

LM-79

Test Report

LM79-JADE-S-3000K-CRI90-MEDIUM

General Description

Item number	J-SX-X-3-1-30-90-2
Date and time	27-1-2017 14:00:30
CCT (Kelvin)	3116 K
Beam angle	36,7°
Luminous flux	2581 lm
Efficiency	92 lm/watt
Weighted energy	27,9 kWh/1000h
Power factor	0,94
CRI (RA)	92,2
Fidelity index Rf	Rf 90,3
Gammut index Rg	Rg 101,1



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-S-3000K-CRI90-MEDIUM

Beam details	1m	2m	3m	4m	5m														
Lux*	4837 lx	1209 lx	537 lx	302 lx	193 lx														
<i>*measured at center of beam</i>																			
Footcandles*	449,4 fcd	112,3 fcd	49,9 fcd	28,1 fcd	18,0 fcd														
Beam width (meter)	0,7 m	1,3 m	2 m	2,7 m	3,3 m														
Beam width (Feet)	2,2 ft	4,4 ft	6,5 ft	8,7 ft	10,9 ft														
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
4837lx	1209lx	537lx	302lx	193lx	134lx	99lx	76lx	60lx	48lx	40lx	34lx	29lx	25lx	21lx	19lx	17lx	15lx	13lx	12lx
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
449,4fcd	112,3fcd	49,9fcd	28,1fcd	18fcd	12,5fcd	9,2fcd	7fcd	5,5fcd	4,5fcd	3,7fcd	3,1fcd	2,7fcd	2,3fcd	2fcd	1,8fcd	1,6fcd	1,4fcd	1,2fcd	1,1fcd
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°
4837	4806	4689	4489	4233	3919	3576	3214	2844	2479	2145	1845	1595	1385	1219	1080	943	794	636	474
100%	99%	97%	93%	88%	81%	74%	66%	59%	51%	44%	38%	33%	29%	25%	22%	19%	16%	13%	10%
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°
4837	4806	4689	4489	4233	3919	3576	3214	2844	2479	2145	1845	1595	1385	1219	1080	943	794	636	474
100%	99%	97%	93%	88%	81%	74%	66%	59%	51%	44%	38%	33%	29%	25%	22%	19%	16%	13%	10%
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°
4837	4806	4689	4489	4233	3919	3576	3214	2844	2479	2145	1845	1595	1385	1219	1080	943	794	636	474
100%	99%	97%	93%	88%	81%	74%	66%	59%	51%	44%	38%	33%	29%	25%	22%	19%	16%	13%	10%
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°
4837	4806	4689	4489	4233	3919	3576	3214	2844	2479	2145	1845	1595	1385	1219	1080	943	794	636	474
100%	99%	97%	93%	88%	81%	74%	66%	59%	51%	44%	38%	33%	29%	25%	22%	19%	16%	13%	10%
Beam angle 50%		Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone					
36,7°		75,7°				{C_ANG}°				97,4%				94,9%					



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

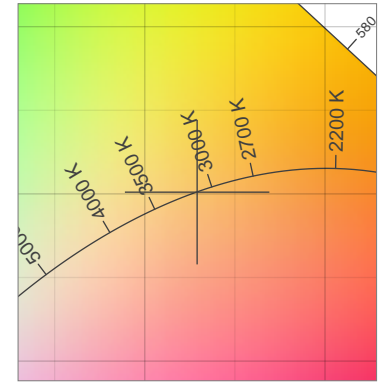
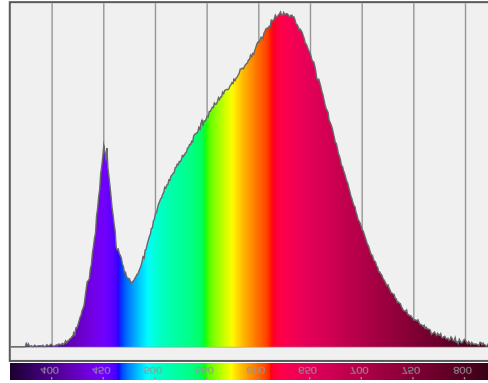
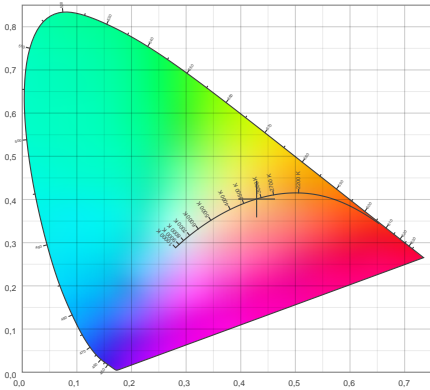
2017 CLS-LED BV. All rights reserved. Information subject to change without notice, CLS-LED BV and all affiliated companies disclaim liability for injury, damage direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information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

Color details



CIE 1931

x: 0,429



Spectra

CIE 1931 ZOOM

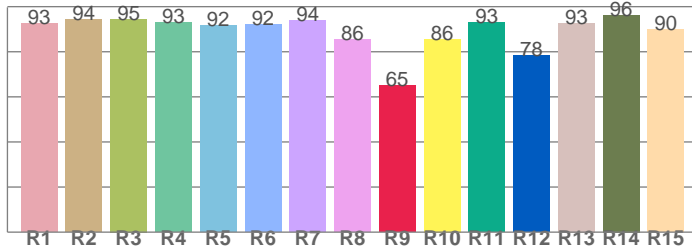
3116 K

y: 0,401

Δuv : 0,0001

CRI: 92,2 (R1-R8)

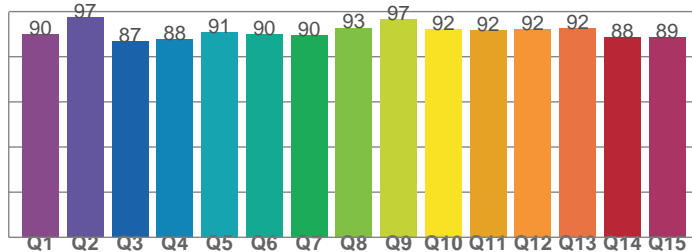
CRI values, R1-R8 are used to calculate final CRI value



R1	R2	R3	R4	R5	R6	R7	R8
92,5	94,3	94,5	93,0	91,7	92,1	93,9	85,5
R9	R10	R11	R12	R13	R14	R15	
64,9	85,7	93,1	78,4	92,8	96,3	89,8	

CQS: 90,6

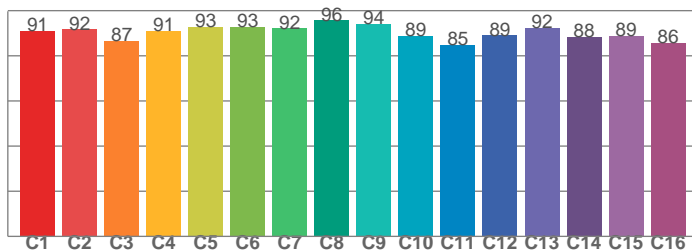
CQS values



Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
90,1	97,5	86,7	87,8	90,9	90,1	89,6	92,9
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,7	92,0	91,7	92,0	92,5	88,5	88,8	

TM30: 90,3

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



C1	C2	C3	C4	C5	C6	C7	C8
90,9	91,6	86,6	91,0	92,7	92,7	92,1	95,6
C9	C10	C11	C12	C13	C14	C15	
94,1	88,7	84,9	89,0	92,5	88,3	88,8	

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
3116 K	92,2	64,9	90,3	101,1	90,6	0,429	0,401	0,247	0,346	0,0001



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-S-3000K-CRI90-MEDIUM

TM30 details

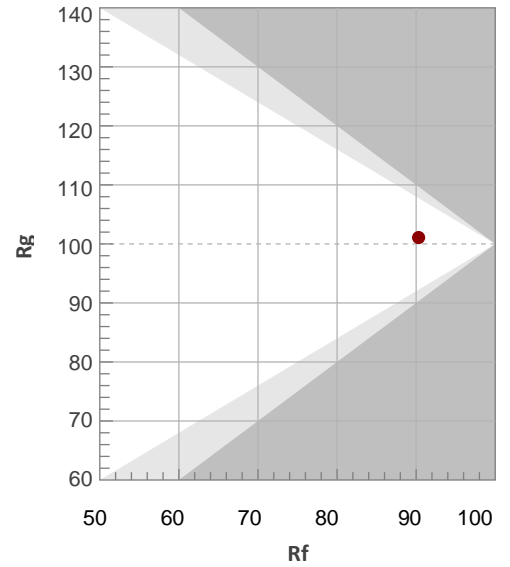
Rf 90,3

Fidelity index Rf

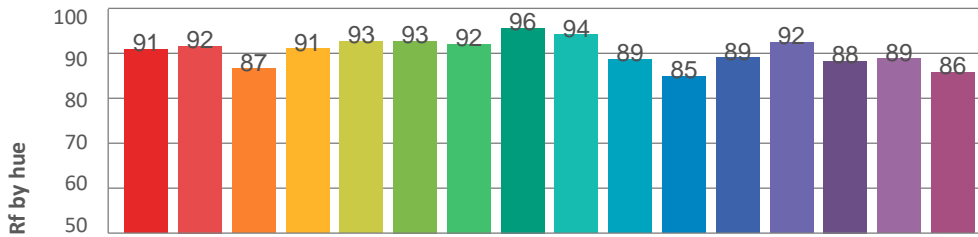
Rg 101,1

Gamut index Rg

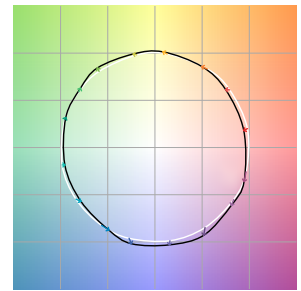
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	91	-4%	-1%
2	92	-3%	3%
3	87	-1%	6%
4	91	1%	5%
5	93	2%	3%
6	93	4%	0%
7	92	1%	-4%
8	96	-1%	-2%
9	94	-3%	1%
10	89	-3%	5%
11	85	0%	9%
12	89	5%	4%
13	92	4%	-1%
14	88	6%	-6%
15	89	1%	-6%
16	86	0%	-10%



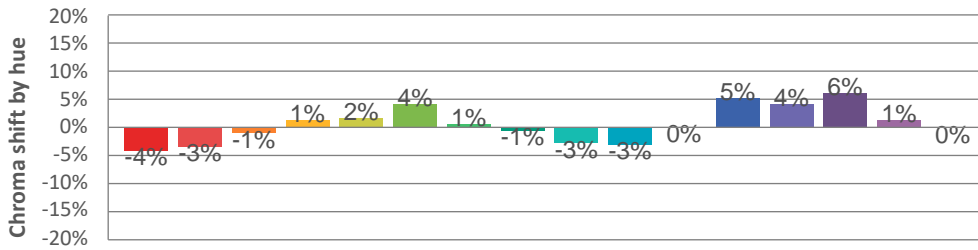
Hue binH



Color vector graphics



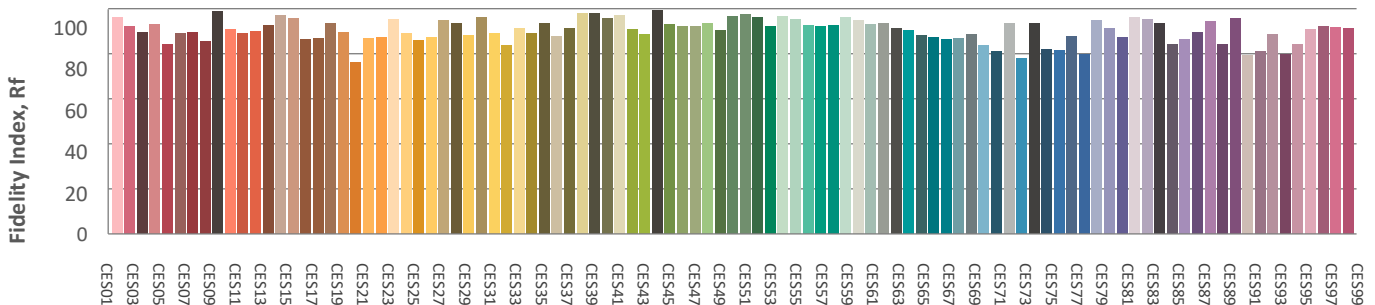
Hue bin



Color distortion graphics



Color Evaluation Sample



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

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

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	21,6	22,3	21,9	22,5	22,7	21,6	22,3	21,9	22,5	22,7
	3H	21,7	22,3	22,0	22,6	22,8	21,7	22,3	22,0	22,6	22,8
	4H	21,8	22,4	22,1	22,6	22,9	21,8	22,4	22,1	22,6	22,9
	6H	21,8	22,4	22,1	22,7	23,0	21,8	22,4	22,1	22,7	23,0
	8H	21,8	22,3	22,2	22,6	23,0	21,8	22,3	22,2	22,6	23,0
	12H	21,8	22,3	22,2	22,6	23,0	21,8	22,3	22,2	22,6	23,0
4H	2H	21,5	22,1	21,8	22,4	22,6	21,5	22,1	21,8	22,4	22,6
	3H	21,7	22,2	22,0	22,5	22,8	21,7	22,2	22,0	22,5	22,8
	4H	21,8	22,3	22,2	22,6	23,0	21,8	22,3	22,2	22,6	23,0
	6H	21,9	22,3	22,4	22,7	23,1	21,9	22,3	22,4	22,7	23,1
	8H	22,0	22,3	22,4	22,7	23,1	22,0	22,3	22,4	22,7	23,1
	12H	22,0	22,3	22,4	22,7	23,1	22,0	22,3	22,4	22,7	23,1
8H	4H	21,8	22,2	22,3	22,5	23,0	21,8	22,2	22,3	22,5	23,0
	6H	22,0	22,3	22,5	22,7	23,1	22,0	22,3	22,5	22,7	23,1
	8H	22,1	22,3	22,6	22,7	23,2	22,1	22,3	22,6	22,7	23,2
	12H	22,1	22,3	22,6	22,8	23,3	22,1	22,3	22,6	22,8	23,3
12H	4H	21,8	22,1	22,3	22,5	22,9	21,8	22,1	22,3	22,5	22,9
	6H	22,0	22,2	22,5	22,7	23,1	22,0	22,2	22,5	22,7	23,1
	8H	22,1	22,2	22,6	22,7	23,2	22,1	22,2	22,6	22,7	23,2
Variation of the observer position for the luminaire distance S											
S = 1,0H	+3,8 / -3,4					+3,8 / -3,4					
S = 1,5H	+6,4 / -3,7					+6,4 / -3,7					
S = 2,0H	+8,3 / -4,0					+8,3 / -4,0					
Standard table	BK01					BK01					
Correction summand	3,9					3,9					
Corrected glare indices referring to 2581lm total luminous flux											

