

LM-79

Test Report

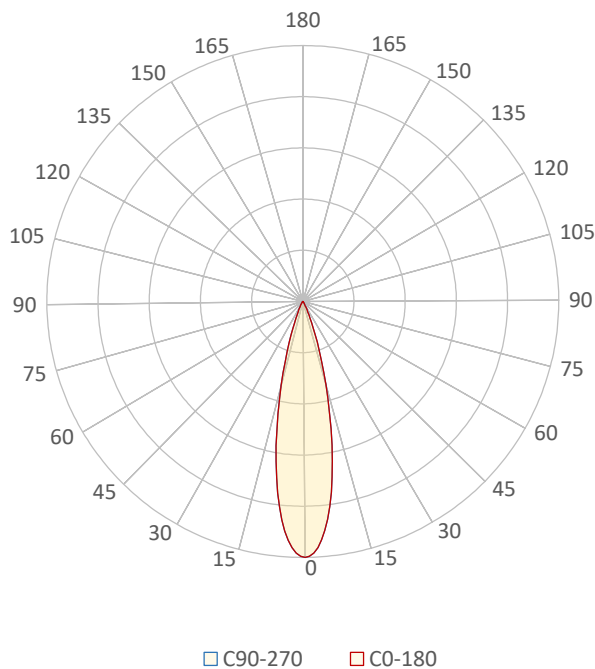
LM79-TOPAZ-EXPO-3500K-CRI90-MEDIUM

General Description

Item number	T-E-XLX-1B-3590-M
Date and time	16-2-2024 11:36:17
CCT (Kelvin)	3458 K
Beam angle	24,3°
Luminous flux	930 lm
Efficiency	87 lm/watt
Weighted energy	10,7 kWh/1000h
Power factor	0,99
CRI (RA)	94,5
Fidelity index Rf	Rf 91,7
Gammut index Rg	Rg 101,4
Peak	4544 cd



Polar diagram



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Beam details	1m	2m	3m	4m	5m														
Lux*	4544 lx	1136 lx	505 lx	284 lx	182 lx														
*measured at center of beam																			
Footcandles*	422,1 fcd	105,5 fcd	46,9 fcd	26,4 fcd	16,9 fcd														
Beam width (meter)	0,4 m	0,9 m	1,3 m	1,7 m	2,2 m														
Beam width (Feet)	1,4 ft	2,8 ft	4,2 ft	5,7 ft	7,1 ft														
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
4544lx	1136lx	505lx	284lx	182lx	126lx	93lx	71lx	56lx	45lx	38lx	32lx	27lx	23lx	20lx	18lx	16lx	14lx	13lx	11lx
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
422,1fcd	105,5fcd	46,9fcd	26,4fcd	16,9fcd	11,7fcd	8,6fcd	6,6fcd	5,2fcd	4,2fcd	3,5fcd	2,9fcd	2,5fcd	2,2fcd	1,9fcd	1,6fcd	1,5fcd	1,3fcd	1,2fcd	1,1fcd
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°
4544	4469	4249	3892	3425	2884	2318	1778	1310	926	626	406	259	166	109	74	54	41	32	27
100%	98%	94%	86%	75%	63%	51%	39%	29%	20%	14%	9%	6%	4%	2%	2%	1%	1%	1%	1%
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°
4544	4469	4249	3892	3425	2884	2318	1778	1310	926	626	406	259	166	109	74	54	41	32	27
100%	98%	94%	86%	75%	63%	51%	39%	29%	20%	14%	9%	6%	4%	2%	2%	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°
4544	4469	4249	3892	3425	2884	2318	1778	1310	926	626	406	259	166	109	74	54	41	32	27
100%	98%	94%	86%	75%	63%	51%	39%	29%	20%	14%	9%	6%	4%	2%	2%	1%	1%	1%	1%
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°
4544	4469	4249	3892	3425	2884	2318	1778	1310	926	626	406	259	166	109	74	54	41	32	27
100%	98%	94%	86%	75%	63%	51%	39%	29%	20%	14%	9%	6%	4%	2%	2%	1%	1%	1%	1%
Beam angle 50%		Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone					
24,3°		43°				55,6°				99,4%				98,2%					



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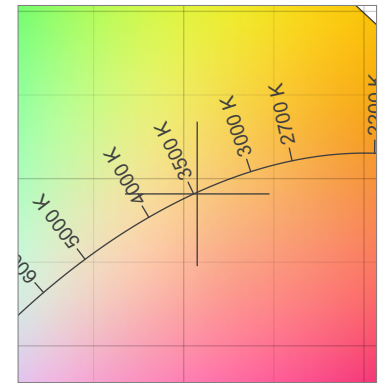
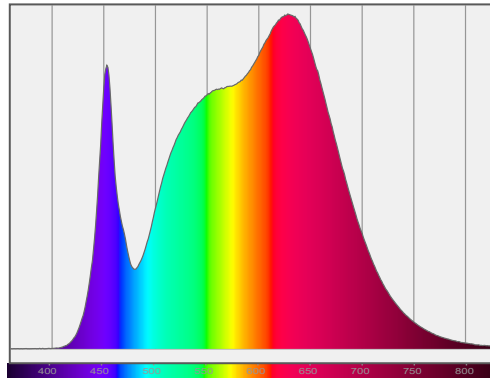
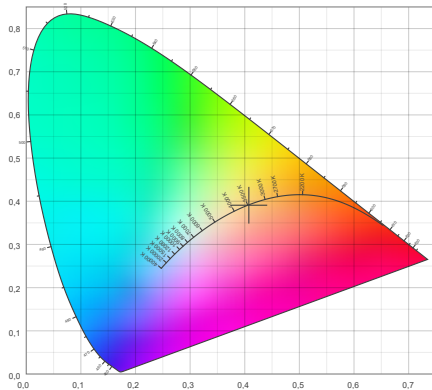
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Color details



CIE 1931

x: 0,407



Spectra

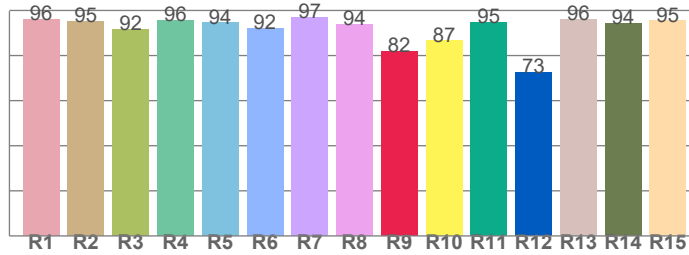
CIE 1931 ZOOM

3458 K

y: 0,391

$\Delta uv: -0,0004$

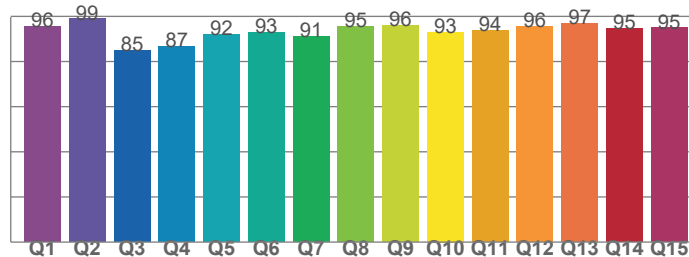
CRI: 94,5 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
96,2	95,3	91,6	95,5	94,5	92,1	96,8	93,7
R9	R10	R11	R12	R13	R14	R15	
82,0	86,5	94,6	72,6	95,9	94,4	95,4	

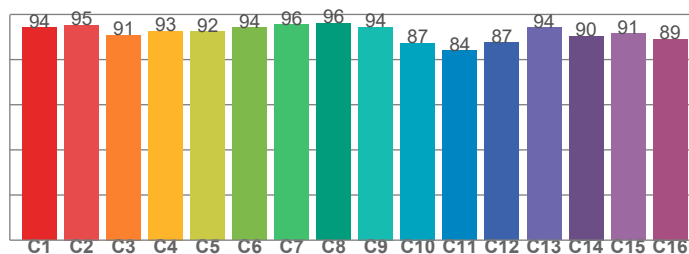
CQS: 92,6



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
95,6	98,9	85,0	86,6	92,1	92,8	91,0	95,4
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,0	93,1	93,8	95,6	96,9	94,7	94,9	

TM30: 91,7



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

C1	C2	C3	C4	C5	C6	C7	C8
94,1	95,4	90,9	92,7	92,4	94,3	95,6	96,1
C9	C10	C11	C12	C13	C14	C15	
94,4	87,4	84,1	87,5	94,3	90,5	91,5	

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	Δuv
3458 K	94,5	82,0	91,7	101,4	92,6	0,407	0,391	0,237	0,341	-0,0004



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TM30 details

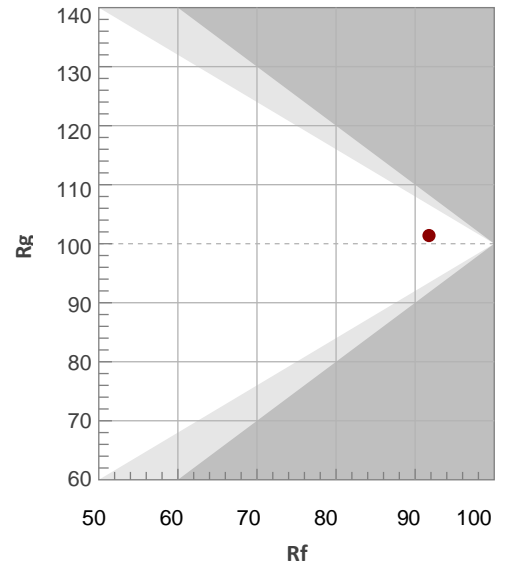
Rf 91,7

Fidelity index Rf

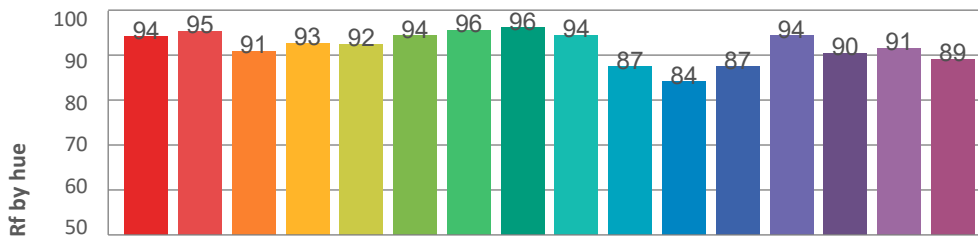
Rg 101,4

Gamut index Rg

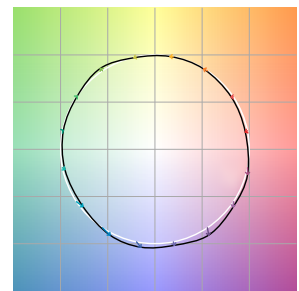
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	94	-3%	-1%
2	95	-2%	1%
3	91	-1%	4%
4	93	0%	3%
5	92	-1%	3%
6	94	3%	0%
7	96	0%	-1%
8	96	-1%	-1%
9	94	-2%	2%
10	87	-3%	8%
11	84	2%	11%
12	87	5%	6%
13	94	4%	0%
14	90	7%	-3%
15	91	3%	-5%
16	89	1%	-7%



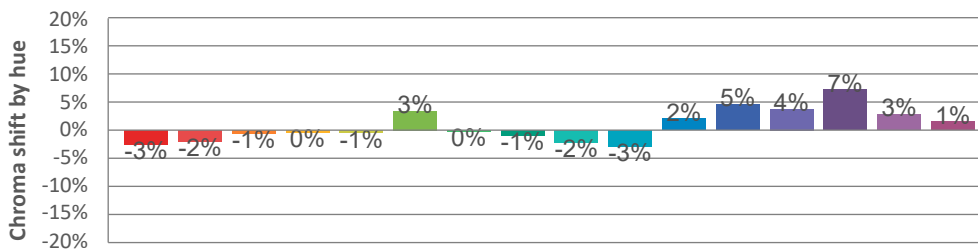
Hue binH



Color vector graphics



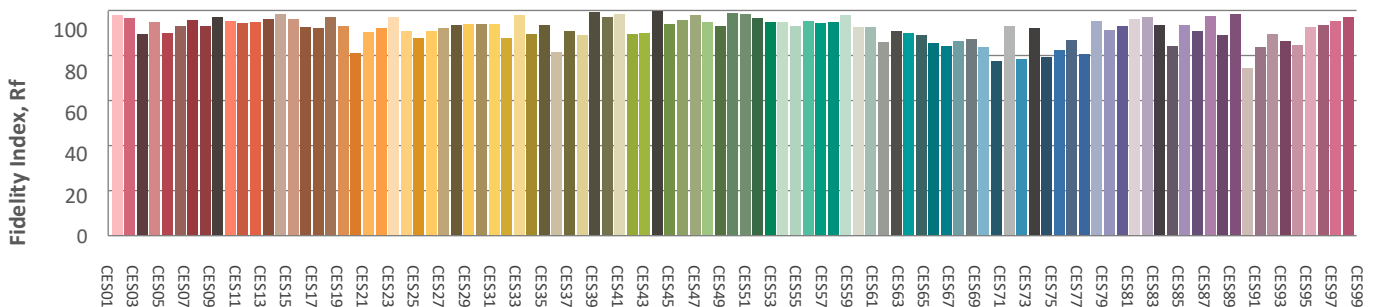
Hue bin



Color distortion graphics



Color Evaluation Sample



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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	5,2	5,6	5,3	5,8	6,0	5,2	5,6	5,3	5,8	6,0
	3H	5,1	5,7	5,5	5,9	6,0	5,1	5,7	5,5	5,9	6,0
	4H	5,1	5,7	5,5	5,9	6,1	5,1	5,7	5,5	5,9	6,1
	6H	5,2	5,6	5,5	5,9	6,3	5,2	5,6	5,5	5,9	6,3
	8H	5,2	5,6	5,5	5,9	6,3	5,2	5,6	5,5	5,9	6,3
	12H	5,1	5,5	5,5	5,9	6,3	5,1	5,5	5,5	5,9	6,3
4H	2H	5,0	5,6	5,4	5,8	6,0	5,0	5,6	5,4	5,8	6,0
	3H	5,2	5,6	5,6	6,0	6,4	5,2	5,6	5,6	6,0	6,4
	4H	5,2	5,6	5,6	6,0	6,5	5,2	5,6	5,6	6,0	6,5
	6H	5,2	5,6	5,7	6,0	6,3	5,2	5,6	5,7	6,0	6,3
	8H	5,2	5,6	5,7	5,9	6,3	5,2	5,6	5,7	5,9	6,3
	12H	5,1	5,4	5,6	5,8	6,3	5,1	5,4	5,6	5,8	6,3
8H	4H	5,1	5,5	5,6	5,9	6,2	5,1	5,5	5,6	5,9	6,2
	6H	5,2	5,4	5,7	5,9	6,4	5,2	5,4	5,7	5,9	6,4
	8H	5,2	5,4	5,7	5,9	6,5	5,2	5,4	5,7	5,9	6,5
	12H	5,2	5,3	5,8	5,8	6,4	5,2	5,3	5,8	5,8	6,4
12H	4H	5,0	5,4	5,5	5,8	6,2	5,0	5,4	5,5	5,8	6,2
	6H	5,2	5,4	5,7	5,9	6,5	5,2	5,4	5,7	5,9	6,5
	8H	5,1	5,3	5,7	5,8	6,4	5,1	5,3	5,7	5,8	6,4
Variation of the observer position for the luminaire distance S											
S = 1.0H	3,2 / -2,6					3,2 / -2,6					
S = 1.5H	5,4 / -3,8					5,4 / -3,8					
S = 2.0H	7,2 / -4,8					7,2 / -4,8					
Standard table	n/a					n/a					
Correction summand	n/a					n/a					
Corrected glare indices referring to 930lm total luminous flux											



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