

LM-79

Test Report

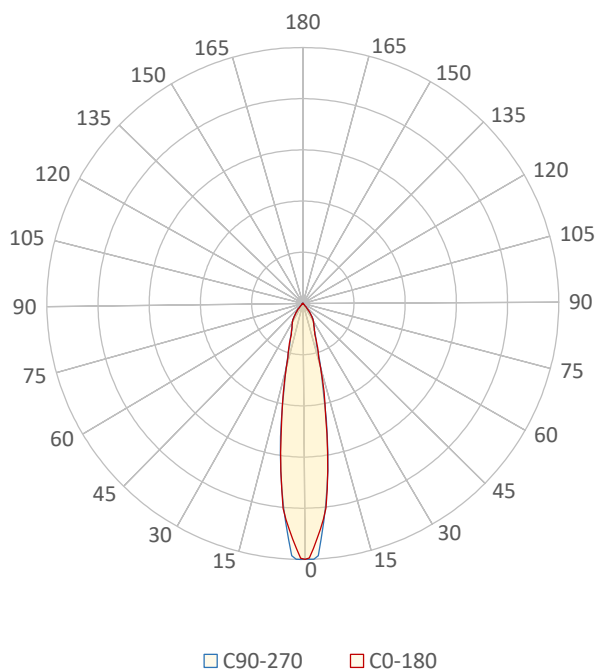
LM79-MIKA-2700K-CRI80-SPOT

General Discription

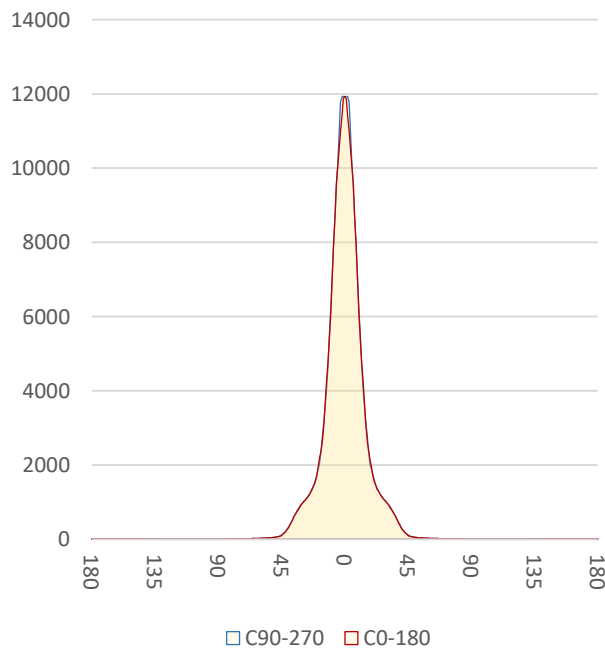
Item number	M-XXX-3-1-2780-1
Date and time	28-11-2016 09:38:21
CCT (Kelvin)	2716 K
Beam angle	20,8°
Luminous flux	2889 lm
Efficiency	103 lm/watt
Weighted energy	28,0 kWh/1000h
Power factor	0,95
CRI (RA)	81,7
Fidelity index Rf	Rf 82,0
Gammut index Rg	Rg 96,8
Peak	11932 cd



Polar diagram



Cartesian diagram



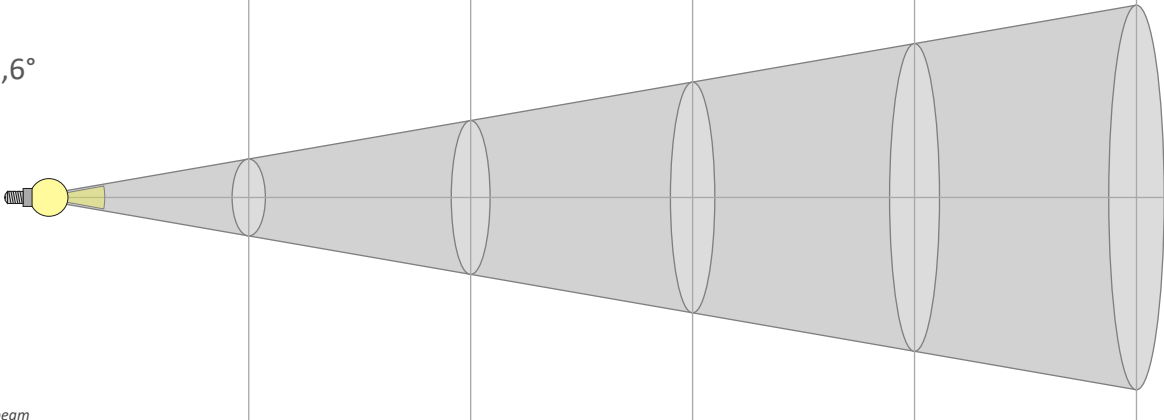
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Beam details					1m		2m		3m		4m		5m											
Lux*					11929 lx		2982 lx		1325 lx		746 lx		477 lx											
20,6° 																								
*measured at center of beam																								
Footcandles*					1108,2 fcd		277,1 fcd		123,1 fcd		69,3 fcd		44,3 fcd											
Beam width (meter)					0,4 m		0,7 m		1,1 m		1,5 m		1,8 m											
Beam width (Feet)					1,2 ft		2,4 ft		3,6 ft		4,8 ft		6 ft											
Beam intensities																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
11929lx	2982lx	1325lx	746lx	477lx	331lx	243lx	186lx	147lx	119lx	99lx	83lx	71lx	61lx	53lx	47lx	41lx	37lx	33lx	30lx					
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					
1108,2fcd	277,1fcd	123,1fcd	69,3fcd	44,3fcd	30,8fcd	22,6fcd	17,3fcd	13,7fcd	11,1fcd	9,2fcd	7,7fcd	6,6fcd	5,7fcd	4,9fcd	4,3fcd	3,8fcd	3,4fcd	3,1fcd	2,8fcd					
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°					
11,9K	11,4K	10,5K	9,6K	7,9K	6,2K	4,8K	3,7K	2,6K	2,2K	1,7K	1,5K	1,3K	1,2K	1,1K	1,0K	0,9K	0,7K	0,6K	0,5K					
100%	96%	88%	80%	66%	52%	40%	31%	22%	18%	14%	12%	11%	10%	9%	8%	7%	6%	5%	4%					
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°					
11,9K	11,9K	11,0K	9,5K	7,9K	6,3K	4,7K	3,6K	2,7K	2,0K	1,7K	1,4K	1,3K	1,2K	1,1K	1,0K	0,9K	0,8K	0,6K	0,5K					
100%	100%	92%	79%	66%	53%	39%	30%	23%	17%	15%	12%	11%	10%	9%	8%	7%	6%	5%	4%					
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°					
11,9K	11,4K	10,5K	9,6K	7,9K	6,2K	4,8K	3,7K	2,6K	2,2K	1,7K	1,5K	1,3K	1,2K	1,1K	1,0K	0,9K	0,7K	0,6K	0,5K					
100%	96%	88%	80%	66%	52%	40%	31%	22%	18%	14%	12%	11%	10%	9%	8%	7%	6%	5%	4%					
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°					
11,9K	11,9K	11,0K	9,5K	7,9K	6,3K	4,7K	3,6K	2,7K	2,0K	1,7K	1,4K	1,3K	1,2K	1,1K	1,0K	0,9K	0,8K	0,6K	0,5K					
100%	100%	92%	79%	66%	53%	39%	30%	23%	17%	15%	12%	11%	10%	9%	8%	7%	6%	5%	4%					
Beam angle 50%					Field angle 10%					Cutoff angle 2,5%					Intensity ratio in 120° cone					Intensity ratio in 90° cone				
20,6°					50,9°					80,8°					98,3%					96,2%				



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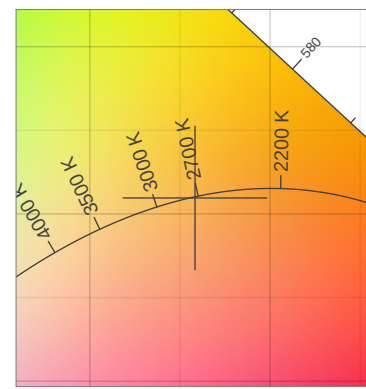
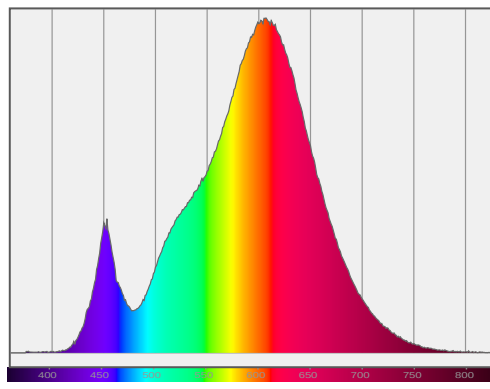
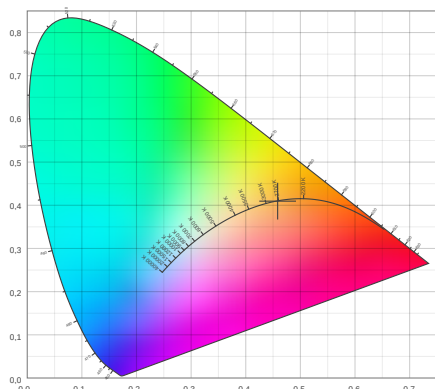
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Color details



CIE 1931

x: 0,458

2716 K

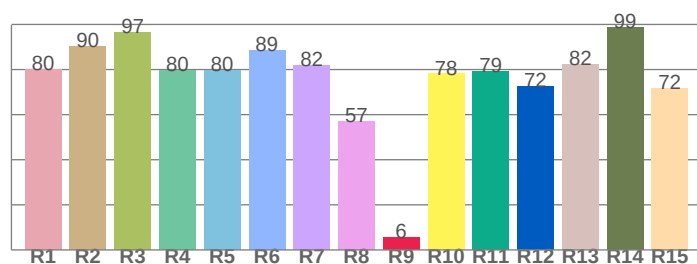
y: 0,410

Spectra

CIE 1931 ZOOM

 $\Delta uv: -0,0003$

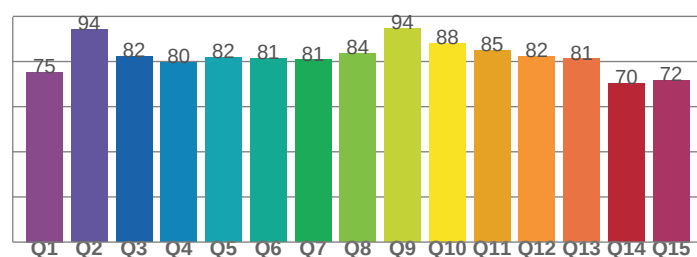
CRI: 81,7 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
79,9	90,2	96,7	79,8	79,8	88,7	81,8	57,0
R9	R10	R11	R12	R13	R14	R15	
5,7	78,1	79,1	72,4	82,3	98,8	71,7	

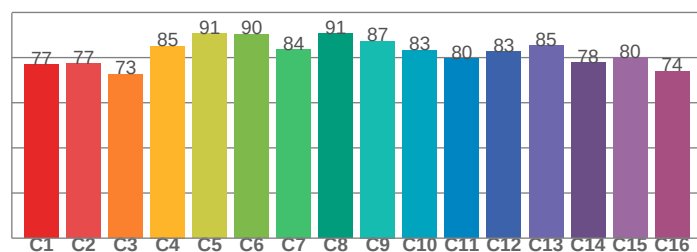
CQS: 80,8



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
75,3	94,2	82,2	79,6	81,9	81,4	80,7	83,6
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
94,5	88,2	85,0	82,2	81,2	70,3	71,7	

TM30: 82,0



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

C1	C2	C3	C4	C5	C6	C7	C8
76,8	77,4	72,6	85,2	90,6	90,4	83,6	90,7
C9	C10	C11	C12	C13	C14	C15	
87,3	83,3	79,6	82,6	85,3	77,7	80,1	

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
2716 K	81,7	5,7	82,0	96,8	80,8	0,458	0,410	0,262	0,351	-0,0003

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TM30 details

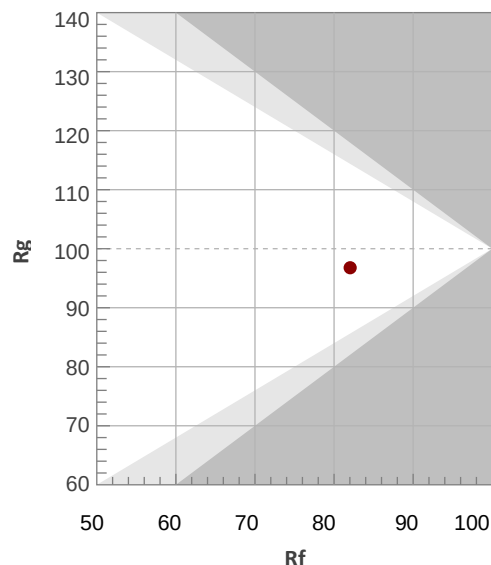
Rf 82,0

Fidelity index Rf

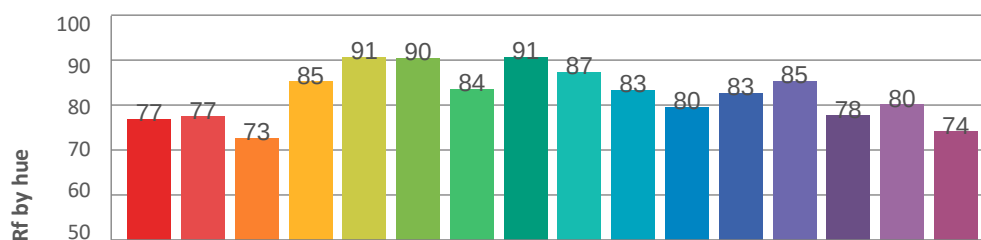
Rg 96,8

Gamut index Rg

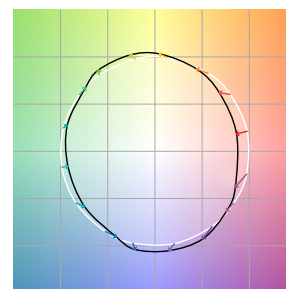
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	77	-12%	-1%
2	77	-9%	8%
3	73	-3%	13%
4	85	2%	8%
5	91	5%	5%
6	90	5%	-2%
7	84	-1%	-10%
8	91	-3%	-4%
9	87	-7%	0%
10	83	-5%	8%
11	80	-2%	13%
12	83	6%	4%
13	85	6%	-7%
14	78	6%	-15%
15	80	-2%	-11%
16	74	-9%	-16%



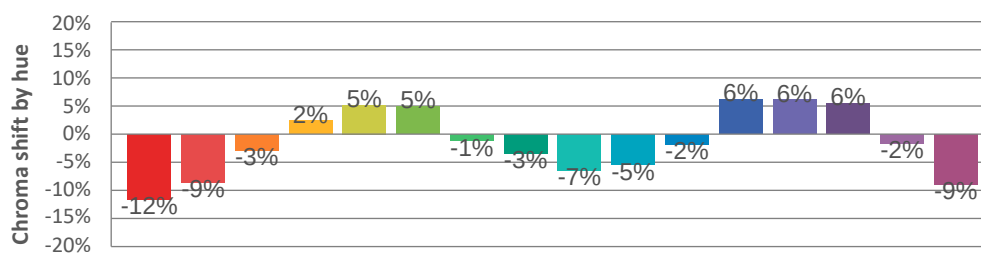
Hue binH



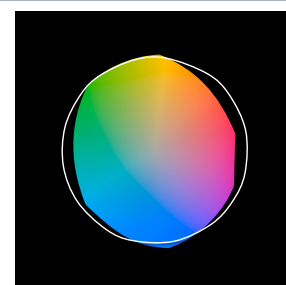
Color vector graphics



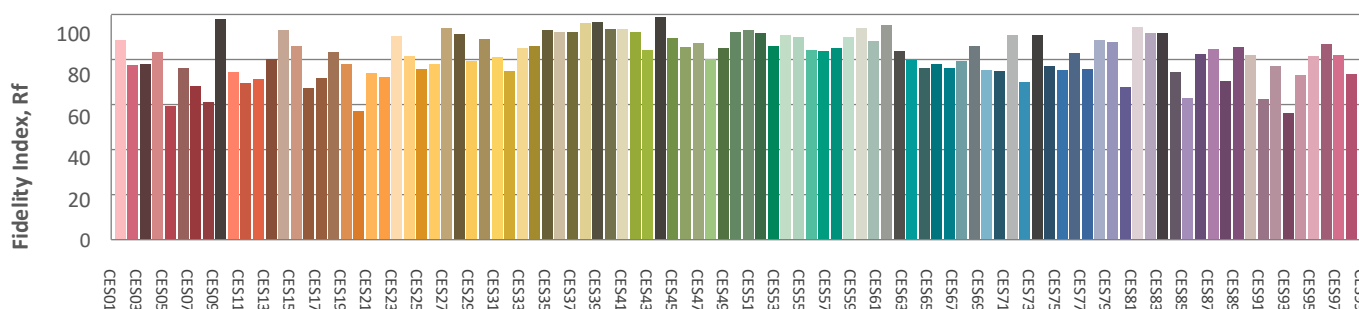
Hue bin



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	20,8	21,5	21,1	21,7	21,9	20,9	21,6	21,2	21,8	22,0
	3H	20,9	21,5	21,1	21,7	22,0	21,0	21,6	21,2	21,8	22,1
	4H	20,9	21,5	21,2	21,7	22,0	21,0	21,6	21,3	21,8	22,1
	6H	20,9	21,4	21,2	21,7	22,0	21,0	21,5	21,3	21,8	22,1
	8H	20,8	21,4	21,2	21,7	22,0	21,0	21,5	21,3	21,8	22,1
	12H	20,8	21,3	21,2	21,6	21,9	21,0	21,5	21,3	21,8	22,1
4H	2H	20,7	21,3	21,0	21,6	21,8	20,8	21,4	21,1	21,7	21,9
	3H	20,8	21,3	21,1	21,6	21,9	20,9	21,4	21,3	21,7	22,0
	4H	20,9	21,3	21,2	21,6	22,0	21,0	21,4	21,4	21,7	22,1
	6H	20,9	21,2	21,3	21,6	22,0	21,0	21,4	21,4	21,8	22,1
	8H	20,9	21,2	21,3	21,6	22,0	21,0	21,4	21,5	21,7	22,2
	12H	20,9	21,1	21,3	21,6	22,0	21,0	21,3	21,5	21,7	22,2
8H	4H	20,8	21,1	21,3	21,5	21,9	20,9	21,3	21,4	21,6	22,1
	6H	20,9	21,1	21,3	21,6	22,0	21,0	21,3	21,5	21,7	22,1
	8H	20,9	21,1	21,4	21,5	22,0	21,1	21,3	21,5	21,7	22,2
	12H	20,9	21,0	21,4	21,5	22,0	21,1	21,2	21,6	21,7	22,2
12H	4H	20,8	21,1	21,2	21,5	21,9	20,9	21,2	21,4	21,6	22,0
	6H	20,9	21,1	21,3	21,5	22,0	21,0	21,2	21,5	21,6	22,1
	8H	20,9	21,0	21,4	21,5	22,0	21,0	21,2	21,5	21,7	22,2
Variation of the observer position for the luminaire distance S											
S = 1,0H		+3,8 / -4,3					+3,7 / -4,1				
S = 1,5H		+6,4 / -4,8					+6,3 / -4,6				
S = 2,0H		+8,4 / -5,3					+8,2 / -5,1				
Standard table		BK01					BK01				
Correction summand		2,9					3,0				
Corrected glare indices referring to 2889lm total luminous flux											



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