

LM-79

Test Report

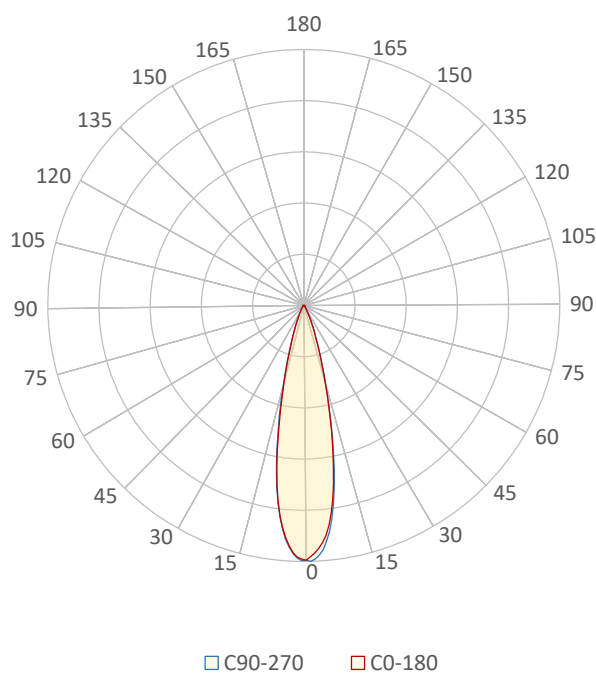
LM79-CLS-KRYPTON-RGBW30-80-SPOT [W]

General Discription

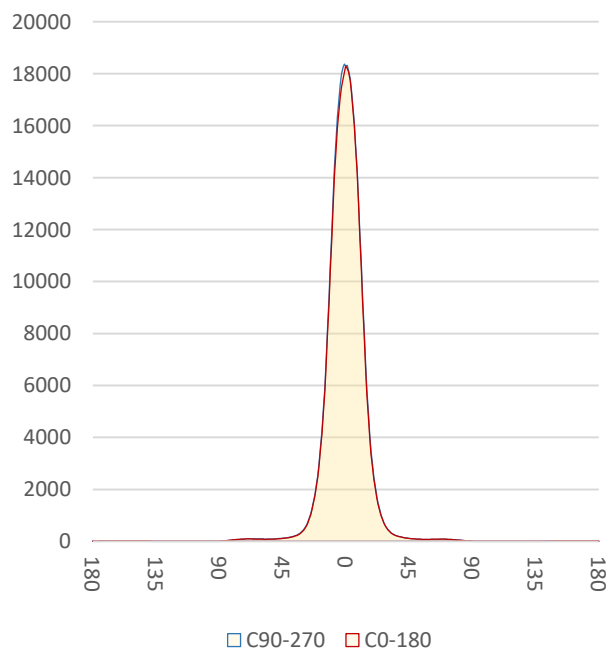
Item number	
Date and time	16-12-2019 16:43:49
CCT (Kelvin)	2988 K
Beam angle	24,2°
Luminous flux	4117 lm
Efficiency	103 lm/watt
Weighted energy	40,0 kWh/1000h
Power factor	0,81
CRI (RA)	81,2
Fidelity index Rf	Rf 84,7
Gammut index Rg	Rg 94,6
Peak	18412 cd



Polar diagram



Cartesian diagram



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Beam details	1m	2m	3m	4m	5m
Lux*	18290 lx	4572 lx	2032 lx	1143 lx	732 lx

*measured at center of beam

Footcandles*	1699,2 fcd	424,8 fcd	188,8 fcd	106,2 fcd	68,0 fcd
Beam width (meter)	0,4 m	0,9 m	1,3 m	1,7 m	2,1 m
Beam width (Feet)	1,4 ft	2,8 ft	4,2 ft	5,6 ft	7 ft

Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
18290lx	4572lx	2032lx	1143lx	732lx	508lx	373lx	286lx	226lx	183lx	151lx	127lx	108lx	93lx	81lx	71lx	63lx	56lx	51lx	46lx
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
1699,2fcd	424,8fcd	188,8fcd	106,2fcd	68fcd	47,2fcd	34,7fcd	26,5fcd	21fcd	17fcd	14fcd	11,8fcd	10,1fcd	8,7fcd	7,6fcd	6,6fcd	5,9fcd	5,2fcd	4,7fcd	4,2fcd

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°
18,3K	17,8K	17,1K	15,9K	14,1K	11,7K	9,1K	6,8K	4,9K	3,5K	2,5K	1,7K	1,2K	0,9K	0,6K	0,4K	0,3K	0,2K	0,2K	0,2K
100%	97%	94%	87%	77%	64%	50%	37%	27%	19%	13%	9%	7%	5%	3%	2%	2%	1%	1%	1%

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°
18,3K	18,3K	17,6K	16,3K	14,5K	12,0K	9,4K	7,0K	5,0K	3,6K	2,5K	1,8K	1,3K	0,9K	0,6K	0,5K	0,3K	0,3K	0,2K	0,2K
100%	100%	96%	89%	79%	66%	51%	38%	27%	20%	14%	10%	7%	5%	3%	2%	2%	1%	1%	1%

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°
18,3K	18,1K	17,3K	16,0K	14,2K	11,8K	9,1K	6,7K	4,8K	3,4K	2,4K	1,7K	1,2K	0,8K	0,6K	0,4K	0,3K	0,3K	0,2K	0,2K
100%	99%	95%	88%	78%	64%	50%	37%	26%	18%	13%	9%	7%	5%	3%	2%	2%	1%	1%	1%

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°
18,3K	18,1K	17,4K	16,1K	14,3K	12,0K	9,4K	6,9K	5,0K	3,5K	2,5K	1,7K	1,2K	0,9K	0,6K	0,4K	0,3K	0,3K	0,2K	0,2K
100%	99%	95%	88%	78%	65%	51%	38%	27%	19%	13%	10%	7%	5%	3%	2%	2%	1%	1%	1%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
24,1°	43,4°	59,6°	95,0%	92,3%



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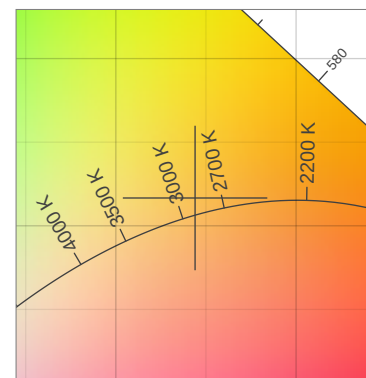
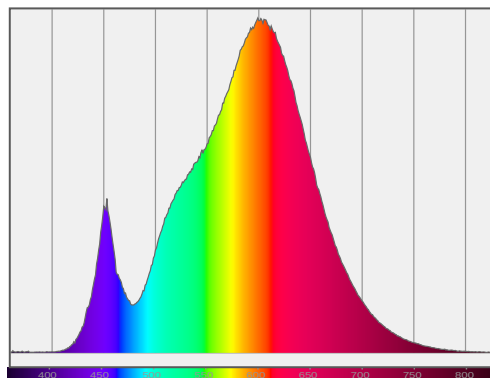
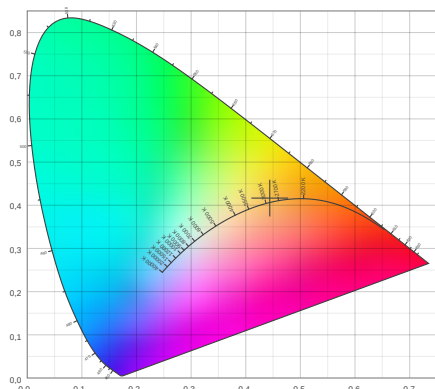
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Color details



CIE 1931

x: 0,444



Spectra

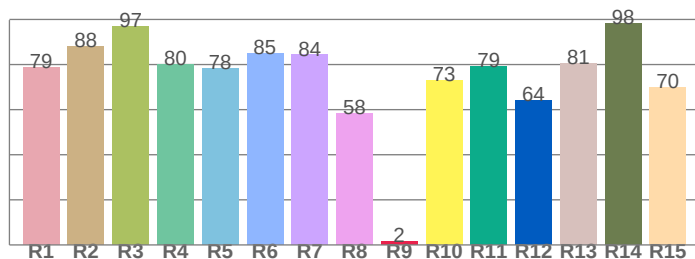
CIE 1931 ZOOM

2988 K

y: 0,417

Δuv : 0,0040

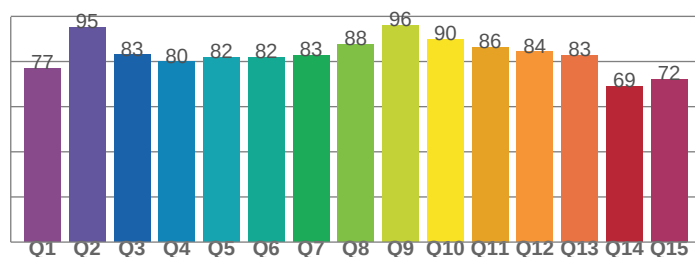
CRI: 81,2 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
78,6	88,0	97,1	80,1	78,2	85,1	84,3	58,2
R9	R10	R11	R12	R13	R14	R15	
1,6	72,8	79,0	64,2	80,5	98,3	69,8	

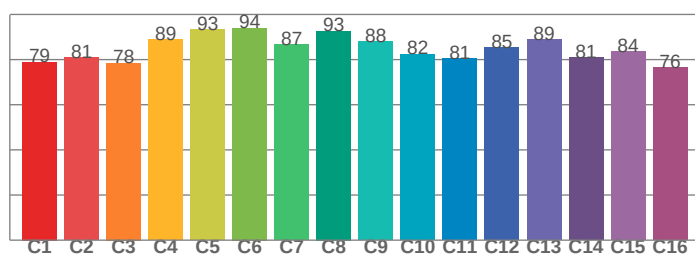
CQS: 81,6



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
76,9	95,0	83,0	79,8	81,7	81,7	82,7	87,6
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
95,9	89,7	86,4	84,3	82,6	69,0	71,9	

TM30: 84,7



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

C1	C2	C3	C4	C5	C6	C7	C8
79,0	80,9	78,5	89,0	93,4	94,1	86,8	92,7
C9	C10	C11	C12	C13	C14	C15	
87,9	82,4	80,6	85,5	88,9	80,9	83,5	

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
2988 K	81,2	1,6	84,7	94,6	81,6	0,444	0,417	0,250	0,352	0,0040



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TM30 details

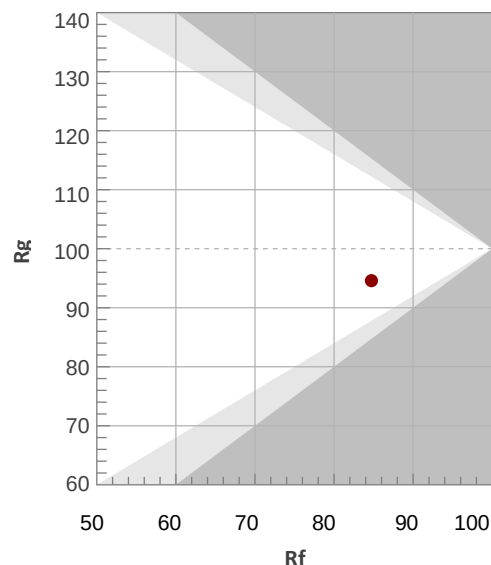
Rf 84,7

Fidelity index R_f

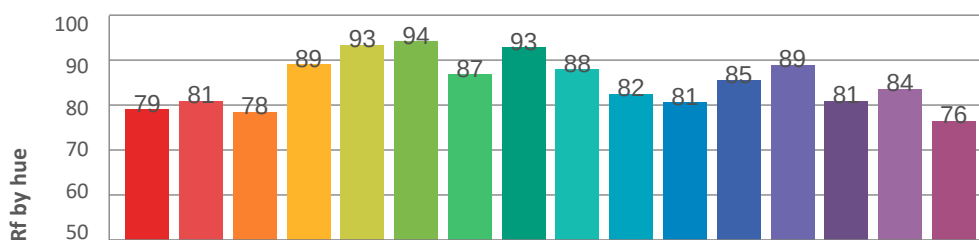
Rg 94,6

Gammut index Rg

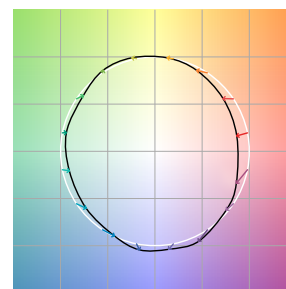
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	79	-12%	-1%
2	81	-9%	6%
3	78	-4%	11%
4	89	0%	7%
5	93	2%	5%
6	94	2%	-2%
7	87	-4%	-7%
8	93	-4%	-1%
9	88	-7%	3%
10	82	-6%	10%
11	81	-2%	14%
12	85	6%	4%
13	89	5%	-6%
14	81	5%	-15%
15	84	-3%	-10%
16	76	-9%	-16%



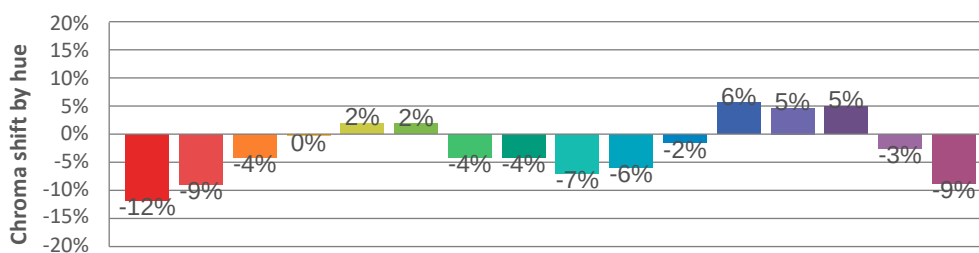
Hue binH



Color vector graphics



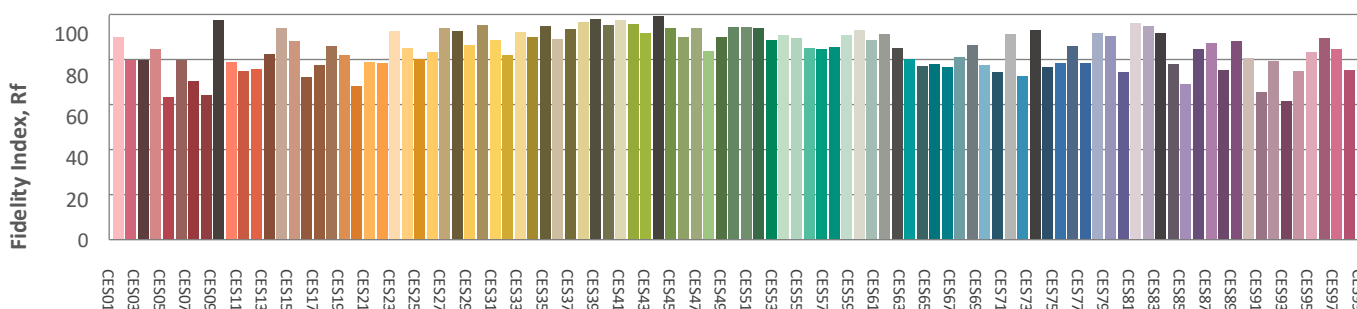
Hue bin



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	3,6	4,3	3,8	4,5	4,7	3,6	4,3	3,8	4,5	4,7
	3H	3,4	4,1	3,7	4,4	4,6	3,4	4,1	3,7	4,4	4,6
	4H	3,4	4,0	3,7	4,3	4,5	3,4	4,0	3,7	4,3	4,5
	6H	3,3	3,9	3,6	4,2	4,5	3,3	3,9	3,6	4,2	4,5
	8H	3,3	3,8	3,6	4,1	4,4	3,3	3,8	3,6	4,1	4,4
	12H	3,2	3,8	3,6	4,1	4,4	3,2	3,8	3,6	4,1	4,4
4H	2H	3,4	4,0	3,7	4,3	4,5	3,4	4,0	3,7	4,3	4,5
	3H	3,2	3,8	3,6	4,1	4,4	3,2	3,8	3,6	4,1	4,4
	4H	3,1	3,6	3,5	4,0	4,3	3,1	3,6	3,5	4,0	4,3
	6H	3,1	3,5	3,5	3,8	4,2	3,1	3,5	3,5	3,8	4,2
	8H	3,0	3,4	3,5	3,8	4,2	3,0	3,4	3,5	3,8	4,2
	12H	3,0	3,3	3,4	3,7	4,1	3,0	3,3	3,4	3,7	4,1
8H	4H	3,0	3,4	3,5	3,8	4,2	3,0	3,4	3,5	3,8	4,2
	6H	2,9	3,2	3,4	3,6	4,1	2,9	3,2	3,4	3,6	4,1
	8H	2,9	3,1	3,4	3,6	4,1	2,9	3,1	3,4	3,6	4,1
	12H	2,9	3,0	3,3	3,5	4,0	2,9	3,0	3,3	3,5	4,0
12H	4H	3,0	3,3	3,4	3,7	4,1	3,0	3,3	3,4	3,7	4,1
	6H	2,9	3,1	3,4	3,6	4,1	2,9	3,1	3,4	3,6	4,1
	8H	2,9	3,0	3,3	3,5	4,0	2,9	3,0	3,3	3,5	4,0
Variation of the observer position for the luminaire distance S											
S = 1,0H		+0,0 / 0,0					+0,0 / 0,0				
S = 1,5H		+0,0 / 0,0					+0,0 / 0,0				
S = 2,0H		+0,0 / 0,0					+0,0 / 0,0				
Standard table		BK00					BK00				
Correction summand		-15,1					-15,1				
Corrected glare indices referring to 4117lm total luminous flux											



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