

**2 Lamp T8 U1-5/8" or F17T8
9 or 16 Cell**

SL & FL 16 cell fixtures meet the requirements of IESNA RP-1 for use in spaces containing Video Display Terminals.

APPLICATION

- Low-brightness troffer for most ceilings:
 - Grid inverted T (NEMA "G")
 - Flange-type for concealed mechanical suspension (NEMA "F")
 - Modular and "Z" spline (NEMA "M/Z")
 - Screw Slot; with louvers at ceiling plane (NEMA "SS")
- Designed for air supply/return through side slots and/or heat transfer. Select the appropriate catalog no. for air function desired. Air boots by others.
- Air handling or combination models are available with optional factory installed snap-in air slot covers (ASC) or adjustable air pattern control blades (APC).
- Excellent visual comfort and inconspicuous appearance.

CONSTRUCTION/FINISH

- Housing is multi-stage phosphate treated for maximum corrosion resistance and finish coat is high reflectance baked white enamel.
- Painted after fabrication housing available.
- Flat black finish inside perimeter reveal for "floating door" appearance.
- Built in (UL listed, patented) grid clips designed for use with standard 1-1/2" high grid ceiling members.

- Factory installed access plate includes 7/8" hole, 7/8" knockout and grounding screw.

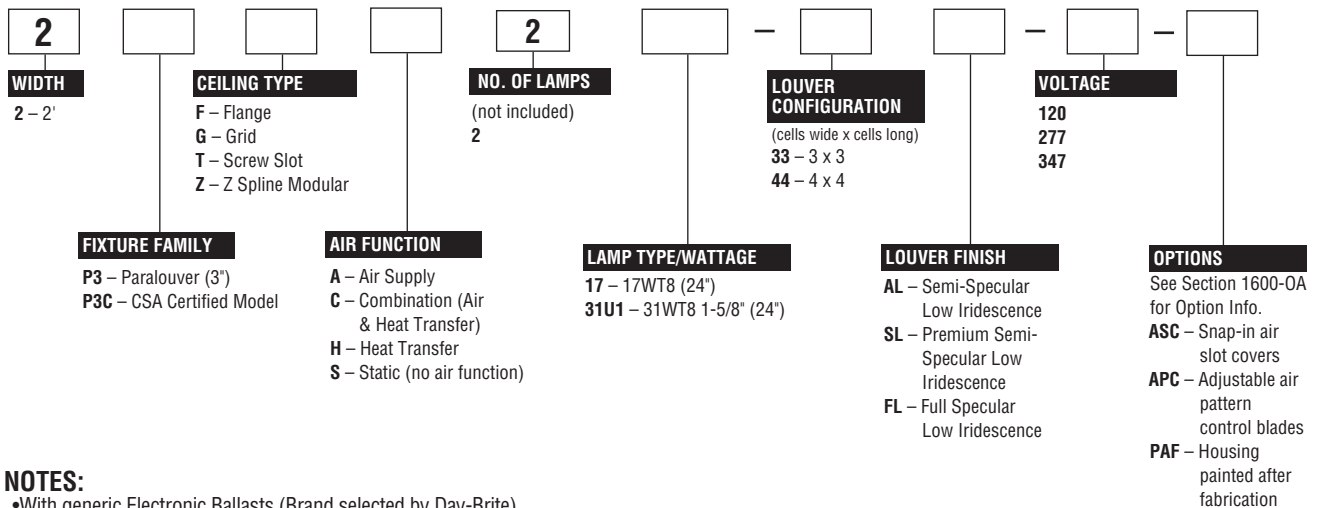
ELECTRICAL

- Class P, HPF ballasts comply with Federal Ballast Law (Public Law 100-357, 1988).
- UL listed for damp locations. C.S.A. certified optional.
- Self-contained fluorescent emergency power packs can be incorporated, UL listed for dry locations.

ENCLOSURES

- Full 3" parabolic-shaped louvers closely controlled for uniform low-brightness appearance, and interlocked to avoid vibration.
- 9 Cell: Lengthwise shielding is 25°. Crosswise shielding is 25°.
- 16 Cell: Lengthwise shielding is 32°. Crosswise shielding is 32°.
- Bottom aluminum flange has mitered corners and fits flush with ceiling.
- T-hinges are standard for positive support of the enclosure.
- Guide-post spring loaded latches are standard for ease of use and secure retention of the louver.
- Can be hinged and latched from either side.
- Shipped with plastic film to keep out construction dirt.

CATALOG NUMBER



NOTES:

- With generic Electronic Ballasts (Brand selected by Day-Brite)
- Suffix Catalog # with- **Ballast Quantity** - / -**EB** **Lamps Per Ballast**.

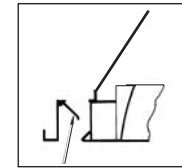
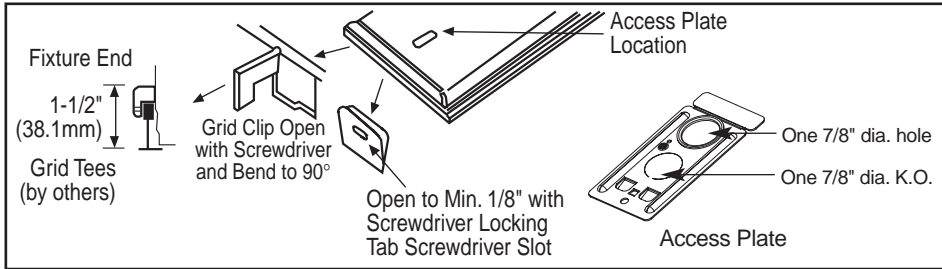
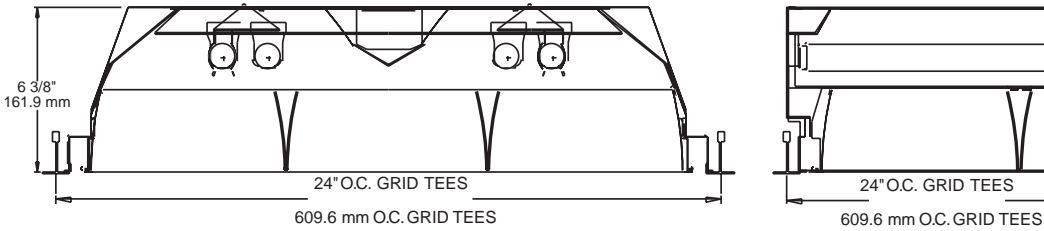
Example: -1/2-EB = One 2 Lamp Electronic Ballast.

JOB INFORMATION

226.1-PLV

2' x 2' 9 CELL

DIMENSIONS



Optional Air Pattern Control (on Air and Combination Units)

- Fully adjustable
 - Closed= Static
 - 45°= Horizontal Air Supply
 - 90°= (fully open) – Vertical Air Supply
- Side Slots may also be used for Return Air to Plenum
- Snap-in Air Slot Covers (ASC) also available

PHOTOMETRIC DATA

CATALOG # 2P3GS231U1-33AL-1/2-EB
TEST #17887 S/MH = 1.5

LAMPS = FBO31
BALLAST = ELECTRONIC

INPUT WATTS = 52
BALLAST FACTOR = .92

LER = FL-73

COMPARATIVE YEARLY LIGHTING ENERGY COST PER 1000 LUMENS = \$3.29 BASED ON 3000 HRS. AND \$.08 PER KWH.

FIXTURE EFFICIENCY= 73.3%

CANDLEPOWER			
Angle	End	45	Cross
0	1756	1756	1756
5	1757	1747	1738
10	1721	1717	1710
15	1666	1653	1640
20	1594	1569	1635
25	1508	1507	1613
30	1418	1445	1492
35	1303	1333	1419
40	1182	1199	1401
45	1041	1101	1378
50	888	1009	1252
55	705	848	973
60	490	599	689
65	236	280	230
70	62	76	54
75	22	25	23
80	9	11	10
85	2	3	3

MAINTAINED ILLUMINATION TABLE- Square Feet/Fixture*

- 80-50-20 Reflectances (Ceiling-Wall-Floor)
- LLF = 0.76 2800 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 2'	5	–	112	67	48	33
2 Lamp	1	–	79	48	34	–
		–	58	35	–	–

*Observe Fixture S/MH Requirements for Specific Applications

AVERAGE LUMINANCE CD/SQ.M WITH 2800 LUMEN LAMPS

ANGLE	END	45°	CROSS
45	4851	5131	6422
55	4050	4872	5590
65	1840	2183	1793
75	280	318	293
85	76	113	113

TYPICAL V.C.P.'s

Room Size	Mounting Height			
	Lengthwise		Crosswise	
	8.5	10	8.5	10
30x30	78	72	77	71
40x40	83	78	82	77
60x30	84	79	83	78
60x60	87	82	86	81
100x100	92	89	91	88

LLF = .76 LLF = LIGHT LOSS FACTOR LLF = LDD X LLD X BF LDD = VERY CLEAN 0.94 CLEAN 0.90
LLD = 0.88 @ 40% RATED LAMP LIFE BF = .92 ELECTRONIC BALLAST & T8 LAMP (RELAMP AT 70% LAMP LIFE)

COEFFICIENT OF UTILIZATION

pfc pcc pw	20			70			50		
	70	50	30	70	50	30	50	30	
RCR									
0	86	86	86	84	84	84	81	81	
1	81	79	76	80	77	75	73	71	
2	75	69	66	72	68	65	66	63	
3	68	61	56	67	60	56	58	55	
4	64	56	50	61	55	48	53	47	
5	58	50	44	56	48	44	47	42	
6	54	45	39	53	45	39	42	38	
7	50	40	34	48	40	34	39	34	
8	46	38	32	46	36	30	35	30	
9	44	34	28	42	34	28	33	28	
10	40	32	26	40	30	26	30	26	

LIGHT DISTRIBUTION

DEGREES	LUMENS	% LAMP	% FIXTURE
0-30	1339	23.9	32.6
0-40	2177	38.9	53.0
0-60	3798	67.8	92.5
0-90	4107	73.3	100.0

PHOTOMETRIC DATA

CATALOG # 2P3GS231U1-33SL-1/2-EB
TEST #15739 S/MH = 1.5

LAMPS = FBO 31
BALLAST = ELECTRONIC

INPUT WATTS = 56
BALLAST FACTOR = .92

LER = FL-65

COMPARATIVE YEARLY LIGHTING ENERGY COST PER 1000 LUMENS = \$3.69 BASED ON 3000 HRS. AND \$.08 PER KWH.

FIXTURE EFFICIENCY= 70.1%

CANDLEPOWER			
Angle	End	45	Cross
0	1530	1530	1530
5	1534	1520	1513
10	1505	1489	1488
15	1457	1455	1501
20	1396	1432	1518
25	1325	1405	1490
30	1235	1352	1411
35	1136	1264	1479
40	1022	1178	1542
45	899	1152	1532
50	755	1080	1357
55	595	901	1031
60	422	598	687
65	165	258	201
70	40	55	39
75	16	15	15
80	7	6	6
85	2	2	2

MAINTAINED ILLUMINATION TABLE- Square Feet/Fixture*

- 80-50-20 Reflectances (Ceiling-Wall-Floor)
- LLF = 0.76 2800 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 2'	5	–	107	64	46	32
2 Lamp	2	–	75	45	32	–
	1	–	55	33	–	–

*Observe Fixture S/MH Requirements for Specific Applications

AVERAGE LUMINANCE CD/SQ.M WITH 2800 LUMEN LAMPS

ANGLE	END	45°	CROSS
45	4311	5524	7346
55	3517	5326	6095
65	1324	2070	1613
75	210	197	197
85	78	78	78

TYPICAL V.C.P.'s

Room Size	Mounting Height			
	Lengthwise		Crosswise	
	8.5	10	8.5	10
30x30	81	75	78	71
40x40	87	81	84	78
60x30	87	82	85	79
60x60	90	85	89	83
100x100	94	91	93	90

LLF = .76 LLF = LIGHT LOSS FACTOR LLF = LDD X LLD X BF LDD = VERY CLEAN 0.94 CLEAN 0.90
LLD = 0.88 @ 40% RATED LAMP LIFE BF = .92 ELECTRONIC BALLAST & T8 LAMP (RELAMP AT 70% LAMP LIFE)

COEFFICIENT OF UTILIZATION

pfc pcc pw	20			70			50		
	70	50	30	70	50	30	50	30	
RCR									
0	82	82	82	81	81	81	78	78	
1	78	75	72	76	73	70	70	68	
2	71	67	63	69	66	61	63	59	
3	66	58	54	64	57	54	56	52	
4	60	53	46	58	52	46	50	46	
5	56	47	41	54	46	40	45	40	
6	52	42	36	50	41	36	40	35	
7	47	39	33	46	38	33	36	32	
8	44	34	29	42	34	28	34	28	
9	40	32	27	40	32	27	30	26	
10	39	29	23	38	28	23	28	23	

LIGHT DISTRIBUTION

DEGREES	LUMENS	% LAMP	% FIXTURE
0-30	1204	21.5	30.7
0-40	2006	35.8	51.1
0-60	3657	65.3	93.1
0-90	3927	70.1	100.0

PHOTOMETRIC DATA

CATALOG # 2P3GS231U1-33FL-1/2-EB **LAMPS =** FBO 31 **INPUT WATTS =** 56
TEST # 15738 **S/MH =** 1.5 **BALLAST =** ELECTRONIC **BALLAST FACTOR =** .92

LER = FL-67

COMPARATIVE YEARLY LIGHTING ENERGY COST PER 1000 LUMENS = **\$3.58** BASED ON 3000 HRS. AND \$.08 PER KWH.

FIXTURE EFFICIENCY= 72.6%

CANDLEPOWER				
Angle	End	45	Cross	
0	1568	1568	1568	
5	1569	1552	1539	
10	1542	1514	1490	
15	1497	1464	1522	
20	1440	1461	1569	
25	1367	1466	1552	
30	1278	1422	1442	
35	1171	1333	1469	
40	1058	1231	1549	
45	923	1195	1582	
50	786	1144	1388	
55	612	984	1133	
60	454	657	790	
65	123	257	185	
70	6	25	8	
75	2	3	3	
80	1	2	2	
85	0	0	1	

MAINTAINED ILLUMINATION TABLE- Square Feet/Fixture*

■ 80-50-20 Reflectances (Ceiling-Wall-Floor)
 ■ LLF = 0.76 2800 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 2'	5	-	111	66	47	33
2 Lamp	2	-	78	47	33	-
	1	-	57	34	-	-

*Observe Fixture S/MH Requirements for Specific Applications

COEFFICIENT OF UTILIZATION

pfc pcc pw RCR	20			70			50		
	70	50	30	70	50	30	50	30	
0	85	85	85	83	83	83	81	81	
1	81	78	75	79	76	73	72	70	
2	73	68	65	72	68	64	65	61	
3	68	61	56	67	60	56	57	54	
4	63	55	48	60	54	48	52	47	
5	57	48	42	56	47	42	46	41	
6	53	44	38	52	44	38	41	36	
7	48	40	34	47	40	34	38	33	
8	46	36	30	45	35	29	34	29	
9	42	33	28	41	33	28	32	27	
10	40	30	25	39	29	25	29	25	

AVERAGE LUMINANCE CD/SQ.M WITH 2800 LUMEN LAMPS

ANGLE	END	45°	CROSS
45	4426	5730	7586
55	3618	5817	6698
65	987	2062	1484
75	26	39	39
85	0	0	39

TYPICAL V.C.P.'s

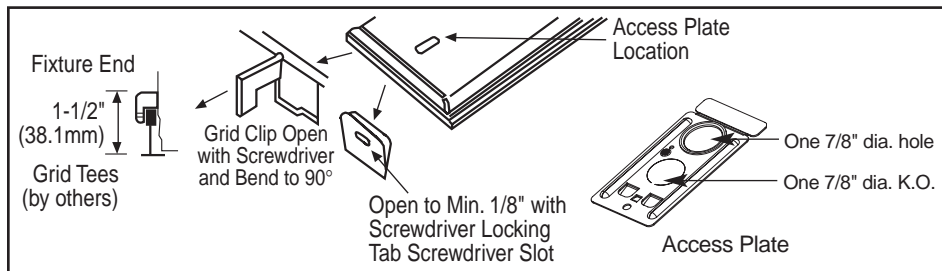
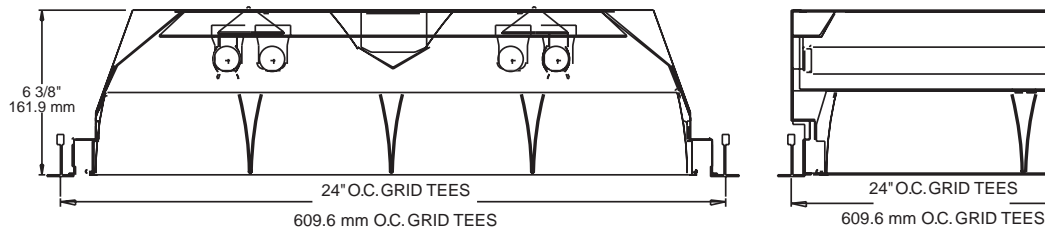
Room Size	Mounting Height			
	Lengthwise		Crosswise	
	8.5	10	8.5	10
30x30	85	77	81	72
40x40	90	85	87	81
60x30	90	85	87	81
60x60	93	89	91	86
100x100	96	93	95	91

LIGHT DISTRIBUTION

DEGREES	LUMENS	% LAMP	% FIXTURE
0-30	1237	22.1	30.4
0-40	2065	36.9	50.8
0-60	3817	68.2	93.9
0-90	4066	72.6	100.0

LLF = .76 LLF = LIGHT LOSS FACTOR LLF = LDD X LLD X BF LDD = VERY CLEAN 0.94 CLEAN 0.90
 LLD = 0.88 @ 40% RATED LAMP LIFE BF = .92 ELECTRONIC BALLAST & T8 LAMP (RELAMP AT 70% LAMP LIFE)

DIMENSIONS



- Optional Air Pattern Control (on Air and Combination Units)
- Fully adjustable
 - Closed= Static
 - 45°= Horizontal Air Supply
 - 90°= (fully open) - Vertical Air Supply
 - Side Slots may also be used for Return Air to Plenum
 - Snap-in Air Slot Covers (ASC) also available

PHOTOMETRIC DATA

CATALOG # 2P3GS231U1-44AL-1/2-EB **LAMPS =** FBO31 **INPUT WATTS =** 52
TEST # 17888 **S/MH =** 1.3 **BALLAST =** ELECTRONIC **BALLAST FACTOR =** .92

LER = FL-67

COMPARATIVE YEARLY LIGHTING ENERGY COST PER 1000 LUMENS = **\$3.58** BASED ON 3000 HRS. AND \$.08 PER KWH

FIXTURE EFFICIENCY= 67.3%

CANDLEPOWER				
Angle	End	45	Cross	
0	1763	1763	1763	
5	1755	1738	1718	
10	1707	1653	1605	
15	1642	1539	1509	
20	1564	1434	1485	
25	1471	1357	1473	
30	1369	1294	1480	
35	1255	1237	1508	
40	1122	1183	1550	
45	982	1126	1452	
50	814	1003	1352	
55	615	779	780	
60	337	406	359	
65	136	117	92	
70	41	41	40	
75	17	20	18	
80	7	9	9	
85	1	2	2	

MAINTAINED ILLUMINATION TABLE- Square Feet/Fixture*

■ 80-50-20 Reflectances (Ceiling-Wall-Floor)
 ■ LLF = 0.76 2800 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 2'	5	-	103	62	44
2 Lamp	2	-	74	44	32
	1	-	55	33	-

*Observe Fixture S/MH Requirements for Specific Applications

COEFFICIENT OF UTILIZATION

pfc pcc pw RCR	20			70			50		
	70	50	30	70	50	30	50	30	
0	86	86	86	84	84	84	81	81	
1	81	79	76	80	77	75	73	71	
2	75	69	66	72	68	65	66	63	
3	68	61	56	67	60	56	58	55	
4	64	56	50	61	55	48	53	47	
5	58	50	44	56	48	44	47	42	
6	54	45	39	53	45	39	42	38	
7	50	40	34	48	40	34	39	34	
8	46	38	32	46	36	30	35	30	
9	44	34	28	42	34	28	33	28	
10	40	32	26	40	30	26	30	26	

AVERAGE LUMINANCE CD/SQ.M WITH 2800 LUMEN LAMPS

ANGLE	END	45°	CROSS
45	4576	5248	6767
55	3533	4476	4481
65	1060	912	717
75	216	255	229
85	38	76	76

TYPICAL V.C.P.'s

Room Size	Mounting Height			
	Lengthwise		Crosswise	
	8.5	10	8.5	10
30x30	85	80	84	79
40x40	89	84	88	83
60x30	90	85	89	85
60x60	92	87	91	87
100x100	95	93	95	92

LIGHT DISTRIBUTION

DEGREES	LUMENS	% LAMP	% FIXTURE
0-30	1256	22.4	33.3
0-40	2069	36.9	54.9
0-60	3600	64.3	95.5
0-90	3771	67.3	100.0

LLF = .76 LLF = LIGHT LOSS FACTOR LLF = LDD X LLD X BF LDD = VERY CLEAN 0.94 CLEAN 0.90
 LLD = 0.88 @ 40% RATED LAMP LIFE BF = .92 ELECTRONIC BALLAST & T8 LAMP (RELAMP AT 70% LAMP LIFE)

2' x 2'

PHOTOMETRIC DATA

CATALOG # 2P3GS231U1-44SL-1/2-EB
TEST #15741 S/MH = 1.7

LAMPS = FBO 31
BALLAST = ELECTRONIC

INPUT WATTS = 56
BALLAST FACTOR = .92

LER = FL-60

COMPARATIVE YEARLY LIGHTING ENERGY COST PER 1000 LUMENS = \$4.00 BASED ON 3000 HRS. AND \$.08 PER KWH.

FIXTURE EFFICIENCY= 65.0%

CANDLEPOWER			
Angle	End	45	Cross
0	1542	1542	1542
5	1543	1529	1507
10	1512	1461	1417
15	1461	1375	1344
20	1394	1296	1366
25	1314	1261	1466
30	1217	1263	1596
35	1109	1292	1710
40	989	1306	1690
45	852	1264	1632
50	701	1086	1226
55	533	791	796
60	227	353	320
65	36	63	57
70	17	22	25
75	9	12	12
80	5	6	6
85	2	2	2

MAINTAINED ILLUMINATION TABLE- Square Feet/Fixture*						
■ 80-50-20 Reflectances (Ceiling-Wall-Floor) ■ LLF = 0.76 2800 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 2' 2 Lamp	5	-	99	60	43	-
	2	-	71	43	31	-
	1	-	53	32	-	-

COEFFICIENT OF UTILIZATION							
pfc	pcc	20			70		50
		70	50	30	70	50	30
0	1	77	77	77	76	76	71
1	2	69	68	70	68	67	66
2	3	67	63	58	65	61	58
3	4	61	56	52	59	55	51
4	5	56	50	45	56	48	45
5	6	53	45	40	51	45	40
6	7	48	40	35	47	40	34
7	8	45	36	32	44	36	32
8	9	41	34	28	40	33	28
9	10	39	30	26	38	30	26
10		36	28	23	35	28	23

AVERAGE LUMINANCE CD/SQ.M WITH 2800 LUMEN LAMPS			
ANGLE	END	45°	CROSS
45	4086	6061	7826
55	3151	4676	4706
65	289	505	457
75	118	157	157
85	78	78	78

TYPICAL V.C.P.'s				
Room Size	Mounting Height		Lengthwise Crosswise	
	8.5	10	8.5	10
30x30	90	85	87	81
40x40	93	89	91	86
60x30	93	90	92	87
60x60	95	92	93	90
100x100	97	95	96	94

LIGHT DISTRIBUTION			
DEGREES	LUMENS	% LAMP	% FIXTURE
0-30	1151	20.6	31.6
0-40	1985	35.5	54.5
0-60	3537	63.2	97.2
0-90	3640	65.0	100.0

LLF = .76 LLF = LIGHT LOSS FACTOR LLF = LDD X LLD X BF LDD = VERY CLEAN 0.94 CLEAN 0.90
LLD = 0.88 @ 40% RATED LAMP LIFE BF = .92 ELECTRONIC BALLAST & T8 LAMP (RELAMP AT 70% LAMP LIFE)

PHOTOMETRIC DATA

CATALOG # 2P3GS231U1-44FL-1/2-EB
TEST #15740 S/MH = 1.7

LAMPS = FBO 31
BALLAST = ELECTRONIC

INPUT WATTS = 56
BALLAST FACTOR = .92

LER = FL-63

COMPARATIVE YEARLY LIGHTING ENERGY COST PER 1000 LUMENS = \$3.81 BASED ON 3000 HRS. AND \$.08 PER KWH.

FIXTURE EFFICIENCY= 68.7%

CANDLEPOWER			
Angle	End	45	Cross
0	1602	1602	1602
5	1603	1586	1571
10	1573	1512	1441
15	1523	1399	1361
20	1457	1313	1382
25	1376	1282	1494
30	1280	1294	1642
35	1165	1343	1798
40	1039	1385	1769
45	905	1380	1769
50	758	1234	1338
55	589	921	887
60	285	376	323
65	55	28	12
70	5	5	4
75	3	3	3
80	2	2	2
85	1	2	1

MAINTAINED ILLUMINATION TABLE- Square Feet/Fixture*						
■ 80-50-20 Reflectances (Ceiling-Wall-Floor) ■ LLF = 0.76 2800 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 2' 2 Lamp	5	-	105	63	45	32
	2	-	75	45	32	-
	1	-	55	33	-	-

COEFFICIENT OF UTILIZATION							
pfc	pcc	20			70		50
		70	50	30	70	50	30
0	1	81	81	81	80	80	76
1	2	76	73	71	75	71	69
2	3	70	66	61	68	65	63
3	4	65	58	54	64	57	56
4	5	59	53	47	58	52	46
5	6	56	47	41	54	46	41
6	7	51	42	36	50	41	36
7	8	47	39	33	46	38	33
8	9	44	34	29	42	34	28
9	10	40	32	27	40	32	27
10		39	29	25	38	29	25

AVERAGE LUMINANCE CD/SQ.M WITH 2800 LUMEN LAMPS			
ANGLE	END	45°	CROSS
45	4340	6618	8483
55	3482	5445	5244
65	441	225	96
75	39	39	39
85	39	78	39

TYPICAL V.C.P.'s				
Room Size	Mounting Height		Lengthwise Crosswise	
	8.5	10	8.5	10
30x30	91	85	90	83
40x40	95	90	94	89
60x30	95	90	94	89
60x60	96	93	96	92
100x100	98	96	98	95

LIGHT DISTRIBUTION			
DEGREES	LUMENS	% LAMP	% FIXTURE
0-30	1181	21.1	30.7
0-40	2052	36.6	53.4
0-60	3764	67.2	97.9
0-90	3844	68.7	100.0

LLF = .76 LLF = LIGHT LOSS FACTOR LLF = LDD X LLD X BF LDD = VERY CLEAN 0.94 CLEAN 0.90
LLD = 0.88 @ 40% RATED LAMP LIFE BF = .92 ELECTRONIC BALLAST & T8 LAMP (RELAMP AT 70% LAMP LIFE)

2 P3 G S 2 31U1

CEILING TYPE

G = GRID (NEMA G)

(NEMA Type G)
Lay-in acoustical ceilings using exposed grid suspension, with tees for fixtures on 24" x 24" spacing.

F = FLANGE (NEMA F)

(NEMA Type F)
Flange for acoustical ceilings using concealed mechanical suspension. Swing-jack mounting brackets: adjustment 4-3/16" max. and 1-13/16" min. Refer to sheet 801-CL for cut-out information.

Z = (NEMA M/Z) MODULAR AND "Z" SPLINE

(NEMA M/Z)
Modular and "Z" Spline using concealed mechanical suspension. Swing-jack mounting brackets: adjustment 4-3/16" max. and 1-13/16" min.

T = SCREW SLOT (NEMA SS)

Louvered fixture with louvers at the ceiling plane.
(NEMA Type SS)
Typical Screw Slot Ceiling System. Bottom of louver is flush with ceiling plane.