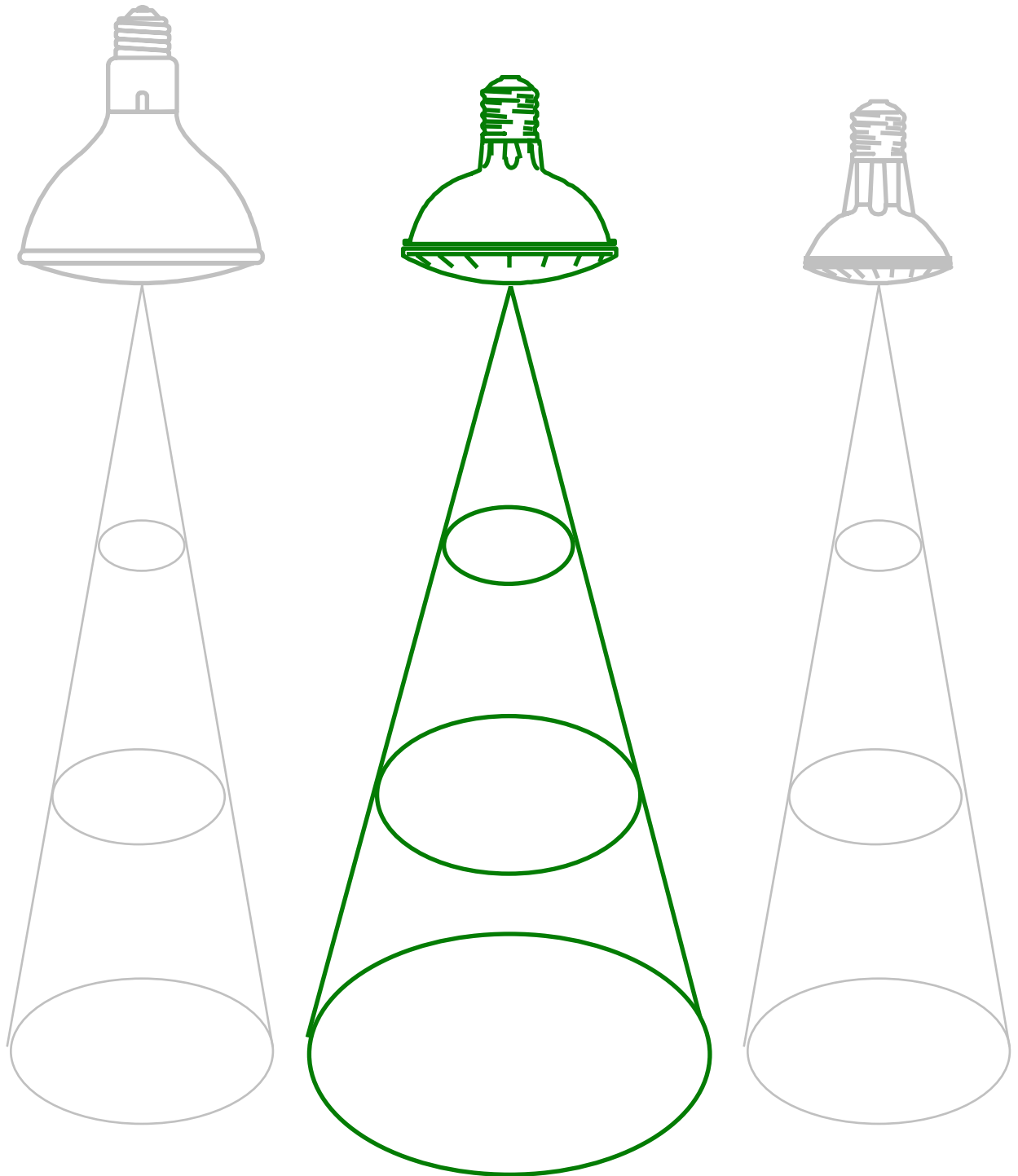


Tungsten Halogen Reflector Lamps

Beam Spread Selection Guide



BEAM SPREAD SELECTION GUIDE

Capsylite PAR TRU-AIM, TRU-AIM Brilliant and TRU-AIM UV Stop AR70 and AR111

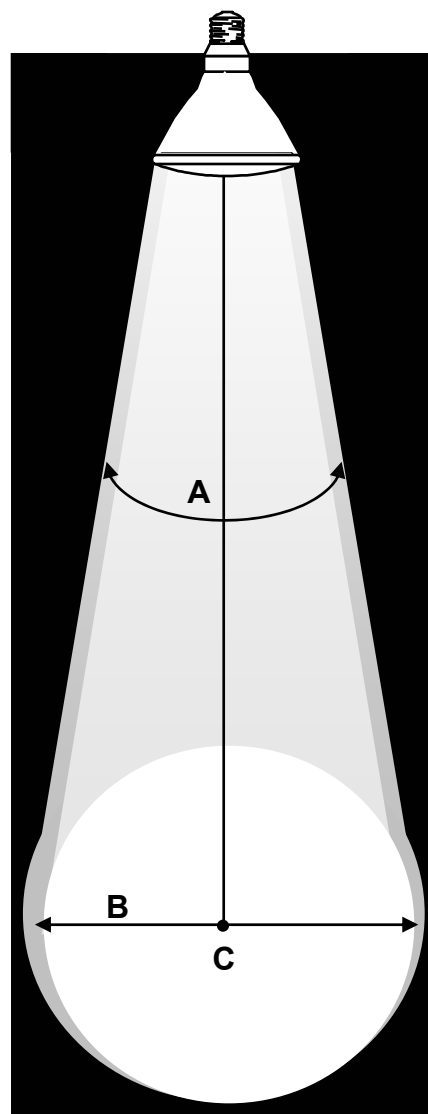
OSRAM SYLVANIA INC. offers a wide variety of line and low voltage tungsten halogen reflector lamps. Often a specifier, lighting designer, enduser, distributor or sales representative will be asked to recommend a source for an existing system or provide information during the design phase of a new project. A request may stem from a need for energy savings, a change in floor plan, a desire for enhanced aesthetics or any number of other reasons. Most information about reflector lamps is provided in terms of center beam candlepower and beam spread. This Beam Spread Selection Guide takes the next step and provides useful, hands-on diagrams detailing actual reflector lamp performance. For each lamp listed, a "foot-candle cone" is drawn that shows the center beam footcandles and the size of the "circle of light" at a specified distance from the source. With a general knowledge of the illumination requirements for the particular application, this Guide will provide the necessary lighting information needed for the selection of the appropriate OSRAM SYLVANIA tungsten halogen reflector lamp.

There are two parts to the Beam Spread Selection Guide.

1. In the first section, the lamps are indexed by family group.
2. In the second section, each lamp type is represented by its "cone of light": center beam footcandles and the diameter of the beam are shown at 3', 6' and 9' from the source.

OSRAM SYLVANIA INC. publishes beam spreads as per ANSI designations. See ANSI C78.379. For consistency in the published literature, the diameters of the "circles of light" have been calculated using these rounded, nominal beam angles. Generally, the listed beam angles fall within the range of manufacturing tolerances and the diameters of the circles are well approximated. Centerbeam footcandle values above ten are rounded to the nearest "fifth" footcandle (i.e., ...7,8,9 fc and 10,15,20... fc).

ILLUSTRATION OF BEAM ANGLE, BEAM DIAMETER AND CENTERBEAM FOOTCANDLES



A. BEAM ANGLE
(The angle measured in degrees at which the centerbeam candlepower is at 50% of maximum)

B. DIAMETER OF THE BEAM-IN FEET

C. CENTERBEAM FOOTCANDLES

SELECTED OSRAM SYLVANIA REFLECTOR LAMPS

	OSI NAED		PRODUCT DESCRIPTION	CBCP (cd)	BEAM ANGLE	INITIAL TOTAL LUMENS	LIFE (hrs.)	PAGE
	120V	130V						
PAR16/CAP	59032	59040	60PAR16/CAP/NSP/10°	5000	10°		2000	5
	59030	59038	60PAR16/CAP/NFL/30°	1300	30°		2000	5
	59036	59044	75PAR16/CAP/NSP/10°	7500	10°		2000	5
	59034		75PAR16/CAP/NFL/30°	1900	30°		2000	5
		59042	75PAR16/CAP/NFL/30°	1900	30°		1850	5
PAR20/CAP	14467	14460	35PAR20/CAP/NSP/8°	3000	8°	400	2500	5
	14464	14459	35PAR20/CAP/NFL/30°	900	30°	400	2500	5
	14506	14461	35PAR20/CAP/WFL/40°	600	40°	400	2500	5
	14524	14528	50PAR20/CAP/NSP/10°	5000	10°	525	2500	5
	14525	14529	50PAR20/CAP/NFL/30°	1250	30°	525	2500	5
PAR30/CAP	14759		35PAR30LN/CAP/NSP/9°	6000	9°	450	2500	5
	14764		35PAR30LN/CAP/WFL/50°	350	50°	450	2500	5
	14526	14530	50PAR30/CAP/NSP/9°	8000	9°	600	2500	5
	14527	14531	50PAR30/CAP/NFL/30°	1850	30°	600	2500	5
	14532	14533	50PAR30/CAP/FL/40°	1300	40°	600	2500	5
	14509	14482	50PAR30LN/CAP/NSP/9°	8000	9°	600	2500	5
	14520	14478	50PAR30LN/CAP/NFL/30°	1850	30°	600	2500	5
	14537	14486	50PAR30LN/CAP/WFL/50°	500	50°	600	2500	5
	14604	14628	75PAR30/CAP/NSP/9°	14000	9°	1100	2500	5
	14603	14627	75PAR30/CAP/NFL/30°	3200	30°	1100	2500	5
	14606	14629	75PAR30/CAP/FL/40°	2000	40°	1100	2500	5
	14786	14777	75PAR30LN/CAP/NSP/9°	14000	9°	1100	2500	5
	14769	14778	75PAR30LN/CAP/NFL/30°	3200	30°	1100	2500	5
	14768	14785	75PAR30LN/CAP/WFL/50°	750	50°	1100	2500	5
PAR38/CAP	14590	14593	45PAR/CAP/NSP/9°	10000	9°	520	2500	6
	14589	14592	45PAR/CAP/SP/12°	5500	12°	520	2500	6
	14588	14591	45PAR/CAP/FL/30°	1700	30°	520	2500	6
		14010	45PAR/CAP/WFL/50°	600	50°	520	2500	6
	14469	14449	60PAR/CAP/SP/10°	17500	10°	900	2500	6
	14423	14424	60PAR/CAP/WSP/12°	10000	12°	900	2500	6
	14468	14448	60PAR/CAP/FL/30°	3200	30°	900	2500	6
	14514	14516	75PAR/CAP/SP/10°	17500	10°	1040	2500	6
	14510		75PAR/CAP/WSP/12°	11000	12°	1040	2500	6
	14513	14515	75PAR/CAP/FL/30°	3300	30°	1040	2500	6
	14586	14587	90PAR/CAP/NSP/9°	19500	9°	1300	2500	6
	14580	14578	90PAR/CAP/SP/12°	12000	12°	1300	2500	6
	15545		90PAR/HAL/FL/30°	3750	30°	1300	2500	6
	14579	14577	90PAR/CAP/FL/30°	3750	30°	1300	2500	6
		14602	90PAR/CAP/WFL/50°	1500	50°	1300	2500	6
	14856	14874	120PAR/CAP/NSP/10°	25000	10°	1900	3000	6
	14855	14861	120PAR/CAP/FL/30°	5000	30°	1900	3000	6
	14594		120PAR/CAP/WFL/50°	2000	50°	1900	3000	6
	14599*	14600*	150PAR/CAP/NSP/9°	30000	9°	2200	3000	6
	14595*	14596*	150PAR/CAP/SP/12°	23000	12°	2200	3000	6
	14597*	14598*	150PAR/CAP/FL/30°	6500	30°	2200	3000	6
	14607*		150PAR/CAP/WFL/50°	2500	50°	2200	3000	6
	PAR36/CAP	12 VOLT						
		55100	36PAR36CAP/VNSP/5°	17000	5°		4000	7
		55090	36PAR36CAP/NSP/13°	3500	13°		4000	7
		55091	36PAR36CAP/WFL	1000	20°x30°		4000	7
	55118	50PAR36CAP/NSP	25000	6°		4000	7	

Note: All beam spreads are as per ANSI 378.379 designation

* Phased out in 1st half of 1996.

SELECTED OSRAM SYLVANIA REFLECTOR LAMPS

	OSI NAED	PRODUCT DESCRIPTION	VOLTS	CBCP (cd)	BEAM ANGLE	LIFE (hrs.)	PAGE
AR70	59013	20AR70/8°/SP	12	7000	8°	2000	7
	59012	20AR70/25°/FL	12	850	25°	2000	7
	59017	50AR70/8°/SP	12	15000	8°	2000	7
	59016	50AR70/25°/FL	12	2000	25°	2000	7
AR111	55101	35AR111/4°/SSP/6V	6	30000	4°	2000	7
	55102	35AR111/4°/SSP	12	40000	4°	2000	7
	55110	35AR111/8°/SP	12	14000	8°	2000	7
	55114	35AR111/25°/FL	12	2800	25°	2000	7
	55105	50AR111/4°/SSP	12	50000	4°	2000	7
	55104	50AR111/8°/SP	12	23000	8°	2000	7
	55103	50AR111/25°/FL	12	4000	25°	2000	7
	55125	75AR111/8°/SP	12	30000	8°	2000	7
	55123	75AR111/25°/FL	12	5300	25°	2000	7
	55124	75AR111/45°/WFL	12	1700	45°	2000	7
	55129	100AR111/8°/SP	12	48000	8°	2000	7
	55127	100AR111/25°/FL	12	8500	25°	2000	7
	55128	100AR111/45°/WFL	12	2800	45°	2000	7
TRU-AIM	58601	20MR16Q/8°/NSP(ESX)	12	5000	8°	2000	8
	58600	20MR16Q/40°/FL(BAB)	12	700	40°	2000	8
	58604	35MR16Q/8°/NSP(FRB)	12	11000	8°	3000	8
	58603	35MR16Q/35°/FL(FMW)	12	1400	35°	3000	8
	58608	50MR16Q/12°/NSP(EXT)	12	11000	12°	3500	8
	58605	50MR16Q/25°/NFL(EXZ)	12	3200	25°	3500	8
	58607	50MR16Q/40°/FL(EXN)	12	2000	40°	3500	8
	58563	65MR16Q/10°/NSP (FPA)	12	14000	10°	3500	8
	58565	65MR16Q/25°/NFL (FPC)	12	4000	25°	3500	8
	58564	65MR16Q/40°/FL (FPB)	12	2100	40°	3500	8
	58628	75MR16Q/13°/NSP(EYF)*	12	12500	13°	3500	8
	58610	75MR16Q/25°/NFL(EYJ)*	12	4000	25°	3500	8
	58627	75MR16Q/40°/FL(EYC)*	12	2100	40°	3500	8
	TRU-AIM UV Stop	58550	20MR16Q/10°/NSP/T/C	12	5000	10°	3000
58551		20MR16Q/40°/FL/T/C	12	700	40°	3000	8
58562		20MR16Q/60°/VWFL/T/C	12	350	60°	3000	8
58558		35MR16Q/10°/NSP/T/C	12	8300	10°	4000	8
58557		35MR16Q/40°/FL/T/C	12	1250	40°	4000	8
58552		35MR16Q/60°/VWFL/T/C	12	650	60°	4000	8
58556		50MR16Q/10°/NSP/T/C	12	11500	10°	4000	8
58555		50MR16Q/25°/NFL/T/C	12	3200	25°	4000	8
58554		50MR16Q/40°/FL/T/C	12	2000	40°	4000	8
58553	50MR16Q/60°/VWFL/T/C	12	1000	60	4000	8	
TRU-AIM Brilliant	58589	20MR16Q/8°/NSP/B	12	4650	8°	2000	9
	58590	20MR16Q/35°/FL/B	12	625	35°	2000	9
	58591	35MR16Q/10°/NSP/B	12	8700	10°	3000	9
	58593	35MR16Q/35°/FL/B	12	1300	35°	3000	9
	58594	50MR16Q/11°/NSP/B	12	10500	11°	3500	9
	58595	50MR16Q/25°/NFL/B	12	3000	25°	3500	9
	58596	50MR16Q/35°/FL/B	12	1900	35°	3500	9
	58559	65MR16Q/10°/NSP/B	12	12500	10°	3500	9
	58561	65MR16Q/25°/NFL/B	12	3600	25°	3500	9
	58560	65MR16Q/35°/FL/B	12	2100	35°	3500	9
	58597	75MR16Q/11°/NSP/B*	12	12000	11°	3500	9
	58598	75MR16Q/25°/NFL/B*	12	3800	25°	3500	9
	58599	75MR16Q/40°/FL/B*	12	2000	40°	3500	9
TRU-AIM Brilliant Covered	58569	20MR16Q/8°/NSP/B/C	12	4400	8°	2000	9
	58570	20MR16Q/35°/FL/B/C	12	600	35°	2000	9
	58574	50MR16Q/11°/NSP/B/C	12	10000	11°	3500	9
	58575	50MR16Q/35°/FL/B/C	12	1800	35°	3500	9

Note: All beam spreads are as per ANSI 378.379 designation

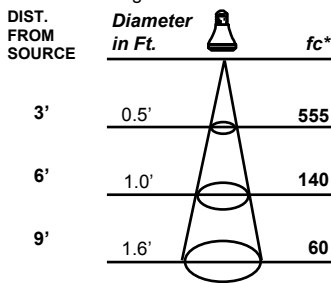
* Phased out in 1996.

/C means lamp has a cover lens

Capsylite PAR 16

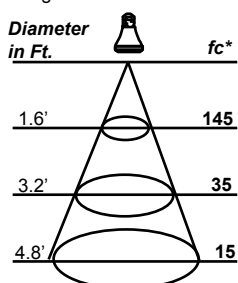
60PAR16/CAP/NSP

CBCP: 5000 cd
Beam Angle: 10°
Avg. Rated Life: 2000 hrs



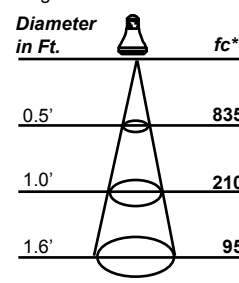
60PAR16/CAP/NFL

CBCP: 1300 cd
Beam Angle: 30°
Avg. Rated Life: 2000 hours



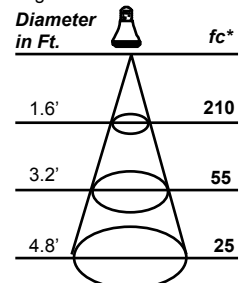
75PAR16/CAP/NSP

CBCP: 7500 cd
Beam Angle: 10°
Avg. Rated Life: 2000 hrs



75PAR16/CAP/NFL

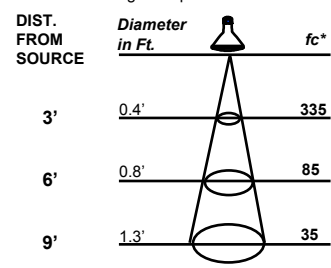
CBCP: 1900 cd
Beam Angle: 30°
Avg. Rated Life: 2000 hrs



Capsylite PAR 20

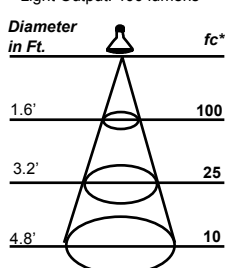
35PAR20/CAP/NSP

CBCP: 3000 cd
Beam Angle: 8°
Avg. Rated Life: 2500 hrs
Light Output: 400 lumens



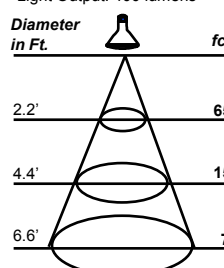
35PAR20/CAP/NFL

CBCP: 900 cd
Beam Angle: 30°
Avg. Rated Life: 2500 hrs
Light Output: 400 lumens



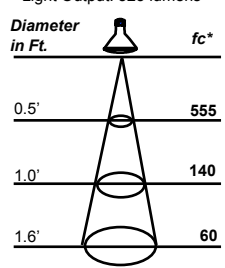
35PAR20/CAP/WFL

CBCP: 600 cd
Beam Angle: 40°
Avg. Rated Life: 2500 hrs
Light Output: 400 lumens



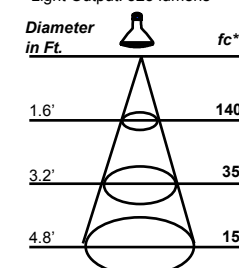
50PAR20/CAP/NSP

CBCP: 5000 cd
Beam Angle: 10°
Avg. Rated Life: 2500 hrs
Light Output: 525 lumens



50PAR20/CAP/NFL

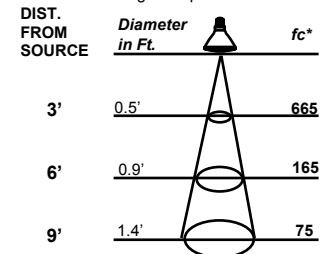
CBCP: 1250 cd
Beam Angle: 30°
Avg. Rated Life: 2500 hrs
Light Output: 525 lumens



Capsylite PAR 30

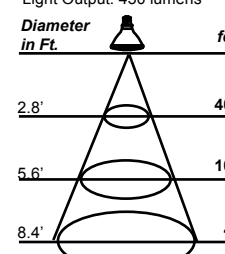
35PAR30/CAP/NSP

CBCP: 6000 cd
Beam Angle: 9°
Avg. Rated Life: 2500 hrs
Light Output: 450 lumens



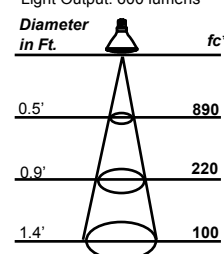
35PAR30/CAP/WFL

CBCP: 350 cd
Beam Angle: 50°
Avg. Rated Life: 2500 hours
Light Output: 450 lumens



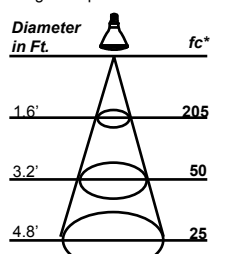
50PAR30/CAP/NSP

CBCP: 8000 cd
Beam Angle: 9°
Avg. Rated Life: 2500 hrs
Light Output: 600 lumens



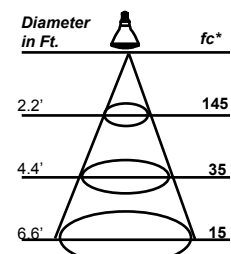
50PAR30/CAP/NFL

CBCP: 1850 cd
Beam Angle: 30°
Avg. Rated Life: 2500 hrs
Light Output: 600 lumens



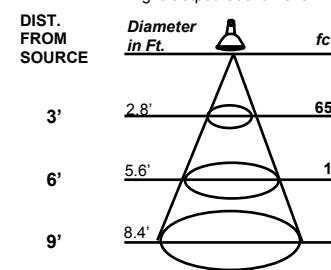
50PAR30/CAP/FL

CBCP: 1300 cd
Beam Angle: 40°
Avg. Rated Life: 2500 hrs
Light Output: 600 lumens



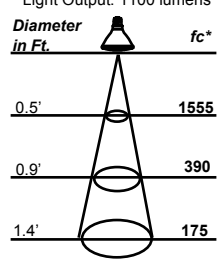
50PAR30/CAP/WFL

CBCP: 500 cd
Beam Angle: 50°
Avg. Rated Life: 2500 hrs
Light Output: 600 lumens



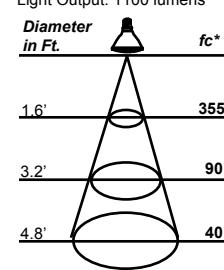
75PAR30/CAP/NSP

CBCP: 14000 cd
Beam Angle: 9°
Avg. Rated Life: 2500 hrs
Light Output: 1100 lumens



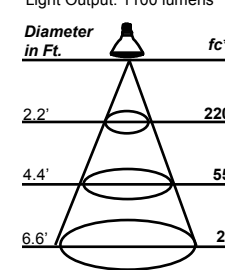
75PAR30/CAP/NFL

CBCP: 3200 cd
Beam Angle: 30°
Avg. Rated Life: 2500 hrs
Light Output: 1100 lumens



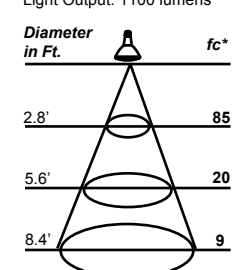
75PAR30/CAP/FL

CBCP: 2000 cd
Beam Angle: 40°
Avg. Rated Life: 2500 hrs
Light Output: 1100 lumens

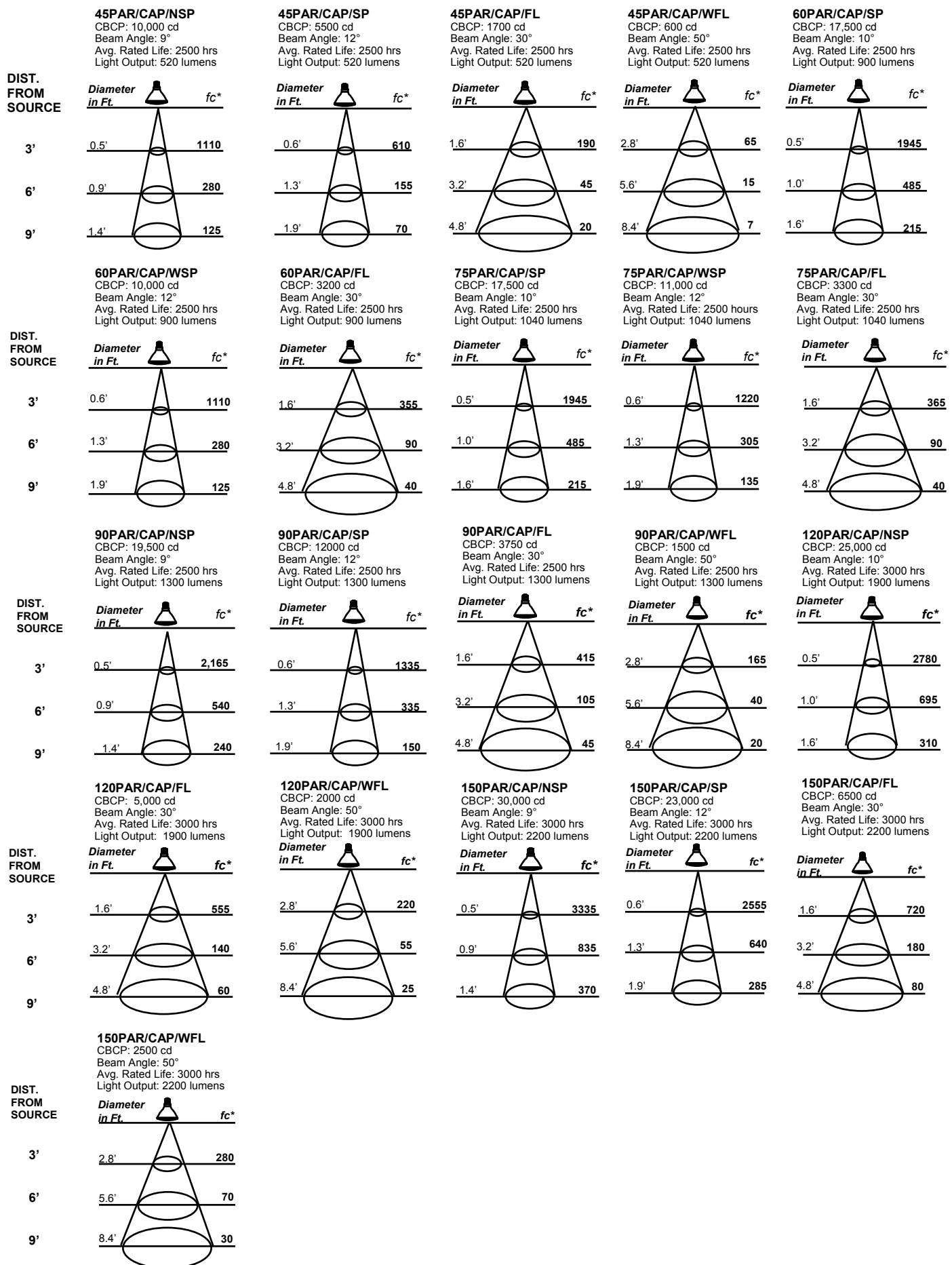


75PAR30/CAP/WFL

CBCP: 750 cd
Beam Angle: 50°
Avg. Rated Life: 2500 hrs
Light Output: 1100 lumens



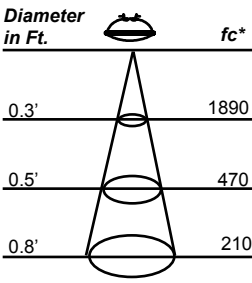
*fc -- approximate footcandles at center



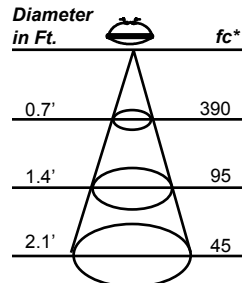
*fc – approximate footcandles at center

36PAR36/CAP/VNSP
 CBCP: 17000 cd
 Beam Angle: 5°
 Avg. Rated Life: 4000 hrs

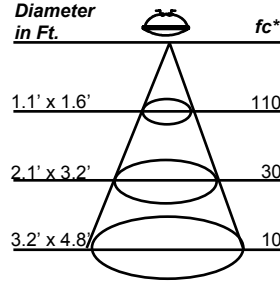
DIST. FROM SOURCE



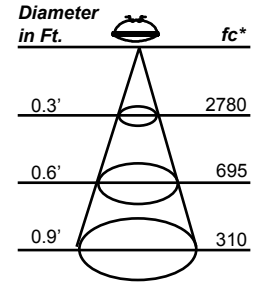
36PAR36/CAP/NSP
 CBCP: 3500 cd
 Beam Angle: 13°
 Avg. Rated Life: 4000 hrs



36PAR36/CAP/WFL
 CBCP: 1000 cd
 Beam Angle: 20° X 30°
 Oval Beam Pattern
 Avg. Rated Life: 4000 hours



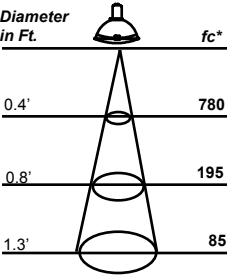
50PAR36/CAP/NSP
 CBCP: 25,000 cd
 Beam Angle: 6°
 Avg. Rated Life: 4000 hrs



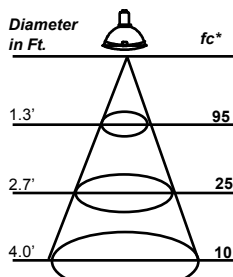
AR 70

20AR70/8°/SP
 CBCP: 7000 cd
 Beam Angle: 8°
 Avg. Rated Life: 2000 hrs

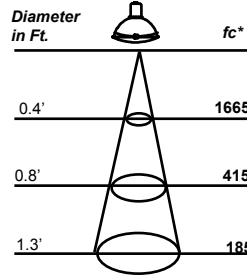
DIST. FROM SOURCE



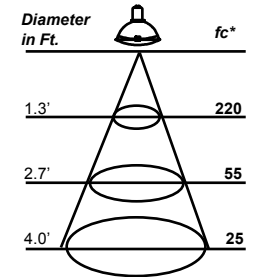
20AR70/25°/FL
 CBCP: 850 cd
 Beam Angle: 25°
 Avg. Rated Life: 2000 hrs



50AR70/8°/SP
 CBCP: 15,000 cd
 Beam Angle: 8°
 Avg. Rated Life: 2000 hrs



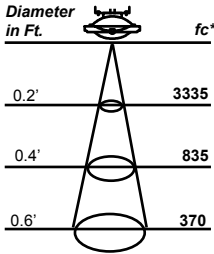
50AR70/25°/FL
 CBCP: 2000 cd
 Beam Angle: 25°
 Avg. Rated Life: 2000 hrs



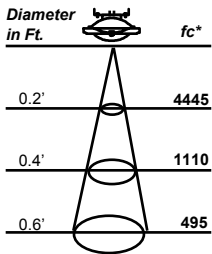
AR 111

35AR111/4°/SSP/6V
 CBCP: 30,000 cd
 Beam Angle: 4°
 Avg. Rated Life: 2000 hrs

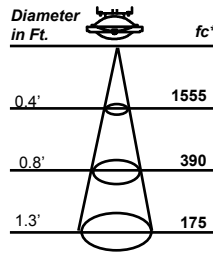
DIST. FROM SOURCE



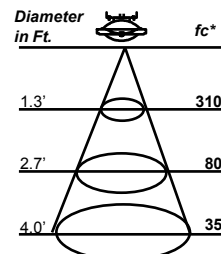
35AR111/4°/SSP
 CBCP: 40,000 cd
 Beam Angle: 4°
 Avg. Rated Life: 2000 hrs



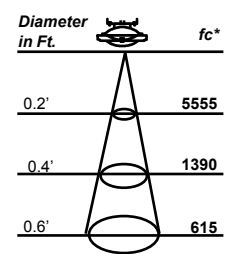
35AR111/8°/SP
 CBCP: 14000 cd
 Beam Angle: 8°
 Avg. Rated Life: 2000 hrs



35AR111/25°/FL
 CBCP: 2800 cd
 Beam Angle: 25°
 Avg. Rated Life: 2000 hrs

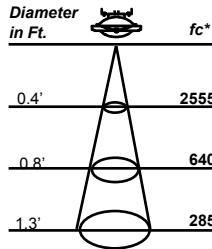


50AR111/4°/SSP
 CBCP: 50,000 cd
 Beam Angle: 4°
 Avg. Rated Life: 2000 hrs

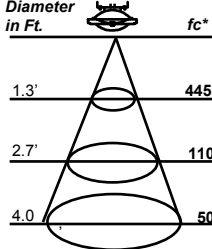


50AR111/8°/SP
 CBCP: 23,000 cd
 Beam Angle: 8°
 Avg. Rated Life: 2000 hrs

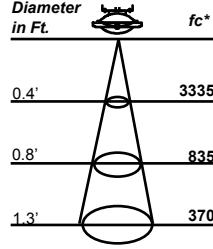
DIST. FROM SOURCE



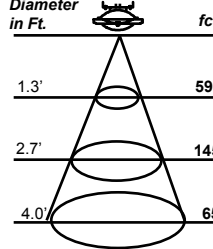
50AR111/25°/FL
 CBCP: 4000 cd
 Beam Angle: 25°
 Avg. Rated Life: 2000 hrs



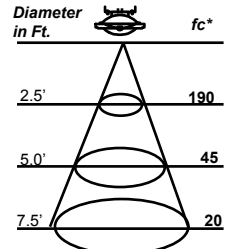
75AR111/8°/SP
 CBCP: 30,000 cd
 Beam Angle: 8°
 Avg. Rated Life: 2000 hrs



75AR111/25°/FL
 CBCP: 5300 cd
 Beam Angle: 25°
 Avg. Rated Life: 2000 hrs

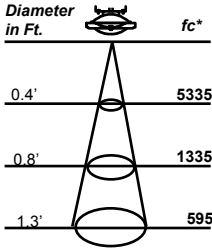


75AR111/45°/WFL
 CBCP: 1700 cd
 Beam Angle: 45°
 Avg. Rated Life: 2000 hrs

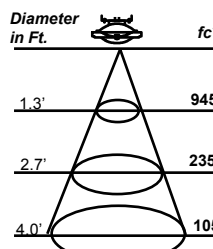


100AR111/8°/SP
 CBCP: 48000 cd
 Beam Angle: 8°
 Avg. Rated Life: 2000 hrs

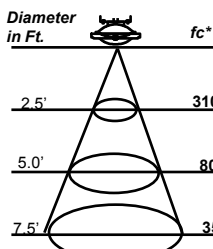
DIST. FROM SOURCE



100AR111/25°/FL
 CBCP: 8500 cd
 Beam Angle: 25°
 Avg. Rated Life: 2000 hrs



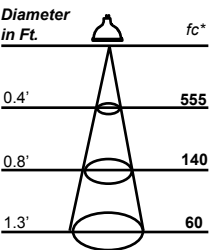
100AR111/45°/WFL
 CBCP: 2800 cd
 Beam Angle: 45°
 Avg. Rated Life: 2000 hrs



20MR16Q/8°/NSP (ESX)

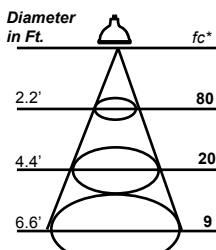
CBCP: 5000 cd
Beam Angle: 8°
Avg. Rated Life: 2000 hrs

DIST. FROM SOURCE



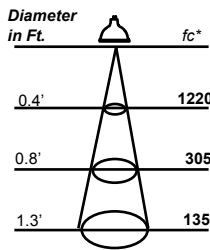
20MR16Q/40°/FL (BAB)

CBCP: 700 cd
Beam Angle: 40°
Avg. Rated Life: 2000 hrs



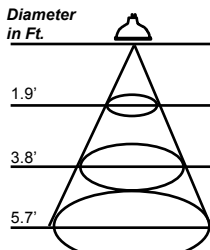
35MR16Q/8°/NSP (FRB)

CBCP: 11,000 cd
Beam Angle: 8°
Avg. Rated Life: 3000 hrs



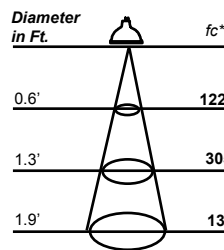
35MR16Q/35°/FL (FMW)

CBCP: 1400 cd
Beam Angle: 35°
Avg. Rated Life: 3000 hrs



50MR16Q/12°/NSP (EXT)

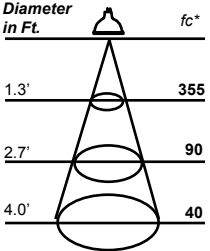
CBCP: 11,000 cd
Beam Angle: 12°
Avg. Rated Life: 3500 hrs



50MR16Q/25°/NFL (EXZ)

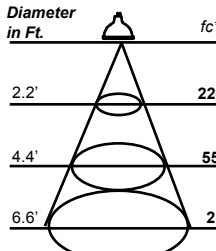
CBCP: 3200 cd
Beam Angle: 25°
Avg. Rated Life: 3500 hrs

DIST. FROM SOURCE



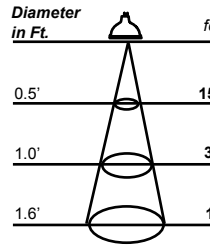
50MR16Q/40°/FL (EXN)

CBCP: 2000 cd
Beam Angle: 40°
Avg. Rated Life: 3500 hrs



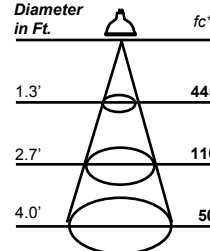
65MR16Q/10°/NSP (FPA)

CBCP: 14,000 cd
Beam Angle: 10°
Avg. Rated Life: 3500 hrs



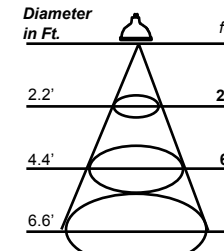
65MR16Q/25°/NFL (FPC)

CBCP: 4000 cd
Beam Angle: 25°
Avg. Rated Life: 3500 hrs



65MR16Q/40°/FL (FPB)

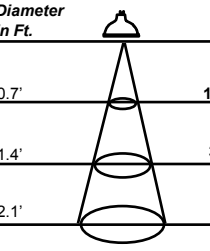
CBCP: 2100 cd
Beam Angle: 40°
Avg. Rated Life: 3500 hrs



75MR16Q/13°/NSP (EYF)

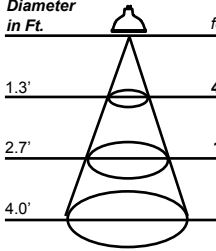
CBCP: 12,500 cd
Beam Angle: 13°
Avg. Rated Life: 3500 hrs

DIST. FROM SOURCE



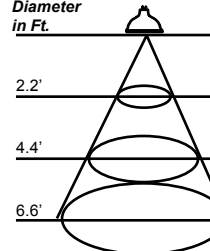
75MR16Q/25°/NFL (EYJ)

CBCP: 4000 cd
Beam Angle: 25°
Avg. Rated Life: 3500 hrs



75MR16Q/40°/FL (EYC)

CBCP: 2100 cd
Beam Angle: 40°
Avg. Rated Life: 3500 hrs

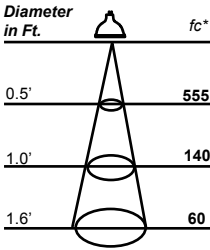


MR16 TRU-AIM UV STOP

20MR16Q/10°/NSP/T/C

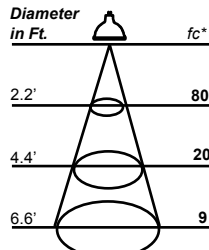
CBCP: 5000 cd
Beam Angle: 10°
Avg. Rated Life: 3000 hrs

DIST. FROM SOURCE



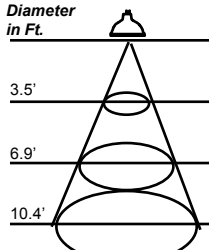
20MR16Q/40°/FL/T/C

CBCP: 700 cd
Beam Angle: 40°
Avg. Rated Life: 3000 hrs



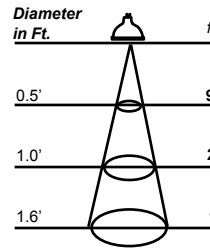
20MR16Q/60°/VWFL/T/C

CBCP: 350 cd
Beam Angle: 60°
Avg. Rated Life: 3000 hrs



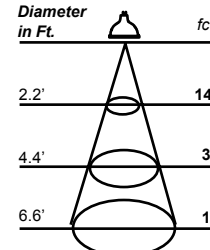
35MR16Q/10°/NSP/T/C

CBCP: 8300 cd
Beam Angle: 10°
Avg. Rated Life: 4000 hrs



35MR16Q/40°/FL/T/C

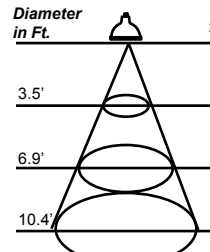
CBCP: 1250 cd
Beam Angle: 40°
Avg. Rated Life: 4000 hrs



35MR16Q/60°/VWFL/T/C

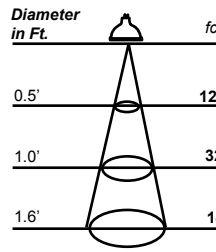
CBCP: 650 cd
Beam Angle: 60°
Avg. Rated Life: 4000 hrs

DIST. FROM SOURCE



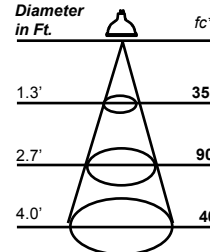
50MR16Q/10°/NSP/T/C

CBCP: 11,500 cd
Beam Angle: 10°
Avg. Rated Life: 4000 hrs



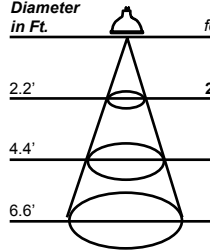
50MR16Q/25°/NFL/T/C

CBCP: 3200 cd
Beam Angle: 25°
Avg. Rated Life: 4000 hrs



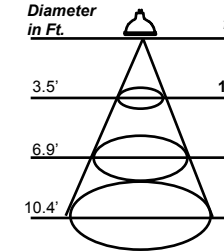
50MR16Q/40°/FL/T/C

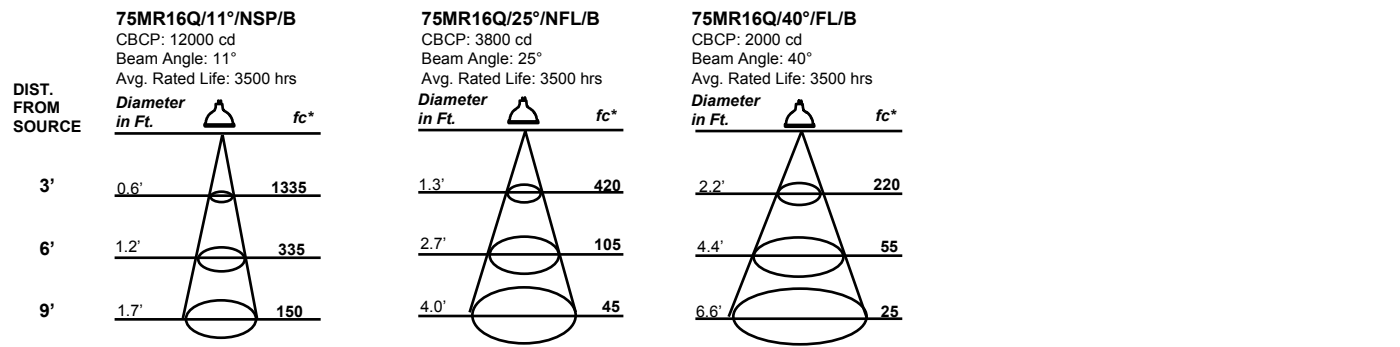
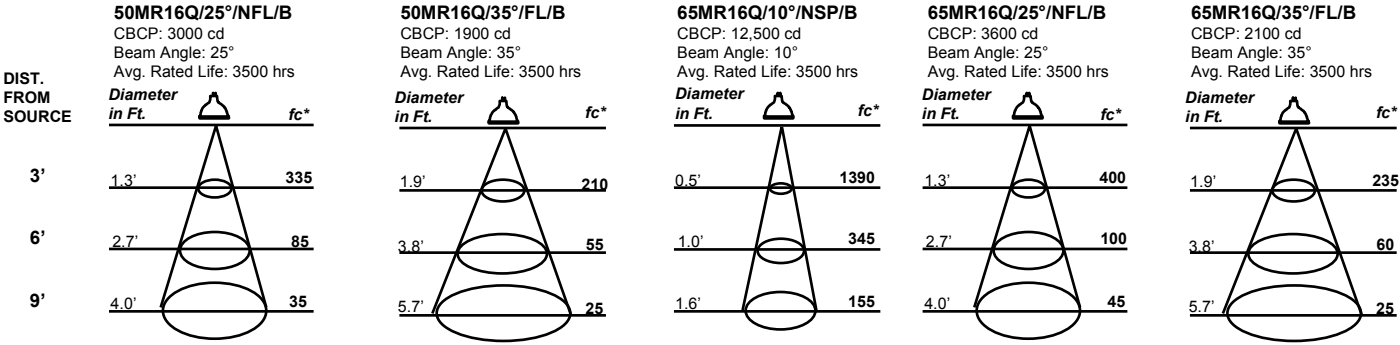
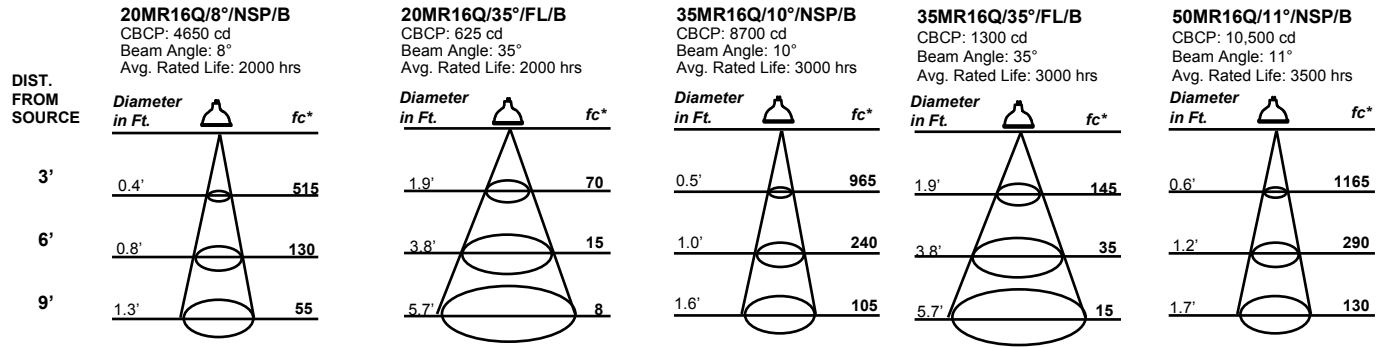
CBCP: 2000 cd
Beam Angle: 40°
Avg. Rated Life: 4000 hrs



50MR16Q/60°/VWFL/T/C

CBCP: 1000 cd
Beam Angle: 60°
Avg. Rated Life: 4000 hrs





MR16 TRU-AIM BRILLIANT COVERED

