

LM-79

Test Report

LM79-HYLO-4000K-CRI80-DEG12

General Discription

Item number H-X-X-02-02-1-1

Date and time 29-6-2018 09:59:19

CCT (Kelvin) 3781 K

Beam angle 15,8°

Luminous flux 929 lm

Efficiency 99 lm/watt

Weighted energy 9,4 kWh/1000h

Power factor 0,92

CRI (RA) 83,4

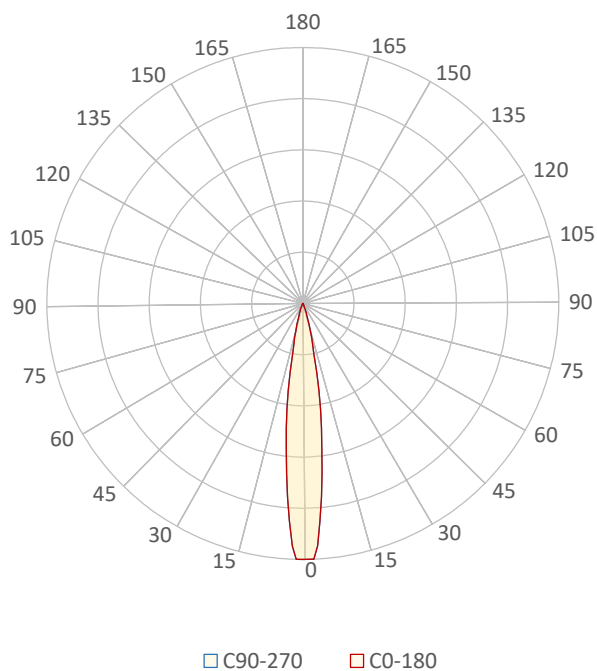
Fidelity index Rf Rf 83,2

Gammut index Rg Rg 98,3

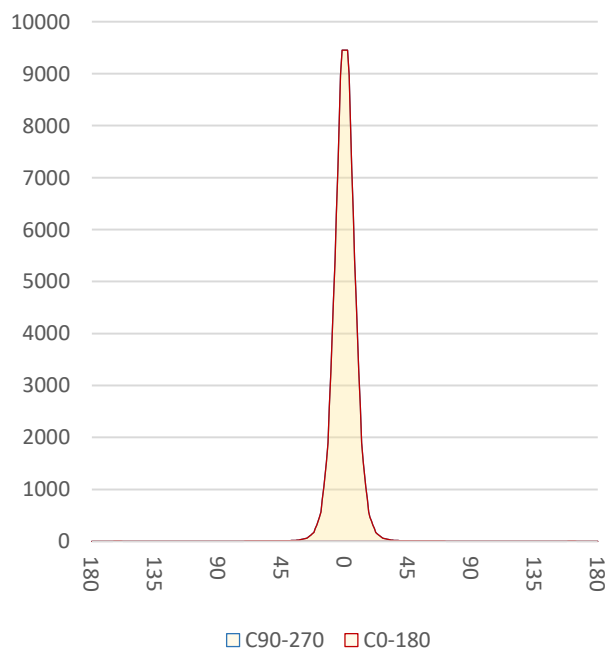
Peak 9453 cd



Polar diagram



Cartesian diagram



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Beam details	1m	2m	3m	4m	5m
Lux*	9453 lx	2363 lx	1050 lx	591 lx	378 lx

*measured at center of beam

Footcandles*	878,2 fcd	219,6 fcd	97,6 fcd	54,9 fcd	35,1 fcd
Beam width (meter)	0,3 m	0,6 m	0,8 m	1,1 m	1,4 m
Beam width (Feet)	0,9 ft	1,8 ft	2,7 ft	3,6 ft	4,5 ft

Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
9453lx	2363lx	1050lx	591lx	378lx	263lx	193lx	148lx	117lx	95lx	78lx	66lx	56lx	48lx	42lx	37lx	33lx	29lx	26lx	24lx
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
878,2fcd	219,6fcd	97,6fcd	54,9fcd	35,1fcd	24,4fcd	17,9fcd	13,7fcd	10,8fcd	8,8fcd	7,3fcd	6,1fcd	5,2fcd	4,5fcd	3,9fcd	3,4fcd	3fcd	2,7fcd	2,4fcd	2,2fcd

Intensities in 0° c-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
9453	9453	9453	8970	8080	7190	6300	5409	4647	3960	3273	2585	1898	1529	1288	1047	806	564	458	386
100%	100%	100%	95%	85%	76%	67%	57%	49%	42%	35%	27%	20%	16%	14%	11%	9%	6%	5%	4%

Intensities in 90° c-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
9453	9453	9453	8970	8080	7190	6300	5409	4647	3960	3273	2585	1898	1529	1288	1047	806	564	458	386
100%	100%	100%	95%	85%	76%	67%	57%	49%	42%	35%	27%	20%	16%	14%	11%	9%	6%	5%	4%

Intensities in 180° c-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
9453	9453	9453	8970	8080	7190	6300	5409	4647	3960	3273	2585	1898	1529	1288	1047	806	564	458	386
100%	100%	100%	95%	85%	76%	67%	57%	49%	42%	35%	27%	20%	16%	14%	11%	9%	6%	5%	4%

Intensities in 270° c-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
9453	9453	9453	8970	8080	7190	6300	5409	4647	3960	3273	2585	1898	1529	1288	1047	806	564	458	386
100%	100%	100%	95%	85%	76%	67%	57%	49%	42%	35%	27%	20%	16%	14%	11%	9%	6%	5%	4%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
15,8°	30,8°	42,2°	98,8%	98,2%



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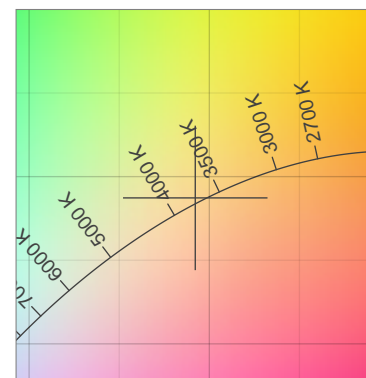
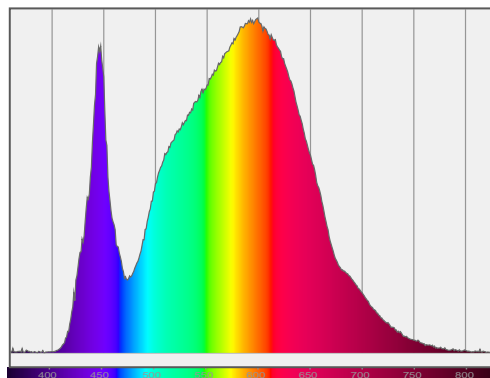
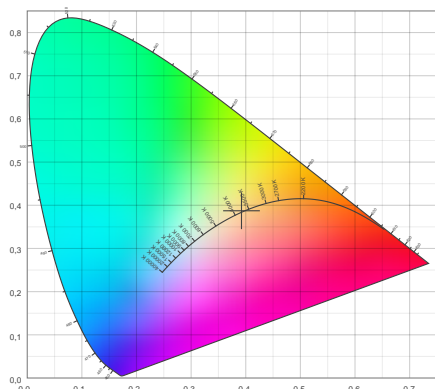
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Color details



CIE 1931

x: 0,392

3781 K

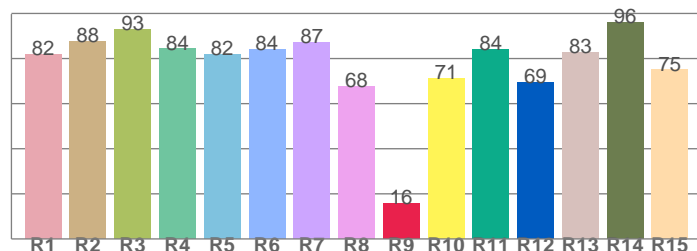
y: 0,387

Spectra

CIE 1931 ZOOM

Δuv : 0,0016

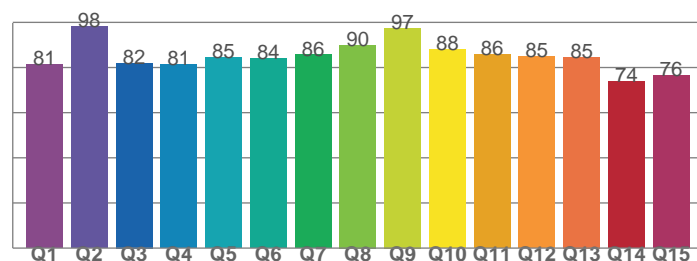
CRI: **83,4** (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
81,7	87,5	93,0	84,3	82,0	83,9	87,0	67,8
R9	R10	R11	R12	R13	R14	R15	
15,9	71,3	84,1	69,5	82,6	96,0	75,0	

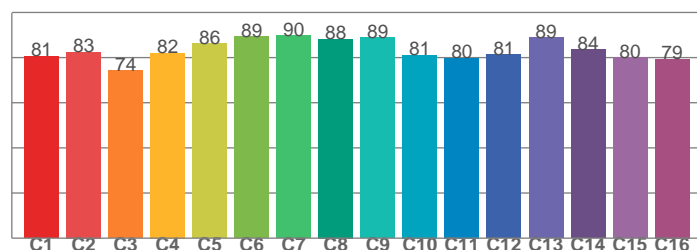
CQS: **83,9**



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
81,4	98,3	82,0	81,5	84,5	84,2	85,6	90,0
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
97,5	87,9	85,9	84,9	84,7	73,8	76,4	

TM30: **83,2**



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

C1	C2	C3	C4	C5	C6	C7	C8
80,6	82,5	74,2	82,0	86,3	89,3	89,7	88,2
C9	C10	C11	C12	C13	C14	C15	
88,8	81,1	79,8	81,4	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
3781 K	83,4	15,9	83,2	98,3	83,9	0,392	0,387	0,229	0,339	0,0016



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TM30 details

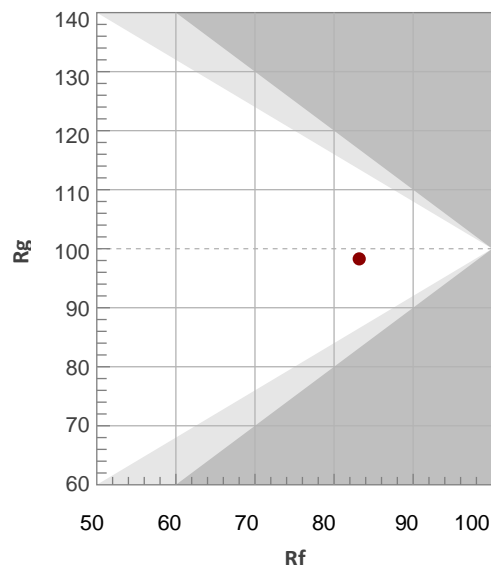
Rf 83,2

Fidelity index Rf

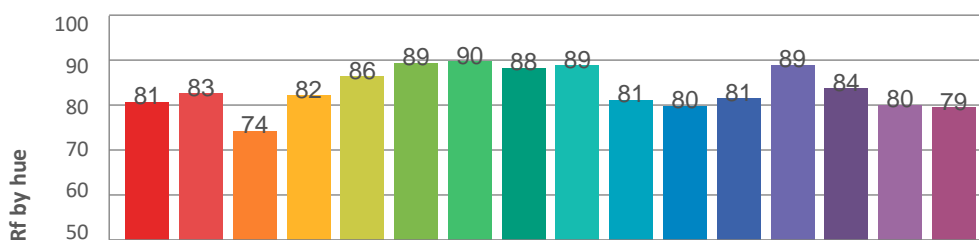
Rg 98,3

Gamut index Rg

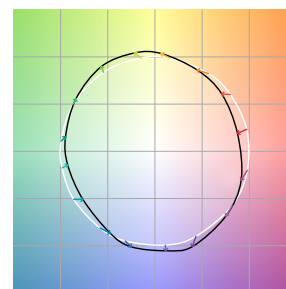
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	81	-10%	-2%
2	83	-7%	5%
3	74	-3%	12%
4	82	3%	10%
5	86	7%	6%
6	89	6%	-2%
7	90	1%	-6%
8	88	-4%	-5%
9	89	-7%	-2%
10	81	-8%	6%
11	80	-1%	12%
12	81	5%	7%
13	89	6%	-1%
14	84	7%	-9%
15	80	1%	-13%
16	79	-4%	-11%



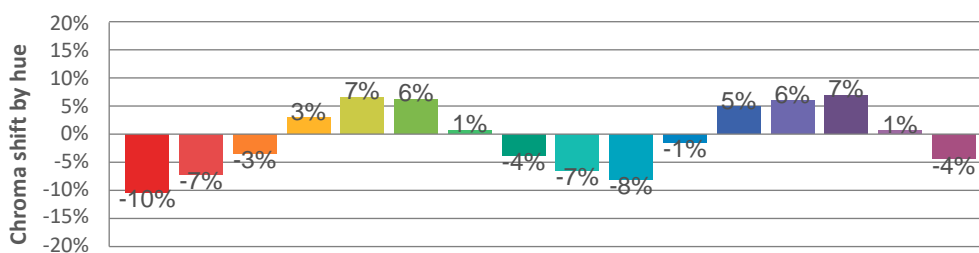
Hue binH



Color vector graphics



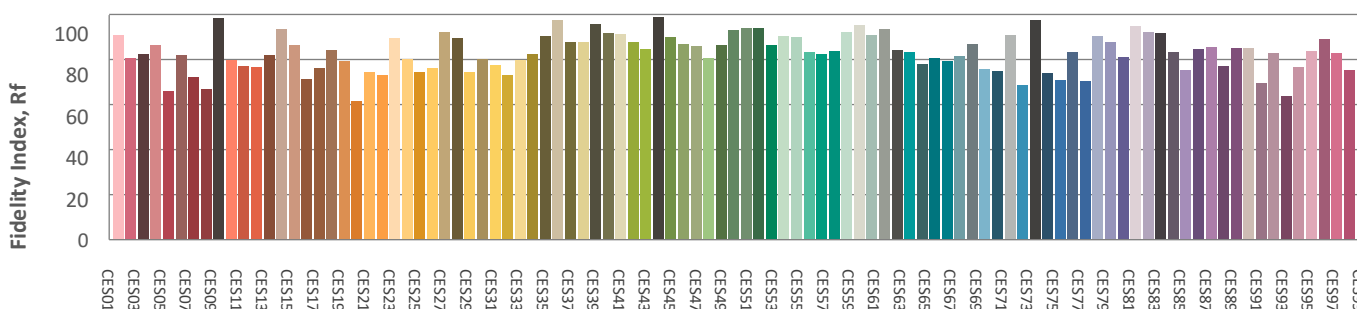
Hue bin



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	1,9	2,5	2,1	2,7	2,9	1,9	2,5	2,1	2,7	2,9
	3H	2,7	3,3	3,0	3,5	3,8	2,7	3,3	3,0	3,5	3,8
	4H	3,2	3,8	3,5	4,0	4,3	3,2	3,8	3,5	4,0	4,3
	6H	3,6	4,1	3,9	4,4	4,7	3,6	4,1	3,9	4,4	4,7
	8H	3,7	4,2	4,1	4,5	4,8	3,7	4,2	4,1	4,5	4,8
	12H	3,9	4,4	4,3	4,7	5,0	3,9	4,4	4,3	4,7	5,0
4H	2H	2,1	2,7	2,4	2,9	3,2	2,1	2,7	2,4	2,9	3,2
	3H	3,2	3,7	3,6	4,0	4,3	3,2	3,7	3,6	4,0	4,3
	4H	3,9	4,3	4,3	4,6	5,0	3,9	4,3	4,3	4,6	5,0
	6H	4,4	4,8	4,8	5,1	5,5	4,4	4,8	4,8	5,1	5,5
	8H	4,6	4,9	5,1	5,3	5,7	4,6	4,9	5,1	5,3	5,7
	12H	4,9	5,2	5,4	5,6	6,0	4,9	5,2	5,4	5,6	6,0
8H	4H	4,2	4,4	4,6	4,8	5,2	4,2	4,4	4,6	4,8	5,2
	6H	4,8	5,0	5,3	5,4	5,9	4,8	5,0	5,3	5,4	5,9
	8H	5,1	5,3	5,6	5,7	6,2	5,1	5,3	5,6	5,7	6,2
	12H	5,6	5,7	6,1	6,2	6,7	5,6	5,7	6,1	6,2	6,7
12H	4H	4,2	4,4	4,6	4,8	5,3	4,2	4,4	4,6	4,8	5,3
	6H	4,9	5,0	5,3	5,5	6,0	4,9	5,0	5,3	5,5	6,0
	8H	5,2	5,4	5,7	5,8	6,3	5,2	5,4	5,7	5,8	6,3
Variation of the observer position for the luminaire distance S											
S = 1,0H		+0,9 / -0,6					+0,9 / -0,6				
S = 1,5H		+2,0 / -1,0					+2,0 / -1,0				
S = 2,0H		+3,3 / -1,2					+3,3 / -1,2				
Standard table		BK05					BK05				
Correction summand		-12,3					-12,3				
Corrected glare indices referring to 929lm total luminous flux											