

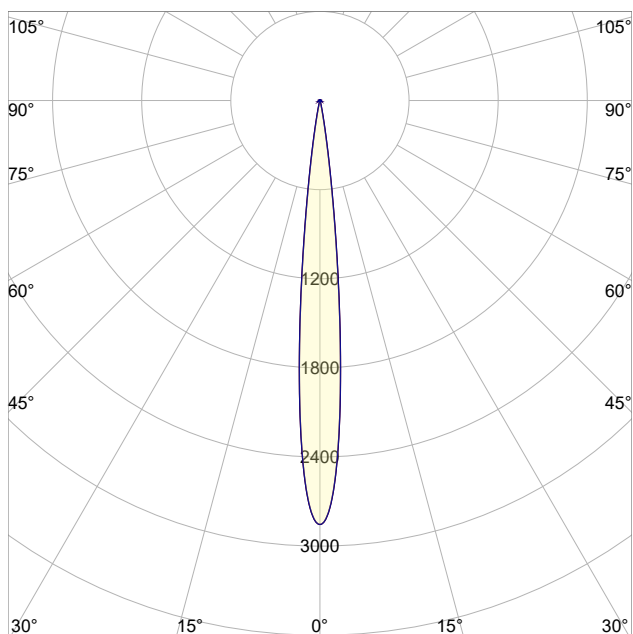
LM-79

Test Report

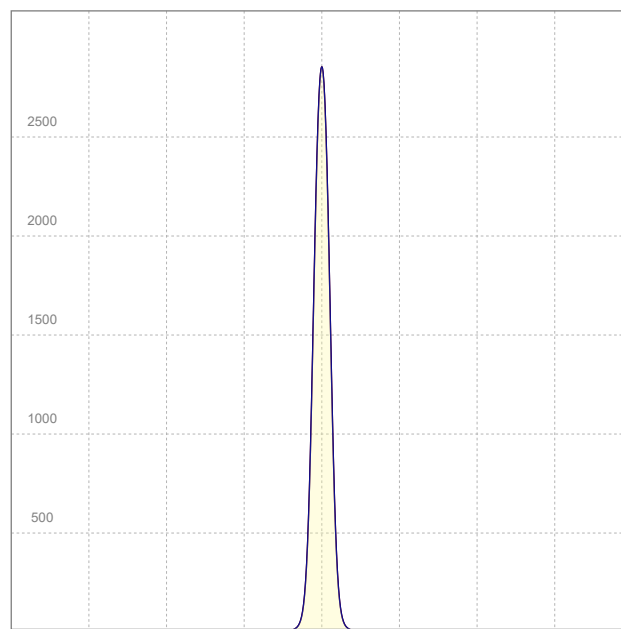
LM79-FOCUS-G4-2700K-CRI95-SPOT

General Discription

Item number	FS-XX-X-2795-Z
Date and time	14-9-2022 16:10:32
CCT (Kelvin)	2767 K
Beam angle	10,6°
Luminous flux	111 lm
Efficiency	17 lm/watt
Weighted energy	6,6 kWh/1000h
Power factor	0,8
CRI (RA)	93,7
Fidelity index Rf	Rf 92,1
Gammut index Rg	Rg 100,5
Peak	2852 cd



Polar curve



Linear distribution diagram



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

2021 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-FOCUS-G4-2700K-CRI95-SPOT

Beam details	1m	2m	3m	4m	5m
Lux*	2852 lx	713 lx	317 lx	178 lx	114 lx

*measured at center of beam

Footcandles*	264,9 fcd	66,2 fcd	29,4 fcd	16,6 fcd	10,6 fcd
Beam width (meter)	0,2 m	0,4 m	0,6 m	0,7 m	0,9 m
Beam width (Feet)	0,6 ft	1,2 ft	1,8 ft	2,4 ft	3 ft

Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
2852lx	713lx	317lx	178lx	114lx	79lx	58lx	45lx	35lx	29lx	24lx	20lx	17lx	15lx	13lx	11lx	10lx	9lx	8lx	7lx
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
264,9fcd	66,2fcd	29,4fcd	16,6fcd	10,6fcd	7,4fcd	5,4fcd	4,1fcd	3,3fcd	2,6fcd	2,2fcd	1,8fcd	1,6fcd	1,4fcd	1,2fcd	1fcd	0,9fcd	0,8fcd	0,7fcd	0,7fcd

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°
2852	2796	2621	2338	1968	1551	1140	783	508	313	189	112	69	43	28	20	15	11	9	7
100%	98%	92%	82%	69%	54%	40%	27%	18%	11%	7%	4%	2%	2%	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°
2852	2796	2621	2338	1968	1551	1140	783	508	313	189	112	69	43	28	20	15	11	9	7
100%	98%	92%	82%	69%	54%	40%	27%	18%	11%	7%	4%	2%	2%	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°
2852	2796	2621	2338	1968	1551	1140	783	508	313	189	112	69	43	28	20	15	11	9	7
100%	98%	92%	82%	69%	54%	40%	27%	18%	11%	7%	4%	2%	2%	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°
2852	2796	2621	2338	1968	1551	1140	783	508	313	189	112	69	43	28	20	15	11	9	7
100%	98%	92%	82%	69%	54%	40%	27%	18%	11%	7%	4%	2%	2%	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
10,6°	18,4°	23,8°	99,8%	99,0%



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

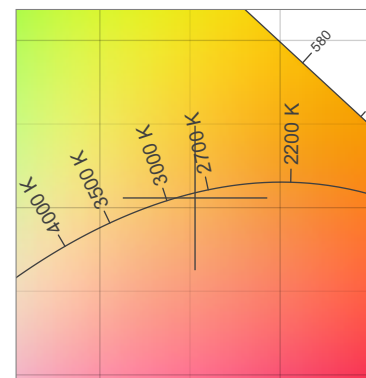
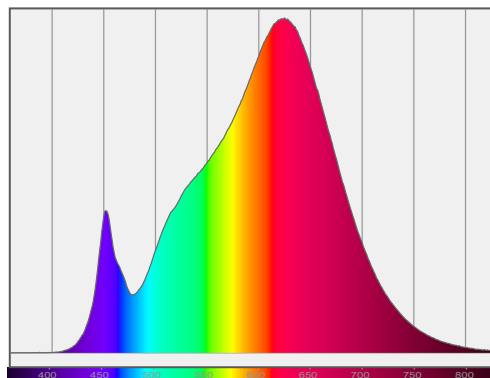
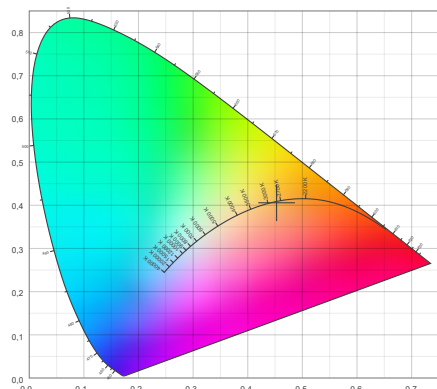
2021 CLS-LED BV. All rights reserved. Information subject to change without notice, CLS-LED BV and all affiliated companies disclaim liability for injury, damage direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information 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-FOCUS-G4-2700K-CRI95-SPOT

Color details



CIE 1931

x: 0,453



Spectra

CIE 1931 ZOOM

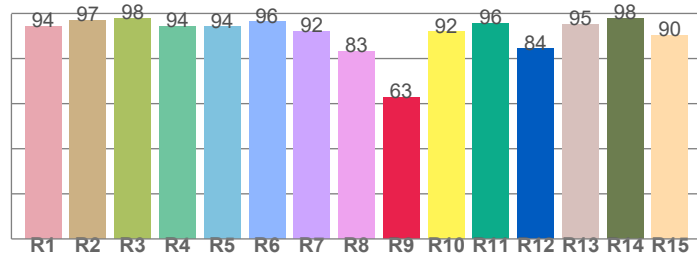
2767 K

y: 0,406

Δuv : -0,0012

CRI: 93,7 (R1-R8)

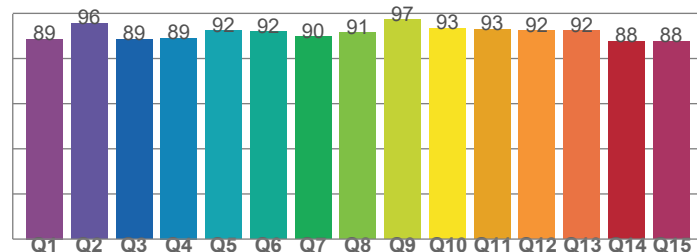
CRI values, R1-R8 are used to calculate final CRI value



R1	R2	R3	R4	R5	R6	R7	R8
94,4	97,0	97,8	94,4	94,1	96,3	92,2	83,2
R9	R10	R11	R12	R13	R14	R15	
62,9	91,8	95,5	84,3	95,2	98,0	90,2	

CQS: 90,8

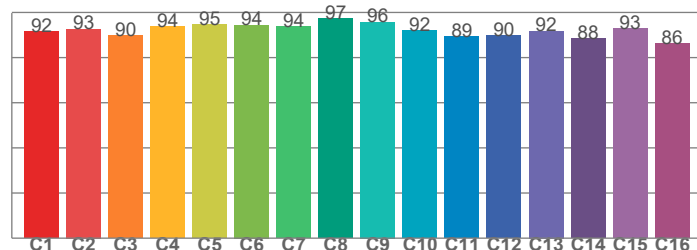
CQS values



Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
88,6	95,6	88,5	89,1	92,3	91,8	89,6	91,4
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
97,2	93,3	92,8	92,3	92,3	87,7	87,7	

TM30: 92,1

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



C1	C2	C3	C4	C5	C6	C7	C8
91,7	92,7	89,7	93,8	94,7	94,5	93,8	97,3
C9	C10	C11	C12	C13	C14	C15	
95,8	91,9	89,5	89,8	91,8	88,3	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
2767 K	93,7	62,9	92,1	100,5	90,8	0,453	0,406	0,260	0,350	-0,0012



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

2021 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-FOCUS-G4-2700K-CRI95-SPOT

TM30 details

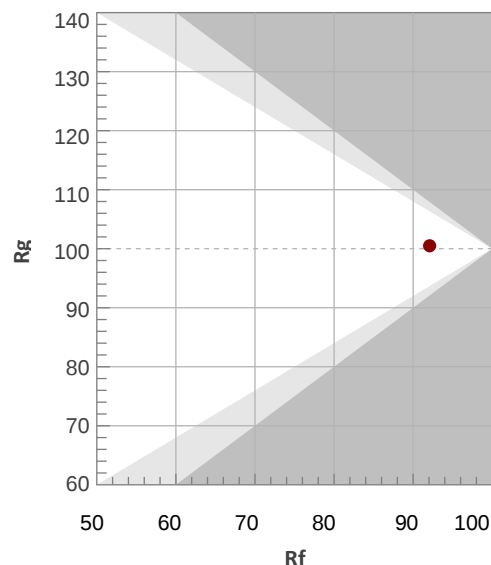
Rf 92,1

Fidelity index Rf

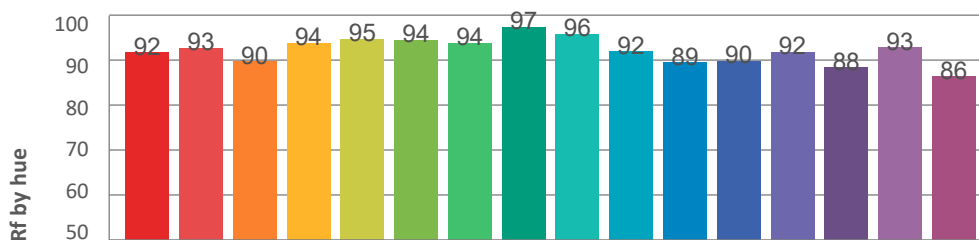
Rg 100,5

Gamut index Rg

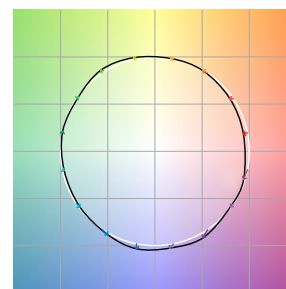
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	92	-4%	0%
2	93	-3%	3%
3	90	-1%	5%
4	94	0%	3%
5	95	2%	3%
6	94	3%	0%
7	94	-1%	-3%
8	97	0%	-2%
9	96	-2%	1%
10	92	-1%	5%
11	89	1%	8%
12	90	5%	1%
13	92	4%	-5%
14	88	5%	-8%
15	93	-1%	-4%
16	86	-2%	-11%



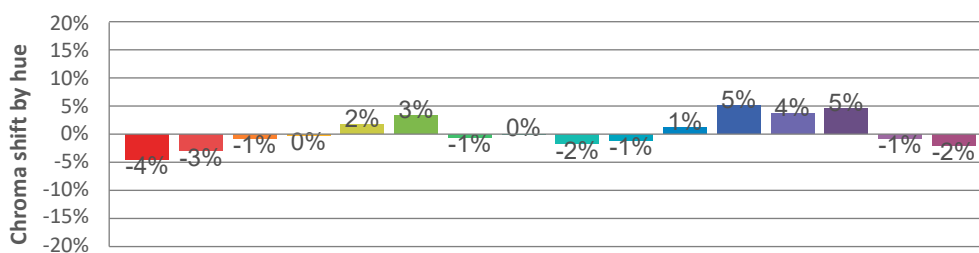
Hue binH



Color vector graphics



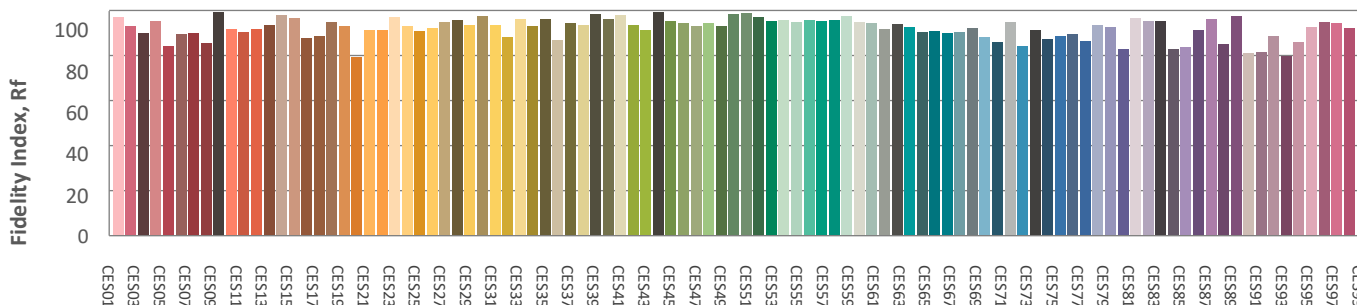
Hue bin



Color distortion graphics



Color Evaluation Sample



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

2021 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-FOCUS-G4-2700K-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	1,7	1,9	1,7	2,0	2,2	1,7	1,9	1,7	2,0	2,2
	3H	1,4	1,8	1,8	2,0	2,2	1,4	1,8	1,8	2,0	2,2
	4H	1,4	1,8	1,8	2,0	2,3	1,4	1,8	1,8	2,0	2,3
	6H	1,5	1,9	1,8	2,2	2,5	1,5	1,9	1,8	2,2	2,5
	8H	1,6	1,9	1,9	2,3	2,6	1,6	1,9	1,9	2,3	2,6
	12H	1,7	2,0	2,0	2,3	2,7	1,7	2,0	2,0	2,3	2,7
4H	2H	1,4	1,8	1,8	2,0	2,2	1,4	1,8	1,8	2,0	2,2
	3H	1,4	1,7	1,7	2,1	2,5	1,4	1,7	1,7	2,1	2,5
	4H	1,4	1,7	1,8	2,1	2,6	1,4	1,7	1,8	2,1	2,6
	6H	1,5	1,9	2,0	2,2	2,5	1,5	1,9	2,0	2,2	2,5
	8H	1,7	2,0	2,2	2,4	2,7	1,7	2,0	2,2	2,4	2,7
	12H	1,8	2,0	2,3	2,4	2,9	1,8	2,0	2,3	2,4	2,9
8H	4H	1,3	1,7	1,8	2,0	2,3	1,3	1,7	1,8	2,0	2,3
	6H	1,6	1,8	2,1	2,2	2,8	1,6	1,8	2,1	2,2	2,8
	8H	1,9	2,1	2,4	2,6	3,2	1,9	2,1	2,4	2,6	3,2
	12H	2,1	2,2	2,7	2,7	3,3	2,1	2,2	2,7	2,7	3,3
12H	4H	1,3	1,5	1,8	1,9	2,4	1,3	1,5	1,8	1,9	2,4
	6H	1,7	1,8	2,2	2,3	2,9	1,7	1,8	2,2	2,3	2,9
	8H	2,0	2,1	2,6	2,6	3,2	2,0	2,1	2,6	2,6	3,2

Variation of the observer position for the luminaire distance S

S = 1.0H	0,6 / -0,9	0,6 / -0,9
S = 1.5H	1,9 / -2,8	1,9 / -2,8
S = 2.0H	3,5 / -3,4	3,5 / -3,4
Standard table	n/a	n/a
Correction summand	n/a	n/a

Corrected glare indices referring to 111lm total luminous flux



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

2021 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