



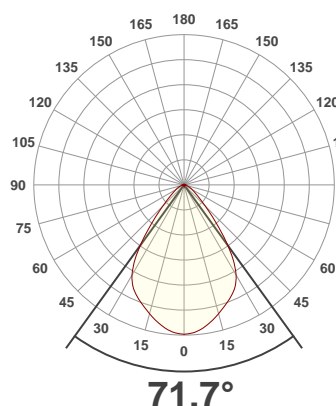
PRODUCT INFORMATION

SERIAL NUMBER: LL-20190710-312-BMS

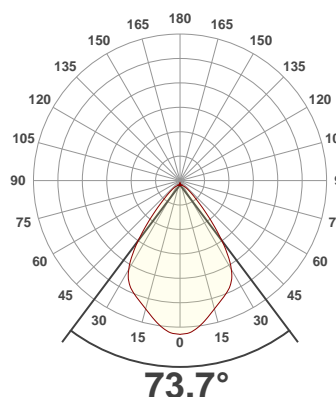
DATE OF MEASUREMENT: 2019-07-10

SIZE (mm): (L x W x H) 298 x 71 x 59.5

ANGULAR DISTRIBUTION AT C0/180



ANGULAR DISTRIBUTION AT C90/270



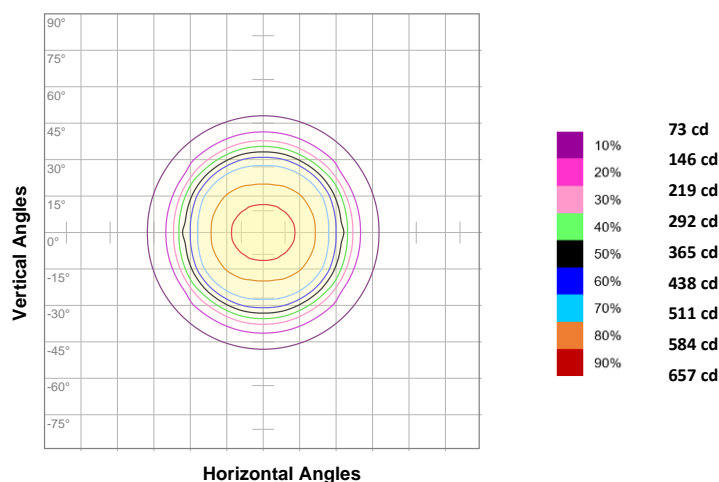
LIGHT OUTPUT DATA

TOTAL LUMEN OUTPUT: 1003 lm
EFFICACY: 79 lm/W
PEAK INTENSITY: 731 cd
COLOR RENDERING INDEX (CRI): 83.9
COLOR TEMPERATURE (CCT): 3787K
FIDELITY INDEX (TM30Rf): 84.6
GAMUT INDEX (TM30Rg): 93.6

BEAM OUTPUT DATA

BEAM ANGLE (FWHM) | C0/180: 71.7°
BEAM ANGLE (FWHM) | C90/270: 73.7°
FIELD ANGLE (10%) | C0/180: 106.1°
FIELD ANGLE (10%) | C90/270: 107.4°
NUMBER OF PLANES MEASURED: 12

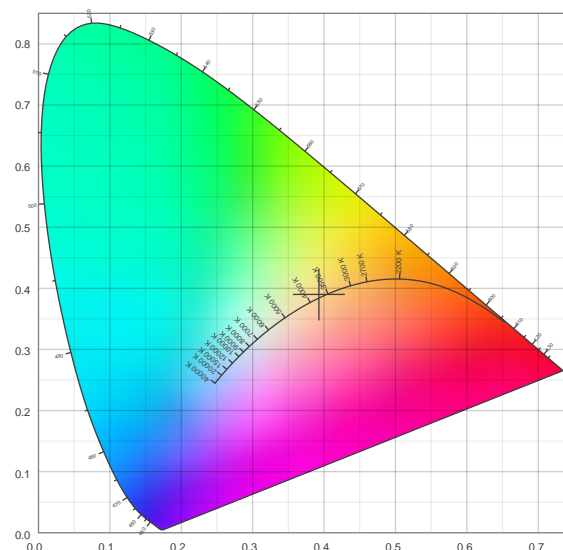
ISO CANDELA DIAGRAM



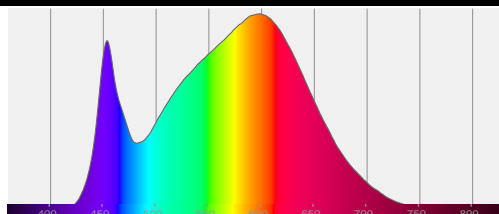
DATA

INPUT POWER: 12.7 W
POWER FACTOR: 1.0
OPTICAL POWER: 3.03 mW
PEAK WAVELENGTH: 598 nm
DOMINANT WAVELENGTH: 580 nm

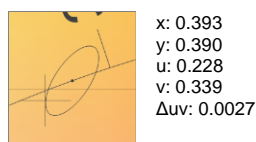
CIE 1931:



SPECTRA



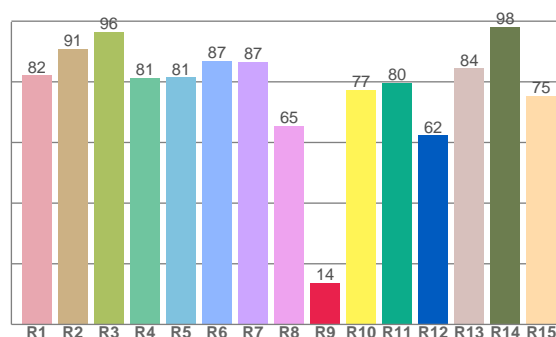
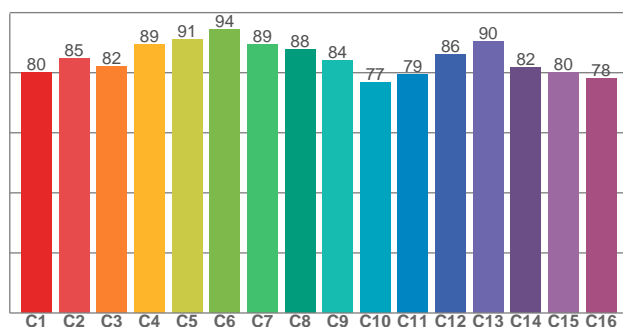
CIE 1931 ZOOM



x: 0.393
y: 0.390
u: 0.228
v: 0.339
 $\Delta u v$: 0.0027

ZONAL LUMEN SUMMARY

0°-10° 67.4 lm	10°-20° 182 lm	20°-30° 263 lm	30°-40° 251 lm	40°-50° 126 lm	50°-60° 59.7 lm	60°-70° 33.2 lm	70°-80° 15.3 lm	80°-90° 2.60 lm
90°-100° 0.190 lm	100°-110° 0.205 lm	110°-120° 0.226 lm	120°-130° 0.263 lm	130°-140° 0.295 lm	140°-150° 0.316 lm	150°-160° 0.285 lm	160°-170° 0.188 lm	170°-180° 0.073 lm

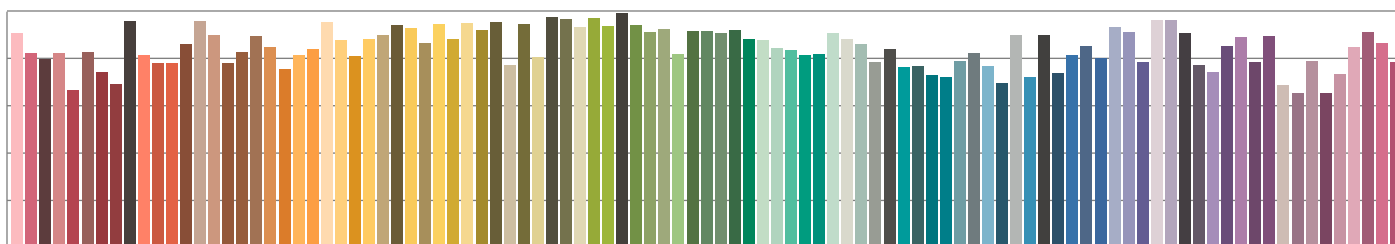
COLOR DETAILS
TM30: 84.6
CRI: 83.9 (R1-R8)


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

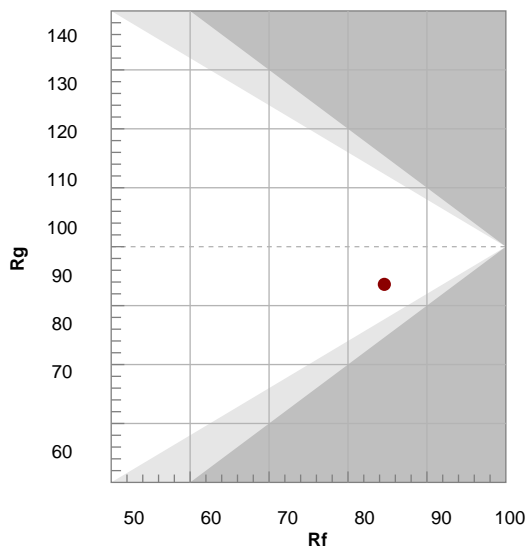
CRI R values, only R1-R8 are used to calculate final CRI value

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
80.2	84.7	82.2	89.3	91.0	94.3	89.4	87.7	84.2	76.7	79.4	86.1	90.3	81.8	80.1	78.2

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
82.1	90.8	96.5	81.3	81.4	86.9	86.5	65.5	13.7	77.3	79.5	62.3	84.4	98.0	75.4

TM30 COLOR EVALUATION SAMPLE

TM30 DETAILS

Hue Bin	R_f	Graphic shifts (%)	
		Chroma	Hue
1	80	-11%	0%
2	85	-7%	5%
3	82	-4%	8%
4	89	-2%	4%
5	91	-3%	2%
6	94	-2%	-1%
7	89	-7%	-1%
8	88	-7%	2%
9	84	-6%	10%
10	77	-5%	14%
11	79	3%	14%
12	86	6%	3%
13	90	3%	-5%
14	82	5%	-14%
15	80	-3%	-13%
16	78	-7%	-11%

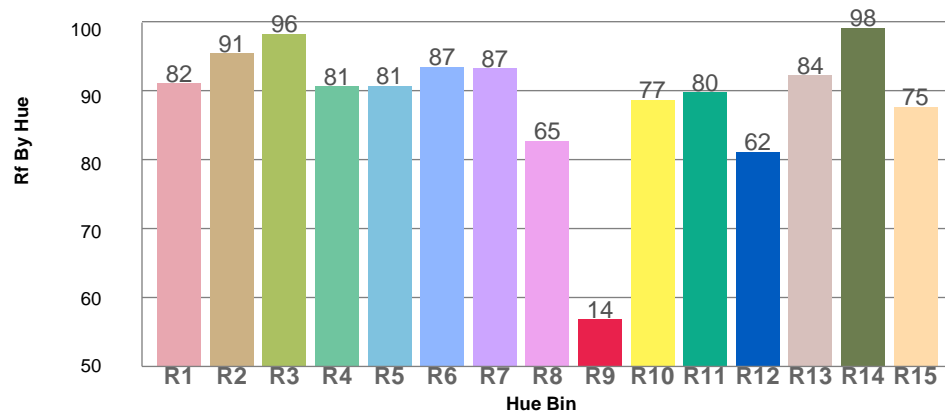


FIDELITY INDEX
 R_f 84.6

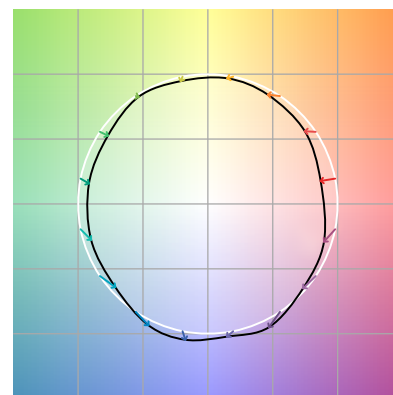
GAMUT INDEX
 R_g 93.6

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

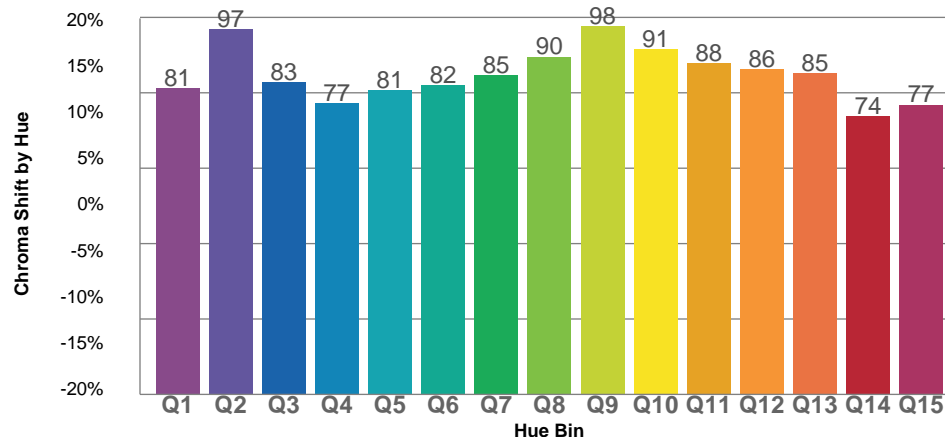
TM30 OVER 50



COLOR VECTOR GRAPHICS



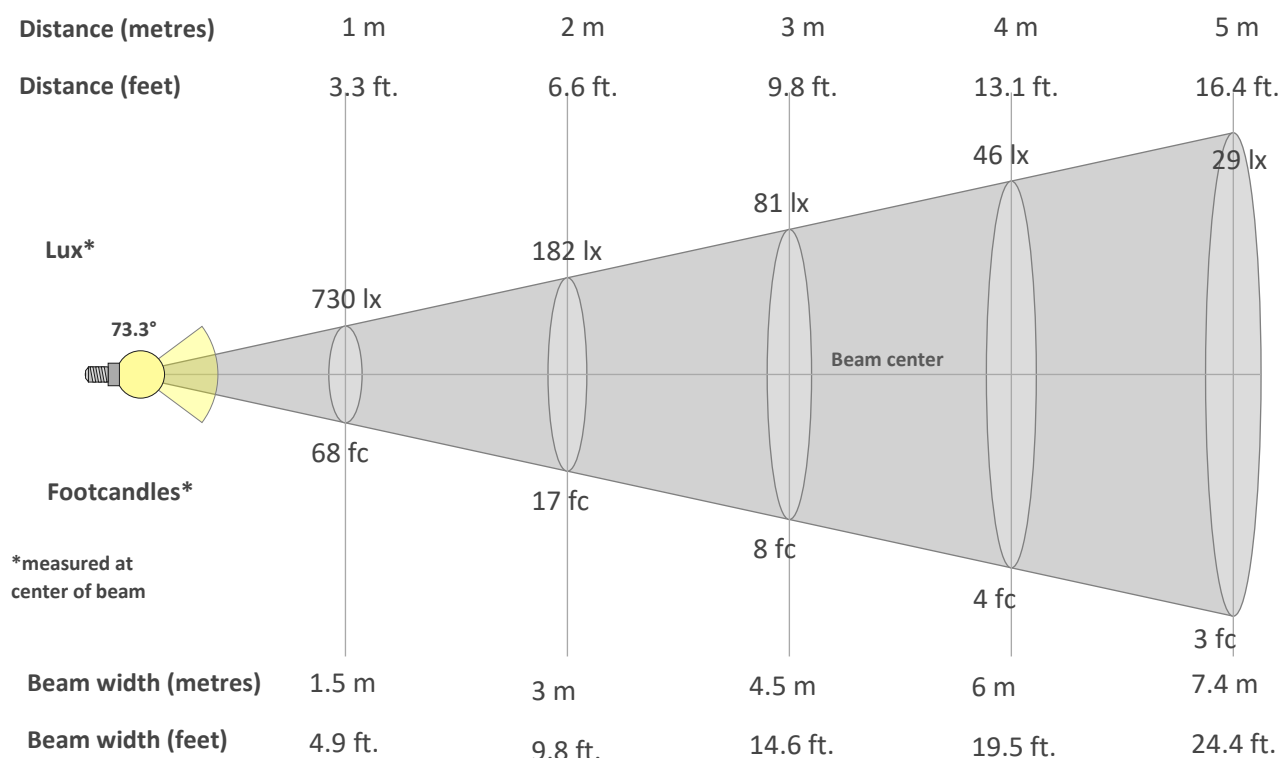
TM30 CHROMA SHIFT



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
730lx	182lx	81lx	46lx	29lx	20lx	15lx	11lx	9lx	7lx	6lx	5lx	4lx	4lx	3lx	3lx	3lx	2lx	2lx	2lx
67.8fc	16.9fc	7.5fc	4.2fc	2.7fc	1.9fc	1.4fc	1.1fc	0.8fc	0.7fc	0.6fc	0.5fc	0.4fc	0.3fc	0.3fc	0.3fc	0.2fc	0.2fc	0.2fc	0.2fc

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°
730	718	689	652	613	572	508	389	248	150	93	64	46	33	23	15	7	2	0	0
100%	98%	95%	89%	84%	78%	70%	53%	34%	21%	13%	9%	6%	5%	3%	2%	1%	0%	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°
730	714	678	635	599	566	516	412	274	164	98	66	46	33	22	14	7	2	0	0
100%	98%	93%	87%	82%	78%	71%	56%	38%	22%	13%	9%	6%	4%	3%	2%	1%	0%	0%	0%

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°
730	718	689	652	613	572	508	389	248	150	93	64	46	33	23	15	7	2	0	0
100%	98%	95%	89%	84%	78%	70%	53%	34%	21%	13%	9%	6%	5%	3%	2%	1%	0%	0%	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°
730	714	678	635	599	566	516	412	274	164	98	66	46	33	22	14	7	2	0	0
100%	98%	93%	87%	82%	78%	71%	56%	38%	22%	13%	9%	6%	4%	3%	2%	1%	0%	0%	0%