

LM-79

Test Report

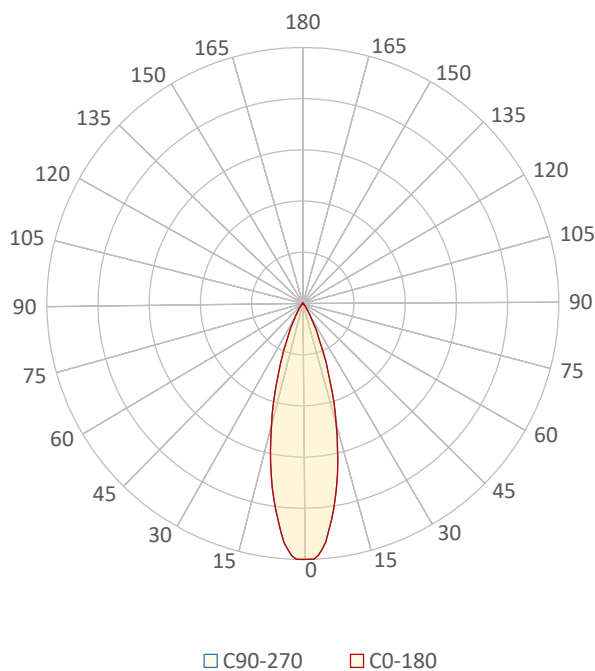
LM79-HYLO-4000K-CRI80-DEG30

General Discription

Item number	H-X-X-02-02-3-3
Date and time	29-6-2018 10:04:07
CCT (Kelvin)	3787 K
Beam angle	29,6°
Luminous flux	887 lm
Efficiency	95 lm/watt
Weighted energy	9,4 kWh/1000h
Power factor	0,92
CRI (RA)	83,5
Fidelity index Rf	Rf 83,3
Gammut index Rg	Rg 98,3
Peak	2819 cd



Polar diagram



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Beam details	1m	2m	3m	4m	5m																			
Lux*	2819 lx	705 lx	313 lx	176 lx	113 lx																			
<i>*measured at center of beam</i>																								
Footcandles*	261,8 fcd	65,5 fcd	29,1 fcd	16,4 fcd	10,5 fcd																			
Beam width (meter)	0,5 m	1,1 m	1,6 m	2,1 m	2,6 m																			
Beam width (Feet)	1,7 ft	3,5 ft	5,2 ft	6,9 ft	8,7 ft																			
Beam intensities																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
2819lx	705lx	313lx	176lx	113lx	78lx	58lx	44lx	35lx	28lx	23lx	20lx	17lx	14lx	13lx	11lx	10lx	9lx	8lx	7lx					
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					
261,8fcd	65,5fcd	29,1fcd	16,4fcd	10,5fcd	7,3fcd	5,3fcd	4,1fcd	3,2fcd	2,6fcd	2,2fcd	1,8fcd	1,5fcd	1,3fcd	1,2fcd	1fcd	0,9fcd	0,8fcd	0,7fcd	0,7fcd					
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°					
2819	2819	2715	2525	2291	2053	1783	1513	1262	1019	793	616	440	333	242	170	129	89	69	52					
100%	100%	96%	90%	81%	73%	63%	54%	45%	36%	28%	22%	16%	12%	9%	6%	5%	3%	2%	2%					
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°					
2819	2819	2715	2525	2291	2053	1783	1513	1262	1019	793	616	440	333	242	170	129	89	69	52					
100%	100%	96%	90%	81%	73%	63%	54%	45%	36%	28%	22%	16%	12%	9%	6%	5%	3%	2%	2%					
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°					
2819	2819	2715	2525	2291	2053	1783	1513	1262	1019	793	616	440	333	242	170	129	89	69	52					
100%	100%	96%	90%	81%	73%	63%	54%	45%	36%	28%	22%	16%	12%	9%	6%	5%	3%	2%	2%					
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°					
2819	2819	2715	2525	2291	2053	1783	1513	1262	1019	793	616	440	333	242	170	129	89	69	52					
100%	100%	96%	90%	81%	73%	63%	54%	45%	36%	28%	22%	16%	12%	9%	6%	5%	3%	2%	2%					
Beam angle 50%					Field angle 10%					Cutoff angle 2,5%					Intensity ratio in 120° cone					Intensity ratio in 90° cone				
29,6°					54,2°					71,7°					98,0%					96,2%				



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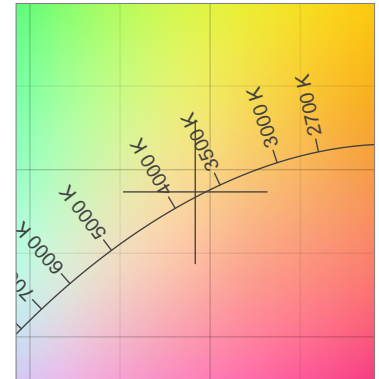
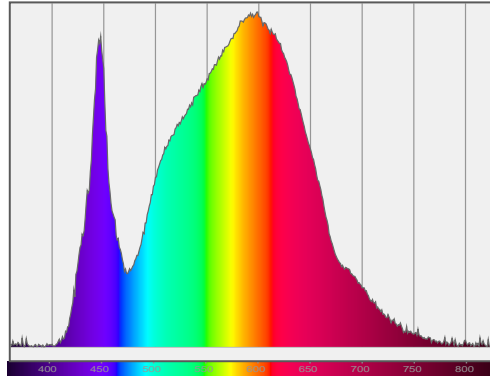
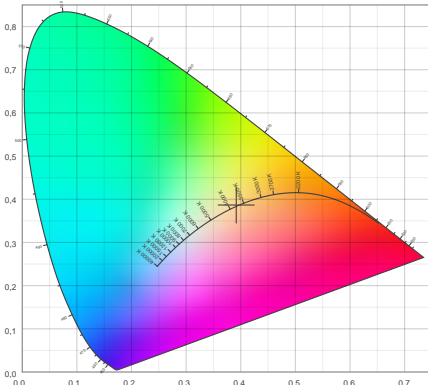
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Color details



CIE 1931

x: 0,392



Spectra

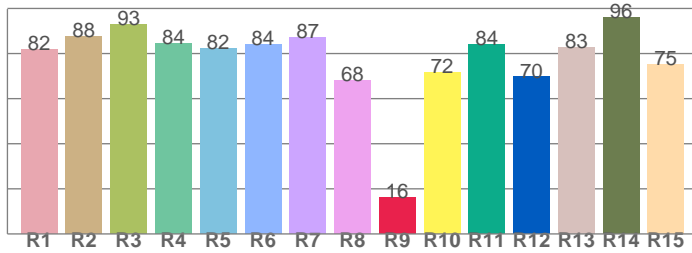
CIE 1931 ZOOM

3787 K

y: 0,387

$\Delta uv: 0,0015$

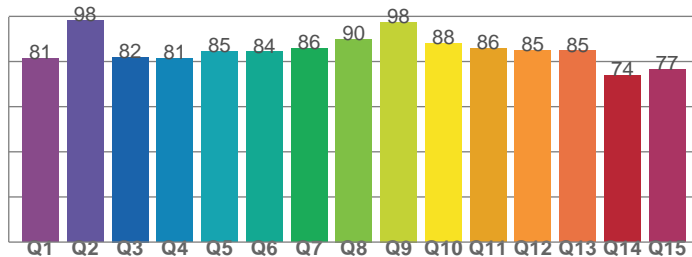
CRI: 83,5 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
81,8	87,7	93,1	84,4	82,1	84,1	87,1	68,0
R9	R10	R11	R12	R13	R14	R15	
16,4	71,6	84,2	69,7	82,8	96,0	75,2	

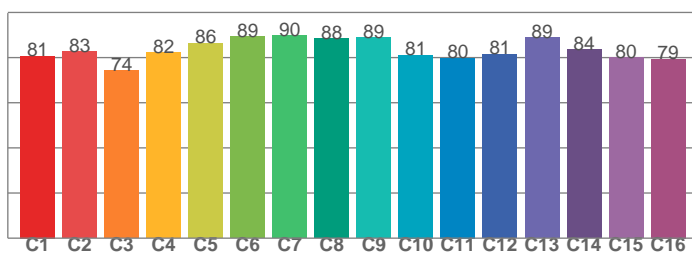
CQS: 84,0



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
81,5	98,3	82,0	81,5	84,6	84,3	85,7	90,0
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
97,5	87,9	85,9	84,9	84,7	74,0	76,6	

TM30: 83,3



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

C1	C2	C3	C4	C5	C6	C7	C8
80,7	82,6	74,4	82,2	86,4	89,4	89,8	88,4
C9	C10	C11	C12	C13	C14	C15	
88,9	81,2	79,8	81,5	88,9	83,7	80,0	

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
3787 K	83,5	16,4	83,3	98,3	84,0	0,392	0,387	0,229	0,338	0,0015



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TM30 details

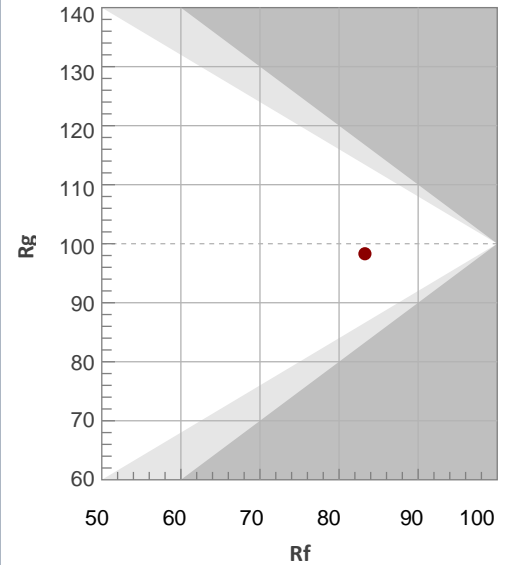
Rf 83,3

Fidelity index Rf

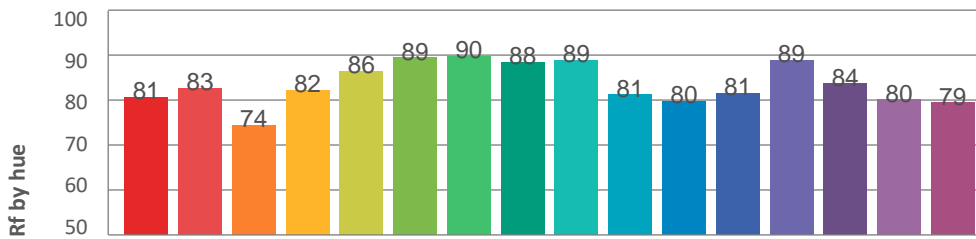
Rg 98,3

Gamut index Rg

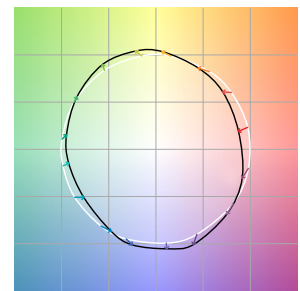
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	81	-10%	-2%
2	83	-7%	5%
3	74	-3%	12%
4	82	3%	10%
5	86	6%	6%
6	89	6%	-2%
7	90	1%	-6%
8	88	-4%	-5%
9	89	-6%	-2%
10	81	-8%	6%
11	80	-1%	12%
12	81	5%	7%
13	89	6%	-1%
14	84	7%	-9%
15	80	1%	-13%
16	79	-4%	-11%



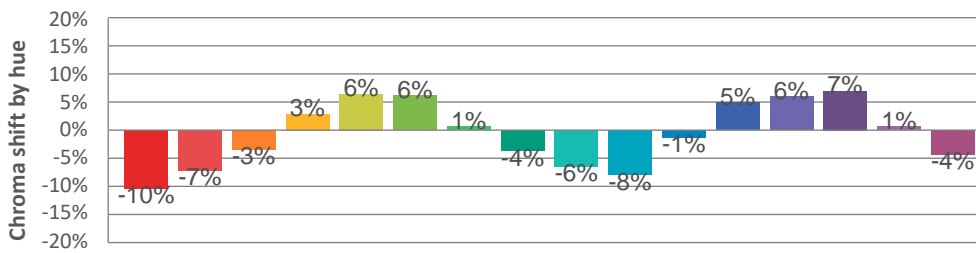
Hue binH



Color vector graphics



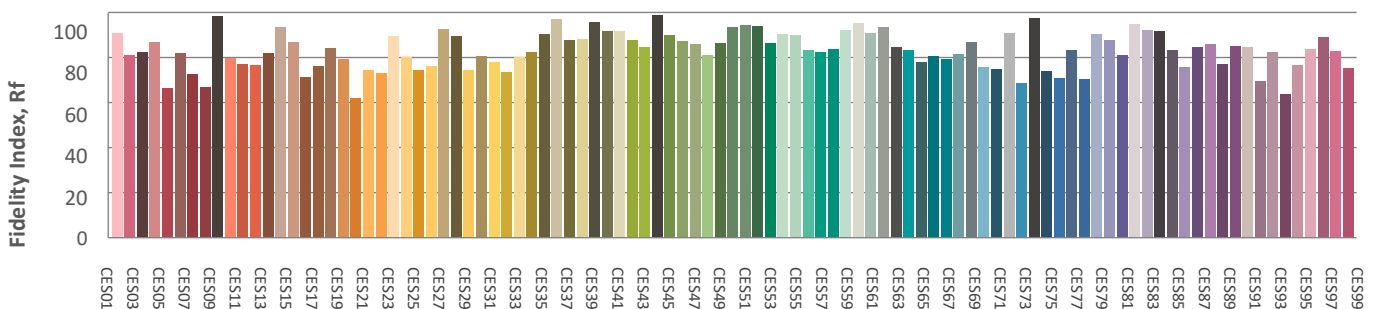
Hue bin



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	10,2	10,9	10,5	11,1	11,3	10,2	10,9	10,5	11,1	11,3
	3H	10,5	11,1	10,8	11,3	11,6	10,5	11,1	10,8	11,3	11,6
	4H	10,5	11,1	10,9	11,4	11,7	10,5	11,1	10,9	11,4	11,7
	6H	10,6	11,2	11,0	11,5	11,8	10,6	11,2	11,0	11,5	11,8
	8H	10,7	11,2	11,1	11,5	11,8	10,7	11,2	11,1	11,5	11,8
	12H	10,8	11,3	11,2	11,6	11,9	10,8	11,3	11,2	11,6	11,9
4H	2H	10,3	10,9	10,6	11,1	11,4	10,3	10,9	10,6	11,1	11,4
	3H	10,6	11,1	11,0	11,4	11,7	10,6	11,1	11,0	11,4	11,7
	4H	10,8	11,2	11,1	11,5	11,9	10,8	11,2	11,1	11,5	11,9
	6H	11,0	11,3	11,4	11,7	12,1	11,0	11,3	11,4	11,7	12,1
	8H	11,1	11,4	11,5	11,8	12,2	11,1	11,4	11,5	11,8	12,2
	12H	11,2	11,5	11,7	11,9	12,4	11,2	11,5	11,7	11,9	12,4
8H	4H	10,8	11,1	11,2	11,5	11,9	10,8	11,1	11,2	11,5	11,9
	6H	11,1	11,3	11,5	11,8	12,2	11,1	11,3	11,5	11,8	12,2
	8H	11,3	11,5	11,8	11,9	12,4	11,3	11,5	11,8	11,9	12,4
	12H	11,5	11,7	12,0	12,2	12,7	11,5	11,7	12,0	12,2	12,7
12H	4H	10,8	11,0	11,2	11,4	11,9	10,8	11,0	11,2	11,4	11,9
	6H	11,1	11,3	11,6	11,8	12,2	11,1	11,3	11,6	11,8	12,2
	8H	11,3	11,5	11,8	12,0	12,5	11,3	11,5	11,8	12,0	12,5
Variation of the observer position for the luminaire distance S											
S = 1,0H	+2,8 / -1,7					+2,8 / -1,7					
S = 1,5H	+5,0 / -2,1					+5,0 / -2,1					
S = 2,0H	+6,9 / -2,8					+6,9 / -2,8					
Standard table	BK02					BK02					
Correction summand	-6,7					-6,7					
Corrected glare indices referring to 887lm total luminous flux											



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