

LM-79

Test Report

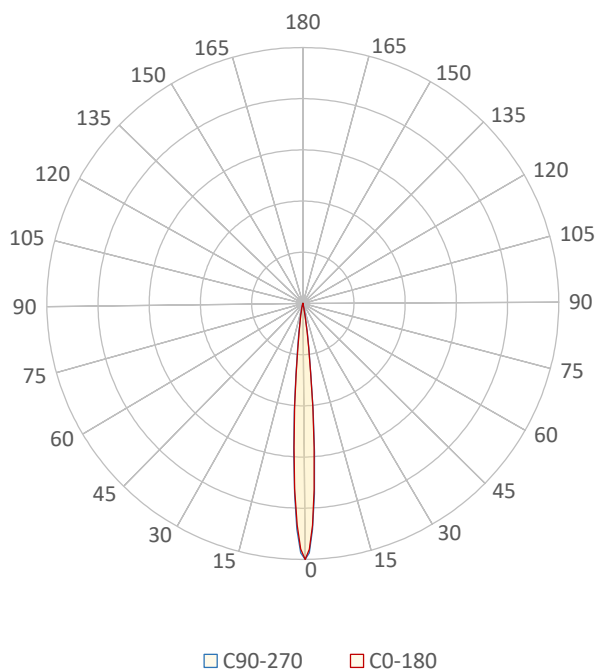
LM79-JADE-ZOOM-3000K-VIVIDNATURAL-CRI95-SPOT

General Description

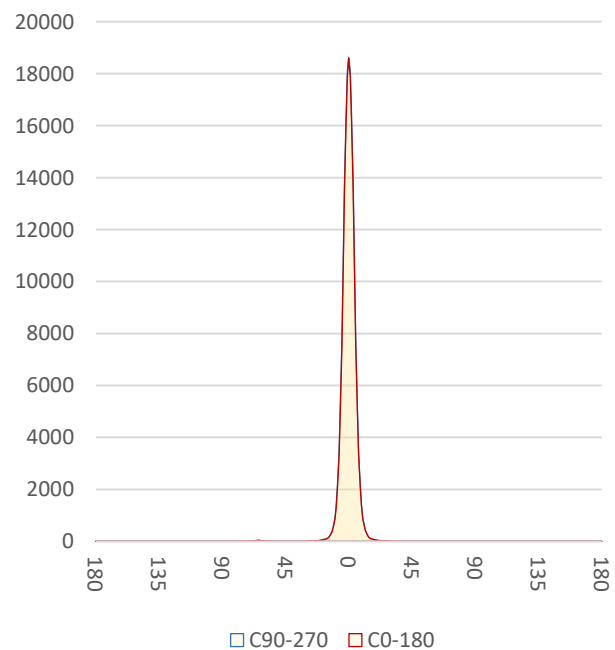
Item number	
Date and time	25-3-2019 13:29:16
CCT (Kelvin)	3144 K
Beam angle	9°
Luminous flux	576 lm
Efficiency	24 lm/watt
Weighted energy	24,1 kWh/1000h
Power factor	0,97
CRI (RA)	97,0
Fidelity index Rf	Rf 93,9
Gammut index Rg	Rg 103,6
Peak	18728 cd



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-VIVIDNATURAL-CRI95-SPOT

Beam details	1m	2m	3m	4m	5m														
Lux*	18606 lx	4652 lx	2067 lx	1163 lx	744 lx														
<i>*measured at center of beam</i>																			
Footcandles*	1728,6 fcd	432,1 fcd	192,1 fcd	108,0 fcd	69,1 fcd														
Beam width (meter)	0,2 m	0,3 m	0,5 m	0,6 m	0,8 m														
Beam width (Feet)	0,5 ft	1 ft	1,5 ft	2 ft	2,6 ft														
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
18606lx	4652lx	2067lx	1163lx	744lx	517lx	380lx	291lx	230lx	186lx	154lx	129lx	110lx	95lx	83lx	73lx	64lx	57lx	52lx	47lx
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
1728,6fcd	432,1fcd	192,1fcd	108fcd	69,1fcd	48fcd	35,3fcd	27fcd	21,3fcd	17,3fcd	14,3fcd	12fcd	10,2fcd	8,8fcd	7,7fcd	6,8fcd	6fcd	5,3fcd	4,8fcd	4,3fcd
Intensities in 0° c-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
18,6K	17,9K	16,1K	13,5K	10,5K	7,5K	5,1K	3,2K	2,1K	1,3K	0,8K	0,5K	0,4K	0,2K	0,2K	0,1K	0,1K	0,1K	0,1K	0,1K
100%	96%	87%	73%	56%	41%	27%	17%	11%	7%	4%	3%	2%	1%	1%	1%	1%	0%	0%	0%
Intensities in 90° c-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
18,6K	18,1K	16,4K	13,9K	10,8K	7,8K	5,3K	3,4K	2,2K	1,4K	0,9K	0,6K	0,4K	0,3K	0,2K	0,1K	0,1K	0,1K	0,1K	0,0K
100%	97%	88%	75%	58%	42%	29%	18%	12%	7%	5%	3%	2%	1%	1%	1%	1%	0%	0%	0%
Intensities in 180° c-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
18,6K	17,9K	16,1K	13,5K	10,5K	7,5K	5,1K	3,3K	2,1K	1,4K	0,9K	0,6K	0,4K	0,3K	0,2K	0,1K	0,1K	0,1K	0,1K	0,1K
100%	96%	87%	72%	56%	40%	27%	18%	11%	7%	5%	3%	2%	1%	1%	1%	1%	0%	0%	0%
Intensities in 270° c-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
18,6K	18,1K	16,4K	13,9K	10,9K	7,8K	5,3K	3,4K	2,2K	1,4K	0,9K	0,6K	0,4K	0,3K	0,2K	0,1K	0,1K	0,1K	0,1K	0,0K
100%	97%	88%	75%	58%	42%	28%	18%	12%	7%	5%	3%	2%	1%	1%	1%	1%	0%	0%	0%
Beam angle 50%		Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone					
8,9°		16,6°				23°				98,0%				97,7%					



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

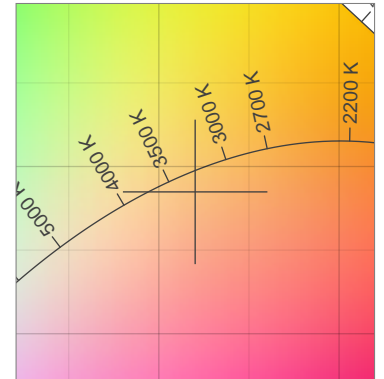
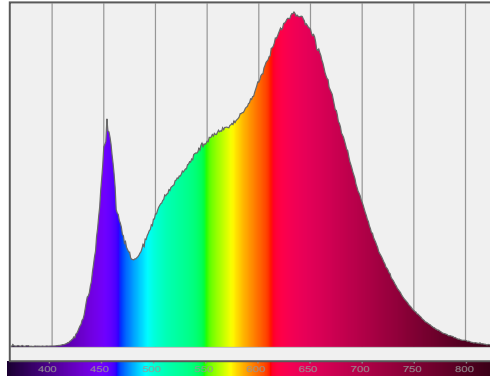
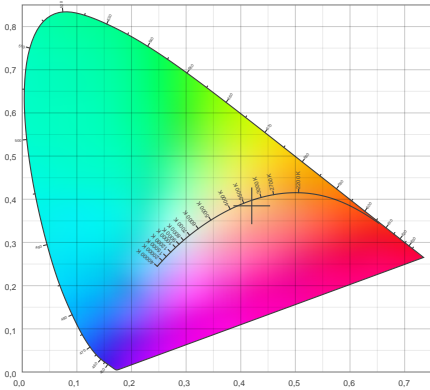
2017 CLS-LED BV. All rights reserved. Information subject to change without notice, CLS-LED BV and all affiliated companies disclaim liability for injury, damage direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information 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-VIVIDNATURAL-CRI95-SPOT

Color details



CIE 1931

x: 0,420



Spectra

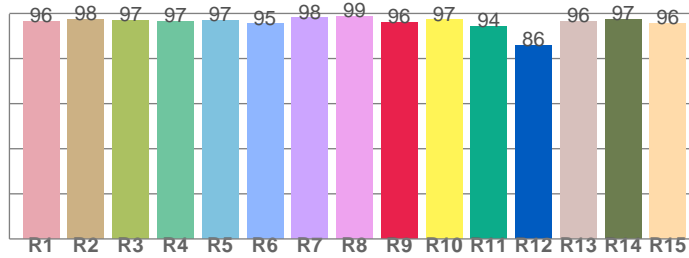
CIE 1931 ZOOM

3144 K

y: 0,385

$\Delta uv: -0,0054$

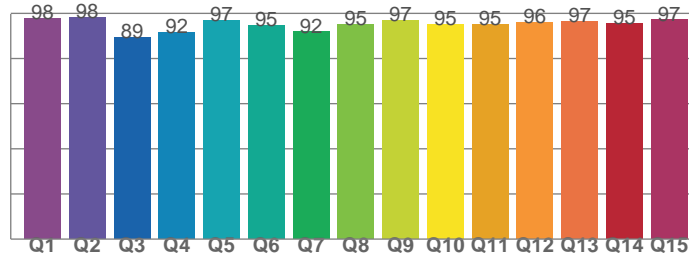
CRI: 97,0 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
96,4	97,6	96,8	96,6	97,0	95,4	98,0	98,7
R9	R10	R11	R12	R13	R14	R15	
95,9	97,1	94,2	85,9	96,3	97,3	95,8	

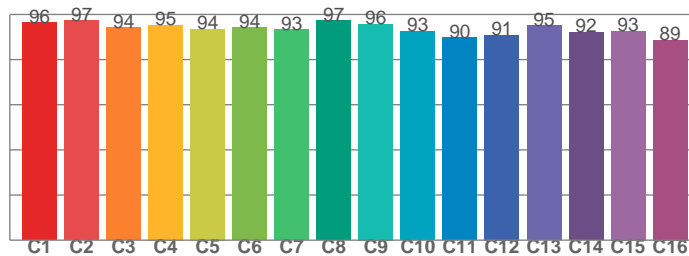
CQS: 94,4



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
97,8	98,2	89,5	91,5	96,9	94,7	91,8	95,3
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,9	95,1	95,2	95,8	96,5	95,5	97,1	

TM30: 93,9



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

C1	C2	C3	C4	C5	C6	C7	C8
96,5	97,3	94,1	95,3	93,6	94,1	93,3	97,2
C9	C10	C11	C12	C13	C14	C15	
95,8	92,6	89,8	90,9	95,1	92,1	92,7	

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
3144 K	97,0	95,9	93,9	103,6	94,4	0,420	0,385	0,248	0,341	-0,0054



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-VIVIDNATURAL-CRI95-SPOT

TM30 details

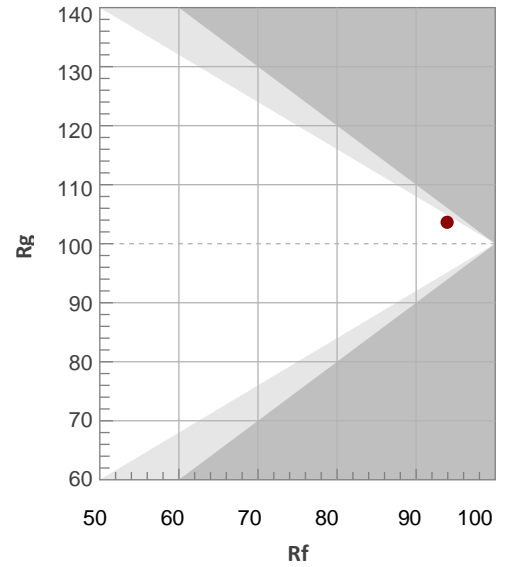
Rf 93,9

Fidelity index Rf

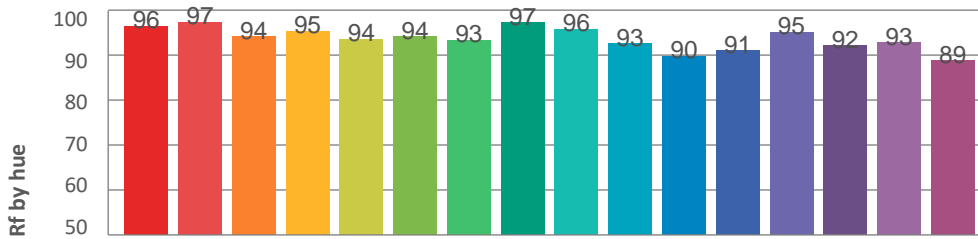
Rg 103,6

Gammut index Rg

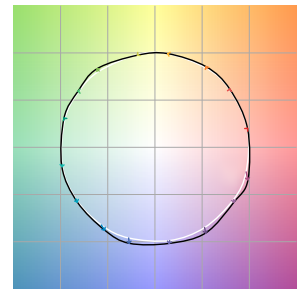
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	96	0%	0%
2	97	0%	0%
3	94	1%	2%
4	95	0%	1%
5	94	-1%	1%
6	94	3%	1%
7	93	1%	1%
8	97	1%	-1%
9	96	1%	2%
10	93	1%	4%
11	90	3%	6%
12	91	5%	2%
13	95	3%	-1%
14	92	5%	-2%
15	93	2%	-2%
16	89	4%	-8%



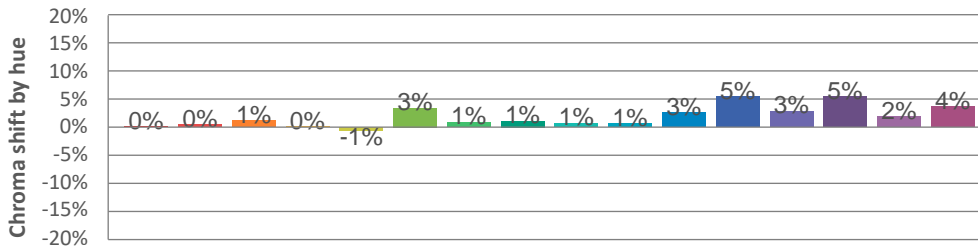
Hue binH



Color vector graphics



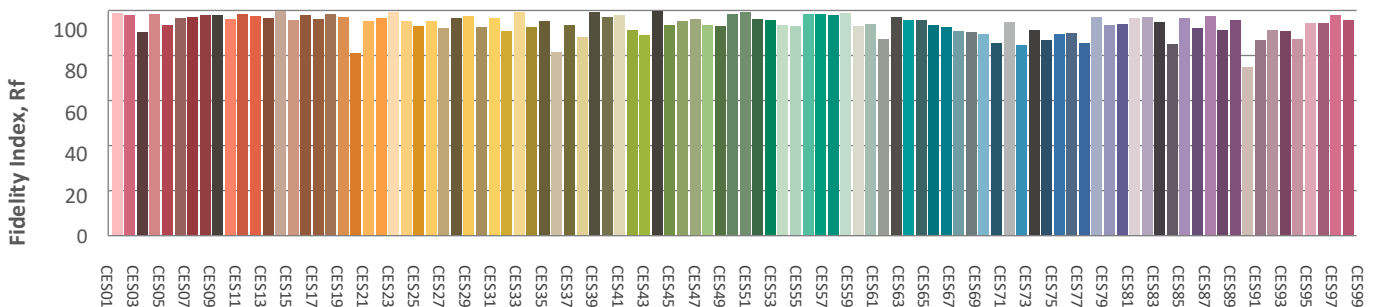
Hue bin



Color distortion graphics



Color Evaluation Sample



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

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-VIVIDNATURAL-CRI95-SPOT

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	14,0	14,7	14,3	14,9	15,1	2,9	3,6	3,2	3,8	4,0
	3H	17,2	17,8	17,5	18,0	18,3	4,2	4,8	4,5	5,1	5,3
	4H	17,1	17,7	17,4	17,9	18,2	4,3	4,8	4,6	5,1	5,4
	6H	17,0	17,6	17,4	17,8	18,1	4,4	4,9	4,7	5,2	5,5
	8H	17,0	17,5	17,3	17,8	18,1	4,4	4,9	4,8	5,2	5,5
	12H	17,0	17,4	17,3	17,7	18,1	4,5	5,0	4,9	5,3	5,6
4H	2H	15,1	15,6	15,4	15,9	16,2	8,3	8,9	8,6	9,1	9,4
	3H	17,5	18,0	17,9	18,3	18,6	8,6	9,1	9,0	9,4	9,7
	4H	17,5	17,9	17,9	18,2	18,6	8,6	9,0	9,0	9,3	9,7
	6H	17,4	17,7	17,8	18,1	18,5	8,6	8,9	9,0	9,3	9,7
	8H	17,4	17,7	17,8	18,0	18,5	8,6	8,9	9,0	9,3	9,7
	12H	17,3	17,6	17,8	18,0	18,4	8,6	8,9	9,1	9,3	9,7
8H	4H	17,4	17,7	17,8	18,0	18,5	8,6	8,9	9,0	9,3	9,7
	6H	17,3	17,5	17,7	17,9	18,4	8,6	8,9	9,1	9,3	9,7
	8H	17,2	17,4	17,7	17,9	18,4	8,7	8,8	9,1	9,3	9,8
	12H	17,2	17,4	17,7	17,8	18,3	8,7	8,9	9,2	9,3	9,8
12H	4H	17,3	17,6	17,8	18,0	18,4	8,6	8,8	9,0	9,2	9,7
	6H	17,2	17,4	17,7	17,9	18,3	8,6	8,8	9,1	9,2	9,7
	8H	17,2	17,3	17,7	17,8	18,3	8,6	8,8	9,1	9,2	9,8

Variation of the observer position for the luminaire distance S

S = 1,0H	+2,0 / -4,2	+1,8 / -3,3
S = 1,5H	+3,9 / -12,8	+3,5 / -5,0
S = 2,0H	+5,8 / -14,3	+7,3 / -6,1
Standard table	---	---
Correction summand	---	---

Corrected glare indices referring to 576lm 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