

LM-79

Test Report

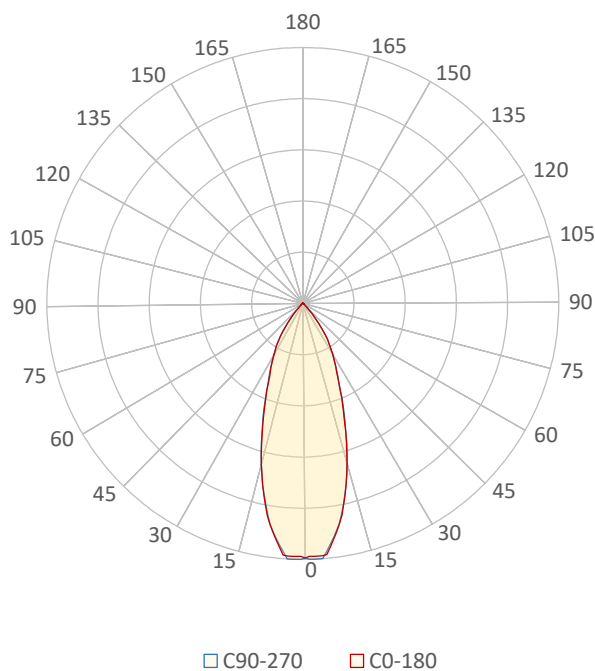
LM79-MIKA-4000K-CRI80-MEDIUM

General Discription

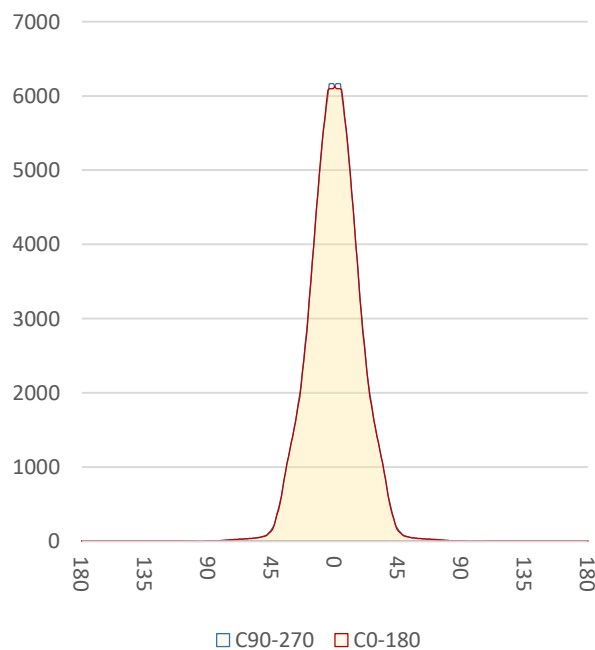
Item number	M-XXX-3-1-4080-2
Date and time	28-11-2016 09:31:48
CCT (Kelvin)	3920 K
Beam angle	37,7°
Luminous flux	3387 lm
Efficiency	119 lm/watt
Weighted energy	28,4 kWh/1000h
Power factor	0,95
CRI (RA)	82,3
Fidelity index Rf	Rf 82,5
Gammut index Rg	Rg 97,8
Peak	6167 cd



Polar diagram



Cartesian diagram



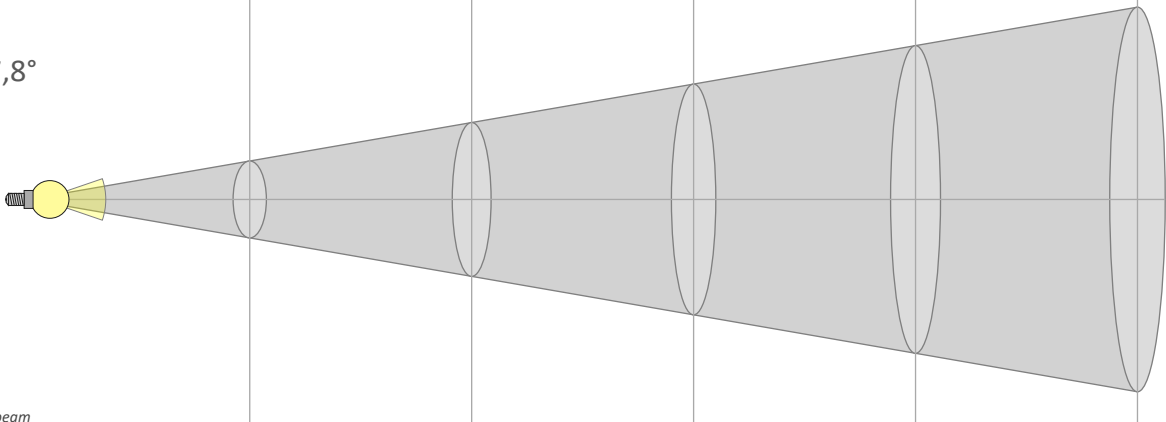
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Beam details				1m		2m		3m		4m		5m							
Lux*				6131 lx		1533 lx		681 lx		383 lx		245 lx							
37,8° 																			
*measured at center of beam																			
Footcandles*				569,6 fcd		142,4 fcd		63,3 fcd		35,6 fcd		22,8 fcd							
Beam 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
6131lx	1533lx	681lx	383lx	245lx	170lx	125lx	96lx	76lx	61lx	51lx	43lx	36lx	31lx	27lx	24lx	21lx	19lx	17lx	15lx
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
569,6fcd	142,4fcd	63,3fcd	35,6fcd	22,8fcd	15,8fcd	11,6fcd	8,9fcd	7fcd	5,7fcd	4,7fcd	4fcd	3,4fcd	2,9fcd	2,5fcd	2,2fcd	2fcd	1,8fcd	1,6fcd	1,4fcd
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°
6131	6096	6096	5903	5553	5190	4713	4236	3754	3270	2808	2447	2086	1833	1620	1416	1233	1051	836	613
100%	99%	99%	96%	91%	85%	77%	69%	61%	53%	46%	40%	34%	30%	26%	23%	20%	17%	14%	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°
6131	6167	6164	5848	5532	5144	4697	4246	3764	3282	2859	2467	2103	1859	1615	1416	1233	1042	828	614
100%	101%	101%	95%	90%	84%	77%	69%	61%	54%	47%	40%	34%	30%	26%	23%	20%	17%	14%	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°
6131	6096	6096	5903	5553	5190	4713	4236	3754	3270	2808	2447	2086	1833	1620	1416	1233	1051	836	613
100%	99%	99%	96%	91%	85%	77%	69%	61%	53%	46%	40%	34%	30%	26%	23%	20%	17%	14%	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°
6131	6167	6164	5848	5532	5144	4697	4246	3764	3282	2859	2467	2103	1859	1615	1416	1233	1042	828	614
100%	101%	101%	95%	90%	84%	77%	69%	61%	54%	47%	40%	34%	30%	26%	23%	20%	17%	14%	10%
Beam angle 50%				Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone			
37,8°				76°				89,8°				97,6%				95,1%			



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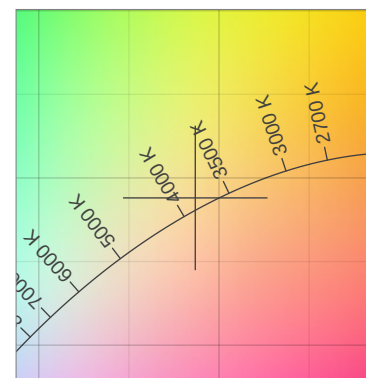
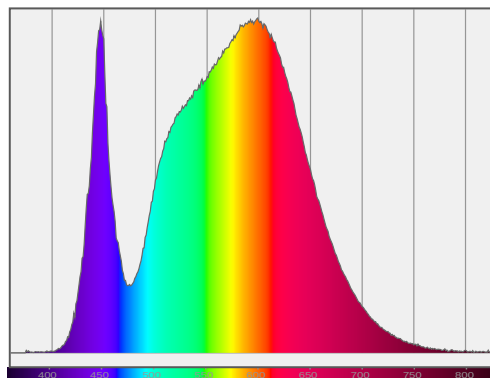
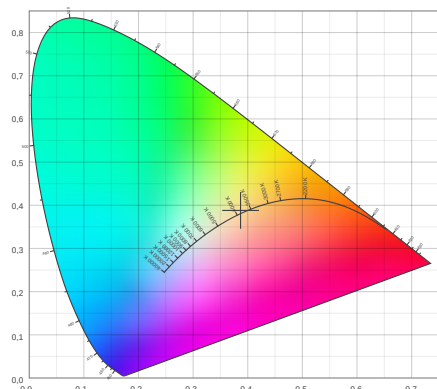
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Color details



CIE 1931

x: 0,387

3920 K

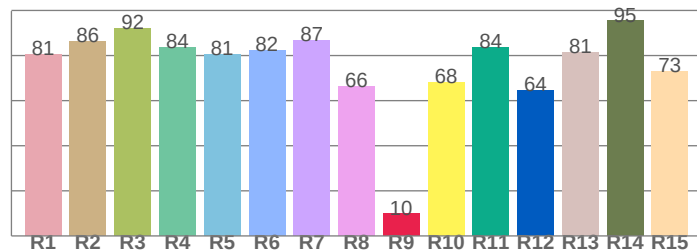
y: 0,388

Spectra

CIE 1931 ZOOM

Δuv : 0,0034

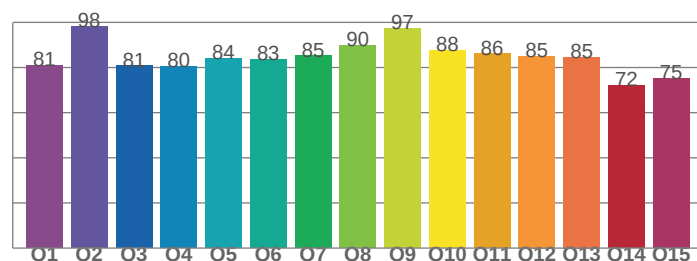
CRI: 82,3 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
80,5	86,1	91,9	83,8	80,7	82,1	86,9	66,5
R9	R10	R11	R12	R13	R14	R15	
9,8	68,3	83,7	64,4	81,3	95,4	73,1	

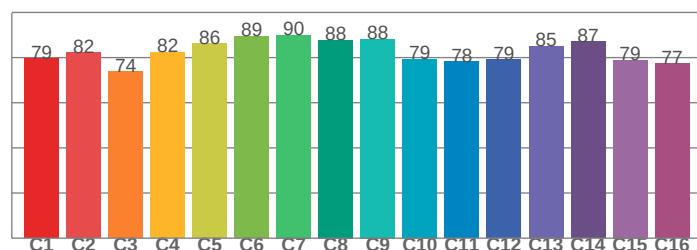
CQS: 83,3



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
81,0	98,2	80,7	80,5	83,9	83,5	85,2	89,9
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
97,2	87,6	86,0	85,1	84,7	72,1	75,3	

TM30: 82,5



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

C1	C2	C3	C4	C5	C6	C7	C8
79,5	82,2	73,9	82,4	86,3	89,5	90,0	87,9
C9	C10	C11	C12	C13	C14	C15	
88,2	79,4	78,1	79,0	85,1	87,0	78,9	

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
3920 K	82,3	9,8	82,5	97,8	83,3	0,387	0,388	0,225	0,338	0,0034



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LM79-MIKA-4000K-CRI80-MEDIUM

TM30 details

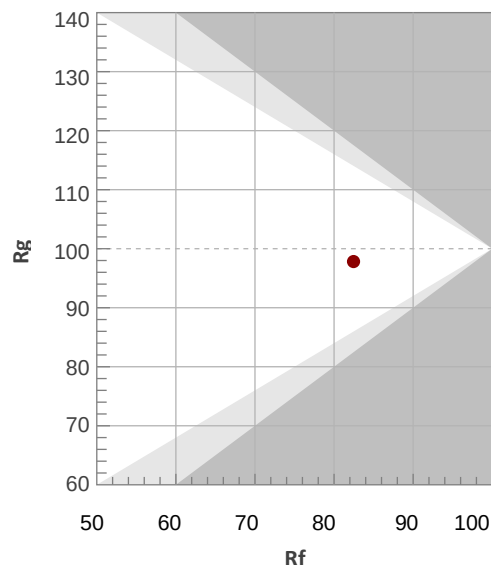
Rf 82,5

Fidelity index R_f

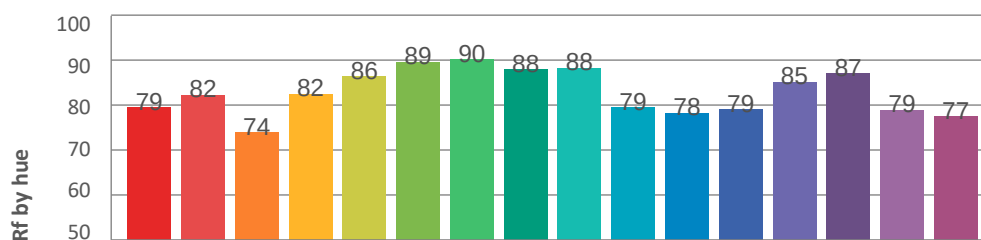
Rg 97,8

Gammut index Rg

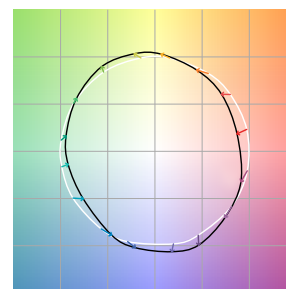
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	79	-11%	-3%
2	82	-8%	5%
3	74	-4%	12%
4	82	2%	10%
5	86	6%	6%
6	89	6%	-1%
7	90	0%	-6%
8	88	-4%	-5%
9	88	-7%	-1%
10	79	-9%	7%
11	78	-1%	13%
12	79	5%	9%
13	85	8%	-3%
14	87	9%	-5%
15	79	1%	-13%
16	77	-4%	-13%



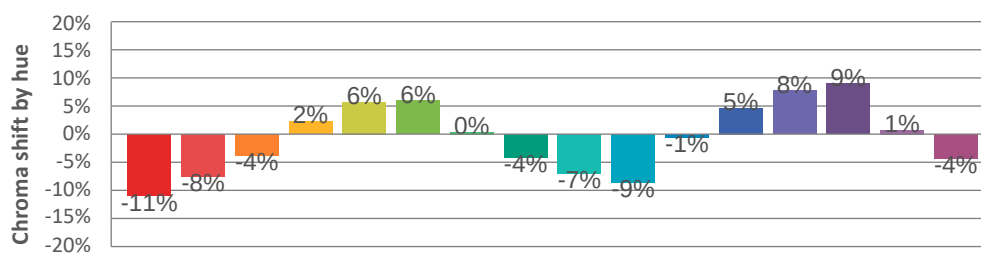
Hue binH



Color vector graphics



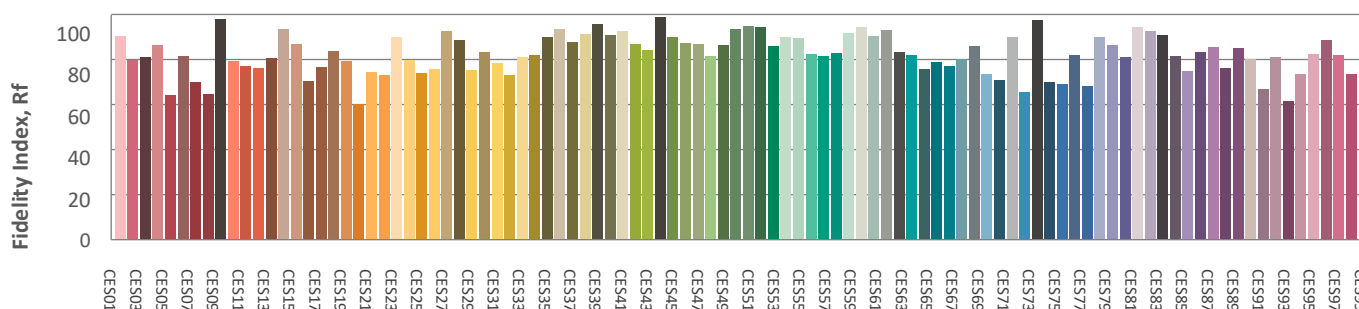
Hue bin



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	22,6	23,3	22,9	23,5	23,7	22,7	23,4	22,9	23,6	23,8
	3H	22,7	23,3	23,0	23,5	23,8	22,7	23,4	23,0	23,6	23,9
	4H	22,7	23,3	23,0	23,6	23,9	22,8	23,4	23,1	23,6	23,9
	6H	22,8	23,3	23,1	23,6	23,9	22,8	23,4	23,1	23,7	24,0
	8H	22,8	23,3	23,1	23,6	23,9	22,8	23,3	23,2	23,6	24,0
	12H	22,8	23,3	23,1	23,6	23,9	22,8	23,3	23,2	23,6	24,0
4H	2H	22,5	23,1	22,8	23,3	23,6	22,5	23,1	22,9	23,4	23,7
	3H	22,6	23,1	23,0	23,5	23,8	22,7	23,2	23,0	23,5	23,8
	4H	22,8	23,2	23,2	23,5	23,9	22,8	23,2	23,2	23,6	23,9
	6H	22,9	23,2	23,3	23,6	24,0	22,9	23,3	23,3	23,6	24,0
	8H	22,9	23,2	23,4	23,6	24,1	22,9	23,3	23,4	23,7	24,1
	12H	23,0	23,2	23,4	23,6	24,1	23,0	23,2	23,4	23,7	24,1
8H	4H	22,8	23,1	23,2	23,5	23,9	22,8	23,1	23,2	23,5	23,9
	6H	22,9	23,2	23,4	23,6	24,1	23,0	23,2	23,4	23,6	24,1
	8H	23,0	23,2	23,5	23,7	24,1	23,0	23,2	23,5	23,7	24,2
	12H	23,1	23,2	23,6	23,7	24,2	23,1	23,2	23,6	23,7	24,2
12H	4H	22,7	23,0	23,2	23,4	23,9	22,8	23,1	23,2	23,5	23,9
	6H	22,9	23,1	23,4	23,6	24,1	22,9	23,2	23,4	23,6	24,1
	8H	23,0	23,2	23,5	23,7	24,2	23,0	23,2	23,5	23,7	24,2
Variation of the observer position for the luminaire distance S											
S = 1,0H		+3,7 / -3,5					+3,7 / -3,6				
S = 1,5H		+6,3 / -3,9					+6,2 / -4,0				
S = 2,0H		+8,2 / -4,2					+8,2 / -4,3				
Standard table		BK01					BK01				
Correction summand		4,8					4,9				
Corrected glare indices referring to 3387lm total luminous flux											



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