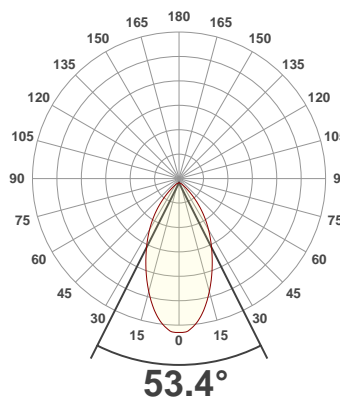
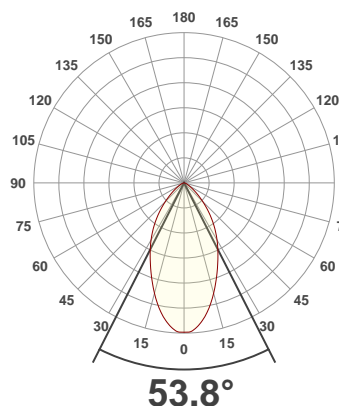




**PRODUCT INFORMATION**

SERIAL NUMBER:	LL-20190829-575-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**

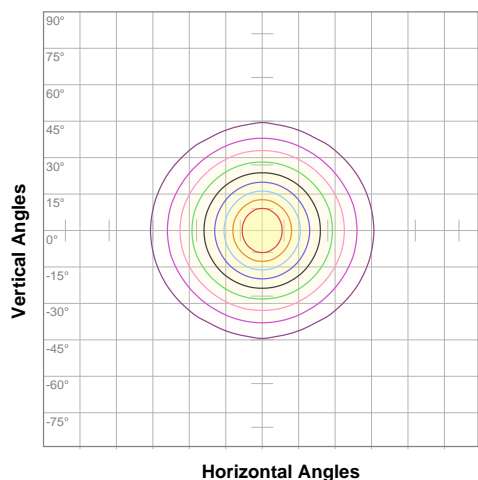


TOTAL LUMEN OUTPUT:	1945 lm
EFFICACY:	81 lm/W
PEAK INTENSITY:	2001 cd
COLOR RENDERING INDEX (CRI):	82.3
COLOR TEMPERATURE (CCT):	3932K
FIDELITY INDEX (TM30Rf):	83.7
GAMUT INDEX (TM30Rg):	97.2

**BEAM OUTPUT DATA**

BEAM ANGLE (FWHM)   C0/180:	53.8°
BEAM ANGLE (FWHM)   C90/270:	53.4°
FIELD ANGLE (10%)   C0/180:	102.8°
FIELD ANGLE (10%)   C90/270:	98.9°
NUMBER OF PLANES MEASURED:	12

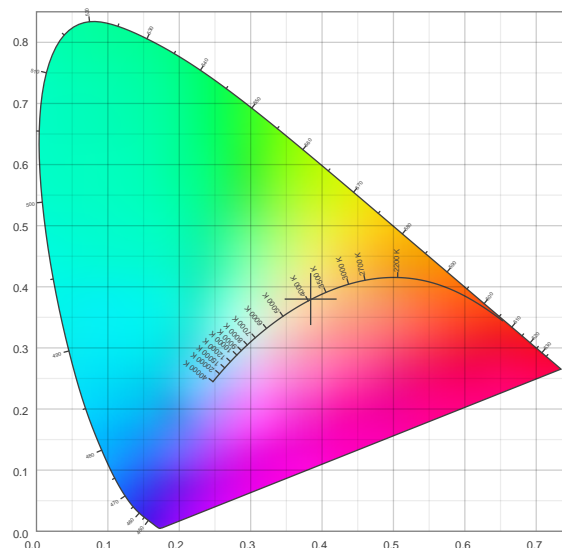
**ISO CANDELA DIAGRAM | DATA**



10%	200 cd
20%	399 cd
30%	599 cd
40%	798 cd
50%	998 cd
60%	1197 cd
70%	1397 cd
80%	1596 cd
90%	1796 cd

INPUT POWER:	24.1 W
POWER FACTOR:	1.0
OPTICAL POWER:	5.98 mW
PEAK WAVELENGTH:	449 nm
DOMINANT WAVELENGTH:	581 nm

**CIE 1931:**



**SPECTRA | CIE 1931 ZOOM**



x:	0.384
y:	0.380
u:	0.226
v:	0.336
Δuv:	0.0004

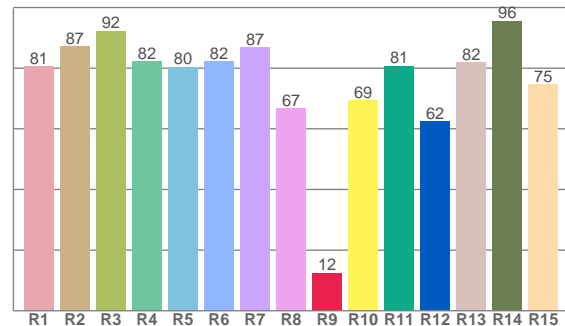
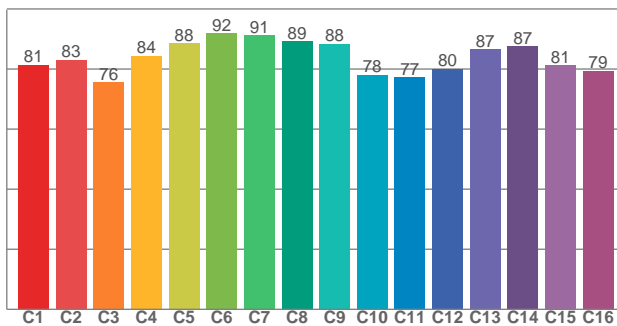
ZONAL LUMEN SUMMARY

0°-10° 179 lm	10°-20° 425 lm	20°-30° 488 lm	30°-40° 417 lm	40°-50° 251 lm	50°-60° 111 lm	60°-70° 49.4 lm	70°-80° 20.9 lm	80°-90° 2.87 lm
90°-100° 0.069 lm	100°-110° 0.043 lm	110°-120° 0.025 lm	120°-130° 0.020 lm	130°-140° 0.012 lm	140°-150° 0.007 lm	150°-160° 0.005 lm	160°-170° 0.003 lm	170°-180° 0.001 lm

COLOR DETAILS

TM30: 83.7

CRI: 82.3 (R1-R8)



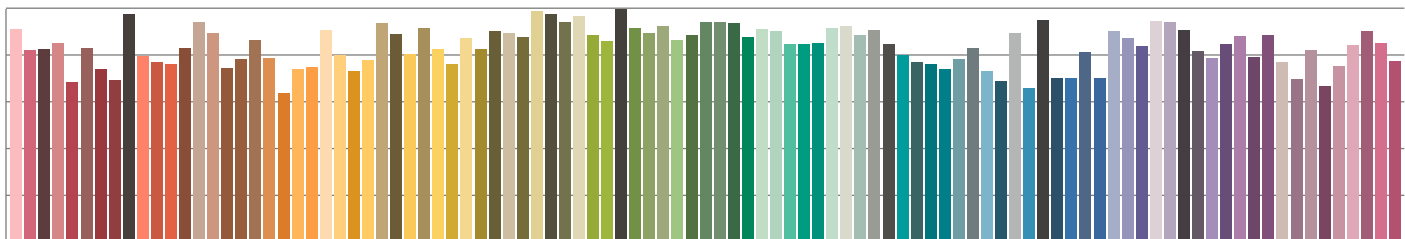
TM30 C values, 16 binned values out of total of 99 C values

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	83.0	75.6	84.4	88.5	91.8	91.2	89.3	88.4	78.1	77.3	80.1	86.5	87.5	81.3	79.4

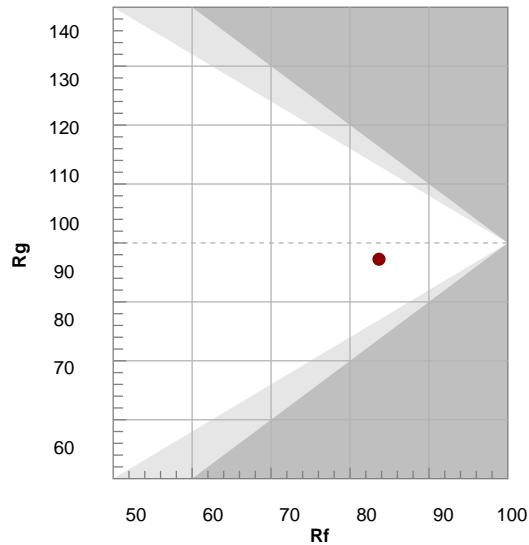
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
80.5	87.1	92.2	82.2	80.4	82.2	86.8	66.7	12.4	69.4	80.7	62.4	81.8	95.5	74.6

TM30 COLOR EVALUATION SAMPLE



TM30 DETAILS

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	81	-11%	-2%
2	83	-8%	6%
3	76	-4%	13%
4	84	2%	10%
5	88	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%	15%
12	80	5%	10%
13	87	8%	-3%
14	87	10%	-5%
15	81	1%	-13%
16	79	-4%	-13%



FIDELITY INDEX

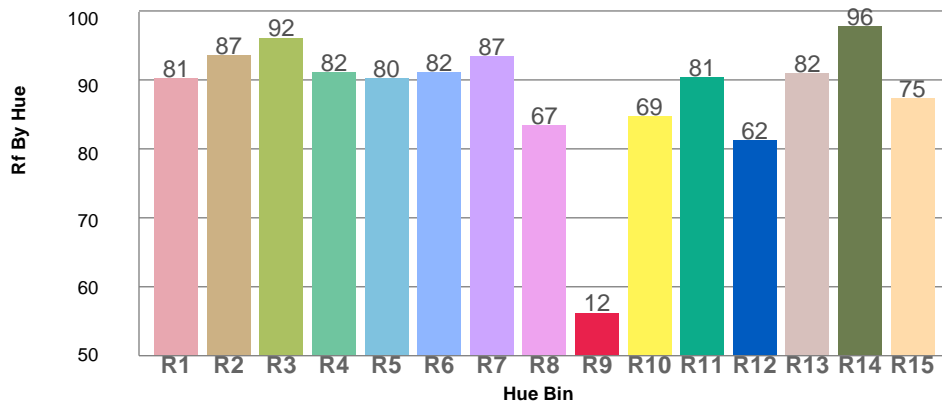
**R<sub>f</sub> 83.7**

GAMUT INDEX

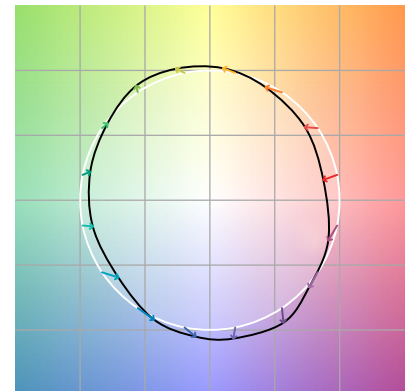
**R<sub>g</sub> 97.2**

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

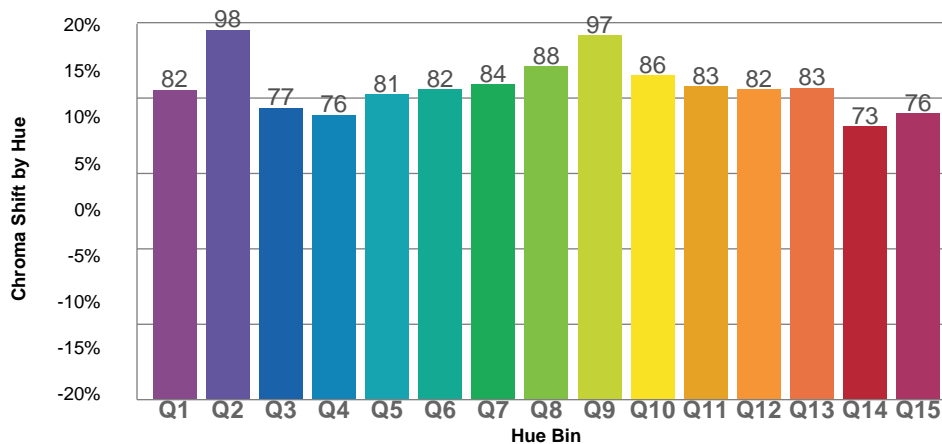
TM30 OVER 50



COLOR VECTOR GRAPHICS



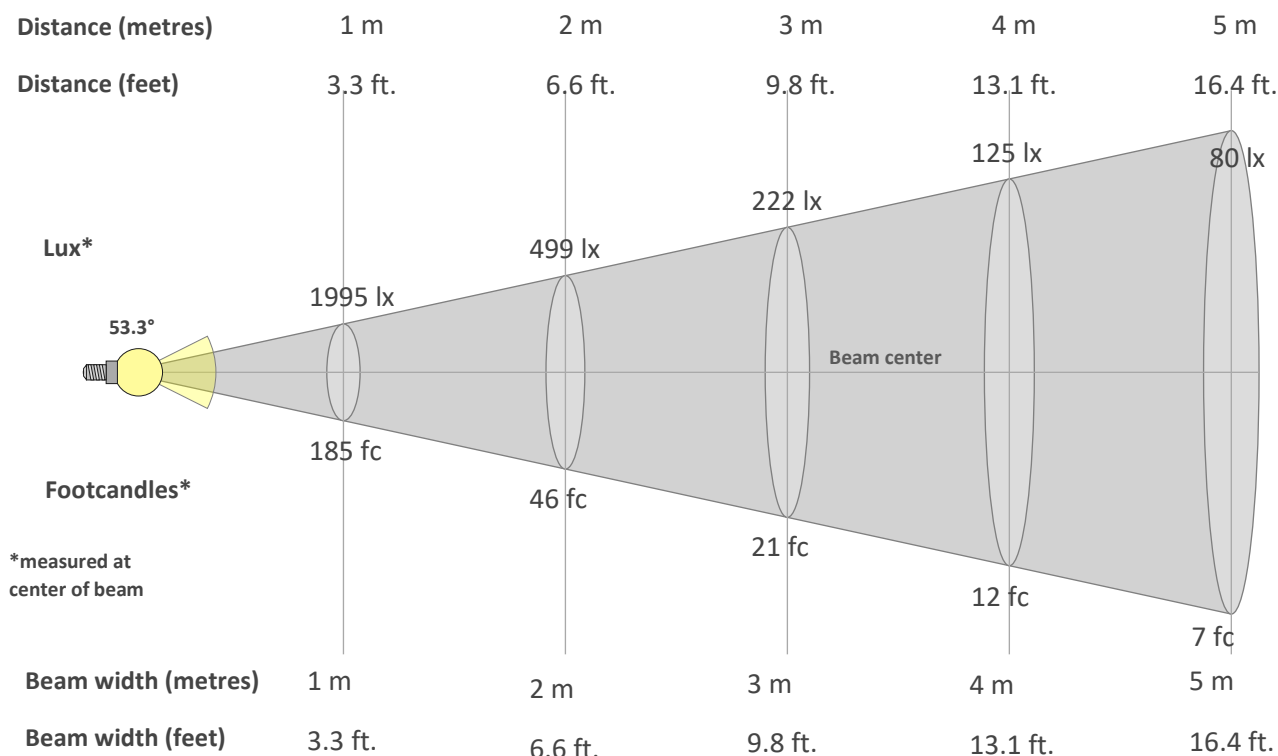
TM30 CHROMA SHIFT



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
1995lx	499lx	222lx	125lx	80lx	55lx	41lx	31lx	25lx	20lx	16lx	14lx	12lx	10lx	9lx	8lx	7lx	6lx	6lx	5lx
185.4fc	46.3fc	20.6fc	11.6fc	7.4fc	5.1fc	3.8fc	2.9fc	2.3fc	1.9fc	1.5fc	1.3fc	1.1fc	0.9fc	0.8fc	0.7fc	0.6fc	0.6fc	0.5fc	0.5fc

**Intensity in 0° c-plane**

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
1995	1977	1945	1892	1826	1748	1659	1564	1467	1371	1278	1189	1105	1026	950	876	802	729	656	583
100%	99%	97%	95%	92%	88%	83%	78%	74%	69%	64%	60%	55%	51%	48%	44%	40%	37%	33%	29%

**Intensity in 90° c-plane**

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
1995	1981	1953	1908	1848	1774	1687	1593	1496	1398	1300	1204	1110	1020	935	852	773	696	621	547
100%	99%	98%	96%	93%	89%	85%	80%	75%	70%	65%	60%	56%	51%	47%	43%	39%	35%	31%	27%

**Intensity in 180° c-plane**

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
1995	1977	1945	1892	1826	1748	1659	1564	1467	1371	1278	1189	1105	1026	950	876	802	729	656	583
100%	99%	97%	95%	92%	88%	83%	78%	74%	69%	64%	60%	55%	51%	48%	44%	40%	37%	33%	29%

**Intensity in 270° c-plane**

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
1995	1981	1953	1908	1848	1774	1687	1593	1496	1398	1300	1204	1110	1020	935	852	773	696	621	547
100%	99%	98%	96%	93%	89%	85%	80%	75%	70%	65%	60%	56%	51%	47%	43%	39%	35%	31%	27%