

Light Efficiency:



Light Quality:



Color Temperature:



Output: 8677 lm

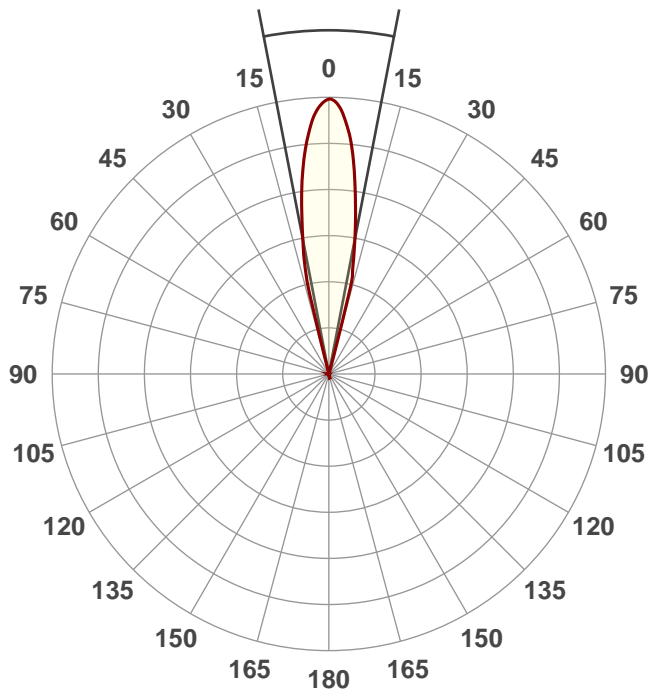
Peak: 68873 cd

Power: 652 W

PF: 1.0



21.9°



Product Name:

Proteus Hybrid

Test:

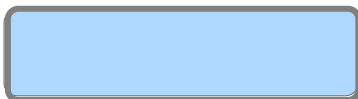
Spot CTB color wheel Zoom Out

Date:

1/22/2018

Note:

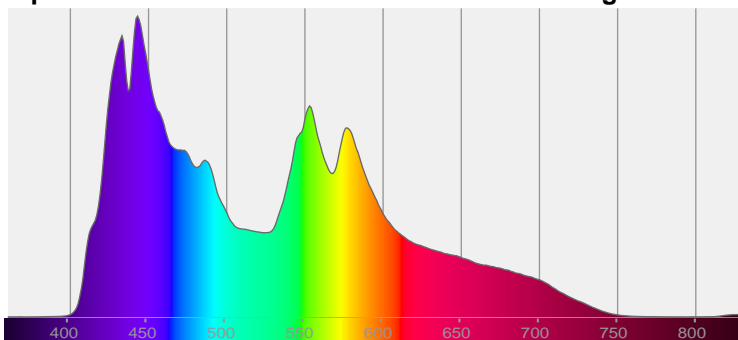
Beam Angle



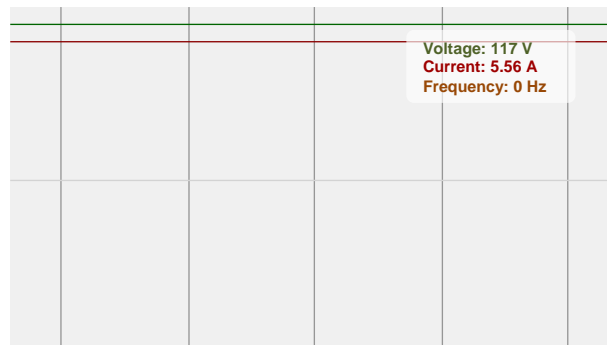
CIE 1931
x: 0.285
y: 0.282

Spectra

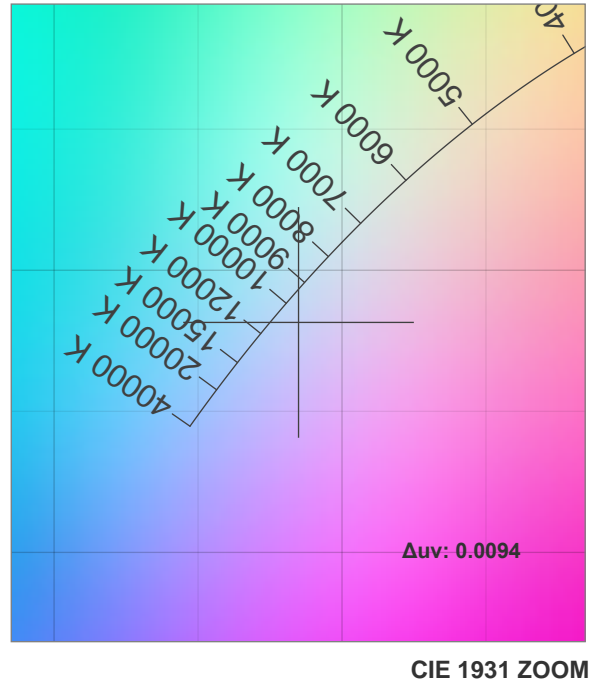
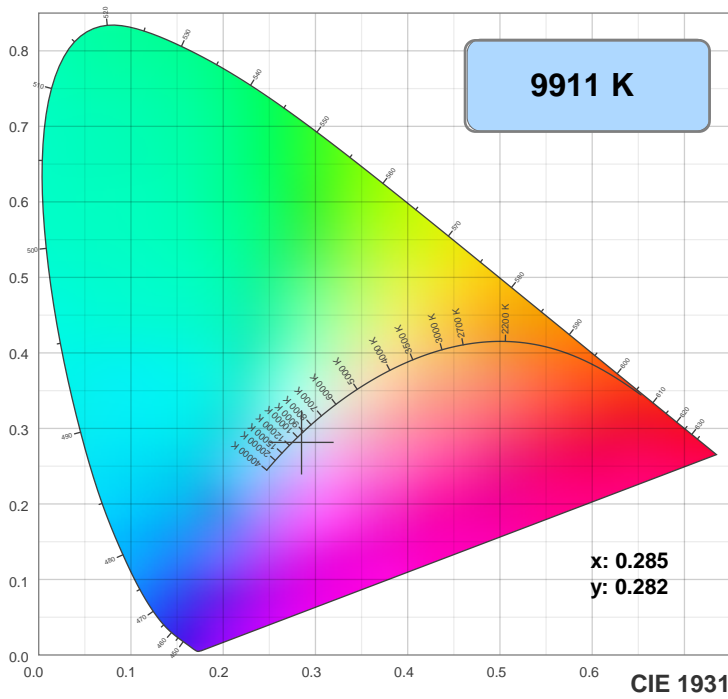
Dominant Wavelength: 462nm



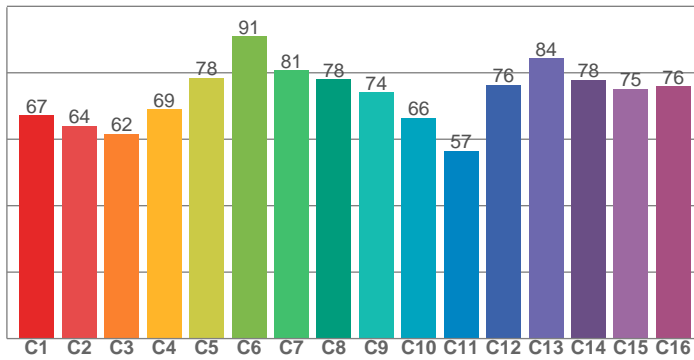
Power



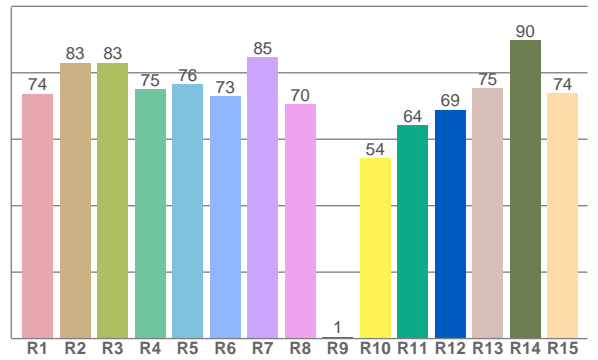
Color Details



TM30: 74.1



CRI: 77.4 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
73.7	83.0	83.1	75.1	76.5	72.9	84.8	70.4	0.6	54.3	64.2	68.9	75.3	89.8	73.9

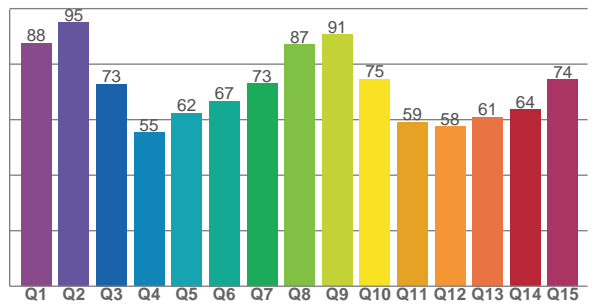
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
67.2	64.1	61.6	69.0	78.4	90.9	80.7	78.0	74.1	66.5	56.6	76.4	84.4	77.8	75.2	75.9

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
87.5	94.9	72.8	55.4	62.3	66.7	73.0	87.1	90.6	74.5	59.0	57.5	60.9	63.7	74.4

CQS: 69.4



Color Parameters

Color Temperature	Color Rendering Index	Red Component	Color Fidelity	Color Gamut	Color Quality Scale	Color Coordinate CIE 1931	Color Coordinate CIE 1931	Color Coordinate	Color Coordinate	Color Deviation from Black Body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
9911 K	77.4	0.6	74.1	91.8	69.4	0.285	0.282	0.196	0.291	0.0094

TM30 Details

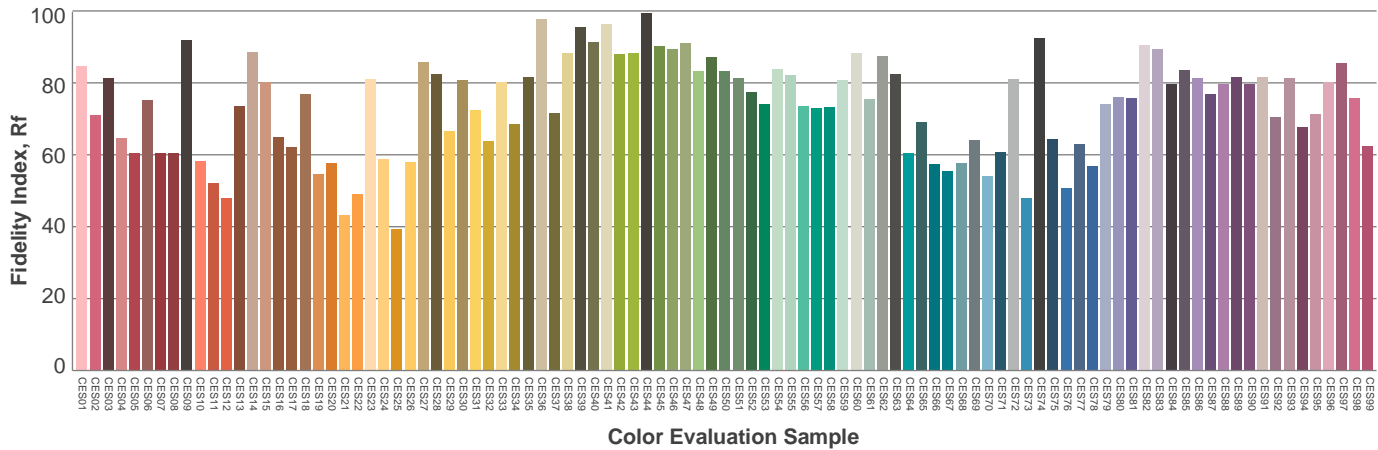
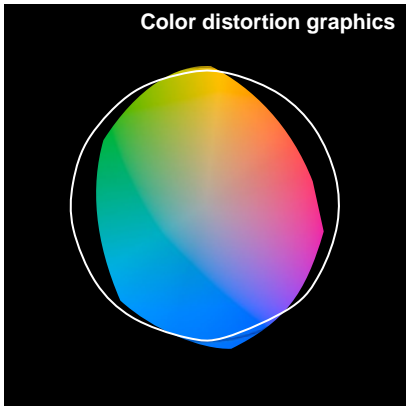
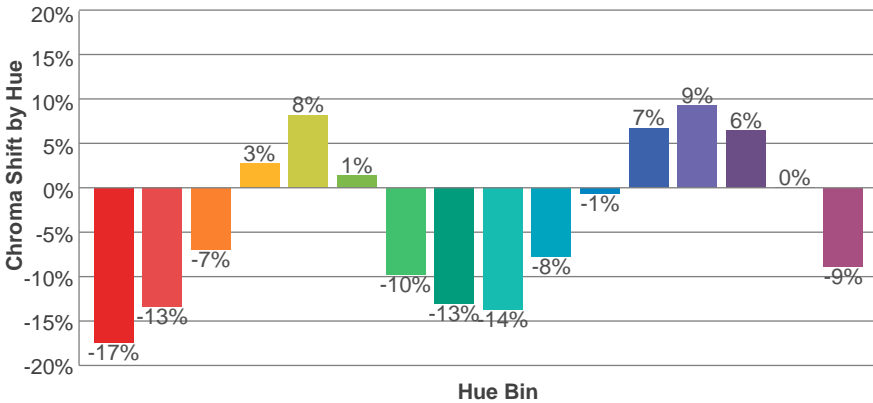
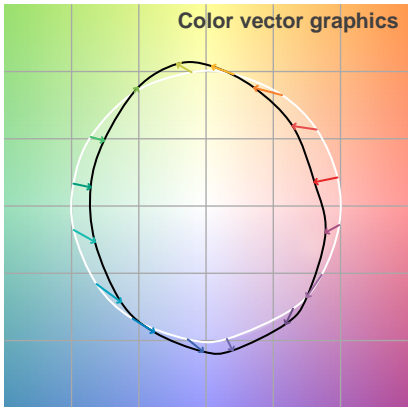
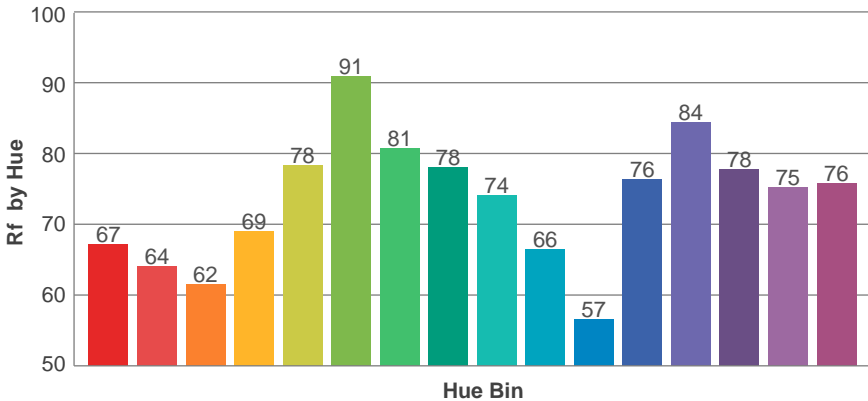
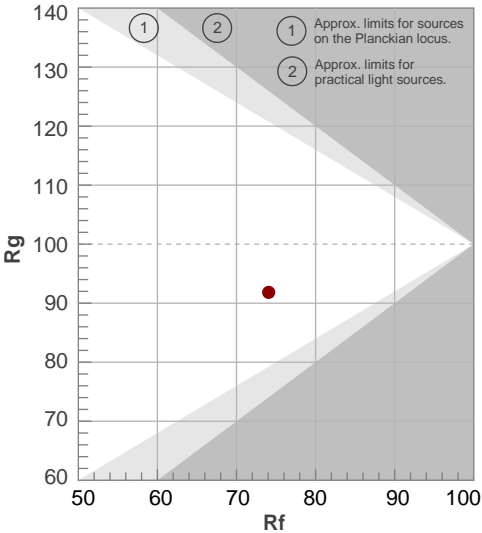
Rf 74.1

Fidelity Index Rf

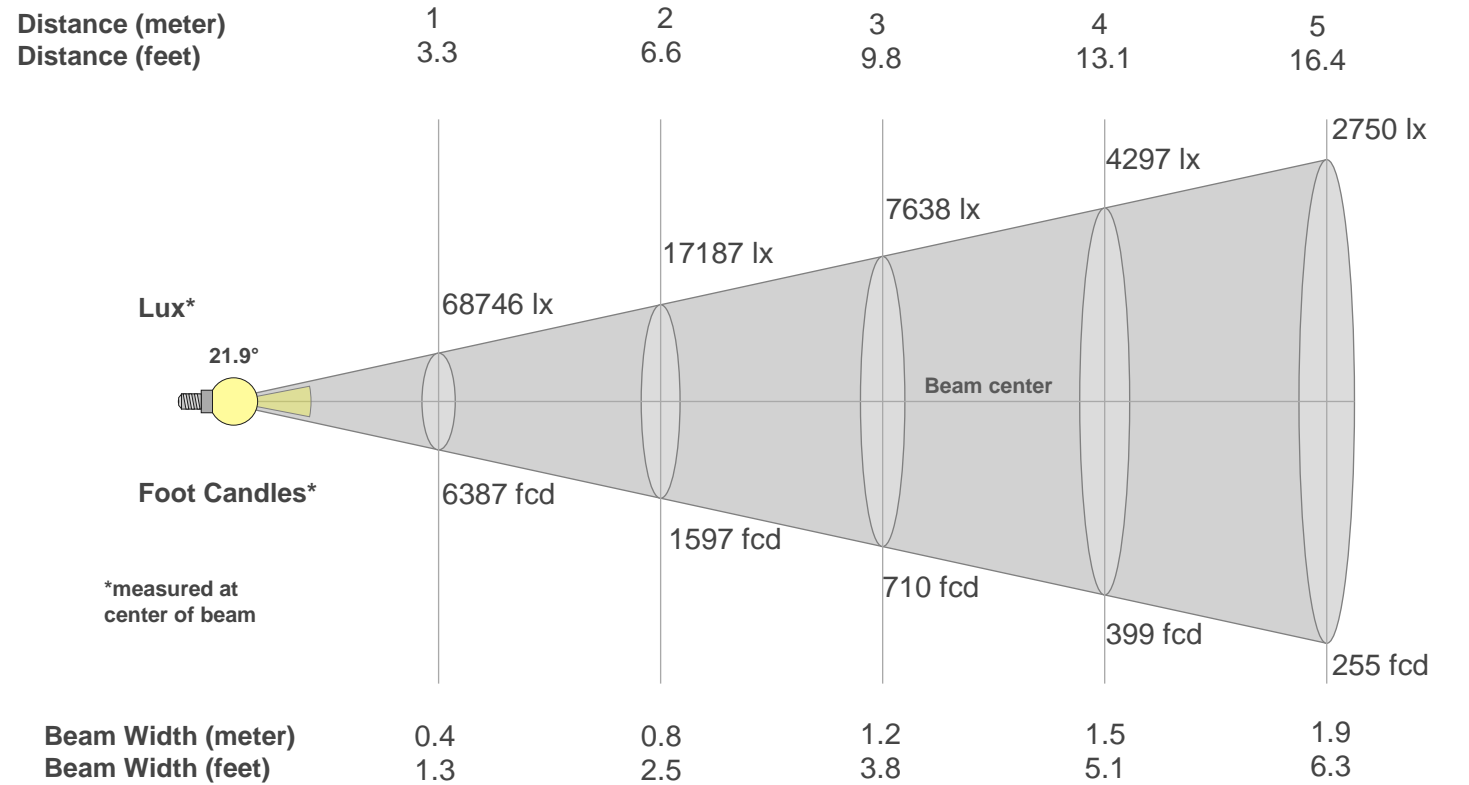
Rg 91.8

Gammut Index Rg

		Graphic shifts (%)	
Hue Bin	Rf	Chroma	Hue
1	67	-17%	0%
2	64	-13%	12%
3	62	-7%	20%
4	69	3%	17%
5	78	8%	9%
6	91	1%	-4%
7	81	-10%	-3%
8	78	-13%	0%
9	74	-14%	12%
10	66	-8%	21%
11	57	-1%	19%
12	76	7%	13%
13	84	9%	2%
14	78	6%	-11%
15	75	0%	-20%
16	76	-9%	-7%



Beam Details



Lux*

21.9°

Foot Candles*

68746 lx

17187 lx

7638 lx

4297 lx

2750 lx

6387 fcd

1597 fcd

710 fcd

399 fcd

255 fcd

*measured at
center of beam

Beam center

Beam Width (meter)

Beam Width (feet)

0.4

1.3

0.8

2.5

1.2

3.8

1.5

5.1

1.9

6.3

Beam Intensities from 1-20m																				
M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ft	3.3	6.6	9.8	13.1	16.4	19.7	23	26.2	29.5	32.8	36.1	39.4	42.7	45.9	49.2	52.5	55.8	59.1	62.3	65.6
Lx	68746	17187	7638	4297	2750	1910	1403	1074	849	687	568	477	407	351	306	269	238	212	190	172
Fcd	6386.7	1596.7	709.6	399.2	255.5	177.4	130.3	99.8	78.8	63.9	52.8	44.4	37.8	32.6	28.4	24.9	22.1	19.7	17.7	16

Intensities in 0° C-plane																				
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	
68.7K	68.2K	67.0K	65.2K	62.8K	59.8K	56.5K	52.5K	48.3K	43.6K	38.7K	34.1K	29.9K	24.0K	12.8K	0.3K	0.3K	0.3K	0.3K	0.3K	
100%	99%	97%	95%	91%	87%	82%	76%	70%	63%	56%	50%	44%	35%	19%	0%	0%	0%	0%	0%	

Intensities in 90° C-plane																				
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	
68.7K	68.2K	67.0K	65.2K	62.8K	59.8K	56.5K	52.5K	48.3K	43.6K	38.7K	34.1K	29.9K	24.0K	12.8K	0.3K	0.3K	0.3K	0.3K	0.3K	
100%	99%	97%	95%	91%	87%	82%	76%	70%	63%	56%	50%	44%	35%	19%	0%	0%	0%	0%	0%	

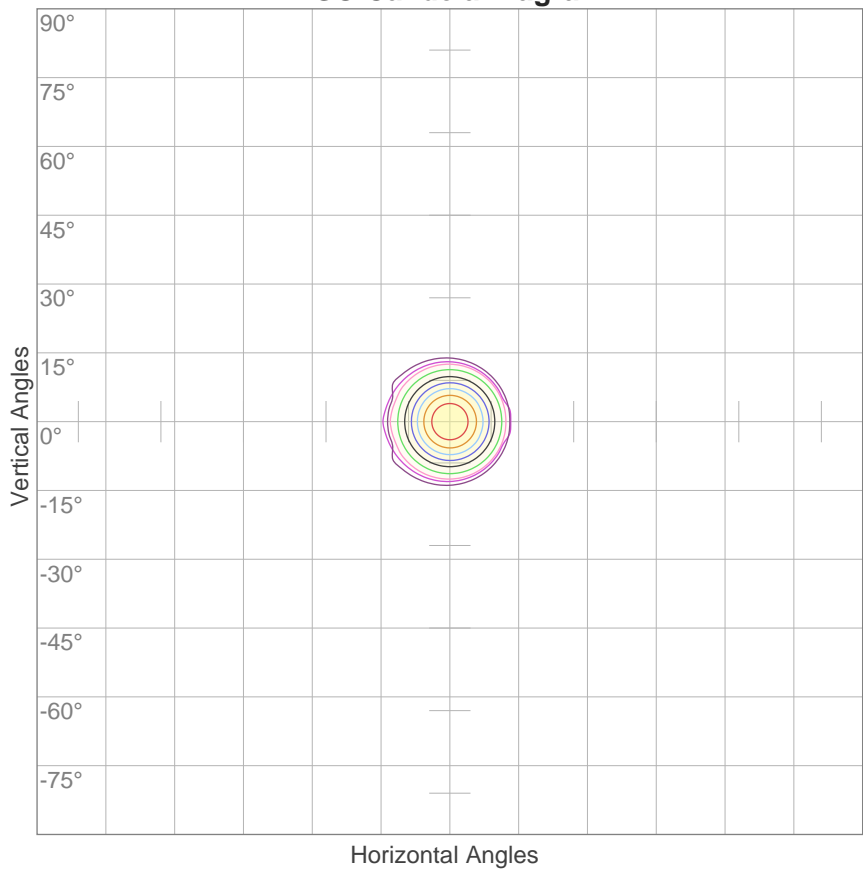
Intensities in 180° C-plane																				
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	
68.7K	68.4K	67.3K	65.4K	62.8K	59.9K	56.1K	51.8K	47.2K	42.7K	38.4K	34.1K	30.0K	26.2K	22.3K	8.1K	2.0K	0.3K	0.3K	0.3K	
100%	99%	98%	95%	91%	87%	82%	75%	69%	62%	56%	50%	44%	38%	32%	12%	3%	0%	0%	0%	

Intensities in 270° C-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
68.7K	68.4K	67.3K	65.4K	62.8K	59.9K	56.1K	51.8K	47.2K	42.7K	38.4K	34.1K	30.0K	26.2K	22.3K	8.1K	2.0K	0.3K	0.3K	0.3K
100%	99%	98%	95%	91%	87%	82%	75%	69%	62%	56%	50%	44%	38%	32%	12%	3%	0%	0%	0%

Beam Angle 50%	Field Angle 10%	Cutoff Angle 2,5%	Intensity Ratio in 120° Cone	Intensity Ratio in 90° Cone
21.9°	29.4°	30.8°	96.6%	95.7%

ISO Diagrams

ISO Candela Diagram

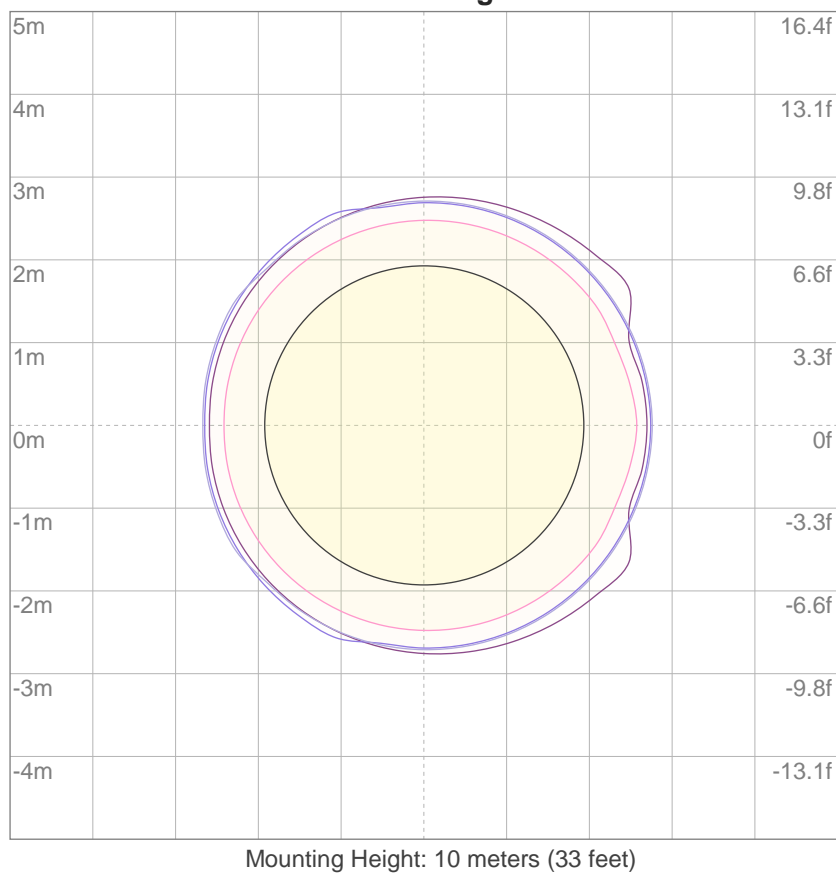


10%	6875 cd
20%	13749 cd
30%	20624 cd
40%	27499 cd
50%	34373 cd
60%	41248 cd
70%	48122 cd
80%	54997 cd
90%	61872 cd

Conditions:

Number of c-planes: 2
Candela at center: 68746 cd

ISO Lux Diagram



3%	20.6 lx
5%	34.4 lx
10%	68.7 lx
30%	206 lx
50%	344 lx

Conditions:

Number of c-planes: 2
Lux at center: 687 lx

*Lux distribution on a surface
when lamp is mounted at 10
meters from the surface.*

Light Planning

Coefficients of Utilization

Ceiling Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Floor Reflectance	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	0
RCR	(RCR: Room Cavity Ratio) Room Values are expressed as percentage of Lumens delivered to the task surface																	
0	118	118	118	118	115	115	115	115	110	110	110	104	104	104	100	100	100	97
1	115	113	111	110	112	111	109	108	106	105	104	102	101	100	98	98	97	95
2	112	108	106	104	109	107	104	102	103	101	100	100	98	97	97	96	95	93
3	109	105	102	99	107	103	100	98	100	98	96	98	96	95	95	94	93	92
4	106	102	98	96	105	100	97	95	98	96	94	96	94	92	94	92	91	90
5	104	99	95	93	102	98	95	92	96	93	91	94	92	90	93	91	89	88
6	102	97	93	91	100	96	93	90	94	92	90	93	91	89	92	90	88	87
7	100	95	91	89	99	94	91	88	93	90	88	91	89	87	90	88	87	86
8	98	93	89	87	97	92	89	87	91	88	86	90	88	86	89	87	85	85
9	96	91	88	86	95	91	87	85	90	87	85	89	86	85	88	86	84	83
10	95	89	86	84	94	89	86	84	88	86	84	88	85	83	87	85	83	82

Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
5004 lm	3021 lm	131 lm	108 lm	71.8 lm	45.3 lm	28.6 lm	20.7 lm	12.3 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
8.34 lm	8.25 lm	14.7 lm	33.0 lm	47.3 lm	49.0 lm	42.2 lm	24.4 lm	6.00 lm