

LM-79

Test Report

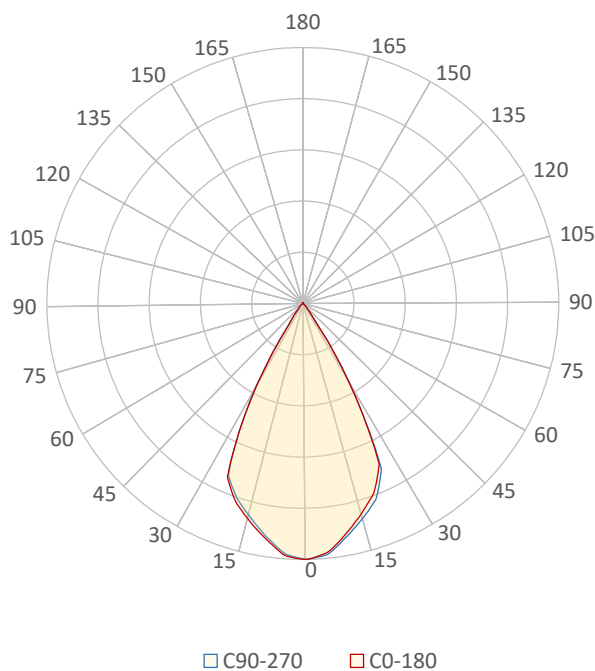
LM79-JADE-ZOOM-3000K-CRI90-WIDE

General Description

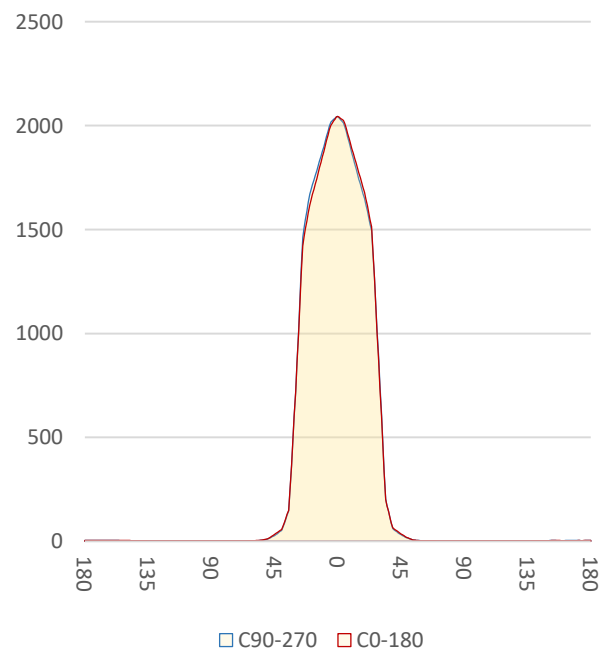
Item number	
Date and time	25-3-2019 16:14:59
CCT (Kelvin)	3044 K
Beam angle	55,9°
Luminous flux	1474 lm
Efficiency	61 lm/watt
Weighted energy	24,1 kWh/1000h
Power factor	0,97
CRI (RA)	92,2
Fidelity index Rf	Rf 90,1
Gammut index Rg	Rg 101,9
Peak	2048 cd



Polar diagram



Cartesian diagram



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

2017 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-JADE-ZOOM-3000K-CRI90-WIDE

Beam details	1m	2m	3m	4m	5m														
Lux*	2044 lx	511 lx	227 lx	128 lx	82 lx														
*measured at center of beam																			
Footcandles*	189,9 fcd	47,5 fcd	21,1 fcd	11,9 fcd	7,6 fcd														
Beam width (meter)	1,1 m	2,1 m	3,2 m	4,2 m	5,3 m														
Beam width (Feet)	3,5 ft	6,9 ft	10,4 ft	13,9 ft	17,4 ft														
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
2044lx	511lx	227lx	128lx	82lx	57lx	42lx	32lx	25lx	20lx	17lx	14lx	12lx	10lx	9lx	8lx	7lx	6lx	6lx	5lx
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
189,9fcd	47,5fcd	21,1fcd	11,9fcd	7,6fcd	5,3fcd	3,9fcd	3fcd	2,3fcd	1,9fcd	1,6fcd	1,3fcd	1,1fcd	1fcd	0,8fcd	0,7fcd	0,7fcd	0,6fcd	0,5fcd	0,5fcd
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°
2044	2032	2012	1980	1928	1875	1823	1771	1719	1669	1618	1542	1464	1281	1001	723	485	248	130	91
100%	99%	98%	97%	94%	92%	89%	87%	84%	82%	79%	75%	72%	63%	49%	35%	24%	12%	6%	4%
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°
2044	2036	2023	1998	1948	1899	1853	1807	1761	1716	1670	1589	1507	1312	1014	718	481	243	126	87
100%	100%	99%	98%	95%	93%	91%	88%	86%	84%	82%	78%	74%	64%	50%	35%	24%	12%	6%	4%
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°
2044	2035	2025	1986	1938	1890	1843	1796	1749	1702	1649	1582	1514	1268	1002	735	468	201	144	91
100%	100%	99%	97%	95%	92%	90%	88%	86%	83%	81%	77%	74%	62%	49%	36%	23%	10%	7%	4%
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°
2044	2028	2012	1971	1919	1868	1817	1766	1718	1672	1620	1558	1495	1264	1015	754	478	203	144	88
100%	99%	98%	96%	94%	91%	89%	86%	84%	82%	79%	76%	73%	62%	50%	37%	23%	10%	7%	4%
Beam angle 50%		Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone					
55,8°		68,3°				82°				98,9%				98,0%					



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

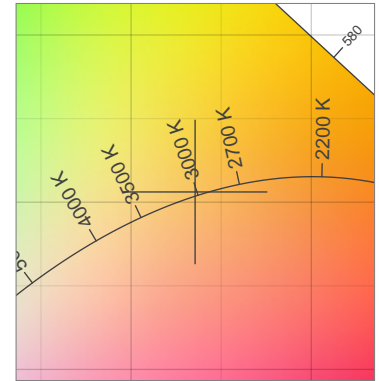
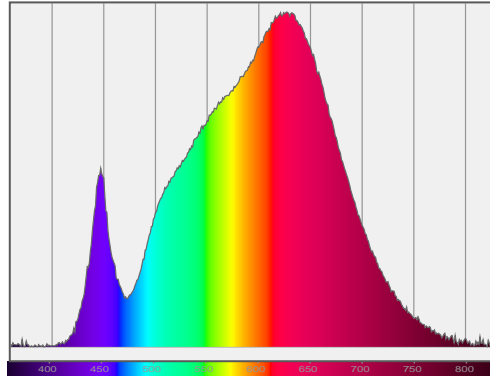
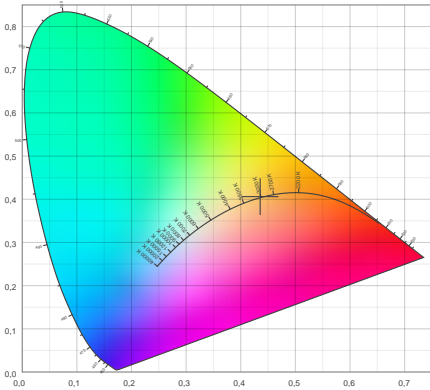
2017 CLS-LED BV. All rights reserved. Information subject to change without notice, CLS-LED BV and all affiliated companies disclaim liability for injury, damage direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information 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-JADE-ZOOM-3000K-CRI90-WIDE

Color details



CIE 1931

x: 0,436



Spectra

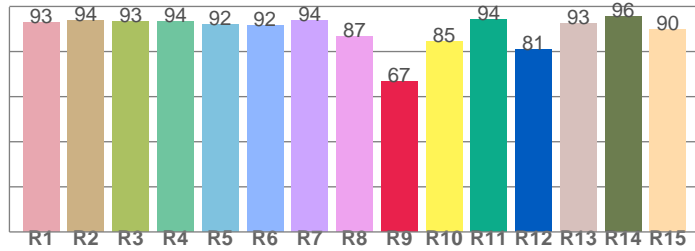
CIE 1931 ZOOM

3044 K

y: 0,406

Δuv : 0,0010

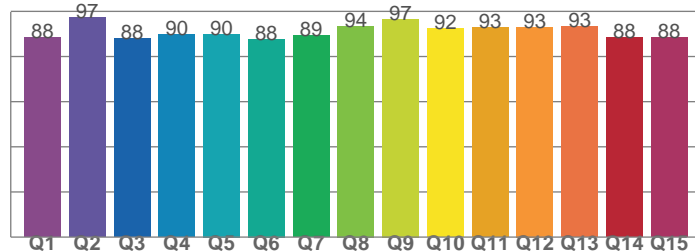
CRI: 92,2 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
92,8	93,6	93,3	93,6	92,0	91,7	94,0	86,7
R9	R10	R11	R12	R13	R14	R15	
66,9	84,6	94,4	81,1	92,6	95,6	89,9	

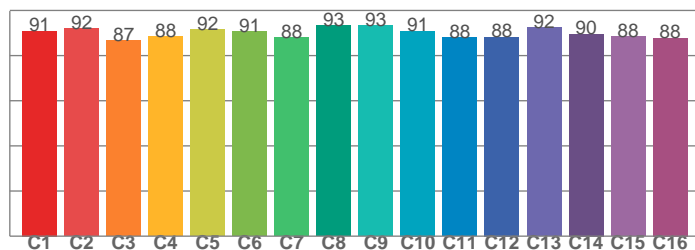
CQS: 90,7



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
88,3	97,5	88,1	89,6	90,0	87,8	89,3	93,6
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,6	92,3	92,8	93,1	93,4	88,5	88,3	

TM30: 90,1



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

C1	C2	C3	C4	C5	C6	C7	C8
90,9	92,1	86,8	88,4	91,6	90,6	87,9	93,4
C9	C10	C11	C12	C13	C14	C15	
93,2	91,0	87,9	88,3	92,4	89,6	88,3	

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
3044 K	92,2	66,9	90,1	101,9	90,7	0,436	0,406	0,249	0,348	0,0010



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

2017 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-JADE-ZOOM-3000K-CRI90-WIDE

TM30 details

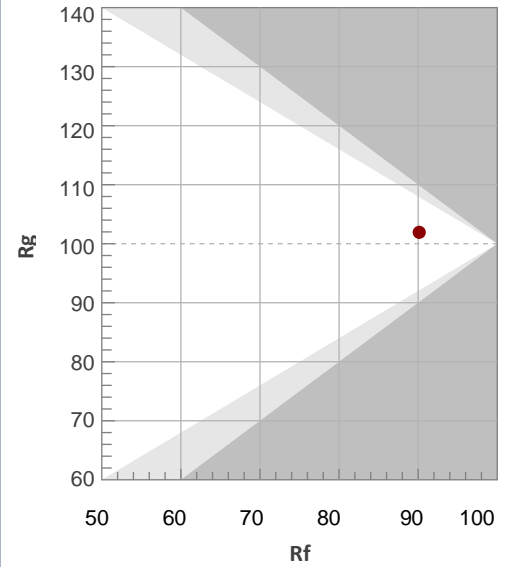
Rf 90,1

Fidelity index Rf

Rg 101,9

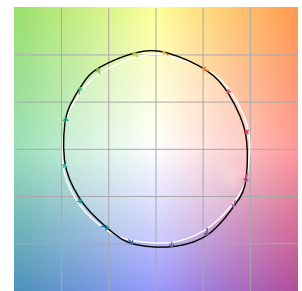
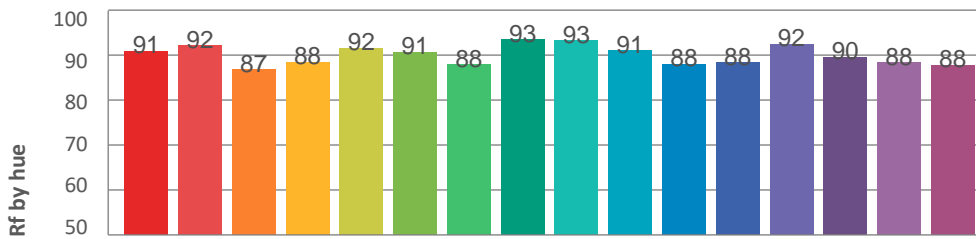
Gamut index Rg

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



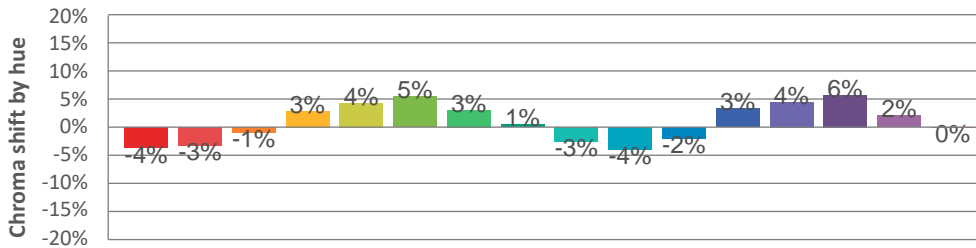
Hue binH

Color vector graphics

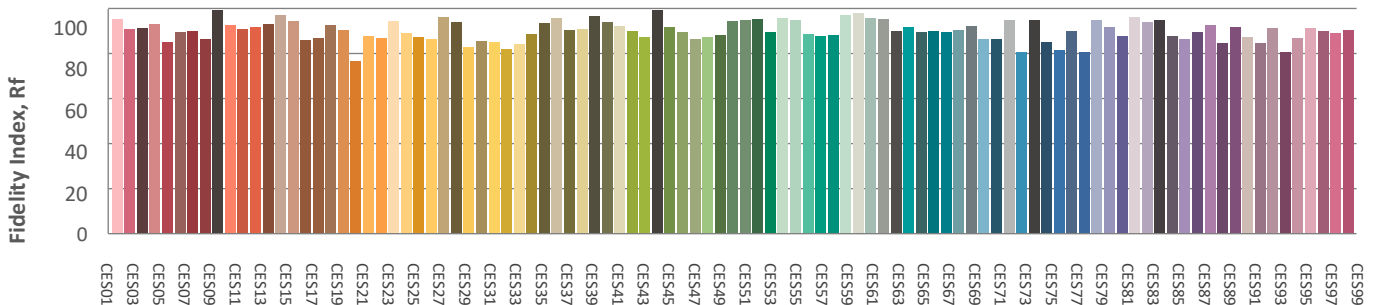


Hue bin

Color distortion graphics



Color Evaluation Sample



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

2017 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-JADE-ZOOM-3000K-CRI90-WIDE

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	16,5	17,2	16,8	17,4	17,6	16,4	17,1	16,7	17,3	17,5
	3H	16,4	17,0	16,7	17,2	17,5	16,3	16,9	16,6	17,1	17,4
	4H	16,3	16,9	16,6	17,1	17,4	16,2	16,8	16,5	17,0	17,3
	6H	16,3	16,8	16,6	17,1	17,4	16,2	16,7	16,5	17,0	17,3
	8H	16,2	16,7	16,6	17,0	17,3	16,1	16,6	16,5	16,9	17,2
	12H	16,2	16,7	16,6	17,0	17,3	16,1	16,6	16,5	16,9	17,2
4H	2H	16,3	16,9	16,6	17,1	17,4	16,2	16,8	16,5	17,0	17,3
	3H	16,2	16,6	16,5	17,0	17,3	16,1	16,5	16,4	16,9	17,2
	4H	16,1	16,5	16,5	16,9	17,2	16,0	16,4	16,4	16,8	17,1
	6H	16,1	16,4	16,5	16,8	17,2	16,0	16,3	16,4	16,7	17,1
	8H	16,0	16,3	16,5	16,7	17,1	16,0	16,2	16,4	16,6	17,1
	12H	16,0	16,3	16,5	16,7	17,1	15,9	16,2	16,4	16,6	17,0
8H	4H	16,0	16,3	16,5	16,7	17,1	15,9	16,2	16,3	16,6	17,0
	6H	16,0	16,2	16,4	16,6	17,1	15,9	16,1	16,3	16,5	17,0
	8H	15,9	16,1	16,4	16,6	17,1	15,9	16,0	16,3	16,5	17,0
	12H	15,9	16,1	16,4	16,5	17,0	15,9	16,0	16,4	16,5	17,0
12H	4H	16,0	16,2	16,4	16,6	17,1	15,9	16,1	16,3	16,5	17,0
	6H	15,9	16,1	16,4	16,6	17,0	15,8	16,0	16,3	16,5	16,9
	8H	15,9	16,0	16,4	16,5	17,0	15,8	16,0	16,3	16,4	16,9
Variation of the observer position for the luminaire distance S											
S = 1,0H	+6,5 / -10,1					+6,5 / -9,5					
S = 1,5H	+9,2 / -11,0					+9,3 / -10,2					
S = 2,0H	+11,2 / -11,5					+11,3 / -10,6					
Standard table	BK00					BK00					
Correction summand	-2,1					-2,2					
Corrected glare indices referring to 1474lm total luminous flux											



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

2017 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