

LM-79

Test Report

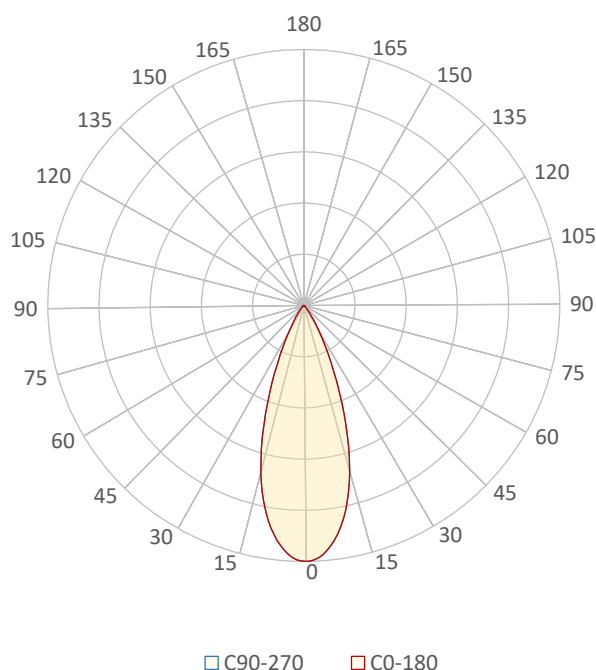
LM79-TOPAZ-EXPO-4000K-CRI90 [WIDE]

General Discription

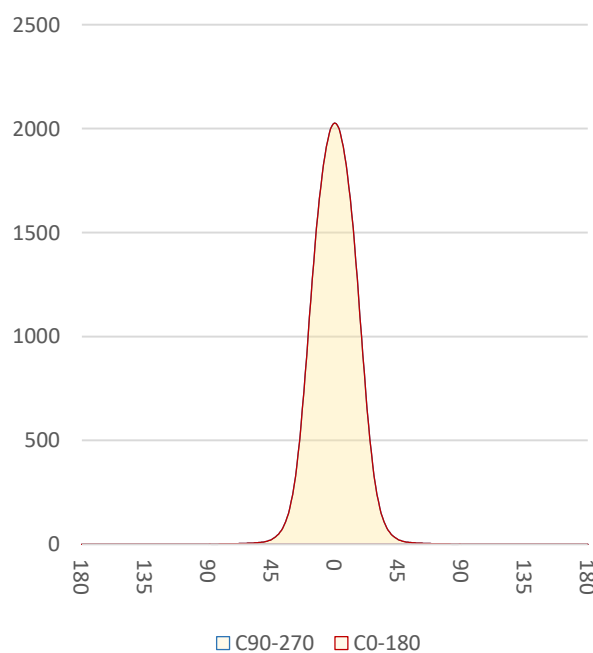
Item number	T-E-XLX-1B-4090-W
Date and time	16-2-2024 12:28:14
CCT (Kelvin)	3974 K
Beam angle	37,7°
Luminous flux	889 lm
Efficiency	84 lm/watt
Weighted energy	10,6 kWh/1000h
Power factor	0,99
CRI (RA)	95,0
Fidelity index Rf	Rf 92,0
Gammut index Rg	Rg 100,8
Peak	2027 cd



Polar diagram



Cartesian diagram



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Beam details	1m	2m	3m	4m	5m
Lux*	2027 lx	507 lx	225 lx	127 lx	81 lx

*measured at center of beam

Footcandles*	188,3 fcd	47,1 fcd	20,9 fcd	11,8 fcd	7,5 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

Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
2027lx	507lx	225lx	127lx	81lx	56lx	41lx	32lx	25lx	20lx	17lx	14lx	12lx	10lx	9lx	8lx	7lx	6lx	6lx	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
188,3fcd	47,1fcd	20,9fcd	11,8fcd	7,5fcd	5,2fcd	3,8fcd	2,9fcd	2,3fcd	1,9fcd	1,6fcd	1,3fcd	1,1fcd	1fcd	0,8fcd	0,7fcd	0,7fcd	0,6fcd	0,5fcd	0,5fcd

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°
2027	2015	1976	1912	1827	1722	1594	1444	1275	1093	909	734	575	438	327	241	175	127	93	67
100%	99%	98%	94%	90%	85%	79%	71%	63%	54%	45%	36%	28%	22%	16%	12%	9%	6%	5%	3%

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°
2027	2015	1976	1912	1827	1722	1594	1444	1275	1093	909	734	575	438	327	241	175	127	93	67
100%	99%	98%	94%	90%	85%	79%	71%	63%	54%	45%	36%	28%	22%	16%	12%	9%	6%	5%	3%

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°
2027	2015	1976	1912	1827	1722	1594	1444	1275	1093	909	734	575	438	327	241	175	127	93	67
100%	99%	98%	94%	90%	85%	79%	71%	63%	54%	45%	36%	28%	22%	16%	12%	9%	6%	5%	3%

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°
2027	2015	1976	1912	1827	1722	1594	1444	1275	1093	909	734	575	438	327	241	175	127	93	67
100%	99%	98%	94%	90%	85%	79%	71%	63%	54%	45%	36%	28%	22%	16%	12%	9%	6%	5%	3%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
37,7°	62,2°	79,7°	99,2%	97,6%



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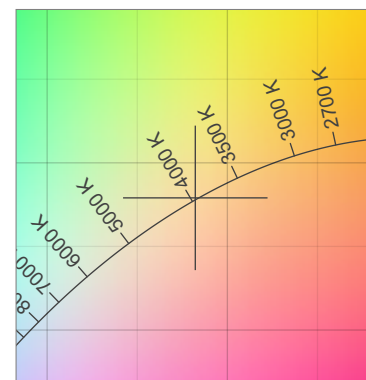
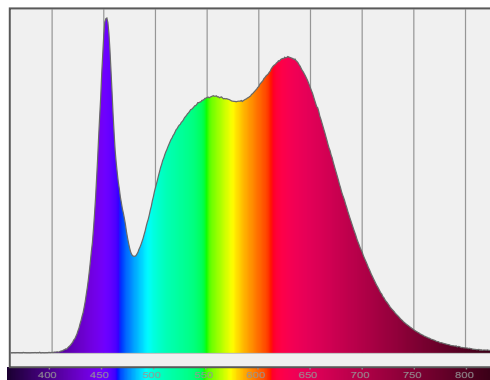
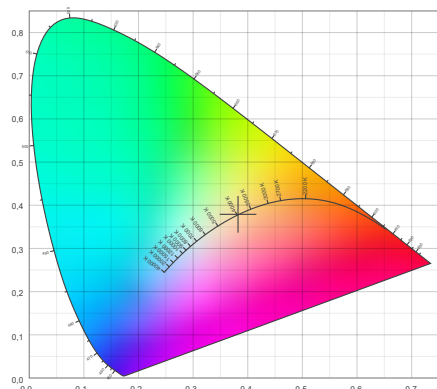
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Color details



CIE 1931

x: 0,382

3974 K

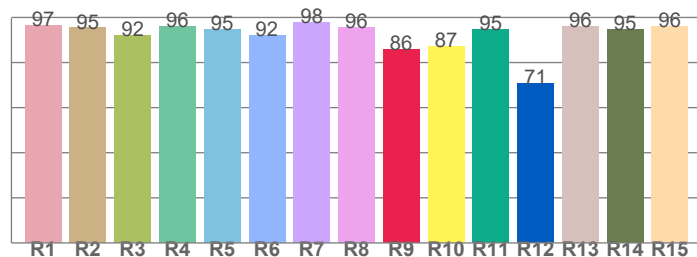
y: 0,379

Spectra

CIE 1931 ZOOM

Δuv : 0,0006

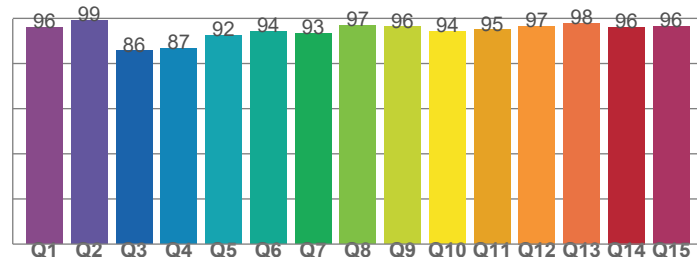
CRI: 95,0 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
96,5	95,4	91,9	96,2	94,7	91,9	97,6	95,6
R9	R10	R11	R12	R13	R14	R15	
86,0	87,1	94,9	70,6	96,2	94,8	95,9	

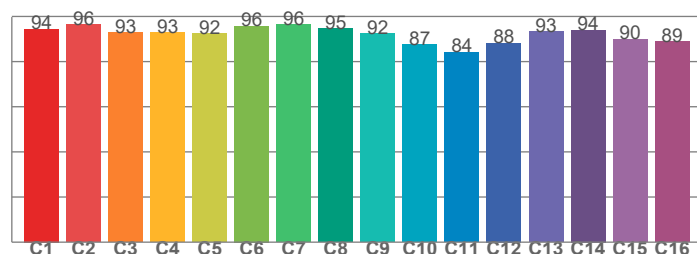
CQS: 93,3



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
96,1	99,2	85,6	86,7	92,3	94,1	93,2	96,9
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,2	94,2	94,9	96,6	97,8	96,2	96,3	

TM30: 92,0



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

C1	C2	C3	C4	C5	C6	C7	C8
94,5	96,3	92,9	93,0	92,4	95,7	96,3	94,8
C9	C10	C11	C12	C13	C14	C15	
92,4	87,4	84,2	88,3	93,3	94,0	89,9	

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
3974 K	95,0	86,0	92,0	100,8	93,3	0,382	0,379	0,225	0,335	0,0006



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TM30 details

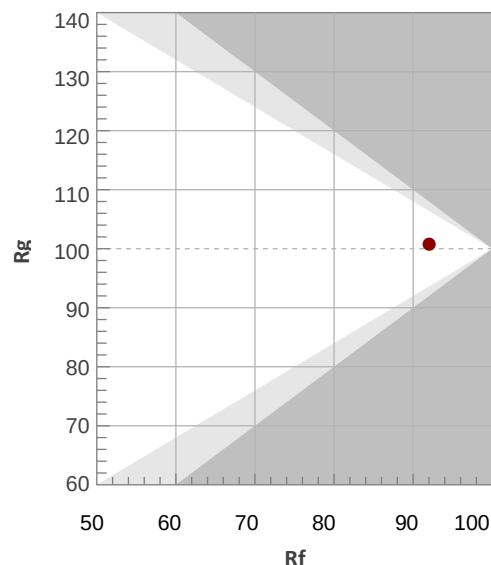
Rf 92,0

Fidelity index Rf

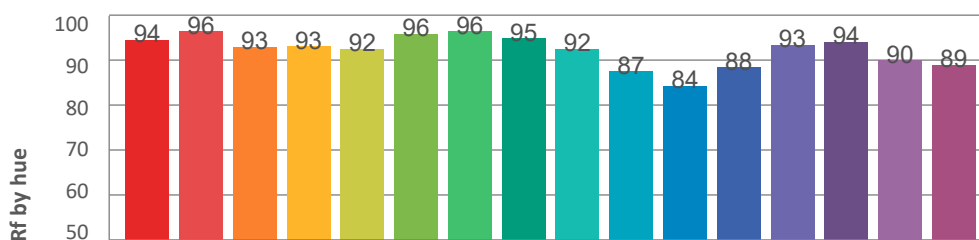
Rg 100,8

Gamut index Rg

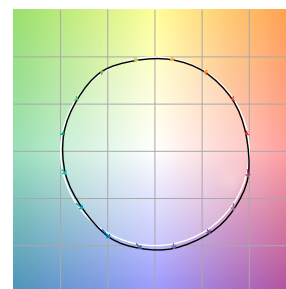
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	94	-2%	-1%
2	96	-1%	0%
3	93	-1%	3%
4	93	-1%	2%
5	92	-2%	2%
6	96	2%	1%
7	96	-1%	0%
8	95	-2%	1%
9	92	-2%	5%
10	87	-3%	8%
11	84	3%	11%
12	88	4%	5%
13	93	5%	0%
14	94	4%	0%
15	90	4%	-5%
16	89	2%	-7%



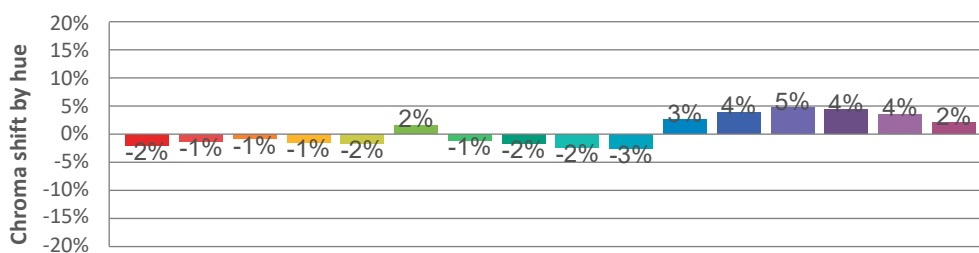
Hue binH



Color vector graphics



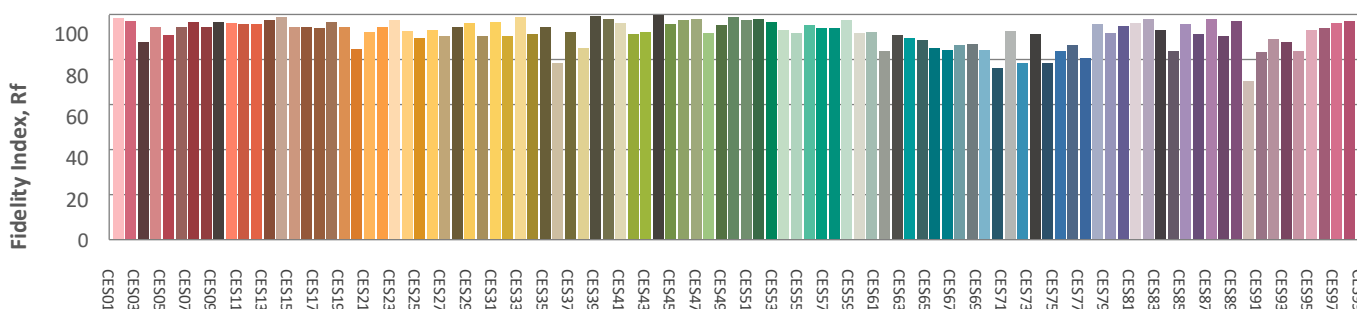
Hue bin



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	11,3	11,8	11,4	12,0	12,2	11,3	11,8	11,4	12,0	12,2
	3H	11,1	11,8	11,5	12,0	12,1	11,1	11,8	11,5	12,0	12,1
	4H	11,0	11,7	11,4	11,9	12,1	11,0	11,7	11,4	11,9	12,1
	6H	11,1	11,6	11,3	11,9	12,2	11,1	11,6	11,3	11,9	12,2
	8H	11,0	11,5	11,3	11,8	12,2	11,0	11,5	11,3	11,8	12,2
	12H	10,9	11,4	11,3	11,8	12,2	10,9	11,4	11,3	11,8	12,2
4H	2H	11,0	11,6	11,4	11,9	12,1	11,0	11,6	11,4	11,9	12,1
	3H	11,0	11,5	11,3	11,8	12,3	11,0	11,5	11,3	11,8	12,3
	4H	10,9	11,3	11,3	11,8	12,3	10,9	11,3	11,3	11,8	12,3
	6H	10,8	11,3	11,3	11,7	12,0	10,8	11,3	11,3	11,7	12,0
	8H	10,8	11,2	11,3	11,6	11,9	10,8	11,2	11,3	11,6	11,9
	12H	10,7	11,1	11,2	11,5	11,9	10,7	11,1	11,2	11,5	11,9
8H	4H	10,8	11,2	11,3	11,6	11,9	10,8	11,2	11,3	11,6	11,9
	6H	10,7	11,0	11,2	11,5	12,0	10,7	11,0	11,2	11,5	12,0
	8H	10,7	11,0	11,2	11,5	12,1	10,7	11,0	11,2	11,5	12,1
	12H	10,7	10,9	11,2	11,4	12,0	10,7	10,9	11,2	11,4	12,0
12H	4H	10,7	11,1	11,2	11,5	11,9	10,7	11,1	11,2	11,5	11,9
	6H	10,7	10,9	11,2	11,5	12,1	10,7	10,9	11,2	11,5	12,1
	8H	10,7	10,9	11,2	11,4	12,0	10,7	10,9	11,2	11,4	12,0
Variation of the observer position for the luminaire distance S											
S = 1.0H		5,3 / -6,9					5,3 / -6,9				
S = 1.5H		8,0 / -7,9					8,0 / -7,9				
S = 2.0H		9,9 / -9,0					9,9 / -9,0				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 889lm total luminous flux											



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