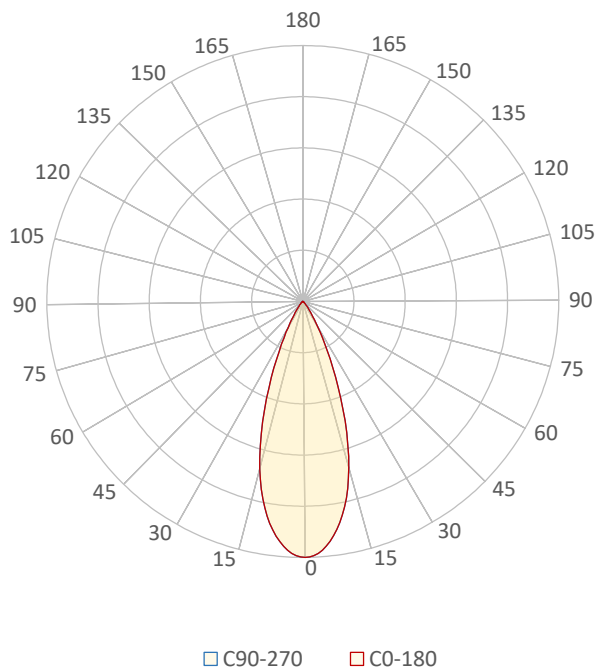


#### General Description

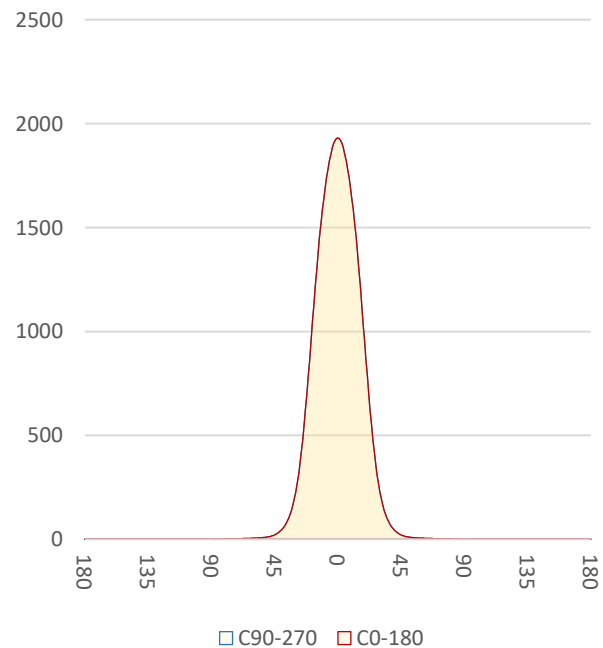
Item number	T-E-XLX-1B-3090-W
Date and time	16-2-2024 11:19:14
CCT (Kelvin)	3014 K
Beam angle	37,8°
Luminous flux	845 lm
Efficiency	79 lm/watt
Weighted energy	10,7 kWh/1000h
Power factor	0,99
CRI (RA)	93,5
Fidelity index Rf	Rf 91,2
Gammut index Rg	Rg 103,5
Peak	1931 cd



Polar diagram



Cartesian diagram



# LM-79

## Test Report

### LM79-TOPAZ-EXPO-3000K-CRI90-WIDE

Beam details	1m	2m	3m	4m	5m																			
Lux*	1931 lx	483 lx	215 lx	121 lx	77 lx																			
*measured at center of beam																								
Footcandles*	179,4 fcd	44,9 fcd	19,9 fcd	11,2 fcd	7,2 fcd																			
Beam width (meter)	0,7 m	1,4 m	2,1 m	2,7 m	3,4 m																			
Beam width (Feet)	2,2 ft	4,5 ft	6,7 ft	9 ft	11,2 ft																			
<b>Beam intensities</b>																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
1931lx	483lx	215lx	121lx	77lx	54lx	39lx	30lx	24lx	19lx	16lx	13lx	11lx	10lx	9lx	8lx	7lx	6lx	5lx	5lx					
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					
179,4fcd	44,9fcd	19,9fcd	11,2fcd	7,2fcd	5fcd	3,7fcd	2,8fcd	2,2fcd	1,8fcd	1,5fcd	1,2fcd	1,1fcd	0,9fcd	0,8fcd	0,7fcd	0,6fcd	0,6fcd	0,5fcd	0,4fcd					
<b>Intensities in 0° c-plane</b>																								
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°					
1931	1920	1881	1820	1739	1639	1520	1378	1218	1045	869	701	548	416	309	226	164	119	86	62					
100%	99%	97%	94%	90%	85%	79%	71%	63%	54%	45%	36%	28%	22%	16%	12%	9%	6%	4%	3%					
<b>Intensities in 90° c-plane</b>																								
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°					
1931	1920	1881	1820	1739	1639	1520	1378	1218	1045	869	701	548	416	309	226	164	119	86	62					
100%	99%	97%	94%	90%	85%	79%	71%	63%	54%	45%	36%	28%	22%	16%	12%	9%	6%	4%	3%					
<b>Intensities in 180° c-plane</b>																								
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°					
1931	1920	1881	1820	1739	1639	1520	1378	1218	1045	869	701	548	416	309	226	164	119	86	62					
100%	99%	97%	94%	90%	85%	79%	71%	63%	54%	45%	36%	28%	22%	16%	12%	9%	6%	4%	3%					
<b>Intensities in 270° c-plane</b>																								
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°					
1931	1920	1881	1820	1739	1639	1520	1378	1218	1045	869	701	548	416	309	226	164	119	86	62					
100%	99%	97%	94%	90%	85%	79%	71%	63%	54%	45%	36%	28%	22%	16%	12%	9%	6%	4%	3%					
<b>Beam angle 50%</b>					<b>Field angle 10%</b>					<b>Cutoff angle 2,5%</b>					<b>Intensity ratio in 120° cone</b>					<b>Intensity ratio in 90° cone</b>				
37,8°					62°					79,2°					99,2%					97,7%				



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

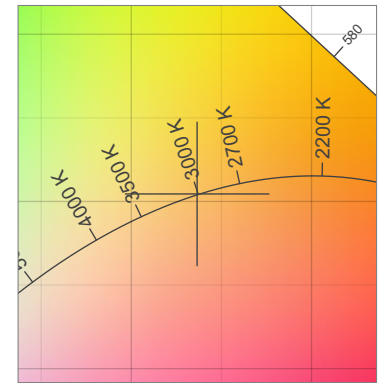
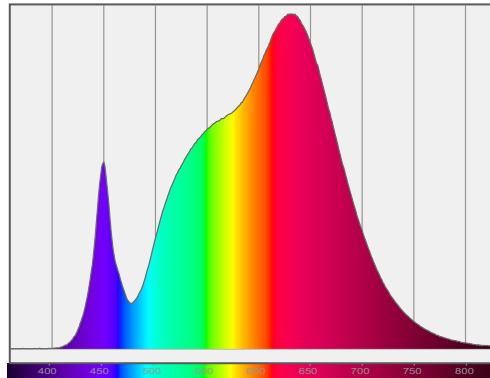
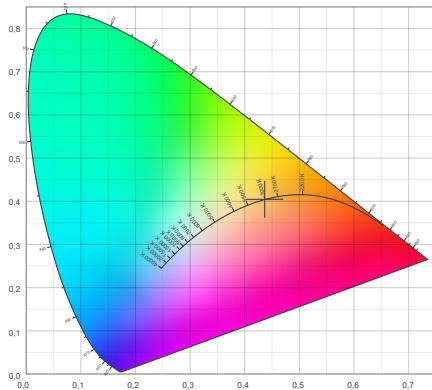
2021 CLS-LED BV. All rights reserved. Information subject to change without notice, CLS-LED BV and all affiliated companies disclaim liability for injury, damage direct or indirect loss, consequential or economic loss or any other loss occasioned by the use of, inability to use or reliance on the information 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](http://www.cls-led.com/voorwaarden.pdf)

# LM-79

## Test Report

### LM79-TOPAZ-EXPO-3000K-CRI90-WIDE

#### Color details



CIE 1931

x: 0,437



Spectra

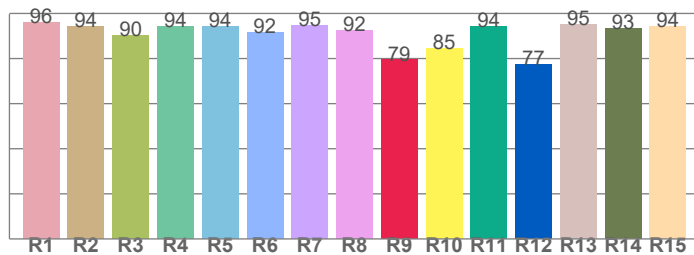
CIE 1931 ZOOM

3014 K

y: 0,404

$\Delta uv$ : 0,0003

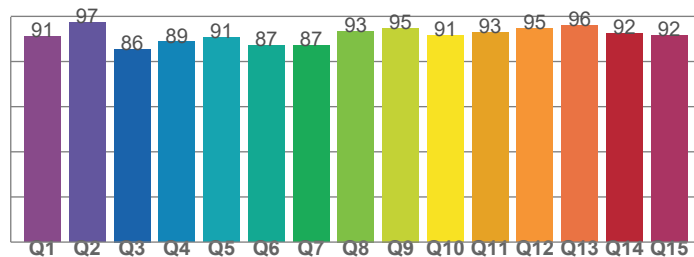
CRI: 93,5 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
96,0	94,3	90,1	94,3	94,3	91,8	94,9	92,4
R9	R10	R11	R12	R13	R14	R15	
79,4	84,7	94,3	77,4	95,3	93,4	94,2	

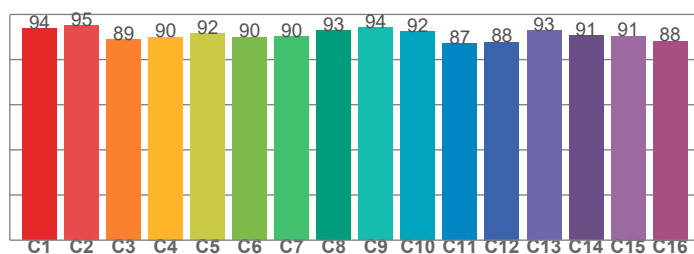
CQS: 90,9



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
91,1	97,2	85,5	88,7	90,5	87,1	87,1	93,5
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
94,9	91,5	93,1	94,7	95,8	92,4	91,7	

TM30: 91,2



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

C1	C2	C3	C4	C5	C6	C7	C8
93,8	95,1	88,9	90,0	91,6	89,9	90,1	92,8
C9	C10	C11	C12	C13	C14	C15	
94,2	92,4	87,1	87,8	92,9	90,5	90,5	

#### 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	$\Delta uv$
3014 K	93,5	79,4	91,2	103,5	90,9	0,437	0,404	0,250	0,348	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](http://www.cls-led.com/voorwaarden.pdf)

# LM-79

## Test Report

# LM79-TOPAZ-EXPO-3000K-CRI90-WIDE

### TM30 details

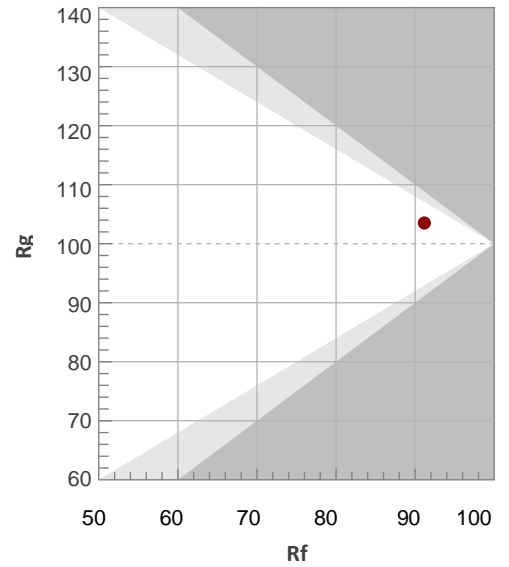
Rf 91,2

Fidelity index Rf

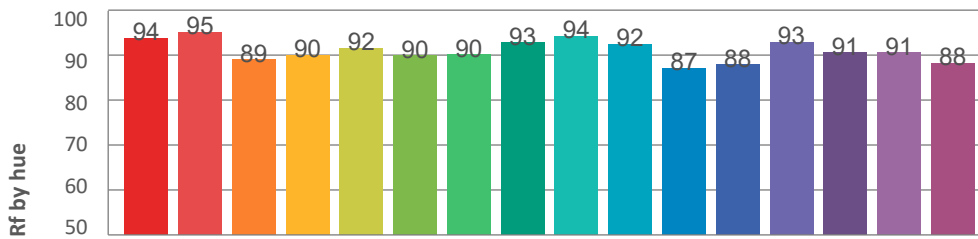
Rg 103,5

Gamut index Rg

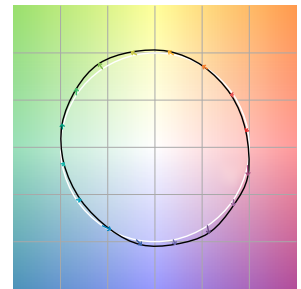
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	94	-2%	-2%
2	95	-2%	2%
3	89	0%	6%
4	90	2%	6%
5	92	4%	5%
6	90	7%	0%
7	90	4%	-5%
8	93	1%	-5%
9	94	-2%	-2%
10	92	-4%	3%
11	87	-1%	9%
12	88	4%	6%
13	93	5%	1%
14	91	7%	-3%
15	91	3%	-5%
16	88	2%	-9%



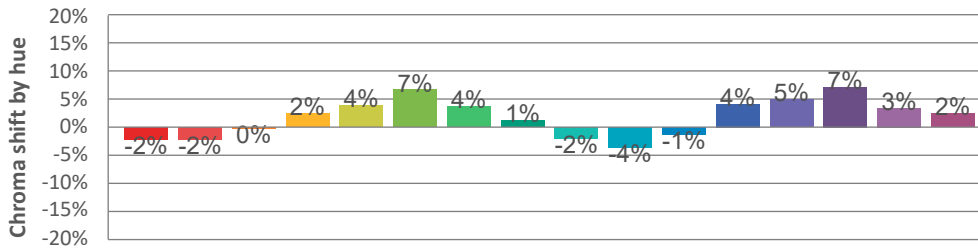
### Hue binH



### Color vector graphics



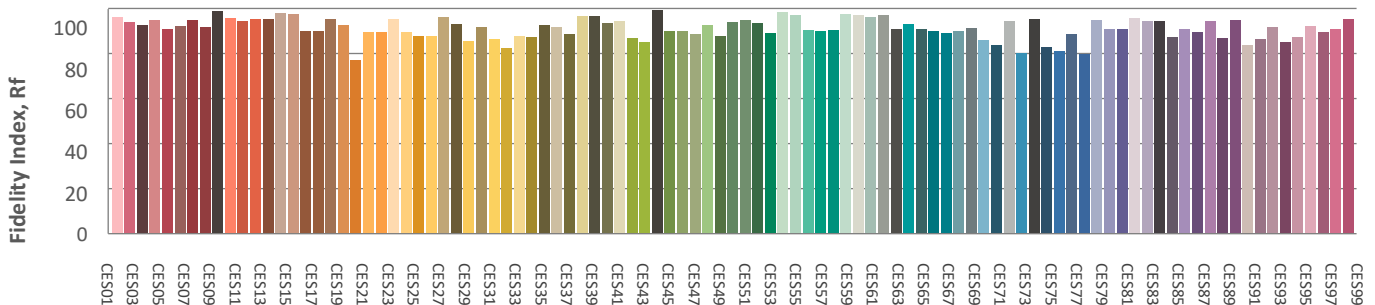
### Hue bin



### 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](http://www.cls-led.com/voorwaarden.pdf)

# LM-79

## Test Report

### LM79-TOPAZ-EXPO-3000K-CRI90-WIDE

#### 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	11,0	11,5	11,1	11,7	11,9	11,0	11,5	11,1	11,7	11,9
	3H	10,8	11,4	11,1	11,6	11,8	10,8	11,4	11,1	11,6	11,8
	4H	10,7	11,4	11,1	11,6	11,8	10,7	11,4	11,1	11,6	11,8
	6H	10,7	11,3	11,0	11,5	11,9	10,7	11,3	11,0	11,5	11,9
	8H	10,7	11,2	11,0	11,5	11,9	10,7	11,2	11,0	11,5	11,9
	12H	10,6	11,1	11,0	11,5	11,9	10,6	11,1	11,0	11,5	11,9
4H	2H	10,7	11,3	11,1	11,5	11,8	10,7	11,3	11,1	11,5	11,8
	3H	10,7	11,2	11,0	11,5	11,9	10,7	11,2	11,0	11,5	11,9
	4H	10,6	11,0	11,0	11,5	12,0	10,6	11,0	11,0	11,5	12,0
	6H	10,5	11,0	11,0	11,3	11,7	10,5	11,0	11,0	11,3	11,7
	8H	10,4	10,9	11,0	11,2	11,6	10,4	10,9	11,0	11,2	11,6
	12H	10,4	10,7	10,9	11,1	11,6	10,4	10,7	10,9	11,1	11,6
8H	4H	10,4	10,9	11,0	11,2	11,6	10,4	10,9	11,0	11,2	11,6
	6H	10,4	10,7	10,9	11,2	11,7	10,4	10,7	10,9	11,2	11,7
	8H	10,4	10,6	10,9	11,2	11,8	10,4	10,6	10,9	11,2	11,8
	12H	10,3	10,5	10,9	11,0	11,6	10,3	10,5	10,9	11,0	11,6
12H	4H	10,4	10,7	10,9	11,1	11,6	10,4	10,7	10,9	11,1	11,6
	6H	10,4	10,6	10,9	11,1	11,8	10,4	10,6	10,9	11,1	11,8
	8H	10,3	10,5	10,9	11,0	11,6	10,3	10,5	10,9	11,0	11,6
Variation of the observer position for the luminaire distance S											
S = 1.0H	5,4 / -6,9					5,4 / -6,9					
S = 1.5H	8,0 / -7,9					8,0 / -7,9					
S = 2.0H	9,9 / -8,9					9,9 / -8,9					
Standard table	n/a					n/a					
Correction summand	n/a					n/a					
Corrected glare indices referring to 845lm 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](http://www.cls-led.com/voorwaarden.pdf)