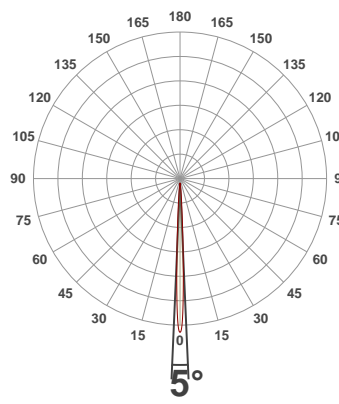
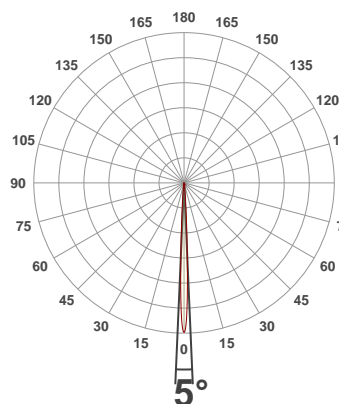




**PRODUCT INFORMATION**

SERIAL NUMBER:	LL-20190904-604-BMS
DATE OF MEASUREMENT:	2019-09-04
SIZE (mm): (L x W x H)	200 x 0 x 69.5

**ANGULAR DISTRIBUTION AT C0/180 | ANGULAR DISTRIBUTION AT C90/270 | LIGHT OUTPUT DATA**

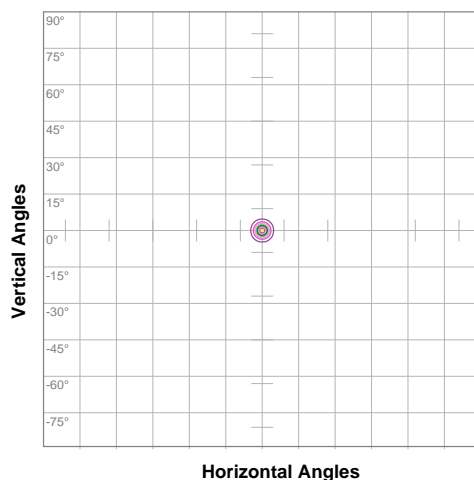


TOTAL LUMEN OUTPUT:	1223 lm
EFFICACY:	55 lm/W
PEAK INTENSITY:	99808 cd
COLOR RENDERING INDEX (CRI):	81.5
COLOR TEMPERATURE (CCT):	3788K
FIDELITY INDEX (TM30Rf):	82.1
GAMUT INDEX (TM30Rg):	98.8

**BEAM OUTPUT DATA**

BEAM ANGLE (FWHM)   C0/180:	5°
BEAM ANGLE (FWHM)   C90/270:	5°
FIELD ANGLE (10%)   C0/180:	10.5°
FIELD ANGLE (10%)   C90/270:	10.5°
NUMBER OF PLANES MEASURED:	12

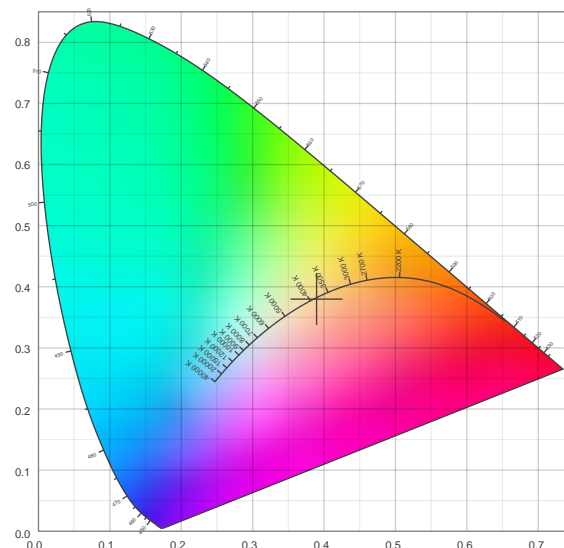
**ISO CANDELA DIAGRAM | DATA**



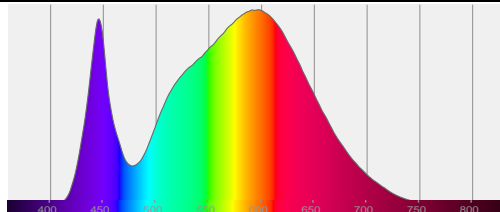
10%	9978 cd
20%	19956 cd
30%	29934 cd
40%	39912 cd
50%	49891 cd
60%	59869 cd
70%	69847 cd
80%	79825 cd
90%	89803 cd

INPUT POWER:	22.2 W
POWER FACTOR:	1.0
OPTICAL POWER:	3.77 mW
PEAK WAVELENGTH:	597 nm
DOMINANT WAVELENGTH:	582 nm

**CIE 1931:**



**SPECTRA | CIE 1931 ZOOM**



x:	0.390
y:	0.380
u:	0.230
v:	0.336
Δuv:	-0.0011

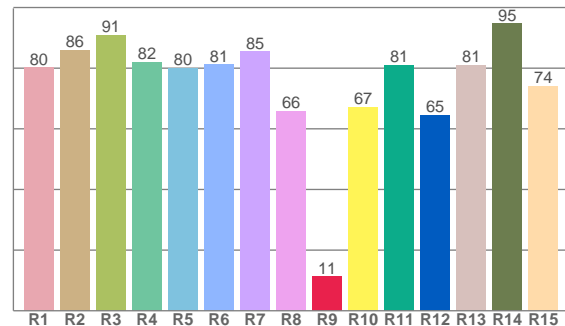
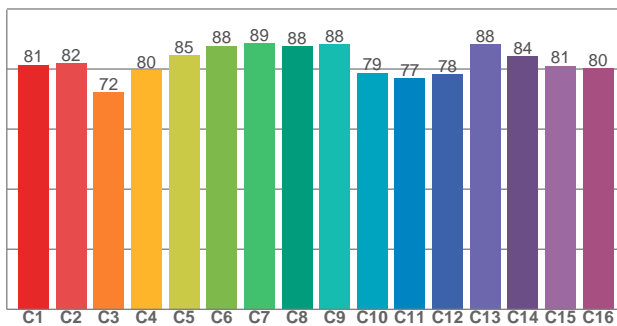
ZONAL LUMEN SUMMARY

0°-10° 1125 lm	10°-20° 89.7 lm	20°-30° 7.34 lm	30°-40° 0.968 lm	40°-50° 0.021 lm	50°-60° 0.022 lm	60°-70° 0.019 lm	70°-80° 0.011 lm	80°-90° 0.008 lm
90°-100° 0.002 lm	100°-110° 0.001 lm	110°-120° 0.001 lm	120°-130° 0.001 lm	130°-140° 0.001 lm	140°-150° 0.000 lm	150°-160° 0.000 lm	160°-170° 0.000 lm	170°-180° 0.001 lm

COLOR DETAILS

TM30: 82.1

CRI: 81.5 (R1-R8)



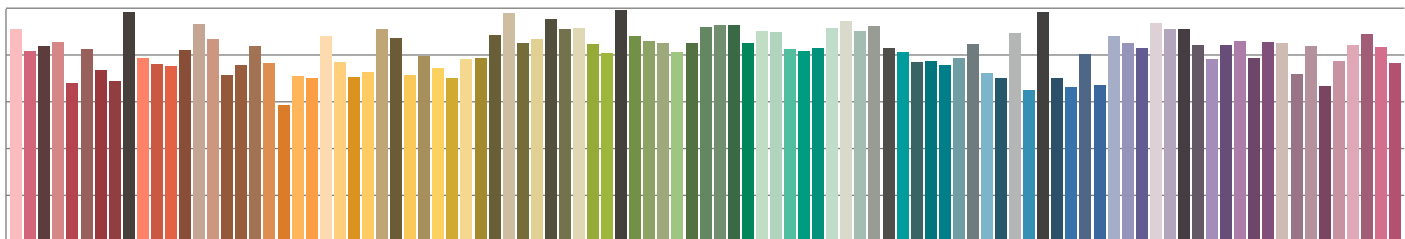
TM30 C values, 16 binned values out of total of 99 C values

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

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
81.3	81.9	72.3	79.6	84.5	87.7	88.5	87.5	88.1	78.7	76.9	78.3	88.1	84.3	81.0	80.2

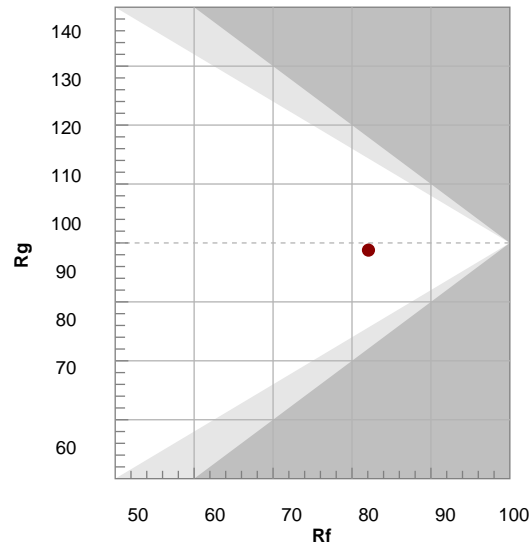
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
80.1	86.1	90.9	82.0	80.1	81.2	85.4	65.9	11.3	67.3	81.1	64.6	81.0	94.7	74.1

TM30 COLOR EVALUATION SAMPLE



TM30 DETAILS

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	81	-11%	-2%
2	82	-8%	7%
3	72	-3%	15%
4	80	4%	13%
5	85	9%	8%
6	88	8%	-2%
7	89	1%	-8%
8	88	-4%	-6%
9	88	-8%	-2%
10	79	-10%	8%
11	77	-2%	16%
12	78	6%	11%
13	88	7%	2%
14	84	9%	-8%
15	81	2%	-13%
16	80	-4%	-12%



FIDELITY INDEX

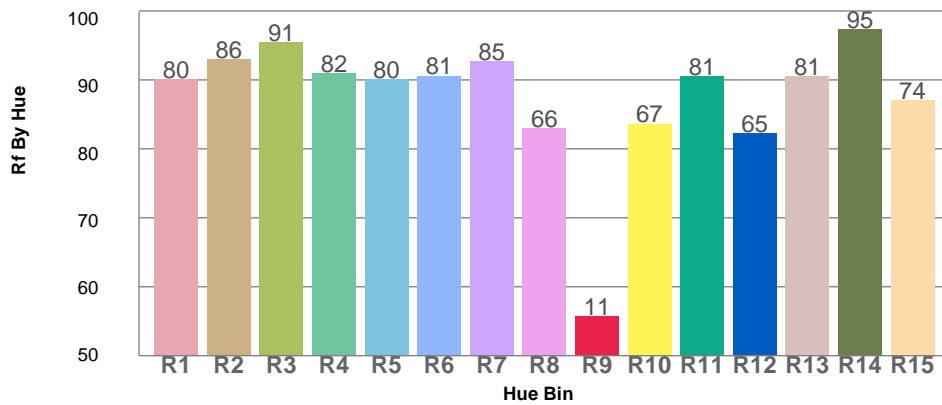
**R<sub>f</sub> 82.1**

GAMUT INDEX

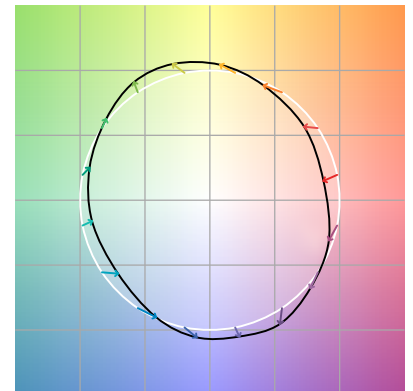
**R<sub>g</sub> 98.8**

Approx. limits for sources on the Planckian locus.  
 Approx. limits for practical light sources.

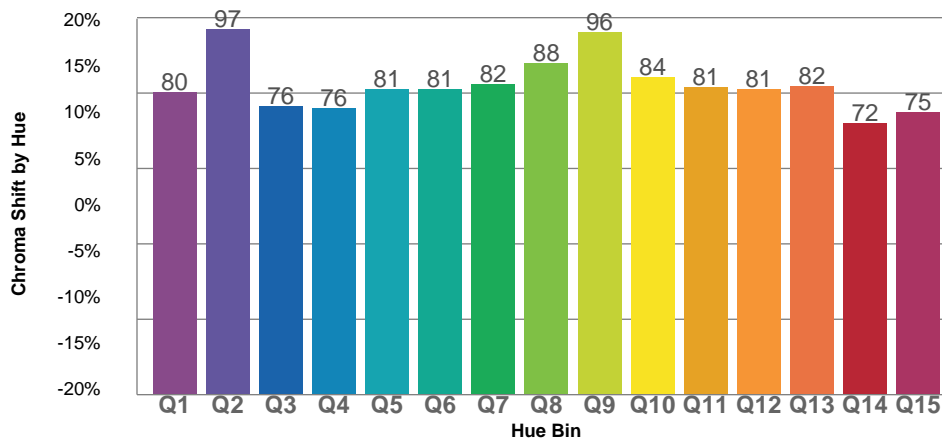
TM30 OVER 50



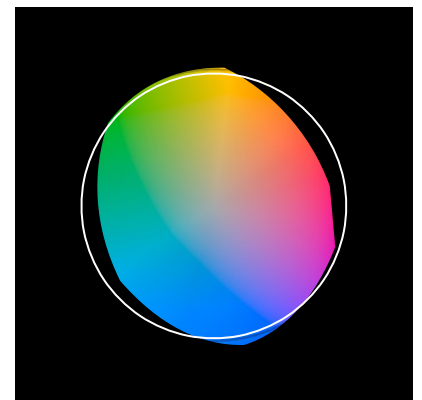
COLOR VECTOR GRAPHICS



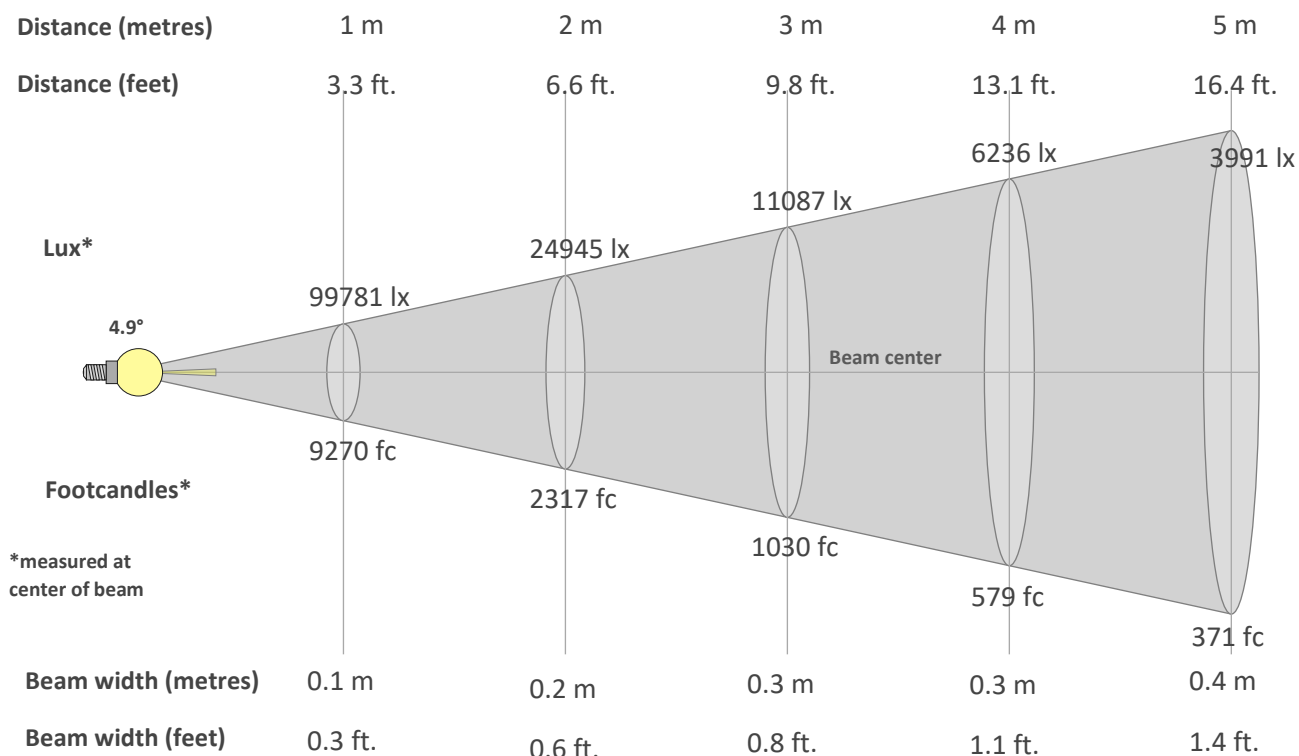
TM30 CHROMA SHIFT



COLOR DISTORTION GRAPHICS



**BEAM DETAILS**



**Beam intensity from 1-20m**

1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
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
99781lx	24945lx	11087lx	6236lx	3991lx	2772lx	2036lx	1559lx	1232lx	998lx	825lx	693lx	590lx	509lx	443lx	390lx	345lx	308lx	276lx	249lx
9270fc	2317.5fc	1030fc	579.4fc	370.8fc	257.5fc	189.2fc	144.8fc	114.4fc	92.7fc	76.6fc	64.4fc	54.9fc	47.3fc	41.2fc	36.2fc	32.1fc	28.6fc	25.7fc	23.2fc

**Intensity in 0° c-plane**

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
99.8K	91.2K	64.8K	36.6K	20.1K	11.4K	6.7K	4.1K	2.6K	1.7K	1.2K	0.9K	0.6K	0.4K	0.3K	0.2K	0.1K	0.1K	0.1K	0.1K
100%	91%	65%	37%	20%	11%	7%	4%	3%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%

**Intensity in 90° c-plane**

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
99.8K	91.8K	64.6K	36.6K	19.8K	11.3K	6.8K	4.2K	2.6K	1.7K	1.2K	0.8K	0.6K	0.4K	0.3K	0.2K	0.2K	0.1K	0.1K	0.1K
100%	92%	65%	37%	20%	11%	7%	4%	3%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%

**Intensity in 180° c-plane**

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
99.8K	91.2K	64.8K	36.6K	20.1K	11.4K	6.7K	4.1K	2.6K	1.7K	1.2K	0.9K	0.6K	0.4K	0.3K	0.2K	0.1K	0.1K	0.1K	0.1K
100%	91%	65%	37%	20%	11%	7%	4%	3%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%

**Intensity in 270° c-plane**

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
99.8K	91.8K	64.6K	36.6K	19.8K	11.3K	6.8K	4.2K	2.6K	1.7K	1.2K	0.8K	0.6K	0.4K	0.3K	0.2K	0.2K	0.1K	0.1K	0.1K
100%	92%	65%	37%	20%	11%	7%	4%	3%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%