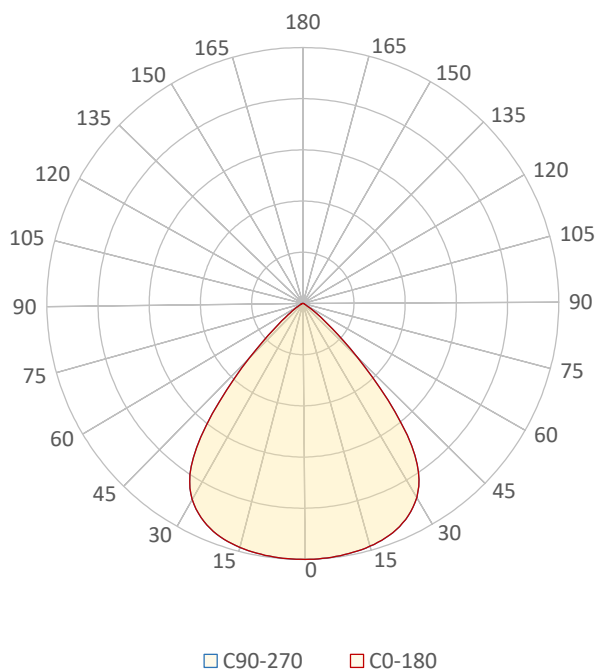


General Discription

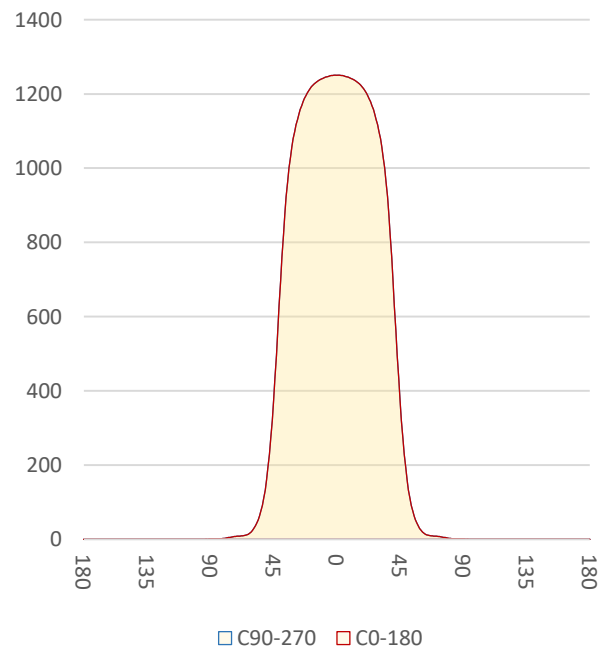
Item number	E-M5-X-X-4090
Date and time	2-12-2022 14:32:36
CCT (Kelvin)	3937 K
Beam angle	82,1°
Luminous flux	1972 lm
Efficiency	104 lm/watt
Weighted energy	18,9 kWh/1000h
Power factor	0,94
CRI (RA)	92,9
Fidelity index Rf	Rf 90,3
Gammut index Rg	Rg 100,1
Peak	1250 cd



Polar diagram



Cartesian diagram



LM-79

Test Report

LM79-EMERALD-M5-4000K-CRI90

Beam details	1m	2m	3m	4m	5m																			
Lux*	1250 lx	313 lx	139 lx	78 lx	50 lx																			
*measured at center of beam																								
Footcandles*	116,2 fcd	29,0 fcd	12,9 fcd	7,3 fcd	4,6 fcd																			
Beam width (meter)	1,7 m	3,5 m	5,2 m	7 m	8,7 m																			
Beam width (Feet)	5,7 ft	11,4 ft	17,2 ft	22,9 ft	28,6 ft																			
Beam intensities																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
1250lx	313lx	139lx	78lx	50lx	35lx	26lx	20lx	15lx	13lx	10lx	9lx	7lx	6lx	6lx	5lx	4lx	4lx	3lx	3lx					
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					
116,2fcd	29fcd	12,9fcd	7,3fcd	4,6fcd	3,2fcd	2,4fcd	1,8fcd	1,4fcd	1,2fcd	1fcd	0,8fcd	0,7fcd	0,6fcd	0,5fcd	0,5fcd	0,4fcd	0,4fcd	0,3fcd	0,3fcd					
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°					
1250	1248	1242	1230	1209	1169	1099	964	696	374	160	63	24	11	8	6	3	1	0	0					
100%	100%	99%	98%	97%	93%	88%	77%	56%	30%	13%	5%	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°					
1250	1248	1242	1230	1209	1169	1099	964	696	374	160	63	24	11	8	6	3	1	0	0					
100%	100%	99%	98%	97%	93%	88%	77%	56%	30%	13%	5%	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°					
1250	1248	1242	1230	1209	1169	1099	964	696	374	160	63	24	11	8	6	3	1	0	0					
100%	100%	99%	98%	97%	93%	88%	77%	56%	30%	13%	5%	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°					
1250	1248	1242	1230	1209	1169	1099	964	696	374	160	63	24	11	8	6	3	1	0	0					
100%	100%	99%	98%	97%	93%	88%	77%	56%	30%	13%	5%	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				
82,1°					102,7°					117,4°					99,0%					90,6%				



CLS LED BV
 info@cls-led.com
 www.cls-led.com

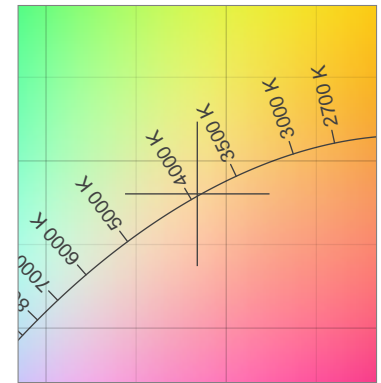
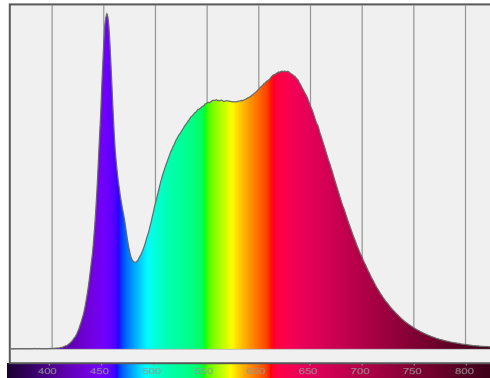
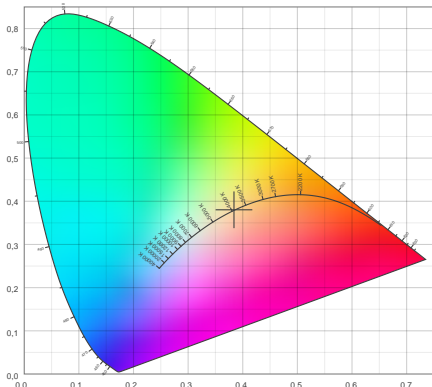
2021 CLS-LED BV. All rights reserved. Information subject to change without notice, CLS-LED BV and all affiliated companies disclaim liability for injury, damage direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information contained in this document. No part of this document may be reproduced, in any form or by any means, without permission in writing from CLS-LED BV. Other legal information can be found in our General conditions, found on the back of your CLS-LED BV invoice, inside the CLS catalogue or on our website www.cls-led.com/voorwaarden.pdf

LM-79

Test Report

LM79-EMERALD-M5-4000K-CRI90

Color details



CIE 1931

x: 0,384



Spectra

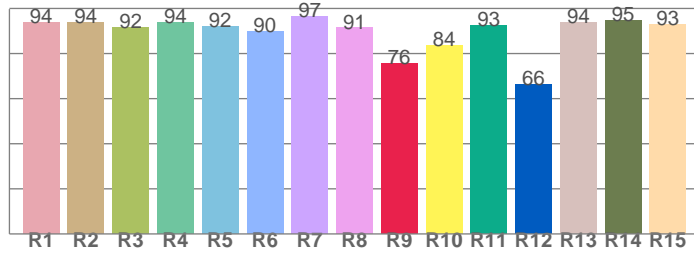
CIE 1931 ZOOM

3937 K

y: 0,380

Δuv : 0,0007

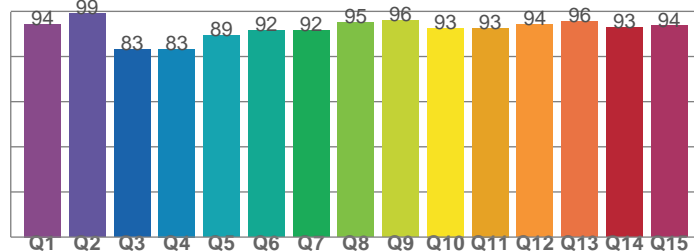
CRI: 92,9 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
93,8	93,9	91,5	93,8	91,9	89,8	96,6	91,4
R9	R10	R11	R12	R13	R14	R15	
75,5	83,6	92,5	66,3	93,8	94,7	92,8	

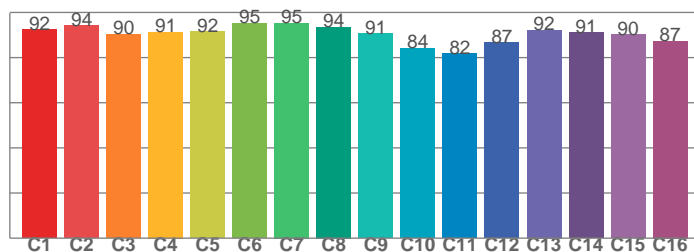
CQS: 91,3



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
94,4	99,0	83,2	83,3	89,3	91,5	91,6	95,2
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,0	92,6	92,6	94,2	95,5	92,9	93,6	

TM30: 90,3



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

C1	C2	C3	C4	C5	C6	C7	C8
92,3	94,3	90,3	91,4	91,5	95,2	95,3	93,6
C9	C10	C11	C12	C13	C14	C15	
90,6	84,2	81,7	86,6	92,2	91,2	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
3937 K	92,9	75,5	90,3	100,1	91,3	0,384	0,380	0,226	0,336	0,0007



CLS LED BV
info@cls-led.com
www.cls-led.com

2021 CLS-LED BV. All rights reserved. Information subject to change without notice, CLS-LED BV and all affiliated companies disclaim liability for injury, damage direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information contained in this document. No part of this document may be reproduced, in any form or by any means, without permission in writing from CLS-LED BV. Other legal information can be found in our General conditions, found on the back of your CLS-LED BV invoice, inside the CLS catalogue or on our website www.cls-led.com/voorwaarden.pdf

LM-79

Test Report

LM79-EMERALD-M5-4000K-CRI90

TM30 details

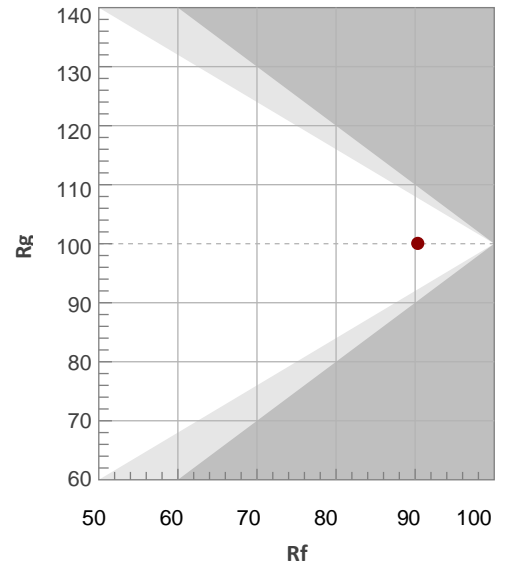
Rf 90,3

Fidelity index Rf

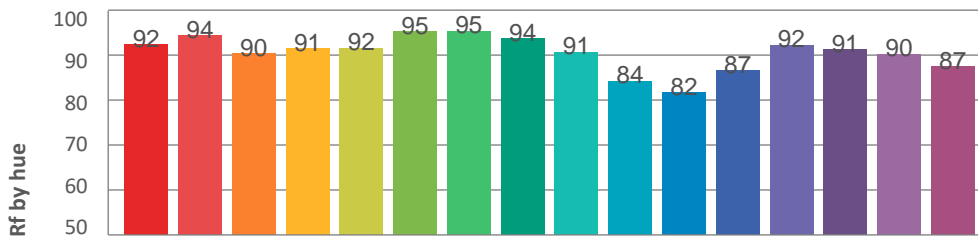
Rg 100,1

Gamut index Rg

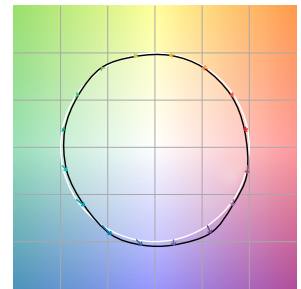
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	92	-3%	-1%
2	94	-2%	1%
3	90	-1%	4%
4	91	-1%	3%
5	92	-2%	2%
6	95	2%	0%
7	95	-2%	-1%
8	94	-3%	1%
9	91	-4%	6%
10	84	-4%	9%
11	82	3%	12%
12	87	4%	6%
13	92	5%	0%
14	91	8%	-1%
15	90	3%	-5%
16	87	1%	-8%



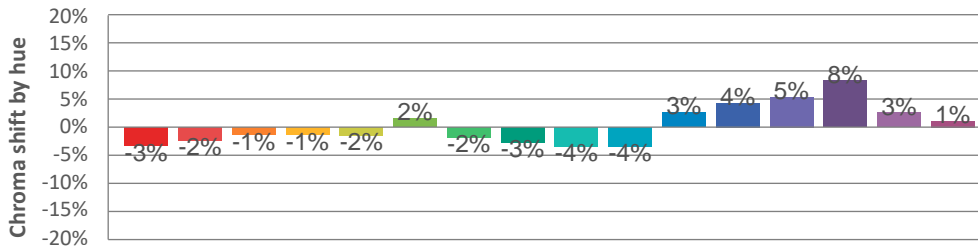
Hue binH



Color vector graphics



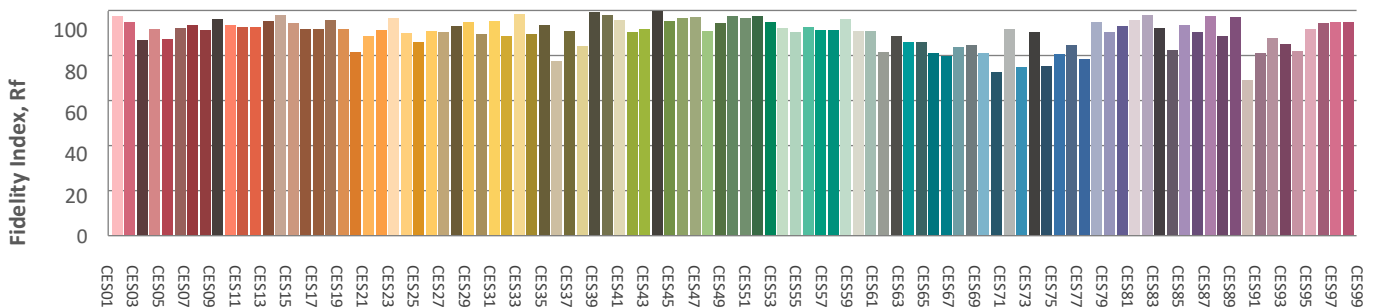
Hue bin



Color distortion graphics



Color Evaluation Sample



CLS LED BV
 info@cls-led.com
 www.cls-led.com

2021 CLS-LED BV. All rights reserved. Information subject to change without notice, CLS-LED BV and all affiliated companies disclaim liability for injury, damage direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information contained in this document. No part of this document may be reproduced, in any form or by any means, without permission in writing from CLS-LED BV. Other legal information can be found in our General conditions, found on the back of your CLS-LED BV invoice, inside the CLS catalogue or on our website www.cls-led.com/voorwaarden.pdf

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	28,0	28,8	28,1	29,0	29,2	28,0	28,8	28,1	29,0	29,2
	3H	27,7	28,6	28,1	28,8	29,0	27,7	28,6	28,1	28,8	29,0
	4H	27,6	28,5	28,0	28,7	28,9	27,6	28,5	28,0	28,7	28,9
	6H	27,6	28,3	27,9	28,6	29,0	27,6	28,3	27,9	28,6	29,0
	8H	27,6	28,2	27,9	28,6	29,0	27,6	28,2	27,9	28,6	29,0
	12H	27,5	28,2	27,9	28,5	28,9	27,5	28,2	27,9	28,5	28,9
4H	2H	27,6	28,5	28,0	28,7	28,9	27,6	28,5	28,0	28,7	28,9
	3H	27,5	28,2	27,9	28,5	29,0	27,5	28,2	27,9	28,5	29,0
	4H	27,4	28,0	27,8	28,4	28,9	27,4	28,0	27,8	28,4	28,9
	6H	27,3	27,9	27,8	28,3	28,6	27,3	27,9	27,8	28,3	28,6
	8H	27,2	27,8	27,8	28,2	28,5	27,2	27,8	27,8	28,2	28,5
	12H	27,2	27,6	27,7	28,1	28,5	27,2	27,6	27,7	28,1	28,5
8H	4H	27,2	27,8	27,8	28,2	28,5	27,2	27,8	27,8	28,2	28,5
	6H	27,2	27,6	27,7	28,0	28,6	27,2	27,6	27,7	28,0	28,6
	8H	27,2	27,5	27,7	28,0	28,6	27,2	27,5	27,7	28,0	28,6
	12H	27,1	27,4	27,7	27,9	28,5	27,1	27,4	27,7	27,9	28,5
12H	4H	27,2	27,6	27,7	28,1	28,5	27,2	27,6	27,7	28,1	28,5
	6H	27,2	27,5	27,7	28,0	28,6	27,2	27,5	27,7	28,0	28,6
	8H	27,1	27,4	27,7	27,9	28,5	27,1	27,4	27,7	27,9	28,5
Variation of the observer position for the luminaire distance S											
S = 1.0H	3,4 / -10,6					3,4 / -10,6					
S = 1.5H	5,9 / -16,7					5,9 / -16,7					
S = 2.0H	7,8 / -18,0					7,8 / -18,0					
Standard table	n/a					n/a					
Correction summand	n/a					n/a					
Corrected glare indices referring to 1972lm total luminous flux											