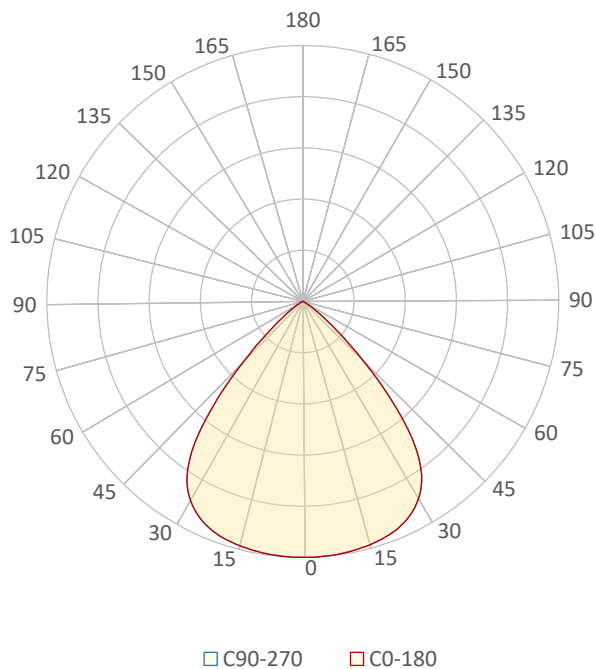


General Description

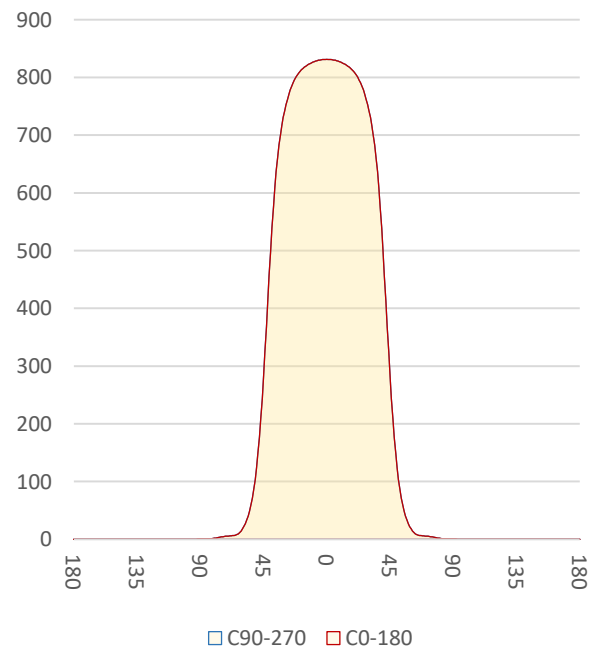
Item number	E-M4-X-X-3590
Date and time	2-12-2022 13:16:04
CCT (Kelvin)	3380 K
Beam angle	83,8°
Luminous flux	1362 lm
Efficiency	104 lm/watt
Weighted energy	13,1 kWh/1000h
Power factor	0,9
CRI (RA)	93,5
Fidelity index Rf	Rf 91,2
Gammut index Rg	Rg 103,1
Peak	831 cd



Polar diagram



Cartesian diagram



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Beam details	1m	2m	3m	4m	5m																			
Lux*	831 lx	208 lx	92 lx	52 lx	33 lx																			
<i>*measured at center of beam</i>																								
Footcandles*	77,2 fcd	19,3 fcd	8,6 fcd	4,8 fcd	3,1 fcd																			
Beam width (meter)	1,8 m	3,6 m	5,4 m	7,2 m	9 m																			
Beam width (Feet)	5,9 ft	11,8 ft	17,7 ft	23,6 ft	29,5 ft																			
Beam intensities																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
831lx	208lx	92lx	52lx	33lx	23lx	17lx	13lx	10lx	8lx	7lx	6lx	5lx	4lx	4lx	3lx	3lx	3lx	2lx	2lx					
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					
77,2fcd	19,3fcd	8,6fcd	4,8fcd	3,1fcd	2,1fcd	1,6fcd	1,2fcd	1fcd	0,8fcd	0,6fcd	0,5fcd	0,5fcd	0,4fcd	0,3fcd	0,3fcd	0,3fcd	0,2fcd	0,2fcd	0,2fcd					
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°					
831	830	826	819	808	785	742	662	499	283	124	49	18	7	6	4	2	1	0	0					
100%	100%	99%	99%	97%	94%	89%	80%	60%	34%	15%	6%	2%	1%	1%	0%	0%	0%	0%	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°					
831	830	826	819	808	785	742	662	499	283	124	49	18	7	6	4	2	1	0	0					
100%	100%	99%	99%	97%	94%	89%	80%	60%	34%	15%	6%	2%	1%	1%	0%	0%	0%	0%	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°					
831	830	826	819	808	785	742	662	499	283	124	49	18	7	6	4	2	1	0	0					
100%	100%	99%	99%	97%	94%	89%	80%	60%	34%	15%	6%	2%	1%	1%	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°					
831	830	826	819	808	785	742	662	499	283	124	49	18	7	6	4	2	1	0	0					
100%	100%	99%	99%	97%	94%	89%	80%	60%	34%	15%	6%	2%	1%	1%	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				
83,8°					104,4°					118,7°					99,0%					89,6%				



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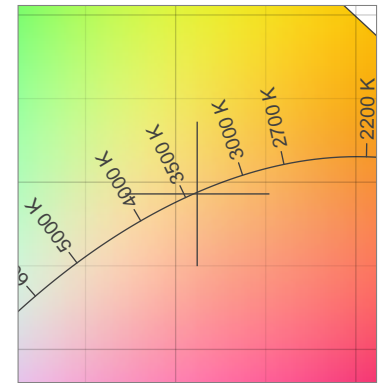
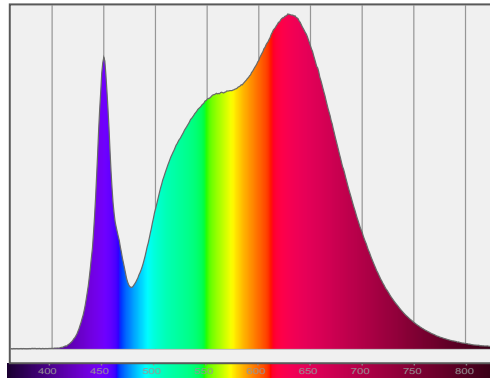
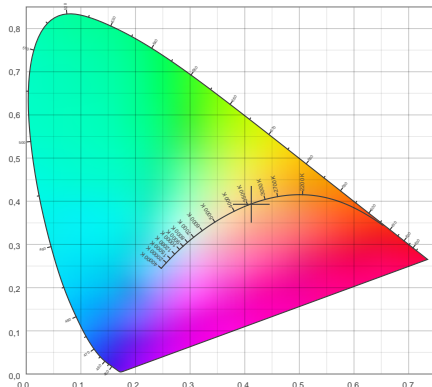
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Color details



CIE 1931

x: 0,412



Spectra

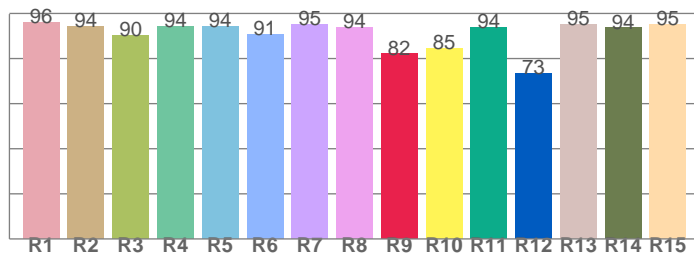
CIE 1931 ZOOM

3380 K

y: 0,393

$\Delta uv: -0,0004$

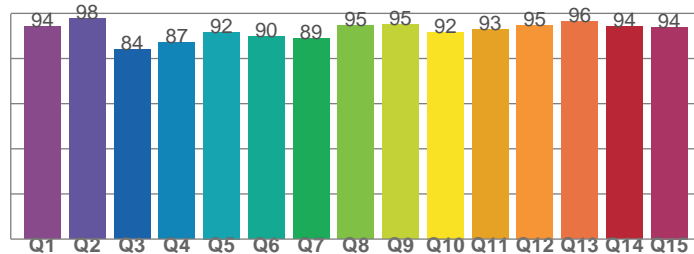
CRI: 93,5 (R1-R8)



CRI values, R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8
95,9	94,2	90,1	94,2	94,2	90,9	95,1	93,6
R9	R10	R11	R12	R13	R14	R15	
82,1	84,5	93,8	73,5	95,2	93,6	95,1	

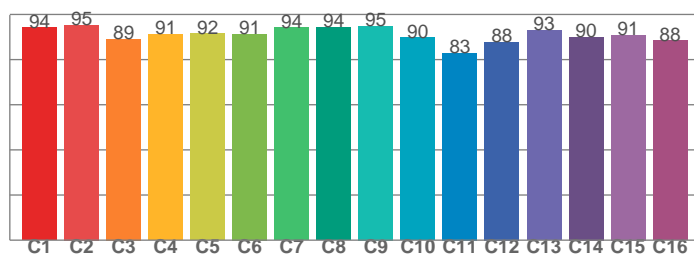
CQS: 91,6



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
94,3	97,8	84,0	87,1	91,7	89,7	88,8	94,8
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
95,2	91,8	92,9	94,8	96,4	94,1	94,0	

TM30: 91,2



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

C1	C2	C3	C4	C5	C6	C7	C8
94,3	95,3	89,2	91,2	91,6	91,3	94,3	94,3
C9	C10	C11	C12	C13	C14	C15	
95,0	89,7	83,0	87,9	93,0	90,0	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
3380 K	93,5	82,1	91,2	103,1	91,6	0,412	0,393	0,239	0,342	-0,0004



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TM30 details

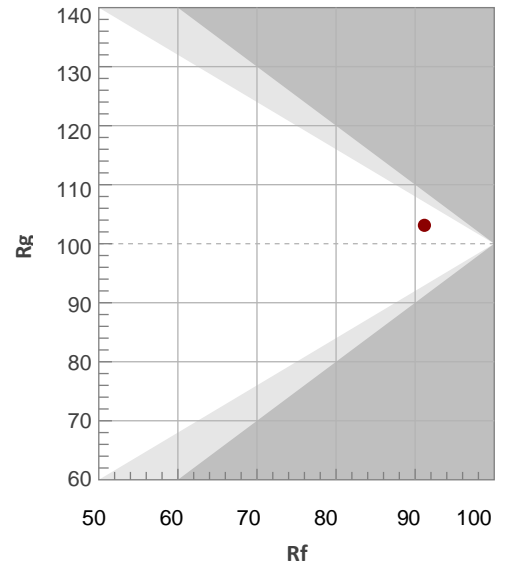
Rf 91,2

Fidelity index Rf

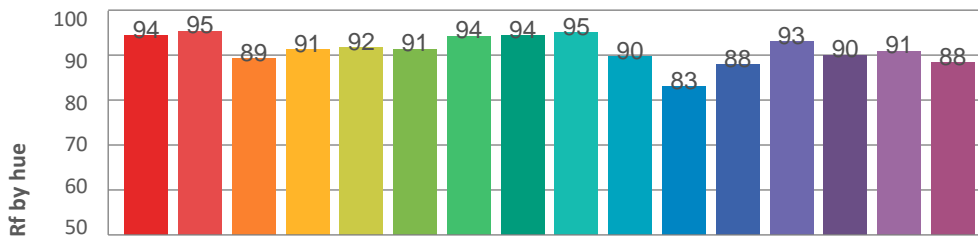
Rg 103,1

Gamut index Rg

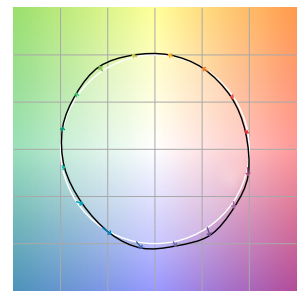
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	94	-2%	-2%
2	95	-2%	1%
3	89	0%	5%
4	91	1%	5%
5	92	2%	4%
6	91	6%	0%
7	94	2%	-3%
8	94	0%	-4%
9	95	-2%	0%
10	90	-4%	5%
11	83	0%	11%
12	88	5%	7%
13	93	5%	2%
14	90	8%	-2%
15	91	4%	-5%
16	88	2%	-8%



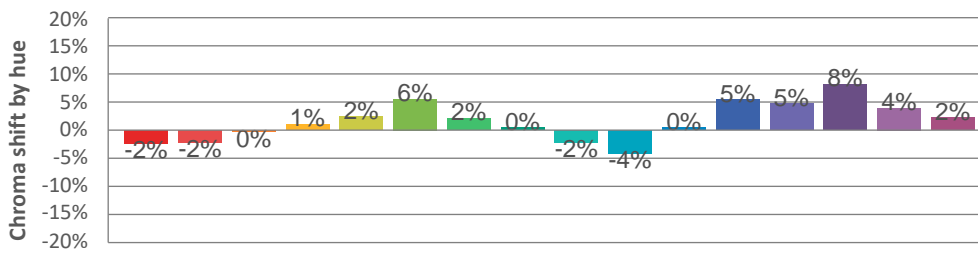
Hue binH



Color vector graphics



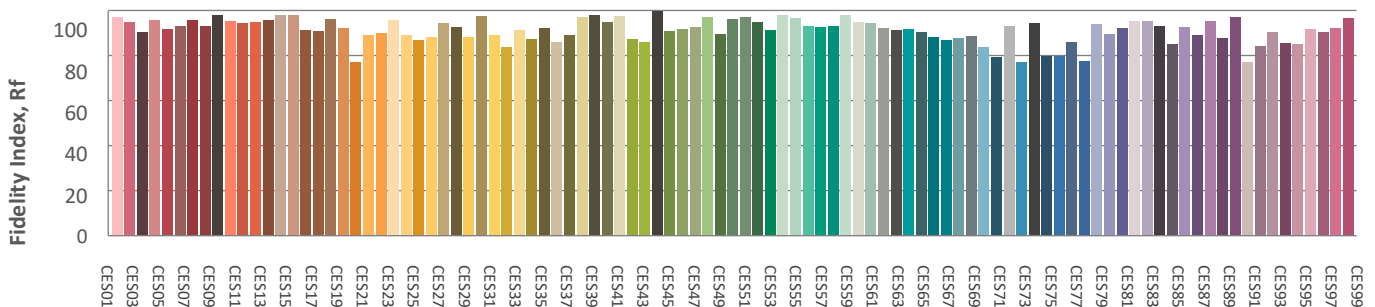
Hue bin



Color distortion graphics



Color Evaluation Sample



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Glare Evaluation According to UGR

p Ceiling	70	70	50	50	30	70	70	50	50	30	
p Walls	50	30	50	30	30	50	30	50	30	30	
p Floor	20	20	20	20	20	20	20	20	20	20	
Room size X Y	Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis					
2H	2H	26,9	27,7	27,0	28,0	28,2	26,9	27,7	27,0	28,0	28,2
	3H	26,6	27,5	27,0	27,7	27,9	26,6	27,5	27,0	27,7	27,9
	4H	26,5	27,4	26,9	27,6	27,9	26,5	27,4	26,9	27,6	27,9
	6H	26,5	27,3	26,8	27,6	27,9	26,5	27,3	26,8	27,6	27,9
	8H	26,5	27,2	26,8	27,5	27,9	26,5	27,2	26,8	27,5	27,9
	12H	26,4	27,1	26,8	27,5	27,9	26,4	27,1	26,8	27,5	27,9
4H	2H	26,6	27,4	27,0	27,7	27,9	26,6	27,4	27,0	27,7	27,9
	3H	26,5	27,1	26,8	27,5	27,9	26,5	27,1	26,8	27,5	27,9
	4H	26,3	26,9	26,7	27,4	27,9	26,3	26,9	26,7	27,4	27,9
	6H	26,2	26,9	26,7	27,2	27,6	26,2	26,9	26,7	27,2	27,6
	8H	26,2	26,8	26,7	27,1	27,5	26,2	26,8	26,7	27,1	27,5
	12H	26,1	26,6	26,6	27,0	27,5	26,1	26,6	26,6	27,0	27,5
8H	4H	26,2	26,8	26,7	27,1	27,5	26,2	26,8	26,7	27,1	27,5
	6H	26,1	26,5	26,6	27,0	27,5	26,1	26,5	26,6	27,0	27,5
	8H	26,1	26,4	26,6	27,0	27,6	26,1	26,4	26,6	27,0	27,6
	12H	26,1	26,3	26,7	26,8	27,4	26,1	26,3	26,7	26,8	27,4
12H	4H	26,1	26,6	26,6	27,0	27,5	26,1	26,6	26,6	27,0	27,5
	6H	26,1	26,4	26,6	27,0	27,6	26,1	26,4	26,6	27,0	27,6
	8H	26,1	26,3	26,7	26,8	27,4	26,1	26,3	26,7	26,8	27,4
Variation of the observer position for the luminaire distance S											
S = 1.0H	3,1 / -10,1					3,1 / -10,1					
S = 1.5H	5,5 / -17,0					5,5 / -17,0					
S = 2.0H	7,5 / -18,3					7,5 / -18,3					
Standard table	n/a					n/a					
Correction summand	n/a					n/a					
Corrected glare indices referring to 1362lm total luminous flux											



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