

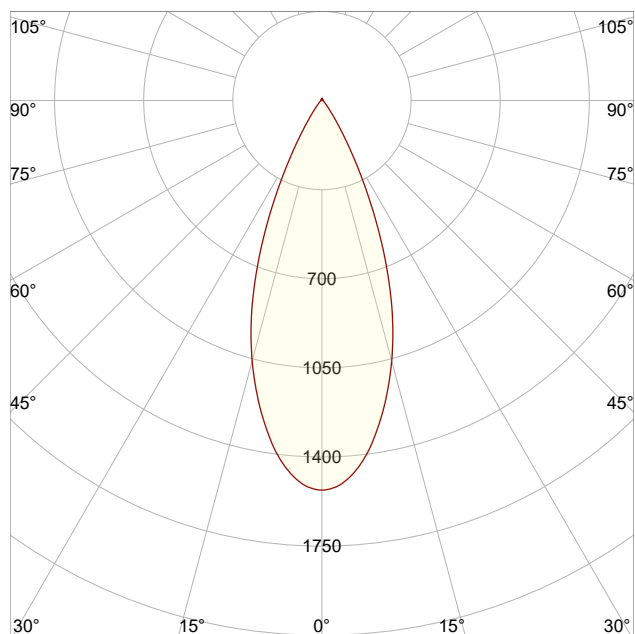
LM-79

Test Report

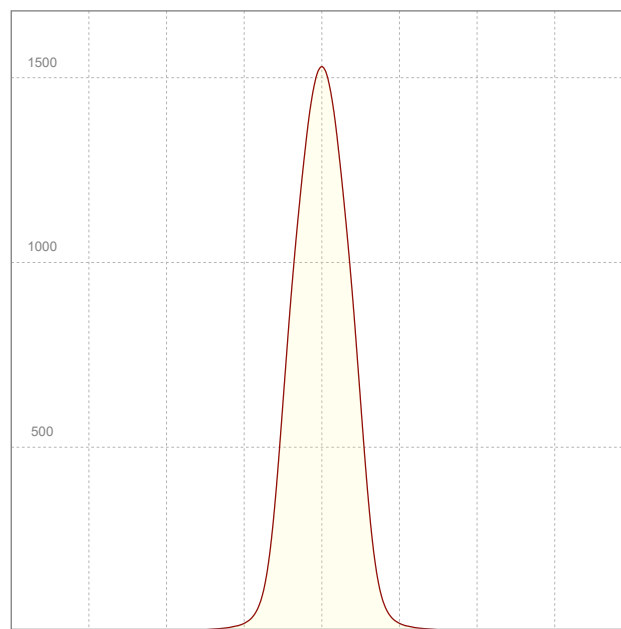
LM79-LINA-HP-3000K-30CM-44DEG

General Discription

Item number	LC-2-030-22-4
Date and time	21-6-2016 11:14:37
CCT (Kelvin)	2996 K
Beam angle	40,4°
Luminous flux	770 lm
Efficiency	63 lm/watt
Weighted energy	12,2 kWh/1000h
Power factor	0,89
CRI (RA)	82,8
Fidelity index Rf	Rf 84,8
Gammut index Rg	Rg 97,5
Peak	1528 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-LINA-HP-3000K-30CM-44DEG

Beam details	1m	2m	3m	4m	5m
Lux*	1528 lx	382 lx	170 lx	95 lx	61 lx

40,4°

*measured at center of beam

Footcandles*	142,0 fcd	35,5 fcd	15,8 fcd	8,9 fcd	5,7 fcd
Beam width (meter)	0,7 m	1,5 m	2,2 m	2,9 m	3,7 m
Beam width (Feet)	2,4 ft	4,8 ft	7,2 ft	9,7 ft	12,1 ft

Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
1528lx	382lx	170lx	95lx	61lx	42lx	31lx	24lx	19lx	15lx	13lx	11lx	9lx	8lx	7lx	6lx	5lx	5lx	4lx	4lx
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
142fcd	35,5fcd	15,8fcd	8,9fcd	5,7fcd	3,9fcd	2,9fcd	2,2fcd	1,8fcd	1,4fcd	1,2fcd	1fcd	0,8fcd	0,7fcd	0,6fcd	0,6fcd	0,5fcd	0,4fcd	0,4fcd	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°
1528	1518	1486	1437	1372	1290	1202	1107	1006	896	776	652	528	410	307	221	156	109	77	56
100%	99%	97%	94%	90%	84%	79%	72%	66%	59%	51%	43%	35%	27%	20%	14%	10%	7%	5%	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°
1528	1518	1486	1437	1372	1290	1202	1107	1006	896	776	652	528	410	307	221	156	109	77	56
100%	99%	97%	94%	90%	84%	79%	72%	66%	59%	51%	43%	35%	27%	20%	14%	10%	7%	5%	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°
1528	1518	1486	1437	1372	1290	1202	1107	1006	896	776	652	528	410	307	221	156	109	77	56
100%	99%	97%	94%	90%	84%	79%	72%	66%	59%	51%	43%	35%	27%	20%	14%	10%	7%	5%	4%

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°
1528	1518	1486	1437	1372	1290	1202	1107	1006	896	776	652	528	410	307	221	156	109	77	56
100%	99%	97%	94%	90%	84%	79%	72%	66%	59%	51%	43%	35%	27%	20%	14%	10%	7%	5%	4%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
40,4°	64,2°	81,4°	94,7%	92,4%



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

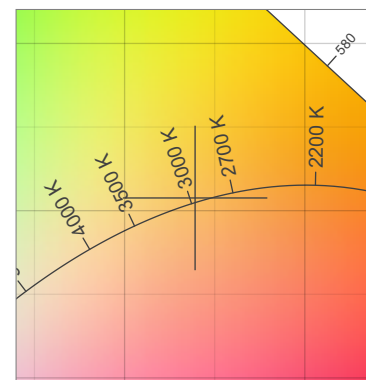
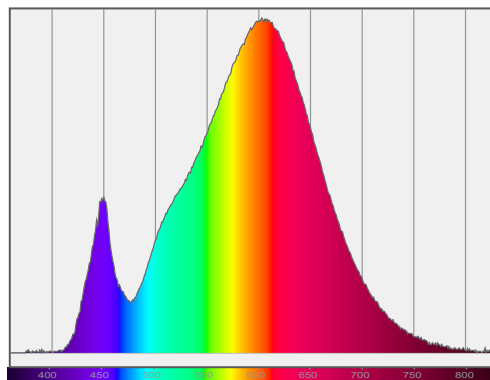
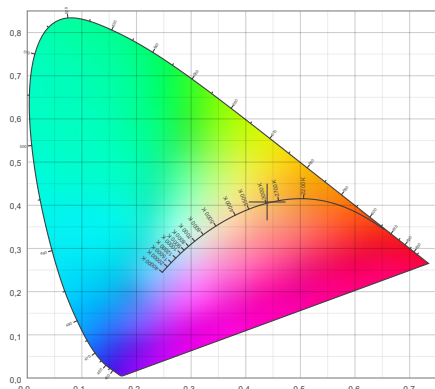
2021 CLS-LED BV. All rights reserved. Information subject to change without notice, CLS-LED BV and all affiliated companies disclaim liability for injury, damage direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information 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-LINA-HP-3000K-30CM-44DEG

Color details



CIE 1931

x: 0,439

2996 K

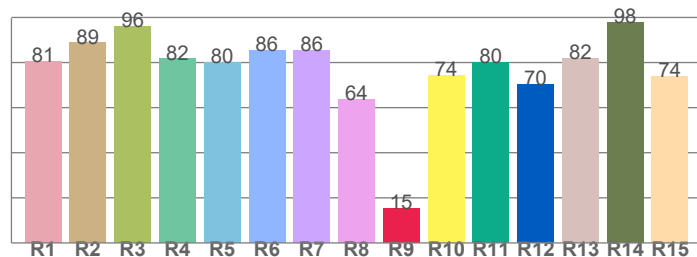
y: 0,408

Spectra

CIE 1931 ZOOM

Δuv : 0,0011

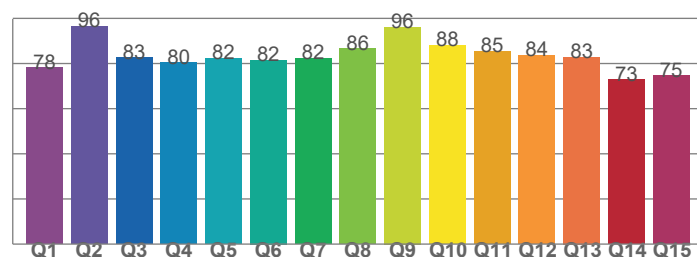
CRI: 82,8 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
80,5	88,8	96,2	81,6	80,3	85,5	85,6	63,6
R9	R10	R11	R12	R13	R14	R15	
15,2	74,4	80,1	70,4	82,0	97,7	74,0	

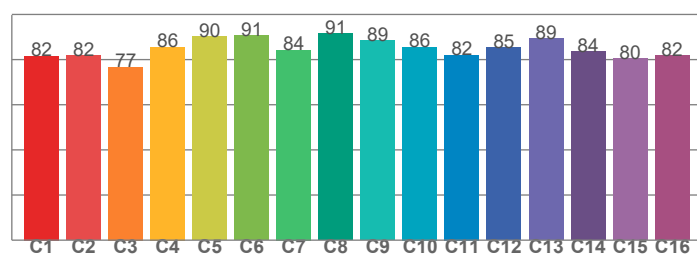
CQS: 82,3



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
78,1	96,3	82,5	80,3	82,3	81,6	82,4	86,5
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,2	88,2	85,4	83,6	82,9	72,8	74,5	

TM30: 84,8



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

C1	C2	C3	C4	C5	C6	C7	C8
81,6	81,8	76,8	85,6	90,1	90,7	84,2	91,5
C9	C10	C11	C12	C13	C14	C15	
88,5	85,5	82,0	85,3	89,5	83,6	80,4	

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
2996 K	82,8	15,2	84,8	97,5	82,3	0,439	0,408	0,250	0,349	0,0011



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-LINA-HP-3000K-30CM-44DEG

TM30 details

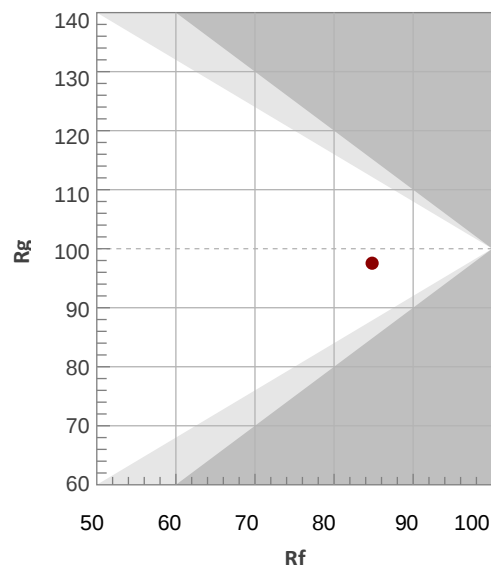
Rf 84,8

Fidelity index Rf

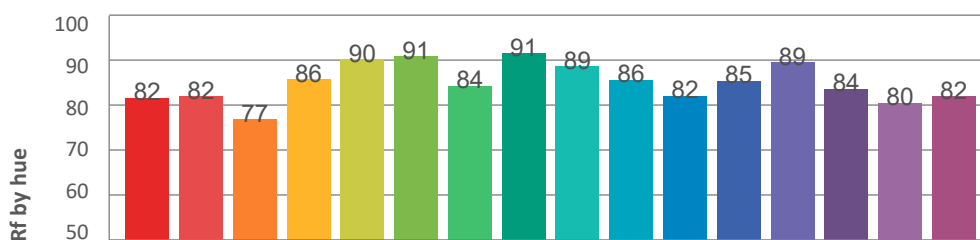
Rg 97,5

Gamut index Rg

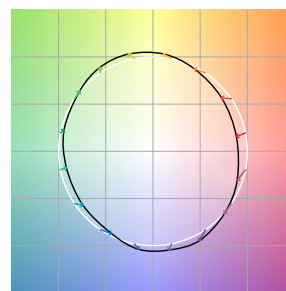
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	82	-10%	-2%
2	82	-8%	7%
3	77	-3%	12%
4	86	3%	9%
5	90	6%	5%
6	91	5%	-3%
7	84	0%	-10%
8	91	-3%	-4%
9	89	-7%	-1%
10	86	-7%	6%
11	82	-3%	12%
12	85	5%	6%
13	89	6%	-4%
14	84	6%	-12%
15	80	0%	-13%
16	82	-6%	-13%



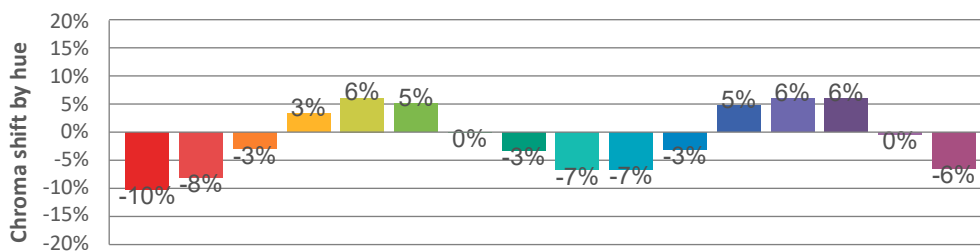
Hue binH



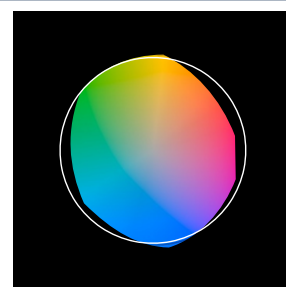
Color vector graphics



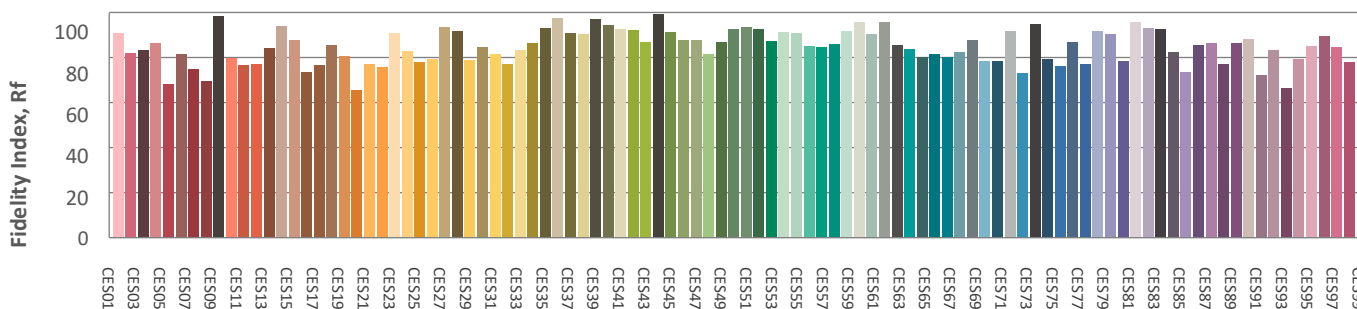
Hue bin



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

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	12,5	13,1	12,7	13,3	13,6	12,5	13,1	12,7	13,3	13,6
	3H	12,8	13,5	13,2	13,8	14,0	12,8	13,5	13,2	13,8	14,0
	4H	13,1	13,8	13,6	14,1	14,4	13,1	13,8	13,6	14,1	14,4
	6H	13,5	14,1	13,9	14,4	14,8	13,5	14,1	13,9	14,4	14,8
	8H	13,8	14,3	14,1	14,7	15,1	13,8	14,3	14,1	14,7	15,1
	12H	14,1	14,6	14,5	15,0	15,5	14,1	14,6	14,5	15,0	15,5
4H	2H	12,4	13,1	12,9	13,4	13,7	12,4	13,1	12,9	13,4	13,7
	3H	13,1	13,7	13,5	14,1	14,5	13,1	13,7	13,5	14,1	14,5
	4H	13,5	14,0	14,0	14,5	15,0	13,5	14,0	14,0	14,5	15,0
	6H	14,1	14,6	14,6	15,0	15,4	14,1	14,6	14,6	15,0	15,4
	8H	14,4	14,9	15,0	15,3	15,7	14,4	14,9	15,0	15,3	15,7
	12H	14,9	15,2	15,4	15,7	16,2	14,9	15,2	15,4	15,7	16,2
8H	4H	13,7	14,2	14,2	14,6	15,0	13,7	14,2	14,2	14,6	15,0
	6H	14,4	14,7	15,0	15,3	15,8	14,4	14,7	15,0	15,3	15,8
	8H	15,0	15,2	15,5	15,8	16,5	15,0	15,2	15,5	15,8	16,5
	12H	15,7	15,9	16,3	16,4	17,1	15,7	15,9	16,3	16,4	17,1
12H	4H	13,7	14,1	14,2	14,5	15,0	13,7	14,1	14,2	14,5	15,0
	6H	14,6	14,8	15,1	15,4	16,1	14,6	14,8	15,1	15,4	16,1
	8H	15,1	15,3	15,8	15,9	16,6	15,1	15,3	15,8	15,9	16,6
Variation of the observer position for the luminaire distance S											
S = 1.0H		1,7 / -0,7					1,7 / -0,7				
S = 1.5H		3,4 / -0,7					3,4 / -0,7				
S = 2.0H		4,8 / -1,0					4,8 / -1,0				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 770lm total luminous flux											