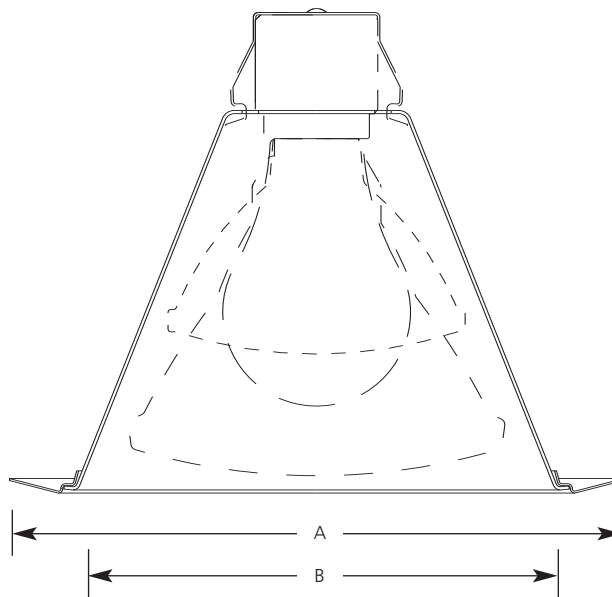


Type \_\_\_\_\_

-21A -22A -21 -22 -28  
P8068

Catalog No.	Finish					Dimensions (Inches)		
	Clear Alzak®	Gold Alzak®	Clear	Gold	White	A	B	C
P8068	-21A	-22A	-21	-22	-28	7-3/4	6-11/32	-3/4



**Lamp Wattage**

Housing	IC	Non-IC
P87-AT	75PAR30/65BR30	120BR40/150PAR38/40A19
P87-ATQC	75PAR30/65BR30	120BR40/150PAR38/40A19
P187-TG	75PAR30/65BR30	120BR40/150PAR38/40A19
P821-AT	120BR40/150PAR38/100A19	120BR40/150PAR38/100A19
P821-FB, P821-FBFC	N/A	150R40/150BR40/150PAR38

**Specifications:**

Flange

- Bright white powdered painted metal flange

Trim

- All aluminum construction
- Built-in bracket to accept Trim-Lok spring
- Trim-Lok action forces trim to fit snugly against the ceiling
- One-piece construction
- No light leaks around trim flange
- Socket mounts to trim for optimum performance and consistent lamp position

Options

- Clear Cone - specify "21" after catalog number
- Gold Cone - specify "22" after catalog number
- White Cone - specify "28" after catalog number
- Clear Alzak® Cone - specify "21A" after catalog number
- Gold Alzak® Cone - specify "22A" after catalog number

Labels

- UL-CUL damp location listed

# P87-AT

## P87-AT WITH P8068-21A

Report No. 98086

No. Lamps: 1 Type Lamp: 150BR40 FL Total Lumens: 1545

Fixture Efficiency: 98.4%

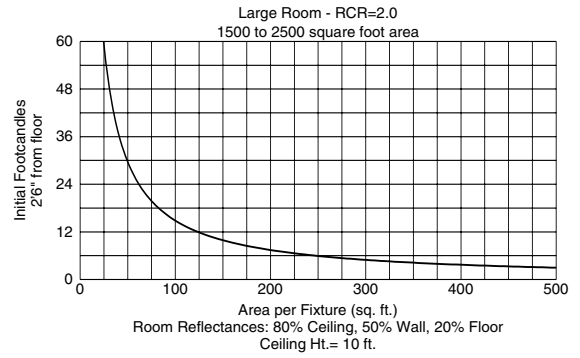
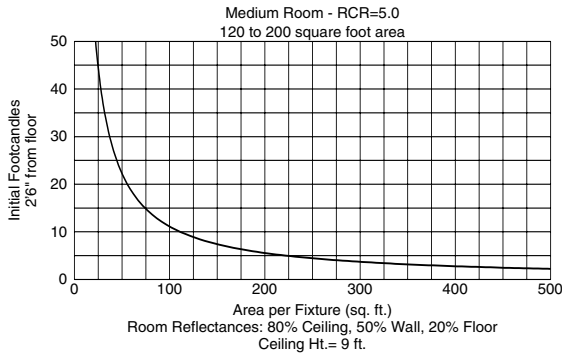
S/MH Ratio: 0.8

### Single Fixture Data

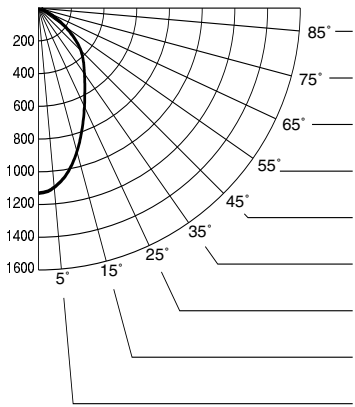
Ceiling Ht.(Ft.)	10% Values		Zero Degrees	50% Values	
	Beam Angle - 93°			Beam Angle - 45°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	3.7	12	37.4	18.7	5
10	2.0	16	20.1	10.1	6
12	1.3	20	12.5	6.3	8
14	0.9	24	8.6	4.3	10
16	0.6	28	6.2	3.1	11

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



#### DISTRIBUTION CURVE



#### INTENSITY DATA

DEGREES	CANDELA
90	0
85	7
80	11
75	17
70	30
65	60
60	119
55	202
50	289
45	365
40	427
35	489
30	566
25	664
20	781
15	907
10	1021
5	1099
0	1131

#### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	Effective Floor Cavity Reflectance 0.20																						
	80				70				50				30				10				0		
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
0	117	117	117	117	114	114	114	114	109	109	109	105	105	105	100	100	100	98					
1	110	106	103	100	107	104	101	99	100	98	95	96	94	93	93	91	90	88					
2	102	96	91	86	100	94	89	85	91	87	83	88	84	82	85	82	80	78					
3	95	87	80	75	93	85	79	75	83	77	73	80	76	72	78	74	71	69					
4	88	79	72	66	86	78	71	66	75	70	65	73	68	64	71	67	63	62					
5	82	72	64	59	81	71	64	59	69	63	58	67	62	58	65	61	57	55					
6	77	66	58	53	75	65	58	53	63	57	52	62	56	52	60	55	52	50					
7	72	61	53	48	71	60	53	48	58	52	48	57	52	47	56	51	47	45					
8	68	56	49	44	66	55	48	44	54	48	43	53	47	43	52	47	43	41					
9	64	52	45	40	62	52	45	40	50	44	40	50	44	40	49	43	40	38					
10	60	49	42	37	59	48	41	37	47	41	37	46	41	37	46	40	37	35					

# P87-AT

## P87-AT WITH P8068-21A

Report No. 98085

No. Lamps: 1 Type Lamp: 150PAR38 - SYLVANIA Total Lumens: 2200

Fixture Efficiency: 98.3%

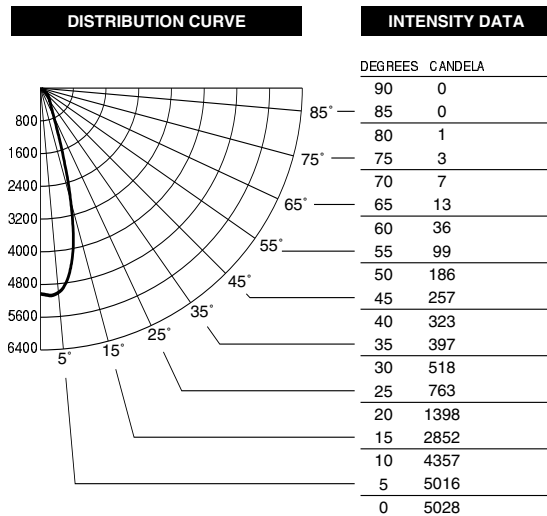
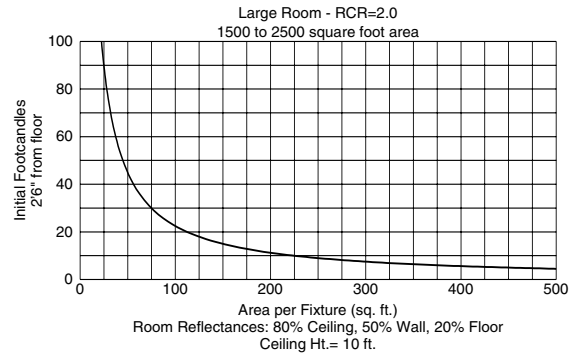
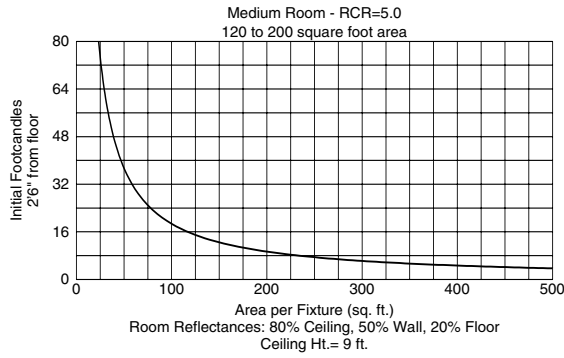
S/MH Ratio: 0.5

### Single Fixture Data

Ceiling Ht.(Ft.)	10% Values		Zero Degrees	50% Values	
	Beam Angle - 52°			Beam Angle - 30°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	16.6	5	166.2	83.1	3
10	8.9	7	89.4	44.7	4
12	5.6	9	55.7	27.9	5
14	3.8	11	38.0	19.0	6
16	2.8	13	27.6	13.8	7

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



#### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	Effective Floor Cavity Reflectance 0.20																						
	80				70				50				30				10				0		
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
0	117	117	117	117	114	114	114	114	109	109	109	105	105	105	100	100	100	98	98	98	98		
1	112	109	107	105	110	107	105	103	103	102	100	100	98	97	96	95	94	93	93	93	93		
2	107	102	98	95	105	101	97	94	97	95	92	94	92	90	92	90	88	87	87	87	87		
3	102	96	91	88	100	95	90	87	92	88	86	90	87	84	87	85	83	81	81	81	81		
4	97	90	85	81	95	89	84	81	87	83	80	85	82	79	83	80	78	77	77	77	77		
5	93	85	80	76	91	84	79	76	83	78	75	81	77	74	80	76	74	72	72	72	72		
6	89	81	75	72	88	80	75	71	79	74	71	77	73	70	76	73	70	69	69	69	69		
7	85	77	71	68	84	76	71	67	75	70	67	74	70	67	73	69	66	65	65	65	65		
8	82	73	68	64	81	73	68	64	72	67	64	71	67	64	70	66	63	62	62	62	62		
9	79	70	65	61	78	70	65	61	69	64	61	68	64	61	67	63	61	59	59	59	59		
10	76	67	62	59	75	67	62	59	66	62	58	65	61	58	65	61	58	57	57	57	57		

# P87AT

## P87AT WITH P8068-21A

Report No. 98127

No. Lamps: 1 Type Lamp: 150PAR38/FL Total Lumens: 2200

Fixture Efficiency: 77.8%

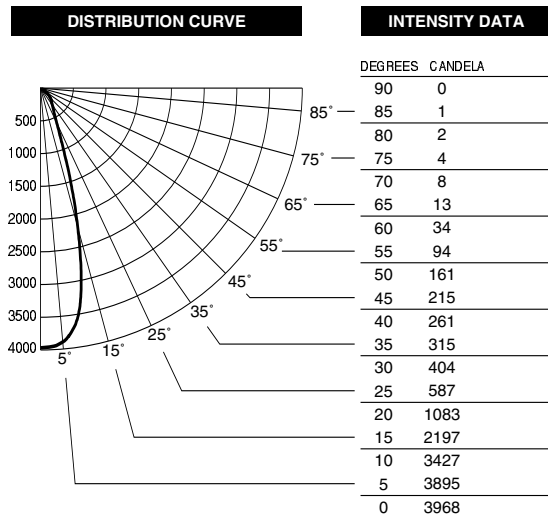
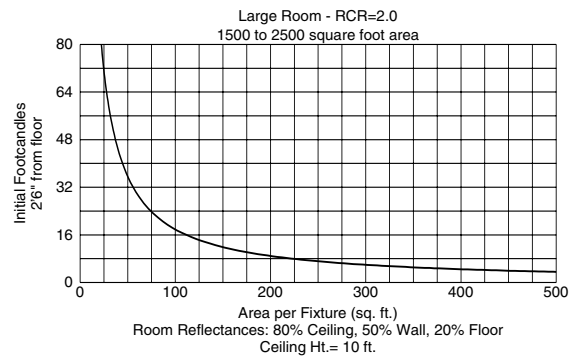
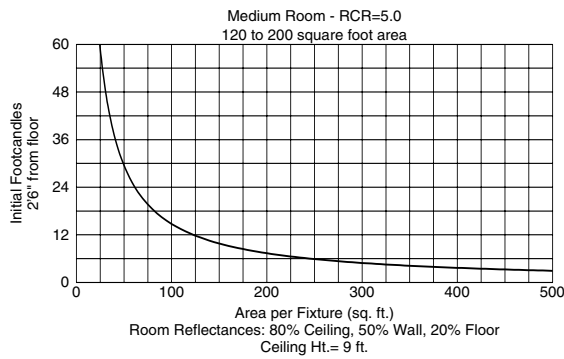
S/MH Ratio: 0.5

### Single Fixture Data

Ceiling Ht.(Ft.)	10% Values		Zero Degrees	50% Values	
	Beam Angle - 52°			Beam Angle - 30°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	13.1	5	131.2	65.6	3
10	7.1	7	70.5	35.3	4
12	4.4	9	44.0	22.0	5
14	3.0	11	30.0	15.0	6
16	2.2	13	21.8	10.9	7

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



#### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	70												50				30				10				0			
	80	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0				
0	93	93	93	93	91	91	91	91	87	87	87	83	83	83	79	79	79	78	78	78	78	78	78	78				
1	89	86	85	83	87	85	83	82	82	80	79	79	78	77	76	75	74	73	73	73	73	73	73	73				
2	84	81	78	75	83	79	77	74	77	75	73	75	73	71	72	71	70	68	68	68	68	68	68	68				
3	80	76	72	69	79	74	71	68	72	70	67	71	68	66	69	67	65	64	64	64	64	64	64	64				
4	77	71	67	64	75	70	66	63	68	65	63	67	64	62	66	63	61	60	60	60	60	60	60	60				
5	73	67	63	60	72	66	62	59	65	61	59	64	61	58	62	60	58	57	57	57	57	57	57	57				
6	70	63	59	56	69	63	59	56	62	58	55	61	57	55	60	57	55	54	54	54	54	54	54	54				
7	67	60	56	53	66	60	56	53	59	55	52	58	55	52	57	54	52	51	51	51	51	51	51	51				
8	64	57	53	50	63	57	53	50	56	53	50	55	52	50	55	52	49	48	48	48	48	48	48	48				
9	62	55	51	48	61	55	50	48	54	50	48	53	50	47	53	49	47	46	46	46	46	46	46	46				
10	59	53	48	46	59	52	48	46	52	48	46	51	48	45	51	47	45	44	44	44	44	44	44	44				

# P87-AT

## P87-AT WITH P8068-21A

Report No. 98087

No. Lamps: 1 Type Lamp: 40A19 Total Lumens: 505

Fixture Efficiency: 54.0%

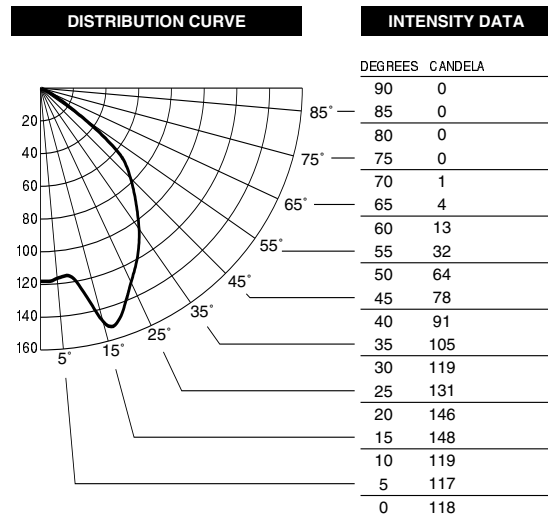
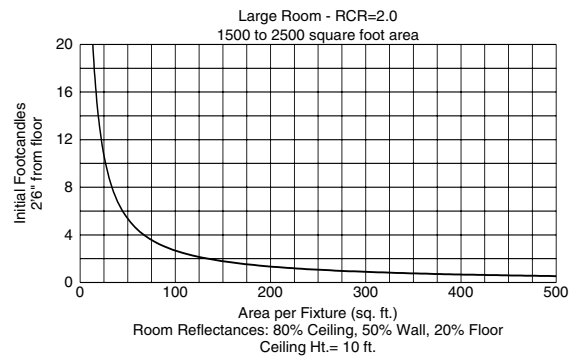
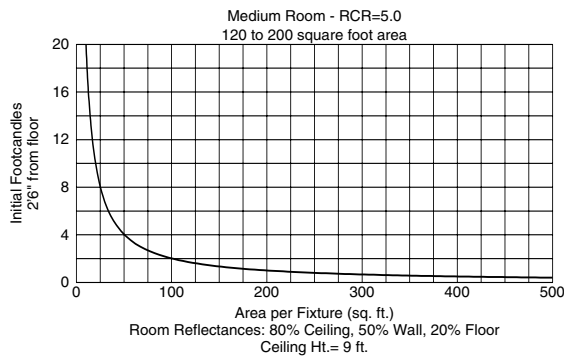
S/MH Ratio: 1.4

### Single Fixture Data

Ceiling Ht.(Ft.)	10% Values		Zero Degrees	50% Values	
	Beam Angle - 104°			Beam Angle - 69°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	0.4	14	3.9	2.0	8
10	0.2	19	2.1	1.0	10
12	0.1	24	1.3	0.7	13
14	0.1	30	0.9	0.4	16
16	0.1	35	0.6	0.3	19

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



#### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	Effective Floor Cavity Reflectance 0.20																						
	80				70				50				30				10				0		
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
0	65	65	65	65	63	63	63	63	60	60	60	58	58	58	55	55	55	54					
1	61	59	57	56	59	58	56	55	56	54	53	53	52	52	52	51	50	49					
2	57	53	51	48	55	52	50	48	51	48	47	49	47	46	47	46	45	44					
3	53	48	45	42	52	47	44	42	46	43	41	45	42	40	43	41	40	39					
4	49	44	40	37	48	43	40	37	42	39	36	41	38	36	40	37	35	34					
5	46	40	36	33	45	39	35	33	38	35	32	37	34	32	36	34	32	31					
6	42	36	32	29	42	36	32	29	35	31	29	34	31	29	33	31	28	27					
7	40	33	29	26	39	33	29	26	32	29	26	31	28	26	31	28	26	25					
8	37	31	26	24	36	30	26	24	30	26	24	29	26	23	28	25	23	22					
9	35	28	24	22	34	28	24	21	27	24	21	27	24	21	26	23	21	20					
10	33	26	22	20	32	26	22	20	25	22	20	25	22	19	24	21	19	19					

# P87-AT

## P87-AT WITH P8068-21A

Report No. 98084

No. Lamps: 1 Type Lamp: 65BR30 FL Total Lumens: 770

Fixture Efficiency: 92.1%

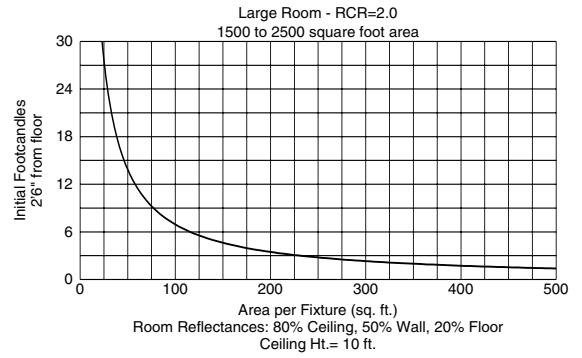
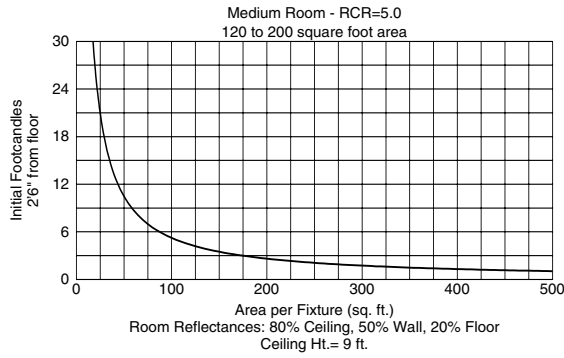
S/MH Ratio: 0.9

### Single Fixture Data

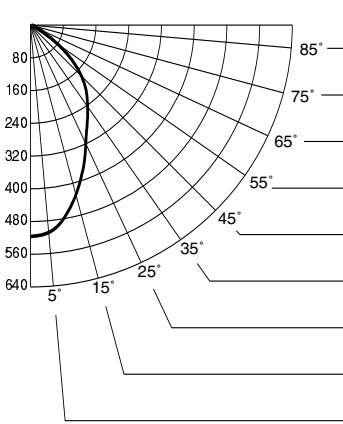
Ceiling Ht.(Ft.)	10% Values		Zero Degrees Ft.-C	50% Values	
	Beam Angle - 94°			Beam Angle - 47°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	1.7	12	17.1	8.5	5
10	0.9	16	9.2	4.6	7
12	0.6	20	5.7	2.9	8
14	0.4	24	3.9	2.0	10
16	0.3	29	2.8	1.4	12

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



#### DISTRIBUTION CURVE



#### INTENSITY DATA

DEGREES	CANDELA
90	0
85	0
80	3
75	7
70	14
65	23
60	42
55	82
50	132
45	175
40	212
35	243
30	277
25	320
20	375
15	429
10	477
5	509
0	517

#### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	Effective Floor Cavity Reflectance 0.20																						
	80				70				50				30				10				0		
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
0	110	110	110	110	107	107	107	107	102	102	102	98	98	98	94	94	94	92					
1	103	100	97	94	101	98	95	93	94	92	90	91	89	87	87	86	85	83					
2	96	90	86	82	94	89	84	81	86	82	79	83	80	77	80	78	76	74					
3	90	82	76	71	88	81	75	71	78	73	70	76	72	69	74	70	67	66					
4	83	75	68	63	82	73	67	63	71	66	62	69	65	61	68	64	60	59					
5	78	68	61	56	76	67	61	56	65	60	56	64	59	55	62	58	54	53					
6	73	63	56	51	71	62	55	51	60	54	50	59	54	50	57	53	49	48					
7	68	58	51	46	67	57	50	46	56	50	46	54	49	45	53	49	45	43					
8	64	53	47	42	63	53	46	42	52	46	42	51	45	41	50	45	41	40					
9	60	49	43	38	59	49	43	38	48	42	38	47	42	38	46	41	38	36					
10	57	46	40	35	56	46	40	35	45	39	35	44	39	35	43	39	35	34					

# P87-AT

## P87-AT WITH P8068-21A

Report No. 98083

No. Lamps: 1 Type Lamp: 75PAR30 SN - GE Total Lumens: 1100

Fixture Efficiency: 104.6%

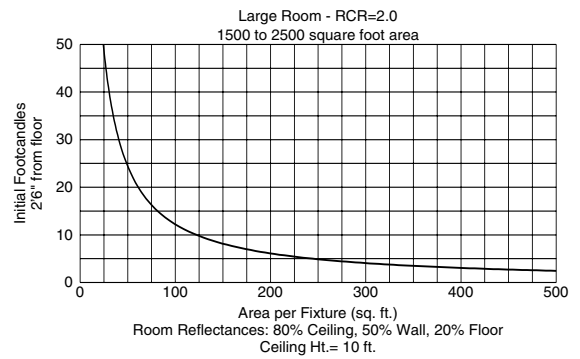
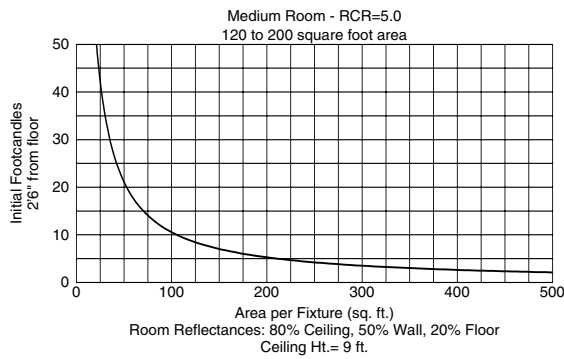
S/MH Ratio: 0.5

### Single Fixture Data

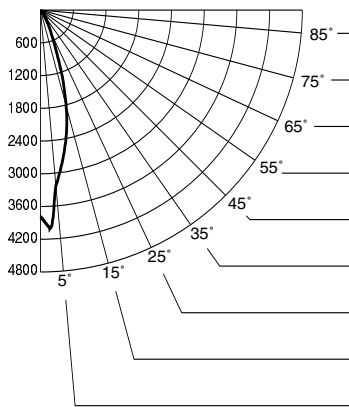
Ceiling Ht.(Ft.)	10% Values		Zero Degrees Ft.-C	50% Values	
	Beam Angle - 49°			Beam Angle - 27°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	12.5	5	125.0	62.5	3
10	6.7	7	67.2	33.6	4
12	4.2	9	41.9	20.9	5
14	2.9	10	28.6	14.3	6
16	2.1	12	20.7	10.4	6

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



#### DISTRIBUTION CURVE



#### INTENSITY DATA

DEGREES	CANDELA
90	0
85	0
80	0
75	1
70	1
65	1
60	3
55	7
50	13
45	35
40	88
35	158
30	259
25	454
20	957
15	1814
10	2562
5	3235
0	3781

#### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	Effective Floor Cavity Reflectance 0.20																						
	80				70				50				30				10				0		
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
0	125	125	125	125	122	122	122	122	116	116	116	111	111	111	107	107	107	105					
1	120	118	115	113	117	115	113	112	111	110	108	107	106	105	104	103	102	100					
2	115	111	108	105	113	110	106	104	106	104	102	103	101	99	100	99	97	96					
3	111	106	102	98	109	104	100	97	102	99	96	99	97	94	97	95	93	92					
4	107	101	96	93	105	100	95	92	98	94	91	96	92	90	94	91	89	88					
5	103	96	91	88	102	95	91	88	94	90	87	92	89	86	91	88	85	84					
6	100	92	87	84	98	92	87	84	90	86	83	89	85	82	87	84	82	81					
7	96	89	84	80	95	88	83	80	87	83	80	86	82	79	85	81	79	78					
8	93	85	80	77	92	85	80	77	84	79	76	83	79	76	82	78	76	75					
9	90	82	77	74	89	82	77	74	81	77	74	80	76	73	79	76	73	72					
10	87	79	75	71	86	79	74	71	78	74	71	77	74	71	77	73	71	70					

# P87-AT

## P87-AT WITH P8068-21A

Report No. 98082

No. Lamps: 1 Type Lamp: 75PAR30 FL Total Lumens: 985

Fixture Efficiency: 97.7%

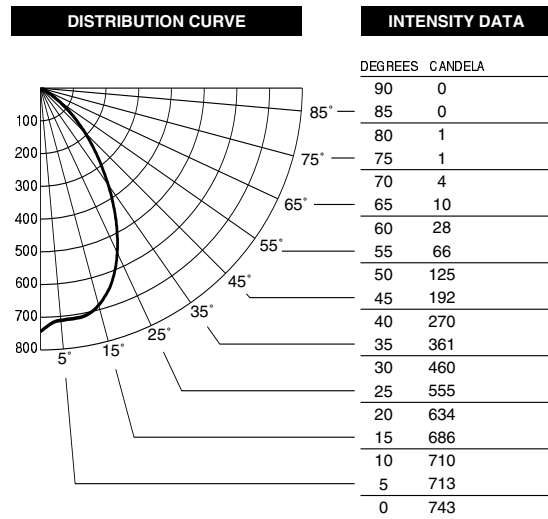
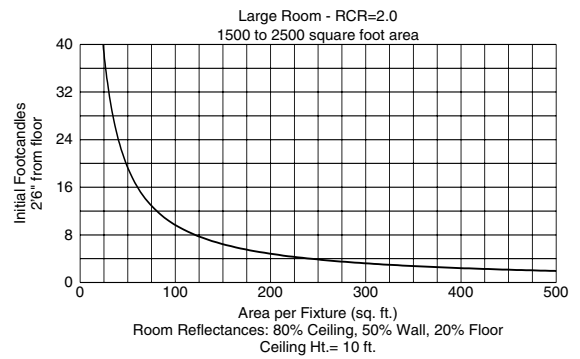
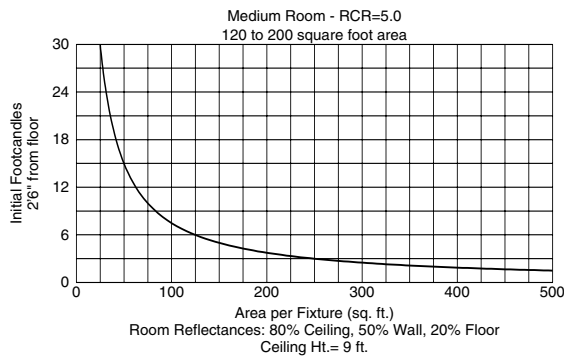
S/MH Ratio: 1.0

### Single Fixture Data

Ceiling Ht.(Ft.)	10% Values		Zero Degrees	50% Values	
	Beam Angle - 89°			Beam Angle - 54°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	2.5	11	24.6	12.3	6
10	1.3	15	13.2	6.6	8
12	0.8	19	8.2	4.1	10
14	0.6	22	5.6	2.8	12
16	0.4	26	4.1	2.0	14

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



#### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	80												70				50				30				10				0			
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0										
0	116	116	116	116	114	114	114	114	109	109	109	104	104	104	100	100	100	98														
1	110	107	104	102	108	105	102	100	101	99	97	97	96	94	94	93	91	90														
2	103	98	93	90	101	96	92	89	93	90	87	90	87	85	87	85	83	81														
3	97	90	84	80	95	88	83	79	86	81	78	83	80	77	81	78	75	74														
4	91	83	76	72	89	81	76	71	79	74	70	77	73	69	75	72	69	67														
5	86	76	69	65	84	75	69	64	73	68	64	72	67	63	70	66	63	61														
6	80	70	64	59	79	70	63	59	68	62	58	66	61	58	65	61	57	56														
7	76	65	58	54	74	64	58	54	63	57	53	62	57	53	61	56	53	51														
8	71	61	54	49	70	60	54	49	59	53	49	58	53	49	57	52	49	47														
9	67	57	50	46	66	56	50	45	55	49	45	54	49	45	53	48	45	43														
10	64	53	47	42	63	52	46	42	52	46	42	51	46	42	50	45	42	40														



# P87-AT

## P87-AT WITH P8068-21

Report No. 98089

No. Lamps: 1 Type Lamp: 150PAR38 - SYLVANIA Total Lumens: 2200

Fixture Efficiency: 98.6%

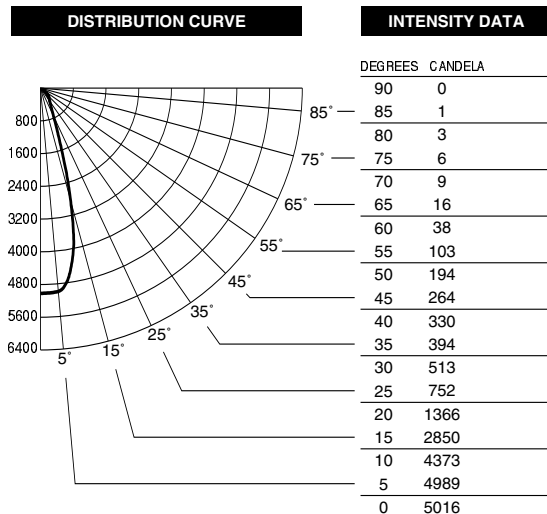
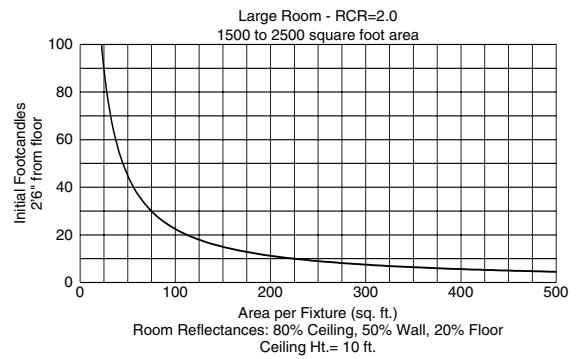
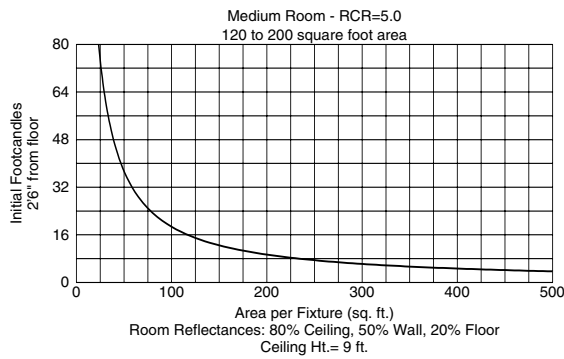
S/MH Ratio: 0.5

### Single Fixture Data

Ceiling Ht.(Ft.)	10% Values		Zero Degrees	50% Values	
	Beam Angle - 52°			Beam Angle - 30°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	16.6	5	165.8	82.9	3
10	8.9	7	89.2	44.6	4
12	5.6	9	55.6	27.8	5
14	3.8	11	37.9	19.0	6
16	2.8	13	27.5	13.8	7

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



#### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	Effective Floor Cavity Reflectance 0.20																						
	80				70				50				30				10				0		
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
0	117	117	117	117	115	115	115	115	110	110	110	105	105	105	101	101	101	99					
1	112	110	107	105	110	108	105	103	104	102	100	100	99	97	96	95	95	93					
2	107	102	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87					
3	102	96	91	88	100	95	90	87	92	88	86	90	87	84	88	85	83	81					
4	97	90	85	81	96	89	84	81	87	83	80	85	82	79	83	80	78	77					
5	93	85	80	76	91	84	79	76	83	78	75	81	77	74	80	76	74	72					
6	89	81	75	71	88	80	75	71	79	74	71	77	73	70	76	72	70	68					
7	85	77	71	68	84	76	71	67	75	70	67	74	70	67	73	69	66	65					
8	82	73	68	64	81	73	68	64	72	67	64	71	67	63	70	66	63	62					
9	79	70	65	61	78	70	64	61	69	64	61	68	64	61	67	63	60	59					
10	76	67	62	58	75	67	62	58	66	61	58	65	61	58	65	61	58	57					

# P87-AT

## P87-AT WITH P8068-21

Report No. 98090

No. Lamps: 1 Type Lamp: 40A19 Total Lumens: 505

Fixture Efficiency: 51.3%

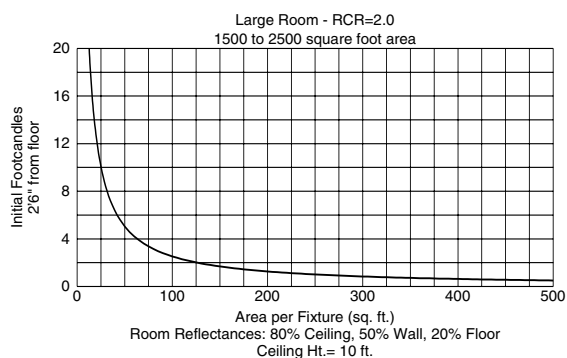
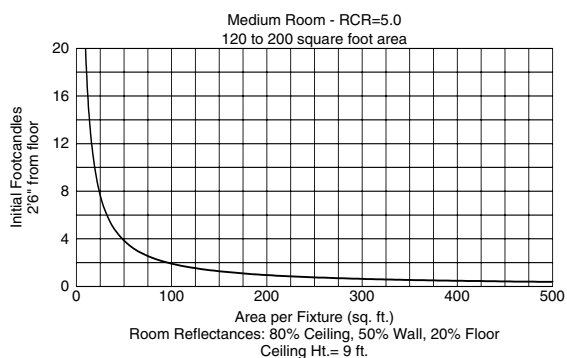
S/MH Ratio: 1.4

### Single Fixture Data

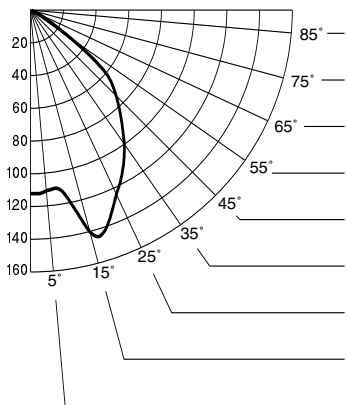
Ceiling Ht.(Ft.)	10% Values		Zero Degrees Ft.-C	50% Values	
	Beam Angle - 104°			Beam Angle - 69°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	0.4	14	3.7	1.9	8
10	0.2	19	2.0	1.0	10
12	0.1	24	1.2	0.6	13
14	0.1	30	0.8	0.4	16
16	0.1	35	0.6	0.3	19

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



#### DISTRIBUTION CURVE



#### INTENSITY DATA

DEGREES	CANDELA
90	0
85	0
80	0
75	0
70	1
65	4
60	12
55	30
50	61
45	74
40	86
35	100
30	113
25	124
20	139
15	140
10	113
5	111
0	112

#### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	Effective Floor Cavity Reflectance 0.20																						
	80				70				50				30				10				0		
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
0	61	61	61	61	60	60	60	60	57	57	57	55	55	55	52	52	52	51	51	51	51		
1	57	56	54	53	56	55	53	52	52	51	50	51	50	49	49	48	47	46	46	46	46		
2	54	50	48	46	52	50	47	45	48	46	44	46	45	43	45	43	42	41	41	41	41		
3	50	46	42	40	49	45	42	39	43	41	39	42	40	38	41	39	38	37	37	37	37		
4	46	41	38	35	45	41	37	35	40	37	34	38	36	34	37	35	34	33	33	33	33		
5	43	38	34	31	42	37	34	31	36	33	31	35	32	30	34	32	30	29	29	29	29		
6	40	34	30	28	39	34	30	28	33	30	27	32	29	27	31	29	27	26	26	26	26		
7	37	31	28	25	37	31	27	25	30	27	25	30	27	24	29	26	24	23	23	23	23		
8	35	29	25	22	34	29	25	22	28	25	22	27	24	22	27	24	22	21	21	21	21		
9	33	27	23	20	32	26	23	20	26	23	20	25	22	20	25	22	20	19	19	19	19		
10	31	25	21	19	30	24	21	19	24	21	19	24	21	18	23	20	18	18	18	18	18		

# P87-AT

## P87-AT WITH P8068-22A

Report No. 98080

No. Lamps: 1 Type Lamp: 150PAR38 - SYLVANIA Total Lumens: 2200

Fixture Efficiency: 96.8%

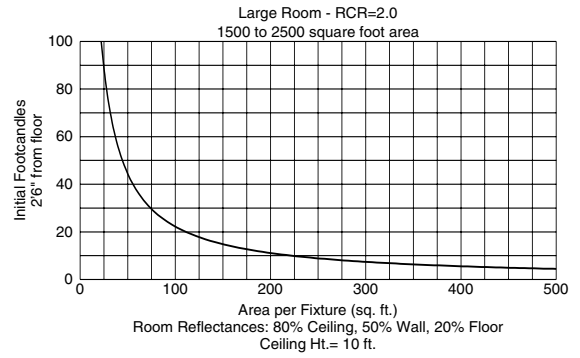
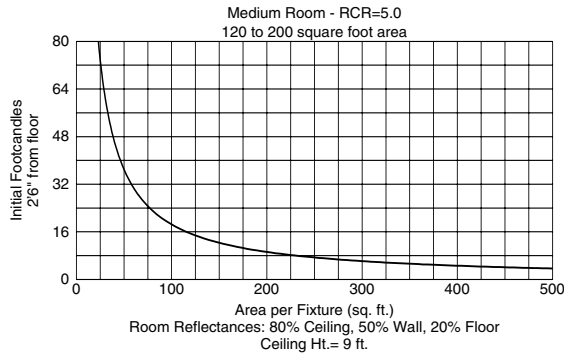
S/MH Ratio: 0.5

### Single Fixture Data

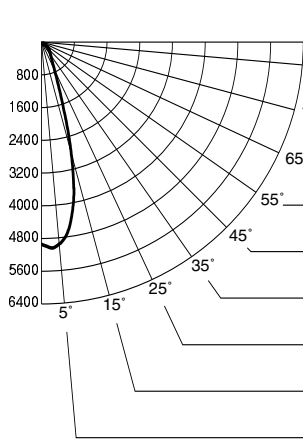
Ceiling Ht.(Ft.)	10% Values		Zero Degrees	50% Values	
	Beam Angle - 52°			Beam Angle - 30°	
	Ft.-C	Beam Dia.	Ft.-C	Ft.-C	Beam Dia.
8	16.3	5	163.4	81.7	3
10	8.8	7	87.9	43.9	4
12	5.5	9	54.8	27.4	5
14	3.7	11	37.4	18.7	6
16	2.7	13	27.1	13.6	7

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



### DISTRIBUTION CURVE



### INTENSITY DATA

DEGREES	CANDELA
90	0
85	0
80	2
75	4
70	7
65	14
60	39
55	101
50	186
45	254
40	319
35	390
30	514
25	750
20	1347
15	2807
10	4282
5	4957
0	4942

### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	80												70												50												30												10												0											
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10																																							
0	115	115	115	115	113	113	113	113	108	108	108	108	103	103	103	103	99	99	99	99	97	97	97	97	95	95	95	95	93	93	93	93	91	91	91	91																																				
1	110	108	105	103	108	106	103	102	102	100	99	98	98	97	96	96	95	94	93	93	92	91	90	90	89	89	88	88	87	87	86	86	85	85	84	84																																				
2	105	101	97	94	103	99	96	93	96	93	91	91	93	91	89	89	90	89	87	87	86	86	85	85	84	84	83	83	82	82	81	81	80	80	79	79																																				
3	100	94	90	86	98	93	89	86	91	87	84	84	88	85	83	83	86	84	82	82	82	82	81	81	80	80	79	79	77	77	76	76	75	75	74	74																																				
4	96	89	84	80	94	88	83	80	86	82	79	79	84	80	78	78	82	79	77	77	77	77	76	76	75	75	74	74	73	73	72	72	71	71	70	70																																				
5	91	84	79	75	90	83	78	74	81	77	74	74	80	76	73	73	78	75	73	73	73	73	72	72	71	71	70	70	69	69	68	68	67	67	66	66																																				
6	87	80	74	70	86	79	74	70	77	73	70	70	76	72	69	69	75	71	69	69	70	70	69	69	68	68	67	67	66	66	65	65	64	64	63	63																																				
7	84	76	70	67	83	75	70	66	74	69	66	66	73	69	66	66	72	68	65	65	68	68	67	67	66	66	65	65	64	64	63	63	62	62	61	61																																				
8	81	72	67	63	79	72	67	63	71	66	63	63	70	66	63	63	69	65	62	62	67	67	66	66	65	65	64	64	63	63	62	62	61	61	60	60																																				
9	77	69	64	60	76	68	64	60	68	63	60	60	67	63	60	60	66	62	60	60	64	64	63	63	63	63	62	62	62	62	61	61	60	60	59	59																																				
10	75	66	61	58	74	66	61	58	65	60	57	57	64	60	57	57	63	60	58	58	61	61	60	60	60	60	59	59	58	58	57	57	56	56	55	55																																				

# P87AT

## P87AT WITH P8068-22A

Report No. 98128

No. Lamps: 1 Type Lamp: 40A19 - GE Total Lumens: 505

Fixture Efficiency: 57.7%

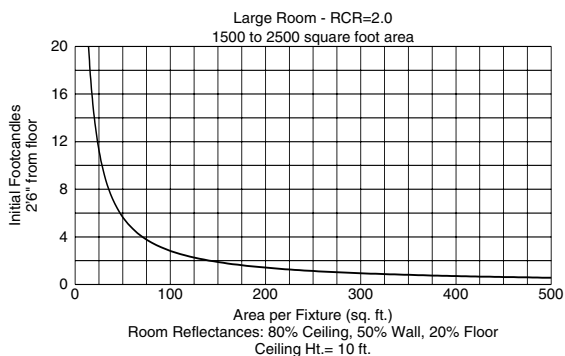
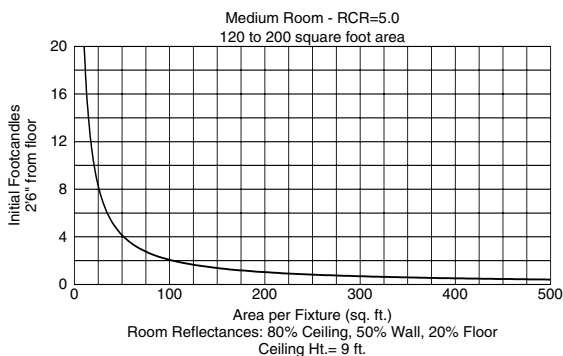
S/MH Ratio: 1.4

### Single Fixture Data

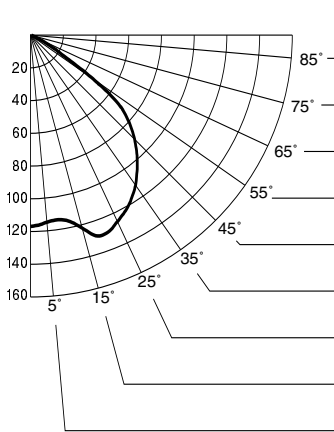
Ceiling Ht.(Ft.)	10% Values		Zero Degrees	50% Values	
	Beam Angle - 108°			Beam Angle - 72°	
	Ft.-C	Beam Dia.	Ft.-C	Ft.-C	Beam Dia.
8	0.4	15	3.9	1.9	8
10	0.2	20	2.1	1.0	11
12	0.1	26	1.3	0.6	14
14	0.1	31	0.9	0.4	17
16	0.1	37	0.6	0.3	20

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



#### DISTRIBUTION CURVE



#### INTENSITY DATA

DEGREES	CANDELA
90	0
85	0
80	0
75	1
70	1
65	6
60	18
55	47
50	76
45	90
40	102
35	112
30	120
25	126
20	130
15	122
10	115
5	115
0	117

#### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	Effective Floor Cavity Reflectance 0.20																								
	80					70					50					30					10				
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0				
0	69	69	69	69	67	67	67	67	64	64	64	62	62	62	59	59	59	58	58	58	58				
1	65	62	61	59	63	61	60	58	59	57	56	57	56	55	55	54	53	52	52	52	52				
2	60	56	53	51	59	55	52	50	53	51	49	51	49	48	50	48	47	46	46	46	46				
3	55	51	47	44	54	50	46	43	48	45	42	47	44	42	45	43	41	40	40	40	40				
4	51	45	41	38	50	45	41	38	43	40	37	42	39	37	41	38	36	35	35	35	35				
5	48	41	37	33	46	40	36	33	39	36	33	38	35	32	37	34	32	31	31	31	31				
6	44	37	33	29	43	37	32	29	36	32	29	35	31	29	34	31	29	28	28	28	28				
7	41	34	29	26	40	34	29	26	33	29	26	32	28	26	31	28	26	25	25	25	25				
8	38	31	27	23	37	31	26	23	30	26	23	29	26	23	29	25	23	22	22	22	22				
9	36	29	24	21	35	28	24	21	28	24	21	27	23	21	26	23	21	20	20	20	20				
10	33	26	22	19	33	26	22	19	25	22	19	25	21	19	24	21	19	18	18	18	18				

# P87-AT

## P87-AT WITH P8068-22A

Report No. 98079

No. Lamps: 1 Type Lamp: 75PAR30 SN - GE Total Lumens: 1100

Fixture Efficiency: 98.5%

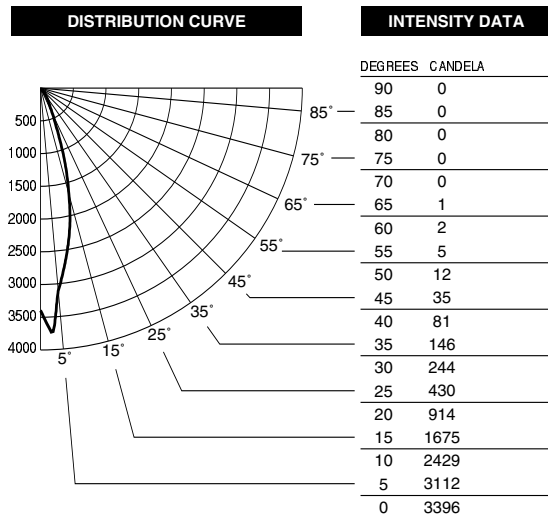
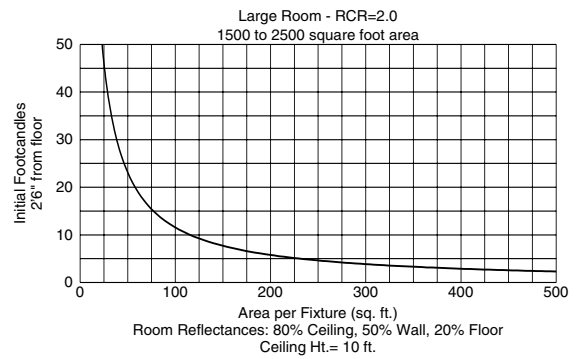
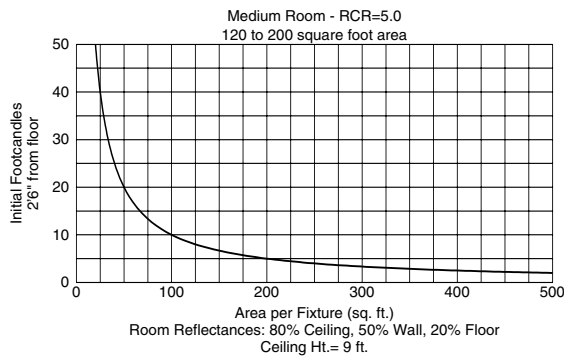
S/MH Ratio: 0.5

### Single Fixture Data

Ceiling Ht.(Ft.)	10% Values		Zero Degrees	50% Values	
	Beam Angle - 49°			Beam Angle - 28°	
	Ft.-C	Beam Dia.	Ft.-C	Ft.-C	Beam Dia.
8	11.2	5	112.3	56.1	3
10	6.0	7	60.4	30.2	4
12	3.8	9	37.6	18.8	5
14	2.6	11	25.7	12.8	6
16	1.9	12	18.6	9.3	7

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



#### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	80												70												50												30												10												0											
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10																																							
0	117	117	117	117	114	114	114	114	109	109	109	105	105	105	100	100	100	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98																																							
1	113	110	108	107	110	108	107	105	104	103	102	101	100	99	98	97	96	94	93	92	90	88	86	83	81	79	77	75	73	71	69	67																																								
2	109	105	101	99	106	103	100	98	100	98	95	97	95	93	94	93	92	90	89	88	86	84	83	81	79	77	75	73	71	69	67																																									
3	104	99	96	92	103	98	95	92	96	93	90	93	91	89	91	89	88	86	84	83	81	79	77	75	73	71	69	67	65	63	61																																									
4	101	95	90	87	99	94	90	87	92	88	86	90	87	85	88	86	84	83	81	79	77	75	73	71	69	67	65	63	61	59	57																																									
5	97	91	86	83	96	90	86	82	88	85	82	87	83	81	85	83	80	79	77	75	73	71	69	67	65	63	61	59	57	55	53																																									
6	94	87	82	79	92	86	82	79	85	81	78	84	80	78	82	79	77	75	73	71	69	67	65	63	61	59	57	55	53	51	49																																									
7	91	83	79	76	89	83	78	75	82	78	75	81	77	75	80	77	74	73	71	69	67	65	63	61	59	57	55	53	51	49	47																																									
8	88	80	76	72	87	80	75	72	79	75	72	78	74	72	77	74	72	70	68	66	64	62	60	58	56	54	52	50	48	46	44																																									
9	85	77	73	70	84	77	73	70	76	72	69	75	72	69	75	71	69	67	65	63	61	59	57	55	53	51	49	47	45	43	41																																									
10	82	75	70	67	81	74	70	67	74	70	67	73	69	67	72	69	67	65	63	61	59	57	55	53	51	49	47	45	43	41	39																																									



# P87-AT

## P87-AT WITH P8068-22

Report No. 98106

No. Lamps: 1 Type Lamp: 75PAR30 (SN) GE Total Lumens: 1100

Fixture Efficiency: 99.8%

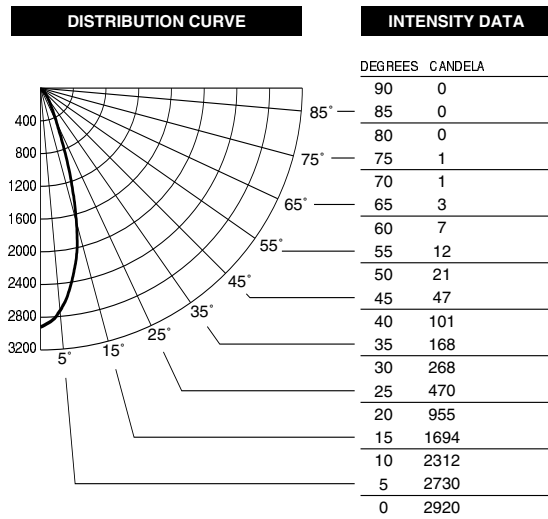
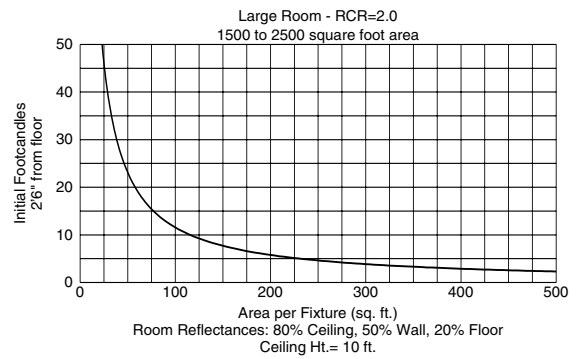
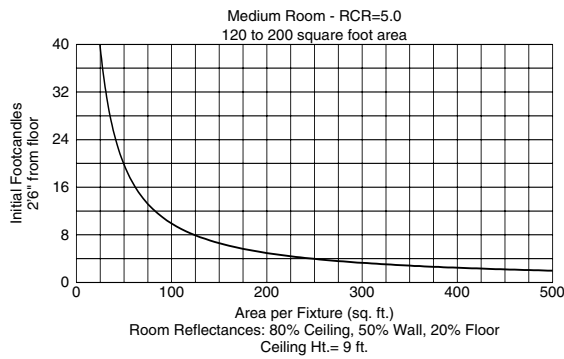
S/MH Ratio: 0.5

### Single Fixture Data

Ceiling Ht.(Ft.)	10% Values		Zero Degrees	50% Values	
	Beam Angle - 53°			Beam Angle - 31°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	9.7	5	96.5	48.3	3
10	5.2	7	51.9	26.0	4
12	3.2	9	32.4	16.2	5
14	2.2	11	22.1	11.0	6
16	1.6	13	16.0	8.0	7

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



**ZONAL CAVITY COEFFICIENTS OF UTILIZATION**

Effective Floor Cavity Reflectance 0.20

RC	80												70												50												30												10												0											
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10																																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	99	98	97	95	95	94	92	90	88	86	84	82	80	78	76	74	72	70	68	66	64																																	
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95	94	93	92	90	88	86	84	82	80	78	76	74	72	70	68	66	64	62	60	58	56																																	
2	110	105	102	99	107	104	101	98	101	98	96	98	96	94	95	93	92	90	89	88	87	86	85	84	83	82	81	80	79	78	77	76	75	74	73	72	71	70	69																																	
3	105	100	96	92	103	98	95	92	96	93	90	94	91	89	91	89	87	86	85	84	83	82	81	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65																																	
4	101	95	90	87	99	94	89	86	92	88	85	90	87	84	88	85	83	82	81	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62																																		
5	97	90	85	82	96	89	85	82	88	84	81	86	83	80	85	82	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61	60	59																																		
6	94	86	81	78	92	85	81	77	84	80	77	83	79	76	82	78	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61	60	59	58	57	56	55																																		
7	90	83	78	74	89	82	77	74	81	77	74	80	76	73	79	75	73	72	71	70	69	68	67	66	65	64	63	62	61	60	59	58	57	56	55	54	53	52																																		
8	87	79	74	71	86	79	74	71	78	73	70	77	73	70	76	72	70	69	68	67	66	65	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49																																		
9	84	76	71	68	83	76	71	68	75	71	68	74	70	67	73	70	67	66	65	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45																																	
10	81	73	68	65	80	73	68	65	72	68	65	71	68	65	71	68	65	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43																																	

# P87-AT

## P87-AT WITH P8068-22

Report No. 98108

No. Lamps: 1 Type Lamp: 40A19 Total Lumens: 505

Fixture Efficiency: 54.5%

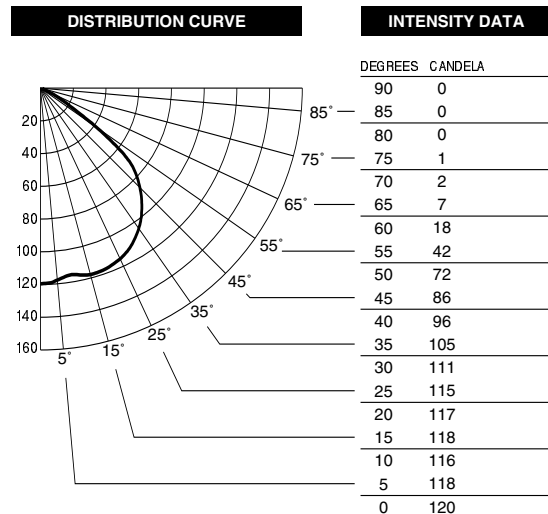
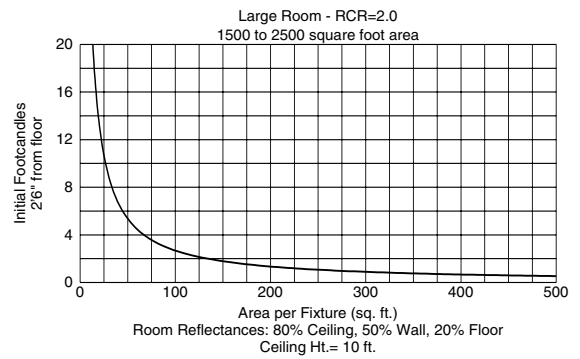
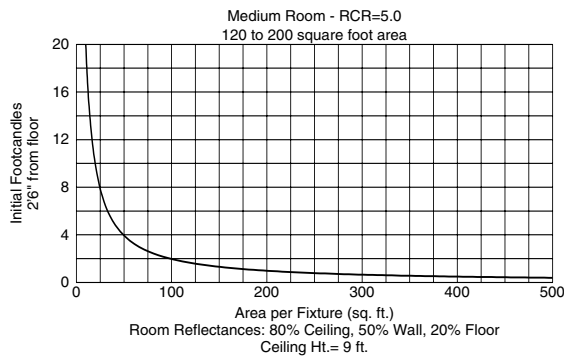
S/MH Ratio: 1.4

### Single Fixture Data

Ceiling Ht.(Ft.)	10% Values		Zero Degrees	50% Values	
	Beam Angle - 106°			Beam Angle - 68°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	0.4	15	4.0	2.0	7
10	0.2	20	2.1	1.1	10
12	0.1	25	1.3	0.7	13
14	0.1	31	0.9	0.5	16
16	0.1	36	0.7	0.3	18

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



#### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	Effective Floor Cavity Reflectance 0.20																						
	80				70				50				30				10				0		
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
0	65	65	65	65	63	63	63	63	61	61	61	58	58	58	56	56	56	54					
1	61	59	57	55	59	58	56	55	55	54	53	53	52	51	51	51	50	49					
2	56	53	50	47	55	52	49	47	50	48	46	48	46	45	47	45	44	43					
3	52	47	44	41	51	47	43	41	45	42	40	44	41	39	42	40	39	38					
4	48	43	39	36	47	42	38	35	41	38	35	40	37	34	38	36	34	33					
5	45	39	34	31	44	38	34	31	37	33	31	36	33	30	35	32	30	29					
6	41	35	31	28	41	35	30	27	34	30	27	33	30	27	32	29	27	26					
7	39	32	28	25	38	31	27	25	31	27	24	30	27	24	29	26	24	23					
8	36	29	25	22	35	29	25	22	28	24	22	28	24	22	27	24	22	21					
9	34	27	23	20	33	27	23	20	26	22	20	25	22	20	25	22	20	19					
10	31	25	21	18	31	24	21	18	24	20	18	23	20	18	23	20	18	17					



# P87-AT

## P87-AT WITH P8068-28

Report No. 98104

No. Lamps: 1 Type Lamp: 150BR40 FL Total Lumens: 1545

Fixture Efficiency: 98.5%

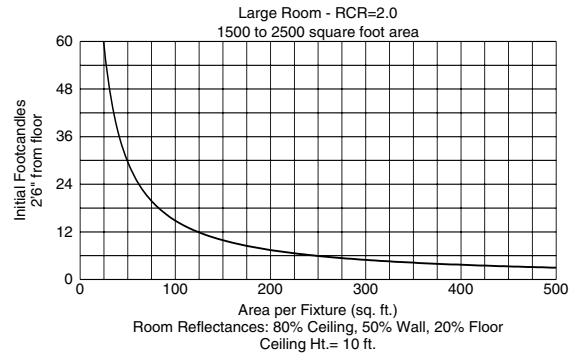
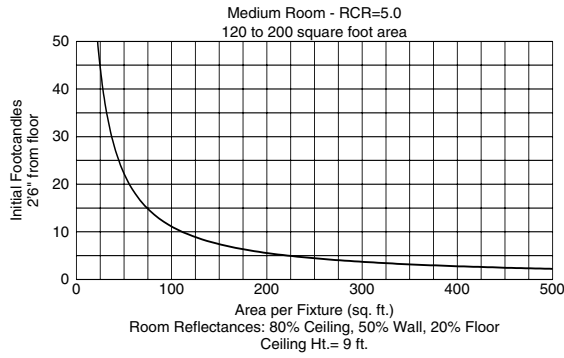
S/MH Ratio: 0.8

### Single Fixture Data

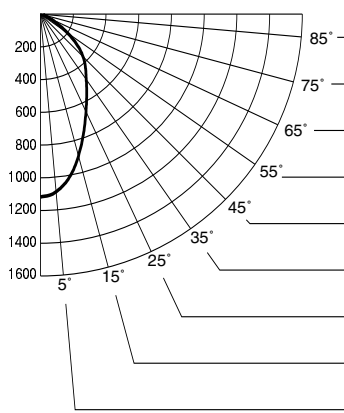
Ceiling Ht.(Ft.)	10% Values		Zero Degrees	50% Values	
	Beam Angle - 93°			Beam Angle - 45°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	3.7	12	36.9	18.5	5
10	2.0	16	19.9	9.9	6
12	1.2	20	12.4	6.2	8
14	0.8	24	8.4	4.2	10
16	0.6	29	6.1	3.1	11

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



#### DISTRIBUTION CURVE



#### INTENSITY DATA

DEGREES	CANDELA
90	0
85	8
80	11
75	18
70	33
65	65
60	122
55	204
50	292
45	368
40	428
35	488
30	564
25	658
20	771
15	897
10	1013
5	1089
0	1117

#### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	Effective Floor Cavity Reflectance 0.20																							
	80				70				50				30				10				0			
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
0	117	117	117	117	114	114	114	114	109	109	109	105	105	105	100	100	100	98						
1	110	106	103	100	107	104	101	99	100	98	95	96	94	93	93	91	90	88						
2	102	96	91	86	100	94	89	85	91	87	83	88	84	81	85	82	80	78						
3	95	87	80	75	93	85	79	74	82	77	73	80	76	72	77	74	71	69						
4	88	79	71	66	86	77	71	66	75	69	65	73	68	64	71	67	63	61						
5	82	72	64	59	80	71	64	58	69	63	58	67	62	57	65	61	57	55						
6	77	66	58	53	75	65	58	53	63	57	52	62	56	52	60	55	51	50						
7	72	60	53	48	70	60	53	48	58	52	47	57	51	47	56	51	47	45						
8	67	56	49	44	66	55	48	43	54	48	43	53	47	43	52	47	43	41						
9	64	52	45	40	62	51	44	40	50	44	40	49	44	39	48	43	39	38						
10	60	48	41	37	59	48	41	37	47	41	37	46	40	36	45	40	36	35						



# P87-AT

## P87-AT WITH P8068-28

Report No. 98105

No. Lamps: 1 Type Lamp: 40A19 Total Lumens: 505

Fixture Efficiency: 57.1%

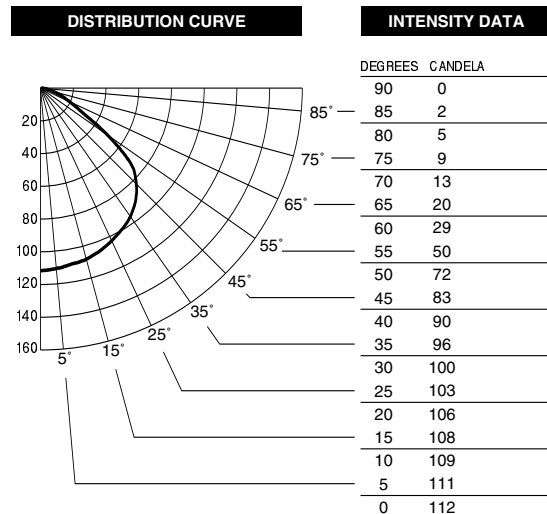
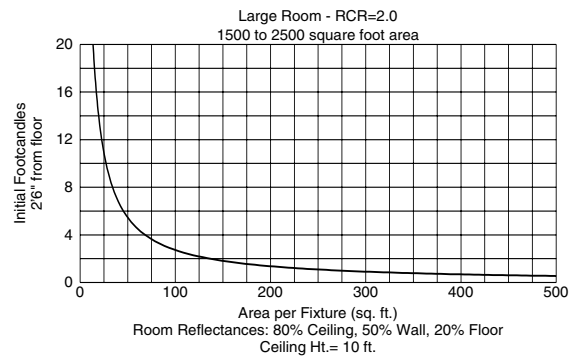
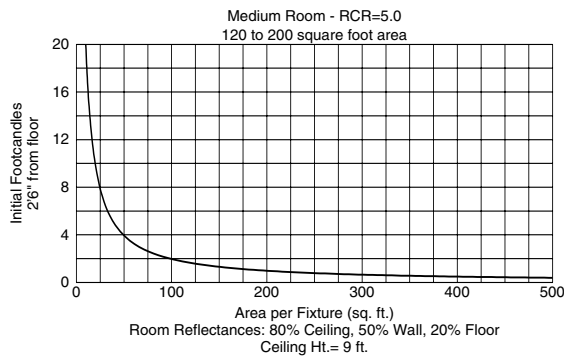
S/MH Ratio: 1.3

### Single Fixture Data

Ceiling Ht.(Ft.)	10% Values		Zero Degrees	50% Values	
	Beam Angle - 108°			Beam Angle - 67°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	0.4	15	3.7	1.8	7
10	0.2	21	2.0	1.0	10
12	0.1	26	1.2	0.6	13
14	0.1	32	0.8	0.4	15
16	0.1	37	0.6	0.3	18

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



ZONAL CAVITY COEFFICIENTS OF UTILIZATION																		
Effective Floor Cavity Reflectance 0.20																		
RC	80 70 50 30 10 70 50 30 10 50 30 10 50 30 10 0																	
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	0		
0	68	68	68	68	67	67	67	67	64	64	64	61	61	61	58	58	58	57
1	63	61	59	57	62	60	58	56	57	56	54	55	54	53	53	52	51	50
2	58	54	50	48	57	53	50	47	51	48	46	49	47	45	47	46	44	43
3	53	48	44	40	52	47	43	40	45	42	39	44	41	39	42	40	38	37
4	49	43	38	35	48	42	38	34	41	37	34	39	36	34	38	35	33	32
5	45	39	34	30	44	38	33	30	37	33	30	36	32	29	35	32	29	28
6	42	35	30	27	41	34	30	26	33	29	26	32	29	26	31	28	26	25
7	39	32	27	24	38	31	27	23	30	26	23	29	26	23	29	25	23	22
8	36	29	24	21	35	28	24	21	28	24	21	27	23	21	26	23	21	20
9	34	26	22	19	33	26	22	19	26	22	19	25	21	19	24	21	19	18
10	32	24	20	17	31	24	20	17	24	20	17	23	19	17	23	19	17	16

# P87-AT

## P87-AT WITH P8068-28

Report No. 98102

No. Lamps: 1 Type Lamp: 65BR30 FL Total Lumens: 770

Fixture Efficiency: 91.0%

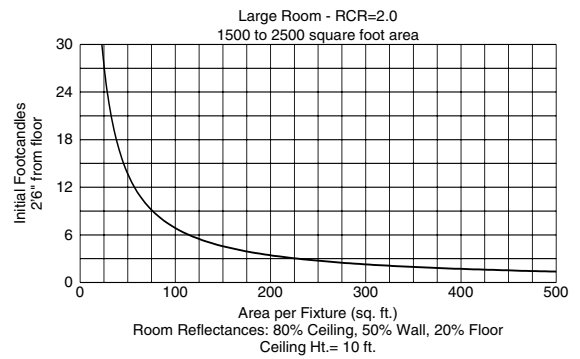
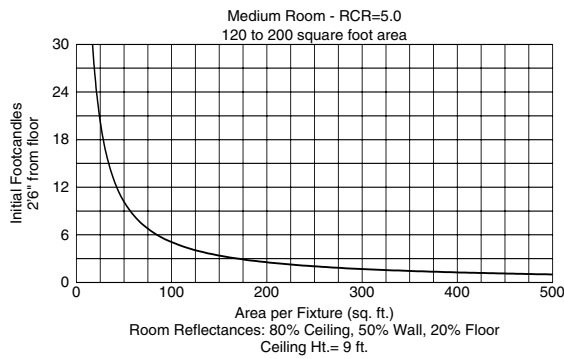
S/MH Ratio: 0.9

### Single Fixture Data

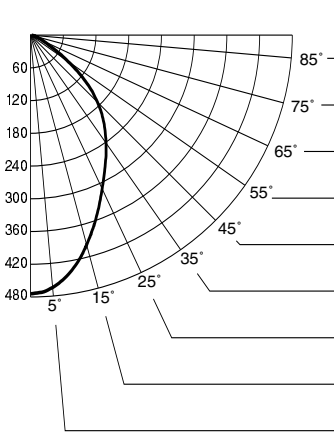
Ceiling Ht.(Ft.)	10% Values		Zero Degrees	50% Values	
	Beam Angle - 95°			Beam Angle - 49°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	1.6	12	15.7	7.8	5
10	0.8	16	8.4	4.2	7
12	0.5	21	5.3	2.6	9
14	0.4	25	3.6	1.8	10
16	0.3	29	2.6	1.3	12

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



#### DISTRIBUTION CURVE



#### INTENSITY DATA

DEGREES	CANDELA
90	0
85	1
80	5
75	11
70	17
65	26
60	46
55	84
50	132
45	173
40	209
35	241
30	274
25	311
20	354
15	398
10	437
5	464
0	474

#### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	80												70												50												30												10												0											
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10																																							
0	108	108	108	108	106	106	106	106	101	101	101	97	97	97	93	93	93	91	91	91	88	88	88	86	86	86	84	84	84	83	83	83																																								
1	101	98	95	93	99	96	93	91	92	90	88	89	87	86	86	84	83	81	81	81	80	79	78	78	76	76	74	72	72	72	72																																									
2	94	89	84	80	92	87	82	79	84	80	77	81	78	75	78	76	74	72	72	72	70	67	72	68	66	64	64	64	64	64	64																																									
3	88	80	74	69	86	79	73	69	76	72	68	74	70	67	72	68	66	64	64	64	60	67	63	59	66	62	59	57	57	57	57																																									
4	82	73	66	61	80	72	65	61	69	64	60	67	63	59	66	62	59	57	57	57	60	57	53	60	56	53	51	51	51	51	51																																									
5	76	66	59	54	74	65	59	54	64	58	54	62	57	53	60	56	53	51	51	51	60	57	53	60	56	53	51	51	51	51	51																																									
6	71	61	54	49	69	60	53	49	58	53	48	57	52	48	56	51	48	46	46	46	60	57	53	60	56	53	51	51	51	51	51																																									
7	66	56	49	44	65	55	49	44	54	48	44	53	47	43	51	47	43	42	42	42	60	57	53	60	56	53	51	51	51	51	51																																									
8	62	52	45	40	61	51	45	40	50	44	40	49	44	40	48	43	39	38	38	38	60	57	53	60	56	53	51	51	51	51	51																																									
9	59	48	41	37	57	47	41	37	46	41	37	45	40	36	45	40	36	35	35	35	60	57	53	60	56	53	51	51	51	51	51																																									
10	55	45	38	34	54	44	38	34	43	38	34	42	37	34	42	37	33	32	32	32	60	57	53	60	56	53	51	51	51	51	51																																									

# P87-AT

## P87-AT WITH P8068-28

Report No. 98100

No. Lamps: 1 Type Lamp: 75PAR30 LN/FL Total Lumens: 985

Fixture Efficiency: 97.9%

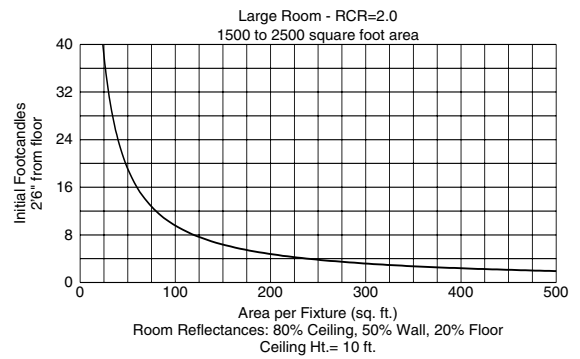
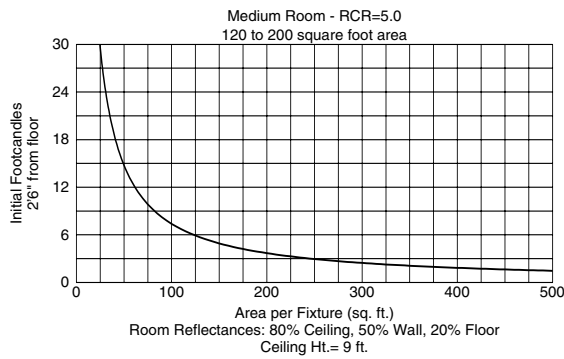
S/MH Ratio: 1.0

### Single Fixture Data

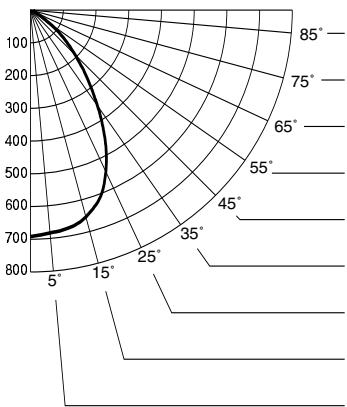
Ceiling Ht.(Ft.)	10% Values		Zero Degrees	50% Values	
	Beam Angle - 90°			Beam Angle - 55°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	2.3	11	22.9	11.4	6
10	1.2	15	12.3	6.2	8
12	0.8	19	7.7	3.8	10
14	0.5	23	5.2	2.6	12
16	0.4	27	3.8	1.9	14

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



#### DISTRIBUTION CURVE



#### INTENSITY DATA

DEGREES	CANDELA
90	0
85	2
80	4
75	6
70	9
65	16
60	34
55	75
50	131
45	192
40	268
35	357
30	455
25	544
20	615
15	654
10	676
5	683
0	692

#### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	80												70												50												30												10												0											
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10																																							
0	116	116	116	116	114	114	114	114	109	109	109	104	104	104	100	100	100	98	98	98	93	93	93	87	87	87	80	80	80	74	74	74																																								
1	110	107	104	101	107	105	102	100	101	98	97	97	95	94	93	92	91	89	89	88	87	86	84	87	84	82	80	77	74	73	66	66	66																																							
2	103	97	93	89	101	96	91	88	92	89	86	89	87	84	87	84	82	80	80	77	76	76	80	77	74	73	66	66	66	66	66	66																																								
3	97	89	83	79	94	88	82	78	85	80	77	83	79	76	80	77	74	73	73	77	76	76	80	77	74	73	66	66	66	66	66	66																																								
4	90	82	75	70	89	81	75	70	78	73	69	76	72	68	74	71	67	66	66	71	66	62	69	65	61	60	60	60	60	60	60	60																																								
5	85	75	68	63	83	74	68	63	72	67	62	71	66	62	69	65	61	60	60	65	60	56	64	60	56	54	54	54	54	54	54																																									
6	80	69	62	58	78	69	62	57	67	61	57	65	60	56	64	60	56	54	54	67	61	57	64	60	56	54	54	54	54	54	54																																									
7	75	64	57	52	73	63	57	52	62	56	52	61	56	52	60	55	51	50	50	67	61	57	64	60	56	54	54	54	54	54	54																																									
8	70	60	53	48	69	59	53	48	58	52	48	57	51	48	56	51	47	46	46	67	61	57	64	60	56	54	54	54	54	54	54																																									
9	66	56	49	44	65	55	49	44	54	48	44	53	48	44	52	47	44	42	42	67	61	57	64	60	56	54	54	54	54	54	54																																									
10	63	52	45	41	62	51	45	41	51	45	41	50	44	41	49	44	41	39	39	67	61	57	64	60	56	54	54	54	54	54	54																																									

# P87AT

## P87AT WITH P8068-28

Report No. 98101

No. Lamps: 1 Type Lamp: 75PAR30 SN - GE Total Lumens: 1100

Fixture Efficiency: 99.3%

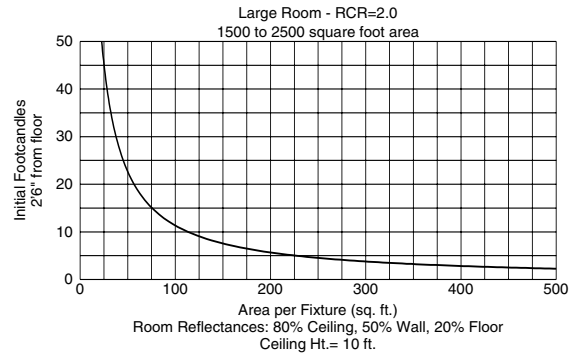
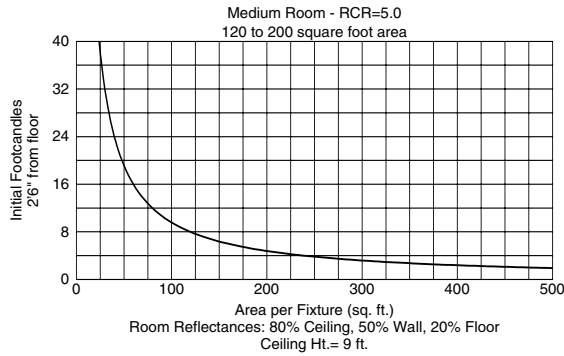
S/MH Ratio: 0.5

### Single Fixture Data

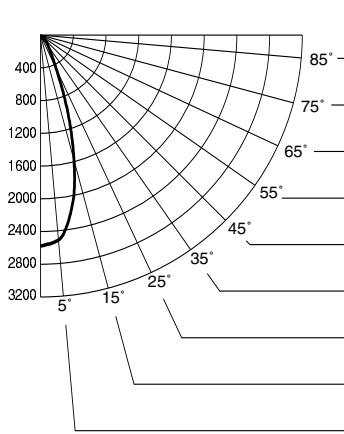
Ceiling Ht.(Ft.)	10% Values		Zero Degrees	50% Values	
	Beam Angle - 54°			Beam Angle - 32°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	8.5	6	85.3	42.6	3
10	4.6	8	45.8	22.9	4
12	2.9	10	28.6	14.3	5
14	2.0	12	19.5	9.8	7
16	1.4	14	14.2	7.1	8

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



### DISTRIBUTION CURVE



### INTENSITY DATA

DEGREES	CANDELA
90	0
85	2
80	5
75	9
70	14
65	18
60	23
55	26
50	34
45	59
40	109
35	167
30	257
25	453
20	936
15	1580
10	2167
5	2515
0	2579

### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	Effective Floor Cavity Reflectance 0.20																												
	80				70				50				30				10				0								
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
0	118	118	118	118	115	115	115	115	110	110	110	106	106	106	101	101	101	99	99	99	97	96	95	93	93	93	93		
1	113	110	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93	93	91	90	88	88	88	88	88	88		
2	108	103	100	97	106	102	98	96	99	96	93	96	93	91	93	91	90	88	86	89	87	85	83	83	83	83	83		
3	103	97	93	89	101	96	92	89	94	90	87	91	88	86	89	87	85	83	81	85	82	80	79	75	75	75	75		
4	99	92	87	83	97	91	86	83	89	85	82	87	84	81	85	82	80	79	82	79	76	75	71	71	71	71	71		
5	95	87	82	78	93	87	82	78	85	81	77	83	80	77	82	79	76	75	82	79	76	75	71	71	71	71	71		
6	91	83	78	74	90	82	78	74	81	77	73	80	76	73	78	75	73	71	78	75	73	71	69	68	68	68	68		
7	88	79	74	71	86	79	74	70	78	73	70	76	73	70	75	72	69	68	75	72	69	68	65	65	65	65	65		
8	84	76	71	67	83	75	71	67	74	70	67	73	69	67	73	69	66	65	73	69	66	65	62	62	62	62	62		
9	81	73	68	64	80	72	68	64	72	67	64	71	67	64	70	66	64	62	70	66	64	62	60	60	60	60	60		
10	78	70	65	62	77	70	65	62	69	64	61	68	64	61	67	64	61	60	67	64	61	60	58	58	58	58	58		



Compact Fluorescent

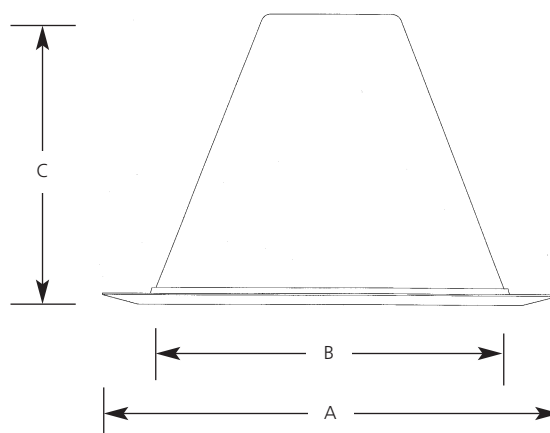
**6" Alzak® Cone  
Single Lamp Vertical  
IC & Non-IC**

**Recessed**

Type \_\_\_\_\_

-21A -22A -28 -21 -22  
P8068

Catalog No.	Finish					Dimensions (Inches)		
	Clear Alzak®	Gold Alzak®	Clear	Gold	White	A	B	C
P8068	-21A	-22A	-21	-22	-28	7-3/4	6-11/32	4-3/4



**Lamp Wattage**

Housing	IC	Non-IC
P83-AT	13w 4-pin Quad/Triple-tube CF	13w 4-pin Quad/Triple-tube CF
P83-ICAT	13w 4-pin Quad/Triple-tube CF	13w 4-pin Quad/Triple-tube CF
P83-26ICAT	26w 4-pin Quad/Triple-tube CF	26w 4-pin Quad/Triple-tube CF
P88-ICAT	18w 4-pin Quad/Triple-tube CF	18w 4-pin Quad/Triple-tube CF
P183-EB	13w 4-pin Quad/Triple-tube CF	13w 4-pin Quad/Triple-tube CF

**Specifications:**

Flange

- Bright white powdered painted metal flange

Trim

- All aluminum construction
- Trim-Lok action forces trim to fit snugly against the ceiling
- One-piece construction
- No light leaks around trim flange
- Socket mounts to trim for optimum performance and consistent lamp position

Options

- Clear Alzak® Cone - specify "21A" after catalog number
- Gold Alzak® Cone - specify "22A" after catalog number

Labels

- UL-CUL damp location listed

Progress Lighting  
701 Millennium Blvd.  
Greenville, South Carolina  
29607

www.progresslighting.com

Patent# 5,758,981, 5,758,982, 5,758,983, 5,758,984, 5,758,985, 5,758,986

Rev. 9/09





# P83

## P83 WITH 8068-21

Report No. 98061

No. Lamps: 1 Type Lamp: 13W QUAD CF - GE Total Lumens: 860

Fixture Efficiency: 68.3%

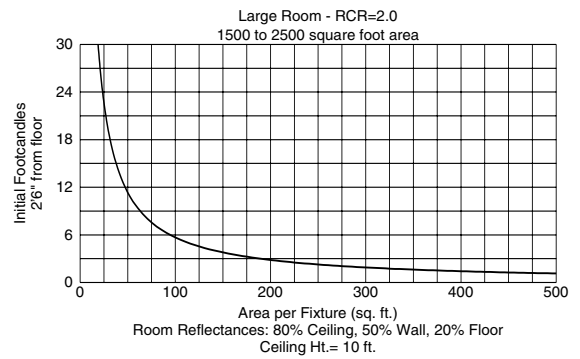
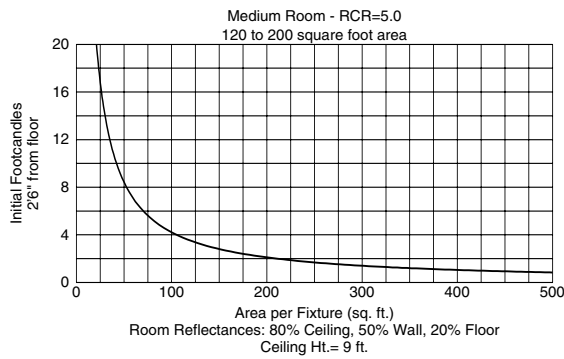
S/MH Ratio: 1.3

### Single Fixture Data

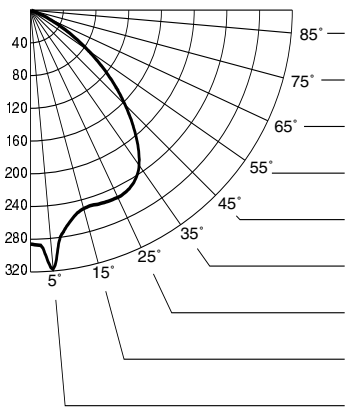
Ceiling Ht.(Ft.)	10% Values		Zero Degrees	50% Values	
	Beam Angle - 102°			Beam Angle - 65°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	0.9	14	9.5	4.7	7
10	0.5	19	5.1	2.5	10
12	0.3	24	3.2	1.6	12
14	0.2	29	2.2	1.1	15
16	0.2	34	1.6	0.8	17

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



#### DISTRIBUTION CURVE



#### INTENSITY DATA

DEGREES	CANDELA
90	0
85	0
80	0
75	1
70	6
65	24
60	52
55	87
50	125
45	163
40	200
35	231
30	247
25	253
20	251
15	251
10	266
5	318
0	286

#### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	Effective Floor Cavity Reflectance 0.20																						
	80				70				50				30				10				0		
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
0	81	81	81	81	79	79	79	79	76	76	76	73	73	73	70	70	70	68	68	68	68		
1	76	74	72	70	74	72	70	68	69	68	66	67	66	64	64	63	62	61	61	61	61		
2	71	66	63	60	69	65	62	59	63	60	58	61	58	56	59	57	55	54	54	54	54		
3	66	60	55	51	64	59	54	51	57	53	50	55	52	49	53	51	49	47	47	47	47		
4	61	54	49	45	59	53	48	45	51	47	44	50	46	43	48	45	43	42	42	42	42		
5	56	49	43	39	55	48	43	39	47	42	39	45	41	38	44	41	38	37	37	37	37		
6	52	44	39	35	51	44	39	35	42	38	35	41	37	34	40	37	34	33	33	33	33		
7	49	40	35	31	48	40	35	31	39	34	31	38	34	31	37	33	31	29	29	29	29		
8	45	37	32	28	44	37	32	28	36	31	28	35	31	28	34	30	28	26	26	26	26		
9	42	34	29	25	42	34	29	25	33	28	25	32	28	25	32	28	25	24	24	24	24		
10	40	32	27	23	39	31	26	23	31	26	23	30	26	23	29	26	23	22	22	22	22		

# P83

## P83 WITH P8068-22A

Report No. 98031

No. Lamps: 1 Type Lamp: 13W QUAD CF - GE Total Lumens: 860

Fixture Efficiency: 64.0%

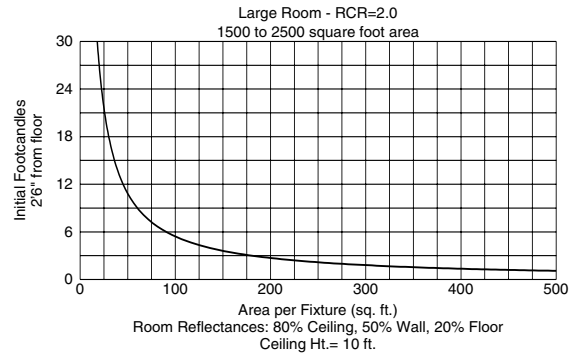
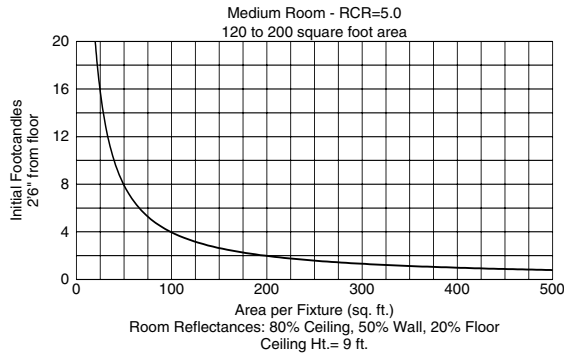
S/MH Ratio: 1.0

### Single Fixture Data

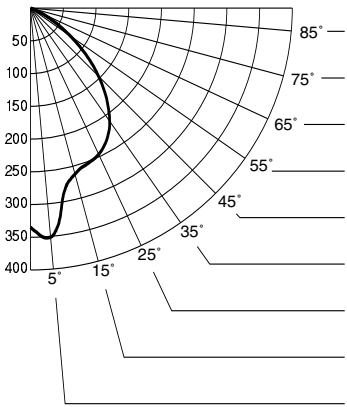
Ceiling Ht.(Ft.)	10% Values		Zero Degrees Ft.-C	50% Values	
	Beam Angle - 98°			Beam Angle - 55°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	1.1	13	11.1	5.5	6
10	0.6	17	6.0	3.0	8
12	0.4	22	3.7	1.9	10
14	0.3	26	2.5	1.3	12
16	0.2	31	1.8	0.9	14

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



#### DISTRIBUTION CURVE



#### INTENSITY DATA

DEGREES	CANDELA
90	0
85	0
80	0
75	0
70	3
65	18
60	44
55	74
50	110
45	147
40	181
35	211
30	233
25	246
20	253
15	263
10	290
5	351
0	335

#### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	Effective Floor Cavity Reflectance 0.20																						
	80				70				50				30				10				0		
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
0	76	76	76	76	74	74	74	74	71	71	71	68	68	68	65	65	65	64					
1	71	69	67	65	70	68	66	64	65	64	62	63	62	61	61	60	59	58					
2	67	63	59	56	65	61	58	56	59	57	55	57	55	53	55	54	52	51					
3	62	56	52	49	60	56	52	49	54	50	48	52	49	47	51	48	46	45					
4	57	51	47	43	56	50	46	43	49	45	42	47	44	42	46	43	41	40					
5	53	46	42	38	52	46	41	38	45	41	38	43	40	37	42	39	37	36					
6	50	42	37	34	49	42	37	34	41	37	34	40	36	33	39	36	33	32					
7	46	39	34	31	45	38	34	30	37	33	30	37	33	30	36	32	30	29					
8	43	36	31	28	42	35	31	28	35	30	27	34	30	27	33	30	27	26					
9	41	33	28	25	40	33	28	25	32	28	25	31	28	25	31	27	25	24					
10	38	31	26	23	37	30	26	23	30	26	23	29	25	23	29	25	23	22					

# P83

## P83 WITH P8068-22

Report No. 98036

No. Lamps: 1 Type Lamp: 13W QUAD CF - GE Total Lumens: 860

Fixture Efficiency: 58.8%

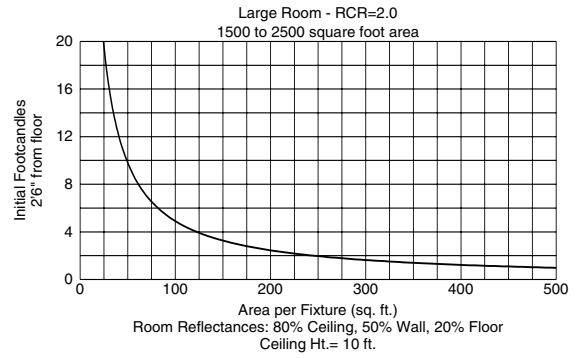
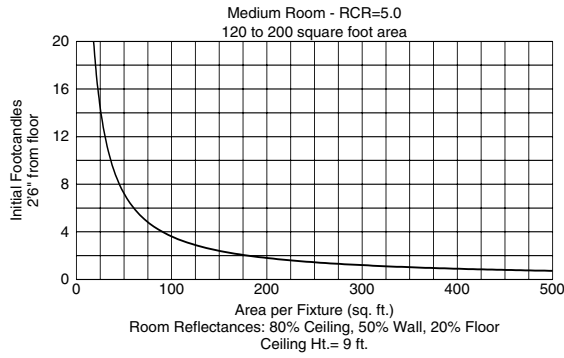
S/MH Ratio: 1.1

### Single Fixture Data

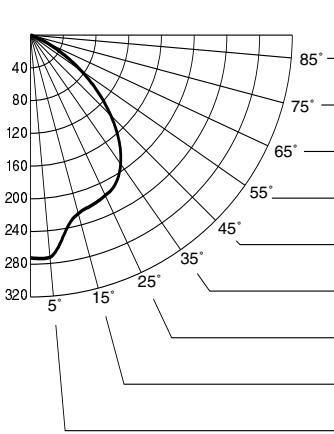
Ceiling Ht.(Ft.)	10% Values		Zero Degrees	50% Values	
	Beam Angle - 101°			Beam Angle - 60°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	0.9	13	9.0	4.5	6
10	0.5	18	4.8	2.4	9
12	0.3	23	3.0	1.5	11
14	0.2	28	2.1	1.0	13
16	0.1	33	1.5	0.7	16

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



#### DISTRIBUTION CURVE



#### INTENSITY DATA

DEGREES	CANDELA
90	0
85	0
80	0
75	1
70	5
65	21
60	46
55	75
50	107
45	139
40	168
35	192
30	209
25	216
20	221
15	226
10	244
5	272
0	272

#### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	Effective Floor Cavity Reflectance 0.20																						
	80				70				50				30				10				0		
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
0	70	70	70	70	68	68	68	68	65	65	65	63	63	63	60	60	60	59					
1	66	64	62	60	64	62	61	59	60	58	57	58	57	55	56	55	54	53					
2	61	57	54	51	60	56	53	51	54	52	50	52	50	49	51	49	48	46					
3	57	51	48	44	55	51	47	44	49	46	43	47	45	43	46	44	42	41					
4	52	46	42	39	51	46	42	39	44	41	38	43	40	38	42	39	37	36					
5	49	42	37	34	47	41	37	34	40	36	34	39	36	33	38	35	33	32					
6	45	38	34	30	44	38	33	30	37	33	30	36	32	30	35	32	29	28					
7	42	35	30	27	41	34	30	27	34	30	27	33	29	27	32	29	27	25					
8	39	32	28	24	38	32	27	24	31	27	24	30	27	24	30	26	24	23					
9	37	30	25	22	36	29	25	22	29	25	22	28	24	22	27	24	22	21					
10	35	27	23	20	34	27	23	20	27	23	20	26	22	20	25	22	20	19					

# P83

## P83 WITH P8068-28

Report No. 98037

No. Lamps: 1 Type Lamp: 13W QUAD CF - GE Total Lumens: 860

Fixture Efficiency: 58.2%

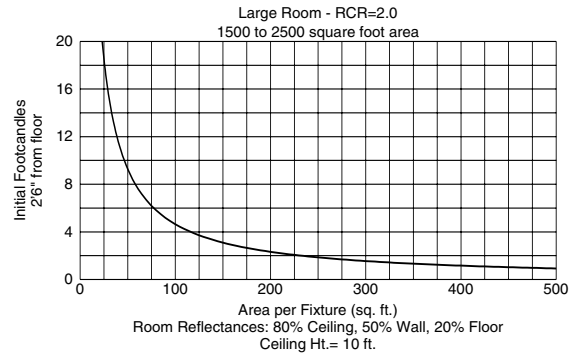
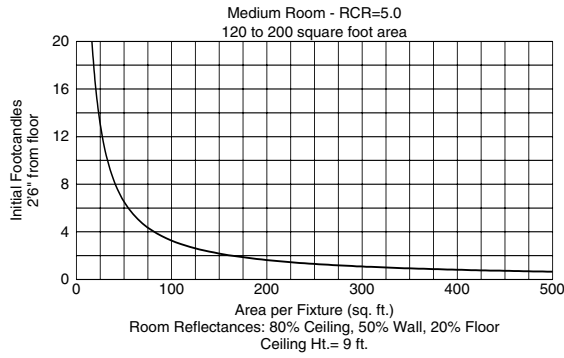
S/MH Ratio: 1.4

### Single Fixture Data

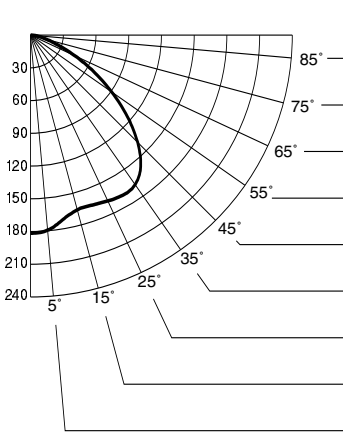
Ceiling Ht.(Ft.)	10% Values		Zero Degrees Ft.-C	50% Values	
	Beam Angle - 109°			Beam Angle - 71°	
	Ft.-C	Beam Dia.		Ft.-C	Beam Dia.
8	0.6	15	6.0	3.0	8
10	0.3	21	3.2	1.6	11
12	0.2	27	2.0	1.0	13
14	0.1	32	1.4	0.7	16
16	0.1	38	1.0	0.5	19

Ft.-C (Footcandles) are initial and measured 2'-6" from floor

### Quick Calculator Charts



#### DISTRIBUTION CURVE



#### INTENSITY DATA

DEGREES	CANDELA
90	0
85	4
80	9
75	16
70	27
65	45
60	67
55	91
50	116
45	139
40	157
35	167
30	169
25	168
20	166
15	166
10	172
5	180
0	182

#### ZONAL CAVITY COEFFICIENTS OF UTILIZATION

Effective Floor Cavity Reflectance 0.20

RC	Effective Floor Cavity Reflectance 0.20																							
	80				70				50				30				10				0			
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0			
0	69	69	69	69	68	68	68	68	65	65	65	62	62	62	59	59	59	58						
1	64	61	59	57	62	60	58	56	58	56	55	55	54	53	53	52	51	50						
2	59	54	51	48	57	53	50	47	51	48	46	49	47	45	48	46	44	43						
3	54	48	44	40	52	47	43	40	45	42	39	44	41	38	42	40	38	36						
4	49	43	38	34	48	42	37	34	40	37	33	39	36	33	38	35	33	31						
5	45	38	33	29	44	38	33	29	36	32	29	35	32	29	34	31	28	27						
6	42	34	29	26	41	34	29	26	33	29	25	32	28	25	31	28	25	24						
7	39	31	26	23	38	31	26	23	30	26	22	29	25	22	28	25	22	21						
8	36	28	24	20	35	28	23	20	27	23	20	26	23	20	26	22	20	19						
9	34	26	21	18	33	26	21	18	25	21	18	24	21	18	24	20	18	17						
10	31	24	19	16	31	24	19	16	23	19	16	23	19	16	22	19	16	15						