

LM-79

Test Report

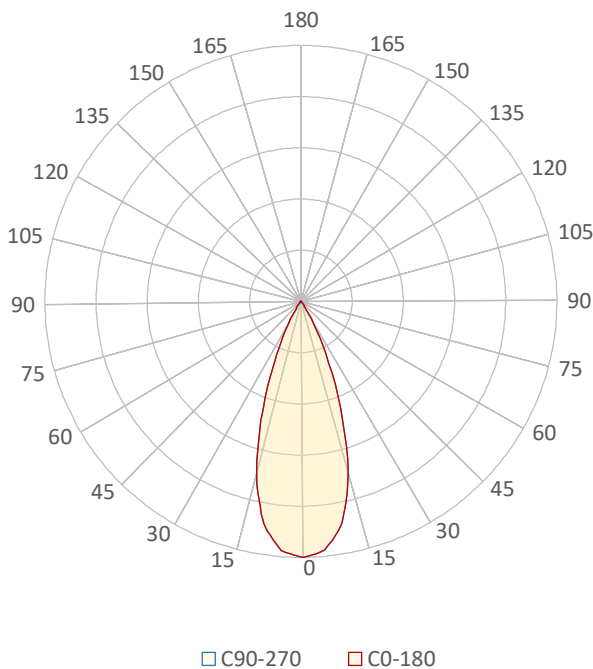
LM79-OTIS-XL-3000K-CRI80-MEDIUM

General Description

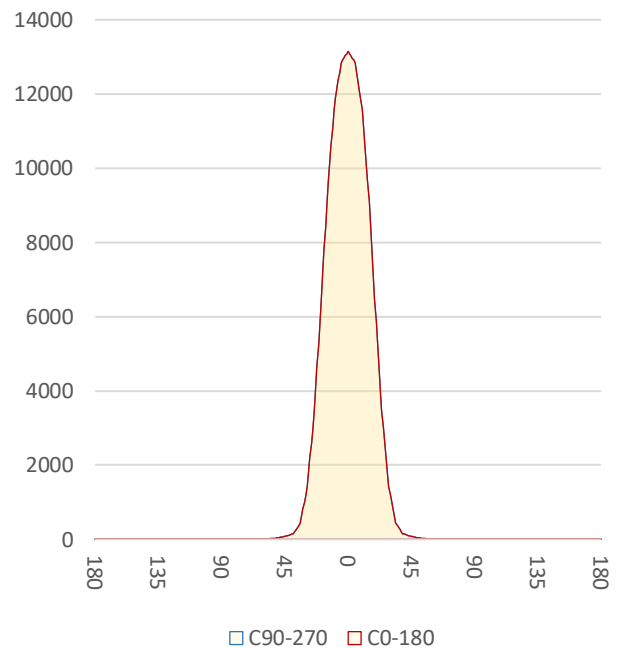
Item number	
Date and time	28-8-2019 16:05:22
CCT (Kelvin)	3046 K
Beam angle	37,7°
Luminous flux	5356 lm
Efficiency	97 lm/watt
Weighted energy	55,3 kWh/1000h
Power factor	0,99
CRI (RA)	80,6
Fidelity index Rf	Rf 84,1
Gammut index Rg	Rg 94,6
Peak	13147 cd



Polar diagram



Cartesian diagram



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Beam details	1m	2m	3m	4m	5m																			
Lux*	13147 lx	3287 lx	1461 lx	822 lx	526 lx																			
*measured at center of beam																								
Footcandles*	1221,4 fcd	305,4 fcd	135,7 fcd	76,3 fcd	48,9 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					
13147lx	3287lx	1461lx	822lx	526lx	365lx	268lx	205lx	162lx	131lx	109lx	91lx	78lx	67lx	58lx	51lx	45lx	41lx	36lx	33lx					
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					
1221,4fcd	305,4fcd	135,7fcd	76,3fcd	48,9fcd	33,9fcd	24,9fcd	19,1fcd	15,1fcd	12,2fcd	10,1fcd	8,5fcd	7,2fcd	6,2fcd	5,4fcd	4,8fcd	4,2fcd	3,8fcd	3,4fcd	3,1fcd					
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°					
13,1K	13,1K	13,0K	12,7K	12,3K	11,6K	10,9K	9,8K	8,5K	7,2K	5,8K	4,5K	3,4K	2,5K	1,7K	1,1K	0,6K	0,4K	0,3K	0,2K					
100%	100%	99%	97%	94%	88%	83%	74%	64%	54%	44%	34%	26%	19%	13%	9%	5%	3%	2%	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°					
13,1K	13,1K	13,0K	12,7K	12,3K	11,6K	10,9K	9,8K	8,5K	7,2K	5,8K	4,5K	3,4K	2,5K	1,7K	1,1K	0,6K	0,4K	0,3K	0,2K					
100%	100%	99%	97%	94%	88%	83%	74%	64%	54%	44%	34%	26%	19%	13%	9%	5%	3%	2%	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°					
13,1K	13,1K	13,0K	12,7K	12,3K	11,6K	10,9K	9,8K	8,5K	7,2K	5,8K	4,5K	3,4K	2,5K	1,7K	1,1K	0,6K	0,4K	0,3K	0,2K					
100%	100%	99%	97%	94%	88%	83%	74%	64%	54%	44%	34%	26%	19%	13%	9%	5%	3%	2%	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°					
13,1K	13,1K	13,0K	12,7K	12,3K	11,6K	10,9K	9,8K	8,5K	7,2K	5,8K	4,5K	3,4K	2,5K	1,7K	1,1K	0,6K	0,4K	0,3K	0,2K					
100%	100%	99%	97%	94%	88%	83%	74%	64%	54%	44%	34%	26%	19%	13%	9%	5%	3%	2%	1%					
Beam angle 50%					Field angle 10%					Cutoff angle 2,5%					Intensity ratio in 120° cone					Intensity ratio in 90° cone				
37,7°					58,6°					70,5°					99,2%					98,5%				



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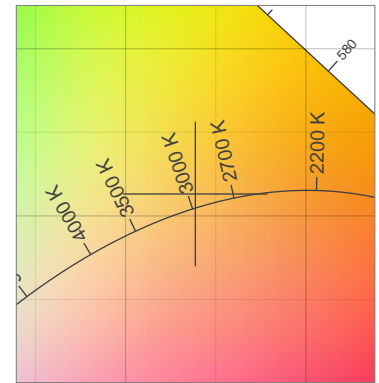
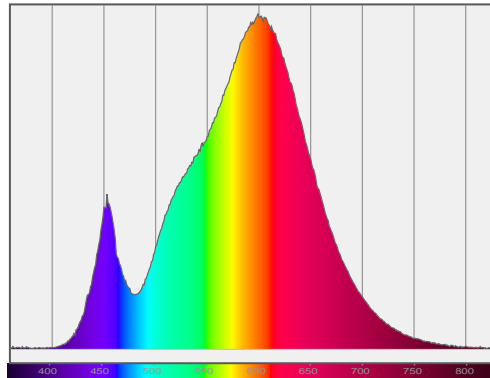
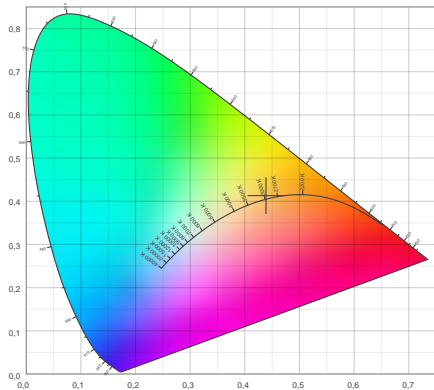
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Color details



CIE 1931

x: 0,439



Spectra

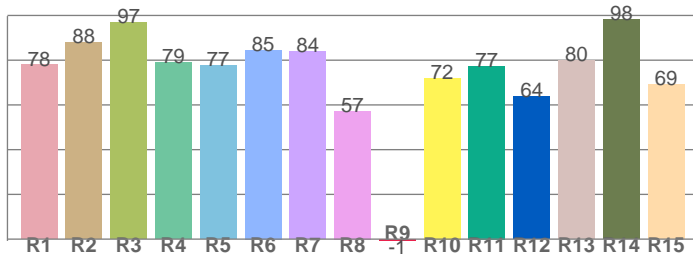
CIE 1931 ZOOM

3046 K

y: 0,413

Δuv : 0,0033

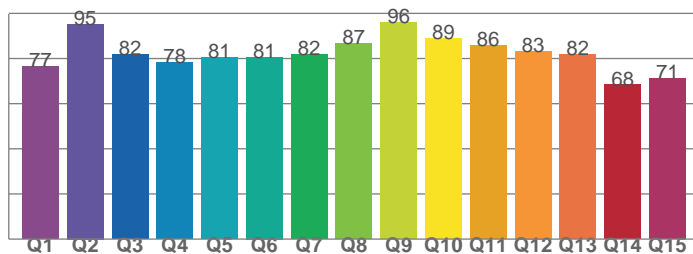
CRI: 80,6 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
77,9	87,8	96,8	79,0	77,5	84,6	83,8	57,3
R9	R10	R11	R12	R13	R14	R15	
-0,8	72,1	77,4	63,9	80,0	98,2	69,3	

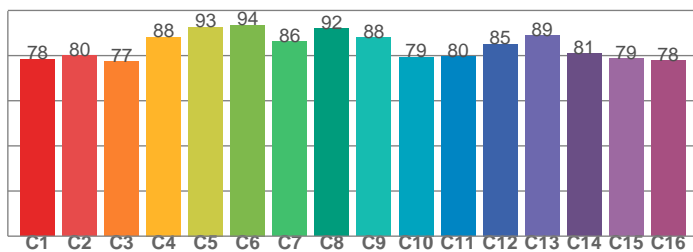
CQS: 80,9



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
76,5	95,3	82,0	78,3	80,5	80,7	81,7	86,6
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
95,9	88,8	85,7	83,3	81,7	68,3	71,3	

TM30: 84,1



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

C1	C2	C3	C4	C5	C6	C7	C8
78,4	80,0	77,3	88,2	92,6	93,6	86,3	91,9
C9	C10	C11	C12	C13	C14	C15	
87,9	79,4	79,7	85,1	88,9	80,8	78,6	

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
3046 K	80,6	-0,8	84,1	94,6	80,9	0,439	0,413	0,248	0,350	0,0033



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TM30 details

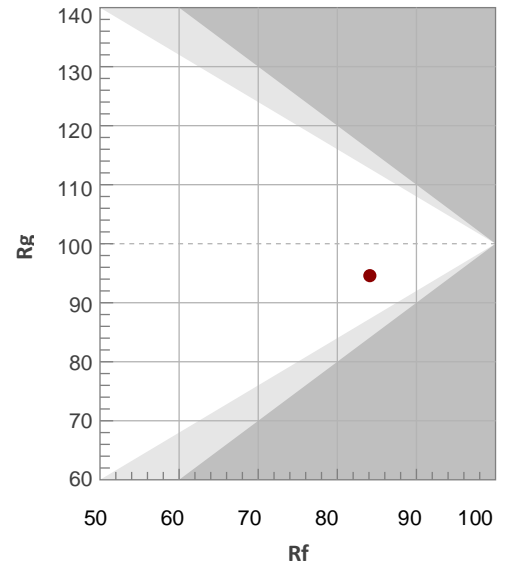
Rf 84,1

Fidelity index Rf

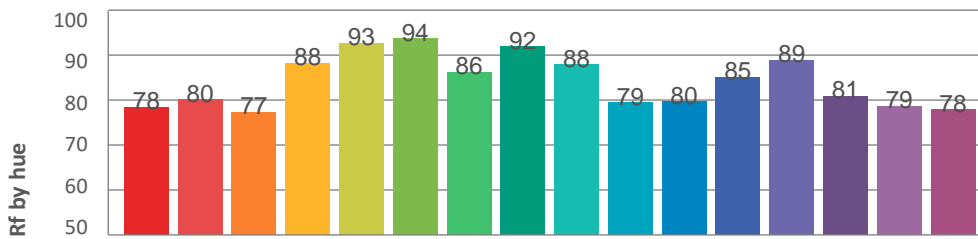
Rg 94,6

Gamut index Rg

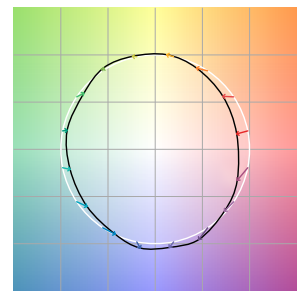
Hue Bin	R _t	Graphic shifts (%)	
		Chroma	Hue
1	78	-12%	-1%
2	80	-9%	7%
3	77	-4%	11%
4	88	1%	8%
5	93	1%	4%
6	94	2%	-2%
7	86	-4%	-7%
8	92	-5%	-2%
9	88	-7%	3%
10	79	-6%	10%
11	80	-2%	15%
12	85	6%	5%
13	89	5%	-6%
14	81	5%	-15%
15	79	-3%	-14%
16	78	-8%	-15%



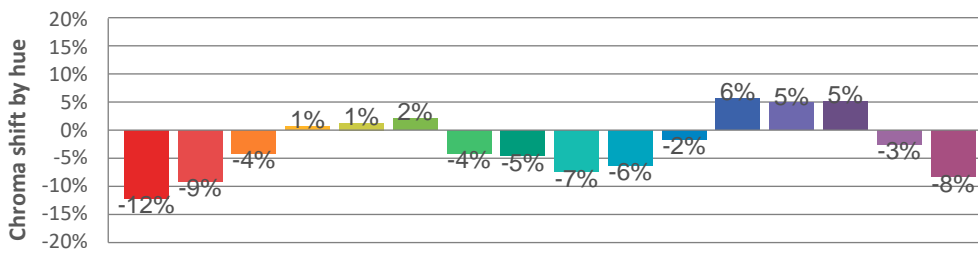
Hue binH



Color vector graphics



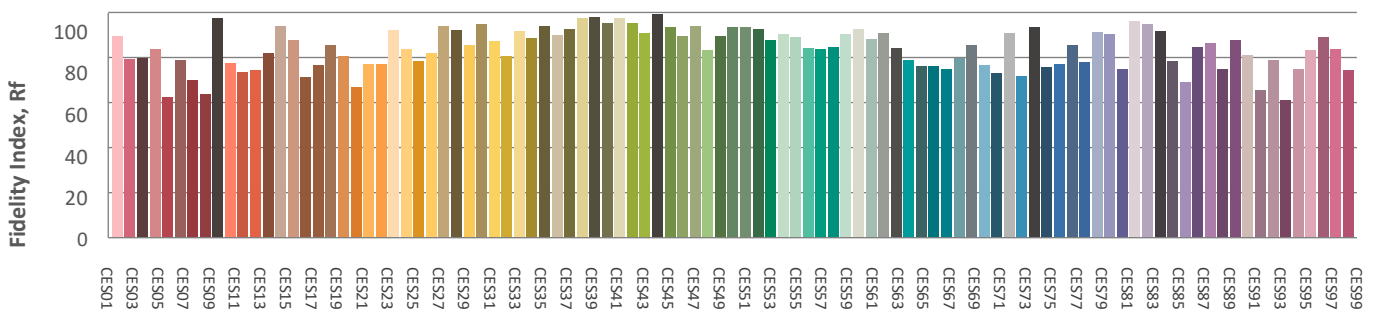
Hue bin



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				
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	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 5356lm total luminous flux										



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