

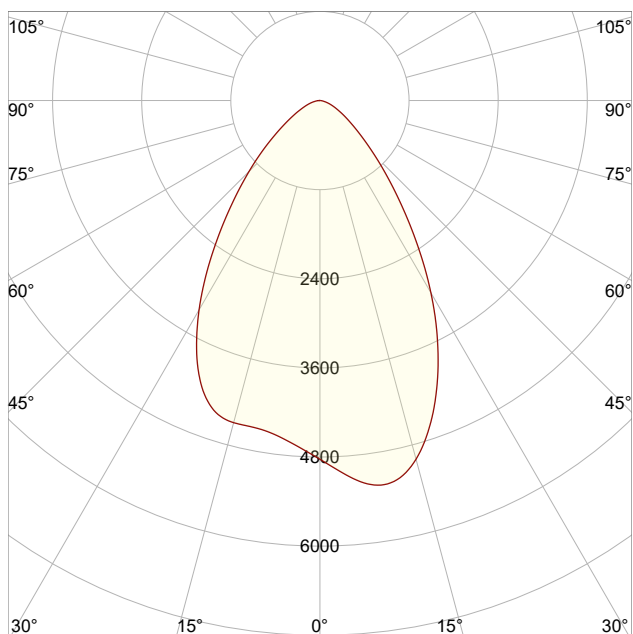
LM-79

Test Report

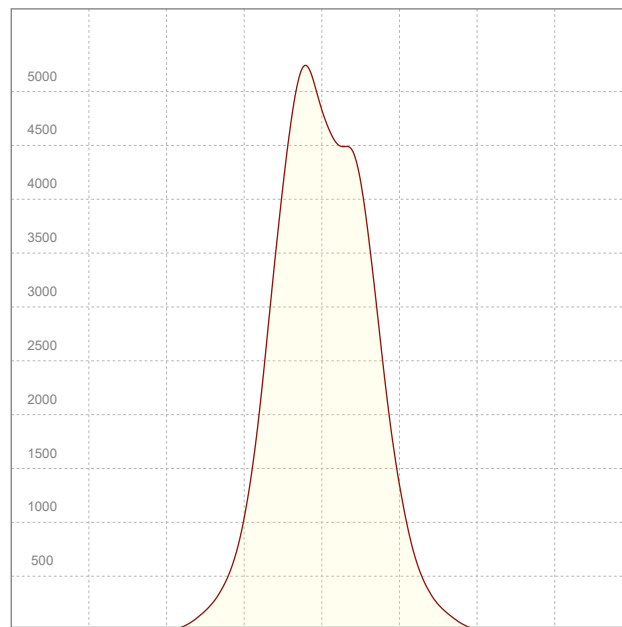
LM79-QUARTZ-2200K-CRI80-FLOOD

General Discription

Item number	Q-BXX-2280-F
Date and time	5-1-2024 16:09:16
CCT (Kelvin)	2242 K
Beam angle	66,7°
Luminous flux	6842 lm
Efficiency	89 lm/watt
Weighted energy	77,1 kWh/1000h
Power factor	0,56
CRI (RA)	84,2
Fidelity index Rf	Rf 86,0
Gammut index Rg	Rg 98,6
Peak	5243 cd



Polar curve



Linear distribution diagram



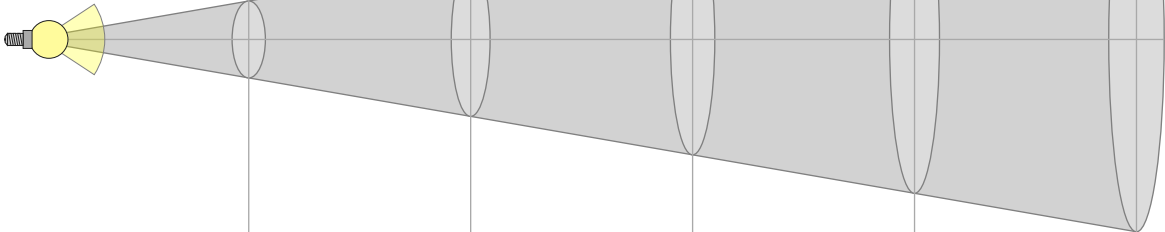
CLS LED BV
info@cls-led.com
www.cls-led.com

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-QUARTZ-2200K-CRI80-FLOOD

Beam details					1m		2m		3m		4m		5m								
Lux*					4830 lx		1208 lx		537 lx		302 lx		193 lx								
66,7° 																					
*measured at center of beam																					
Footcandles*					448,8 fcd		112,2 fcd		49,9 fcd		28,0 fcd		18,0 fcd								
Beam width (meter)					1,3 m		2,6 m		3,9 m		5,3 m		6,6 m								
Beam width (Feet)					4,3 ft		8,6 ft		12,9 ft		17,3 ft		21,6 ft								
Beam intensities																					
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m		
4830lx	1208lx	537lx	302lx	193lx	134lx	99lx	75lx	60lx	48lx	40lx	34lx	29lx	25lx	21lx	19lx	17lx	15lx	13lx	12lx		
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		
448,8fcd	112,2fcd	49,9fcd	28fcd	18fcd	12,5fcd	9,2fcd	7fcd	5,5fcd	4,5fcd	3,7fcd	3,1fcd	2,7fcd	2,3fcd	2fcd	1,8fcd	1,6fcd	1,4fcd	1,2fcd	1,1fcd		
Intensities in 0° c-plane																					
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°		
4830	5107	5239	4997	4459	3762	2986	2198	1534	1040	697	475	325	220	144	81	35	9	1	0		
100%	106%	108%	103%	92%	78%	62%	46%	32%	22%	14%	10%	7%	5%	3%	2%	1%	0%	0%	0%		
Intensities in 90° c-plane																					
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°		
4830	5107	5239	4997	4459	3762	2986	2198	1534	1040	697	475	325	220	144	81	35	9	1	0		
100%	106%	108%	103%	92%	78%	62%	46%	32%	22%	14%	10%	7%	5%	3%	2%	1%	0%	0%	0%		
Intensities in 180° c-plane																					
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°		
4830	4618	4500	4489	4348	3903	3253	2534	1874	1348	934	628	425	288	196	127	70	29	6	0		
100%	96%	93%	93%	90%	81%	67%	52%	39%	28%	19%	13%	9%	6%	4%	3%	1%	1%	0%	0%		
Intensities in 270° c-plane																					
0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°		
4830	4618	4500	4489	4348	3903	3253	2534	1874	1348	934	628	425	288	196	127	70	29	6	0		
100%	96%	93%	93%	90%	81%	67%	52%	39%	28%	19%	13%	9%	6%	4%	3%	1%	1%	0%	0%		
Beam angle 50%				Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone					
66,7°				111°				145,6°				94,3%				81,0%					



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

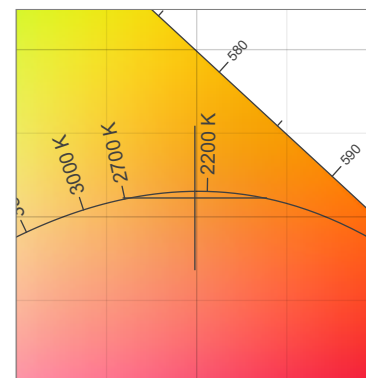
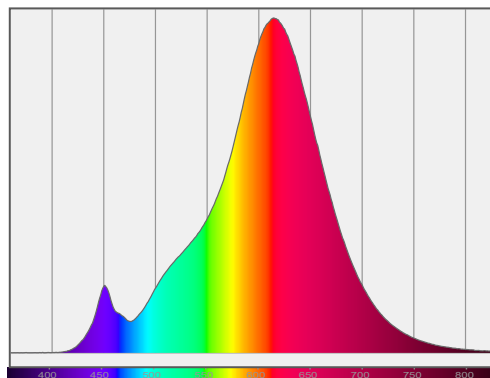
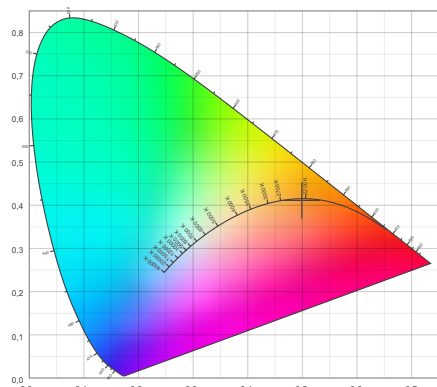
2021 CLS-LED BV. All rights reserved. Information subject to change without notice, CLS-LED BV and all affiliated companies disclaim liability for injury, damage direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information 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-QUARTZ-2200K-CRI80-FLOOD

Color details



CIE 1931

x: 0,499



Spectra

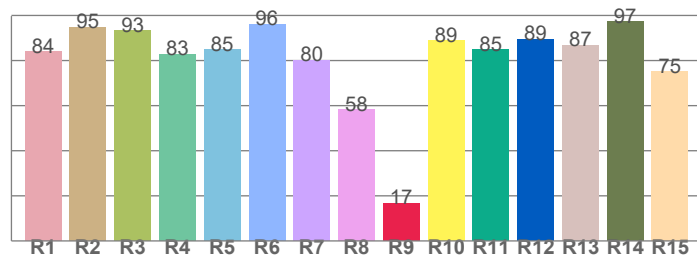
CIE 1931 ZOOM

2242 K

y: 0,411

Δuv : -0,0013

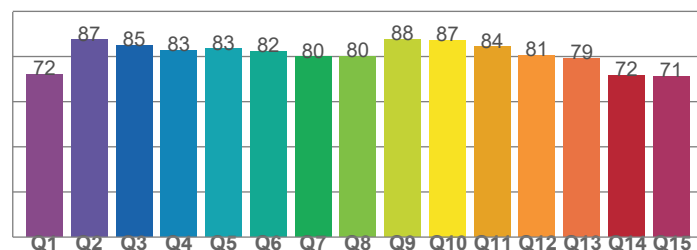
CRI: 84,2 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
83,9	94,6	93,1	82,8	84,7	96,2	80,0	58,2
R9	R10	R11	R12	R13	R14	R15	
16,7	88,8	84,8	89,3	86,7	97,2	75,0	

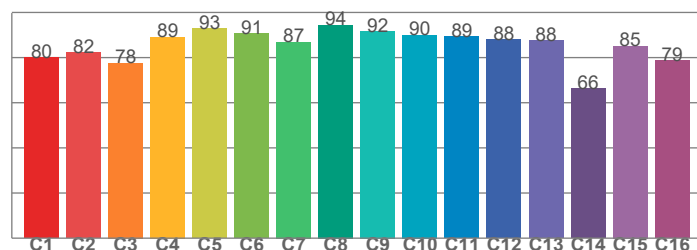
CQS: 79,8



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
72,2	87,4	84,9	82,7	83,4	82,2	79,9	80,0
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
87,5	87,3	84,3	80,6	79,2	71,6	71,2	

TM30: 86,0



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

C1	C2	C3	C4	C5	C6	C7	C8
80,2	82,4	77,6	89,1	93,0	90,5	86,9	94,4
C9	C10	C11	C12	C13	C14	C15	
91,7	90,0	89,3	88,0	87,6	66,2	85,2	

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
2242 K	84,2	16,7	86,0	98,6	79,8	0,499	0,411	0,288	0,356	-0,0013



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-QUARTZ-2200K-CRI80-FLOOD

TM30 details

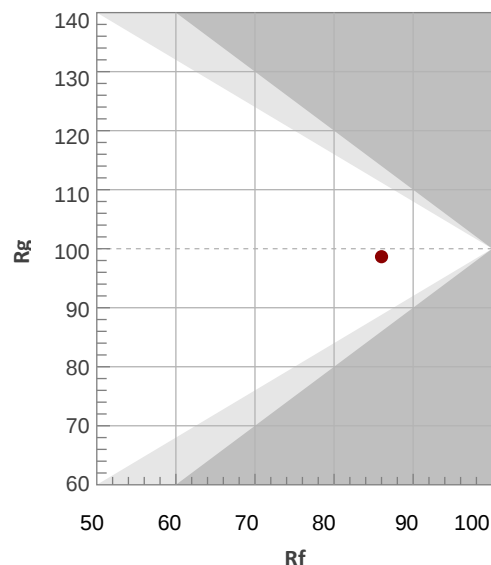
Rf 86,0

Fidelity index Rf

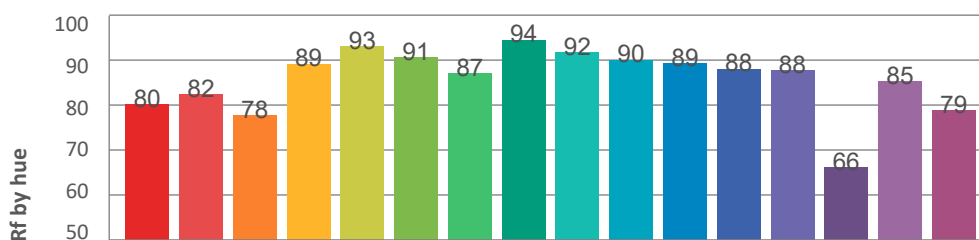
Rg 98,6

Gamut index Rg

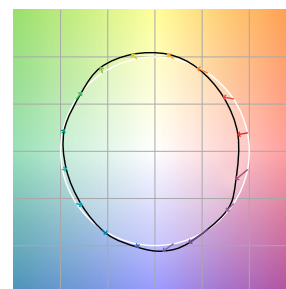
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	80	-10%	0%
2	82	-8%	7%
3	78	-2%	11%
4	89	4%	7%
5	93	5%	4%
6	91	6%	-2%
7	87	-1%	-8%
8	94	-1%	-3%
9	92	-4%	0%
10	90	-4%	4%
11	89	1%	6%
12	88	3%	2%
13	88	5%	-12%
14	66	1%	-24%
15	85	-2%	-10%
16	79	-10%	-12%



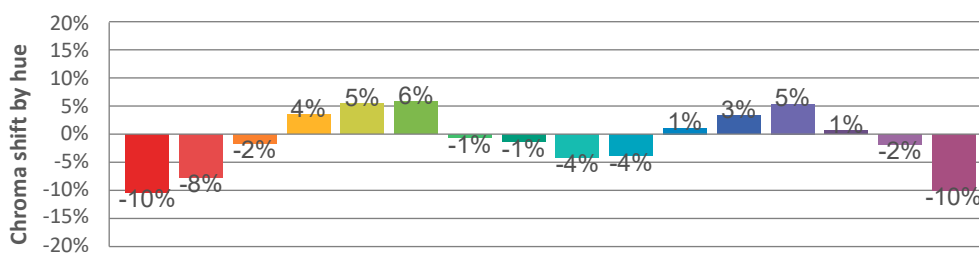
Hue binH



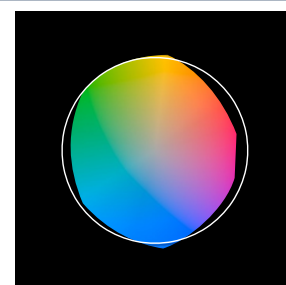
Color vector graphics



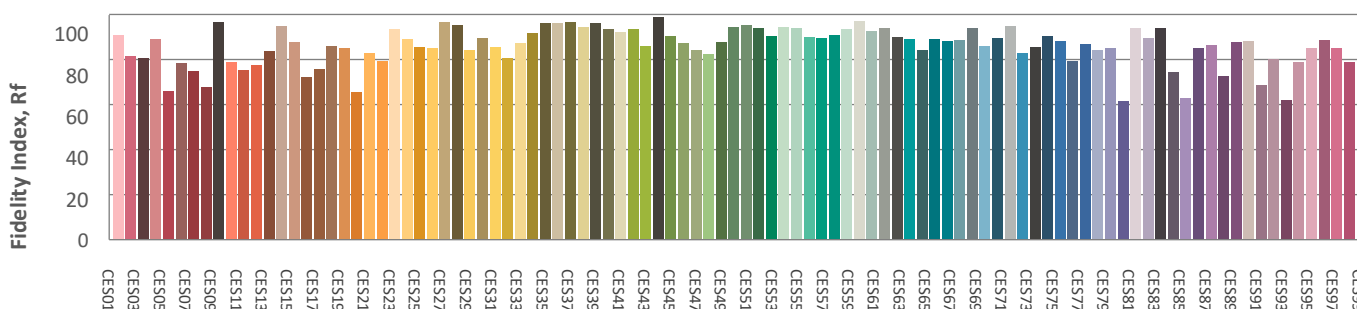
Hue bin



Color distortion graphics



Color Evaluation Sample



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

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

Test Report

LM79-QUARTZ-2200K-CRI80-FLOOD

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				
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Variation of the observer position for the luminaire distance S										
n/a	n/a					n/a				
n/a	n/a					n/a				
n/a	n/a					n/a				
Standard table	n/a					n/a				
Correction summand	n/a					n/a				
Corrected glare indices referring to 6842lm 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