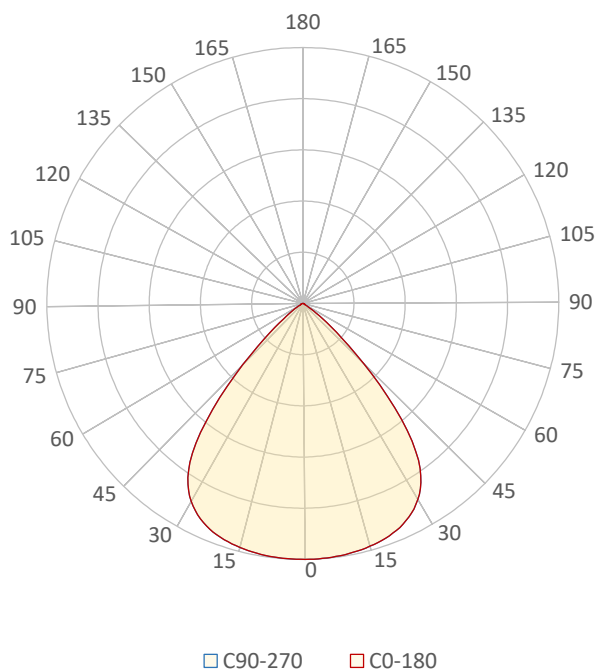


General Description

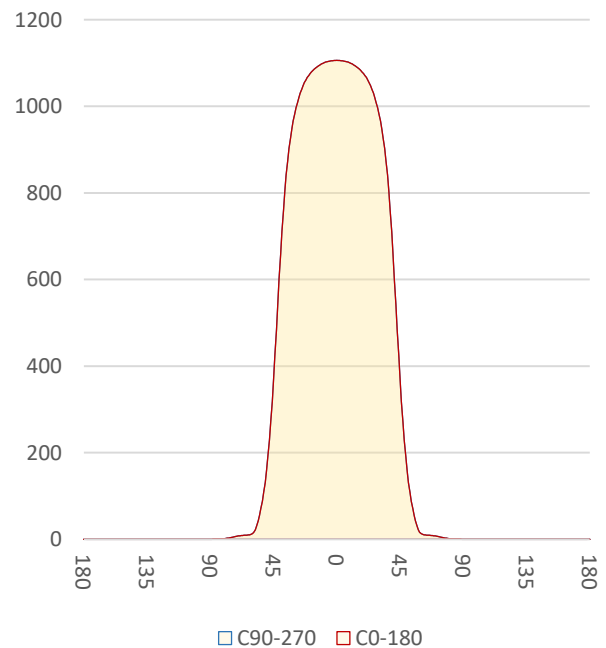
Item number	E-L5-X-X-2790
Date and time	2-12-2022 12:54:10
CCT (Kelvin)	2682 K
Beam angle	83,7°
Luminous flux	1789 lm
Efficiency	94 lm/watt
Weighted energy	19,1 kWh/1000h
Power factor	0,94
CRI (RA)	92,9
Fidelity index Rf	Rf 90,2
Gammut index Rg	Rg 103,5
Peak	1106 cd



Polar diagram



Cartesian diagram



LM-79

Test Report

LM79-EMERALD-L5-2700K-CRI90

Beam details	1m	2m	3m	4m	5m																			
Lux*	1106 lx	277 lx	123 lx	69 lx	44 lx																			
<i>*measured at center of beam</i>																								
Footcandles*	102,8 fcd	25,7 fcd	11,4 fcd	6,4 fcd	4,1 fcd																			
Beam width (meter)	1,8 m	3,6 m	5,4 m	7,2 m	8,9 m																			
Beam width (Feet)	5,9 ft	11,7 ft	17,6 ft	23,5 ft	29,4 ft																			
Beam intensities																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
1106lx	277lx	123lx	69lx	44lx	31lx	23lx	17lx	14lx	11lx	9lx	8lx	7lx	6lx	5lx	4lx	4lx	3lx	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					
102,8fcd	25,7fcd	11,4fcd	6,4fcd	4,1fcd	2,9fcd	2,1fcd	1,6fcd	1,3fcd	1fcd	0,8fcd	0,7fcd	0,6fcd	0,5fcd	0,5fcd	0,4fcd	0,4fcd	0,3fcd	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°					
1106	1104	1099	1089	1071	1039	982	874	658	371	159	56	13	9	8	4	2	0	0	0					
100%	100%	99%	98%	97%	94%	89%	79%	59%	34%	14%	5%	1%	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°					
1106	1104	1099	1089	1071	1039	982	874	658	371	159	56	13	9	8	4	2	0	0	0					
100%	100%	99%	98%	97%	94%	89%	79%	59%	34%	14%	5%	1%	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°					
1106	1104	1099	1089	1071	1039	982	874	658	371	159	56	13	9	8	4	2	0	0	0					
100%	100%	99%	98%	97%	94%	89%	79%	59%	34%	14%	5%	1%	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°					
1106	1104	1099	1089	1071	1039	982	874	658	371	159	56	13	9	8	4	2	0	0	0					
100%	100%	99%	98%	97%	94%	89%	79%	59%	34%	14%	5%	1%	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				
83,7°					103,8°					114,7°					99,1%					90,2%				



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

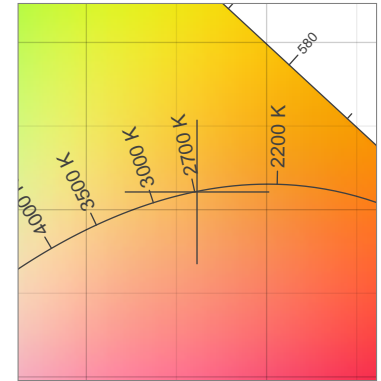
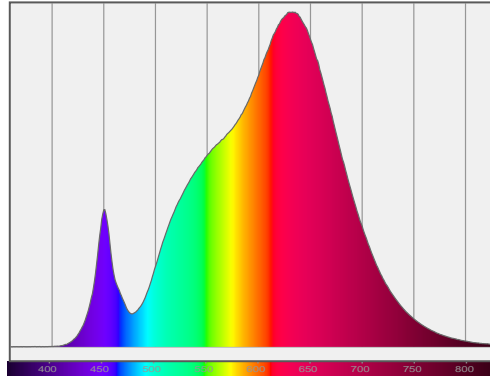
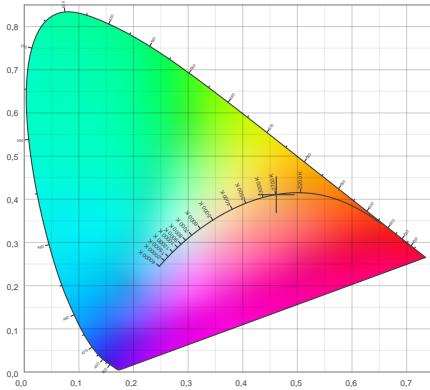
2021 CLS-LED BV. All rights reserved. Information subject to change without notice, CLS-LED BV and all affiliated companies disclaim liability for injury, damage direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information 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-L5-2700K-CRI90

Color details



CIE 1931

x: 0,461



Spectra

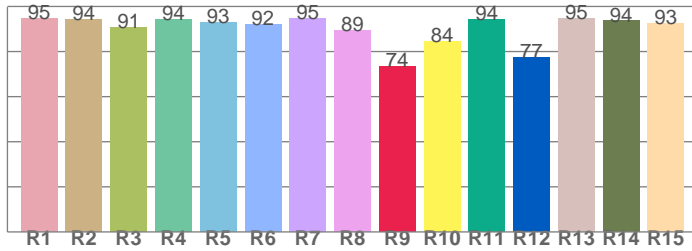
CIE 1931 ZOOM

2682 K

y: 0,411

Δuv: -0,0002

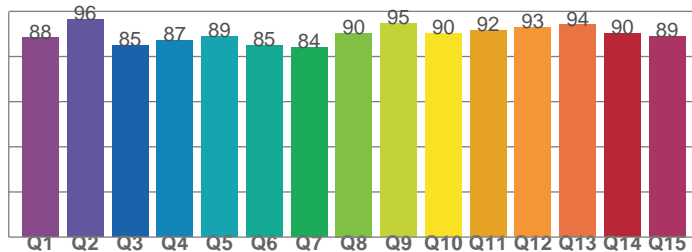
CRI: 92,9 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
94,9	94,3	90,9	94,2	93,1	92,0	94,7	89,4
R9	R10	R11	R12	R13	R14	R15	
73,6	84,5	94,3	77,4	94,5	93,6	92,5	

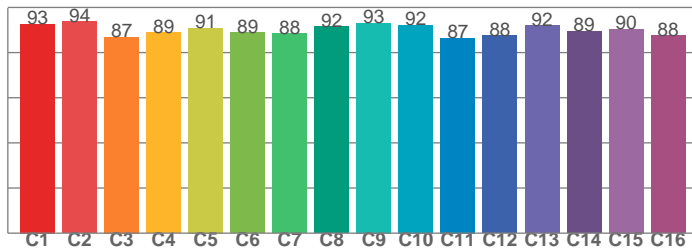
CQS: 89,1



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
88,3	96,4	84,8	87,3	88,8	84,9	84,0	90,4
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
94,8	90,4	91,5	93,0	94,0	90,1	89,0	

TM30: 90,2



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

C1	C2	C3	C4	C5	C6	C7	C8
92,7	93,6	86,9	88,8	90,8	89,0	88,5	91,5
C9	C10	C11	C12	C13	C14	C15	
93,1	92,2	86,5	87,6	92,0	89,5	90,5	

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
2682 K	92,9	73,6	90,2	103,5	89,1	0,461	0,411	0,263	0,352	-0,0002



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-L5-2700K-CRI90

TM30 details

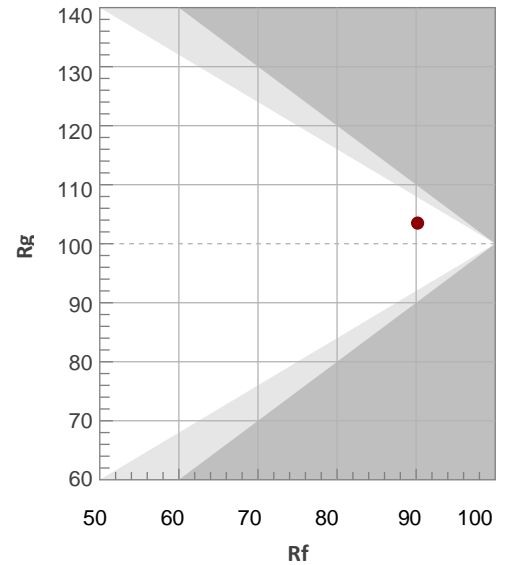
Rf 90,2

Fidelity index Rf

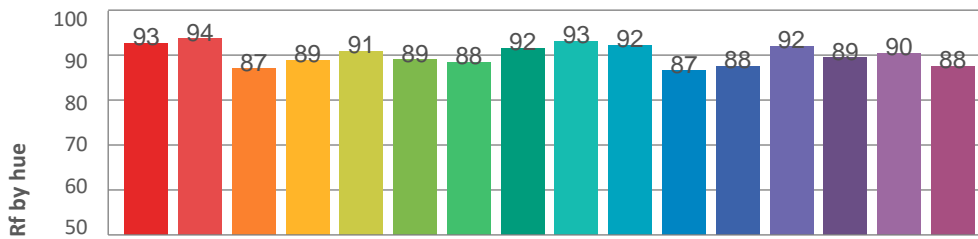
Rg 103,5

Gamut index Rg

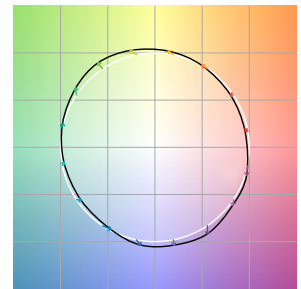
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	93	-3%	-2%
2	94	-3%	2%
3	87	0%	7%
4	89	3%	6%
5	91	6%	6%
6	89	8%	0%
7	88	5%	-5%
8	92	1%	-6%
9	93	-2%	-3%
10	92	-4%	3%
11	87	-2%	9%
12	88	5%	5%
13	92	6%	-1%
14	89	7%	-5%
15	90	3%	-5%
16	88	1%	-10%



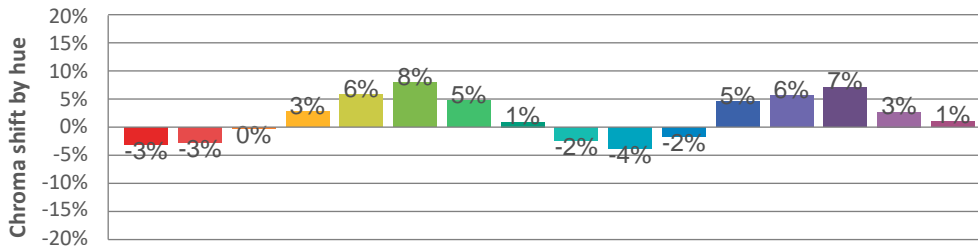
Hue binH



Color vector graphics



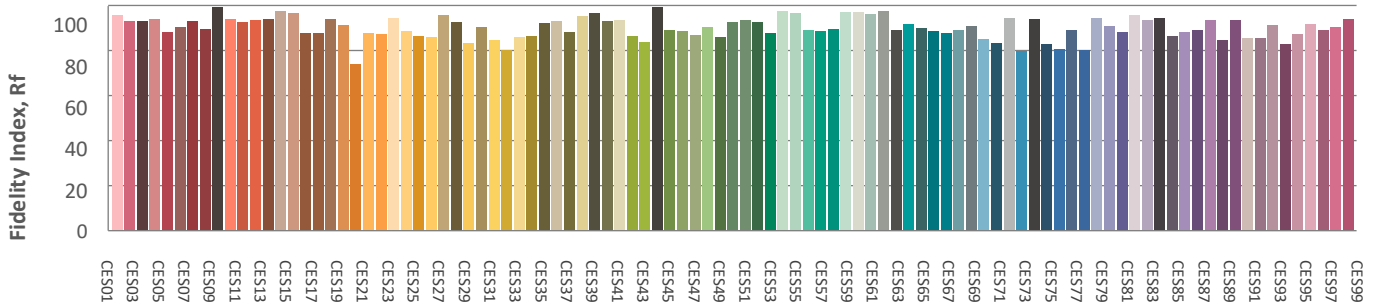
Hue bin



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

LM-79

Test Report

LM79-EMERALD-L5-2700K-CRI90

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	27,0	27,9	28,1	26,8	27,6	27,0	27,9	28,1
	3H	26,5	27,4	26,9	27,7	27,9	26,5	27,4	26,9	27,7	27,9
	4H	26,5	27,3	26,9	27,6	27,8	26,5	27,3	26,9	27,6	27,8
	6H	26,5	27,2	26,8	27,5	27,8	26,5	27,2	26,8	27,5	27,8
	8H	26,4	27,1	26,8	27,4	27,8	26,4	27,1	26,8	27,4	27,8
	12H	26,4	27,0	26,7	27,4	27,8	26,4	27,0	26,7	27,4	27,8
4H	2H	26,5	27,3	26,9	27,6	27,8	26,5	27,3	26,9	27,6	27,8
	3H	26,4	27,1	26,7	27,4	27,8	26,4	27,1	26,7	27,4	27,8
	4H	26,2	26,9	26,7	27,3	27,8	26,2	26,9	26,7	27,3	27,8
	6H	26,2	26,8	26,7	27,1	27,5	26,2	26,8	26,7	27,1	27,5
	8H	26,1	26,7	26,6	27,0	27,4	26,1	26,7	26,6	27,0	27,4
	12H	26,1	26,5	26,6	26,9	27,4	26,1	26,5	26,6	26,9	27,4
8H	4H	26,1	26,7	26,6	27,0	27,4	26,1	26,7	26,6	27,0	27,4
	6H	26,1	26,5	26,6	26,9	27,4	26,1	26,5	26,6	26,9	27,4
	8H	26,1	26,4	26,6	26,9	27,5	26,1	26,4	26,6	26,9	27,5
	12H	26,0	26,3	26,6	26,8	27,4	26,0	26,3	26,6	26,8	27,4
12H	4H	26,1	26,5	26,6	26,9	27,4	26,1	26,5	26,6	26,9	27,4
	6H	26,1	26,4	26,6	26,9	27,5	26,1	26,4	26,6	26,9	27,5
	8H	26,0	26,3	26,6	26,8	27,4	26,0	26,3	26,6	26,8	27,4
Variation of the observer position for the luminaire distance S											
S = 1.0H	3,2 / -11,3					3,2 / -11,3					
S = 1.5H	5,6 / -18,2					5,6 / -18,2					
S = 2.0H	7,5 / -18,6					7,5 / -18,6					
Standard table	n/a					n/a					
Correction summand	n/a					n/a					
Corrected glare indices referring to 1789lm total luminous flux											



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