

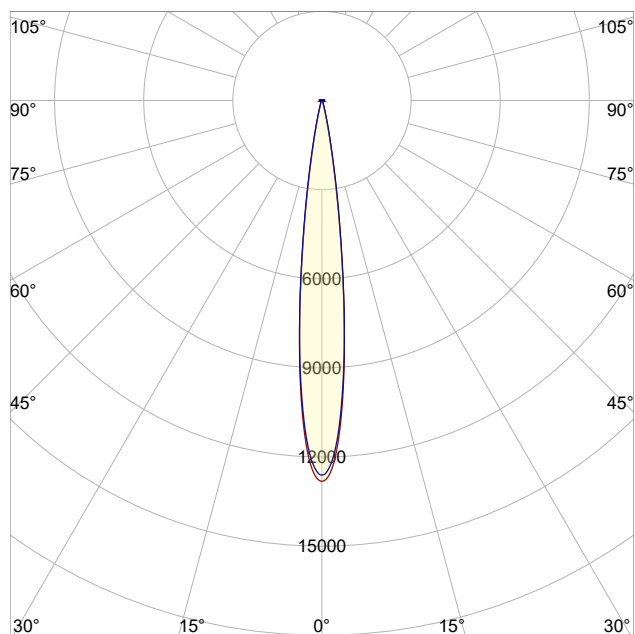
LM-79

Test Report

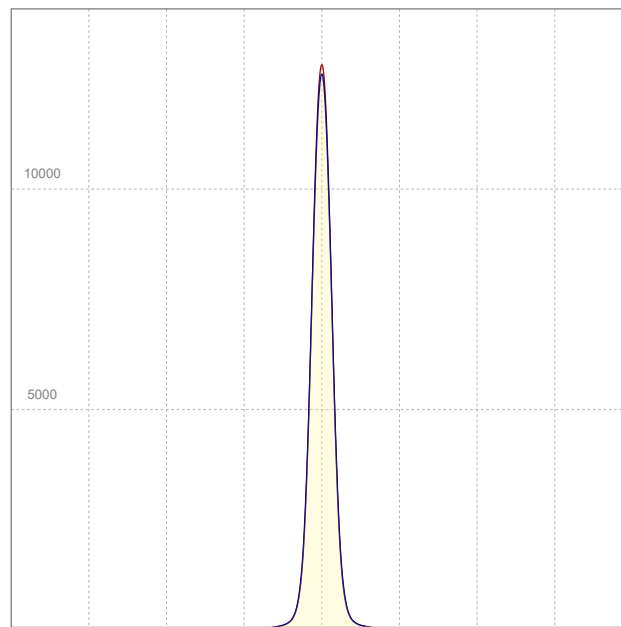
LM79-TOPAZ-EXPO-3500K-CRI98-THRIVE [NARROW]

General Discription

Item number	T-E-XLX-1B-3098-N
Date and time	12-9-2024 10:38:12
CCT (Kelvin)	3444 K
Beam angle	13,1°
Luminous flux	847 lm
Efficiency	75 lm/watt
Weighted energy	11,4 kWh/1000h
Power factor	0,89
CRI (RA)	95,7
Fidelity index Rf	Rf 97,3
Gammut index Rg	Rg 102,3
Peak	12805 cd



Polar curve



Linear distribution diagram



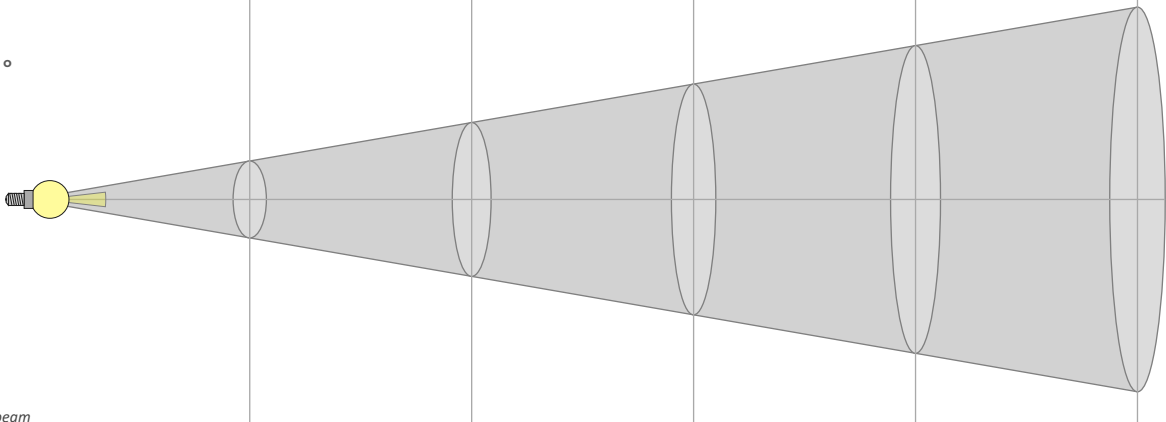
CLS LED BV
info@cls-led.com
www.cls-led.com

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-TOPAZ-EXPO-3500K-CRI98-THRIVE [NARROW]

Beam details				1m		2m		3m		4m		5m							
Lux*				12697 lx		3174 lx		1411 lx		794 lx		508 lx							
13° 																			
				*measured at center of beam															
				Footcandles*		1179,6 fcd		294,9 fcd		131,1 fcd		73,7 fcd		47,2 fcd					
				Beam width (meter)		0,2 m		0,5 m		0,7 m		0,9 m		1,1 m					
				Beam width (Feet)		0,8 ft		1,5 ft		2,3 ft		3 ft		3,8 ft					
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
12697lx	3174lx	1411lx	794lx	508lx	353lx	259lx	198lx	157lx	127lx	105lx	88lx	75lx	65lx	56lx	50lx	44lx	39lx	35lx	32lx
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
1179,6fcd	294,9fcd	131,1fcd	73,7fcd	47,2fcd	32,8fcd	24,1fcd	18,4fcd	14,6fcd	11,8fcd	9,7fcd	8,2fcd	7fcd	6fcd	5,2fcd	4,6fcd	4,1fcd	3,6fcd	3,3fcd	2,9fcd
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°
12,7K	12,6K	12,1K	11,2K	10,0K	8,6K	7,1K	5,6K	4,3K	3,2K	2,3K	1,6K	1,1K	0,8K	0,6K	0,4K	0,3K	0,3K	0,2K	0,2K
100%	99%	95%	88%	79%	68%	56%	44%	34%	25%	18%	13%	9%	6%	5%	3%	3%	2%	2%	1%
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°
12,7K	12,4K	11,9K	11,0K	9,9K	8,5K	7,1K	5,7K	4,4K	3,3K	2,4K	1,7K	1,2K	0,9K	0,6K	0,5K	0,3K	0,3K	0,2K	0,2K
100%	98%	93%	87%	78%	67%	56%	45%	34%	26%	19%	13%	10%	7%	5%	4%	3%	2%	2%	1%
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°
12,7K	12,6K	12,1K	11,2K	10,0K	8,6K	7,1K	5,6K	4,3K	3,2K	2,3K	1,6K	1,1K	0,8K	0,6K	0,4K	0,3K	0,3K	0,2K	0,2K
100%	99%	95%	88%	79%	68%	56%	44%	34%	25%	18%	13%	9%	6%	5%	3%	3%	2%	2%	1%
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°
12,7K	12,4K	11,9K	11,0K	9,9K	8,5K	7,1K	5,7K	4,4K	3,3K	2,4K	1,7K	1,2K	0,9K	0,6K	0,5K	0,3K	0,3K	0,2K	0,2K
100%	98%	93%	87%	78%	67%	56%	45%	34%	26%	19%	13%	10%	7%	5%	4%	3%	2%	2%	1%
Beam angle 50%				Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone			
13°				23,5°				32,4°				99,3%				98,1%			



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

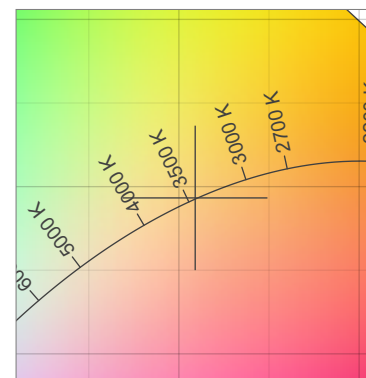
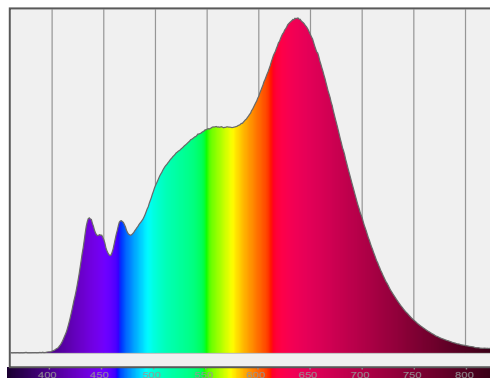
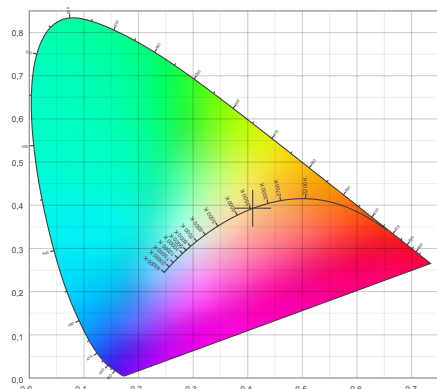
2021 CLS-LED BV. All rights reserved. Information subject to change without notice, CLS-LED BV and all affiliated companies disclaim liability for injury, damage direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information 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-TOPAZ-EXPO-3500K-CRI98-THRIVE [NARROW]

Color details



CIE 1931

x: 0,409



Spectra

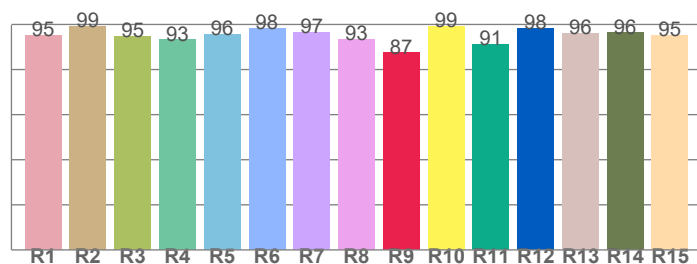
CIE 1931 ZOOM

3444 K

y: 0,393

Δuv : 0,0003

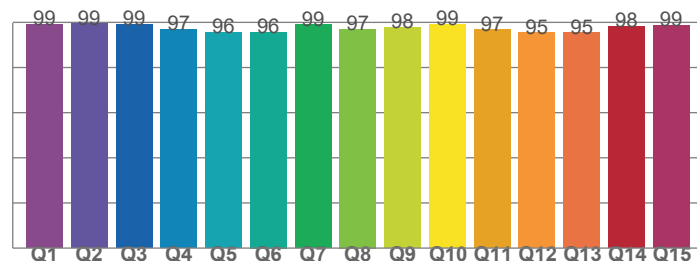
CRI: 95,7 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
95,1	99,1	94,9	93,2	95,6	98,2	96,6	93,3
R9	R10	R11	R12	R13	R14	R15	
87,5	99,2	91,0	98,3	96,1	96,3	95,0	

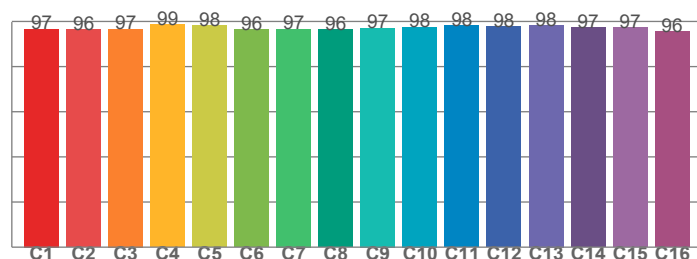
CQS: 97,1



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
99,0	99,4	99,1	96,8	95,5	95,7	98,9	97,1
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
97,7	99,2	96,7	95,3	95,4	98,3	98,6	

TM30: 97,3



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

C1	C2	C3	C4	C5	C6	C7	C8
96,6	96,4	96,7	98,5	98,1	96,4	96,7	96,3
C9	C10	C11	C12	C13	C14	C15	
97,2	97,6	98,4	97,8	98,4	97,4	97,3	

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
3444 K	95,7	87,5	97,3	102,3	97,1	0,409	0,393	0,237	0,342	0,0003



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-TOPAZ-EXPO-3500K-CRI98-THRIVE [NARROW]

TM30 details

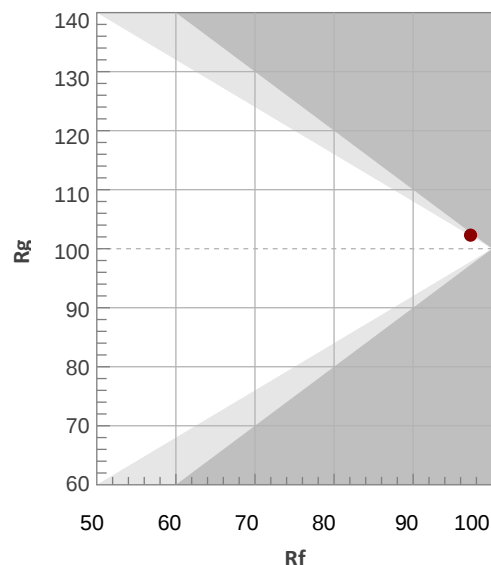
Rf 97,3

Fidelity index Rf

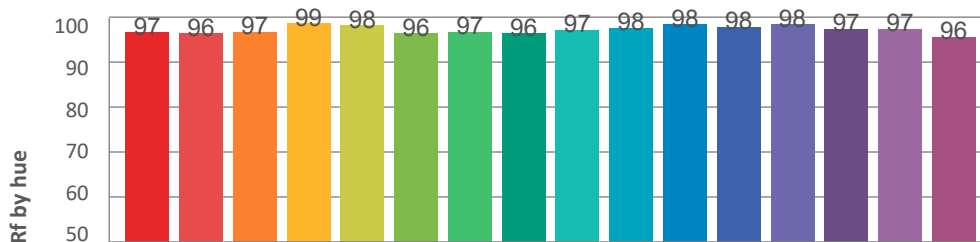
Rg 102,3

Gamut index Rg

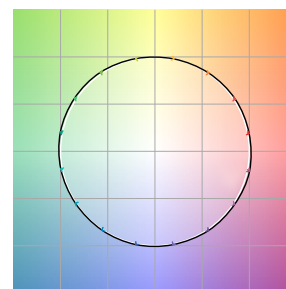
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	97	2%	-1%
2	96	1%	-1%
3	97	1%	-1%
4	99	0%	-1%
5	98	0%	1%
6	96	2%	2%
7	97	2%	1%
8	96	2%	0%
9	97	1%	-1%
10	98	1%	-1%
11	98	1%	0%
12	98	1%	-1%
13	98	1%	-1%
14	97	1%	1%
15	97	1%	0%
16	96	2%	-1%



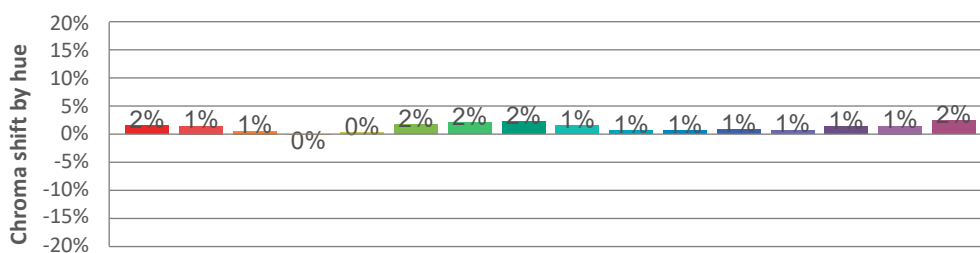
Hue binH



Color vector graphics



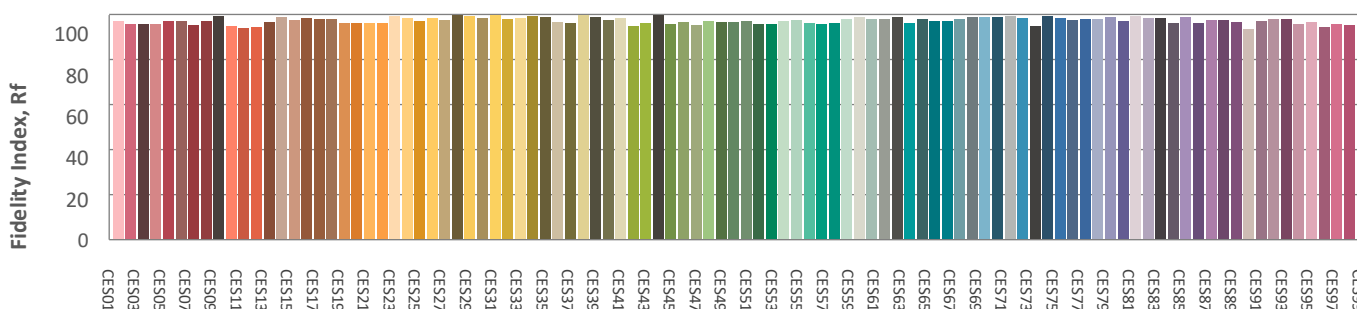
Hue bin



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-TOPAZ-EXPO-3500K-CRI98-THRIVE
[NARROW]

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 847lm 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