

LM-79

Test Report

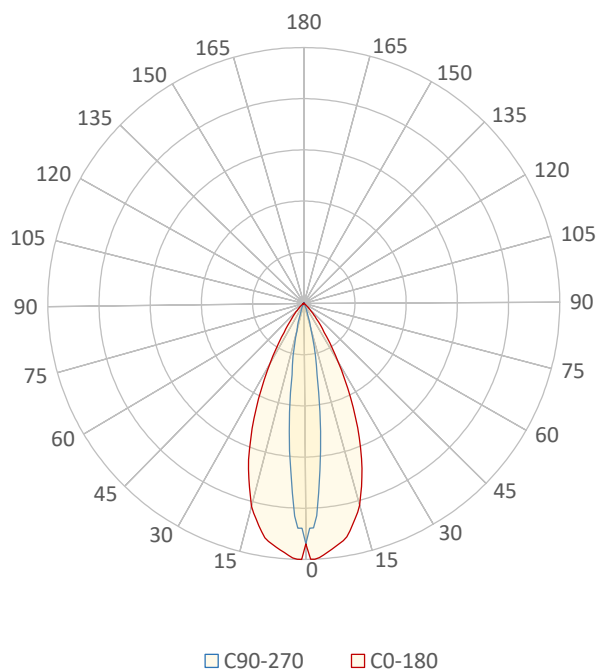
LM79-REVO-XXL-4000K-CRI80-12x46DEG

General Discription

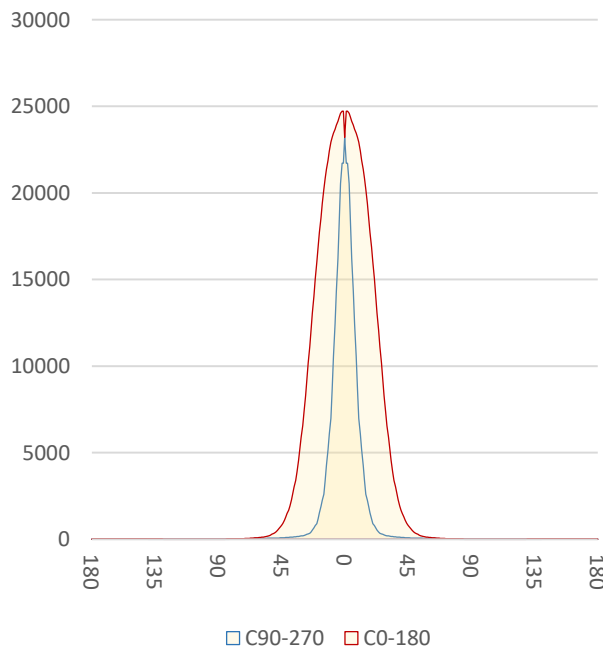
Item number	RXX-1N-X-2222-2222
Date and time	29-6-2018 15:42:11
CCT (Kelvin)	3890 K
Beam angle	15,7 x 47,4°
Luminous flux	9292 lm
Efficiency	126 lm/watt
Weighted energy	73,5 kWh/1000h
Power factor	0,95
CRI (RA)	82,8
Fidelity index Rf	Rf 82,4
Gammut index Rg	Rg 98,2
Peak	24719 cd



Polar diagram



Cartesian diagram



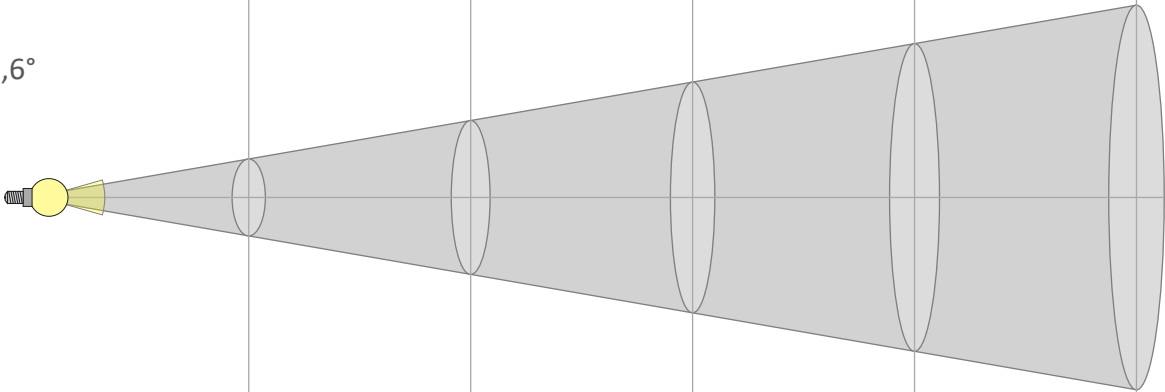
CLS LED BV
info@cls-led.com
www.cls-led.com

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-REVO-XXL-4000K-CRI80-12x46DEG

Beam details					1m		2m		3m		4m		5m						
Lux*					23212 lx		5803 lx		2579 lx		1451 lx		928 lx						
31,6° 																			
*measured at center of beam																			
Footcandles*					2156,5 fcd		539,1 fcd		239,6 fcd		134,8 fcd		86,3 fcd						
Beam width (meter)					0,6 m		1,1 m		1,7 m		2,3 m		2,8 m						
Beam width (Feet)					1,9 ft		3,7 ft		5,6 ft		7,4 ft		9,3 ft						
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
23212lx	5803lx	2579lx	1451lx	928lx	645lx	474lx	363lx	287lx	232lx	192lx	161lx	137lx	118lx	103lx	91lx	80lx	72lx	64lx	58lx
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
2156,5fcd	539,1fcd	239,6fcd	134,8fcd	86,3fcd	59,9fcd	44fcd	33,7fcd	26,6fcd	21,6fcd	17,8fcd	15fcd	12,8fcd	11fcd	9,6fcd	8,4fcd	7,5fcd	6,7fcd	6fcd	5,4fcd
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°
23,2K	24,7K	24,4K	23,9K	23,4K	22,9K	21,9K	20,8K	19,4K	17,7K	16,0K	14,0K	12,1K	10,2K	8,3K	6,6K	5,2K	3,9K	3,0K	2,3K
100%	106%	105%	103%	101%	99%	94%	90%	84%	76%	69%	60%	52%	44%	36%	28%	23%	17%	13%	10%
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°
23,2K	21,7K	18,4K	14,3K	10,6K	7,0K	5,2K	3,4K	2,3K	1,5K	0,9K	0,7K	0,4K	0,3K	0,3K	0,2K	0,2K	0,2K	0,1K	0,1K
100%	94%	79%	62%	46%	30%	22%	15%	10%	7%	4%	3%	2%	1%	1%	1%	1%	1%	1%	1%
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°
23,2K	24,7K	24,4K	23,9K	23,4K	22,9K	21,9K	20,8K	19,4K	17,7K	16,0K	14,0K	12,1K	10,2K	8,3K	6,6K	5,2K	3,9K	3,0K	2,3K
100%	106%	105%	103%	101%	99%	94%	90%	84%	76%	69%	60%	52%	44%	36%	28%	23%	17%	13%	10%
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°
23,2K	21,7K	18,4K	14,3K	10,6K	7,0K	5,2K	3,4K	2,3K	1,5K	0,9K	0,7K	0,4K	0,3K	0,3K	0,2K	0,2K	0,2K	0,1K	0,1K
100%	94%	79%	62%	46%	30%	22%	15%	10%	7%	4%	3%	2%	1%	1%	1%	1%	1%	1%	1%
Beam angle 50%				Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone			
31,6°				53,7°				70°				98,7%				96,0%			



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

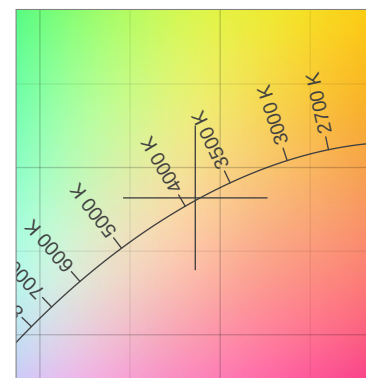
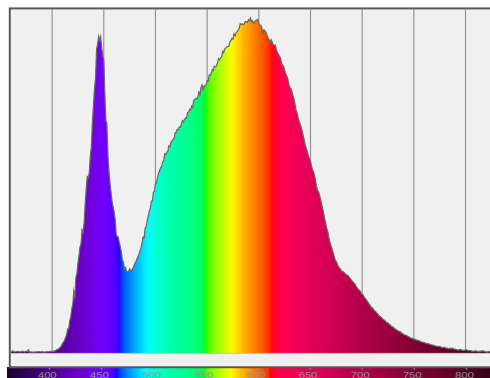
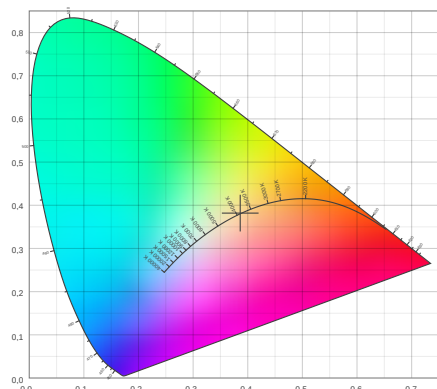
2017 CLS-LED BV. All rights reserved. Information subject to change without notice, CLS-LED BV and all affiliated companies disclaim liability for injury, damage direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information 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-REVO-XXL-4000K-CRI80-12x46DEG

Color details



CIE 1931

x: 0,386

3890 K

y: 0,382

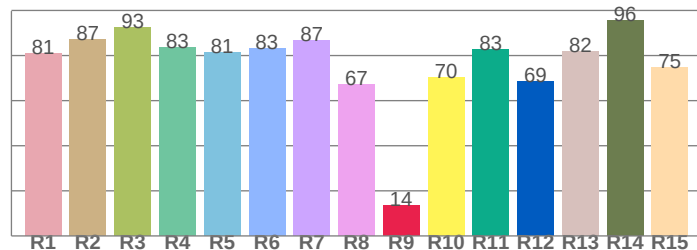
Spectra

CIE 1931 ZOOM

Δuv : 0,0007

CRI: 82,8 (R1-R8)

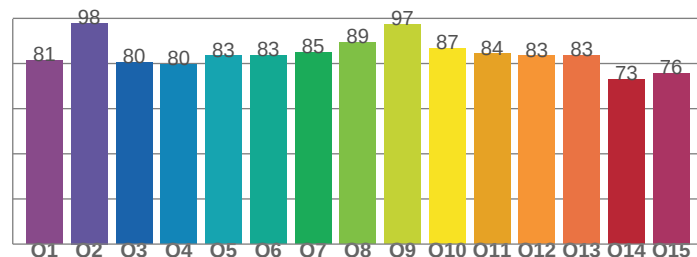
CRI values, R1-R8 are used to calculate final CRI value



R1	R2	R3	R4	R5	R6	R7	R8
81,0	87,1	92,6	83,4	81,4	83,1	86,5	67,1
R9	R10	R11	R12	R13	R14	R15	
13,6	70,2	82,9	68,6	82,0	95,7	74,6	

CQS: 83,0

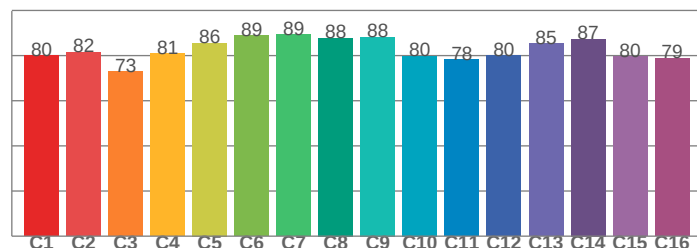
CQS values



Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
81,3	98,0	80,5	79,6	83,4	83,4	84,8	89,4
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
97,1	86,8	84,3	83,4	83,4	72,9	75,8	

TM30: 82,4

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



C1	C2	C3	C4	C5	C6	C7	C8
80,0	81,5	72,8	80,9	85,6	89,0	89,3	87,8
C9	C10	C11	C12	C13	C14	C15	
88,3	79,8	78,3	80,0	85,4	87,4	79,6	

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
3890 K	82,8	13,6	82,4	98,2	83,0	0,386	0,382	0,227	0,336	0,0007



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-REVO-XXL-4000K-CRI80-12x46DEG

TM30 details

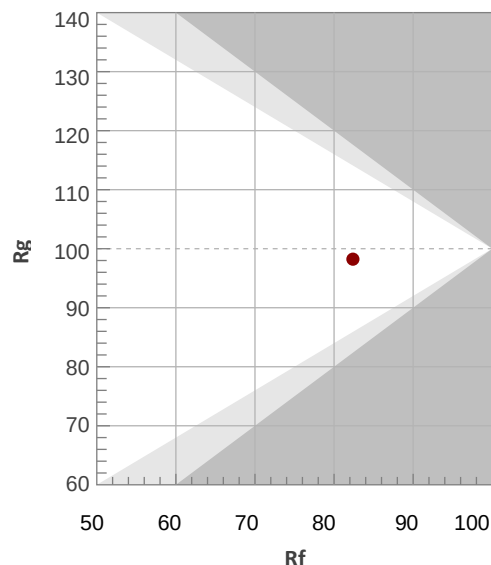
Rf 82,4

Fidelity index R_f

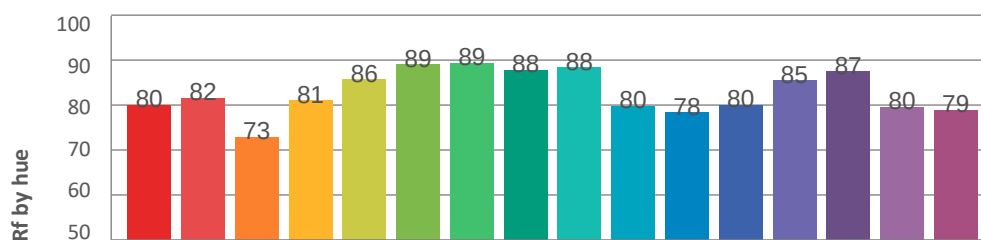
Rg 98,2

Gammut index Rq

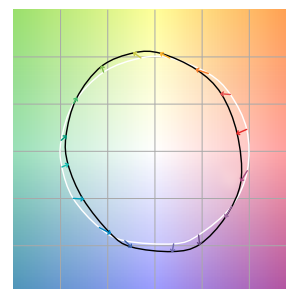
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	80	-11%	-2%
2	82	-8%	6%
3	73	-4%	13%
4	81	3%	10%
5	86	7%	6%
6	89	6%	-2%
7	89	0%	-6%
8	88	-4%	-5%
9	88	-7%	-1%
10	80	-8%	6%
11	78	-1%	13%
12	80	5%	8%
13	85	8%	-3%
14	87	9%	-5%
15	80	1%	-13%
16	79	-4%	-12%



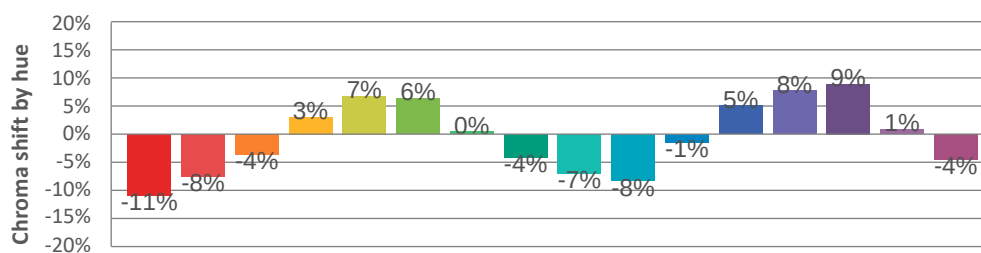
Hue binH



Color vector graphics



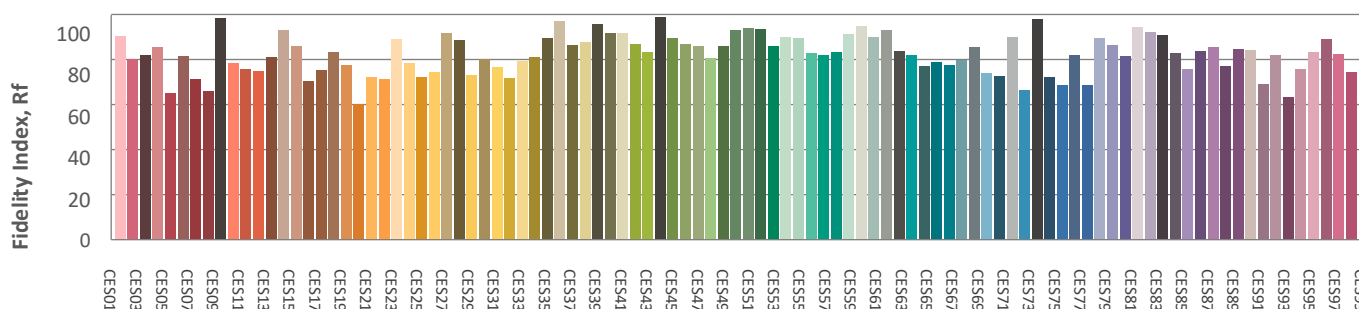
Hue bin



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-REVO-XXL-4000K-CRI80-12x46DEG

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	20,0	20,7	20,3	20,9	21,1	12,9	13,6	13,1	13,8	14,0
	3H	20,0	20,6	20,3	20,8	21,1	13,0	13,6	13,3	13,9	14,1
	4H	19,9	20,5	20,2	20,8	21,0	13,0	13,6	13,3	13,9	14,2
	6H	19,9	20,4	20,2	20,7	21,0	13,0	13,6	13,3	13,8	14,1
	8H	19,8	20,4	20,2	20,7	21,0	13,0	13,5	13,3	13,8	14,1
	12H	19,8	20,3	20,2	20,6	20,9	13,0	13,5	13,3	13,8	14,1
4H	2H	19,8	20,4	20,2	20,7	21,0	13,0	13,5	13,3	13,8	14,1
	3H	19,8	20,3	20,2	20,6	20,9	13,2	13,7	13,6	14,0	14,3
	4H	19,8	20,2	20,2	20,5	20,9	13,3	13,7	13,7	14,0	14,4
	6H	19,8	20,1	20,2	20,5	20,9	13,3	13,7	13,7	14,0	14,4
	8H	19,7	20,0	20,1	20,4	20,8	13,3	13,6	13,7	14,0	14,4
	12H	19,7	20,0	20,1	20,4	20,8	13,3	13,5	13,7	13,9	14,4
8H	4H	19,7	20,0	20,1	20,4	20,8	13,3	13,6	13,7	14,0	14,4
	6H	19,7	19,9	20,1	20,3	20,8	13,3	13,6	13,8	14,0	14,5
	8H	19,6	19,8	20,1	20,3	20,7	13,3	13,5	13,8	14,0	14,5
	12H	19,6	19,7	20,1	20,2	20,7	13,3	13,5	13,8	13,9	14,4
12H	4H	19,7	19,9	20,1	20,3	20,8	13,3	13,6	13,7	14,0	14,4
	6H	19,6	19,8	20,1	20,3	20,7	13,3	13,5	13,8	14,0	14,4
	8H	19,6	19,7	20,1	20,2	20,7	13,3	13,5	13,8	13,9	14,4
Variation of the observer position for the luminaire distance S											
S = 1,0H		+5,0 / -6,3					+3,9 / -3,2				
S = 1,5H		+7,7 / -7,4					+5,4 / -3,8				
S = 2,0H		+9,7 / -8,2					+7,2 / -4,4				
Standard table		BK00					BK01				
Correction summand		1,5					-4,8				
Corrected glare indices referring to 9292lm 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