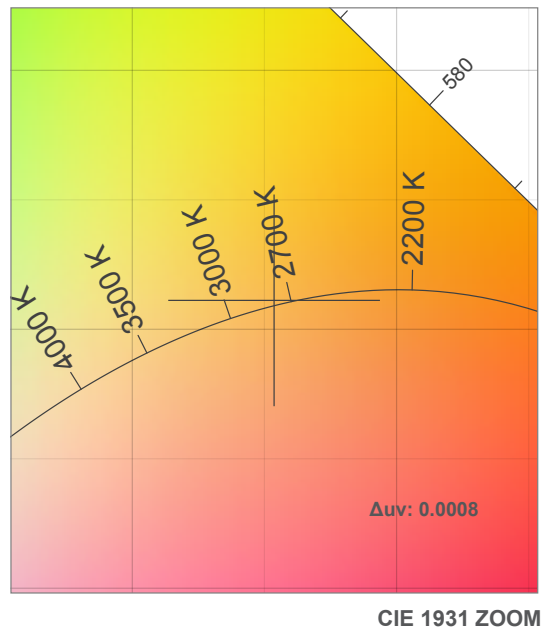
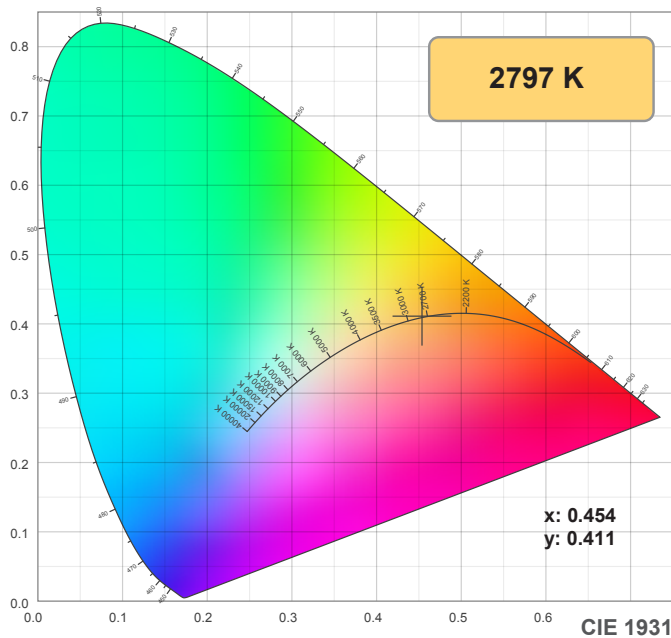
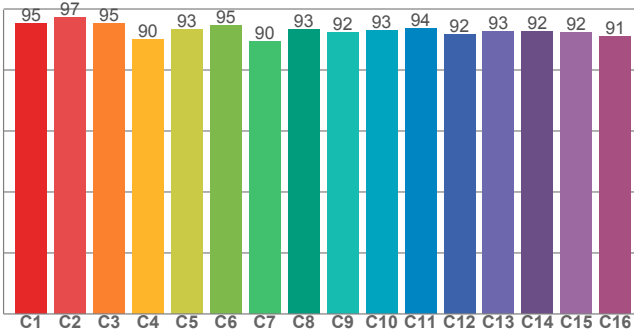


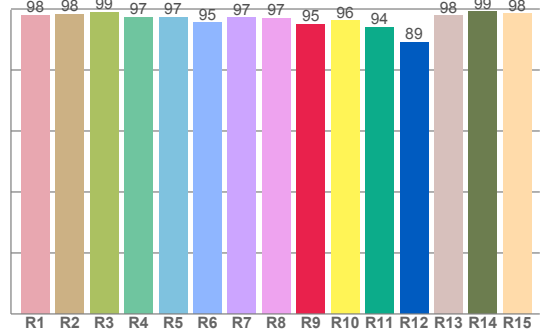
2700K



TM30: 93.2



CRI: 97.4 (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	98.3	99.0	97.2	97.4	95.4	97.1	97.0	95.1	96.2	94.0	89.1	97.8	99.1	98.4

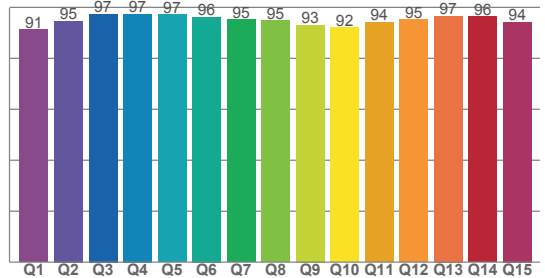
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
95.4	97.1	95.3	89.9	93.2	94.7	89.5	93.4	92.5	92.9	93.7	91.7	92.6	92.5	92.2	91.0

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
91.4	94.6	97.4	97.4	97.2	96.2	95.1	94.7	93.1	92.1	94.2	95.1	96.6	96.4	94.3

CQS: 94.5



Color parameters

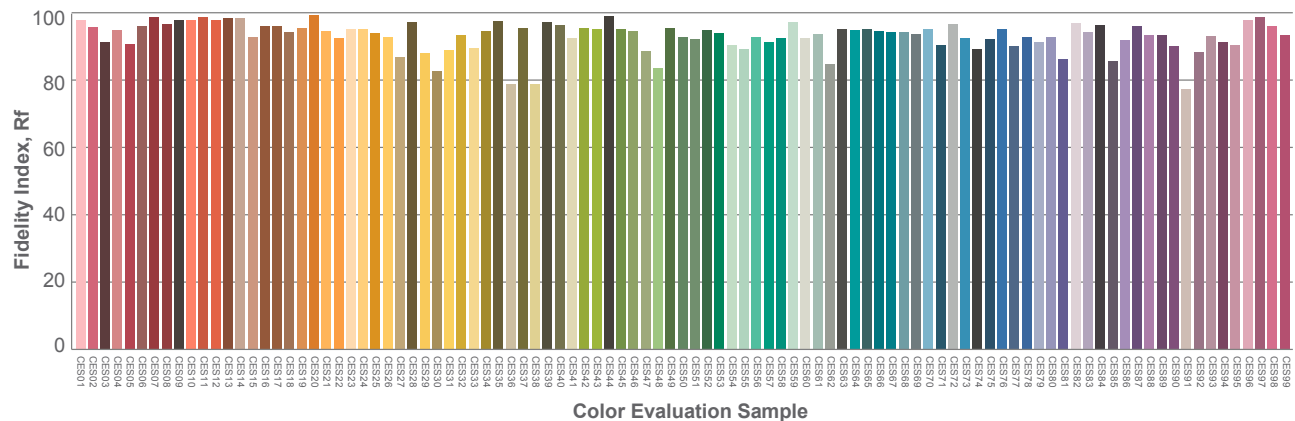
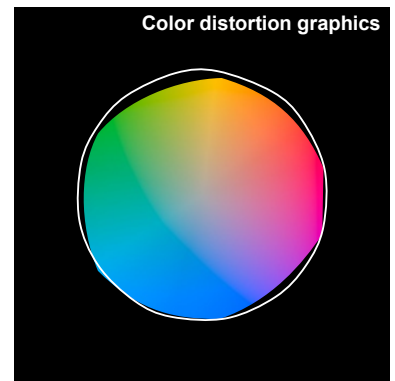
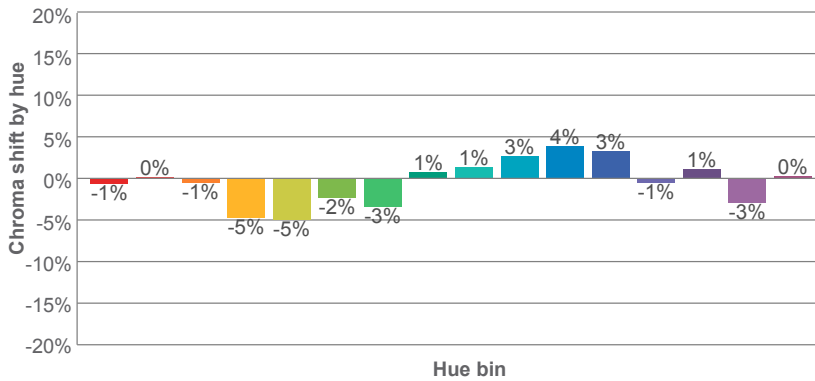
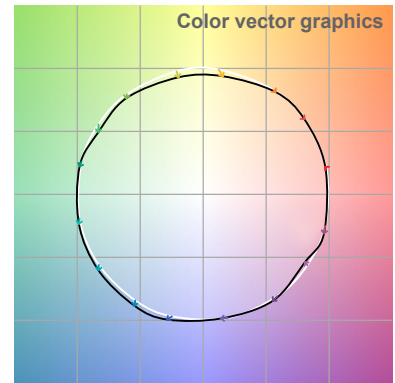
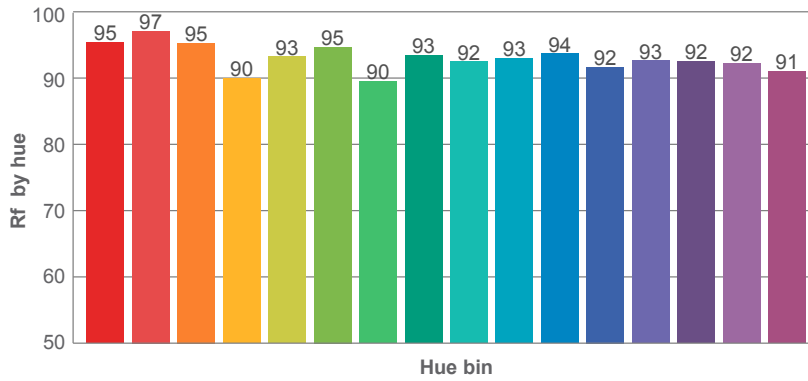
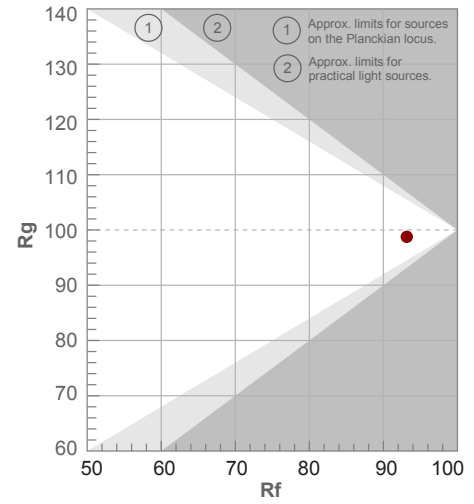
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2797 K	97.4	95.1	93.2	98.8	94.5	0.454	0.411	0.258	0.351	0.0008

2700K

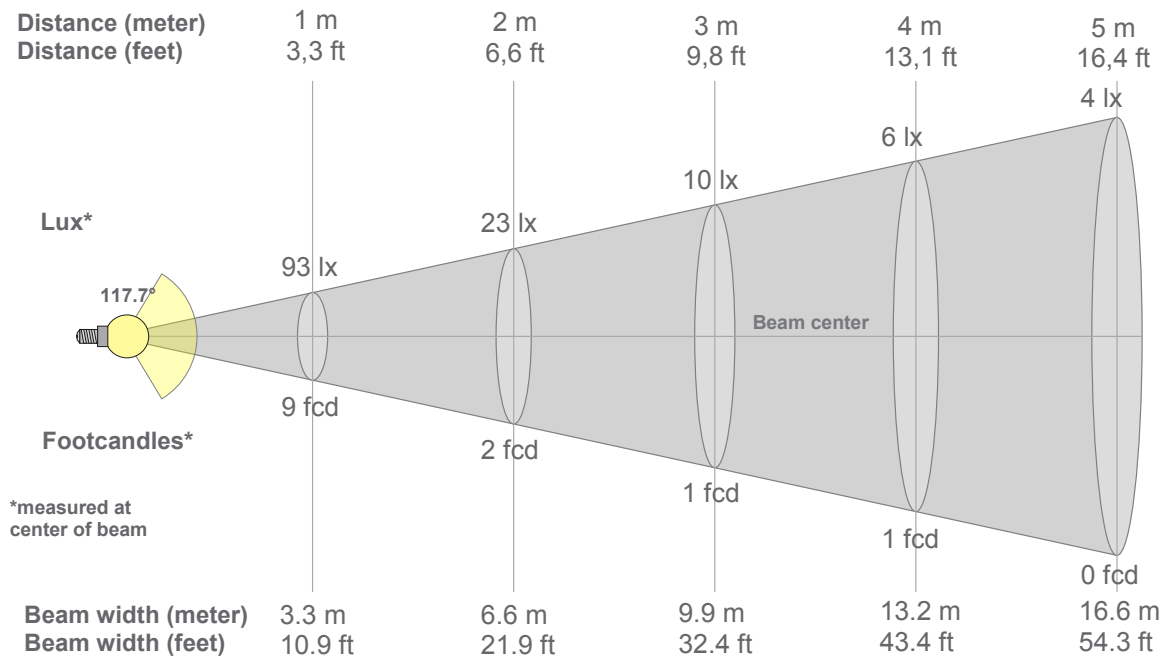
Rf 93.2
Fidelity index Rf

Rg 98.8
Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	95	-1%	1%
2	97	0%	-1%
3	95	-1%	-2%
4	90	-5%	-4%
5	93	-5%	-1%
6	95	-2%	2%
7	90	-3%	5%
8	93	1%	4%
9	92	1%	4%
10	93	3%	3%
11	94	4%	2%
12	92	3%	-3%
13	93	-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
93lx	23lx	10lx	6lx	4lx	3lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx
8.6fcd	2.2fcd	1fcd	0.5fcd	0.3fcd	0.2fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	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°
92.8	92.3	90.9	88.8	86.1	82.7	78.6	74.2	69.2	63.7	57.8	51.5	44.8	37.7	30.2	22.4	14.7	7.8	2.9	0.7
100%	99%	98%	96%	93%	89%	85%	80%	75%	69%	62%	55%	48%	41%	33%	24%	16%	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°
92.8	92.3	90.9	88.8	86.1	82.7	78.6	74.2	69.2	63.7	57.8	51.5	44.8	37.7	30.2	22.4	14.7	7.8	2.9	0.7
100%	99%	98%	96%	93%	89%	85%	80%	75%	69%	62%	55%	48%	41%	33%	24%	16%	8%	3%	1%

Intensities in 180° c-plane

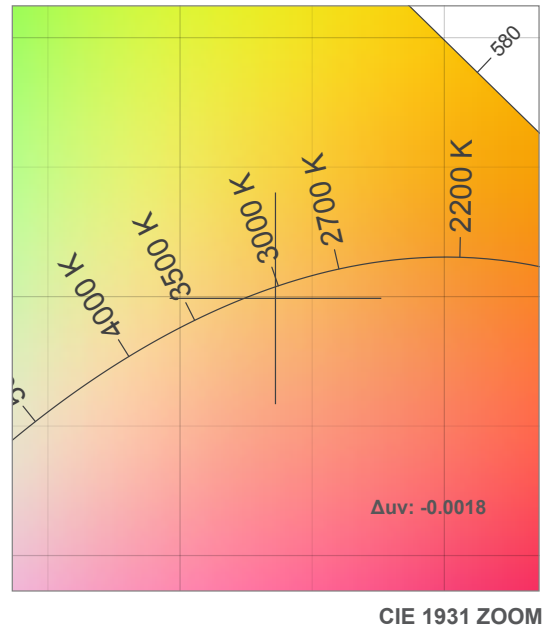
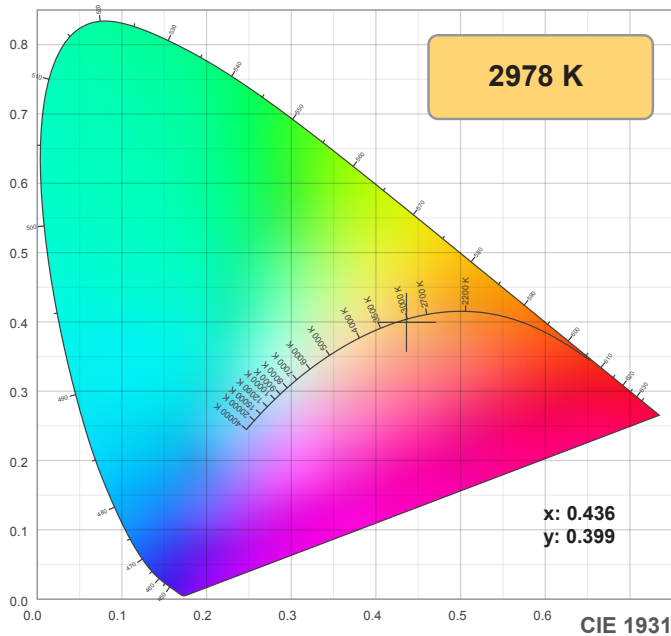
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
92.8	92.5	91.6	89.8	87.2	84.0	80.1	75.6	70.4	64.5	58.4	51.8	44.8	37.6	30.1	22.9	15.4	12.6	9.6	5.0
100%	100%	99%	97%	94%	90%	86%	81%	76%	70%	63%	56%	48%	40%	32%	25%	17%	14%	10%	5%

Intensities in 270° c-plane

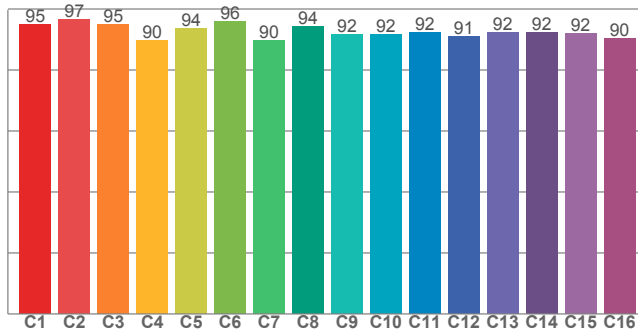
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
92.8	92.5	91.6	89.8	87.2	84.0	80.1	75.6	70.4	64.5	58.4	51.8	44.8	37.6	30.1	22.9	15.4	12.6	9.6	5.0
100%	100%	99%	97%	94%	90%	86%	81%	76%	70%	63%	56%	48%	40%	32%	25%	17%	14%	10%	5%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
117.7°	174.2°	188.5°	73.2%	49.0%

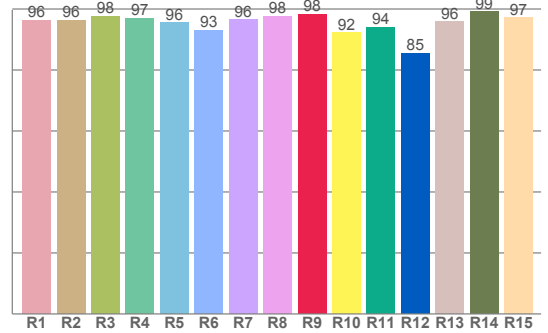
3000K



TM30: 92.8



CRI: 96.2 (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
96.2	96.3	97.7	97.0	95.5	93.0	96.5	97.7	98.2	92.2	93.9	85.5	95.8	99.0	97.2

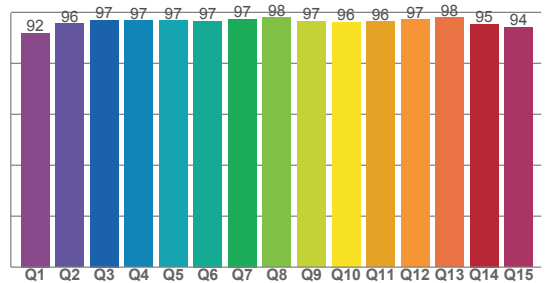
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
95.0	96.5	95.0	89.7	93.6	96.0	89.7	94.4	91.5	91.6	92.3	91.1	92.5	92.2	92.1	90.5

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
91.9	95.6	97.0	96.9	96.8	96.6	97.4	97.9	96.5	96.2	96.3	97.1	98.0	95.4	94.2

CQS: 95.8



Color parameters

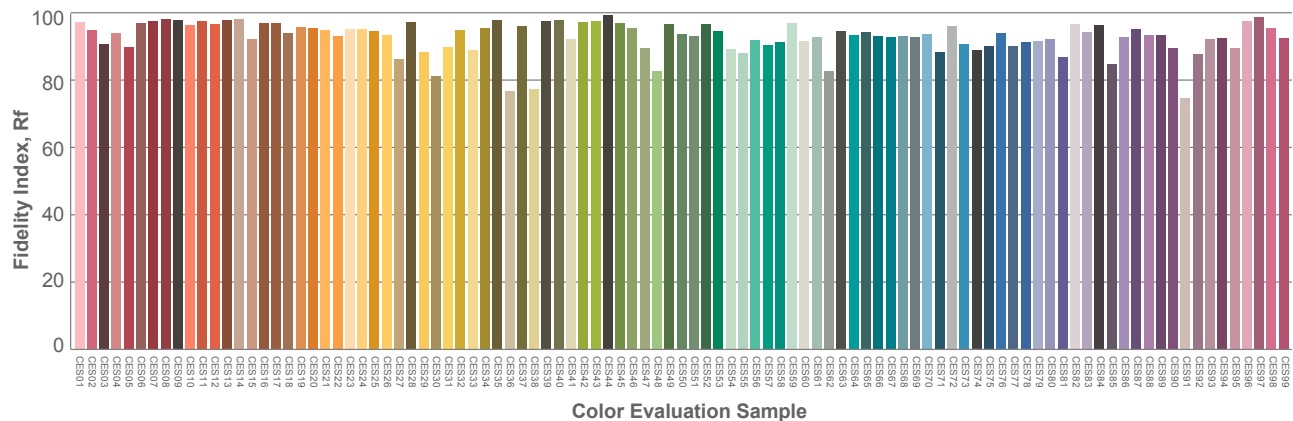
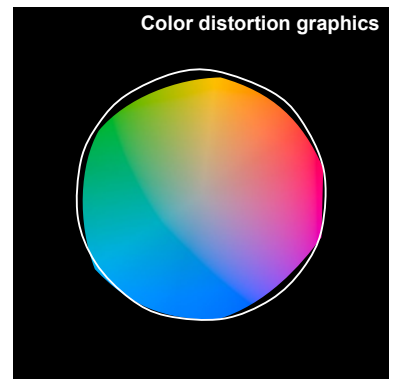
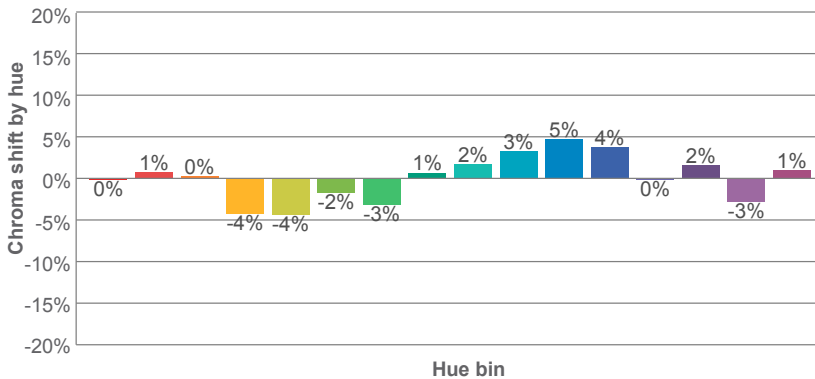
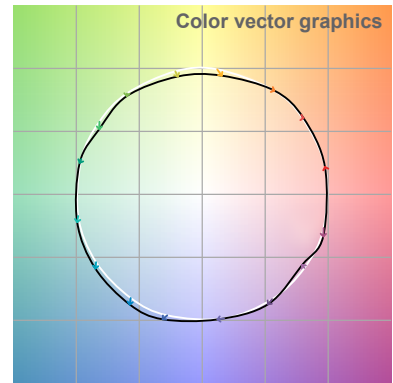
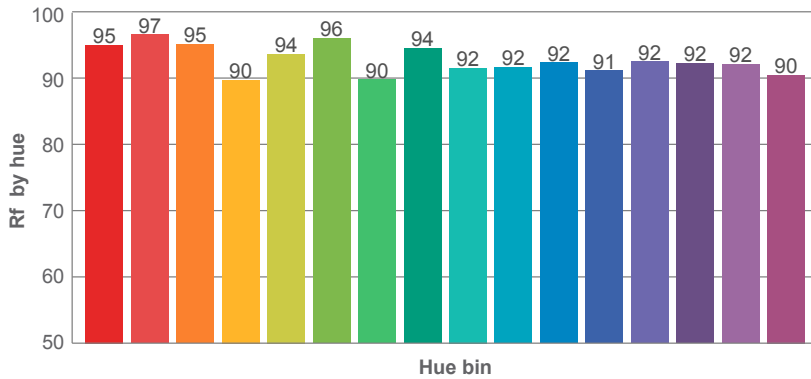
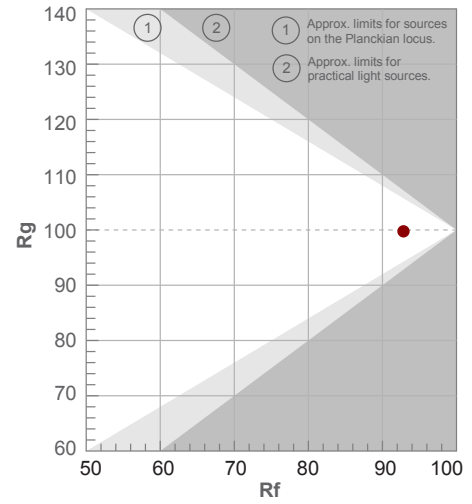
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2978 K	96.2	98.2	92.8	99.8	95.8	0.436	0.399	0.252	0.346	-0.0018

3000K

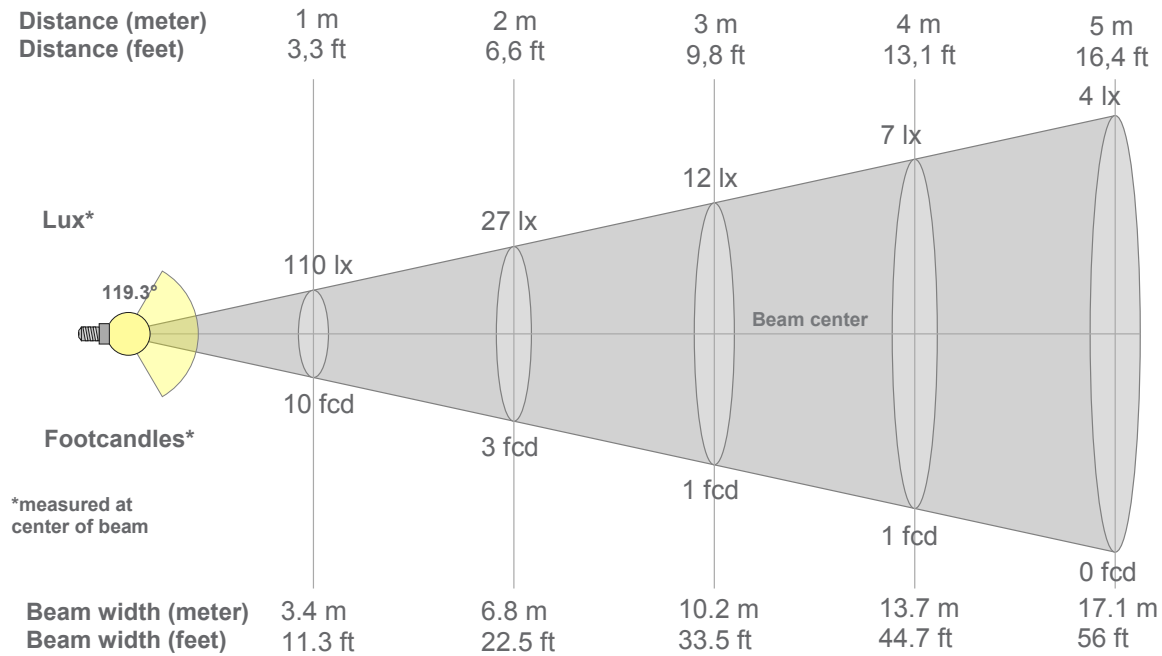
Rf 92.8
Fidelity index Rf

Rg 99.8
Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	95	0%	1%
2	97	1%	-1%
3	95	0%	-2%
4	90	-4%	-5%
5	94	-4%	-1%
6	96	-2%	1%
7	90	-3%	5%
8	94	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
110lx	27lx	12lx	7lx	4lx	3lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	0lx	0lx	0lx	0lx	0lx	0lx
10.2fcd	2.5fcd	1.1fcd	0.6fcd	0.4fcd	0.3fcd	0.2fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	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°
110	110	108	106	104	100	96	91	85	78	71	63	54	45	36	27	17	9	3	1
100%	100%	99%	97%	95%	91%	87%	83%	78%	71%	65%	57%	49%	41%	33%	24%	16%	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°
110	110	108	106	104	100	96	91	85	78	71	63	54	45	36	27	17	9	3	1
100%	100%	99%	97%	95%	91%	87%	83%	78%	71%	65%	57%	49%	41%	33%	24%	16%	8%	3%	1%

Intensities in 180° c-plane

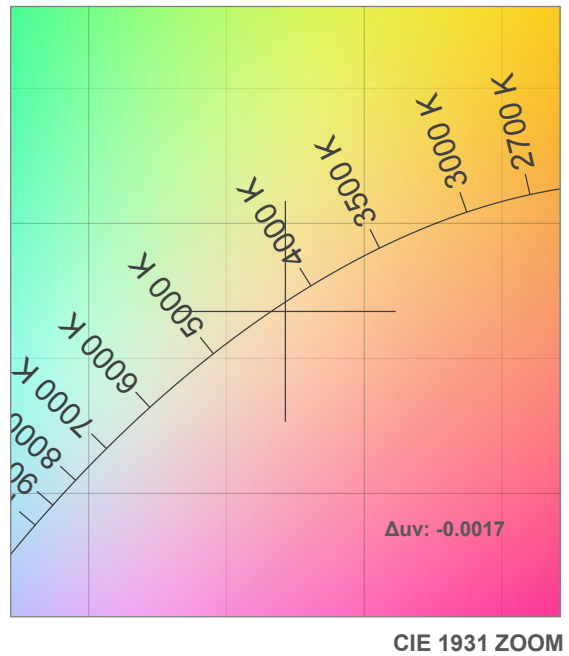
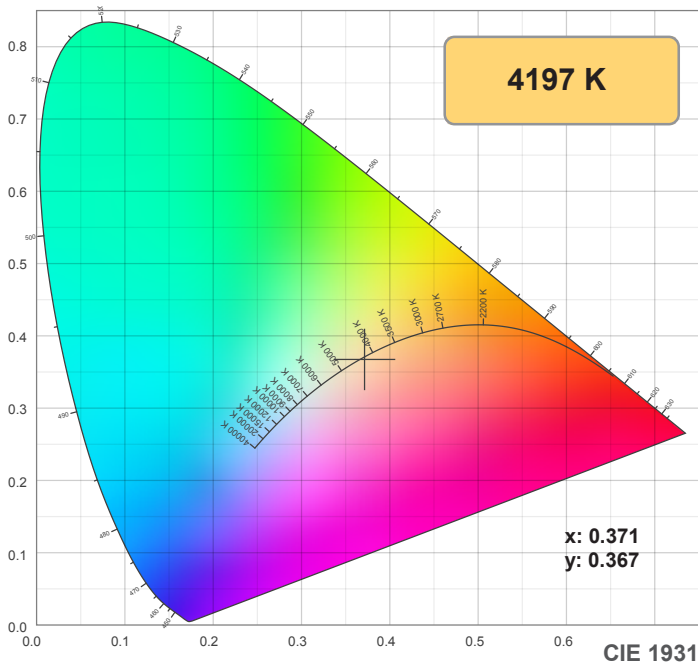
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
110	109	108	106	103	99	95	90	84	77	70	63	54	45	36	26	17	9	3	1
100%	99%	98%	96%	94%	90%	86%	82%	77%	71%	64%	57%	49%	41%	33%	24%	15%	8%	3%	0%

Intensities in 270° c-plane

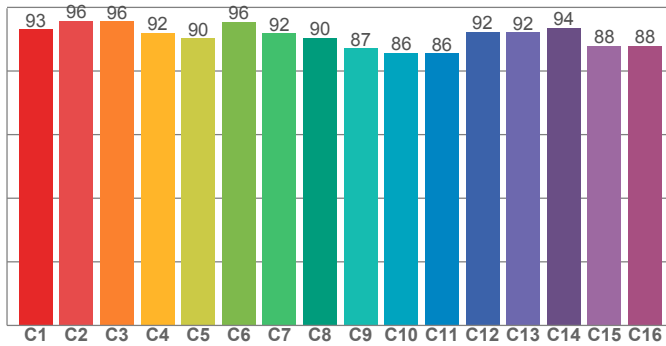
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
110	109	108	106	103	99	95	90	84	77	70	63	54	45	36	26	17	9	3	1
100%	99%	98%	96%	94%	90%	86%	82%	77%	71%	64%	57%	49%	41%	33%	24%	15%	8%	3%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
119.3°	167.2°	180.5°	74.8%	49.9%

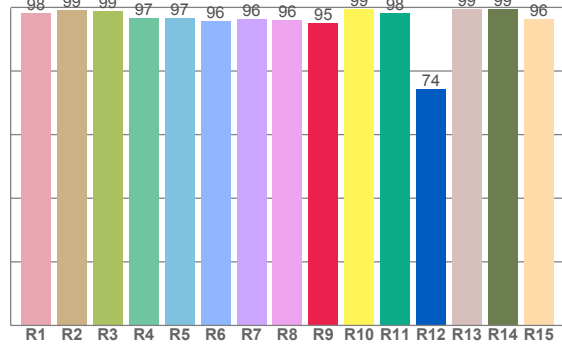
4200K



TM30: 90.9



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
98.2	99.2	98.9	96.6	96.7	95.7	96.2	95.9	94.9	99.4	98.3	74.4	99.3	99.3	96.4

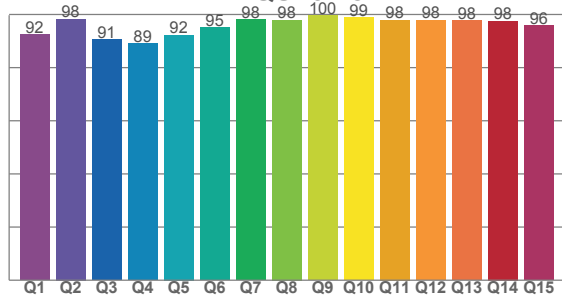
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
93.1	95.7	95.7	92.0	90.3	95.5	91.8	90.4	87.2	85.7	85.5	92.3	92.2	93.5	88.0	88.0

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
92.4	98.3	90.6	89.0	92.3	95.0	98.1	97.9	99.6	98.9	97.9	97.8	97.8	97.6	95.8

CQS: 94.8



Color parameters

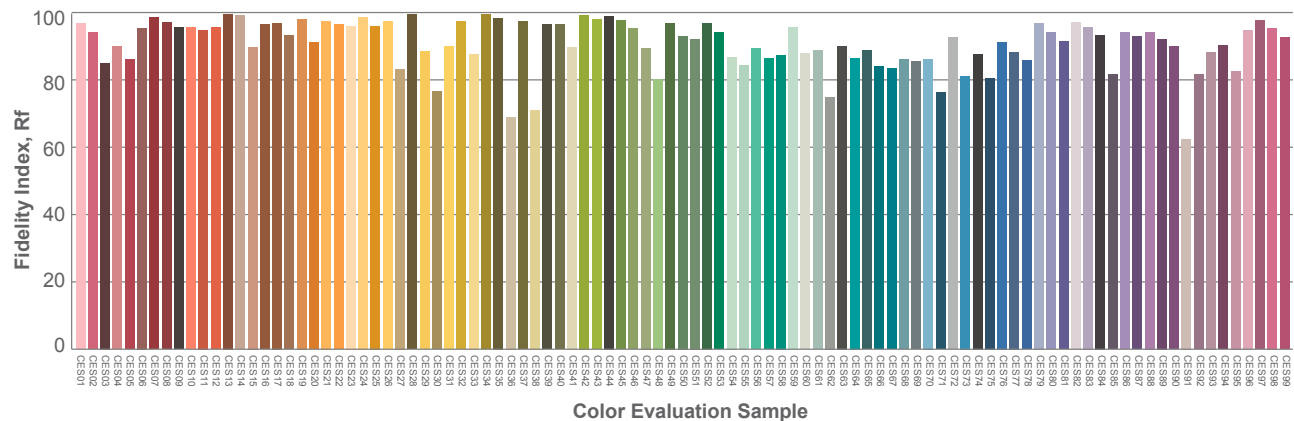
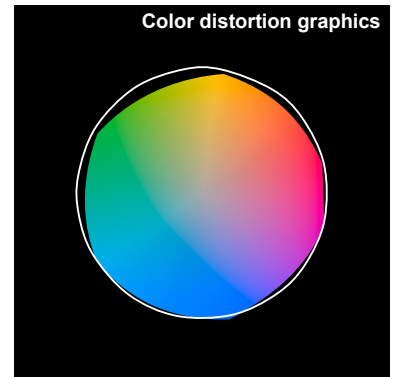
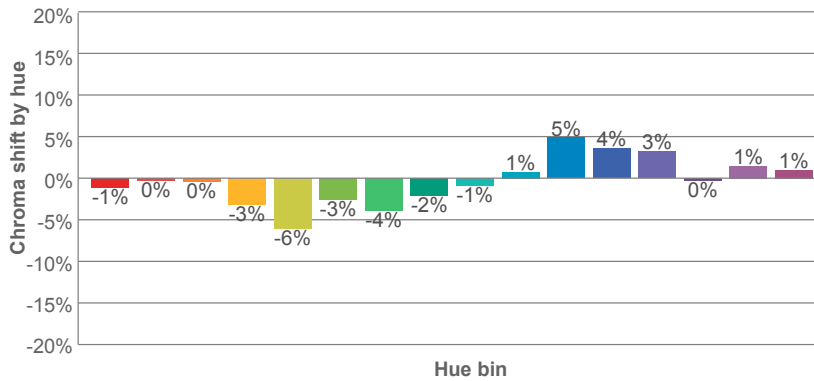
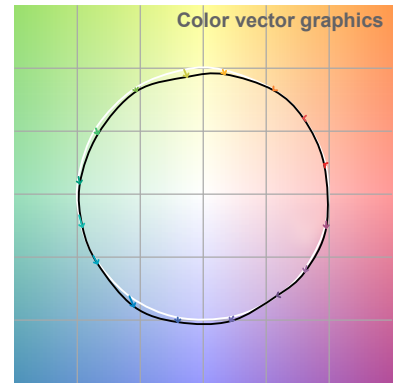
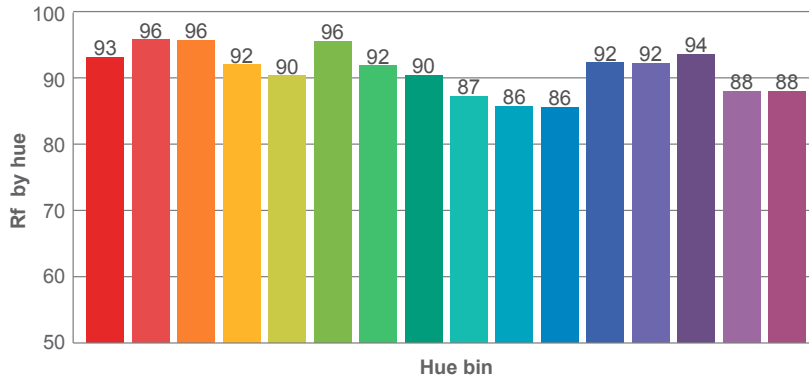
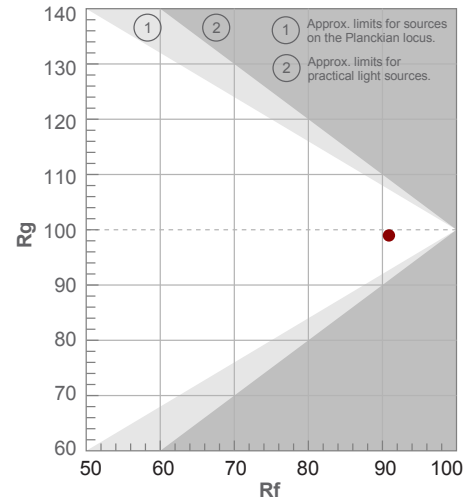
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
4197 K	97.2	94.9	90.9	99.0	94.8	0.371	0.367	0.223	0.331	-0.0017

4200K

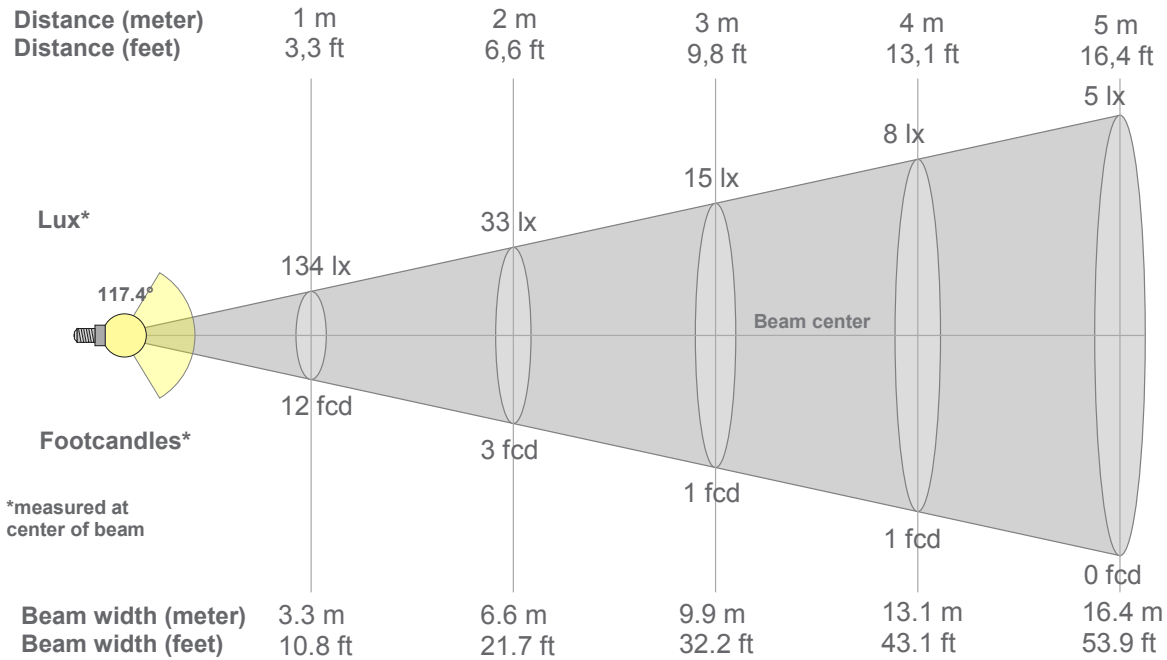
Rf 90.9
Fidelity index Rf

Rg 99.0
Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	93	-1%	1%
2	96	0%	0%
3	96	0%	0%
4	92	-3%	-2%
5	90	-6%	-1%
6	96	-3%	0%
7	92	-4%	3%
8	90	-2%	5%
9	87	-1%	10%
10	86	1%	7%
11	86	5%	8%
12	92	4%	1%
13	92	3%	-3%
14	94	0%	-1%
15	88	1%	-5%
16	88	1%	-5%



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
134lx	33lx	15lx	8lx	5lx	4lx	3lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	0lx	0lx	0lx	0lx
12.4fcd	3.1fcd	1.4fcd	0.8fcd	0.5fcd	0.3fcd	0.3fcd	0.2fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	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°
134	133	132	129	125	121	115	109	102	94	85	75	64	53	41	29	17	8	2	1
100%	100%	98%	96%	94%	90%	86%	81%	76%	70%	63%	56%	48%	40%	31%	22%	13%	6%	1%	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°
134	133	132	129	125	121	115	109	102	94	85	75	64	53	41	29	17	8	2	1
100%	100%	98%	96%	94%	90%	86%	81%	76%	70%	63%	56%	48%	40%	31%	22%	13%	6%	1%	0%

Intensities in 180° c-plane

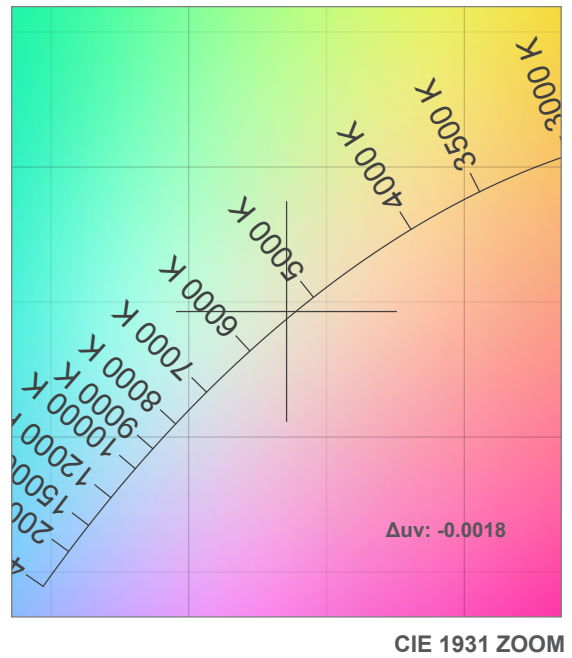
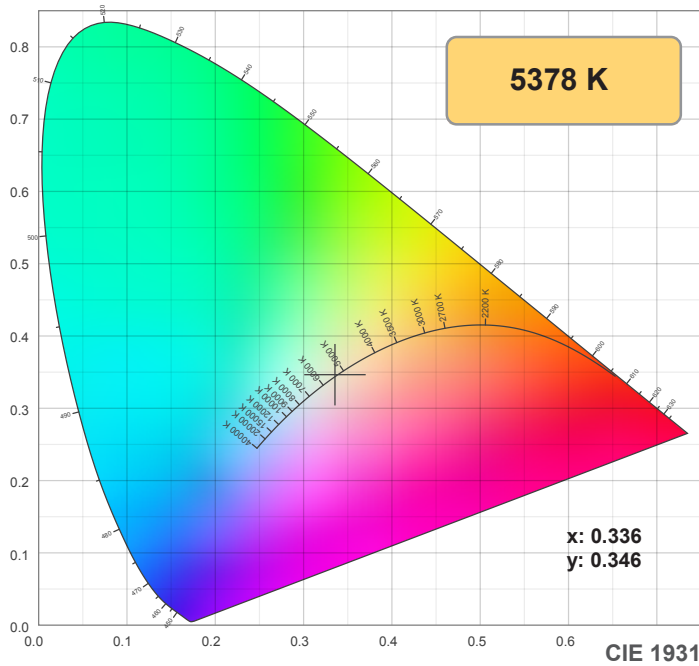
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
134	134	132	130	126	122	116	110	103	94	85	75	64	52	40	28	16	6	1	1
100%	100%	99%	97%	94%	91%	87%	82%	77%	70%	64%	56%	48%	39%	30%	21%	12%	5%	1%	0%

Intensities in 270° c-plane

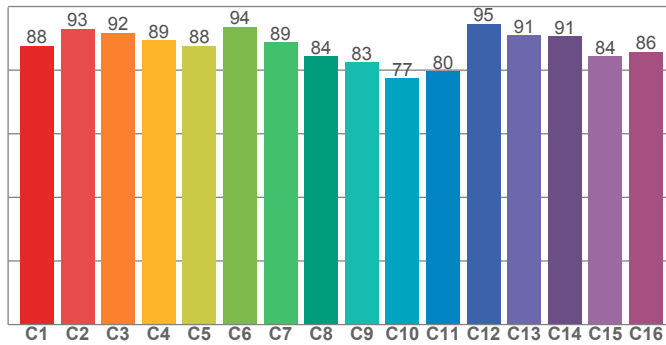
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
134	134	132	130	126	122	116	110	103	94	85	75	64	52	40	28	16	6	1	1
100%	100%	99%	97%	94%	91%	87%	82%	77%	70%	64%	56%	48%	39%	30%	21%	12%	5%	1%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
117.4°	163°	175.5°	76.6%	51.4%

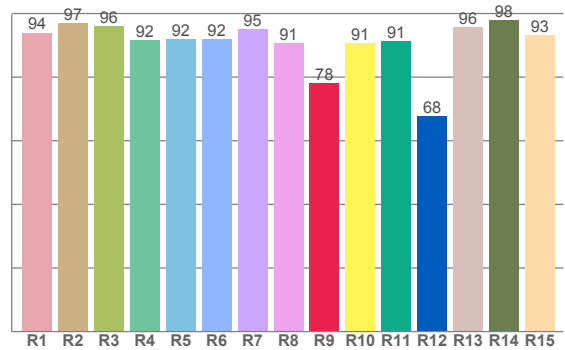
5000K



TM30: 87.4



CRI: 93.5 (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
94.0	97.0	96.1	91.5	92.0	91.9	95.1	90.8	78.0	90.7	91.3	67.7	95.6	98.0	93.3

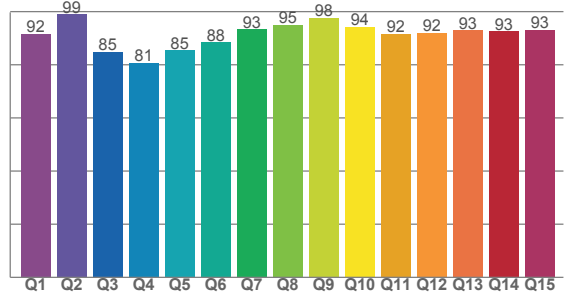
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
87.6	93.0	91.8	89.3	87.6	93.6	88.7	84.4	82.5	77.4	79.6	94.6	91.0	90.7	84.3	85.7

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
91.7	98.9	84.9	80.7	85.3	88.4	93.3	95.0	97.6	94.2	91.6	92.0	92.9	92.6	93.0

CQS: 90.3



Color parameters

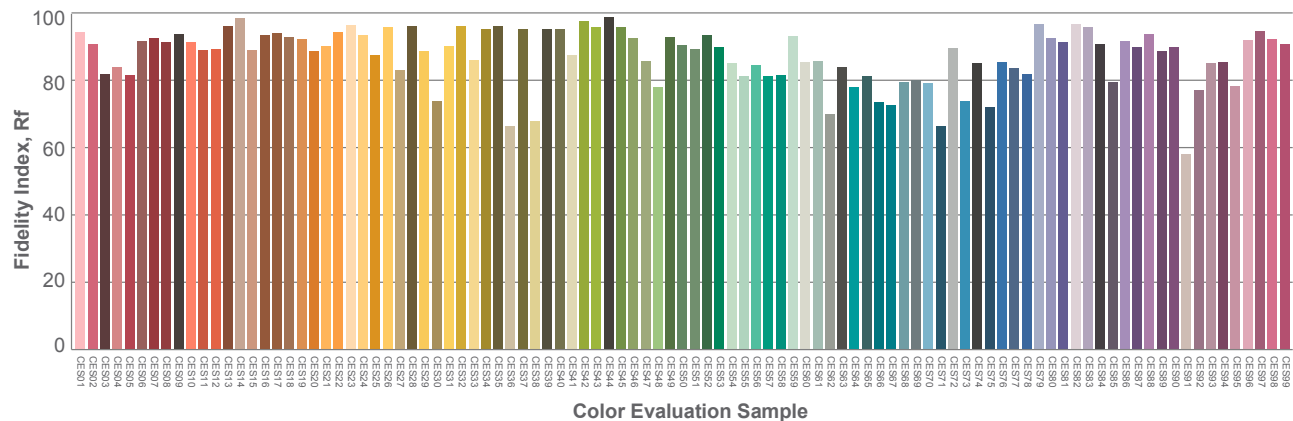
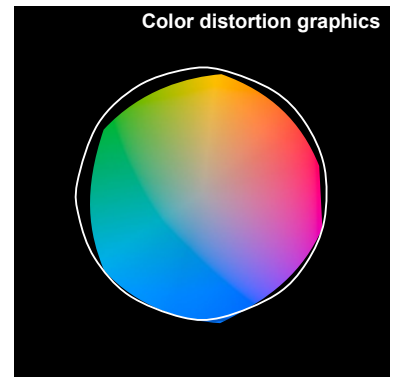
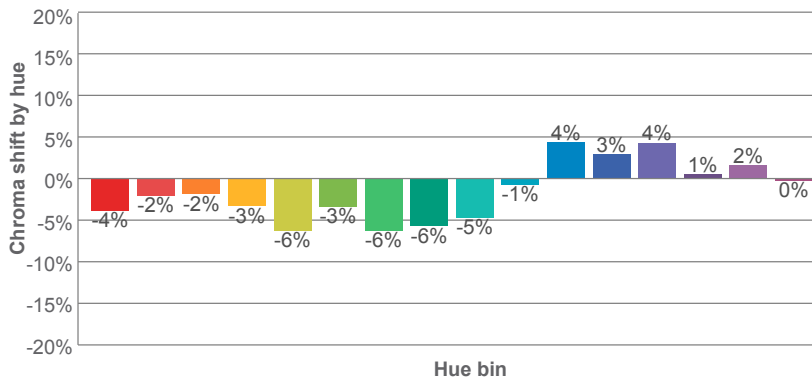
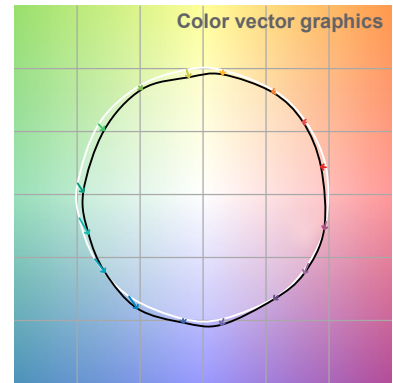
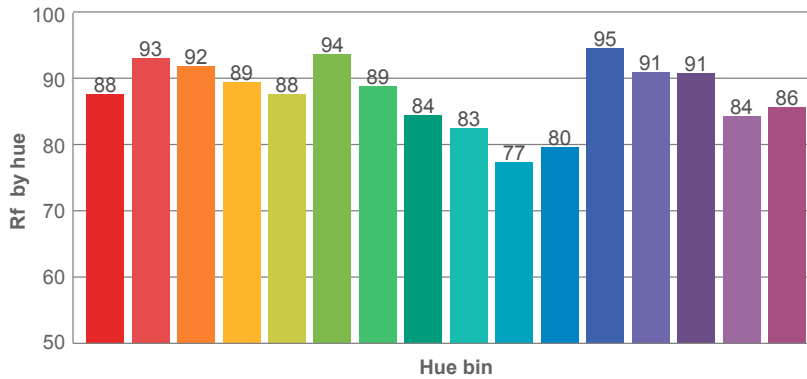
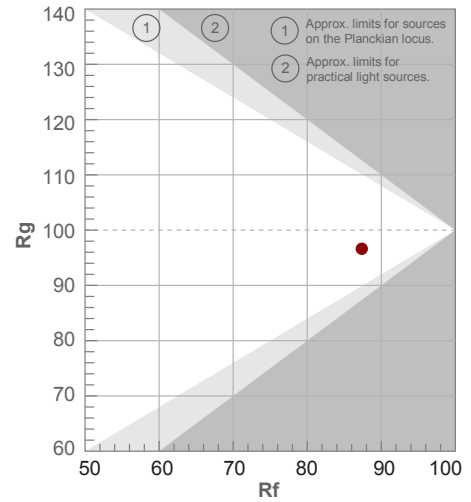
Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
5378 K	93.5	78.0	87.4	96.6	90.3	0.336	0.346	0.207	0.320	-0.0018

5000K

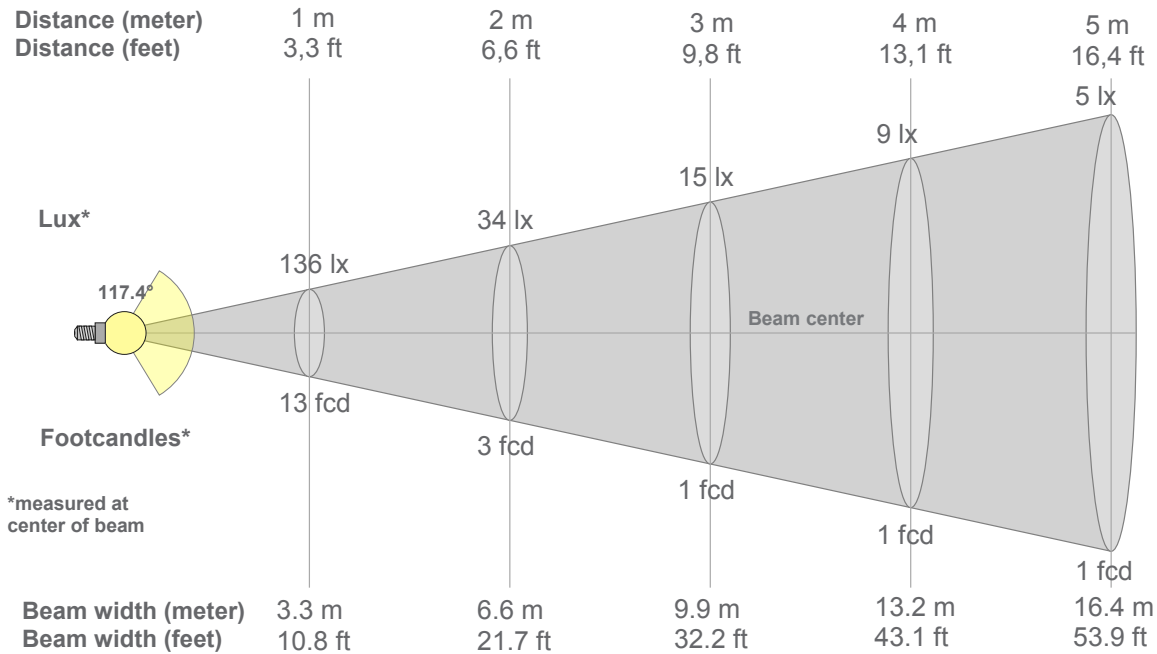
Rf 87.4
Fidelity index Rf

Rg 96.6
Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	88	-4%	1%
2	93	-2%	2%
3	92	-2%	1%
4	89	-3%	0%
5	88	-6%	-1%
6	94	-3%	-1%
7	89	-6%	2%
8	84	-6%	6%
9	83	-5%	14%
10	77	-1%	13%
11	80	4%	11%
12	95	3%	1%
13	91	4%	-3%
14	91	1%	-4%
15	84	2%	-8%
16	86	0%	-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
136lx	34lx	15lx	9lx	5lx	4lx	3lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	0lx	0lx	0lx	0lx
12.7fcd	3.2fcd	1.4fcd	0.8fcd	0.5fcd	0.4fcd	0.3fcd	0.2fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	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°
136	136	134	131	128	123	117	111	103	95	86	76	65	54	42	29	18	8	2	1
100%	99%	98%	96%	94%	90%	86%	81%	76%	70%	63%	56%	48%	39%	31%	22%	13%	6%	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°
136	136	134	131	128	123	117	111	103	95	86	76	65	54	42	29	18	8	2	1
100%	99%	98%	96%	94%	90%	86%	81%	76%	70%	63%	56%	48%	39%	31%	22%	13%	6%	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°
136	136	135	132	129	125	119	113	105	97	87	76	65	53	40	27	16	6	1	0
100%	100%	99%	97%	95%	91%	87%	83%	77%	71%	64%	56%	48%	39%	29%	20%	11%	4%	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°
136	136	135	132	129	125	119	113	105	97	87	76	65	53	40	27	16	6	1	0
100%	100%	99%	97%	95%	91%	87%	83%	77%	71%	64%	56%	48%	39%	29%	20%	11%	4%	1%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
117.4°	163°	176°	76.8%	51.5%