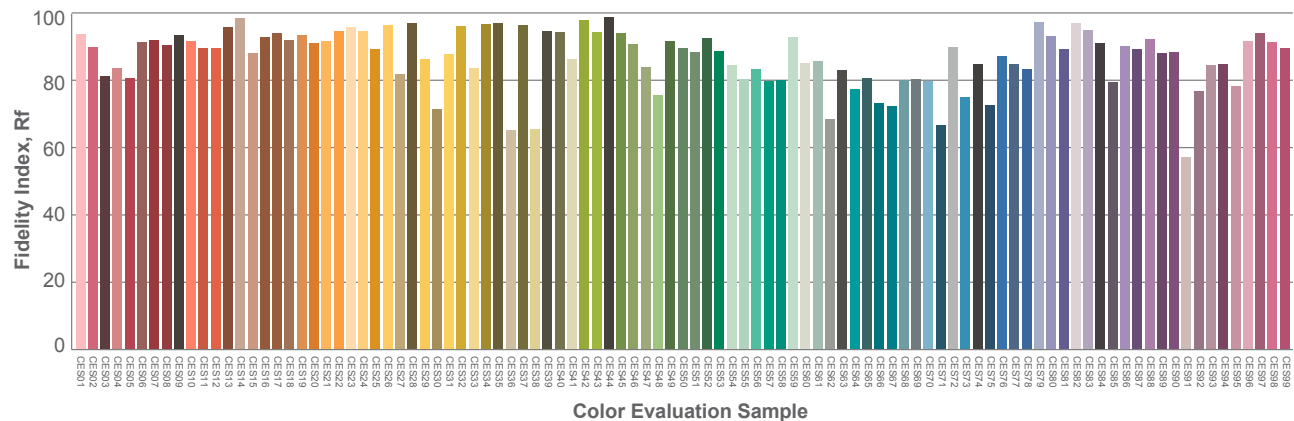
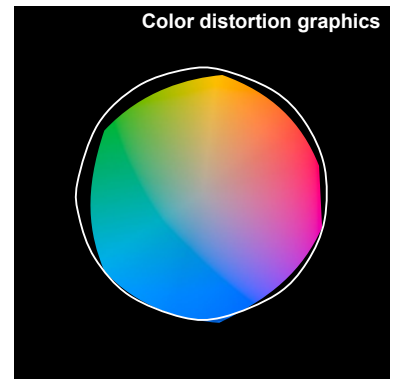
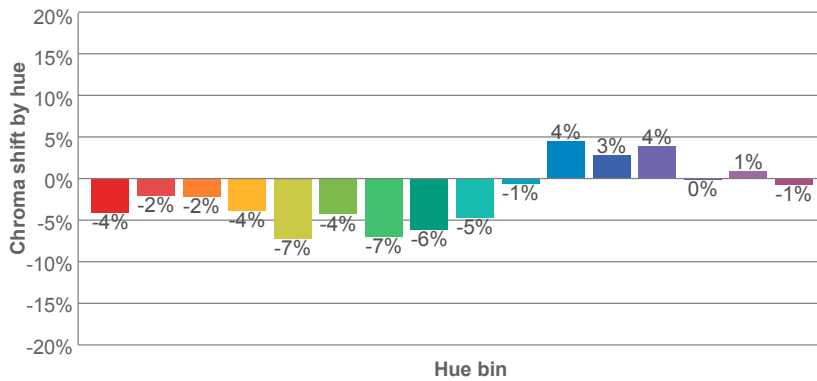
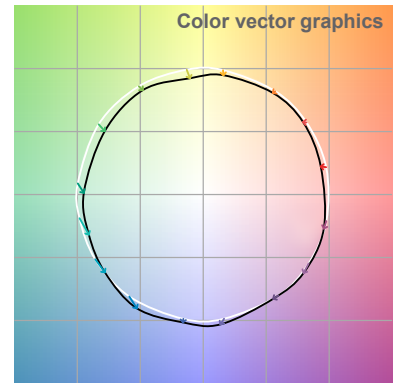
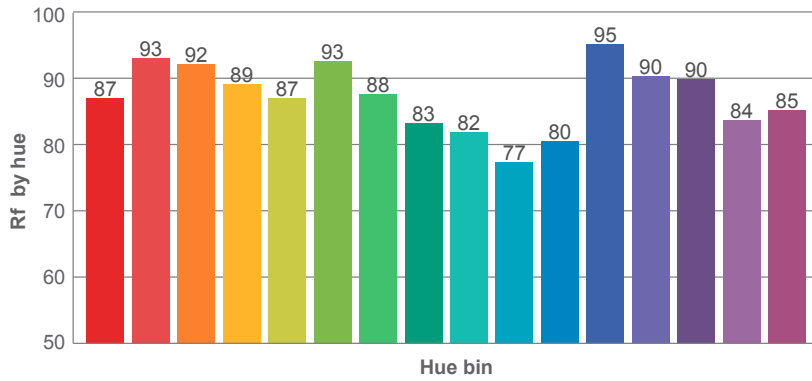
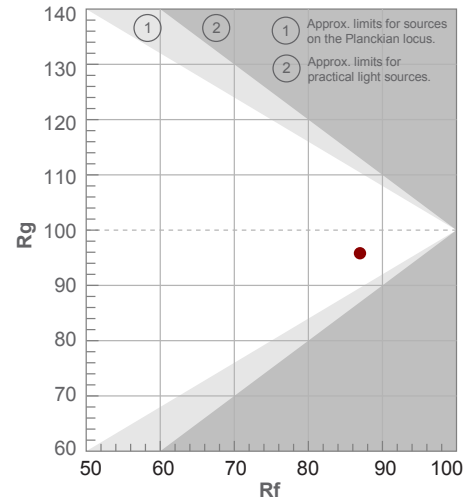
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
5330 K	93.1	75.4	87.0	95.8	90.4	0.337	0.350	0.206	0.322	-0.0004

5000K

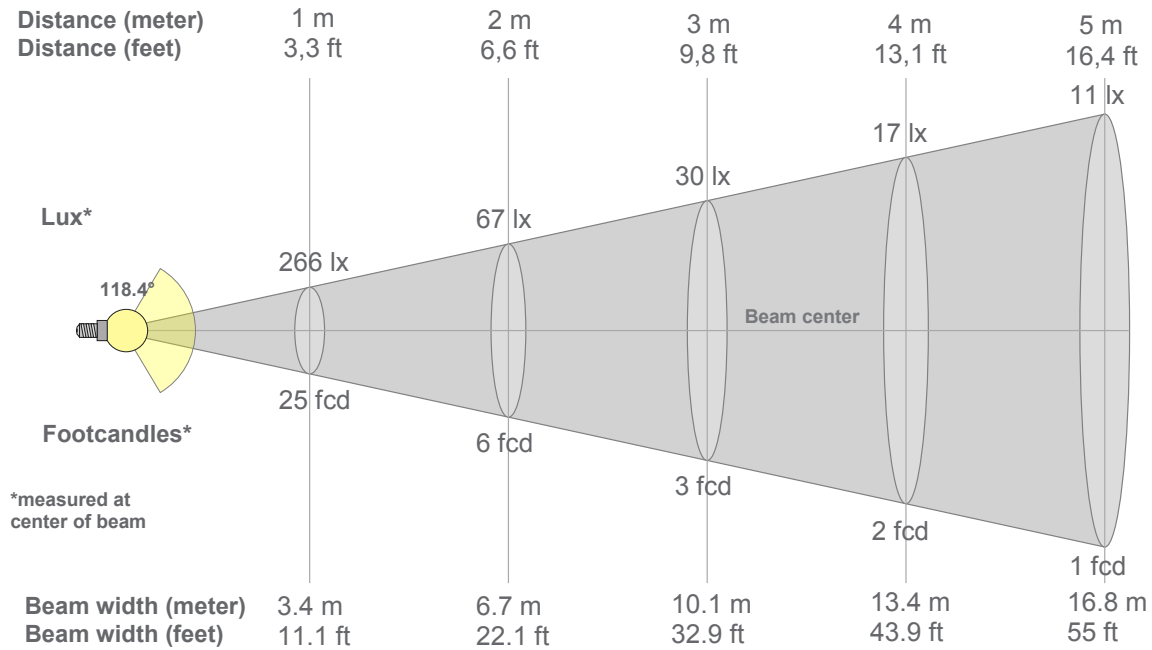
**Rf 87.0**  
Fidelity index Rf

**Rg 95.8**  
Gammut index Rg

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	87	-4%	1%
2	93	-2%	2%
3	92	-2%	1%
4	89	-4%	-1%
5	87	-7%	-1%
6	93	-4%	-1%
7	88	-7%	2%
8	83	-6%	6%
9	82	-5%	14%
10	77	-1%	13%
11	80	4%	10%
12	95	3%	0%
13	90	4%	-4%
14	90	0%	-5%
15	84	1%	-8%
16	85	-1%	-6%



5000K



### 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
266lx	67lx	30lx	17lx	11lx	7lx	5lx	4lx	3lx	3lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx
24.8fcd	6.2fcd	2.8fcd	1.5fcd	1fcd	0.7fcd	0.5fcd	0.4fcd	0.3fcd	0.2fcd	0.2fcd	0.2fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd

### Intensities in 0° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
266	265	262	257	249	240	229	216	201	184	168	149	130	110	88	66	44	24	8	1
100%	99%	98%	96%	94%	90%	86%	81%	75%	69%	63%	56%	49%	41%	33%	25%	17%	9%	3%	1%

### Intensities in 90° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
266	265	262	257	249	240	229	216	201	184	168	149	130	110	88	66	44	24	8	1
100%	99%	98%	96%	94%	90%	86%	81%	75%	69%	63%	56%	49%	41%	33%	25%	17%	9%	3%	1%

### Intensities in 180° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
266	266	263	258	252	243	232	219	205	188	170	151	130	108	84	61	38	18	4	1
100%	100%	99%	97%	94%	91%	87%	82%	77%	71%	64%	57%	49%	40%	32%	23%	14%	7%	1%	0%

### Intensities in 270° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
266	266	263	258	252	243	232	219	205	188	170	151	130	108	84	61	38	18	4	1
100%	100%	99%	97%	94%	91%	87%	82%	77%	71%	64%	57%	49%	40%	32%	23%	14%	7%	1%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
118.4°	167.1°	179.3°	74.7%	50.0%