

**2 or 3 Lamp
T5 or T5HO**

These luminaires meet the requirements of IESNA RP-1 for use in spaces containing Video Display Terminals.

APPLICATION

- Low-glare VDT performance with a clean, modern, architectural appearance.
- Sleek, contoured low profile housing provides visual interest without dominating the room.
- Designed around T5 lamps to provide high efficiency, precise optical control and compact dimensions.
- Wide spacing/mounting height ratio and batwing distribution allow wider luminaire spacing without sacrificing uniformity, creating lower installation and maintenance costs.
- Illuminated opal or perforated panels between louvers offer subtle, glare free brightness and provide an open and airy feel without the “black hole” appearance of traditional specular parabolics.
- Available solid panels between louvers provide maximum brightness control at normal viewing angles for applications where visual comfort is primary.
- Luminous intensity meets the “Normal” requirements of IESNA RP-1. Some models meet the “Intensive” requirements of RP-1.
- Available T5HO lamps provide high lumen packages and allow higher illumination levels or fewer luminaires.

CONSTRUCTION/FINISH

- Low profile design protrudes less than 3-1/2" from ceiling.
- Extruded aluminum external construction provides accurate, high quality fit and finish.

- Housing is painted after fabrication with matte white baked polyester powder finish.
- Approximate weight 41 lbs.

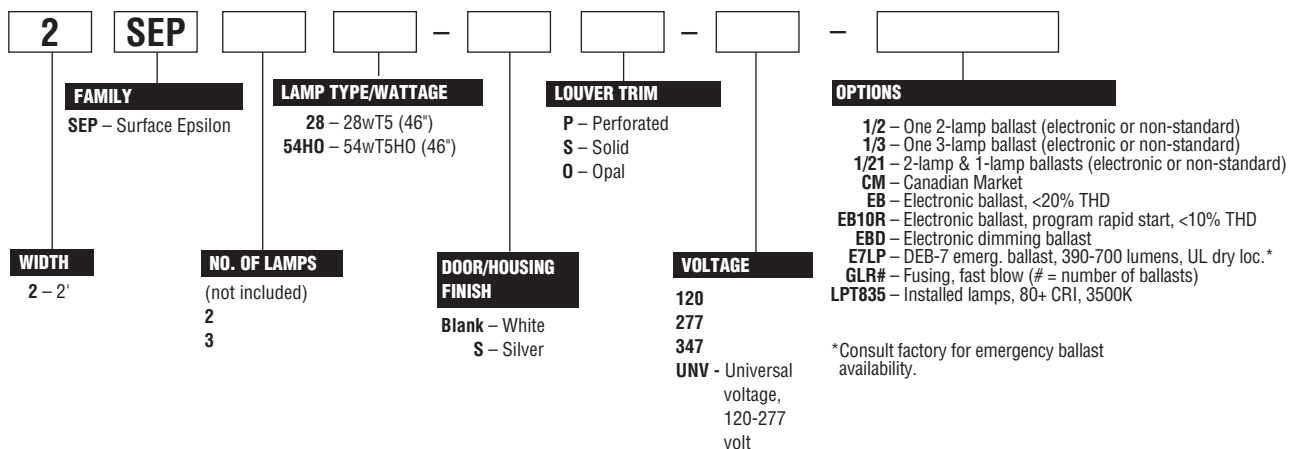
ELECTRICAL

- UL listed for damp locations. Canadian certified optional.
- Self-contained low-profile fluorescent emergency power packs can be incorporated, UL dry location listed.

ENCLOSURES

- Enclosure includes aluminum rails and mitered corners.
- Narrow louvers are specifically designed for use with T5 lamps and constructed from 95% reflective specular aluminum to provide maximum optical control.
- 2 lamp models have 2 louvers with panels outboard and a panel between. 3 lamp models have 3 louvers with panels between.
- Louvers have 26 cells each (1-3/4" blade spacing).
- Panels between louvers available solid, opal translucent or micro-perforated metal with white overlay.
- “T” hinges provide reliable support of the enclosure.
- Premium guide-post spring loaded latches provide easy access to the lamp compartment and secure retention of the enclosure.
- Can be hinged and latched from either side.
- Shielding angles are 29° lengthwise and 34° crosswise.

CATALOG NUMBER



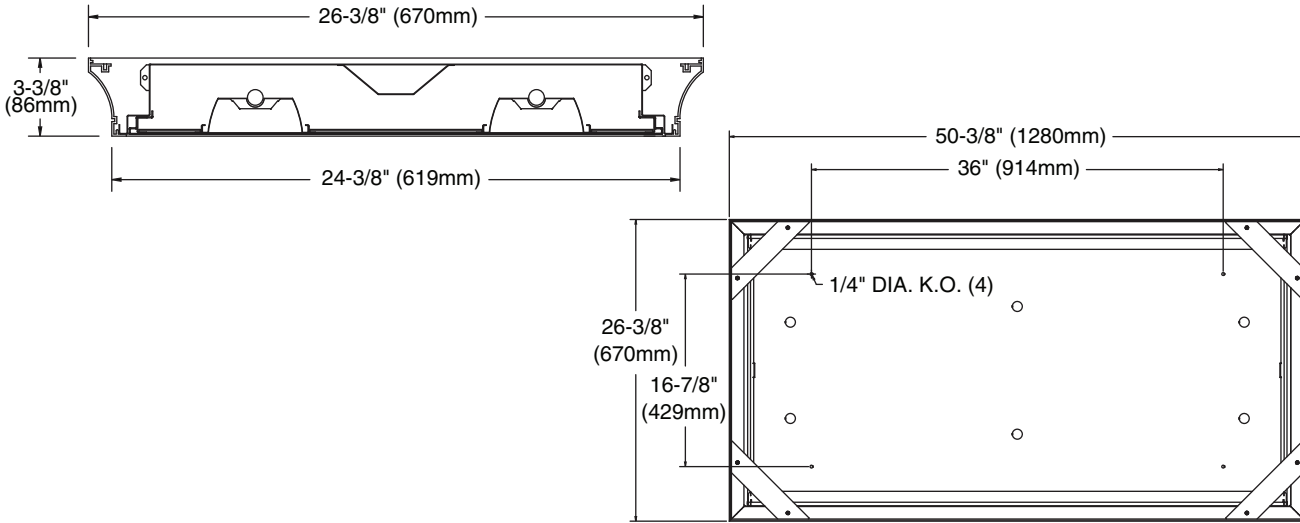
JOB INFORMATION

909-SS

2' x 4' SURFACE Epsilon™



DIMENSIONS - 2 LAMP



PHOTOMETRIC DATA

CATALOG #2SEP228-0-1/2-EB
 TEST #24333 S/MH=1.8

LAMPS = F28T5
 BALLAST = ELECTRONIC

INPUT WATTS = 68
 BALLAST FACTOR = 1.00

LER = F-54

COMPARATIVE YEARLY LIGHTING ENERGY COST PER 1000 LUMENS = \$4.44 BASED ON 3000 HRS. AND \$.08 PER KWH.

FIXTURE EFFICIENCY = 70.5%

CANDLEPOWER				
Angle	End	45	Cross	
0	1622	1622	1622	
5	1637	1622	1606	
10	1609	1608	1601	
15	1558	1582	1574	
20	1487	1563	1549	
25	1385	1570	1674	
30	1239	1553	2058	
35	1050	1489	2312	
40	847	1369	2180	
45	631	1134	1506	
50	362	770	815	
55	195	447	410	
60	142	220	190	
65	110	115	126	
70	79	81	82	
75	49	51	52	
80	24	26	27	
85	6	9	9	

MAINTAINED ILLUMINATION TABLE- Square Feet/Fixture*

- 80-50-20 Reflectances (Ceiling-Wall-Floor)
- LLF = 0.89 2600 Lumens/Lamp very clean
- Room width divided by room height = 5 or more, 2 or 1

Fixture Size & # of Lamps	Room Width Room Height =	Approx. Area (sq. ft.) per Fixture			
		10 ft-c	30 ft-c	50 ft-c	70 ft-c
2' X 4'	5	-	118	71	50
2 Lamp	2	-	86	52	37
Opal	1	-	65	39	-

*Observe Fixture S/MH Requirements for Specific Applications

AVERAGE LUMINANCE CD/SQ.M WITH 2600 LUMEN LAMPS

ANGLE	END	45°	CROSS
45	1465	2633	3497
55	558	1279	1174
65	427	447	489
75	311	324	330
85	113	170	170

TYPICAL V.C.P.'s

Room Size	Mounting Height			
	Lengthwise	Crosswise	8.5	10
30x30	91	90	89	88
40x40	91	91	90	89
60x30	92	92	92	91
60x60	92	91	91	89
100x100	93	92	92	91

COEFFICIENT OF UTILIZATION

pfc pcc pw	20		70		50	
	70	50	30	70	50	30
RCR	83	83	83	81	81	78
0	83	83	83	81	81	78
1	79	76	73	77	73	71
2	72	68	65	70	67	64
3	68	61	56	66	60	58
4	63	56	51	60	55	53
5	57	51	45	56	50	47
6	54	46	40	53	45	44
7	50	41	35	48	40	35
8	46	38	33	46	38	33
9	44	34	29	42	34	29
10	40	33	28	40	32	27

LIGHT DISTRIBUTION

DEGREES	LUMENS	% LAMP	% FIXTURE
0-30	1322	25.4	36.0
0-40	2315	44.5	63.1
0-60	3483	67.0	95.0
0-90	3668	70.5	100.0

LLF = .89 LLF = LIGHT LOSS FACTOR LLF = LDD X LLD X BF LDD = VERY CLEAN 0.94 CLEAN 0.90
 LLD = 0.95 @ 40% RATED LAMP LIFE BF = 1.00 ELECTRONIC BALLAST & T5 LAMP (RELAMP AT 70% LAMP LIFE)

PHOTOMETRIC DATA

CATALOG #2SEP228-P-1/2-EB
 TEST #24337 S/MH=1.8

LAMPS = F28T5
 BALLAST = ELECTRONIC

INPUT WATTS = 68
 BALLAST FACTOR = 1.00

LER = F-49

COMPARATIVE YEARLY LIGHTING ENERGY COST PER 1000 LUMENS = \$4.90 BASED ON 3000 HRS. AND \$.08 PER KWH.

FIXTURE EFFICIENCY = 63.7%

CANDLEPOWER				
Angle	End	45	Cross	
0	1543	1543	1543	
5	1555	1541	1523	
10	1530	1526	1516	
15	1483	1505	1496	
20	1410	1488	1484	
25	1311	1496	1625	
30	1158	1476	1977	
35	966	1416	2220	
40	758	1291	2029	
45	540	1047	1387	
50	275	675	726	
55	119	372	327	
60	74	149	131	
65	52	54	66	
70	34	33	33	
75	19	19	19	
80	8	8	8	
85	1	2	2	

MAINTAINED ILLUMINATION TABLE- Square Feet/Fixture*

- 80-50-20 Reflectances (Ceiling-Wall-Floor)
- LLF = 0.89 2600 Lumens/Lamp very clean
- Room width divided by room height = 5 or more, 2 or 1

Fixture Size & # of Lamps	Room Width Room Height =	Approx. Area (sq. ft.) per Fixture			
		10 ft-c	30 ft-c	50 ft-c	70 ft-c
2' X 4'	5	-	107	64	46
2 Lamp	2	-	79	47	34
Perf.	1	-	60	36	-

*Observe Fixture S/MH Requirements for Specific Applications

AVERAGE LUMINANCE CD/SQ.M WITH 2600 LUMEN LAMPS

ANGLE	END	45°	CROSS
45	1254	2431	3220
55	341	1065	936
65	202	210	256
75	121	121	121
85	19	38	38

TYPICAL V.C.P.'s

Room Size	Mounting Height			
	Lengthwise	Crosswise	8.5	10
30x30	97	96	96	94
40x40	98	97	97	96
60x30	98	98	97	96
60x60	99	98	98	97
100x100	99	99	99	99

COEFFICIENT OF UTILIZATION

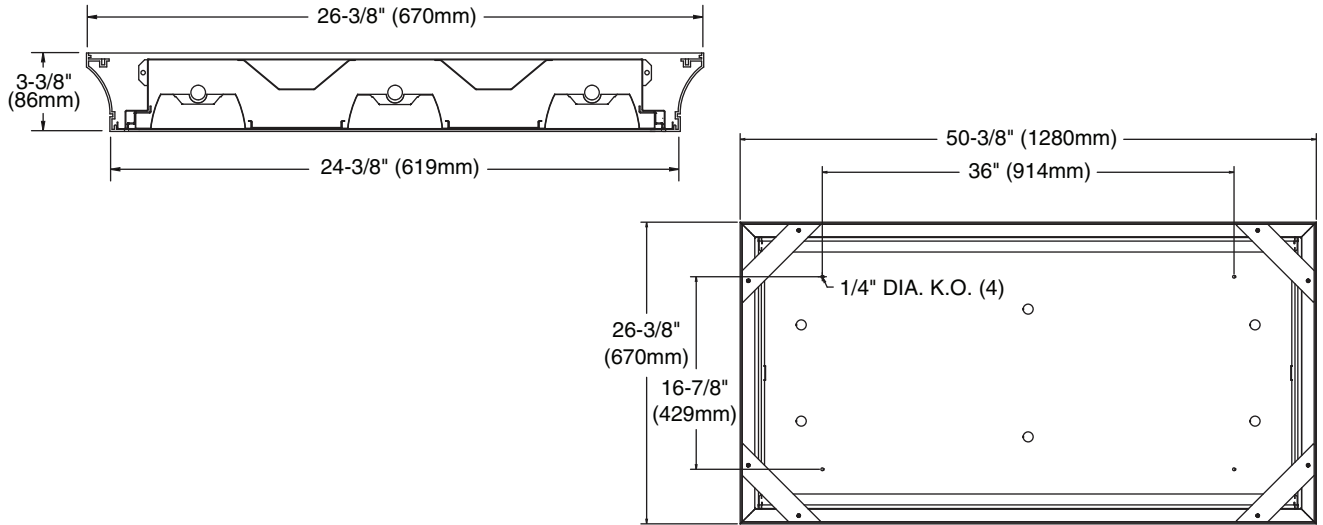
pfc pcc pw	20		70		50	
	70	50	30	70	50	30
RCR	76	76	76	73	73	70
0	76	76	76	73	73	70
1	70	68	67	69	68	66
2	66	61	58	65	60	57
3	61	56	52	59	56	54
4	56	51	46	56	50	48
5	53	46	41	52	46	45
6	50	41	38	48	41	36
7	46	39	34	45	38	34
8	42	35	30	41	34	30
9	40	33	28	40	32	28
10	38	29	26	36	29	26

LIGHT DISTRIBUTION

DEGREES	LUMENS	% LAMP	% FIXTURE
0-30	1260	24.2	38.1
0-40	2200	42.3	66.5
0-60	3225	62.0	97.4
0-90	3310	63.7	100.0

LLF = .89 LLF = LIGHT LOSS FACTOR LLF = LDD X LLD X BF LDD = VERY CLEAN 0.94 CLEAN 0.90
 LLD = 0.95 @ 40% RATED LAMP LIFE BF = 1.00 ELECTRONIC BALLAST & T5HO LAMP (RELAMP AT 70% LAMP LIFE)

DIMENSIONS - 3 LAMP



PHOTOMETRIC DATA

CATALOG # 2SEP228-S-1/2-EB
TEST # 24335 S/MH=1.8

LAMPS = F28T5 INPUT WATTS = 68
BALLAST = ELECTRONIC BALLAST FACTOR = 1.00

LER = F-42

COMPARATIVE YEARLY LIGHTING ENERGY COST PER 1000 LUMENS = \$5.71 BASED ON 3000 HRS. AND \$.08 PER KWH.

FIXTURE EFFICIENCY= 54.6%

CANDLEPOWER				
Angle	End	45	Cross	
0	1346	1346	1346	
5	1356	1344	1334	
10	1333	1336	1332	
15	1290	1317	1316	
20	1226	1313	1315	
25	1136	1330	1476	
30	997	1329	1839	
35	813	1280	2091	
40	615	1162	1922	
45	421	930	1294	
50	168	575	634	
55	29	286	250	
60	6	84	65	
65	3	7	21	
70	3	3	3	
75	1	1	2	
80	0	0	0	
85	0	0	0	

MAINTAINED ILLUMINATION TABLE- Square Feet/Fixture*

- 80-50-20 Reflectances (Ceiling-Wall-Floor)
- LLF = 0.89 2600 Lumens/Lamp very clean
- Room width divided by room height = 5 or more, 2 or 1

Fixture Size & # of Lamps	Room Width Room Height =	Approx. Area (sq. ft.) per Fixture				
		10 ft-c	30 ft-c	50 ft-c	70 ft-c	100 ft-c
2' X 4'	5	-	92	55	39	-
2 Lamp	2	-	69	41	-	-
Solid	1	-	52	31	-	-

*Observe Fixture S/MH Requirements for Specific Applications

AVERAGE LUMINANCE CD/SQ.M WITH 2600 LUMEN LAMPS				
ANGLE	END	45°	CROSS	
45	977	2159	3004	
55	83	819	716	
65	12	27	82	
75	6	6	13	
85	0	0	0	

TYPICAL V.C.P.'s					
Room Size	Mounting Height		Crosswise		
	8.5	10	8.5	10	10
30x30	100	99	99	98	98
40x40	100	100	99	99	99
60x30	100	100	99	99	99
60x60	100	100	100	99	99
100x100	100	100	100	100	100

COEFFICIENT OF UTILIZATION

p/c pcc pw RCR	20			70			50		
	70	50	30	70	50	30	50	30	50
0	65	65	65	64	64	64	60	60	60
1	60	58	57	59	57	56	56	55	55
2	56	54	51	56	53	51	51	48	48
3	53	48	46	52	47	45	46	44	44
4	50	45	40	48	44	40	42	40	40
5	46	40	36	45	40	35	39	35	35
6	42	36	33	41	36	33	35	32	32
7	40	34	29	39	34	29	33	28	28
8	38	30	27	36	30	27	29	27	27
9	34	28	25	34	28	25	28	23	23
10	33	27	23	32	26	23	26	22	22

LIGHT DISTRIBUTION

DEGREES	LUMENS	% LAMP	% FIXTURE
0-30	1116	21.5	39.3
0-40	1966	37.8	69.2
0-60	2825	54.3	99.4
0-90	2841	54.6	100.0

LLF = .89 LLF = LIGHT LOSS FACTOR LLF = LDD X LLD X BF LDD = VERY CLEAN 0.94 CLEAN 0.90
LLD = 0.95 @ 40% RATED LAMP LIFE BF = 1.00 ELECTRONIC BALLAST & T5 LAMP (RELAMP AT 70% LAMP LIFE)

PHOTOMETRIC DATA

CATALOG # 2SEP328-O-1/21-EB
TEST # 24326 S/MH=1.9

LAMPS = F28T5 INPUT WATTS = 103
BALLAST = ELECTRONIC BALLAST FACTOR = 1.00

LER = F-51

COMPARATIVE YEARLY LIGHTING ENERGY COST PER 1000 LUMENS = \$4.71 BASED ON 3000 HRS. AND \$.08 PER KWH.

FIXTURE EFFICIENCY= 67.4%

CANDLEPOWER				
Angle	End	45	Cross	
0	2298	2298	2298	
5	2299	2295	2286	
10	2261	2282	2284	
15	2189	2246	2258	
20	2087	2211	2231	
25	1949	2223	2355	
30	1741	2213	2806	
35	1464	2173	3257	
40	1150	2020	3272	
45	849	1689	2579	
50	486	1166	1499	
55	186	658	727	
60	111	288	290	
65	86	99	135	
70	62	64	69	
75	39	41	44	
80	19	22	23	
85	5	9	10	

MAINTAINED ILLUMINATION TABLE- Square Feet/Fixture*

- 80-50-20 Reflectances (Ceiling-Wall-Floor)
- LLF = 0.89 2600 Lumens/Lamp very clean
- Room width divided by room height = 5 or more, 2 or 1

Fixture Size & # of Lamps	Room Width Room Height =	Approx. Area (sq. ft.) per Fixture				
		10 ft-c	30 ft-c	50 ft-c	70 ft-c	100 ft-c
2' X 4'	5	-	-	101	72	51
3 Lamp	2	-	124	74	53	37
Opal	1	-	93	56	40	-

*Observe Fixture S/MH Requirements for Specific Applications

AVERAGE LUMINANCE CD/SQ.M WITH 2600 LUMEN LAMPS				
ANGLE	END	45°	CROSS	
45	1971	3921	5988	
55	532	1883	2081	
65	334	385	524	
75	247	260	279	
85	94	170	188	

TYPICAL V.C.P.'s					
Room Size	Mounting Height		Crosswise		
	8.5	10	8.5	10	10
30x30	92	92	90	87	87
40x40	93	92	91	89	89
60x30	94	93	92	91	91
60x60	94	93	92	90	90
100x100	95	94	93	92	92

COEFFICIENT OF UTILIZATION

p/c pcc pw RCR	20			70			50		
	70	50	30	70	50	30	50	30	50
0	80	80	80	78	78	78	75	75	75
1	75	72	70	73	70	68	68	67	67
2	69	66	61	68	65	60	61	59	59
3	65	58	55	63	57	54	56	53	53
4	59	54	48	58	53	47	51	46	46
5	56	48	42	55	47	42	46	41	41
6	52	44	39	51	42	39	41	38	38
7	47	40	34	46	40	34	39	34	34
8	45	36	32	44	35	30	35	30	30
9	41	34	28	40	34	28	33	28	28
10	39	30	26	39	30	26	29	26	26

LIGHT DISTRIBUTION

DEGREES	LUMENS	% LAMP	% FIXTURE
0-30	1870	24.0	35.6
0-40	3300	42.3	62.7
0-60	5090	65.3	96.8
0-90	5259	67.4	100.0

LLF = .89 LLF = LIGHT LOSS FACTOR LLF = LDD X LLD X BF LDD = VERY CLEAN 0.94 CLEAN 0.90
LLD = 0.95 @ 40% RATED LAMP LIFE BF = 1.00 ELECTRONIC BALLAST & T5 LAMP (RELAMP AT 70% LAMP LIFE)

PHOTOMETRIC DATA

CATALOG #2SEP328-P-1/21-EB
TEST #24331 S/MH=1.9

LAMPS = F28T5
BALLAST = ELECTRONIC

INPUT WATTS = 102
BALLAST FACTOR = 1.00

LER = F-50

COMPARATIVE YEARLY LIGHTING ENERGY COST PER 1000 LUMENS = **\$4.80** BASED ON 3000 HRS. AND \$.08 PER KWH.

FIXTURE EFFICIENCY = 65.0%

CANDLEPOWER			
Angle	End	45	Cross
0	2288	2288	2288
5	2302	2289	2273
10	2257	2275	2270
15	2184	2242	2247
20	2082	2202	2216
25	1936	2211	2339
30	1718	2195	2776
35	1433	2139	3269
40	1110	1971	3258
45	800	1635	2541
50	437	1119	1433
55	141	611	667
60	65	235	248
65	44	53	90
70	27	27	29
75	14	14	14
80	6	6	6
85	1	1	1

MAINTAINED ILLUMINATION TABLE - Square Feet/Fixture*

- 80-50-20 Reflectances (Ceiling-Wall-Floor)
- LLF = 0.89 2600 Lumens/Lamp very clean
- Room width divided by room height = 5 or more, 2 or 1

Fixture Size & # of Lamps	Room Width Room Height =	Approx. Area (sq. ft.) per Fixture				
		10 ft-c	30 ft-c	50 ft-c	70 ft-c	100 ft-c
2' X 4'	5	-	-	98	70	49
3 Lamp	2	-	121	73	52	36
Perf.	1	-	91	55	39	-

*Observe Fixture S/MH Requirements for Specific Applications

AVERAGE LUMINANCE CD/SQ.M WITH 2600 LUMEN LAMPS

ANGLE	END	45°	CROSS
45	1857	3796	5900
55	404	1749	1909
65	171	206	350
75	89	89	89
85	19	19	19

TYPICAL V.C.P.'s

Room Size	Mounting Height			
	Lengthwise		Crosswise	
	8.5	10	8.5	10
30x30	97	96	95	92
40x40	98	98	97	95
60x30	98	98	97	95
60x60	99	98	98	97
100x100	99	99	99	98

COEFFICIENT OF UTILIZATION

pfc pcc pw RCR	20			70			50		
	70	50	30	70	50	30	70	50	30
0	77	77	77	76	76	76	71	71	71
1	72	70	68	70	68	67	66	65	65
2	68	64	59	66	63	59	59	57	57
3	63	57	53	61	56	53	55	52	52
4	58	52	47	56	51	46	50	46	46
5	54	46	41	53	46	41	45	40	40
6	51	42	38	48	42	38	40	36	36
7	46	39	34	46	39	34	38	34	34
8	44	35	30	42	35	30	34	30	30
9	40	33	28	40	33	28	32	28	28
10	38	30	26	38	29	26	29	26	26

LIGHT DISTRIBUTION

DEGREES	LUMENS	% LAMP	% FIXTURE
0-30	1860	23.8	36.7
0-40	3274	42.0	64.5
0-60	4984	63.9	98.2
0-90	5073	65.0	100.0

LLF = .89 LLF = LIGHT LOSS FACTOR LLF = LDD X LLD X BF LDD = VERY CLEAN 0.94 CLEAN 0.90
LLD = 0.95 @ 40% RATED LAMP LIFE BF = 1.00 ELECTRONIC BALLAST & T5 LAMP (RELAMP AT 70% LAMP LIFE)

PHOTOMETRIC DATA

CATALOG #2SEP328-S-1/21-EB
TEST #24330 S/MH=1.9

LAMPS = F28T5
BALLAST = ELECTRONIC

INPUT WATTS = 103
BALLAST FACTOR = 1.00

LER = F-45

COMPARATIVE YEARLY LIGHTING ENERGY COST PER 1000 LUMENS = **\$5.33** BASED ON 3000 HRS. AND \$.08 PER KWH.

FIXTURE EFFICIENCY = 59.1%

CANDLEPOWER			
Angle	End	45	Cross
0	2077	2077	2077
5	2084	2077	2062
10	2052	2065	2065
15	1984	2037	2045
20	1889	2008	2020
25	1753	2025	2138
30	1553	2027	2620
35	1277	1990	3114
40	967	1846	3123
45	689	1525	2401
50	330	1022	1327
55	56	532	590
60	7	184	187
65	4	15	49
70	3	3	7
75	2	2	3
80	1	2	2
85	0	1	1

MAINTAINED ILLUMINATION TABLE - Square Feet/Fixture*

- 80-50-20 Reflectances (Ceiling-Wall-Floor)
- LLF = 0.89 2600 Lumens/Lamp very clean
- Room width divided by room height = 5 or more, 2 or 1

Fixture Size & # of Lamps	Room Width Room Height =	Approx. Area (sq. ft.) per Fixture				
		10 ft-c	30 ft-c	50 ft-c	70 ft-c	100 ft-c
2' X 4'	5	-	149	89	64	45
3 Lamp	2	-	111	66	47	33
Solid	1	-	83	50	36	-

*Observe Fixture S/MH Requirements for Specific Applications

AVERAGE LUMINANCE CD/SQ.M WITH 2600 LUMEN LAMPS

ANGLE	END	45°	CROSS
45	1600	3541	5575
55	160	1523	1689
65	16	58	190
75	13	13	19
85	0	19	19

TYPICAL V.C.P.'s

Room Size	Mounting Height			
	Lengthwise		Crosswise	
	8.5	10	8.5	10
30x30	99	98	97	94
40x40	99	99	98	96
60x30	99	99	98	96
60x60	100	99	99	98
100x100	100	100	99	99

COEFFICIENT OF UTILIZATION

pfc pcc pw RCR	20			70			50		
	70	50	30	70	50	30	70	50	30
0	69	69	69	68	68	68	66	66	66
1	66	64	61	65	63	60	59	58	58
2	61	57	55	59	56	54	55	53	53
3	56	53	48	56	52	47	50	46	46
4	53	47	44	52	46	42	46	41	41
5	50	42	39	47	42	39	41	38	38
6	46	39	34	45	39	34	38	34	34
7	42	35	30	41	35	30	34	30	30
8	40	33	28	39	33	28	32	28	28
9	36	29	26	36	29	26	28	26	26
10	34	28	23	34	28	23	27	23	23

LIGHT DISTRIBUTION

DEGREES	LUMENS	% LAMP	% FIXTURE
0-30	1699	21.8	36.8
0-40	3018	38.7	65.5
0-60	4574	58.6	99.2
0-90	4611	59.1	100.0

LLF = .89 LLF = LIGHT LOSS FACTOR LLF = LDD X LLD X BF LDD = VERY CLEAN 0.94 CLEAN 0.90
LLD = 0.95 @ 40% RATED LAMP LIFE BF = 1.00 ELECTRONIC BALLAST & T5 LAMP (RELAMP AT 70% LAMP LIFE)