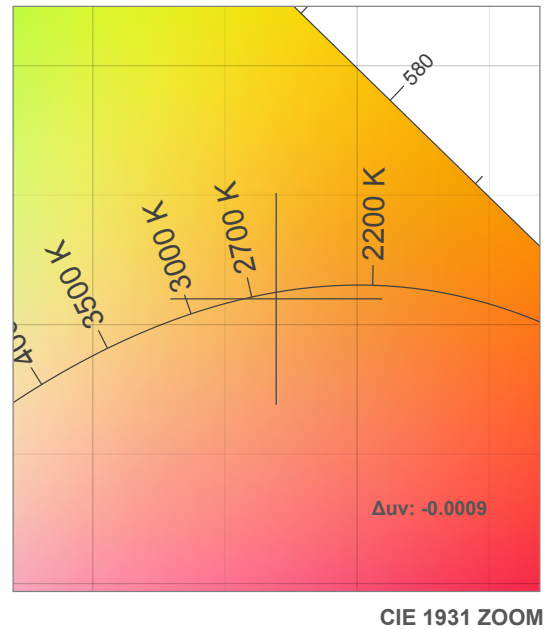
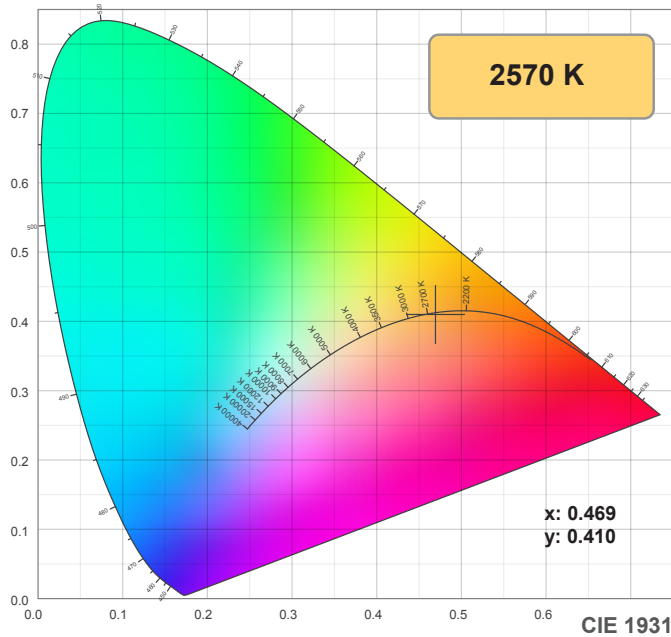
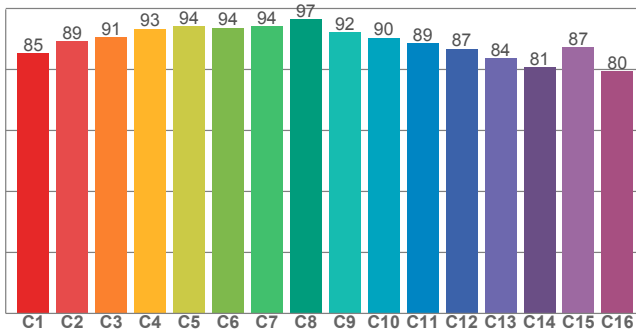


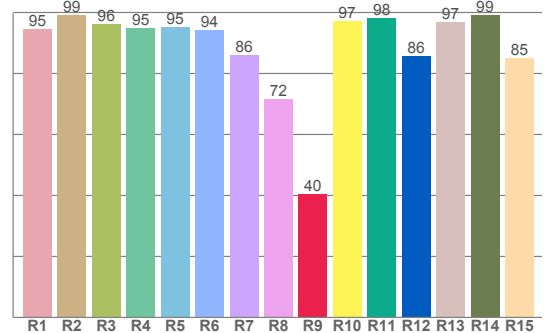
2700K



TM30: 89.2



CRI: 91.5 (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
94.5	99.1	96.2	95.0	95.3	94.2	85.9	71.7	40.4	97.2	98.2	85.8	96.8	99.1	85.0

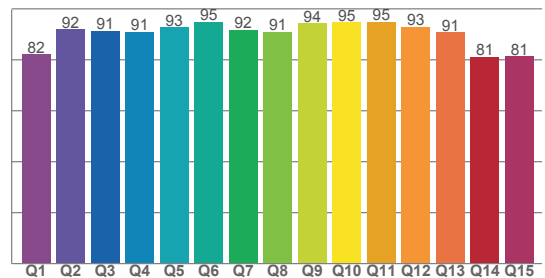
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
85.3	89.2	90.6	93.3	94.2	93.7	94.1	96.6	92.2	90.4	88.5	86.8	83.7	80.8	87.3	79.5

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
82.1	92.0	91.3	90.8	92.7	94.8	91.8	90.9	94.2	94.7	94.8	92.9	90.8	81.1	81.3

CQS: 88.9



Color parameters

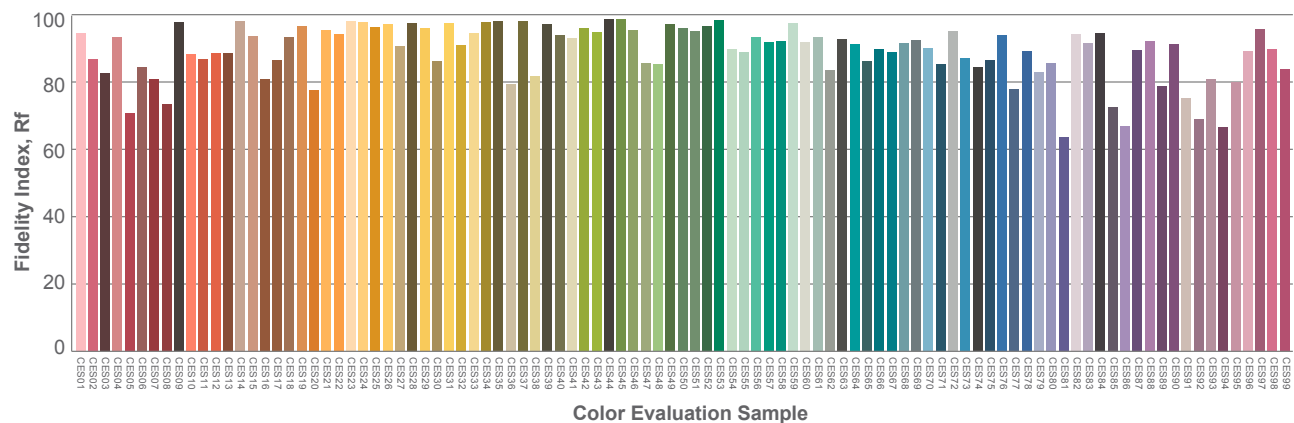
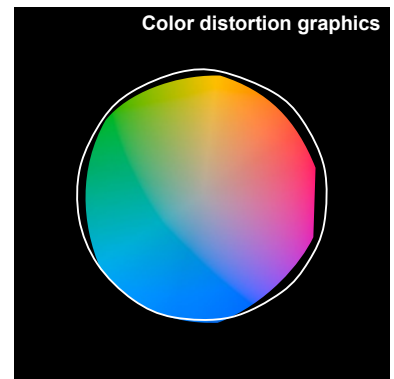
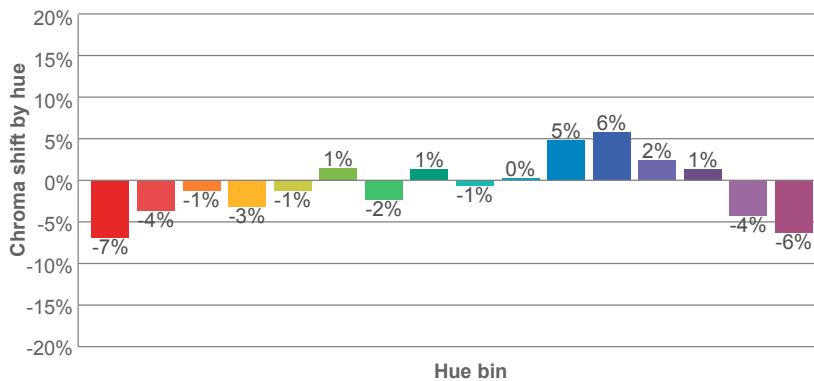
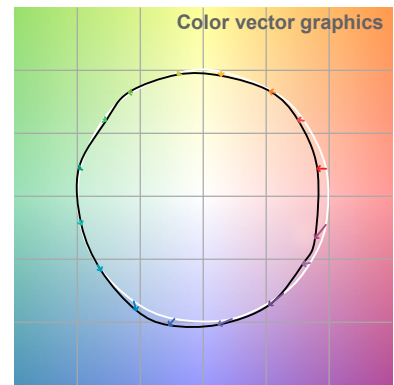
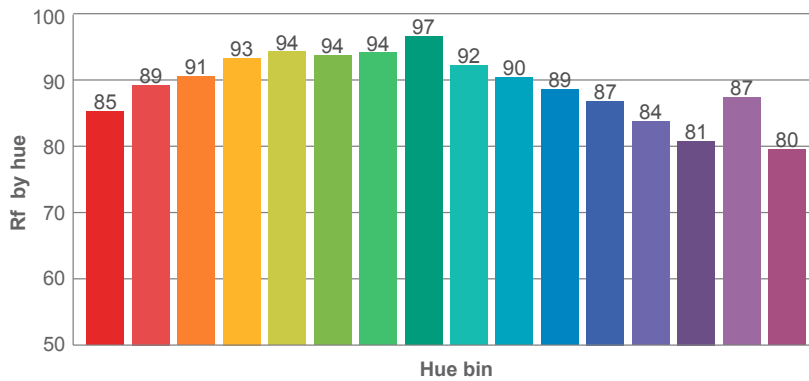
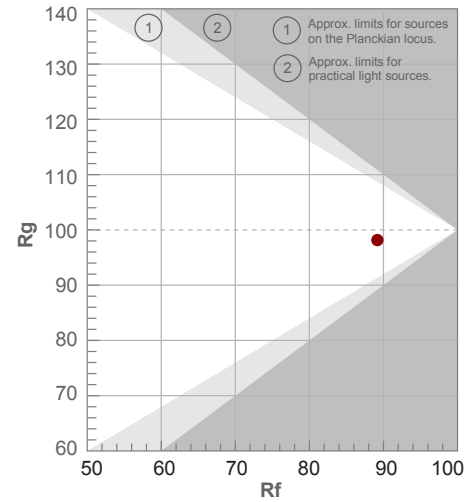
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2570 K	91.5	40.4	89.2	98.2	88.9	0.469	0.410	0.269	0.352	-0.0009

2700K

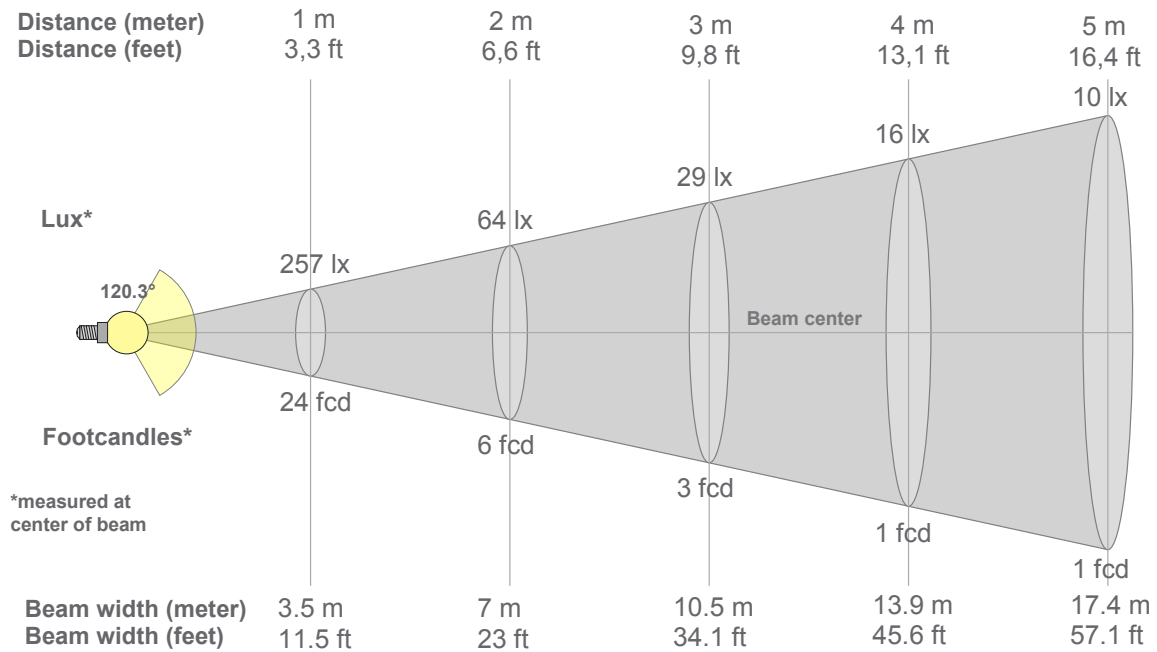
Rf 89.2
Fidelity index Rf

Rg 98.2
Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	85	-7%	2%
2	89	-4%	4%
3	91	-1%	4%
4	93	-3%	-1%
5	94	-1%	2%
6	94	1%	2%
7	94	-2%	0%
8	97	1%	1%
9	92	-1%	4%
10	90	0%	5%
11	89	5%	6%
12	87	6%	-3%
13	84	2%	-11%
14	81	1%	-14%
15	87	-4%	-4%
16	80	-6%	-12%



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
257lx	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	0.1fcd	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°
257	256	253	248	241	233	223	211	198	183	166	148	129	109	87	65	43	23	10	2
100%	100%	98%	97%	94%	91%	87%	82%	77%	71%	65%	58%	50%	42%	34%	25%	17%	9%	4%	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°
257	256	253	248	241	233	223	211	198	183	166	148	129	109	87	65	43	23	10	2
100%	100%	98%	97%	94%	91%	87%	82%	77%	71%	65%	58%	50%	42%	34%	25%	17%	9%	4%	1%

Intensities in 180° c-plane

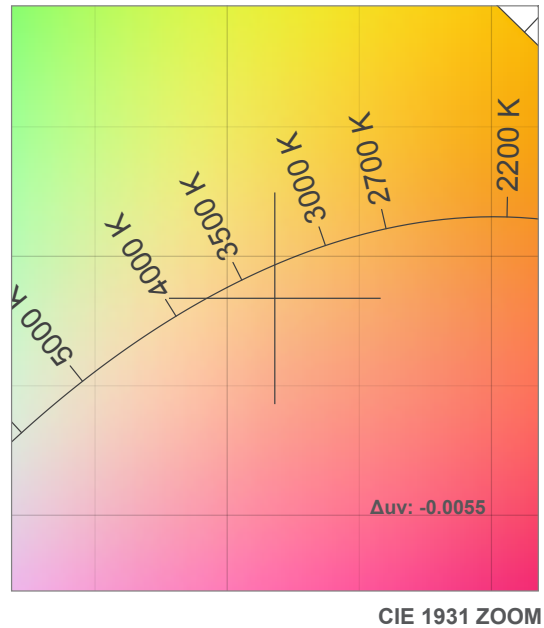
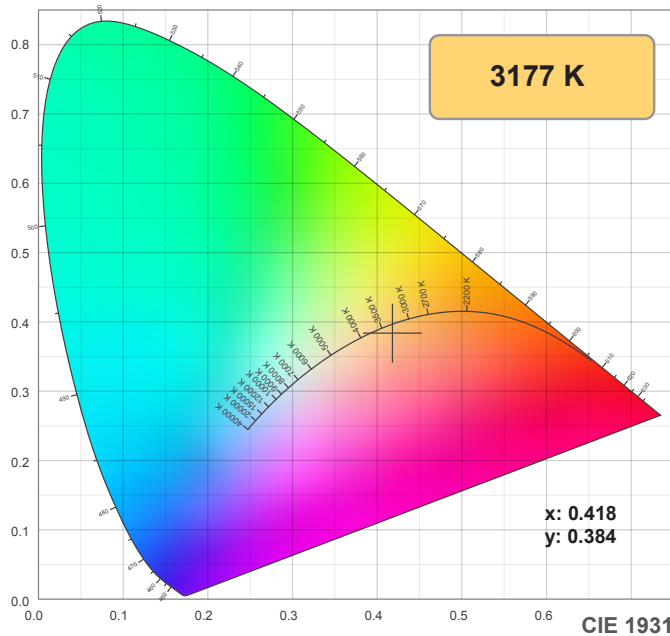
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
257	256	254	249	242	234	224	212	199	183	167	149	129	108	86	64	41	21	8	1
100%	100%	99%	97%	94%	91%	87%	83%	77%	71%	65%	58%	50%	42%	34%	25%	16%	8%	3%	0%

Intensities in 270° c-plane

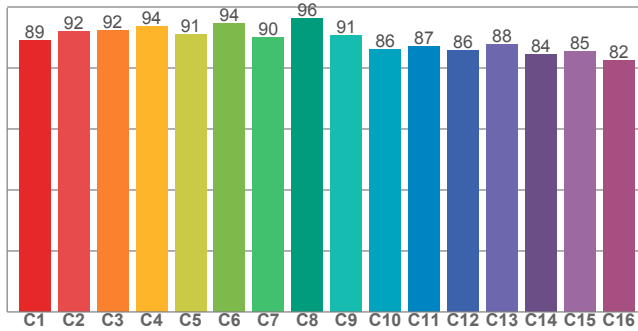
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
257	256	254	249	242	234	224	212	199	183	167	149	129	108	86	64	41	21	8	1
100%	100%	99%	97%	94%	91%	87%	83%	77%	71%	65%	58%	50%	42%	34%	25%	16%	8%	3%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
120.3°	168°	182.4°	74.4%	49.5%

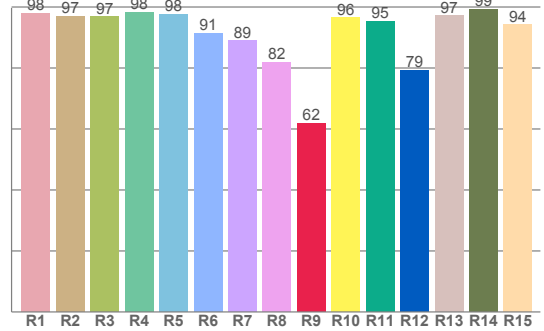
3000K



TM30: 89.6



CRI: 93.7 (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
97.9	96.9	96.8	98.3	97.7	91.3	89.0	81.9	61.8	96.5	95.3	79.2	97.2	99.2	94.2

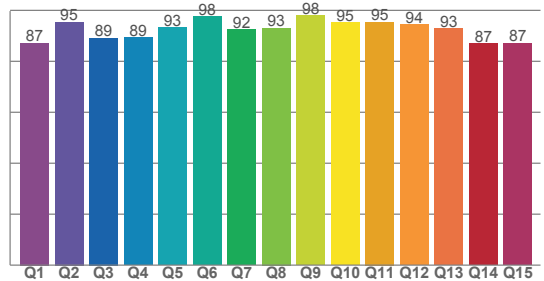
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
89.1	92.2	92.3	93.8	91.1	94.5	90.1	96.3	90.6	86.0	87.0	85.7	87.7	84.4	85.3	82.5

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
87.1	95.4	89.1	89.4	93.2	97.7	92.3	93.1	98.0	95.3	95.5	94.4	92.9	87.1	87.1

CQS: 91.5



Color parameters

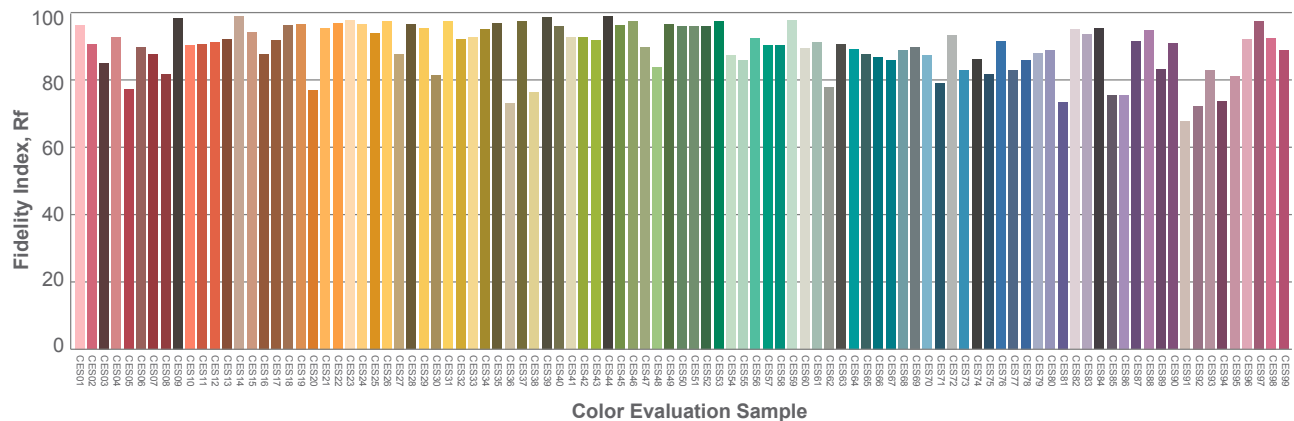
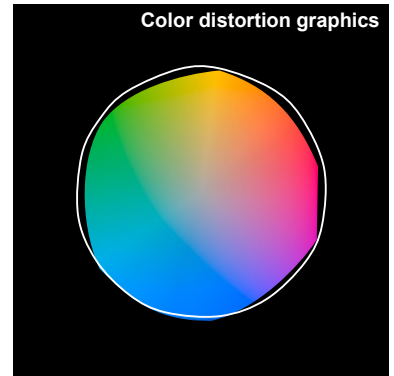
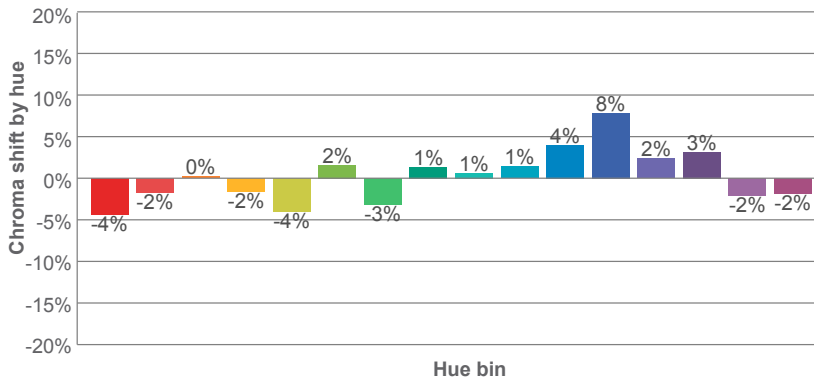
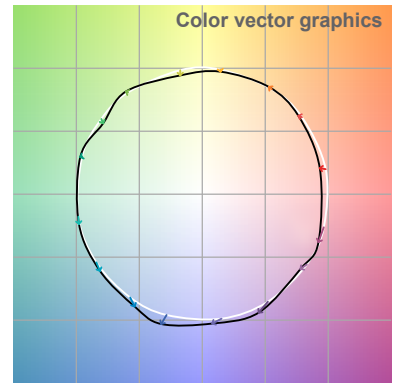
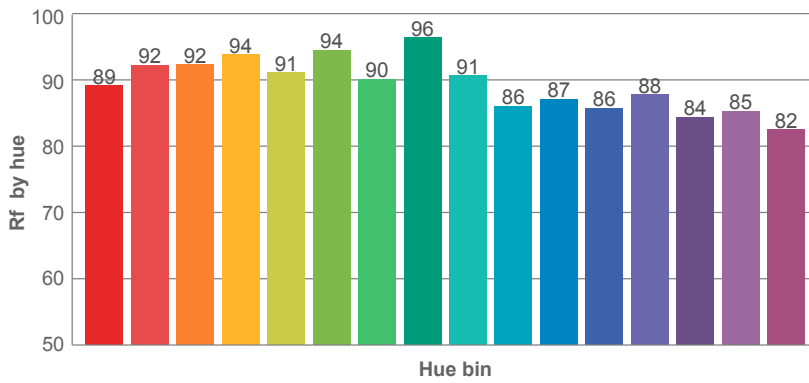
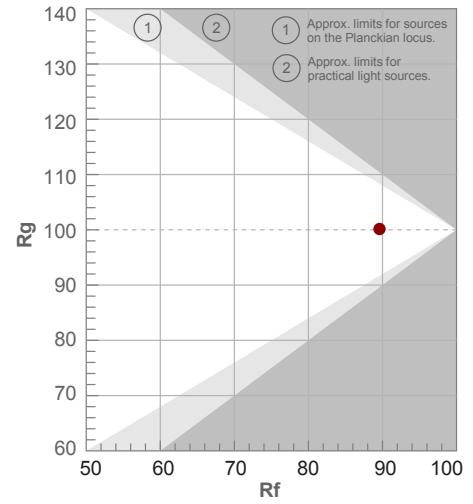
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3177 K	93.7	61.8	89.6	100.1	91.5	0.418	0.384	0.247	0.340	-0.0055

3000K

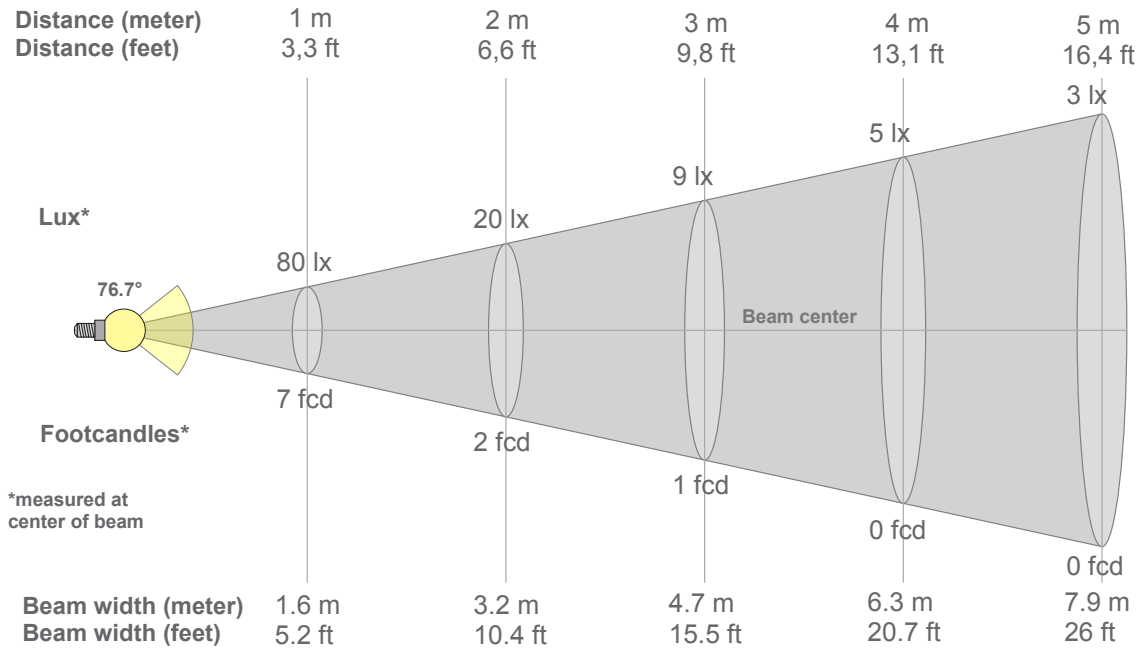
Rf 89.6
Fidelity index Rf

Rg 100.1
Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	89	-4%	2%
2	92	-2%	2%
3	92	0%	3%
4	94	-2%	-1%
5	91	-4%	1%
6	94	2%	1%
7	90	-3%	2%
8	96	1%	1%
9	91	1%	6%
10	86	1%	7%
11	87	4%	7%
12	86	8%	-3%
13	88	2%	-8%
14	84	3%	-11%
15	85	-2%	-6%
16	82	-2%	-12%



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
80lx	20lx	9lx	5lx	3lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx
7.4fcd	1.9fcd	0.8fcd	0.5fcd	0.3fcd	0.2fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	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°
80.1	80.8	80.5	79.2	76.7	73.2	69.0	64.0	58.6	52.8	46.4	39.8	33.0	26.2	19.4	13.1	7.8	4.1	2.2	1.5
100%	101%	101%	99%	96%	91%	86%	80%	73%	66%	58%	50%	41%	33%	24%	16%	10%	5%	3%	2%

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°
80.1	80.8	80.5	79.2	76.7	73.2	69.0	64.0	58.6	52.8	46.4	39.8	33.0	26.2	19.4	13.1	7.8	4.1	2.2	1.5
100%	101%	101%	99%	96%	91%	86%	80%	73%	66%	58%	50%	41%	33%	24%	16%	10%	5%	3%	2%

Intensities in 180° c-plane

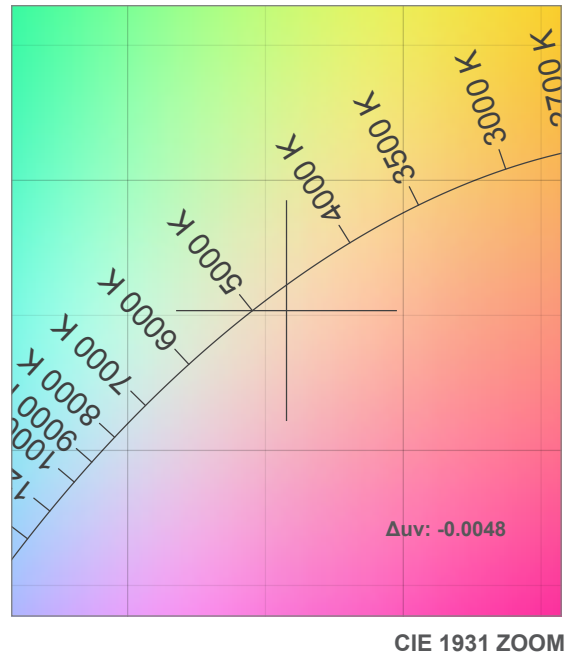
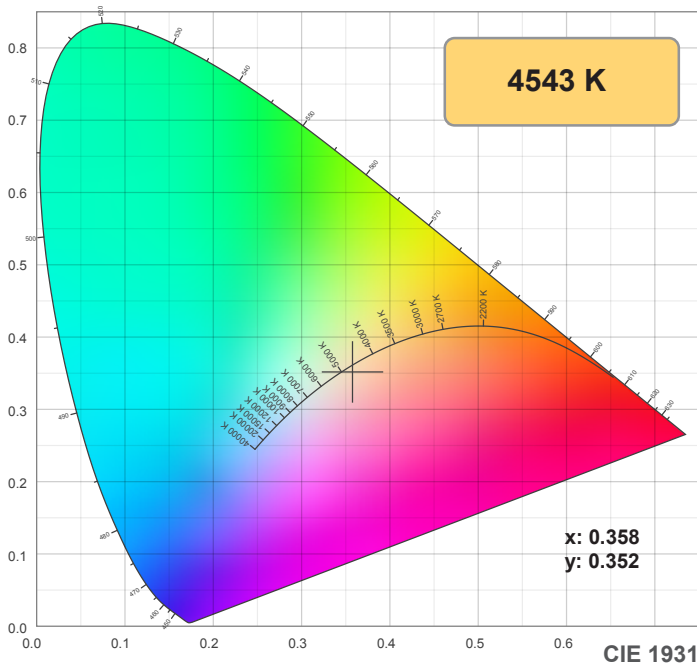
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
80.1	78.3	73.3	63.5	48.4	29.6	12.6	3.6	0.7	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
100%	98%	92%	79%	60%	37%	16%	4%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Intensities in 270° c-plane

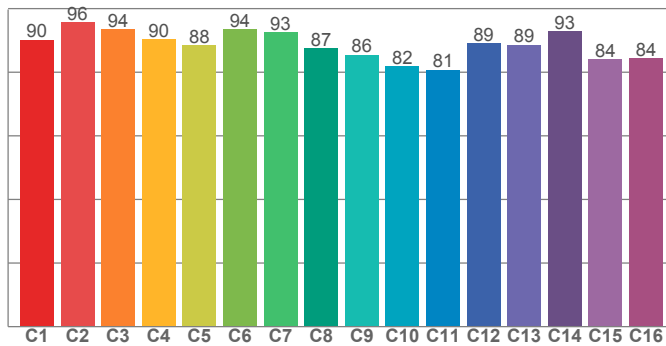
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
80.1	78.3	73.3	63.5	48.4	29.6	12.6	3.6	0.7	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
100%	98%	92%	79%	60%	37%	16%	4%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
76.7°	111.4°	126.9°	80.4%	60.0%

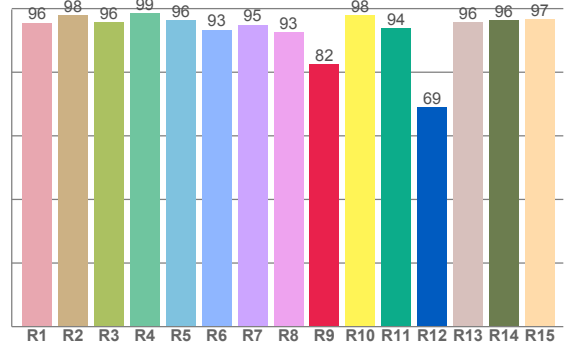
4200K



TM30: 88.6



CRI: 95.6 (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
95.6	97.8	95.7	98.6	96.3	93.4	94.9	92.5	82.5	97.9	93.9	69.0	95.8	96.4	96.6

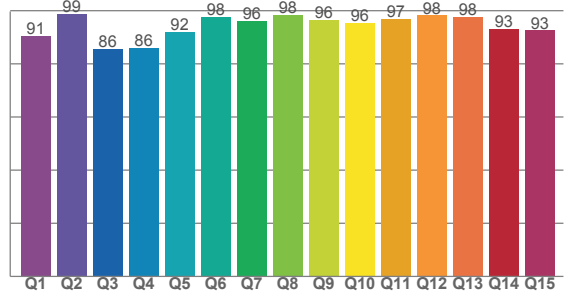
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
90.1	95.7	93.5	90.4	88.4	93.6	92.6	87.5	85.5	81.8	80.8	89.0	88.7	92.9	84.0	84.4

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
90.5	98.7	85.6	85.9	92.1	97.6	96.2	98.3	96.5	95.5	97.0	98.2	97.8	93.1	92.5

CQS: 93.0



Color parameters

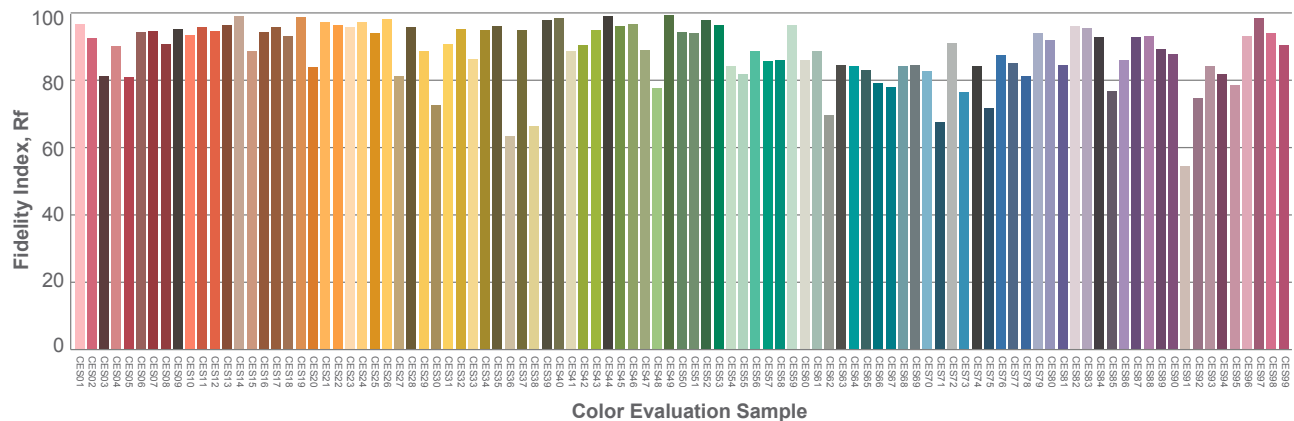
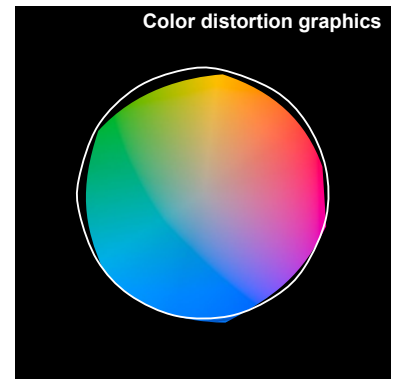
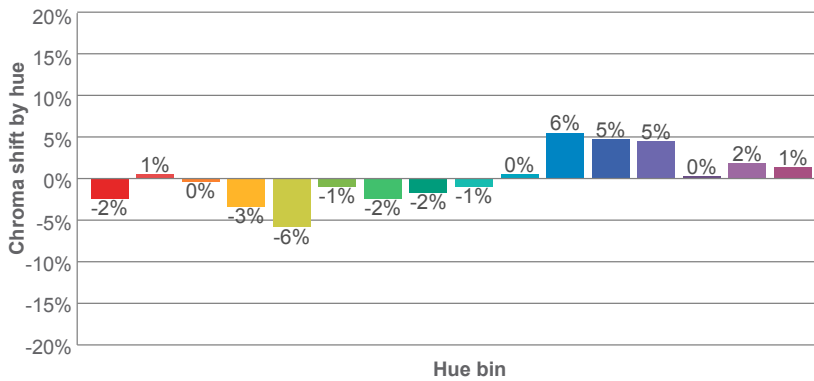
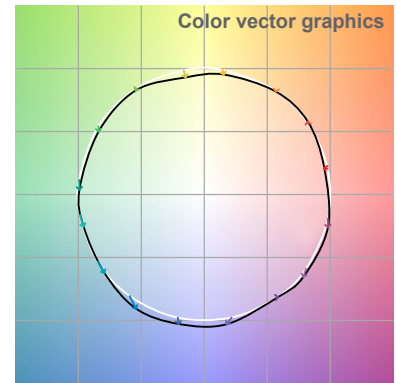
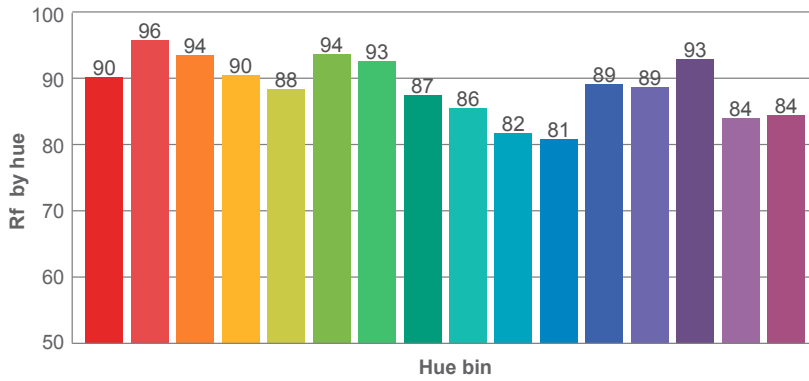
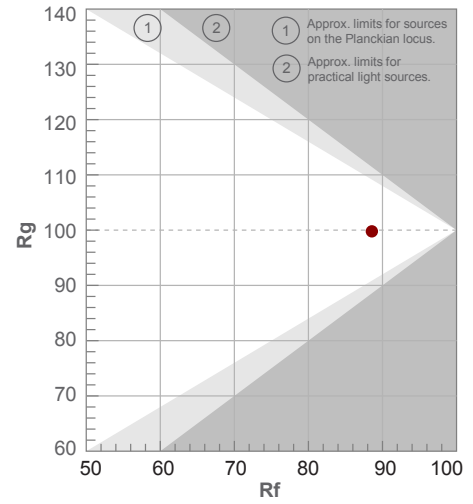
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
4543 K	95.6	82.5	88.6	99.8	93.0	0.358	0.352	0.220	0.324	-0.0048

4200K

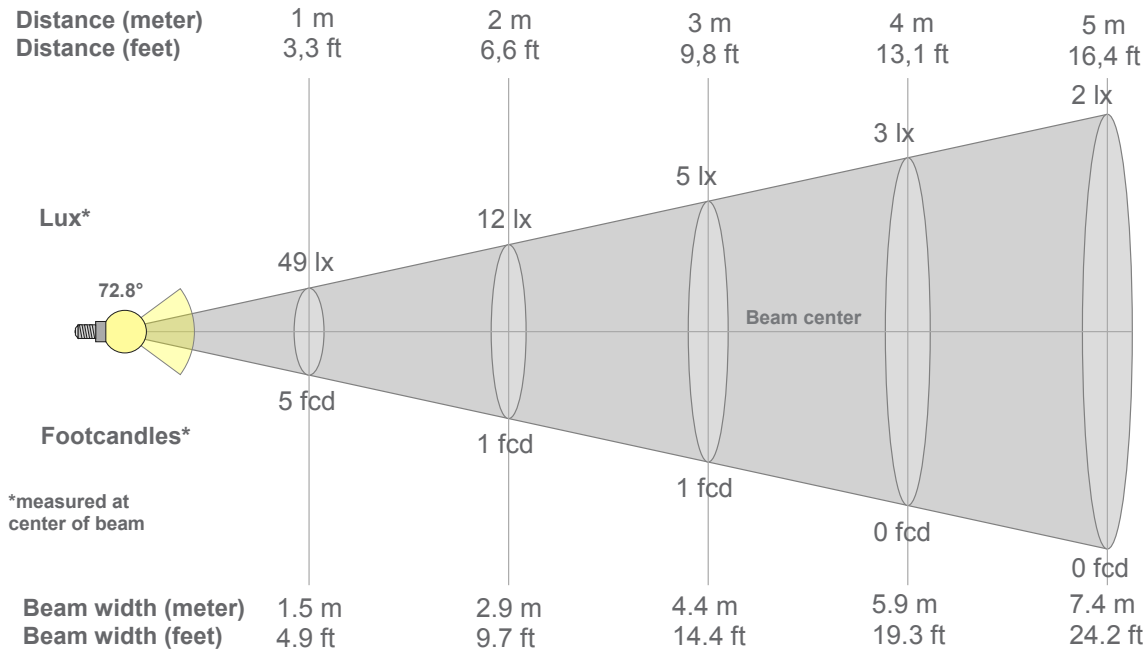
Rf 88.6
Fidelity index Rf

Rg 99.8
Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	90	-2%	1%
2	96	1%	1%
3	94	0%	0%
4	90	-3%	-2%
5	88	-6%	0%
6	94	-1%	2%
7	93	-2%	3%
8	87	-2%	8%
9	86	-1%	10%
10	82	0%	10%
11	81	6%	10%
12	89	5%	1%
13	89	5%	-5%
14	93	0%	1%
15	84	2%	-7%
16	84	1%	-7%



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
49lx	12lx	5lx	3lx	2lx	1lx	1lx	1lx	1lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx
4.6fcd	1.1fcd	0.5fcd	0.3fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	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°
49.5	67.9	76.6	80.6	83.0	84.3	83.9	81.8	78.4	73.9	68.8	63.3	57.4	51.0	44.3	37.3	29.9	22.4	15.3	9.1
100%	137%	155%	163%	168%	170%	169%	165%	158%	149%	139%	128%	116%	103%	90%	75%	60%	45%	31%	18%

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°
49.5	67.9	76.6	80.6	83.0	84.3	83.9	81.8	78.4	73.9	68.8	63.3	57.4	51.0	44.3	37.3	29.9	22.4	15.3	9.1
100%	137%	155%	163%	168%	170%	169%	165%	158%	149%	139%	128%	116%	103%	90%	75%	60%	45%	31%	18%

Intensities in 180° c-plane

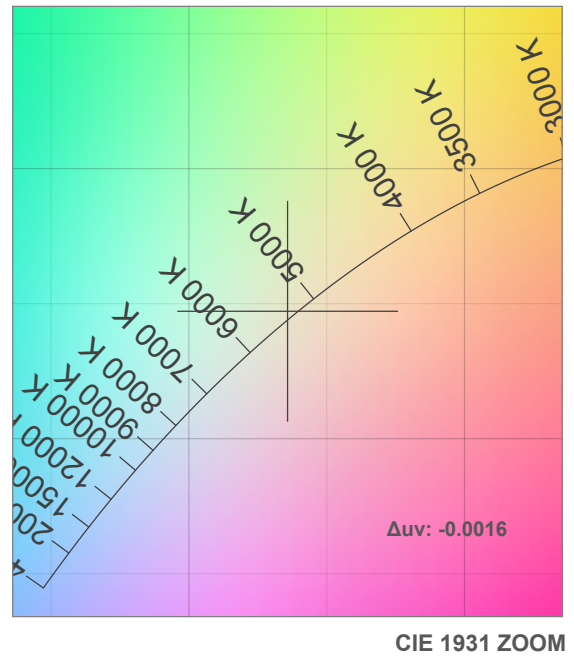
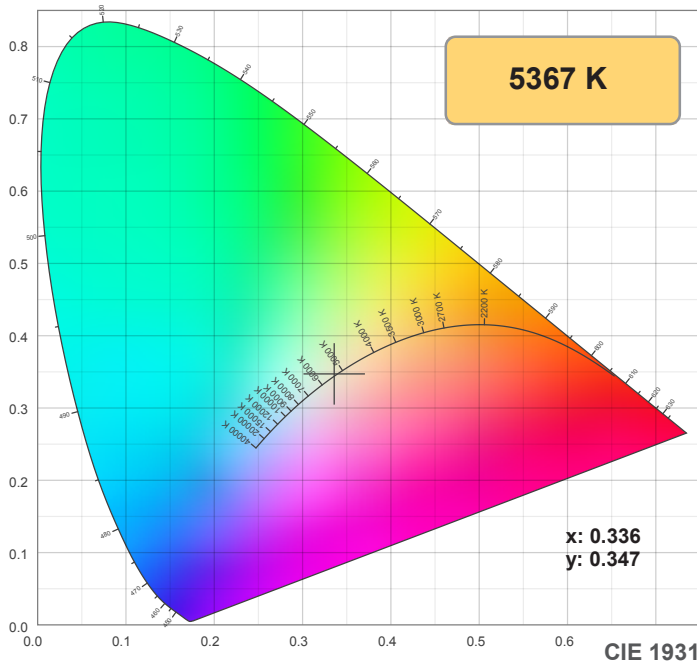
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
49.5	20.5	4.4	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4
100%	41%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%

Intensities in 270° c-plane

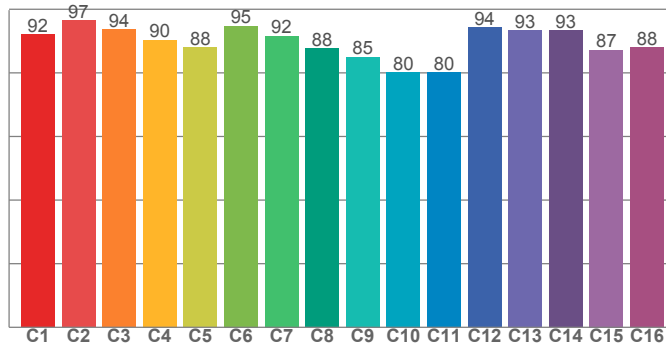
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
49.5	20.5	4.4	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4
100%	41%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
72.8°	104.1°	117°	63.5%	40.3%

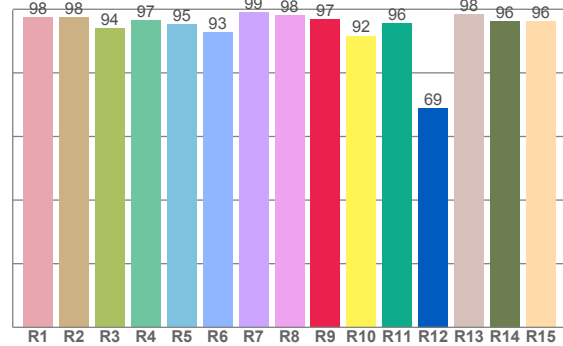
5000K



TM30: 89.4



CRI: 96.3 (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
97.5	97.5	93.9	96.5	95.2	92.8	98.9	98.2	96.7	91.7	95.6	68.9	98.4	96.3	96.2

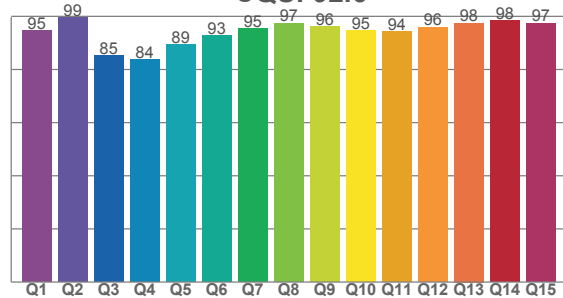
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
92.1	96.5	93.7	90.3	88.0	94.8	91.7	87.7	85.0	80.2	80.2	94.3	93.3	93.3	87.3	87.9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
94.6	99.5	85.3	83.6	89.2	92.8	95.4	97.4	96.1	94.6	94.2	95.9	97.5	98.4	97.4

CQS: 92.6



Color parameters

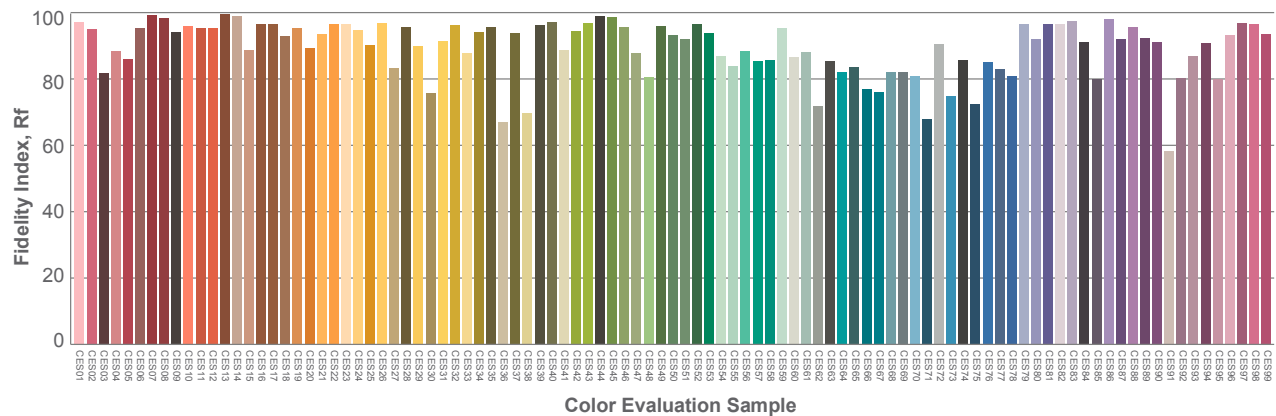
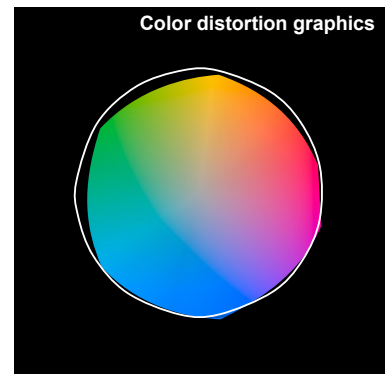
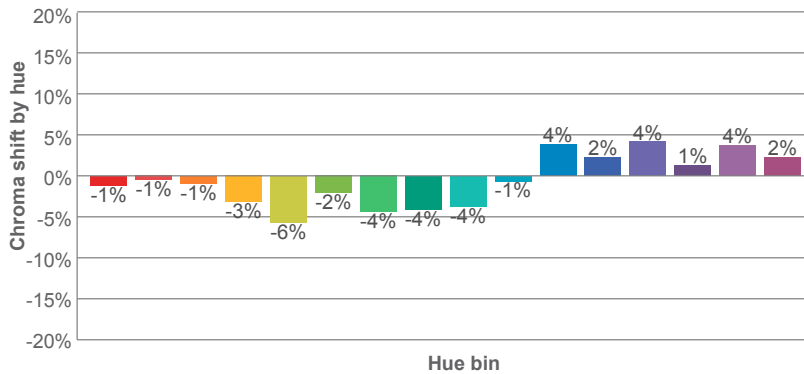
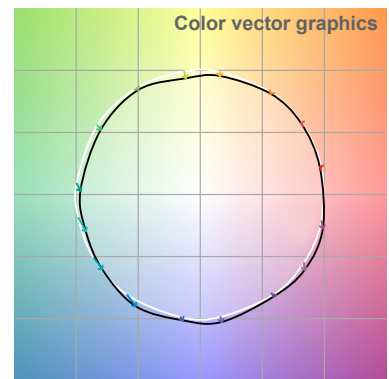
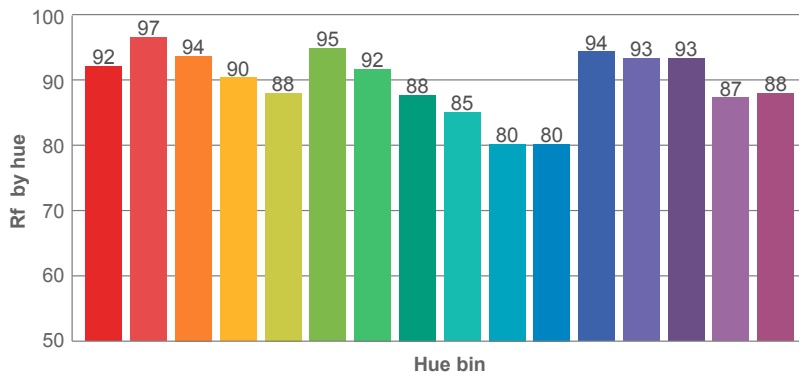
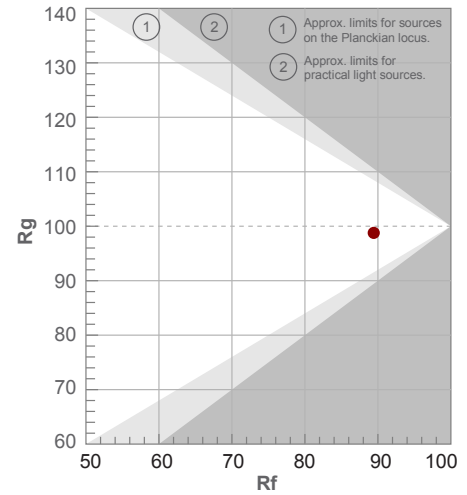
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
5367 K	96.3	96.7	89.4	98.8	92.6	0.336	0.347	0.207	0.321	-0.0016

5000K

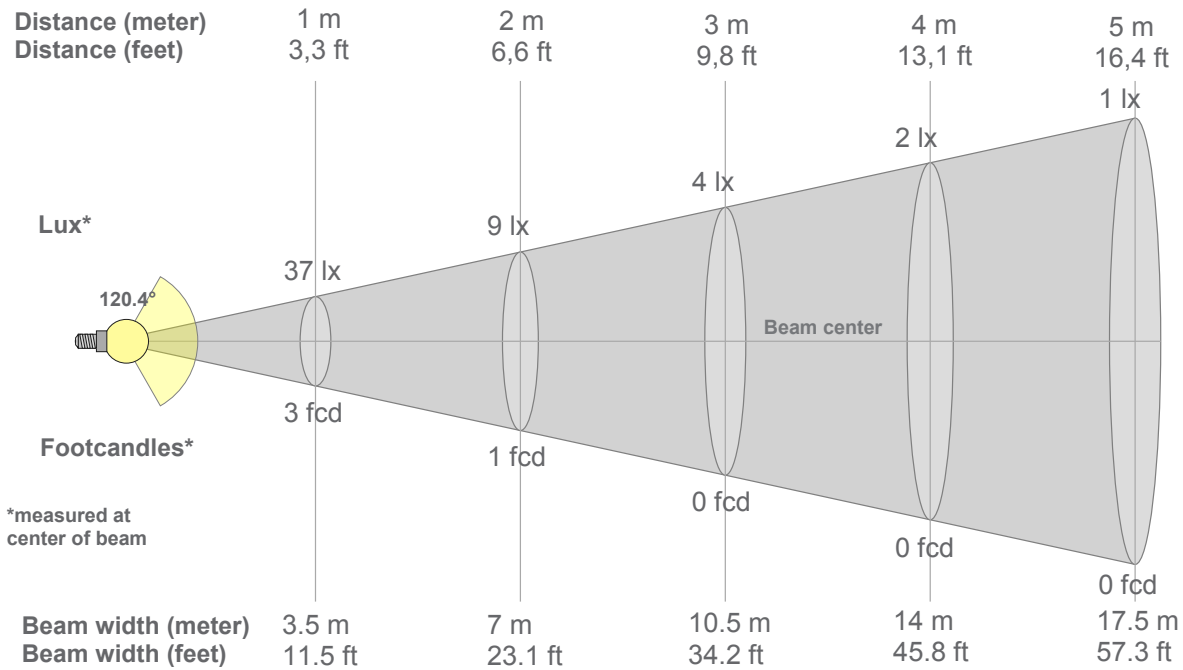
Rf 89.4
Fidelity index Rf

Rg 98.8
Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	92	-1%	1%
2	97	-1%	1%
3	94	-1%	0%
4	90	-3%	-1%
5	88	-6%	0%
6	95	-2%	0%
7	92	-4%	2%
8	88	-4%	5%
9	85	-4%	12%
10	80	-1%	11%
11	80	4%	11%
12	94	2%	3%
13	93	4%	0%
14	93	1%	-2%
15	87	4%	-5%
16	88	2%	-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
37lx	9lx	4lx	2lx	1lx	1lx	1lx	1lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx
3.4fcd	0.9fcd	0.4fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	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°
37.0	37.0	36.6	36.0	35.2	34.1	32.6	30.9	28.9	26.6	24.2	21.6	18.7	15.6	12.3	8.9	5.7	3.0	1.2	0.4
100%	100%	99%	97%	95%	92%	88%	83%	78%	72%	65%	58%	50%	42%	33%	24%	15%	8%	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°
37.0	37.0	36.6	36.0	35.2	34.1	32.6	30.9	28.9	26.6	24.2	21.6	18.7	15.6	12.3	8.9	5.7	3.0	1.2	0.4
100%	100%	99%	97%	95%	92%	88%	83%	78%	72%	65%	58%	50%	42%	33%	24%	15%	8%	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°
37.0	36.8	36.2	35.4	34.3	32.9	31.2	29.5	27.7	25.6	23.4	21.0	18.6	16.1	13.4	10.6	7.7	5.0	2.5	0.7
100%	99%	98%	96%	93%	89%	84%	80%	75%	69%	63%	57%	50%	43%	36%	29%	21%	13%	7%	2%

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°
37.0	36.8	36.2	35.4	34.3	32.9	31.2	29.5	27.7	25.6	23.4	21.0	18.6	16.1	13.4	10.6	7.7	5.0	2.5	0.7
100%	99%	98%	96%	93%	89%	84%	80%	75%	69%	63%	57%	50%	43%	36%	29%	21%	13%	7%	2%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
120.4°	171.1°	185.2°	72.3%	48.1%