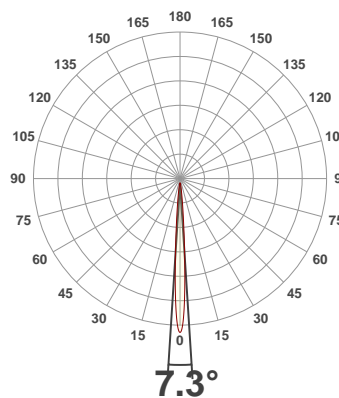
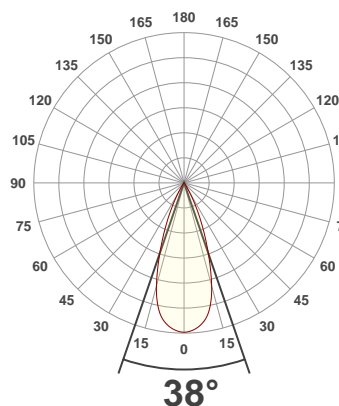




PRODUCT INFORMATION

SERIAL NUMBER:	LL-20190829-580-BMS
DATE OF MEASUREMENT:	2019-08-29
SIZE (mm): (dia. x h)	200 x 78

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

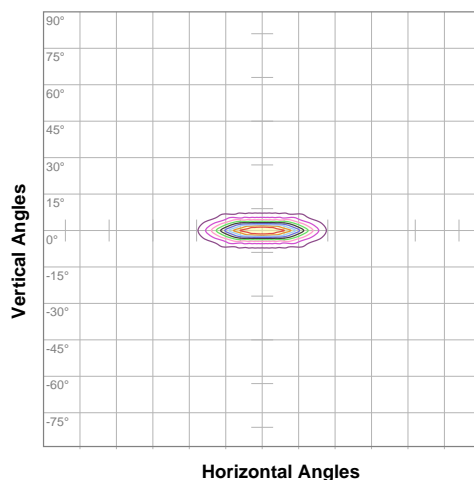


TOTAL LUMEN OUTPUT:	1914 lm
EFFICACY:	79 lm/W
PEAK INTENSITY:	17111 cd
COLOR RENDERING INDEX (CRI):	82.2
COLOR TEMPERATURE (CCT):	3904K
FIDELITY INDEX (TM30Rf):	83.7
GAMUT INDEX (TM30Rg):	97.3

BEAM OUTPUT DATA

BEAM ANGLE (FWHM) C0/180:	38°
BEAM ANGLE (FWHM) C90/270:	7.3°
FIELD ANGLE (10%) C0/180:	58.7°
FIELD ANGLE (10%) C90/270:	15.9°
NUMBER OF PLANES MEASURED:	12

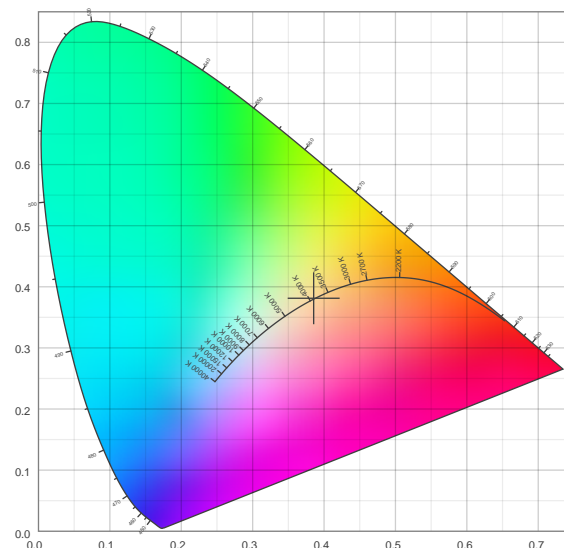
ISO CANDELA DIAGRAM | DATA



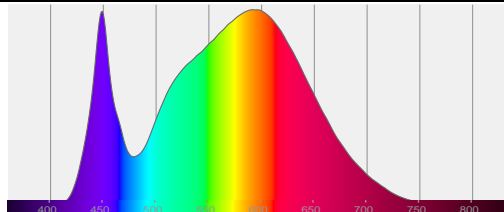
10%	1710 cd
20%	3421 cd
30%	5131 cd
40%	6841 cd
50%	8552 cd
60%	10262 cd
70%	11973 cd
80%	13683 cd
90%	15393 cd

INPUT POWER:	24.1 W
POWER FACTOR:	1.0
OPTICAL POWER:	5.88 mW
PEAK WAVELENGTH:	449 nm
DOMINANT WAVELENGTH:	581 nm

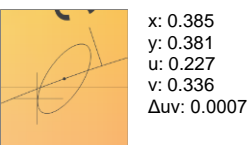
CIE 1931:



SPECTRA



CIE 1931 ZOOM



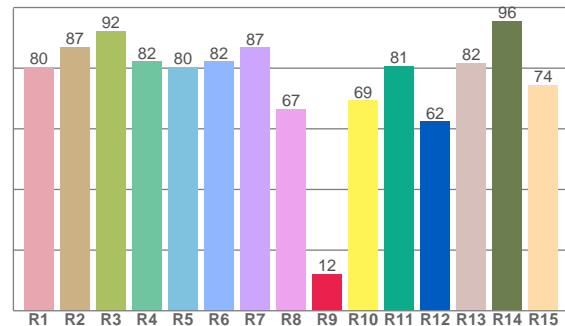
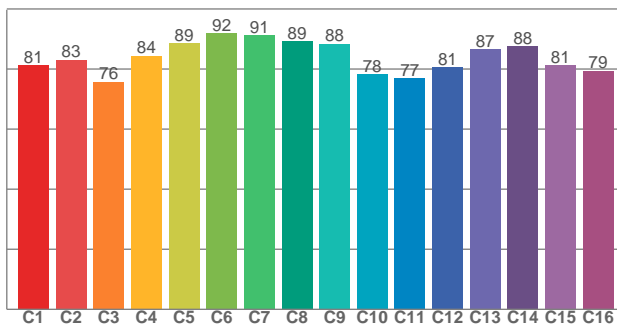
ZONAL LUMEN SUMMARY

0°-10° 782 lm	10°-20° 713 lm	20°-30° 292 lm	30°-40° 72.8 lm	40°-50° 28.8 lm	50°-60° 16.8 lm	60°-70° 7.61 lm	70°-80° 1.43 lm	80°-90° 0.036 lm
90°-100° 0.006 lm	100°-110° 0.005 lm	110°-120° 0.002 lm	120°-130° 0.001 lm	130°-140° 0.001 lm	140°-150° 0.001 lm	150°-160° 0.001 lm	160°-170° 0.000 lm	170°-180° 0.000 lm

COLOR DETAILS

TM30: 83.7

CRI: 82.2 (R1-R8)



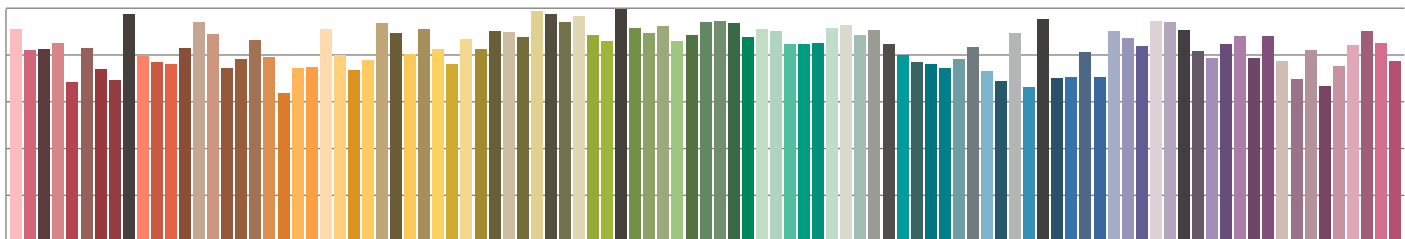
TM30 C values, 16 binned values out of total of 99 C values

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	83.1	75.7	84.4	88.5	91.8	91.2	89.3	88.4	78.2	77.0	80.6	86.5	87.5	81.2	79.4

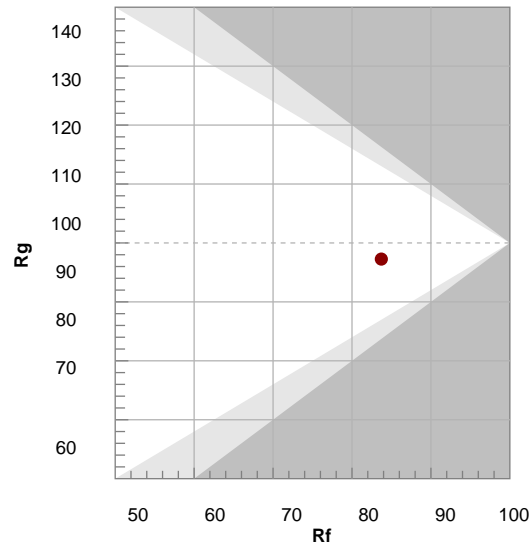
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
80.5	87.0	92.3	82.2	80.3	82.1	86.8	66.6	12.2	69.3	80.7	62.4	81.7	95.6	74.5

TM30 COLOR EVALUATION SAMPLE



TM30 DETAILS

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	81	-11%	-2%
2	83	-8%	6%
3	76	-4%	13%
4	84	2%	10%
5	89	4%	6%
6	92	5%	-2%
7	91	-2%	-5%
8	89	-5%	-4%
9	88	-8%	2%
10	78	-8%	10%
11	77	0%	16%
12	81	6%	9%
13	87	8%	-3%
14	88	10%	-5%
15	81	1%	-13%
16	79	-5%	-13%



FIDELITY INDEX

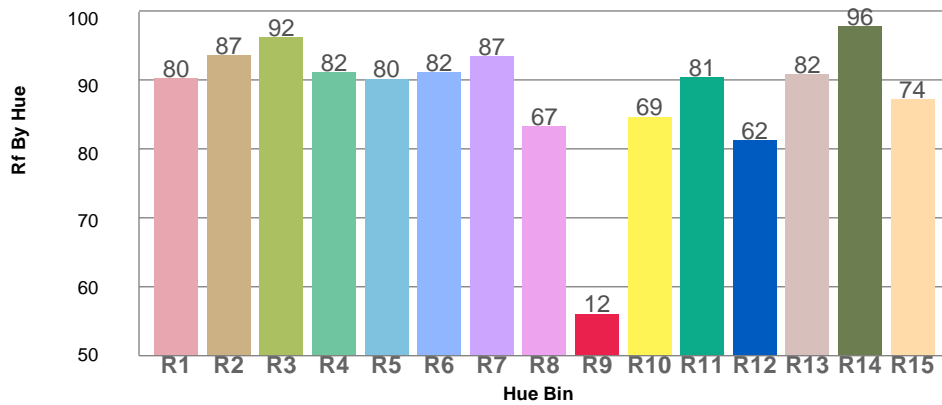
R_f 83.7

GAMUT INDEX

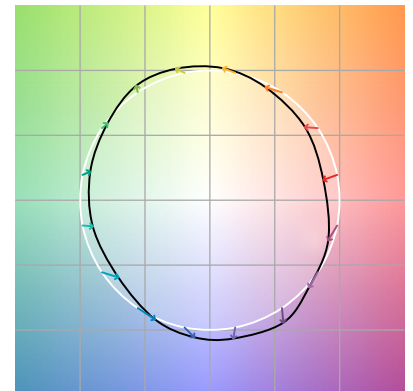
R_g 97.3

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

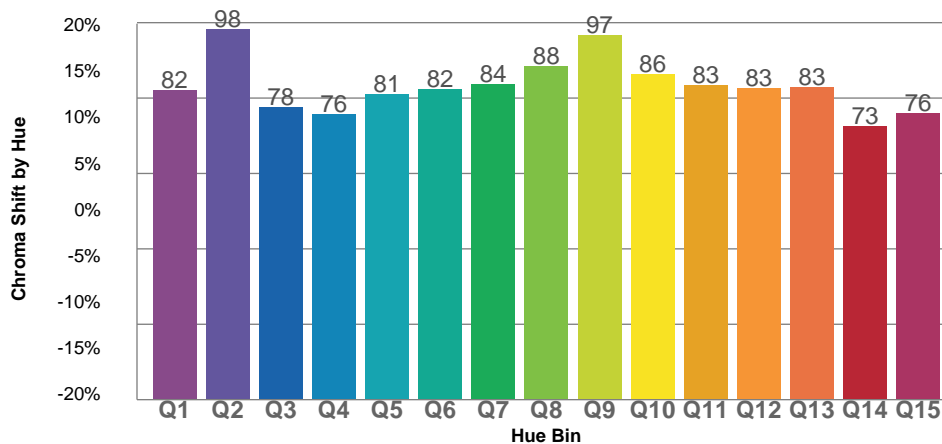
TM30 OVER 50



COLOR VECTOR GRAPHICS



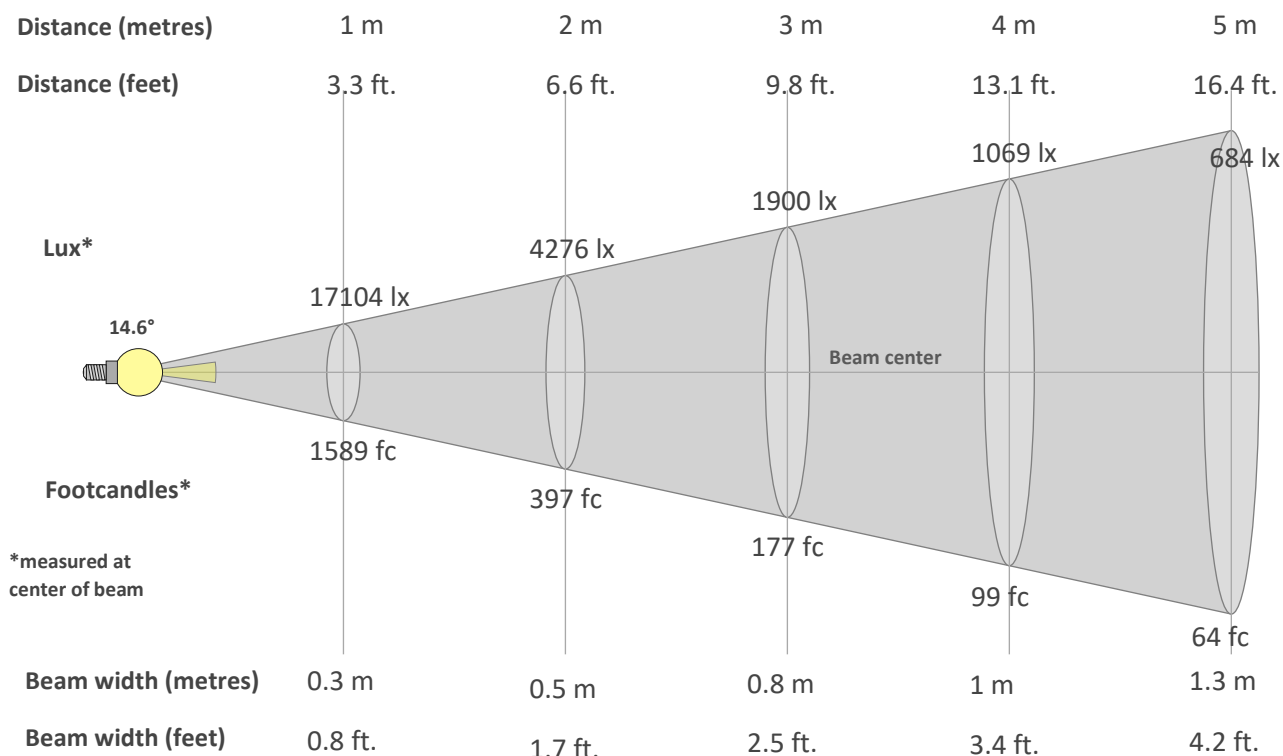
TM30 CHROMA SHIFT



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
17104lx	4276lx	1900lx	1069lx	684lx	475lx	349lx	267lx	211lx	171lx	141lx	119lx	101lx	87lx	76lx	67lx	59lx	53lx	47lx	43lx
1589fc	397.2fc	176.6fc	99.3fc	63.6fc	44.1fc	32.4fc	24.8fc	19.6fc	15.9fc	13.1fc	11fc	9.4fc	8.1fc	7.1fc	6.2fc	5.5fc	4.9fc	4.4fc	4fc

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°
17.1K	17.1K	17.0K	16.9K	16.8K	16.7K	16.5K	16.3K	16.1K	15.8K	15.4K	14.9K	14.4K	13.8K	13.0K	12.2K	11.3K	10.4K	9.4K	8.5K
100%	100%	100%	99%	98%	98%	97%	95%	94%	92%	90%	87%	84%	80%	76%	71%	66%	61%	55%	50%

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°
17.1K	16.4K	14.1K	10.8K	7.5K	5.0K	3.4K	2.4K	1.7K	1.2K	0.9K	0.7K	0.5K	0.4K	0.3K	0.3K	0.3K	0.2K	0.2K	0.2K
100%	96%	83%	63%	44%	29%	20%	14%	10%	7%	5%	4%	3%	3%	2%	2%	1%	1%	1%	1%

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°
17.1K	17.1K	17.0K	16.9K	16.8K	16.7K	16.5K	16.3K	16.1K	15.8K	15.4K	14.9K	14.4K	13.8K	13.0K	12.2K	11.3K	10.4K	9.4K	8.5K
100%	100%	100%	99%	98%	98%	97%	95%	94%	92%	90%	87%	84%	80%	76%	71%	66%	61%	55%	50%

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°
17.1K	16.4K	14.1K	10.8K	7.5K	5.0K	3.4K	2.4K	1.7K	1.2K	0.9K	0.7K	0.5K	0.4K	0.3K	0.3K	0.3K	0.2K	0.2K	0.2K
100%	96%	83%	63%	44%	29%	20%	14%	10%	7%	5%	4%	3%	3%	2%	2%	1%	1%	1%	1%