

LM-79

Test Report

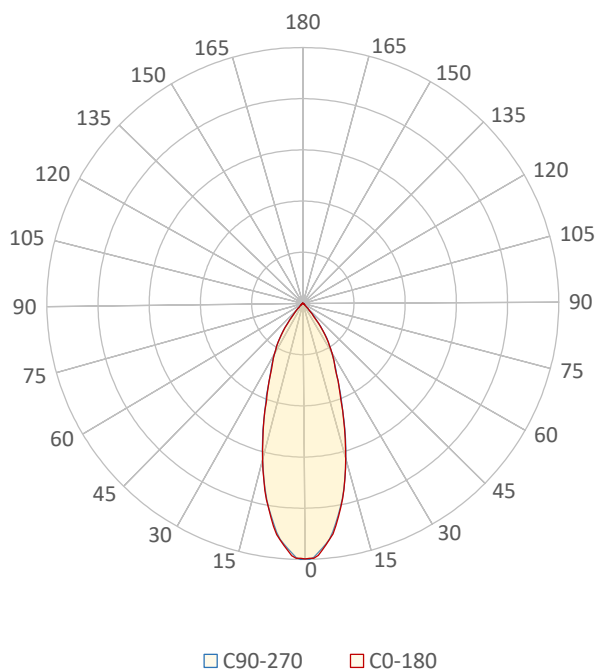
LM79-MIKA-3000K-CRI80-MEDIUM

General Discription

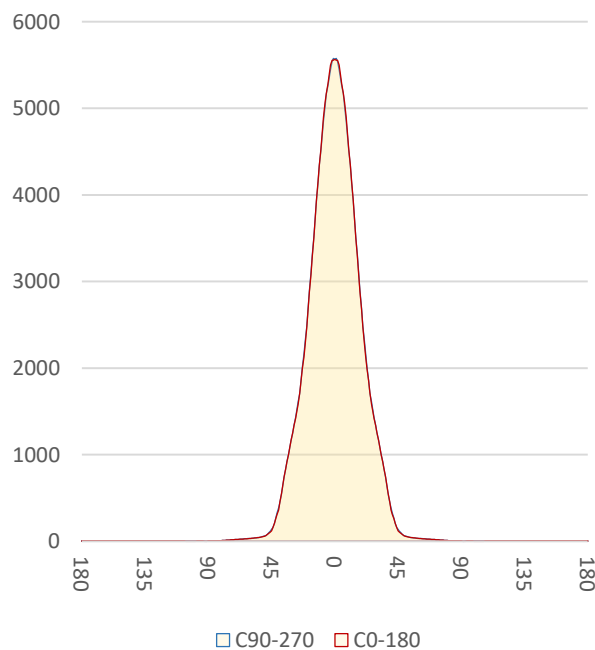
Item number	M-XXX-3-1-3080-2
Date and time	25-11-2016 13:41:37
CCT (Kelvin)	3097 K
Beam angle	37°
Luminous flux	2973 lm
Efficiency	105 lm/watt
Weighted energy	28,4 kWh/1000h
Power factor	0,99
CRI (RA)	81,5
Fidelity index Rf	Rf 82,8
Gammut index Rg	Rg 95,8
Peak	5576 cd



Polar diagram



Cartesian diagram



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Beam details	1m	2m	3m	4m	5m
Lux*	5566 lx	1391 lx	618 lx	348 lx	223 lx

37°

*measured at center of beam

Footcandles*	517,1 fcd	129,3 fcd	57,5 fcd	32,3 fcd	20,7 fcd
Beam width (meter)	0,7 m	1,3 m	2 m	2,7 m	3,3 m
Beam width (Feet)	2,2 ft	4,4 ft	6,6 ft	8,8 ft	11 ft

Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
5566lx	1391lx	618lx	348lx	223lx	155lx	114lx	87lx	69lx	56lx	46lx	39lx	33lx	28lx	25lx	22lx	19lx	17lx	15lx	14lx
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
517,1fcd	129,3fcd	57,5fcd	32,3fcd	20,7fcd	14,4fcd	10,6fcd	8,1fcd	6,4fcd	5,2fcd	4,3fcd	3,6fcd	3,1fcd	2,6fcd	2,3fcd	2fcd	1,8fcd	1,6fcd	1,4fcd	1,3fcd

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°
5566	5555	5392	5175	4896	4528	4156	3722	3287	2878	2477	2127	1854	1586	1421	1255	1089	921	745	552
100%	100%	97%	93%	88%	81%	75%	67%	59%	52%	45%	38%	33%	28%	26%	23%	20%	17%	13%	10%

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°
5566	5539	5353	5167	4850	4511	4133	3719	3305	2895	2484	2163	1860	1616	1431	1250	1087	924	738	545
100%	100%	96%	93%	87%	81%	74%	67%	59%	52%	45%	39%	33%	29%	26%	22%	20%	17%	13%	10%

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°
5566	5555	5392	5175	4896	4528	4156	3722	3287	2878	2477	2127	1854	1586	1421	1255	1089	921	745	552
100%	100%	97%	93%	88%	81%	75%	67%	59%	52%	45%	38%	33%	28%	26%	23%	20%	17%	13%	10%

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°
5566	5539	5353	5167	4850	4511	4133	3719	3305	2895	2484	2163	1860	1616	1431	1250	1087	924	738	545
100%	100%	96%	93%	87%	81%	74%	67%	59%	52%	45%	39%	33%	29%	26%	22%	20%	17%	13%	10%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
37°	75,8°	89,3°	97,7%	95,2%



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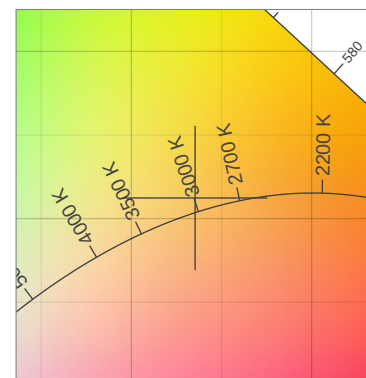
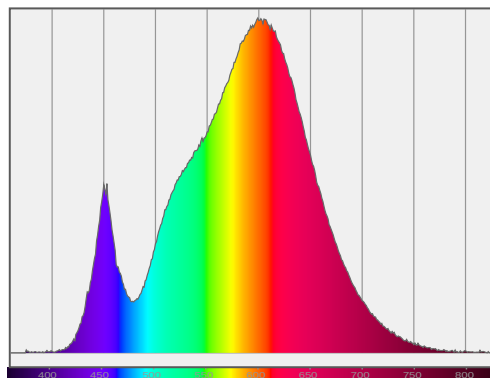
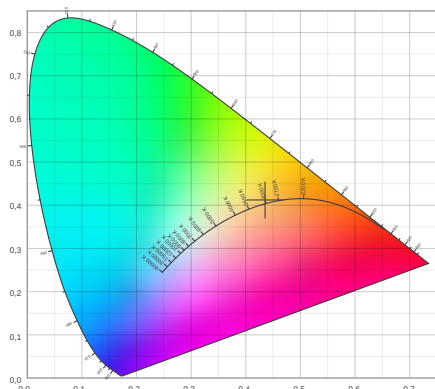
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Color details



CIE 1931

x: 0,435



Spectra

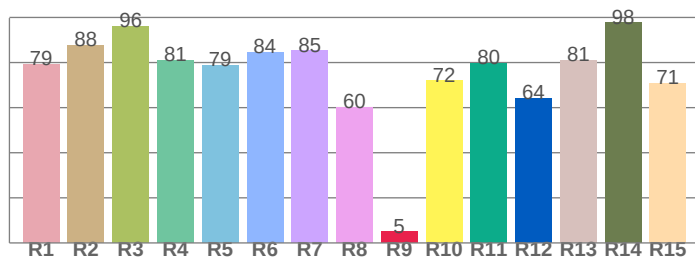
CIE 1931 ZOOM

3097 K

y: 0,412

Δuv : 0,0035

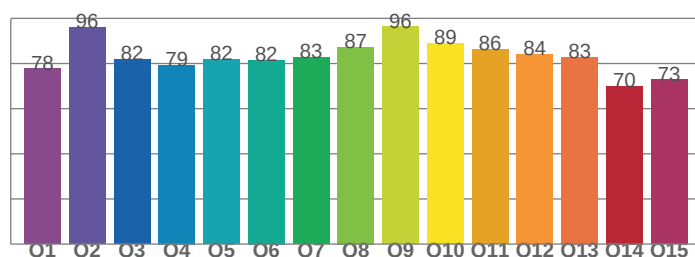
CRI: 81,5 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
79,1	87,7	96,0	80,8	78,6	84,4	85,2	60,3
R9	R10	R11	R12	R13	R14	R15	
4,9	71,9	79,6	63,9	80,8	97,6	70,9	

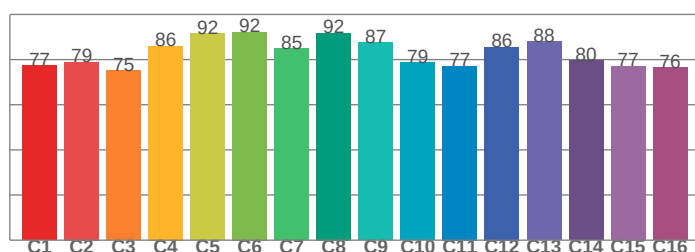
CQS: 81,8



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
77,6	95,8	81,9	79,3	81,7	81,6	82,7	87,3
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,2	88,8	86,2	84,2	82,9	70,0	72,7	

TM30: 82,8



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

C1	C2	C3	C4	C5	C6	C7	C8
77,4	79,0	75,2	86,1	91,6	92,3	84,9	91,8
C9	C10	C11	C12	C13	C14	C15	
87,5	78,7	77,1	85,6	88,0	79,7	77,1	

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
3097 K	81,5	4,9	82,8	95,8	81,8	0,435	0,412	0,246	0,350	0,0035



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TM30 details

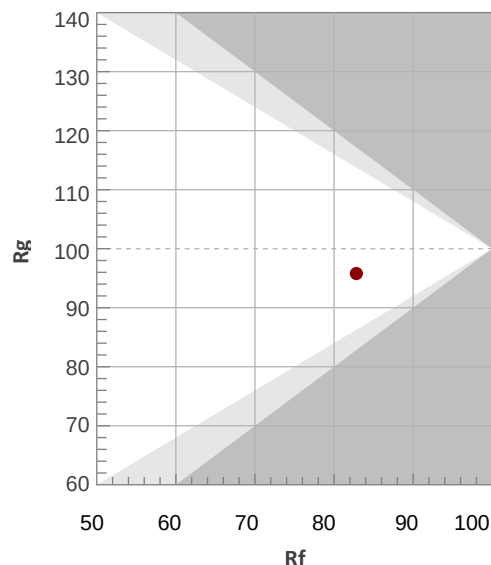
Rf 82,8

Fidelity index Rf

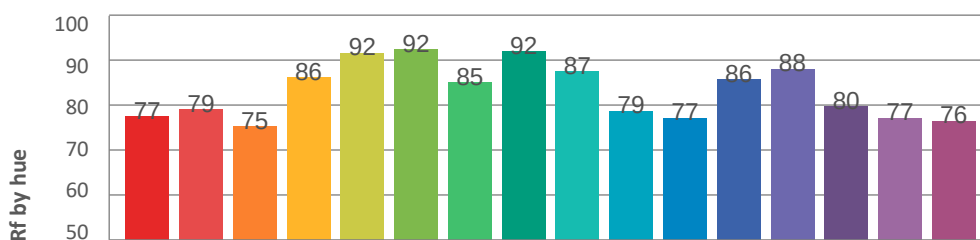
Rg 95,8

Gamut index Rg

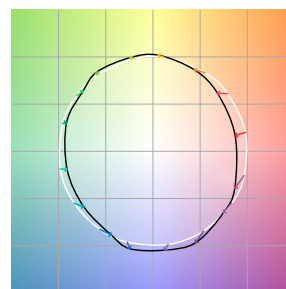
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	77	-11%	-1%
2	79	-9%	6%
3	75	-4%	11%
4	86	1%	8%
5	92	2%	5%
6	92	3%	-2%
7	85	-3%	-8%
8	92	-4%	-2%
9	87	-7%	2%
10	79	-6%	9%
11	77	-2%	14%
12	86	6%	4%
13	88	5%	-5%
14	80	6%	-13%
15	77	-2%	-13%
16	76	-7%	-15%



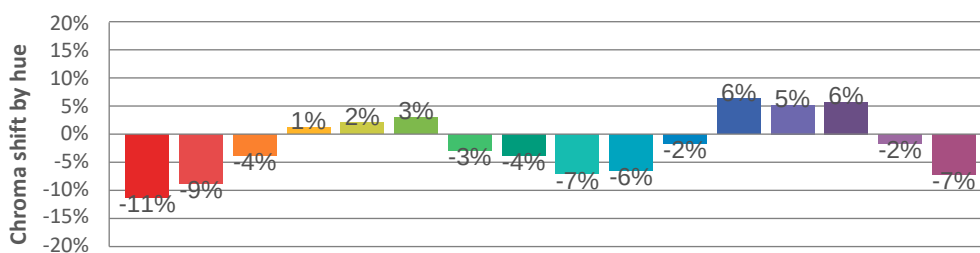
Hue binH



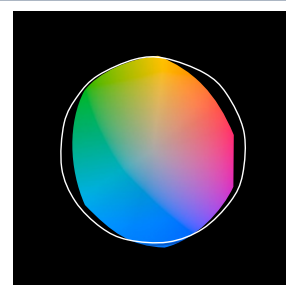
Color vector graphics



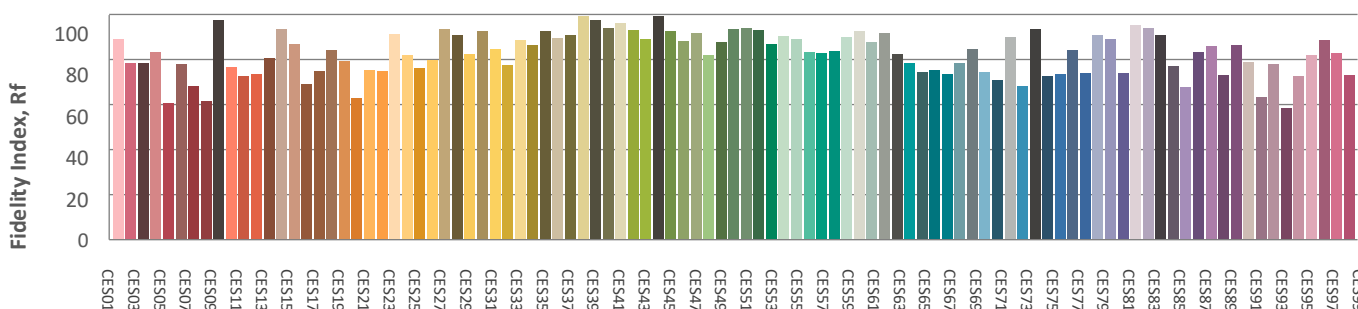
Hue bin



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				
2H	2H	22,1	22,8	22,4	23,0	23,2	22,2	22,9	22,4	23,1	23,3
	3H	22,2	22,8	22,5	23,1	23,3	22,2	22,9	22,5	23,1	23,4
	4H	22,2	22,8	22,5	23,1	23,4	22,3	22,9	22,6	23,1	23,4
	6H	22,2	22,8	22,6	23,1	23,4	22,3	22,8	22,6	23,1	23,4
	8H	22,2	22,8	22,6	23,1	23,4	22,3	22,8	22,6	23,1	23,4
	12H	22,2	22,7	22,6	23,1	23,4	22,3	22,8	22,6	23,1	23,4
4H	2H	22,0	22,6	22,3	22,9	23,1	22,1	22,7	22,4	22,9	23,2
	3H	22,1	22,6	22,5	23,0	23,3	22,2	22,7	22,5	23,0	23,3
	4H	22,2	22,7	22,6	23,0	23,4	22,3	22,7	22,7	23,1	23,4
	6H	22,3	22,7	22,7	23,1	23,5	22,4	22,7	22,8	23,1	23,5
	8H	22,3	22,7	22,8	23,1	23,5	22,4	22,7	22,8	23,1	23,5
	12H	22,4	22,6	22,8	23,0	23,5	22,4	22,7	22,8	23,1	23,5
8H	4H	22,2	22,6	22,7	22,9	23,4	22,3	22,6	22,7	23,0	23,4
	6H	22,3	22,6	22,8	23,0	23,5	22,4	22,6	22,9	23,1	23,5
	8H	22,4	22,6	22,9	23,0	23,5	22,4	22,6	22,9	23,1	23,6
	12H	22,4	22,6	22,9	23,1	23,6	22,4	22,6	22,9	23,1	23,6
12H	4H	22,2	22,5	22,6	22,9	23,3	22,2	22,5	22,7	22,9	23,4
	6H	22,3	22,5	22,8	23,0	23,5	22,4	22,6	22,8	23,0	23,5
	8H	22,4	22,5	22,9	23,0	23,5	22,4	22,6	22,9	23,1	23,6
Variation of the observer position for the luminaire distance S											
S = 1,0H		+3,9 / -3,9					+3,9 / -4,0				
S = 1,5H		+6,5 / -4,3					+6,5 / -4,3				
S = 2,0H		+8,4 / -4,6					+8,4 / -4,7				
Standard table		BK01					BK01				
Correction summand		4,2					4,3				
Corrected glare indices referring to 2973lm total luminous flux											