

LM-79

Test Report

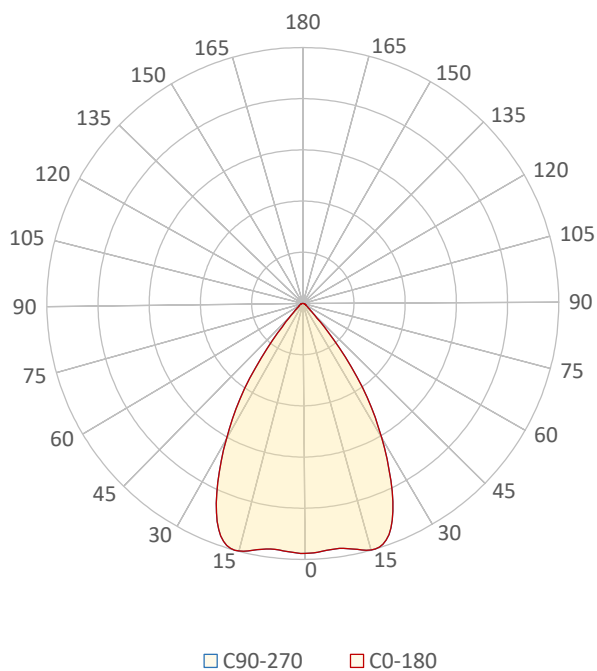
LM79-JADE-HP-4000K-CRI90-WIDE

General Discription

Item number	
Date and time	1-3-2021 14:26:06
CCT (Kelvin)	4007 K
Beam angle	65,3°
Luminous flux	3765 lm
Efficiency	95 lm/watt
Weighted energy	39,6 kWh/1000h
Power factor	0,98
CRI (RA)	91,9
Fidelity index Rf	Rf 89,7
Gammut index Rg	Rg 97,3
Peak	3470 cd



Polar diagram



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

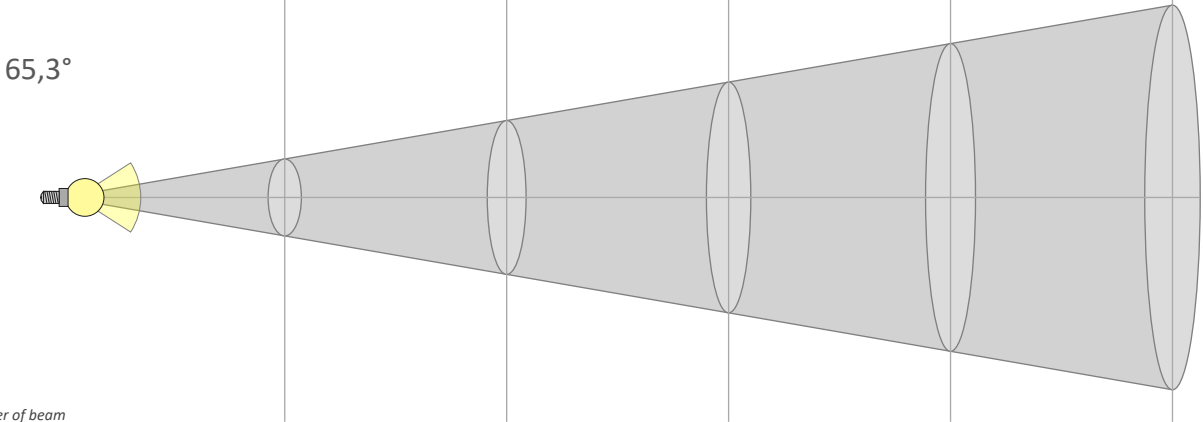
2017 CLS-LED BV. All rights reserved. Information subject to change without notice, CLS-LED BV and all affiliated companies disclaim liability for injury, damage direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information 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-HP-4000K-CRI90-WIDE

Beam details	1m	2m	3m	4m	5m
Lux*	3388 lx	847 lx	376 lx	212 lx	136 lx



65,3°

*measured at center of beam

Footcandles*	314,7 fcd	78,7 fcd	35,0 fcd	19,7 fcd	12,6 fcd
Beam width (meter)	1,3 m	2,6 m	3,8 m	5,1 m	6,4 m
Beam width (Feet)	4,2 ft	8,4 ft	12,6 ft	16,8 ft	21 ft

Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
3388lx	847lx	376lx	212lx	136lx	94lx	69lx	53lx	42lx	34lx	28lx	24lx	20lx	17lx	15lx	13lx	12lx	10lx	9lx	8lx
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
314,7fcd	78,7fcd	35fcd	19,7fcd	12,6fcd	8,7fcd	6,4fcd	4,9fcd	3,9fcd	3,1fcd	2,6fcd	2,2fcd	1,9fcd	1,6fcd	1,4fcd	1,2fcd	1,1fcd	1fcd	0,9fcd	0,8fcd

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°
3388	3383	3369	3357	3357	3378	3415	3453	3469	3438	3341	3176	2950	2683	2398	2111	1829	1544	1239	929
100%	100%	99%	99%	99%	100%	101%	102%	102%	101%	99%	94%	87%	79%	71%	62%	54%	46%	37%	27%

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°
3388	3383	3369	3357	3357	3378	3415	3453	3469	3438	3341	3176	2950	2683	2398	2111	1829	1544	1239	929
100%	100%	99%	99%	99%	100%	101%	102%	102%	101%	99%	94%	87%	79%	71%	62%	54%	46%	37%	27%

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°
3388	3383	3369	3357	3357	3378	3415	3453	3469	3438	3341	3176	2950	2683	2398	2111	1829	1544	1239	929
100%	100%	99%	99%	99%	100%	101%	102%	102%	101%	99%	94%	87%	79%	71%	62%	54%	46%	37%	27%

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°
3388	3383	3369	3357	3357	3378	3415	3453	3469	3438	3341	3176	2950	2683	2398	2111	1829	1544	1239	929
100%	100%	99%	99%	99%	100%	101%	102%	102%	101%	99%	94%	87%	79%	71%	62%	54%	46%	37%	27%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
65,3°	85,9°	104,8°	98,0%	94,6%



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

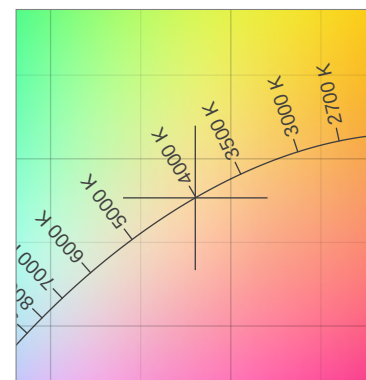
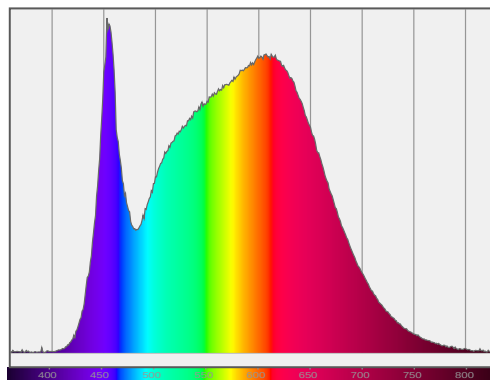
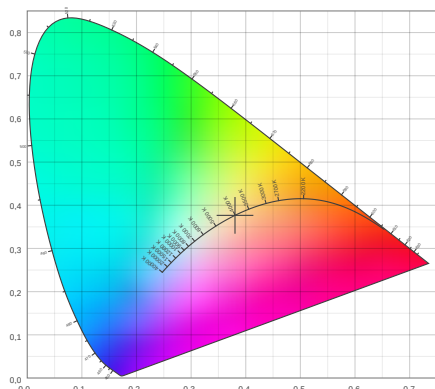
2017 CLS-LED BV. All rights reserved. Information subject to change without notice, CLS-LED BV and all affiliated companies disclaim liability for injury, damage direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information 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-HP-4000K-CRI90-WIDE

Color details



CIE 1931

x: 0,380



Spectra

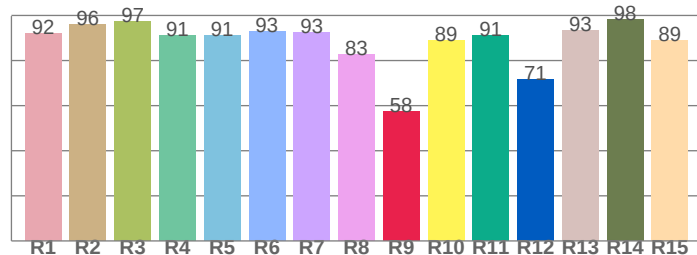
CIE 1931 ZOOM

4007 K

y: 0,377

Δuv : -0,0001

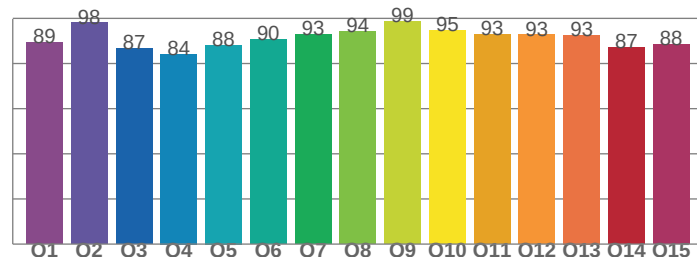
CRI: 91,9 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
92,0	95,9	97,3	91,1	91,0	92,8	92,6	82,8
R9	R10	R11	R12	R13	R14	R15	
57,6	88,8	91,1	71,5	93,4	98,4	88,7	

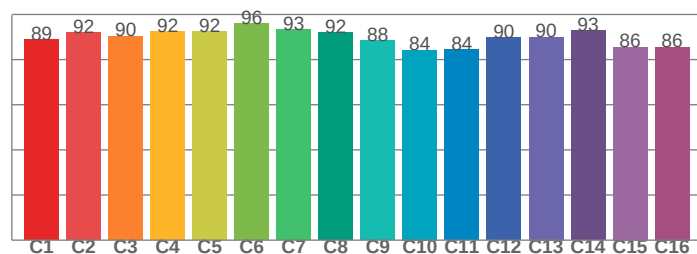
CQS: 90,5



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
89,3	98,0	86,7	84,2	88,2	90,5	92,8	94,3
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
98,8	94,8	93,0	92,7	92,6	87,3	88,3	

TM30: 89,7



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

C1	C2	C3	C4	C5	C6	C7	C8
88,8	92,0	90,3	92,4	92,4	96,1	93,3	92,0
C9	C10	C11	C12	C13	C14	C15	
88,5	84,3	84,5	89,8	90,0	92,9	85,6	

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
4007 K	91,9	57,6	89,7	97,3	90,5	0,380	0,377	0,225	0,334	-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

Test Report

LM79-JADE-HP-4000K-CRI90-WIDE

TM30 details

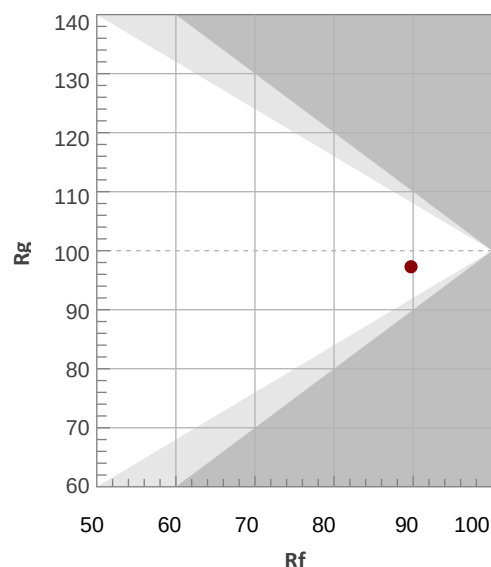
Rf 89,7

Fidelity index R_f

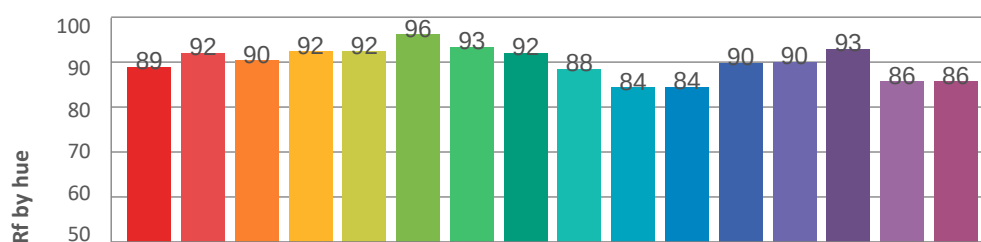
Rg 97,3

Gammut index Rg

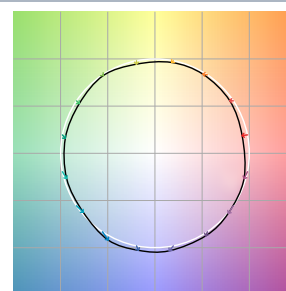
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	89	-6%	0%
2	92	-3%	2%
3	90	-2%	4%
4	92	-2%	1%
5	92	-4%	1%
6	96	-1%	0%
7	93	-4%	1%
8	92	-4%	3%
9	88	-3%	8%
10	84	-2%	10%
11	84	4%	10%
12	90	4%	3%
13	90	4%	-5%
14	93	3%	-4%
15	86	0%	-10%
16	86	-2%	-8%



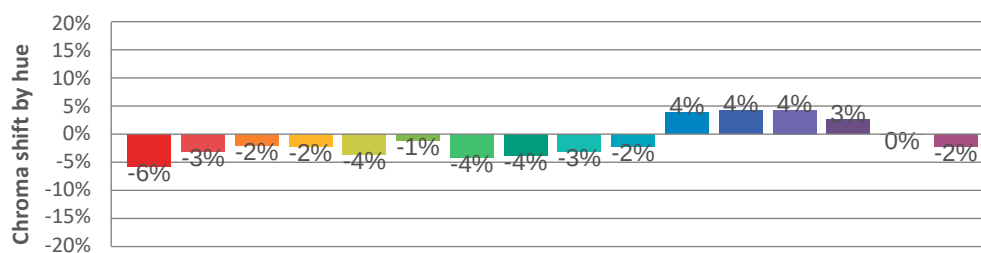
Hue binH



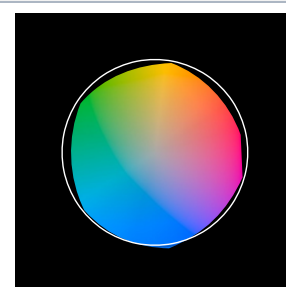
Color vector graphics



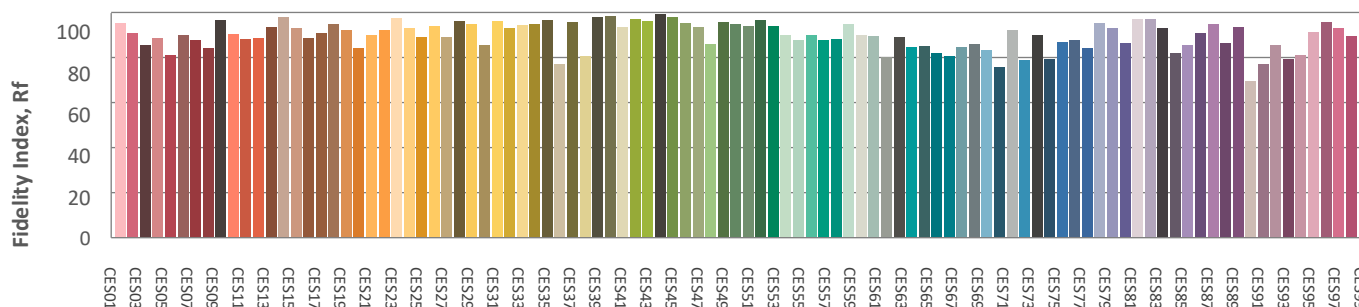
Hue bin



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-HP-4000K-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	24,9	25,6	25,1	25,9	26,1	24,9	25,6	25,1	25,9	26,1
	3H	24,8	25,6	25,2	25,8	26,0	24,8	25,6	25,2	25,8	26,0
	4H	24,8	25,6	25,2	25,9	26,1	24,8	25,6	25,2	25,9	26,1
	6H	24,9	25,6	25,2	25,9	26,2	24,9	25,6	25,2	25,9	26,2
	8H	24,9	25,5	25,2	25,9	26,3	24,9	25,5	25,2	25,9	26,3
	12H	24,9	25,5	25,2	25,8	26,3	24,9	25,5	25,2	25,8	26,3
4H	2H	24,7	25,4	25,1	25,7	25,9	24,7	25,4	25,1	25,7	25,9
	3H	24,8	25,4	25,2	25,8	26,2	24,8	25,4	25,2	25,8	26,2
	4H	24,8	25,4	25,2	25,8	26,3	24,8	25,4	25,2	25,8	26,3
	6H	24,9	25,5	25,4	25,8	26,2	24,9	25,5	25,4	25,8	26,2
	8H	24,9	25,4	25,4	25,8	26,1	24,9	25,4	25,4	25,8	26,1
	12H	24,9	25,3	25,4	25,7	26,1	24,9	25,3	25,4	25,7	26,1
8H	4H	24,8	25,3	25,3	25,7	26,0	24,8	25,3	25,3	25,7	26,0
	6H	24,9	25,3	25,4	25,7	26,3	24,9	25,3	25,4	25,7	26,3
	8H	25,0	25,3	25,5	25,8	26,4	25,0	25,3	25,5	25,8	26,4
	12H	25,0	25,2	25,6	25,7	26,3	25,0	25,2	25,6	25,7	26,3
12H	4H	24,7	25,2	25,2	25,6	26,0	24,7	25,2	25,2	25,6	26,0
	6H	24,9	25,2	25,4	25,7	26,4	24,9	25,2	25,4	25,7	26,4
	8H	24,9	25,2	25,5	25,7	26,3	24,9	25,2	25,5	25,7	26,3
Variation of the observer position for the luminaire distance S											
S = 1.0H		4,2 / -4,1					4,2 / -4,1				
S = 1.5H		6,7 / -4,5					6,7 / -4,5				
S = 2.0H		8,6 / -4,8					8,6 / -4,8				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 3765lm 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