

LM-79

Test Report

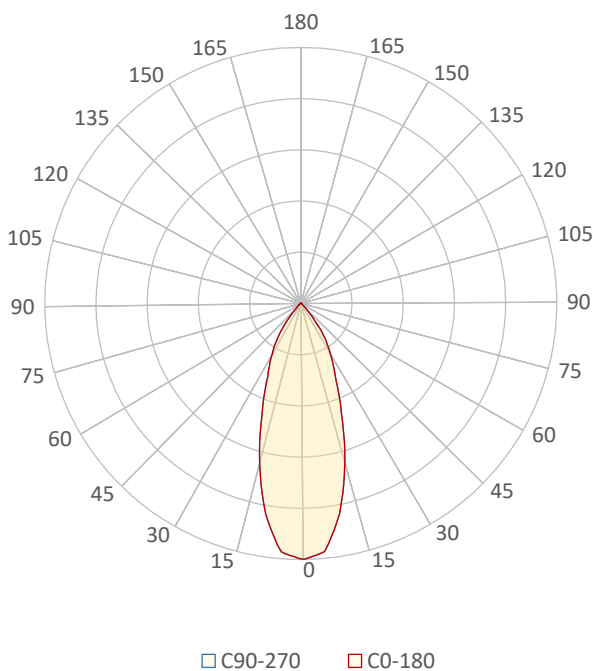
LM79-MIKA-4000K-CRI90-MEDIUM

General Description

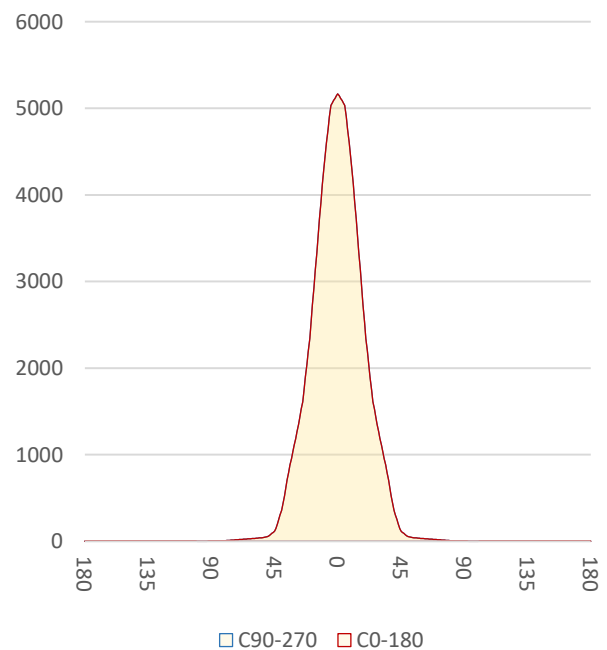
Item number	M-XXX-3-1-4090-2
Date and time	27-1-2017 14:26:24
CCT (Kelvin)	3959 K
Beam angle	37,5°
Luminous flux	2817 lm
Efficiency	100 lm/watt
Weighted energy	28,1 kWh/1000h
Power factor	0,95
CRI (RA)	93,0
Fidelity index Rf	Rf 89,8
Gammut index Rg	Rg 98,2
Peak	5167 cd



Polar diagram



Cartesian diagram



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Beam details	1m	2m	3m	4m	5m														
Lux*	5167 lx	1292 lx	574 lx	323 lx	207 lx														
*measured at center of beam																			
Footcandles*	480,0 fcd	120,0 fcd	53,3 fcd	30,0 fcd	19,2 fcd														
Beam width (meter)	0,7 m	1,4 m	2 m	2,7 m	3,4 m														
Beam width (Feet)	2,2 ft	4,5 ft	6,7 ft	8,9 ft	11,1 ft														
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
5167lx	1292lx	574lx	323lx	207lx	144lx	105lx	81lx	64lx	52lx	43lx	36lx	31lx	26lx	23lx	20lx	18lx	16lx	14lx	13lx
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
480fcd	120fcd	53,3fcd	30fcd	19,2fcd	13,3fcd	9,8fcd	7,5fcd	5,9fcd	4,8fcd	4fcd	3,3fcd	2,8fcd	2,4fcd	2,1fcd	1,9fcd	1,7fcd	1,5fcd	1,3fcd	1,2fcd
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°
5167	5117	5061	4900	4606	4311	3920	3526	3130	2732	2340	2043	1746	1525	1353	1184	1033	881	708	524
100%	99%	98%	95%	89%	83%	76%	68%	61%	53%	45%	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°
5167	5117	5061	4900	4606	4311	3920	3526	3130	2732	2340	2043	1746	1525	1353	1184	1033	881	708	524
100%	99%	98%	95%	89%	83%	76%	68%	61%	53%	45%	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°
5167	5117	5061	4900	4606	4311	3920	3526	3130	2732	2340	2043	1746	1525	1353	1184	1033	881	708	524
100%	99%	98%	95%	89%	83%	76%	68%	61%	53%	45%	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°
5167	5117	5061	4900	4606	4311	3920	3526	3130	2732	2340	2043	1746	1525	1353	1184	1033	881	708	524
100%	99%	98%	95%	89%	83%	76%	68%	61%	53%	45%	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					
37,5°		76,2°				88,8°				97,8%				95,3%					



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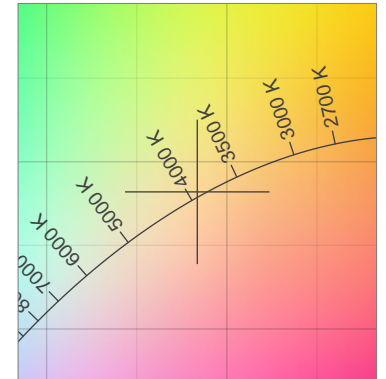
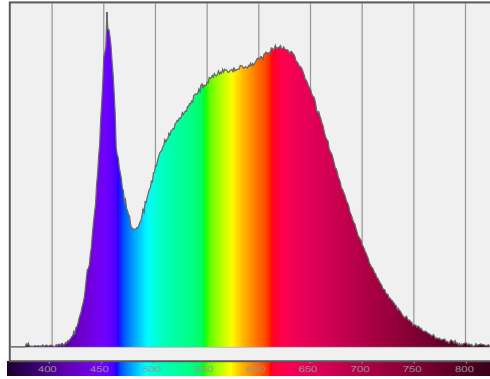
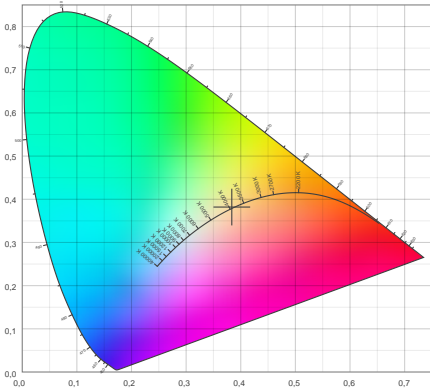
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Color details



CIE 1931

x: 0,384



Spectra

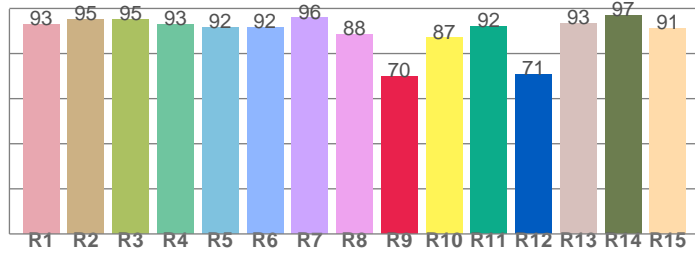
CIE 1931 ZOOM

3959 K

y: 0,382

Δuv : 0,0015

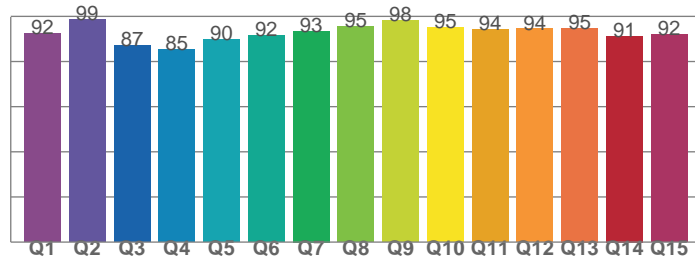
CRI: 93,0 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
93,0	95,0	95,3	92,8	91,6	91,8	95,8	88,5
R9	R10	R11	R12	R13	R14	R15	
69,9	87,0	92,2	70,7	93,5	97,0	91,0	

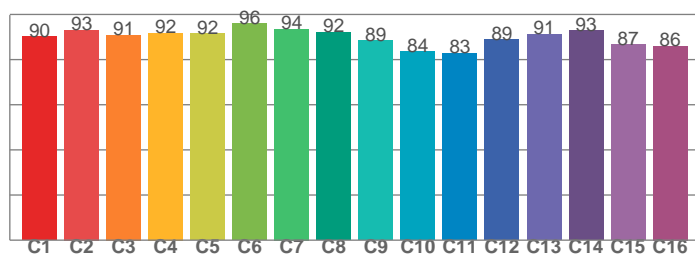
CQS: 92,1



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
92,3	98,7	87,0	85,5	89,6	91,6	93,5	95,5
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
98,1	95,0	94,1	94,5	94,8	91,3	92,0	

TM30: 89,8



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

C1	C2	C3	C4	C5	C6	C7	C8
90,2	93,1	90,8	91,8	91,6	96,0	93,6	92,2
C9	C10	C11	C12	C13	C14	C15	
88,5	83,7	82,8	88,9	91,3	92,9	86,6	

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
3959 K	93,0	69,9	89,8	98,2	92,1	0,384	0,382	0,225	0,336	0,0015



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TM30 details

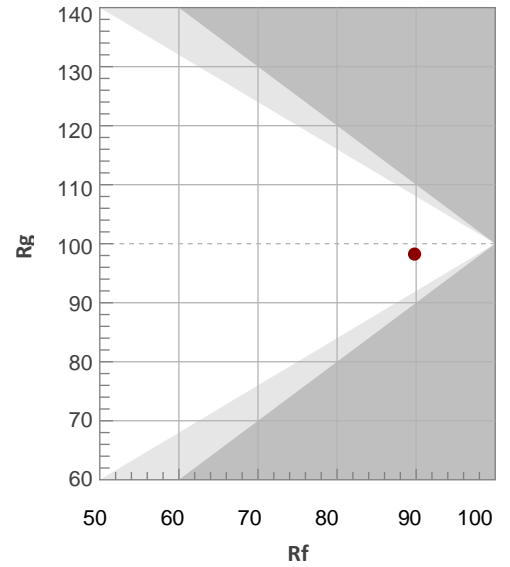
Rf 89,8

Fidelity index Rf

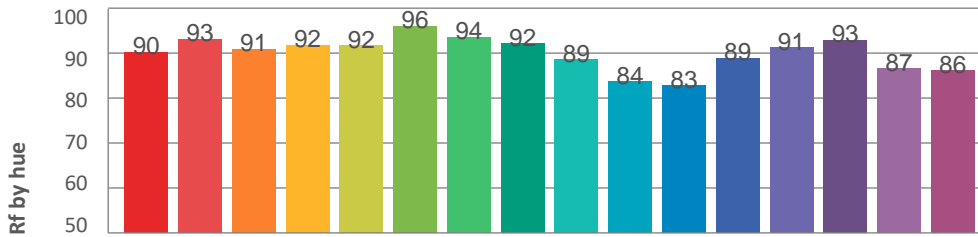
Rg 98,2

Gamut index Rg

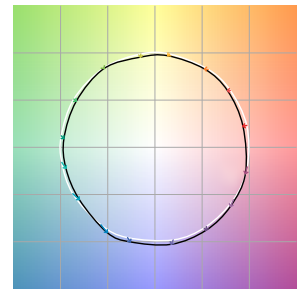
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	90	-4%	0%
2	93	-3%	1%
3	91	-2%	3%
4	92	-2%	2%
5	92	-3%	1%
6	96	-1%	0%
7	94	-3%	0%
8	92	-3%	2%
9	89	-3%	7%
10	84	-2%	9%
11	83	3%	10%
12	89	4%	4%
13	91	4%	-3%
14	93	3%	-2%
15	87	1%	-8%
16	86	-1%	-7%



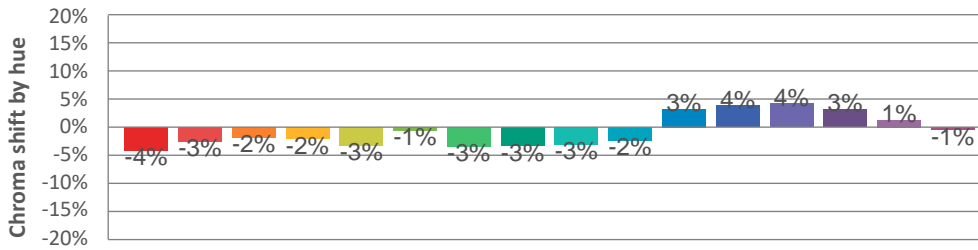
Hue binH



Color vector graphics



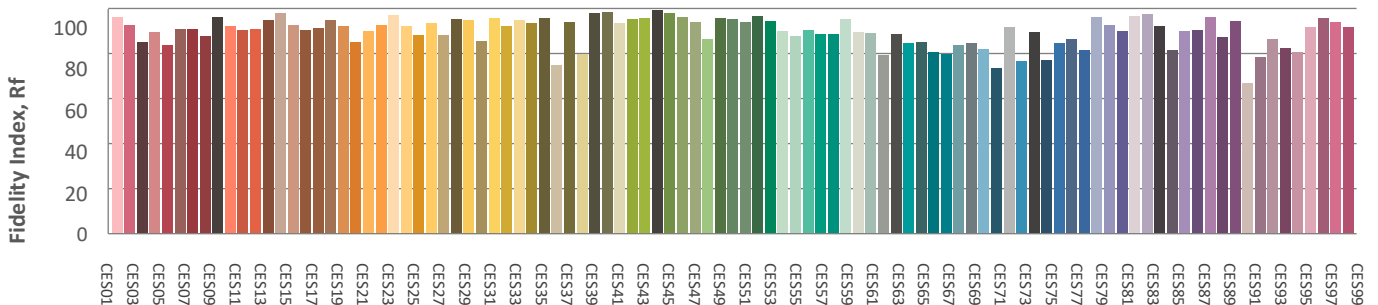
Hue bin



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	22,0	22,7	22,3	22,9	23,1	22,0	22,7	22,3	22,9	23,1
	3H	22,1	22,7	22,4	23,0	23,2	22,1	22,7	22,4	23,0	23,2
	4H	22,1	22,7	22,5	23,0	23,3	22,1	22,7	22,5	23,0	23,3
	6H	22,2	22,7	22,5	23,0	23,3	22,2	22,7	22,5	23,0	23,3
	8H	22,2	22,7	22,5	23,0	23,3	22,2	22,7	22,5	23,0	23,3
	12H	22,1	22,6	22,5	23,0	23,3	22,1	22,6	22,5	23,0	23,3
4H	2H	21,9	22,5	22,2	22,8	23,0	21,9	22,5	22,2	22,8	23,0
	3H	22,1	22,6	22,4	22,9	23,2	22,1	22,6	22,4	22,9	23,2
	4H	22,2	22,6	22,5	22,9	23,3	22,2	22,6	22,5	22,9	23,3
	6H	22,2	22,6	22,7	23,0	23,4	22,2	22,6	22,7	23,0	23,4
	8H	22,3	22,6	22,7	23,0	23,4	22,3	22,6	22,7	23,0	23,4
	12H	22,3	22,5	22,7	23,0	23,4	22,3	22,5	22,7	23,0	23,4
8H	4H	22,1	22,5	22,6	22,9	23,3	22,1	22,5	22,6	22,9	23,3
	6H	22,3	22,5	22,7	22,9	23,4	22,3	22,5	22,7	22,9	23,4
	8H	22,3	22,5	22,8	23,0	23,4	22,3	22,5	22,8	23,0	23,4
	12H	22,3	22,5	22,8	23,0	23,5	22,3	22,5	22,8	23,0	23,5
12H	4H	22,1	22,4	22,6	22,8	23,2	22,1	22,4	22,6	22,8	23,2
	6H	22,2	22,4	22,7	22,9	23,4	22,2	22,4	22,7	22,9	23,4
	8H	22,3	22,5	22,8	22,9	23,4	22,3	22,5	22,8	22,9	23,4
Variation of the observer position for the luminaire distance S											
S = 1,0H	+3,8 / -3,9					+3,8 / -3,9					
S = 1,5H	+6,4 / -4,2					+6,4 / -4,2					
S = 2,0H	+8,4 / -4,6					+8,4 / -4,6					
Standard table	BK01					BK01					
Correction summand	4,2					4,2					
Corrected glare indices referring to 2817lm total luminous flux											



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