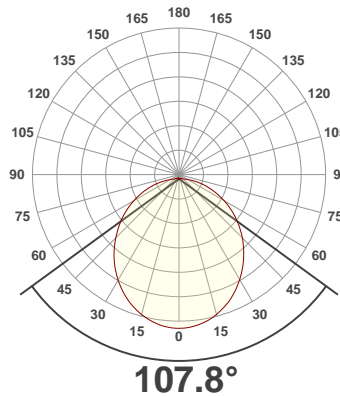
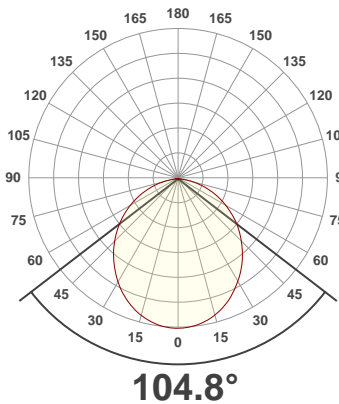




PRODUCT INFORMATION

SERIAL NUMBER:	LL-190521-160-BMS
DATE OF MEASUREMENT:	2019-05-21
SIZE (l x w. x h):	298 mm x 49 mm x 60 mm

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

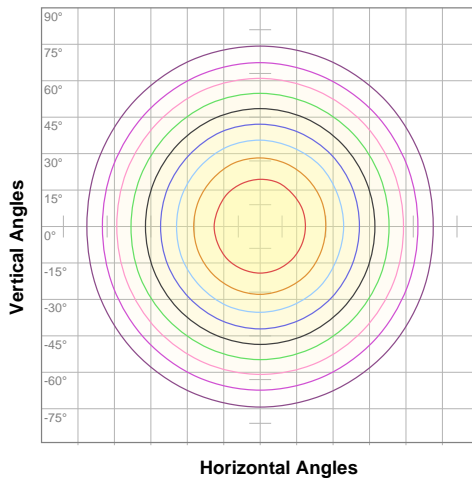


TOTAL LUMEN OUTPUT:	162 lm
EFFICACY:	53 lm/W
PEAK INTENSITY:	59.6 cd
COLOR RENDERING INDEX (CRI):	84.4
COLOR TEMPERATURE (CCT):	3008K
FIDELITY INDEX (TM30Rf):	84.1
GAMUT INDEX (TM30Rg):	93.8

BEAM OUTPUT DATA

BEAM ANGLE (FWHM) C0/180:	104.8°
BEAM ANGLE (FWHM) C90/270:	107.8°
FIELD ANGLE (10%) C0/180:	158.4°
FIELD ANGLE (10%) C90/270:	165.1°
NUMBER OF PLANES MEASURED:	8

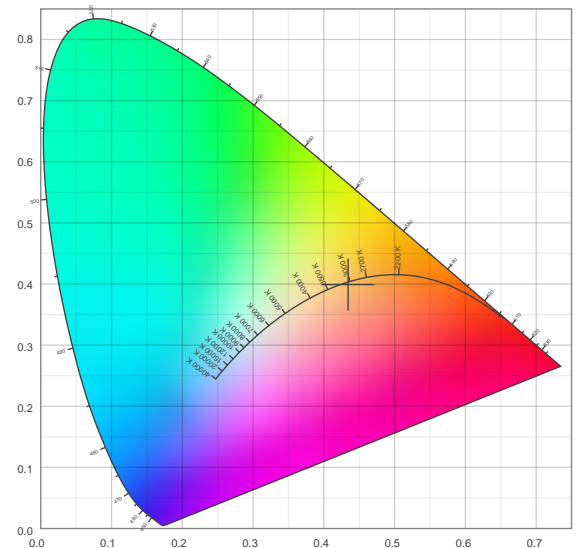
ISOCANDELA DIAGRAM



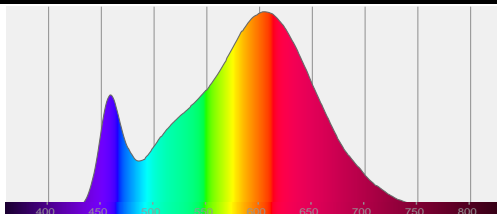
10%	6 cd
20%	12 cd
30%	18 cd
40%	24 cd
50%	30 cd
60%	36 cd
70%	42 cd
80%	48 cd
90%	54 cd

INPUT POWER:	3.0 W
POWER FACTOR:	1.0
OPTICAL POWER:	0.506 mW
PEAK WAVELENGTH:	606 nm
DOMINANT WAVELENGTH:	584 nm

CIE 1931



SPECTRAL DISTRIBUTION | CIE 1931 ZOOM



x:	0.434
y:	0.399
u:	0.251
v:	0.346
Δuv:	-0.0017

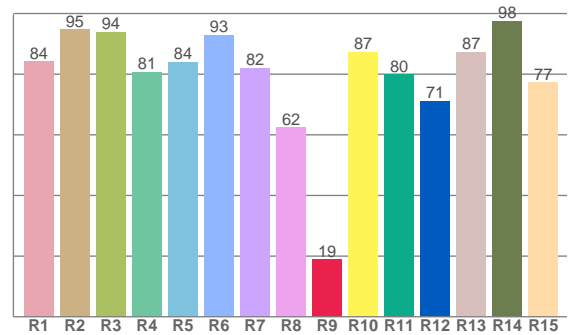
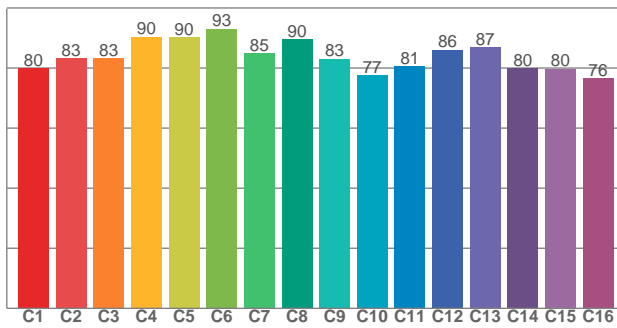
ZONAL LUMEN SUMMARY

0°-10° 5.62 lm	10°-20° 15.9 lm	20°-30° 23.7 lm	30°-40° 27.9 lm	40°-50° 28.3 lm	50°-60° 25.2 lm	60°-70° 19.2 lm	70°-80° 11.4 lm	80°-90° 3.70 lm
90°-100° 0.524 lm	100°-110° 0.351 lm	110°-120° 0.246 lm	120°-130° 0.141 lm	130°-140° 0.081 lm	140°-150° 0.059 lm	150°-160° 0.045 lm	160°-170° 0.028 lm	170°-180° 0.009 lm

COLOR DETAILS

TM30: 84.1

CRI: 84.4 (R1-R8)



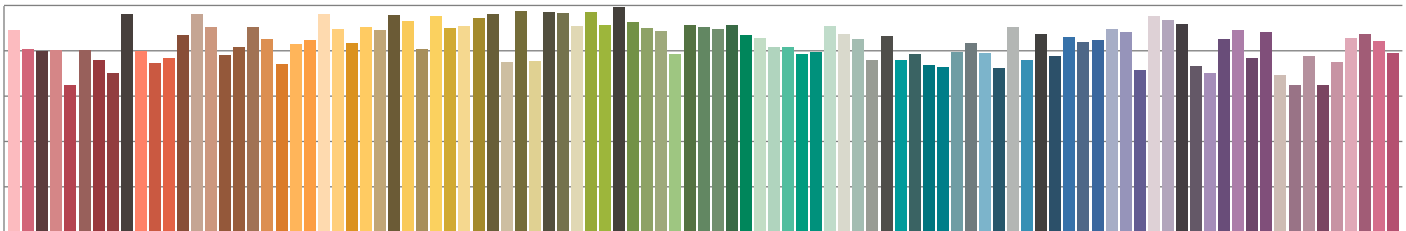
TM30 C values, 16 binned values out of total of 99 C values

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
79.9	83.1	83.1	90.4	90.3	93.1	84.9	89.5	83.1	77.5	80.7	86.1	87.0	79.9	79.7	76.5

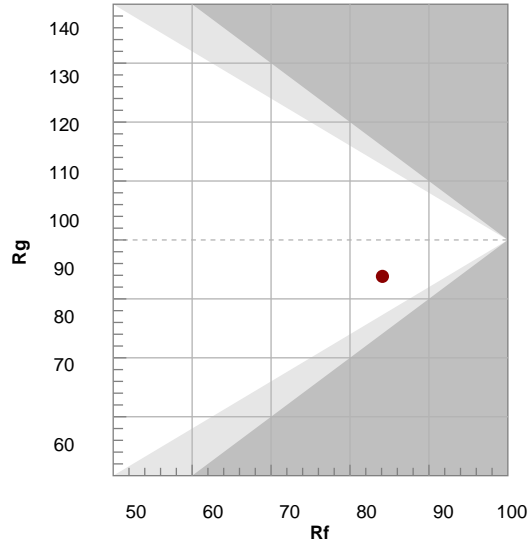
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
84.2	94.8	93.9	80.6	83.9	92.9	82.1	62.4	18.9	87.2	79.9	71.1	87.2	97.6	77.3

TM30 COLOR EVALUATION SAMPLE



TM30 DETAILS

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	80	-10%	2%
2	83	-7%	6%
3	83	-3%	8%
4	90	-3%	2%
5	90	-5%	1%
6	93	-2%	-2%
7	85	-9%	0%
8	90	-6%	3%
9	83	-5%	9%
10	77	-1%	15%
11	81	4%	14%
12	86	7%	1%
13	87	3%	-9%
14	80	4%	-16%
15	80	-5%	-11%
16	76	-8%	-15%



FIDELITY INDEX

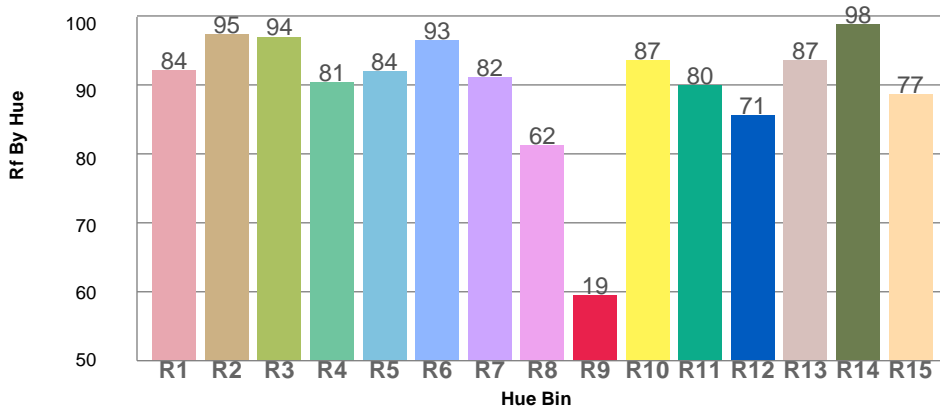
R_f 84.1

GAMUT INDEX

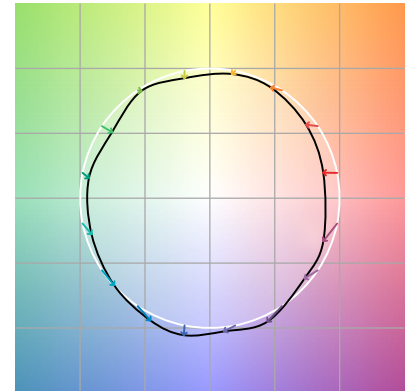
R_g 93.8

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

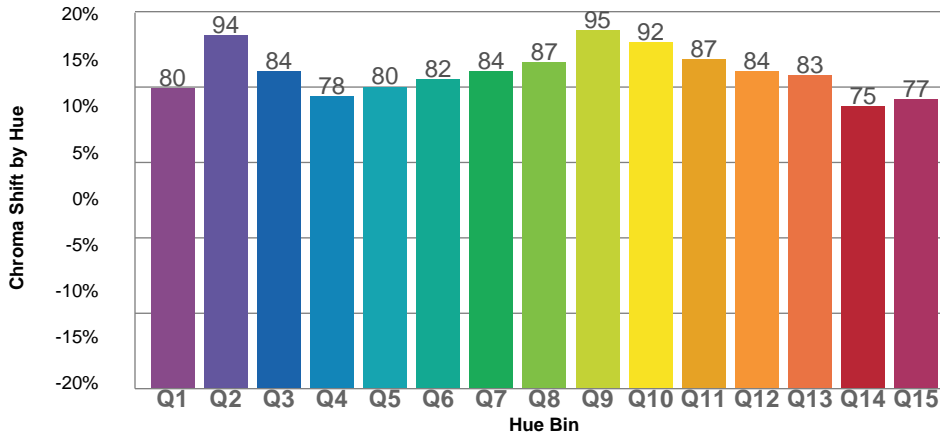
TM30 OVER 50



COLOR VECTOR GRAPHICS

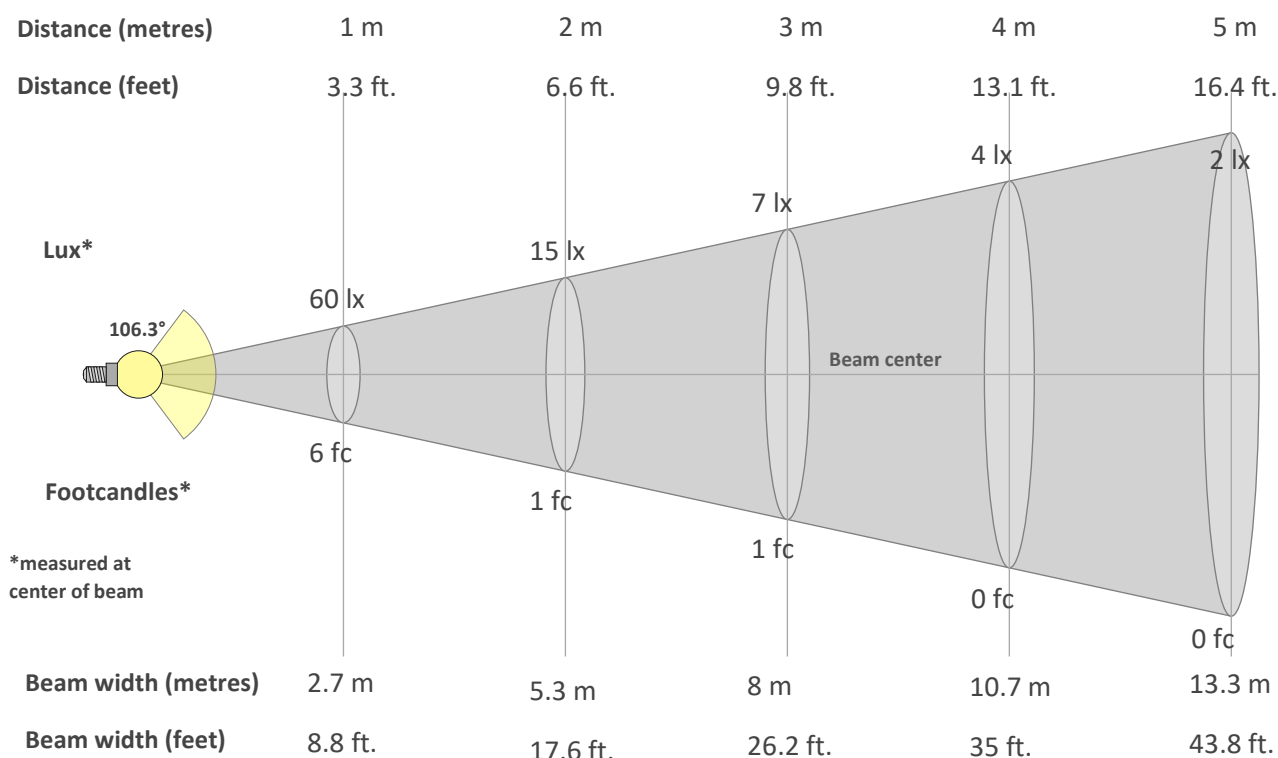


TM30 CHROMA SHIFT



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
60lx	15lx	7lx	4lx	2lx	2lx	1lx	1lx	1lx	1lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx
5.5fc	1.4fc	0.6fc	0.3fc	0.2fc	0.2fc	0.1fc	0.1fc	0.1fc	0.1fc	0fc	0fc	0fc	0fc	0fc	0fc	0fc	0fc	0fc	0fc

Intensity in 0° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
59.6	59.2	58.1	56.3	54.0	51.0	47.6	44.1	40.2	36.1	31.9	27.5	22.9	18.4	13.8	9.4	5.3	2.0	0.3	0.1
100%	99%	98%	95%	91%	86%	80%	74%	67%	61%	53%	46%	38%	31%	23%	16%	9%	3%	0%	0%

Intensity in 90° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
59.6	59.2	58.2	56.5	54.2	51.6	48.4	44.8	41.1	37.2	33.1	28.9	24.6	20.2	15.9	11.8	7.9	4.3	1.8	0.8
100%	99%	98%	95%	91%	87%	81%	75%	69%	62%	56%	48%	41%	34%	27%	20%	13%	7%	3%	1%

Intensity in 180° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
59.6	59.3	58.2	56.5	54.2	51.3	47.9	44.2	40.3	36.2	31.9	27.5	23.0	18.4	13.9	9.5	5.4	2.0	0.4	0.1
100%	99%	98%	95%	91%	86%	80%	74%	68%	61%	54%	46%	39%	31%	23%	16%	9%	3%	1%	0%

Intensity in 270° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
59.6	59.2	58.2	56.5	54.3	51.7	48.5	45.1	41.3	37.2	33.1	28.9	24.6	20.3	16.0	11.9	7.9	4.2	1.8	1.1
100%	99%	98%	95%	91%	87%	81%	76%	69%	63%	55%	48%	41%	34%	27%	20%	13%	7%	3%	2%