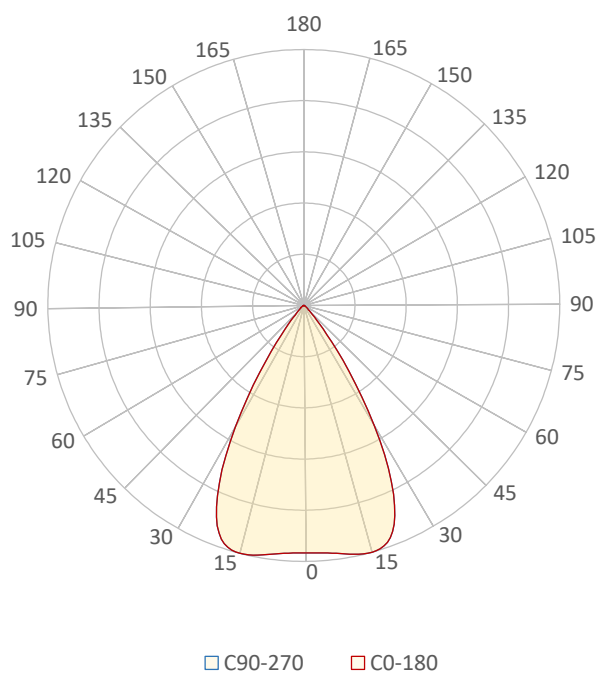


General Discription

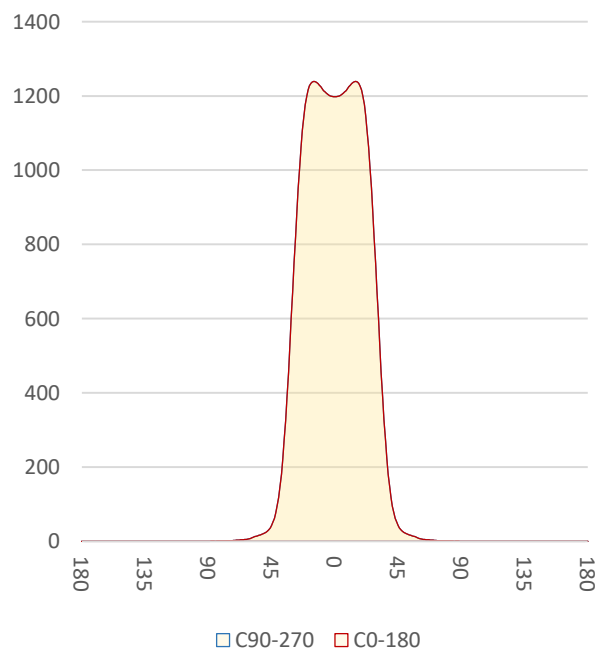
Item number	E-OL4-X-X-3090
Date and time	2-12-2022 11:24:19
CCT (Kelvin)	2961 K
Beam angle	61,5°
Luminous flux	1185 lm
Efficiency	90 lm/watt
Weighted energy	13,2 kWh/1000h
Power factor	0,91
CRI (RA)	93,2
Fidelity index Rf	Rf 90,7
Gammut index Rg	Rg 103,1
Peak	1239 cd



Polar diagram



Cartesian diagram

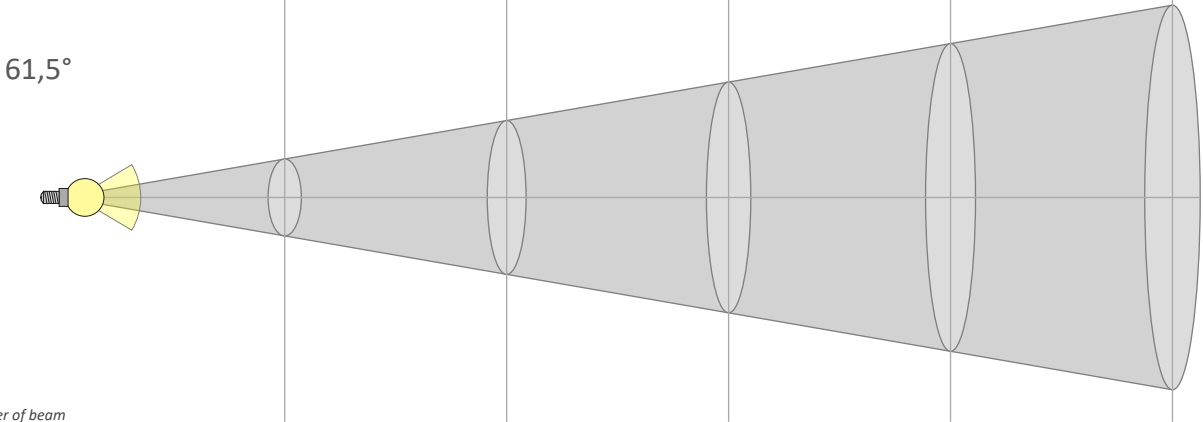


LM-79

Test Report

LM79-EMERALD-OFFICE-L4-3000K-CRI90

Beam details	1m	2m	3m	4m	5m
Lux*	1198 lx	299 lx	133 lx	75 lx	48 lx



61,5°

*measured at center of beam

Footcandles*	111,3 fcd	27,8 fcd	12,4 fcd	7,0 fcd	4,5 fcd
Beam width (meter)	1,2 m	2,4 m	3,6 m	4,8 m	5,9 m
Beam width (Feet)	3,9 ft	7,8 ft	11,7 ft	15,6 ft	19,5 ft

Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
1198lx	299lx	133lx	75lx	48lx	33lx	24lx	19lx	15lx	12lx	10lx	8lx	7lx	6lx	5lx	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
111,3fcd	27,8fcd	12,4fcd	7fcd	4,5fcd	3,1fcd	2,3fcd	1,7fcd	1,4fcd	1,1fcd	0,9fcd	0,8fcd	0,7fcd	0,6fcd	0,5fcd	0,4fcd	0,4fcd	0,3fcd	0,3fcd	0,3fcd

Intensities in 0° c-plane																			
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
1198	1198	1202	1207	1215	1224	1233	1238	1238	1227	1199	1146	1062	952	821	675	526	388	271	181
100%	100%	100%	101%	101%	102%	103%	103%	103%	102%	100%	96%	89%	79%	69%	56%	44%	32%	23%	15%

Intensities in 90° c-plane																			
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
1198	1198	1202	1207	1215	1224	1233	1238	1238	1227	1199	1146	1062	952	821	675	526	388	271	181
100%	100%	100%	101%	101%	102%	103%	103%	103%	102%	100%	96%	89%	79%	69%	56%	44%	32%	23%	15%

Intensities in 180° c-plane																			
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
1198	1198	1202	1207	1215	1224	1233	1238	1238	1227	1199	1146	1062	952	821	675	526	388	271	181
100%	100%	100%	101%	101%	102%	103%	103%	103%	102%	100%	96%	89%	79%	69%	56%	44%	32%	23%	15%

Intensities in 270° c-plane																			
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
1198	1198	1202	1207	1215	1224	1233	1238	1238	1227	1199	1146	1062	952	821	675	526	388	271	181
100%	100%	100%	101%	101%	102%	103%	103%	103%	102%	100%	96%	89%	79%	69%	56%	44%	32%	23%	15%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
61,5°	79,6°	94,1°	99,4%	97,3%



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

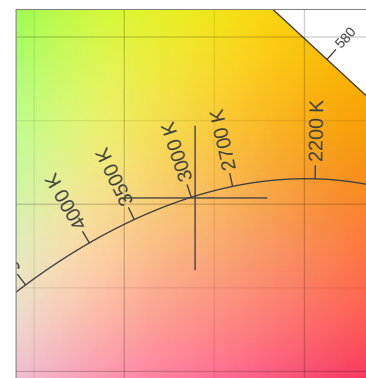
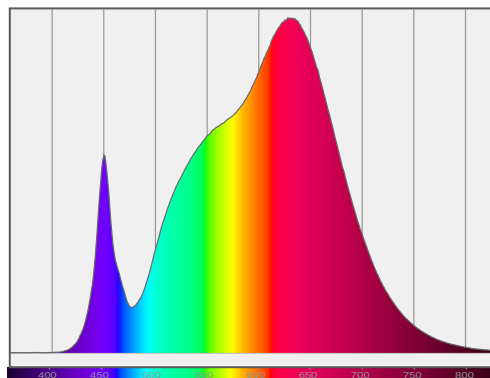
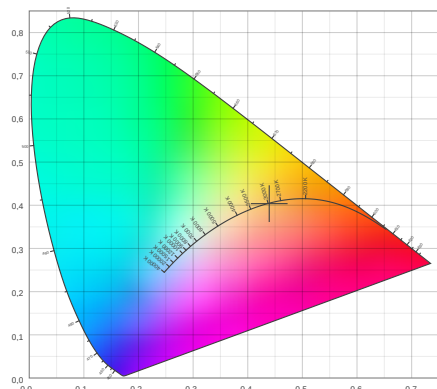
2021 CLS-LED BV. All rights reserved. Information subject to change without notice, CLS-LED BV and all affiliated companies disclaim liability for injury, damage direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information 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-OFFICE-L4-3000K-CRI90

Color details



CIE 1931

x: 0,439



Spectra

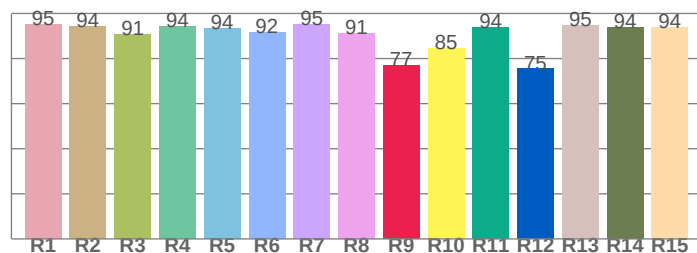
CIE 1931 ZOOM

2961 K

y: 0,404

 $\Delta uv: -0,0005$

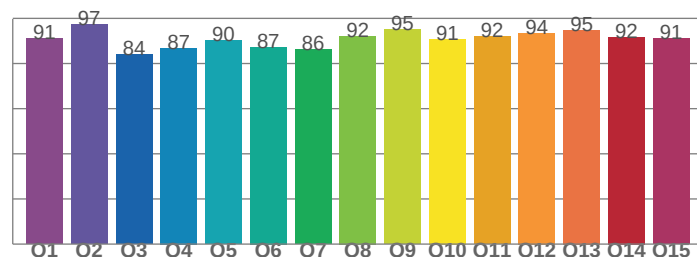
CRI: 93,2 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
95,3	94,3	90,7	94,2	93,6	91,6	95,0	91,2
R9	R10	R11	R12	R13	R14	R15	
77,1	84,6	94,0	75,4	94,9	93,7	93,7	

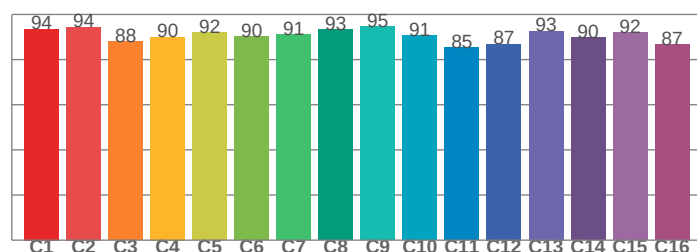
CQS: 90,2



CQS values

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

TM30: 90,7



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

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

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
2961 K	93,2	77,1	90,7	103,1	90,2	0,439	0,404	0,252	0,348	-0,0005



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-OFFICE-L4-3000K-CRI90

TM30 details

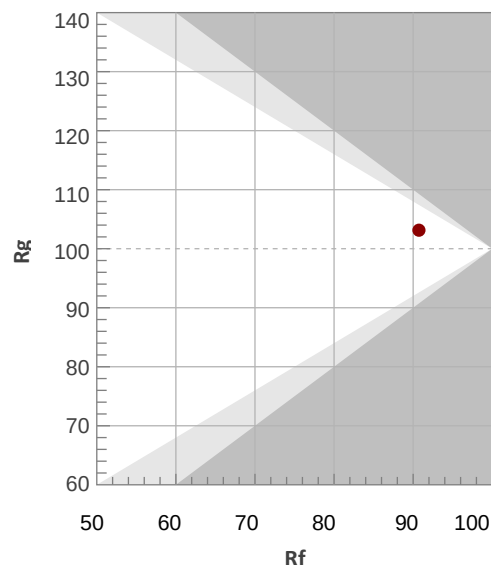
Rf 90,7

Fidelity index Rf

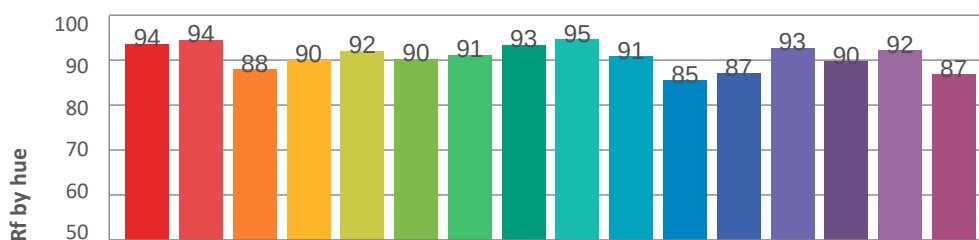
Rg 103,1

Gamut index Rg

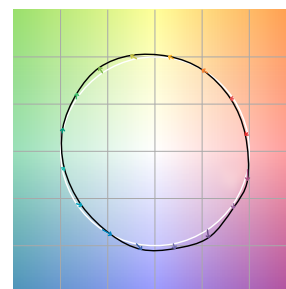
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	94	-3%	-2%
2	94	-2%	2%
3	88	0%	6%
4	90	1%	5%
5	92	5%	5%
6	90	6%	0%
7	91	3%	-5%
8	93	1%	-4%
9	95	-2%	-1%
10	91	-4%	4%
11	85	-1%	11%
12	87	5%	6%
13	93	5%	1%
14	90	8%	-4%
15	92	2%	-4%
16	87	2%	-11%



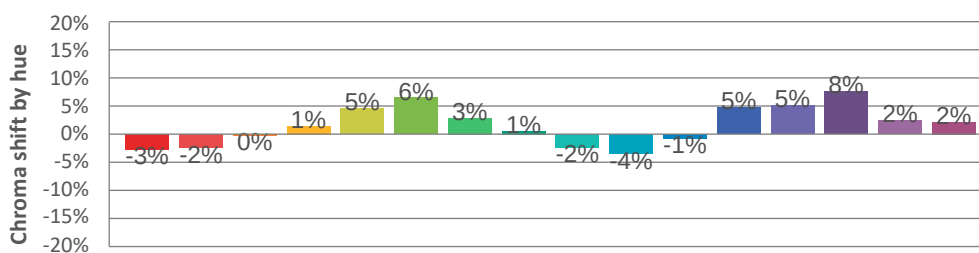
Hue binH



Color vector graphics



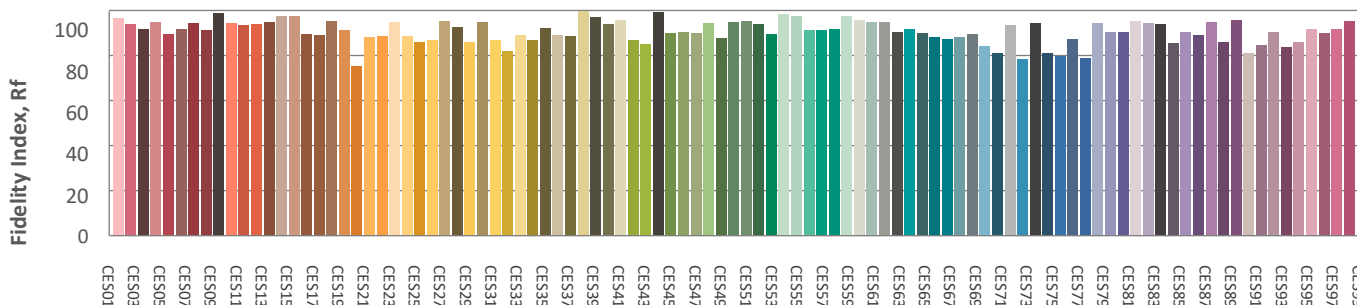
Hue bin



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	20,6	21,2	20,7	21,4	21,6	20,6	21,2	20,7	21,4	21,6
	3H	20,3	21,0	20,7	21,2	21,4	20,3	21,0	20,7	21,2	21,4
	4H	20,2	20,9	20,6	21,2	21,4	20,2	20,9	20,6	21,2	21,4
	6H	20,2	20,8	20,5	21,1	21,4	20,2	20,8	20,5	21,1	21,4
	8H	20,1	20,7	20,5	21,1	21,4	20,1	20,7	20,5	21,1	21,4
	12H	20,1	20,7	20,4	21,0	21,4	20,1	20,7	20,4	21,0	21,4
4H	2H	20,2	20,9	20,6	21,2	21,4	20,2	20,9	20,6	21,2	21,4
	3H	20,1	20,7	20,5	21,0	21,4	20,1	20,7	20,5	21,0	21,4
	4H	20,0	20,5	20,4	20,9	21,4	20,0	20,5	20,4	20,9	21,4
	6H	19,9	20,4	20,4	20,8	21,1	19,9	20,4	20,4	20,8	21,1
	8H	19,8	20,3	20,3	20,7	21,0	19,8	20,3	20,3	20,7	21,0
	12H	19,8	20,2	20,3	20,6	21,0	19,8	20,2	20,3	20,6	21,0
8H	4H	19,8	20,3	20,3	20,7	21,0	19,8	20,3	20,3	20,7	21,0
	6H	19,8	20,1	20,3	20,6	21,1	19,8	20,1	20,3	20,6	21,1
	8H	19,8	20,0	20,3	20,5	21,2	19,8	20,0	20,3	20,5	21,2
	12H	19,7	19,9	20,3	20,4	21,0	19,7	19,9	20,3	20,4	21,0
12H	4H	19,8	20,2	20,3	20,6	21,0	19,8	20,2	20,3	20,6	21,0
	6H	19,8	20,0	20,3	20,5	21,2	19,8	20,0	20,3	20,5	21,2
	8H	19,7	19,9	20,3	20,4	21,0	19,7	19,9	20,3	20,4	21,0
Variation of the observer position for the luminaire distance S											
S = 1.0H		6,0 / -12,3					6,0 / -12,3				
S = 1.5H		8,8 / -15,8					8,8 / -15,8				
S = 2.0H		10,8 / -17,2					10,8 / -17,2				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 1185lm total luminous flux											