

LM-79

Test Report

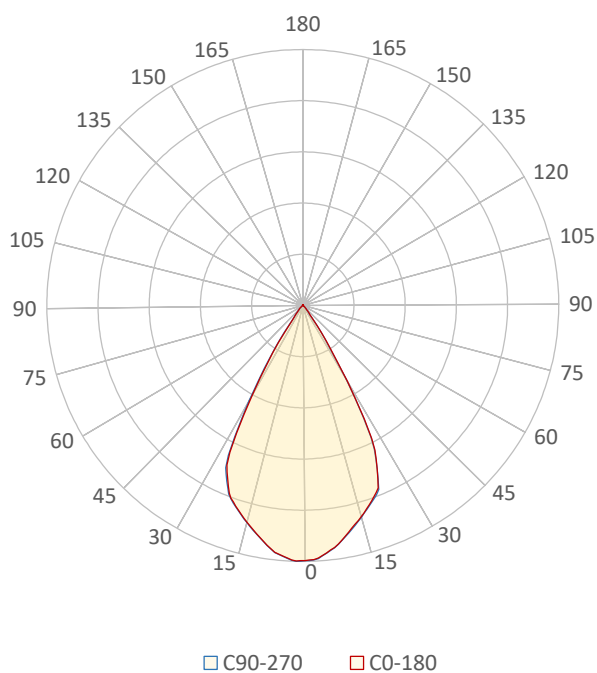
LM79-JADE-ZOOM-3000K-VIVIDNATURAL-CRI95-WIDE

General Discription

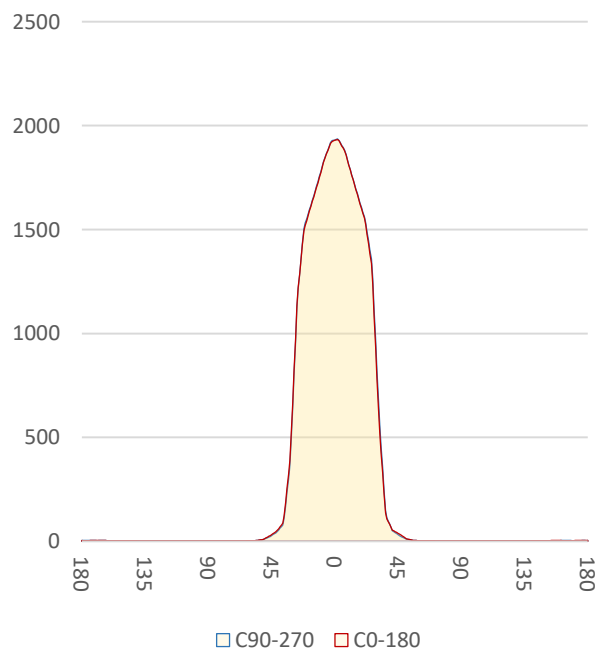
Item number	
Date and time	25-3-2019 13:18:29
CCT (Kelvin)	3116 K
Beam angle	57°
Luminous flux	1432 lm
Efficiency	58 lm/watt
Weighted energy	24,5 kWh/1000h
Power factor	0,97
CRI (RA)	97,1
Fidelity index Rf	Rf 94,1
Gammut index Rg	Rg 103,8
Peak	1937 cd



Polar diagram



Cartesian diagram



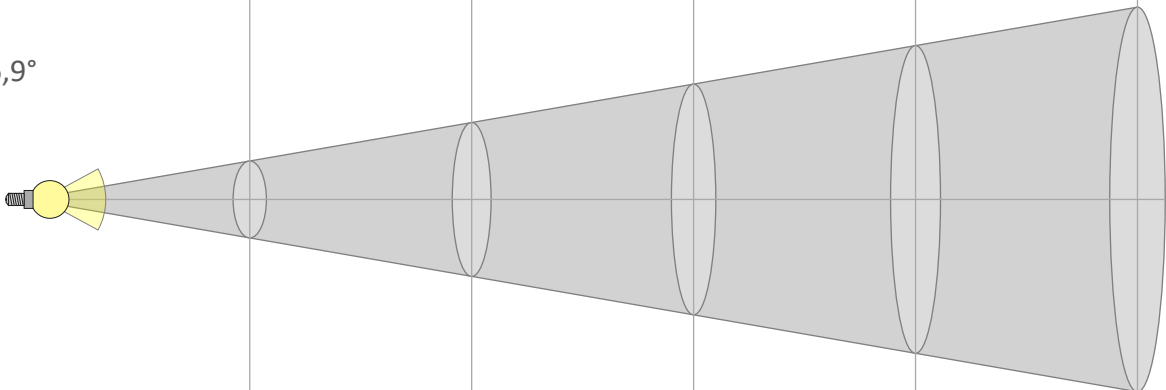
CLS LED BV
info@cls-led.com
www.cls-led.com

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-WIDE

Beam details					1m		2m		3m		4m		5m						
Lux*					1930 lx		483 lx		214 lx		121 lx		77 lx						
56,9° 																			
*measured at center of beam																			
Footcandles*					179,3 fcd		44,8 fcd		19,9 fcd		11,2 fcd		7,2 fcd						
Beam width (meter)					1,1 m		2,2 m		3,3 m		4,3 m		5,4 m						
Beam width (Feet)					3,6 ft		7,1 ft		10,7 ft		14,2 ft		17,8 ft						
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
1930lx	483lx	214lx	121lx	77lx	54lx	39lx	30lx	24lx	19lx	16lx	13lx	11lx	10lx	9lx	8lx	7lx	6lx	5lx	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
179,3fcd	44,8fcd	19,9fcd	11,2fcd	7,2fcd	5fcd	3,7fcd	2,8fcd	2,2fcd	1,8fcd	1,5fcd	1,2fcd	1,1fcd	0,9fcd	0,8fcd	0,7fcd	0,6fcd	0,6fcd	0,5fcd	0,4fcd
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°
1930	1924	1897	1863	1823	1774	1724	1679	1635	1590	1543	1493	1358	1223	978	665	388	255	122	79
100%	100%	98%	96%	94%	92%	89%	87%	85%	82%	80%	77%	70%	63%	51%	34%	20%	13%	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°
1930	1928	1901	1866	1827	1779	1731	1685	1640	1595	1553	1505	1360	1214	959	640	361	236	110	71
100%	100%	98%	97%	95%	92%	90%	87%	85%	83%	80%	78%	70%	63%	50%	33%	19%	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°
1930	1933	1914	1891	1857	1810	1762	1716	1670	1624	1578	1524	1430	1336	1086	784	518	327	136	95
100%	100%	99%	98%	96%	94%	91%	89%	87%	84%	82%	79%	74%	69%	56%	41%	27%	17%	7%	5%
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°
1930	1936	1917	1894	1860	1811	1763	1718	1673	1628	1583	1532	1445	1359	1119	824	558	353	148	98
100%	100%	99%	98%	96%	94%	91%	89%	87%	84%	82%	79%	75%	70%	58%	43%	29%	18%	8%	5%
Beam angle 50%				Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone			
56,9°				70,3°				83°				99,0%				98,0%			



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

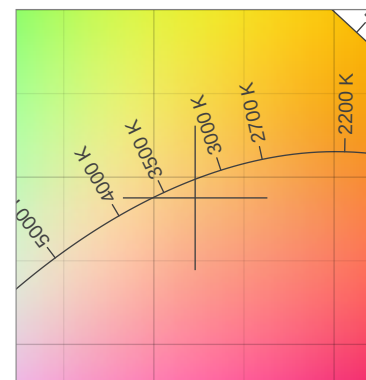
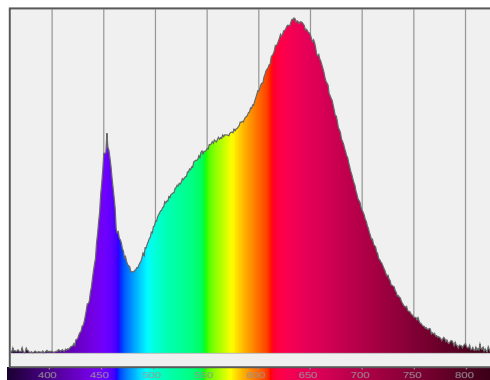
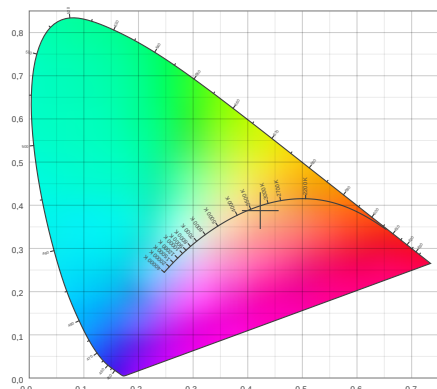
2017 CLS-LED BV. All rights reserved. Information subject to change without notice, CLS-LED BV and all affiliated companies disclaim liability for injury, damage direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information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

Color details



CIE 1931

x: 0,423

3116 K

y: 0,388

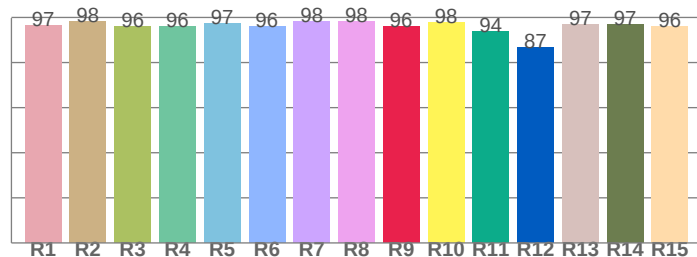
Spectra

CIE 1931 ZOOM

Δuv : -0,0047

CRI: 97,1 (R1-R8)

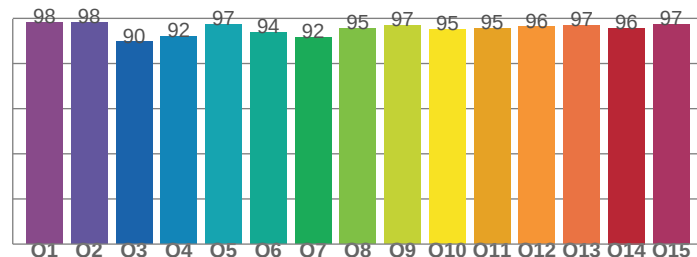
CRI values, R1-R8 are used to calculate final CRI value



R1	R2	R3	R4	R5	R6	R7	R8
96,7	98,1	96,1	96,2	97,3	96,0	98,2	98,4
R9	R10	R11	R12	R13	R14	R15	
96,1	98,0	93,9	86,6	96,8	96,9	96,1	

CQS: 94,5

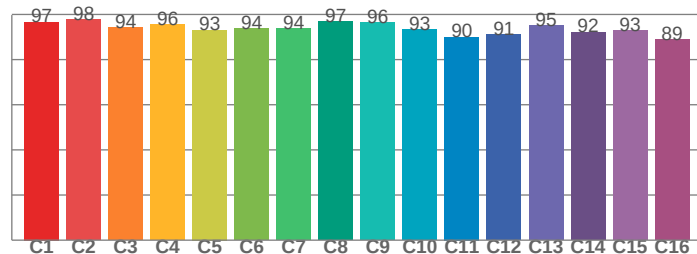
CQS values



Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
98,1	98,2	89,6	92,0	97,3	93,9	91,7	95,4
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,7	95,1	95,4	96,2	97,0	95,8	97,4	

TM30: 94,1

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



C1	C2	C3	C4	C5	C6	C7	C8
96,7	97,6	94,2	95,6	93,1	93,8	93,6	96,8
C9	C10	C11	C12	C13	C14	C15	
96,3	93,4	90,0	91,1	95,2	92,1	92,9	

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	97,1	96,1	94,1	103,8	94,5	0,423	0,388	0,249	0,342	-0,0047



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-WIDE

TM30 details

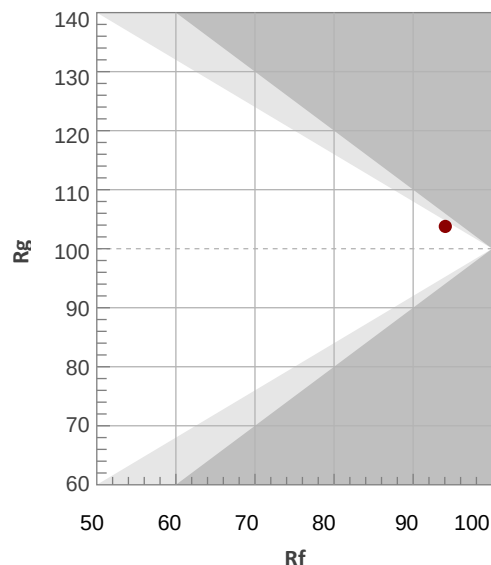
Rf 94,1

Fidelity index Rf

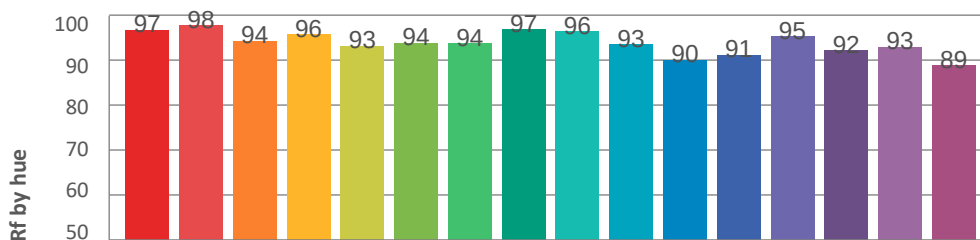
Rg 103,8

Gamut index Rg

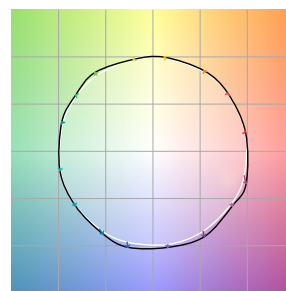
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	97	0%	0%
2	98	0%	0%
3	94	1%	2%
4	96	0%	1%
5	93	0%	2%
6	94	4%	1%
7	94	1%	0%
8	97	1%	-1%
9	96	1%	2%
10	93	0%	3%
11	90	2%	6%
12	91	5%	2%
13	95	3%	-1%
14	92	5%	-2%
15	93	2%	-2%
16	89	4%	-8%



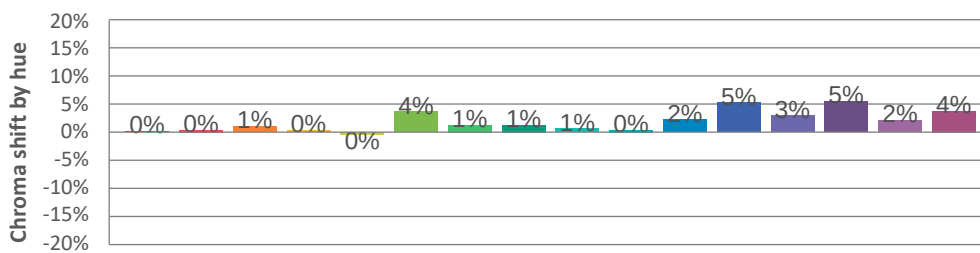
Hue binH



Color vector graphics



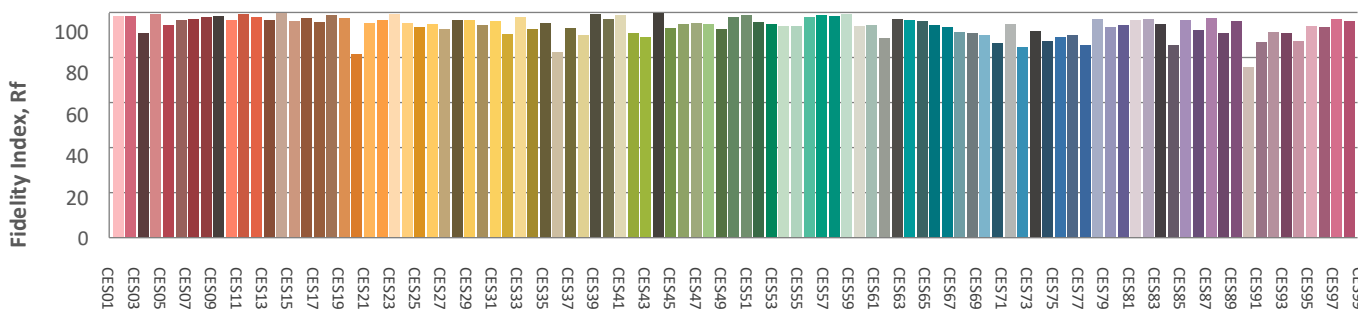
Hue bin



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-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	16,7	17,4	17,0	17,6	17,8	16,4	17,1	16,7	17,3	17,5
	3H	16,6	17,2	16,9	17,5	17,7	16,3	16,9	16,6	17,1	17,4
	4H	16,6	17,1	16,9	17,4	17,6	16,2	16,8	16,5	17,0	17,3
	6H	16,5	17,0	16,8	17,3	17,6	16,2	16,7	16,5	16,9	17,2
	8H	16,5	16,9	16,8	17,2	17,5	16,1	16,6	16,5	16,9	17,2
	12H	16,4	16,9	16,8	17,2	17,5	16,1	16,6	16,4	16,9	17,2
4H	2H	16,5	17,1	16,9	17,4	17,6	16,2	16,8	16,5	17,0	17,3
	3H	16,4	16,9	16,8	17,2	17,5	16,1	16,5	16,4	16,9	17,2
	4H	16,3	16,7	16,7	17,1	17,4	16,0	16,4	16,4	16,7	17,1
	6H	16,3	16,6	16,7	17,0	17,4	15,9	16,3	16,4	16,6	17,0
	8H	16,2	16,5	16,7	16,9	17,3	15,9	16,2	16,3	16,6	17,0
	12H	16,2	16,5	16,7	16,9	17,3	15,9	16,1	16,3	16,6	17,0
8H	4H	16,2	16,5	16,7	16,9	17,3	15,9	16,2	16,3	16,6	17,0
	6H	16,2	16,4	16,6	16,8	17,3	15,8	16,0	16,3	16,5	16,9
	8H	16,1	16,3	16,6	16,8	17,2	15,8	16,0	16,3	16,4	16,9
	12H	16,1	16,3	16,6	16,7	17,2	15,8	15,9	16,3	16,4	16,9
12H	4H	16,2	16,4	16,6	16,8	17,3	15,9	16,1	16,3	16,5	17,0
	6H	16,1	16,3	16,6	16,7	17,2	15,8	16,0	16,3	16,4	16,9
	8H	16,1	16,2	16,6	16,7	17,2	15,8	15,9	16,3	16,4	16,9
Variation of the observer position for the luminaire distance S											
S = 1,0H		+6,3 / -11,1					+6,3 / -10,8				
S = 1,5H		+9,1 / -12,4					+9,1 / -12,0				
S = 2,0H		+11,1 / -13,1					+11,1 / -12,7				
Standard table		BK00					BK00				
Correction summand		-1,9					-2,2				
Corrected glare indices referring to 1432lm 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