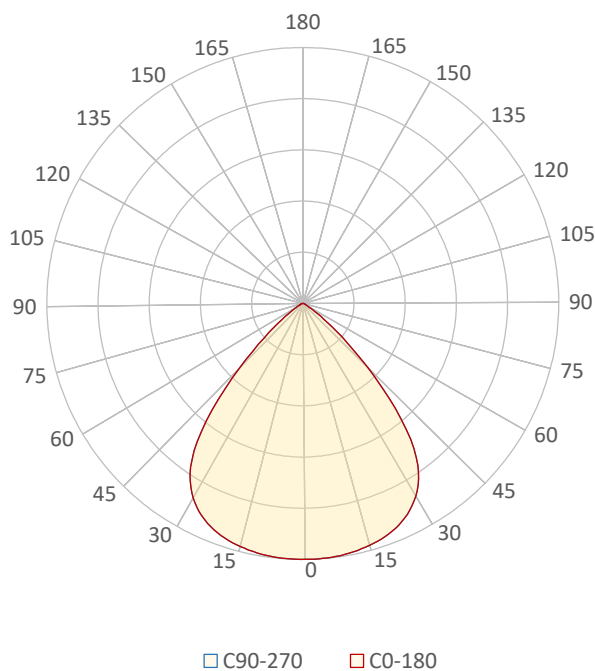


General Description

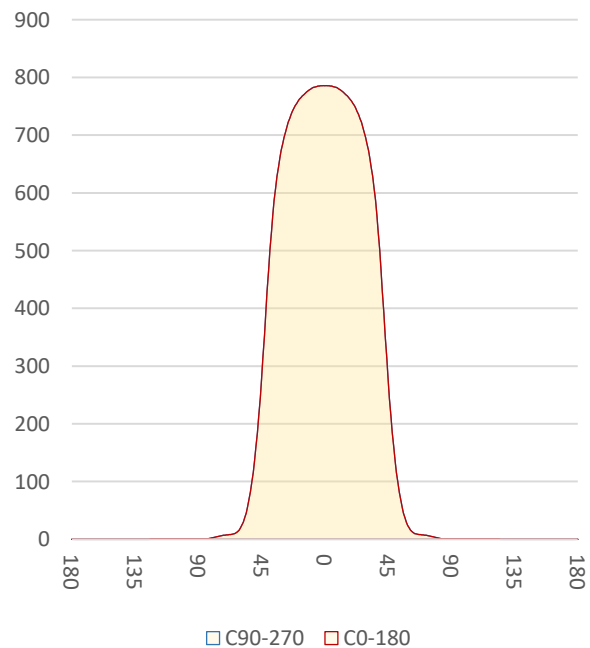
Item number	E-M4-X-X-3090
Date and time	2-12-2022 11:07:24
CCT (Kelvin)	2995 K
Beam angle	83,9°
Luminous flux	1293 lm
Efficiency	98 lm/watt
Weighted energy	13,2 kWh/1000h
Power factor	0,91
CRI (RA)	93,0
Fidelity index Rf	Rf 90,7
Gammut index Rg	Rg 103,1
Peak	786 cd



Polar diagram



Cartesian diagram



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Beam details	1m	2m	3m	4m	5m														
Lux*	786 lx	196 lx	87 lx	49 lx	31 lx														
*measured at center of beam																			
Footcandles*	73,0 fcd	18,2 fcd	8,1 fcd	4,6 fcd	2,9 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
786lx	196lx	87lx	49lx	31lx	22lx	16lx	12lx	10lx	8lx	6lx	5lx	5lx	4lx	3lx	3lx	3lx	2lx	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
73fcd	18,2fcd	8,1fcd	4,6fcd	2,9fcd	2fcd	1,5fcd	1,1fcd	0,9fcd	0,7fcd	0,6fcd	0,5fcd	0,4fcd	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°
786	785	780	770	755	729	685	609	467	279	136	56	20	9	8	6	3	1	0	0
100%	100%	99%	98%	96%	93%	87%	78%	59%	35%	17%	7%	3%	1%	1%	1%	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°
786	785	780	770	755	729	685	609	467	279	136	56	20	9	8	6	3	1	0	0
100%	100%	99%	98%	96%	93%	87%	78%	59%	35%	17%	7%	3%	1%	1%	1%	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°
786	785	780	770	755	729	685	609	467	279	136	56	20	9	8	6	3	1	0	0
100%	100%	99%	98%	96%	93%	87%	78%	59%	35%	17%	7%	3%	1%	1%	1%	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°
786	785	780	770	755	729	685	609	467	279	136	56	20	9	8	6	3	1	0	0
100%	100%	99%	98%	96%	93%	87%	78%	59%	35%	17%	7%	3%	1%	1%	1%	0%	0%	0%	0%
Beam angle 50%		Field angle 10%			Cutoff angle 2,5%			Intensity ratio in 120° cone				Intensity ratio in 90° cone							
83,9°		106,4°			120,1°			98,6%				88,0%							



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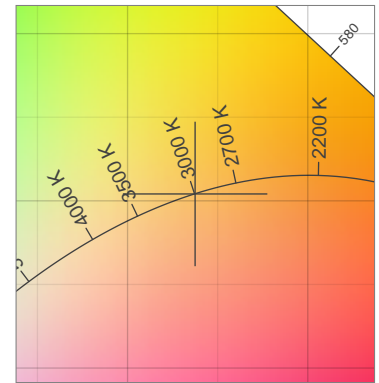
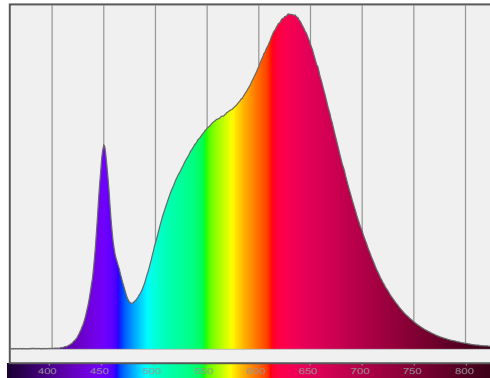
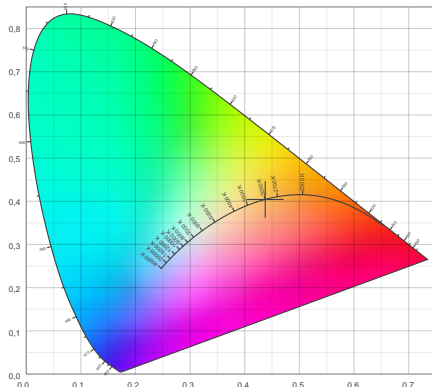
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Color details



CIE 1931

x: 0,437



Spectra

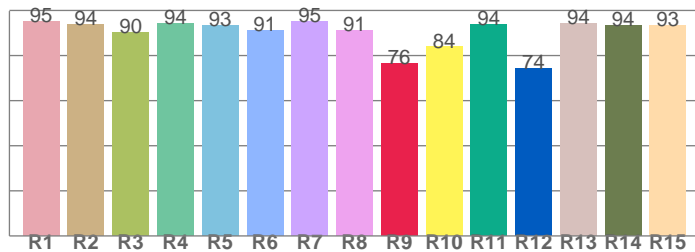
CIE 1931 ZOOM

2995 K

y: 0,404

Δuv : -0,0002

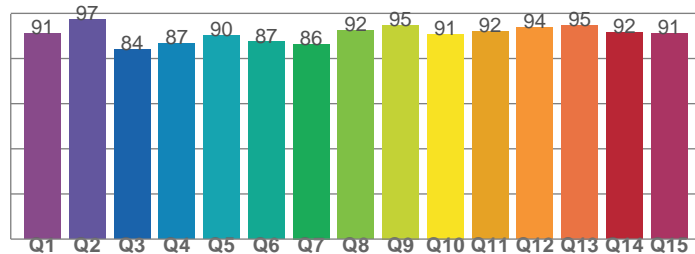
CRI: 93,0 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
95,0	94,0	90,4	94,1	93,2	91,1	95,0	91,1
R9	R10	R11	R12	R13	R14	R15	
76,4	83,9	93,9	74,5	94,5	93,6	93,3	

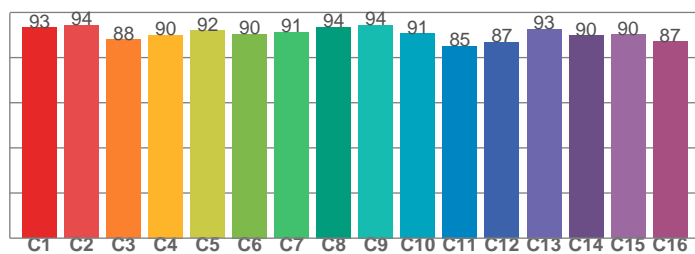
CQS: 90,2



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
91,2	97,3	84,0	86,8	90,1	87,4	86,4	92,5
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
94,9	90,9	92,0	93,6	94,9	91,6	91,2	

TM30: 90,7



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

C1	C2	C3	C4	C5	C6	C7	C8
93,4	94,3	87,9	90,0	92,1	90,4	91,2	93,5
C9	C10	C11	C12	C13	C14	C15	
94,5	90,6	85,2	86,8	92,7	89,6	90,2	

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 deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2995 K	93,0	76,4	90,7	103,1	90,2	0,437	0,404	0,251	0,348	-0,0002



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 info@cls-led.com
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TM30 details

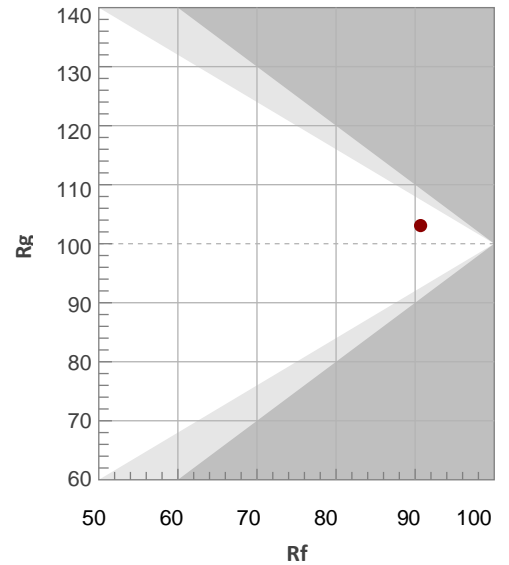
Rf 90,7

Fidelity index Rf

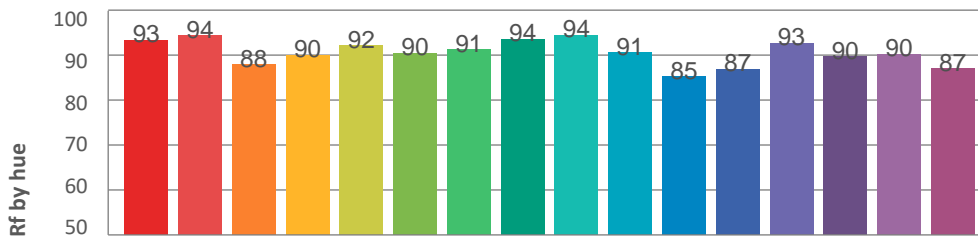
Rg 103,1

Gamut index Rg

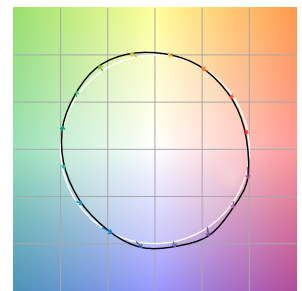
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	93	-3%	-2%
2	94	-3%	2%
3	88	0%	6%
4	90	1%	5%
5	92	4%	5%
6	90	6%	0%
7	91	3%	-5%
8	94	0%	-4%
9	94	-2%	-1%
10	91	-4%	5%
11	85	-1%	11%
12	87	5%	6%
13	93	5%	1%
14	90	8%	-4%
15	90	3%	-5%
16	87	2%	-10%



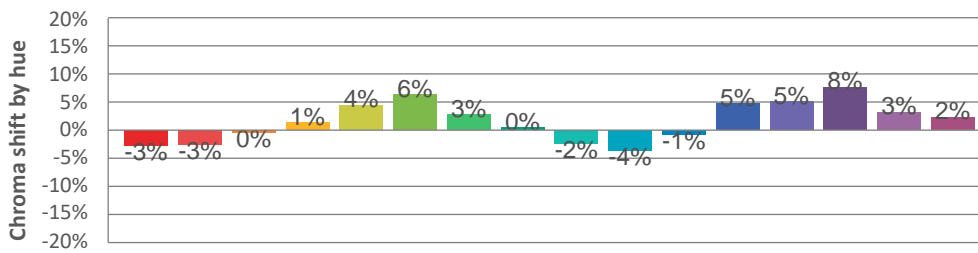
Hue binH



Color vector graphics



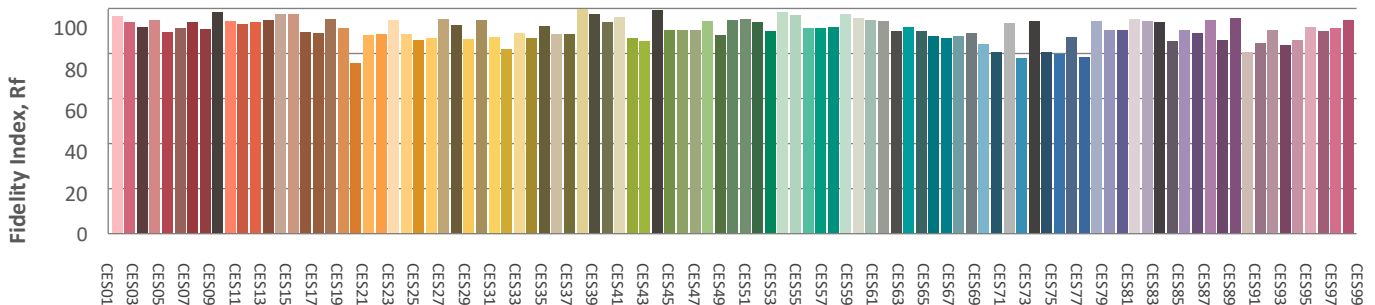
Hue bin



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	26,8	27,6	26,9	27,8	28,0	26,8	27,6	26,9	27,8	28,0
	3H	26,5	27,4	26,9	27,6	27,8	26,5	27,4	26,9	27,6	27,8
	4H	26,4	27,3	26,8	27,5	27,8	26,4	27,3	26,8	27,5	27,8
	6H	26,4	27,1	26,7	27,4	27,8	26,4	27,1	26,7	27,4	27,8
	8H	26,4	27,1	26,7	27,4	27,8	26,4	27,1	26,7	27,4	27,8
	12H	26,3	27,0	26,7	27,3	27,8	26,3	27,0	26,7	27,3	27,8
4H	2H	26,4	27,3	26,8	27,5	27,8	26,4	27,3	26,8	27,5	27,8
	3H	26,3	27,0	26,7	27,4	27,8	26,3	27,0	26,7	27,4	27,8
	4H	26,2	26,8	26,6	27,2	27,8	26,2	26,8	26,6	27,2	27,8
	6H	26,1	26,8	26,6	27,1	27,4	26,1	26,8	26,6	27,1	27,4
	8H	26,1	26,6	26,6	27,0	27,4	26,1	26,6	26,6	27,0	27,4
	12H	26,0	26,5	26,5	26,9	27,3	26,0	26,5	26,5	26,9	27,3
8H	4H	26,1	26,6	26,6	27,0	27,4	26,1	26,6	26,6	27,0	27,4
	6H	26,0	26,4	26,5	26,9	27,4	26,0	26,4	26,5	26,9	27,4
	8H	26,0	26,3	26,5	26,9	27,5	26,0	26,3	26,5	26,9	27,5
	12H	25,9	26,2	26,5	26,7	27,3	25,9	26,2	26,5	26,7	27,3
12H	4H	26,0	26,5	26,5	26,9	27,3	26,0	26,5	26,5	26,9	27,3
	6H	26,0	26,3	26,5	26,9	27,5	26,0	26,3	26,5	26,9	27,5
	8H	25,9	26,2	26,5	26,7	27,3	25,9	26,2	26,5	26,7	27,3
Variation of the observer position for the luminaire distance S											
S = 1.0H	2,9 / -8,8					2,9 / -8,8					
S = 1.5H	5,3 / -15,0					5,3 / -15,0					
S = 2.0H	7,2 / -16,0					7,2 / -16,0					
Standard table	n/a					n/a					
Correction summand	n/a					n/a					
Corrected glare indices referring to 1293lm total luminous flux											



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