

LM-79

Test Report

LM79-HYLO-COMPACT-UPANDDOWN-3000K-CRI80-DEG14

General Discription

Item number	HC-1-X-03-03-1-1
Date and time	29-2-2016 16:11:57
CCT (Kelvin)	2983 K
Beam angle	13,8°
Luminous flux	514 lm
Efficiency	64 lm/watt
Weighted energy	8,0 kWh/1000h
Power factor	0,44
CRI (RA)	82,7
Fidelity index Rf	Rf 82,9
Gammut index Rg	Rg 97,0



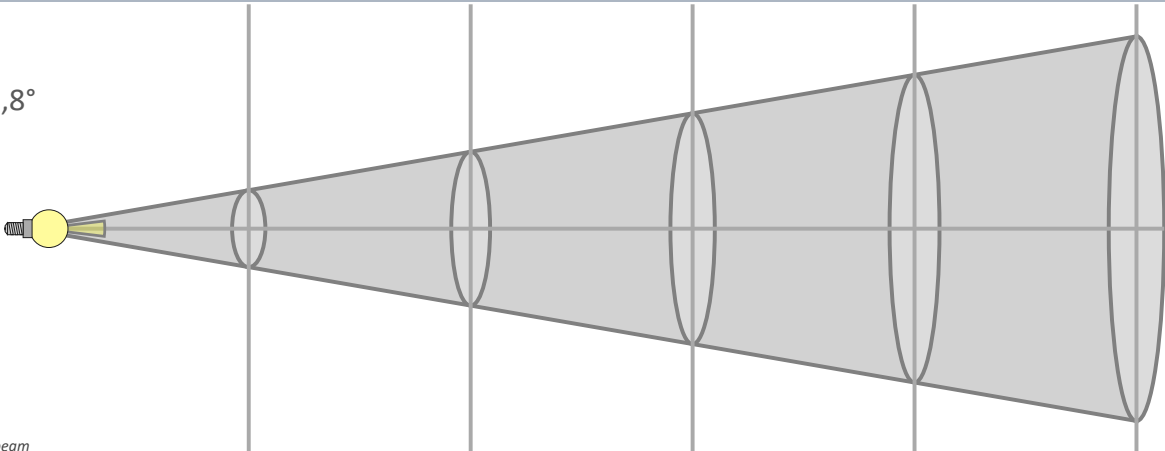
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Beam details					1m		2m		3m		4m		5m											
Lux*					6740 lx		1685 lx		749 lx		421 lx		270 lx											
13,8° 																								
*measured at center of beam																								
Footcandles*					626,2 fcd		156,5 fcd		69,6 fcd		39,1 fcd		25,0 fcd											
Beam width (meter)					0,2 m		0,5 m		0,7 m		1 m		1,2 m											
Beam width (Feet)					0,8 ft		1,6 ft		2,4 ft		3,2 ft		4 ft											
Beam intensities																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
6740lx	1685lx	749lx	421lx	270lx	187lx	138lx	105lx	83lx	67lx	56lx	47lx	40lx	34lx	30lx	26lx	23lx	21lx	19lx	17lx					
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					
626,2fcd	156,5fcd	69,6fcd	39,1fcd	25fcd	17,4fcd	12,8fcd	9,8fcd	7,7fcd	6,3fcd	5,2fcd	4,3fcd	3,7fcd	3,2fcd	2,8fcd	2,4fcd	2,2fcd	1,9fcd	1,7fcd	1,6fcd					
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°					
6740	6730	6385	5957	5309	4651	3974	3305	2642	2082	1574	1231	904	685	493	382	284	213	161	124					
100%	100%	95%	88%	79%	69%	59%	49%	39%	31%	23%	18%	13%	10%	7%	6%	4%	3%	2%	2%					
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°					
6740	6667	6281	5877	5328	4688	3963	3285	2669	2142	1633	1237	903	707	516	383	282	218	163	122					
100%	99%	93%	87%	79%	70%	59%	49%	40%	32%	24%	18%	13%	10%	8%	6%	4%	3%	2%	2%					
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°					
6740	6730	6385	5957	5309	4651	3974	3305	2642	2082	1574	1231	904	685	493	382	284	213	161	124					
100%	100%	95%	88%	79%	69%	59%	49%	39%	31%	23%	18%	13%	10%	7%	6%	4%	3%	2%	2%					
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°					
6740	6667	6281	5877	5328	4688	3963	3285	2669	2142	1633	1237	903	707	516	383	282	218	163	122					
100%	99%	93%	87%	79%	70%	59%	49%	40%	32%	24%	18%	13%	10%	8%	6%	4%	3%	2%	2%					
Beam angle 50%					Field angle 10%					Cutoff angle 2,5%					Intensity ratio in 120° cone					Intensity ratio in 90° cone				
13,8°					26,2°					{C_ANG}°					97,8%					96,8%				



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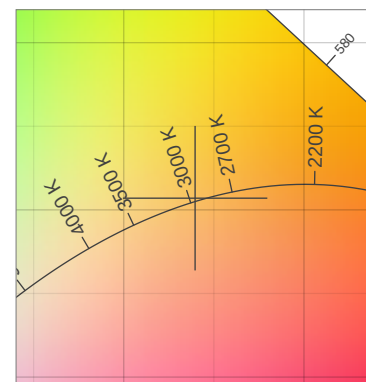
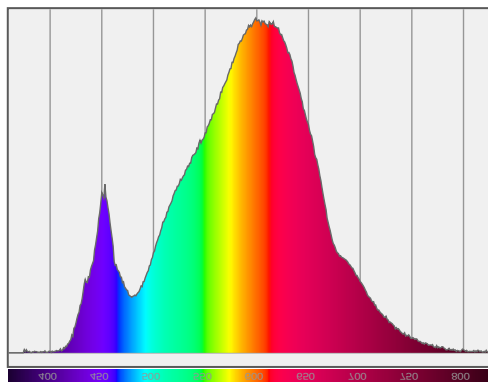
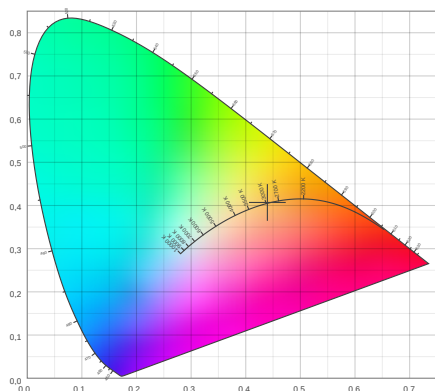
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Color details



CIE 1931

x: 0,440



Spectra

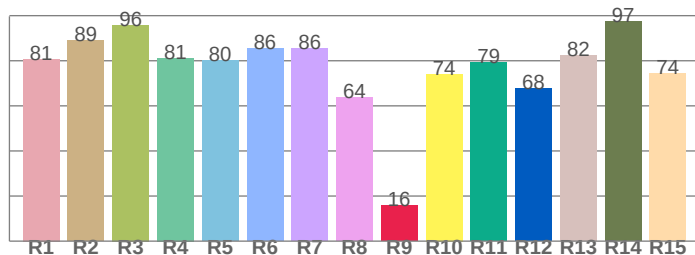
CIE 1931 ZOOM

2983 K

y: 0,407

Δuv : 0,0008

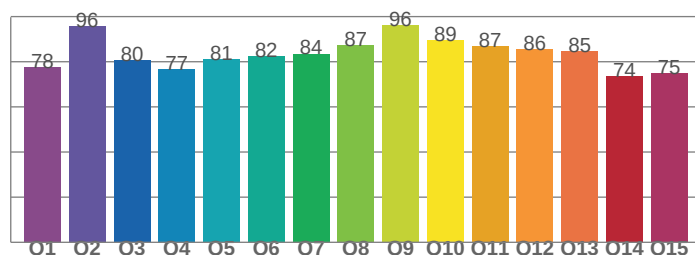
CRI: 82,7 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
80,8	89,0	95,8	81,3	80,1	85,6	85,6	63,8
R9	R10	R11	R12	R13	R14	R15	
15,9	74,2	79,4	67,8	82,4	97,4	74,4	

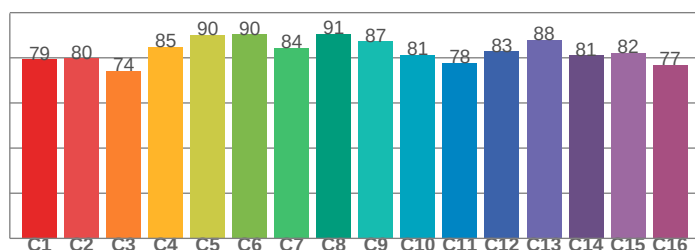
CQS: 82,3



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
77,7	95,7	80,5	76,8	80,9	82,4	83,5	87,2
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,1	89,5	87,0	85,5	84,7	73,7	74,8	

TM30: 82,9



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

C1	C2	C3	C4	C5	C6	C7	C8
79,3	79,7	74,1	84,9	90,2	90,4	84,3	90,5
C9	C10	C11	C12	C13	C14	C15	
87,2	81,2	77,9	82,8	87,9	81,0	82,3	

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
2983 K	82,7	15,9	82,9	97,0	82,3	0,440	0,407	0,251	0,349	0,0008



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TM30 details

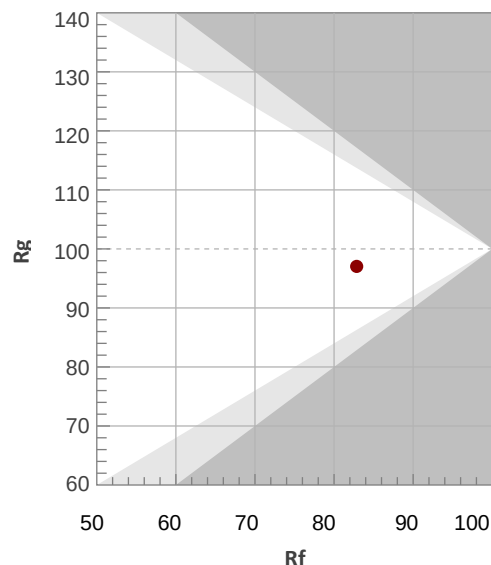
Rf 82,9

Fidelity index Rf

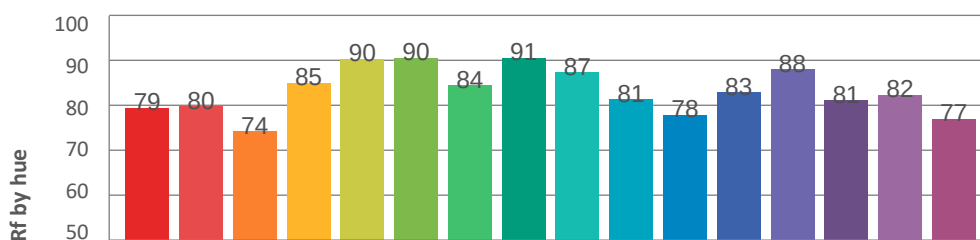
Rg 97,0

Gamut index Rg

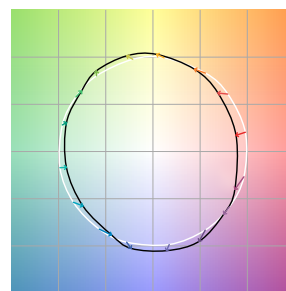
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	79	-10%	-1%
2	80	-8%	7%
3	74	-3%	12%
4	85	2%	8%
5	90	5%	5%
6	90	4%	-3%
7	84	-1%	-9%
8	91	-4%	-3%
9	87	-7%	1%
10	81	-6%	9%
11	78	-2%	14%
12	83	6%	6%
13	88	6%	-4%
14	81	6%	-12%
15	82	-1%	-10%
16	77	-7%	-15%



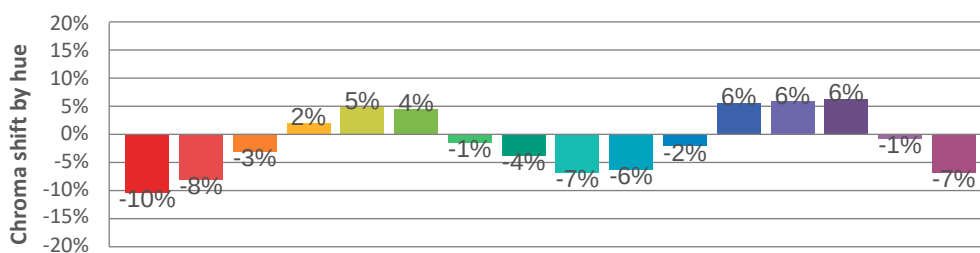
Hue binH



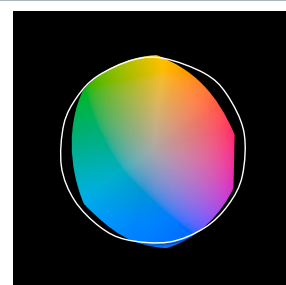
Color vector graphics



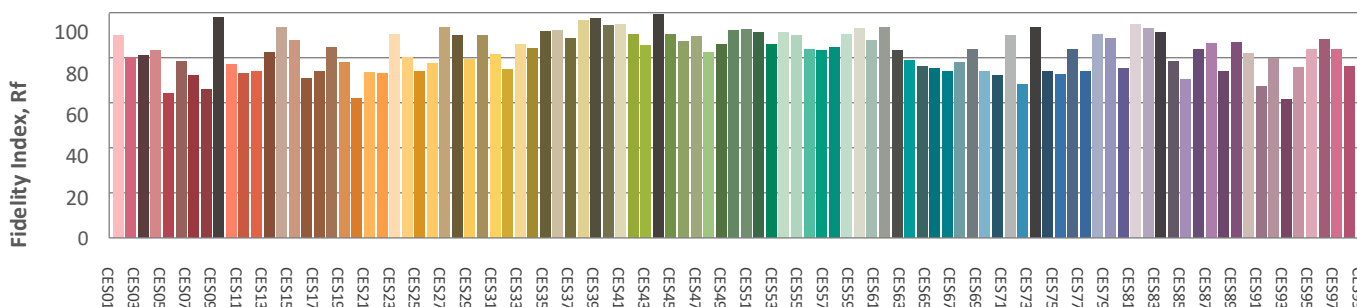
Hue bin



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	5,3	6,0	5,6	6,2	6,4	5,1	5,7	5,3	6,0	6,2
	3H	6,0	6,6	6,3	6,9	7,2	6,3	6,9	6,6	7,1	7,4
	4H	6,7	7,2	7,0	7,5	7,8	7,2	7,7	7,5	8,0	8,3
	6H	7,9	8,4	8,2	8,7	9,0	8,3	8,8	8,6	9,1	9,4
	8H	8,5	9,0	8,9	9,3	9,7	8,8	9,3	9,1	9,6	9,9
	12H	9,2	9,6	9,5	9,9	10,3	9,2	9,6	9,5	10,0	10,3
4H	2H	5,7	6,3	6,0	6,6	6,8	5,5	6,1	5,9	6,4	6,7
	3H	6,7	7,1	7,0	7,5	7,8	6,9	7,4	7,3	7,7	8,1
	4H	7,6	8,0	8,0	8,3	8,7	8,1	8,5	8,5	8,8	9,2
	6H	9,1	9,4	9,5	9,8	10,2	9,5	9,8	9,9	10,2	10,6
	8H	9,9	10,2	10,3	10,6	11,0	10,1	10,4	10,5	10,8	11,2
	12H	10,6	10,9	11,1	11,3	11,8	10,6	10,8	11,0	11,3	11,7
8H	4H	8,1	8,4	8,6	8,8	9,3	8,5	8,8	9,0	9,2	9,7
	6H	9,9	10,1	10,4	10,6	11,0	10,2	10,5	10,7	10,9	11,4
	8H	10,9	11,1	11,4	11,5	12,0	11,0	11,2	11,5	11,6	12,1
	12H	11,8	11,9	12,3	12,4	12,9	11,6	11,8	12,1	12,3	12,8
12H	4H	8,3	8,5	8,7	9,0	9,4	8,7	8,9	9,1	9,3	9,8
	6H	10,1	10,3	10,6	10,8	11,3	10,4	10,6	10,9	11,1	11,6
	8H	11,2	11,3	11,7	11,8	12,3	11,2	11,4	11,7	11,9	12,4

Variation of the observer position for the luminaire distance S

S = 1,0H	+0,2 / -0,2	+0,1 / -0,2
S = 1,5H	+0,4 / -0,3	+0,4 / -0,4
S = 2,0H	+0,7 / -0,7	+0,8 / -0,6
Standard table	---	BK08
Correction summand	---	-6,4

Corrected glare indices referring to 514lm total luminous flux



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