



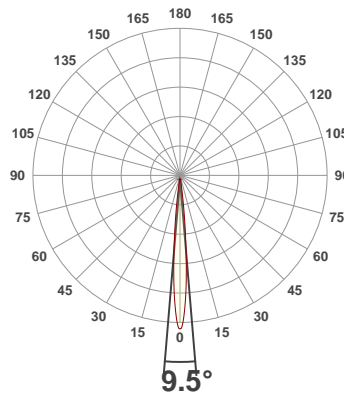
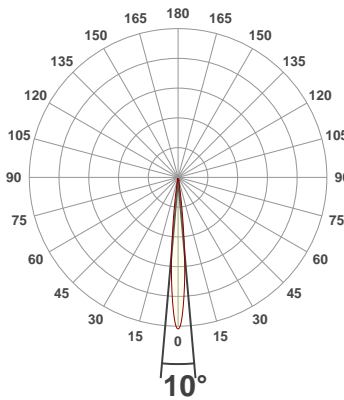
PRODUCT INFORMATION

SERIAL NUMBER:	LL-190625-270-BMS
DATE OF MEASUREMENT:	2019-06-25
SIZE (l x w. x h):	298 mm x 71 mm x 59.5 mm

ANGULAR DISTRIBUTION AT C0/180

ANGULAR DISTRIBUTION AT C90/270

LIGHT OUTPUT DATA

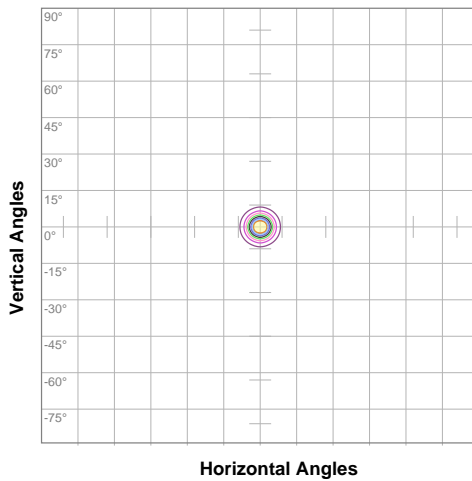


TOTAL LUMEN OUTPUT:	537 lm
EFFICACY:	35 lm/W
PEAK INTENSITY:	11842 cd
COLOR RENDERING INDEX (CRI):	79.9
COLOR TEMPERATURE (CCT):	2988K
FIDELITY INDEX (TM30Rf):	82.0
GAMUT INDEX (TM30Rg):	96.5

BEAM OUTPUT DATA

BEAM ANGLE (FWHM) C0/180:	10°
BEAM ANGLE (FWHM) C90/270:	9.5°
FIELD ANGLE (10%) C0/180:	18.7°
FIELD ANGLE (10%) C90/270:	18.3°
NUMBER OF PLANES MEASURED:	8

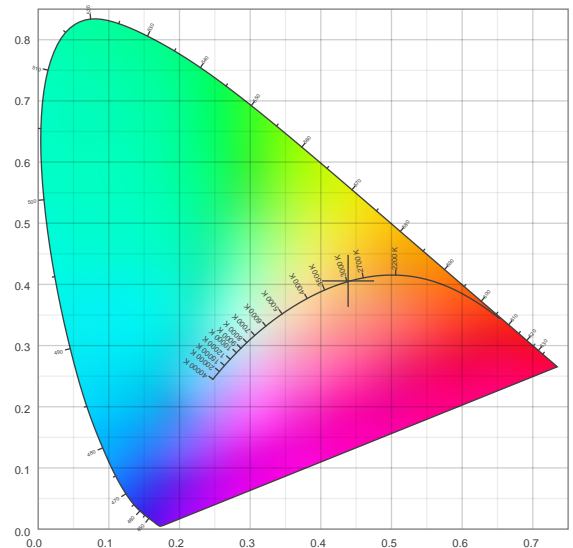
ISOCANDELA DIAGRAM



10%	1182 cd
20%	2364 cd
30%	3545 cd
40%	4727 cd
50%	5909 cd
60%	7091 cd
70%	8273 cd
80%	9455 cd
90%	10636 cd

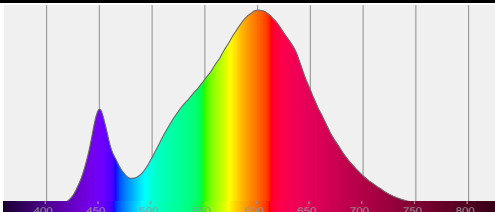
INPUT POWER:	15.3 W
POWER FACTOR:	1.0
OPTICAL POWER:	1.62 mW
PEAK WAVELENGTH:	601 nm
DOMINANT WAVELENGTH:	583 nm

CIE 1931



SPECTRAL DISTRIBUTION

CIE 1931 ZOOM



x:	0.439
y:	0.406
u:	0.251
v:	0.348
Δuv:	0.0004

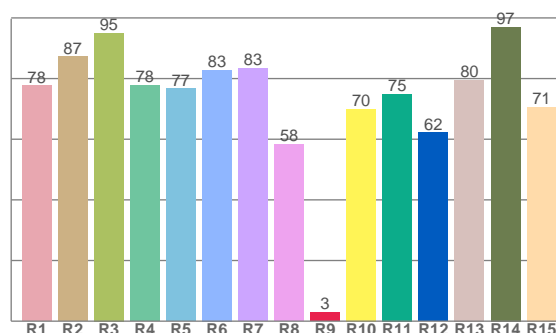
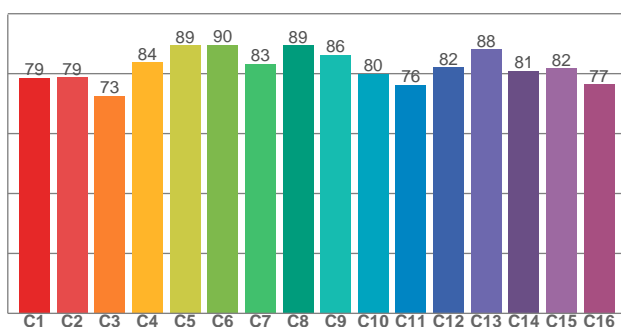
ZONAL LUMEN SUMMARY

0°-10° 367 lm	10°-20° 94.9 lm	20°-30° 41.2 lm	30°-40° 15.6 lm	40°-50° 9.19 lm	50°-60° 6.82 lm	60°-70° 2.06 lm	70°-80° 0.206 lm	80°-90° 0.048 lm
90°-100° 0.026 lm	100°-110° 0.030 lm	110°-120° 0.036 lm	120°-130° 0.030 lm	130°-140° 0.031 lm	140°-150° 0.032 lm	150°-160° 0.031 lm	160°-170° 0.019 lm	170°-180° 0.007 lm

COLOR DETAILS

TM30: 82.0

CRI: 79.9 (R1-R8)



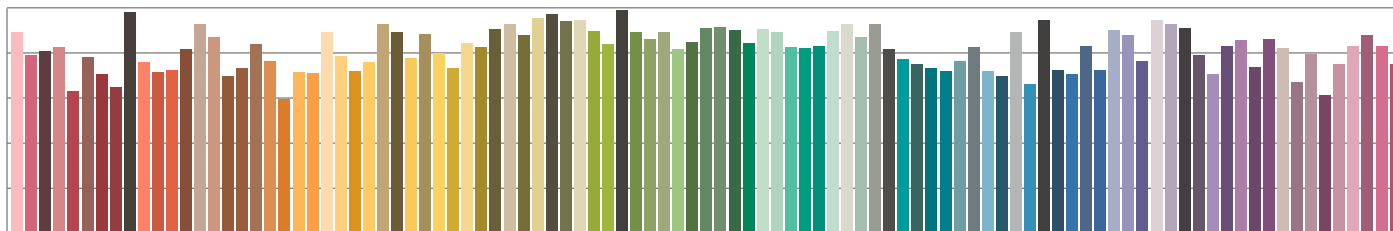
TM30 C values, 16 binned values out of total of 99 C values

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
78.6	78.7	72.7	83.7	89.5	89.6	83.3	89.4	86.3	79.9	76.3	82.1	88.0	81.0	81.8	76.5

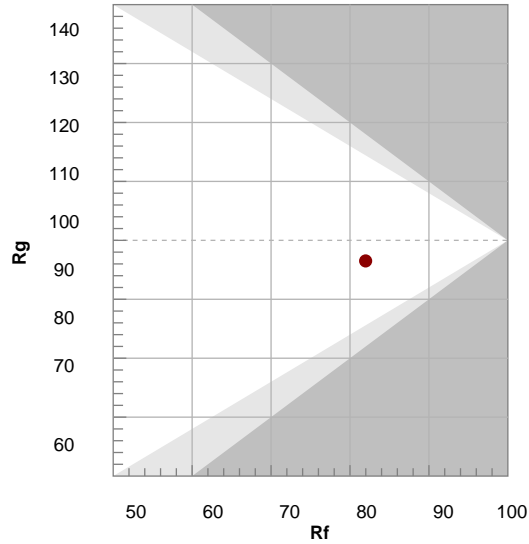
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
77.7	87.2	95.0	77.8	76.7	82.8	83.4	58.3	3.0	69.9	74.9	62.2	79.5	97.0	70.7

TM30 COLOR EVALUATION SAMPLE



TM30 DETAILS

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	79	-12%	-2%
2	79	-9%	8%
3	73	-3%	14%
4	84	3%	10%
5	89	6%	6%
6	90	5%	-3%
7	83	-1%	-10%
8	89	-5%	-4%
9	86	-8%	1%
10	80	-8%	10%
11	76	-3%	17%
12	82	6%	8%
13	88	7%	-4%
14	81	8%	-13%
15	82	-1%	-11%
16	77	-8%	-17%



FIDELITY INDEX

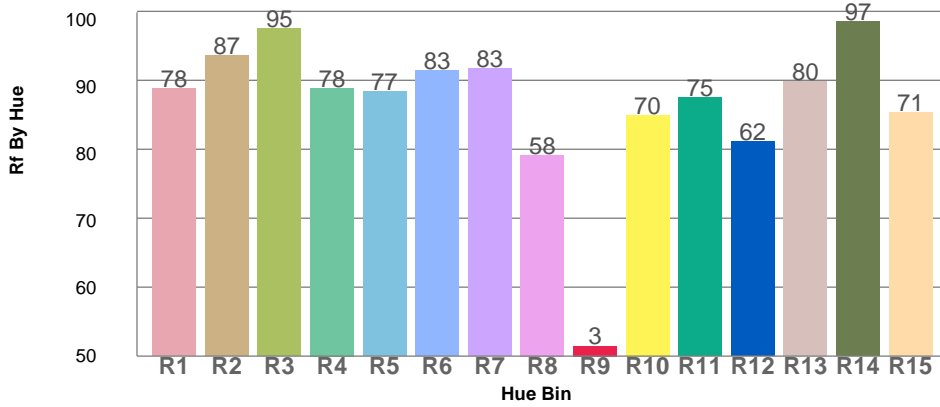
R_f 82.0

GAMUT INDEX

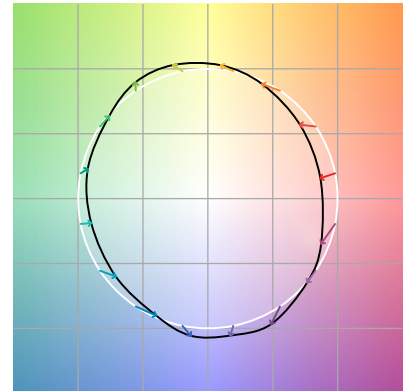
R_g 96.5

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

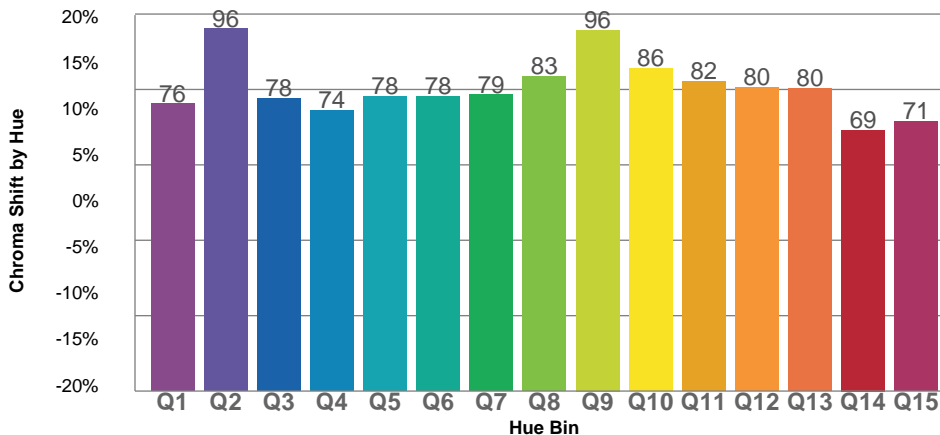
TM30 OVER 50



COLOR VECTOR GRAPHICS



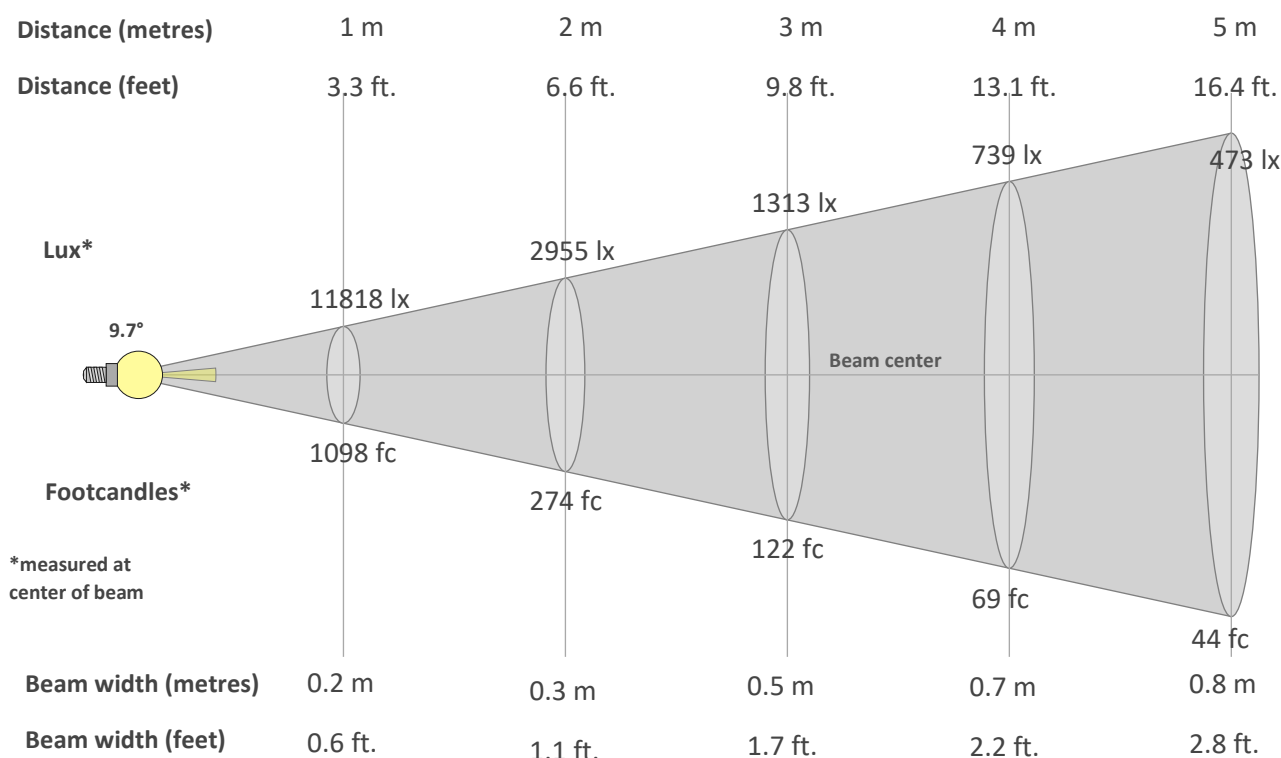
TM30 CHROMA SHIFT



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
11818lx	2955lx	1313lx	739lx	473lx	328lx	241lx	185lx	146lx	118lx	98lx	82lx	70lx	60lx	53lx	46lx	41lx	36lx	33lx	30lx
1097.9fc	274.5fc	122fc	68.6fc	43.9fc	30.5fc	22.4fc	17.2fc	13.6fc	11fc	9.1fc	7.6fc	6.5fc	5.6fc	4.9fc	4.3fc	3.8fc	3.4fc	3fc	2.7fc

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°
11.8K	11.5K	10.5K	9.1K	7.6K	5.9K	4.3K	2.9K	2.0K	1.3K	0.9K	0.7K	0.5K	0.4K	0.3K	0.3K	0.3K	0.2K	0.2K	0.2K
100%	97%	89%	77%	64%	50%	36%	25%	17%	11%	8%	6%	4%	3%	3%	3%	2%	2%	2%	2%

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°
11.8K	11.4K	10.3K	8.9K	7.3K	5.5K	4.0K	2.8K	1.8K	1.2K	0.9K	0.6K	0.5K	0.4K	0.3K	0.3K	0.3K	0.2K	0.2K	0.2K
100%	97%	87%	76%	61%	46%	34%	23%	16%	10%	7%	5%	4%	3%	3%	2%	2%	2%	2%	2%

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°
11.8K	11.5K	10.5K	9.1K	7.6K	5.9K	4.3K	2.9K	2.0K	1.3K	0.9K	0.7K	0.5K	0.4K	0.3K	0.3K	0.3K	0.2K	0.2K	0.2K
100%	97%	89%	77%	64%	50%	36%	25%	17%	11%	8%	6%	4%	3%	3%	3%	2%	2%	2%	2%

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°
11.8K	11.4K	10.3K	8.9K	7.3K	5.5K	4.0K	2.8K	1.8K	1.2K	0.9K	0.6K	0.5K	0.4K	0.3K	0.3K	0.3K	0.2K	0.2K	0.2K
100%	97%	87%	76%	61%	46%	34%	23%	16%	10%	7%	5%	4%	3%	3%	2%	2%	2%	2%	2%