

ENGINEERING NOTES

- \*\*\*\*\* CONTINUED \*\*\*\*\*
- AND THHN WIRES IS 35' FOR NO. 12 AWG AND 48' FOR NO. 14 AWG RESPECTIVELY.
62. LIGHTING FIXTURES PER FIGS. A, B & C ARE FACTORY WIRED WITH 4 THHN WIRES THE FULL LENGTH OF THE FIXTURE & GREEN PIG TAIL AT EACH END FOR NORMAL & LOW INTENSITY SW CONTROL THE FIGS (A & B) DEPICT BALLAST CONNECTIONS FOR EACH APPLICATION.
  63. WHEN 277V POWER IS SUPPLIED TO LIGHTS APPLIANCE OUTLET CIRCUITS SHALL BE OBTAINED FROM THE NEAREST SOURCE OF ESSENTIAL 120V POWER.
  64. FEEDER CIRCUIT MAY BE:
    - (A) 120V 1 PHASE 2 WIRE
    - (B) 120/240V 1 PHASE 3 WIRE (FIG. 10).
    - (C) 120/208V 1 PHASE 3 WIRE (FIG. 10).
    - (D) 480/277V 1 PHASE 3 WIRE
    - (E) 120/208V 3 PHASE 4 WIRE (FIG. 10).
    - (F) 480/277V 3 PHASE 4 WIRE (FIG. 10).
  65. THE FEEDER CIRCUIT AMPERE CAPACITY SHALL BE EQUAL TO OR GREATER THAN THE ULTIMATE CONNECTED LOAD DIVIDED BY THE NUMBER OF PHASE LEGS (IE: 1PH 2W, 1PH 3W, 3PH 3W, 3PH 4W = 1, 2, 3 PHASE LEGS RESP) PLUS 12 AMPERE (UNBALANCED FACTOR).
  66. BRANCH CIRCUITS SHALL BE ASSIGNED TO PHASE LEG AND NEUTRAL BUSES OF BRANCH CIRCUIT DISTRIBUTION EQUIPMENT SO AS TO LOAD PHASES AS EQUALLY AS PRACTICAL. THE HEAVIEST PHASE LEG LOAD SHALL NOT EXCEED THE FEEDER CIRCUIT OVERCURRENT DEVICE CONTINUOUS LOAD RATING. THE FEEDER NEUTRAL CONDUCTOR SHALL BE THE SAME SIZE AS PHASE LEG CONDUCTORS. THE BRANCH CIRCUIT DISTRIBUTION EQUIPMENT (PANEL BOARD ETC.) CONTINUOUS LOAD RATING SHALL EQUAL OR EXCEED THE FEEDER CIRCUIT LOAD CAPACITY.
  67. BRANCH CIRCUITS SHALL BE EQUIPPED WITH 15 OR 20 AMPERE OVER-CURRENT DEVICES.
    - (A) TABLE B - FLUORESCENT LIGHTING FIXTURES, LOAD PER UNIT.
    - (B) TABLE C - FLUORESCENT LIGHTING BRANCH CKT CAPACITY.
    - (C) MISCELLANEOUS LOADS - OTHER LOADS SHALL BE ADDED TO THE BRANCH CIRCUIT LOAD SUMMARY ON THE BASIS OF RATED INPUT POWER REQUIREMENTS.
  68. ALL INSTALLATIONS SHALL COMPLY WITH ALL NATIONAL ELECTRICAL CODE APPLICABLE CODE PROVISIONS IN ADDITION TO LOCAL STATE AND CITY CODES AS PRESCRIBED BY THE TELEPHONE CO.
  69. SEE ED5D022-11 FOR PROPER METHOD OF RUNNING AND GROUNDING OF THE APPLIANCE OUTLET CONDUIT & WIRING. (SEE FIG. 17).
  70. THE ENGINEER SHALL PROVIDE THE FOLLOWING: ALL 120V AND OR 277V WIRING WHICH SHALL BE KS-22641 TYPE THHN SOLID COPPER NO. 12 AWG. MIN. FRAME APPLIANCE OUTLET WIRING SHALL BE NO. 12 AWG. PROVIDE ALL LOW VOLTAGE WIRING AS FOLLOWS: 24V WIRING WITHIN THE WIREMOLD RACEWAY SHALL BE NO. 18 AWG TYPE TFF 600V WIRE BY GENERAL ELEC. CO. OTHER 24V WIRING SHALL BE AS SHOWN IN FIG. 16.
  71. ONE RELAY IS REQUIRED TO CONTROL THE OPERATION OF ANY GROUP OF FIXTURES.
  72. ONE BRANCH CIRCUIT MAY SUPPLY SEVERAL RELAYS FOR MAX LOADING OF THE CIRCUIT PER TABLE C AND FIG. 13. THIS WOULD STILL ALLOW INDIVIDUAL AISLE OR SWITCH CONTROL.
  73. SEVERAL RELAYS (MAX 4) CAN BE OPERATED SIMULTANEOUSLY IF SEVERAL BRANCH CIRCUITS ARE REQUIRED DUE TO TABLE C CKT CAPACITY. FOR ----- CONTINUED ON NEXT SHEET -----

ENGINEERING NOTES

51. FURNISH ALL NECESSARY WIRE AND ASSOC. EQUIPMENT TO SUIT JOB CONDITIONS.
52. ALL WIRES USED FOR AC DIST SHALL BE KS-22641 THHN #12 AWG SOLID IN APPROPRIATE COLORS UNLESS OTHERWISE SPECIFIED.
53. FOR POWER DISTRIBUTION CIRCUIT, SEE T-4C003-11.
54. ELECTRICAL HARDWARE MAY BE SUBSTITUTED WHERE REQUIRED WITH APPROVED EQUIVALENT HARDWARE.
55. PROVIDE LIGHTING FIXTURES AS REQUIRED PER ED-4C012-12.
56. DOLLAR SIGNS (\$) IN FRONT OF AND BEHIND WORDS, SENTENCES, PARAGRAPHS AND/OR CHARACTERS INDICATE HORIZONTALLY LINED OUT INFORMATION.
57. TABLE OF CONTENTS:
 

DESCRIPTION	FIG	TABLE	SHEET	RATING
LIGHTING & AC TWO LINE-UPS	1		B1	
LIGHTING, ONE LINE UP	2		B2	
APPLIANCE OUTLET RISER	3 & 4		B3	
LOW VOLTAGE WIRES	5		B4	
LIGHTING FIXT. SWITCH	7		B5	
RACEWAY CONNECTION TO RELAY BOX	8		B5	
BALLAST REPLACEMENT AND CIRCUIT CAPACITY		B, C, D	B6	
WIRING DIAGRAM	13		B7	
LIGHTING FIXTURE SWITCH AND AC OUTLET	16 & 17		B8	
FIXTURE WIRING	A, B, C		B9	
AC RACEWAY	VIEW A-A		B10	
SUPPORT BRACKETS	SECT. B-B		B11	
SUPPORT BRACKETS	SECT. C-C		B12	
RELAY BOX MTG.	SECT. D-D		B13	
RACEWAY/FIXT. CONN.	SECT. F-F		B14	
58. ALTERNATE END FIXTURES IN ALL MAINTENANCE AISLES SHALL BE LOW INTENSITY LIGHTING CONTROLLED BY A 24V SWITCH ON THE END GUARD OF THE LINEUP NEAREST TO THE SWITCHROOM PRINCIPAL ENTRANCE, OR THE END GUARD NEAREST TO THE CONVENIENT MAIN CROSS AISLE OF THE MAINTENANCE CENTER. THE WALL MTD LOW INTENSITY SWITCH SHALL BE USED ONLY AT THE REQUEST OF THE TEL. CO.
59. A SINGLE NO. 12 AWG GREEN INSULATED AC EG CONDUCTOR SHALL BE EXTENDED FROM THE PANEL BOARD ENCLOSURE (OR AC EG, BUS, IF PROVIDED) THROUGH EACH WIREWAY PROVIDED FOR BRANCH CIRCUIT DISTRIBUTION TO FLUORESCENT LIGHTING FIXTURES. AT EACH POINT ON THE WIREWAY WHERE A BRANCH CIRCUIT IS EXTENDED FROM THE WIREWAY IN CONDUIT TO A FIXTURE LINE, THE AC EG CONDUCTOR SHALL BE BONDED TO THE WIREWAY (T & B CAT. 3870 1/2" GROUNDING & BONDING BUSHING OR EQUIV.) THE AC EG CONDUCTOR SHALL BE EXTENDED THROUGH EACH FIXTURE IN THE LINE AND CONNECTED TO EACH FIXTURE ENCLOSURE. AC EG CONDUCTOR SHALL BE CONNECTED TO THE WIREWAY AT EVERY POINT OF EMISSION OF ANY BRANCH CIRCUIT REGARDLESS OF WHETHER OR NOT THE BRANCH CIRCUIT CONTAINS AN AC EG CONDUCTOR.
60. 24 VOLT WIRE, MULTED TO SWITCH, IN OPPOSITE END OF LINE-UP, MUST BE ROUTED WITHIN THE POWER CABLE COMPARTMENT OF THE CABLE RACK.
61. WIRE CAPACITY OF THE 1100 RACEWAY WITHOUT DEVICES FOR THWN ----- CONTINUED TO THE LEFT -----

ISSUE NOTES

ORIG ISS: 03/24/93		CHANGE CLASS:	
DRAFT: MR	ENGR: RLG	SUPV: EJB	CERTIFIED: 03/24/93
NOTE 76 ADDED TO TABLE A AND TO THE ENGINEERING NOTES. IN STOCK-LIST ITEM 1260 COMCODE 847284379 READ 843071531; ITEM 1270 COM-CODE 995838612 READ 400629903; ITEM 1680 COMCODE 847241536 READ 845312321.		ORIG ISS: 03/24/93	
DRAFT: MR		ENGR: GSC	SUPV:
CERTIFIED: 04/13/94		ISSUE: 2	
CHANGED: PROPRIETARY CODE READ "AT&T PROPRIETARY USE PURSUANT TO COMPANY INSTRUCTIONS". DA'D GROUPS 1 THRU 17.			
REMOVED: LINED-OUT STOCK LIST ITEMS 1010 THRU 1740.			
ORIG ISS: 03/24/93		NDD NBR: H09084	CHANGE CLASS: ME
DRAFT: JCJ	ENGR: JCJ	SUPV: EJZ	CERTIFIED: 08/03/00
ISSUE: 3			

SHEET INDEX

SHT NBR	A1 THRU A2 ISSUE 3											
ISSUE	D1 THRU D3 ISSUE 3											
SHT NBR	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	
ISSUE	1	1	1	1	1	1	1	1	1	1	1	
SHT NBR	B12	B13	B14									
ISSUE	1	1	1									
SHT NBR												
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TABLE OF CONTENTS	
DESCRIPTION	SHT
SHEET INDEX	A1
ISSUE NOTES	A1
ENGINEERING-NOTES	A1
TABLE A	A2
B SECTION GRAPHICS	B1
MANUFACTURING NOTES	D1
STOCKLIST	D1

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5ESS-2000 SWITCH CABINET LIGHTING	BT13
DWG SIZE C2	ISSUE 3
LUCENT TECHNOLOGIES INC ED5D753-70	
SHEET A1 OF 19	

TABLE A-FEATURES											
EQUIPMENT		EQUIPMENT OR CIRCUIT DATA						SD EQUIVALENT			
DESCRIPTION	REF NOTE	RAT-ING	LIST OR GROUP	QTY	EQUIPMENT OR CIRCUIT	L/G OR FIG	WRG	APP	SCHEMATIC	FIG	OPT
HARDWARE MATERIAL REQUIRED TO SUPPORT LIGHT FIXTURES FROM TWO 5ESS CABINET LINEUPS. RA: ED5D753-71,G-1	76	DA	1								
HARDWARE MATERIAL REQUIRED TO SUPPORT LIGHT FIXTURES FROM A SINGLE 5ESS CABINET LINEUP. RA: ED5D753-71,G-1		DA	2								
MATERIAL REQUIRED TO PROVIDE APPLIANCE OUTLET AND RISER FOR CABINET END GUARD. RA: ED5D753-71,G-3		DA	3								
LIGHT SWITCH FOR END GUARD (SNAP-IN) AND ASSOCIATED DETAILS. RA: ED5D753-71,G-4		DA	4								
RELAY BOX ASSEMBLY EQUIPPED WITH 4 RR-7 24V RELAYS, ONE RA16 RECTIFIER, TWO TERM. STRIPS & ONE RT-1 TRANSFORMER, 120V AND 10 FT. SECTION OF RACEWAY. RA: ED4C012-13,G-28		DA	5								
RELAY BOX ASSEMBLY EQUIPPED WITH 4 RR-7 24V RELAYS, ONE RA-16 RECTIFIER, TWO TERM. STRIPS & ONE RT-2 TRANSFORMER, 277V AND 10 FT. SECTION OF RACEWAY. RA: ED4C012-13,G-29		DA	6								
RELAY BOX ASSEMBLY EQUIPPED WITH 4 RR-7 24V RELAYS, ONE RA-16 RECTIFIER & TWO TERM. STRIPS W/O TRANSFORMER AND 10 FT. SECTION OF RACEWAY. RA: ED4C012-13,G-30		DA	7								
MATERIAL FOR ONE 10 FT. SECTION OF RACEWAY EQUIPPED WITH ONE 10 FT. BASE, TWO 5 FT. COVERS, COUPLING AND CLIPS. RA: ED5D753-71,G-8		DA	8								
SPLICE BRACKET FOR U-CHANNEL. RA: ED4C012-13,G-26		DA	9								
CONDUIT SUPPORTS 1/2" TO U-CHANNEL. RA: ED4C687-71,G-28		DA	10								
CONDUIT SUPPORTS 3/4" TO U-CHANNEL. FE/RA: NONE		DA	11								
CONDUIT SUPPORTS 1" TO U-CHANNEL. RA: ED4C687-71,G-29		DA	12								
ONE PACKAGE, AT 8742 CABLE TIES. 100/PKG. FE/RA: NONE		DA	13								
ONE CHANNEL SUPPORT 1 5/8 X 7/8, 10 FT. LONG. RA: ED4C012-13,G-26		DA	14								
ONE BLANK COVER FOR END GUARD W/O APPLIANCE OUTLET. RA: ED5D753-71,G-15		DA	15								
MATERIAL REQUIRED TO ATTACH AT-1100 RACEWAY TO LIGHTING FIXTURE. RACEWAY. RA: ED5D753-71,G-8		DA	16								
MATERIAL REQUIRED TO PROVIDE AC SERVICE TO THE OPPOSITE END OF THE CABINET LINEUP. RA: ED5D753-71,G-3		DA	17								
END OF TABLE-A											

ED5D753-70

## ENGINEERING NOTES

\*\*\*\*\* CONTINUED \*\*\*\*\*

EXAMPLE, LONG DISTG FRAMES MAY REQUIRE 4 BRANCH CIRCUITS DUE TO CKT CAPACITY. THIS WOULD PERMIT ONE SW TO OPERATE ALL THE RELAYS AT THE SAME TIME. THIS IS ACCOMPLISHED BY MULTING THE R TO R, BL TO BL & BK TO BK RELAY WIRES AT THE RELAY BOX TERM STRIP.

74. A MINIMUM OF TWO CIRCUITS SHALL BE PROVIDED PER CONTROL GROUP FOR APPLIANCE OUTLETS. EACH CIRCUIT SHALL POWER OPPOSITE ENDS OF THE LINEUPS.
75. CONDUITS ASSOCIATED WITH GROUP 3 MUST BE GROUNDED AT THE GROUND WINDOW BEFORE COMING IN CONTACT WITH ESS FRAMEWORK, REFER TO ED-5D022-11.
76. GRAPHIC SHEET B1 DEPICTES EQUIPMENT WITH A VARIABLE WIDTH WIRING AISLE AND CANTILEVERED SUPPORTING CHANNELS FOR 34" (INCH) EQUIPMENT AISLES. LINE ENGINEER SHALL ALWAYS SPECIFY IN THE JOB SPEC. DIMENSION "A" EQUAL TO WIRING AISLE FOR COMCODE 847056959, THEN THE VENDOR WILL AUTOMATICALLY ADD PER COMCODE DRAWING 86" (INCH) INITIALLY GIVEN FOR CHANNEL TO SPAN OVER TWO FRAMES AND A FULL 34" (INCH) WIDTH OF EQUIPMENT AISLE (TWO HALFS SHOWN); ADDITIONAL MATERIAL IS ALSO ALREADY INCLUDED TO PASS OVER THE CENTER LINE OF LIGHT FIXTURES. IF EQUIPMENT AISLE IS WIDER THAN 34" (INCH) AND MORE LENGTH IS NEEDED PER FIG.1 (FOR SPLICING), THE LINE ENGINEER SHALL ADD THE REQUIRED AMOUNT TO THE WIRING WIDTH AND WRITE DIMENSION "A" IN THE JOB SPEC. BEHIND COMCODE 847056959.

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BT13

5ESS-2000  
SWITCH CABINET LIGHTING

DWG SIZE  
C2

ISSUE  
3

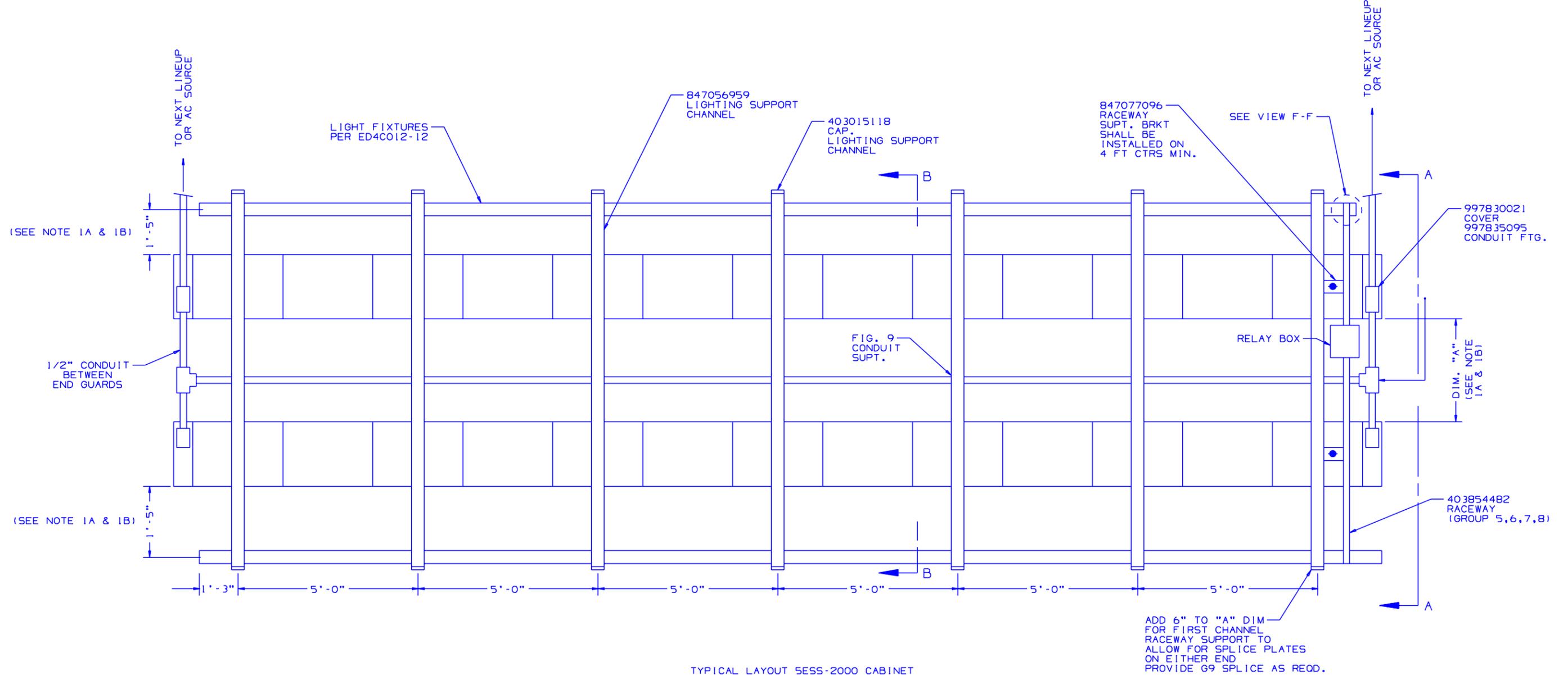
LUCENT TECHNOLOGIES INC ED5D753-70

SHEET A2  
OF 19

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NOTES:

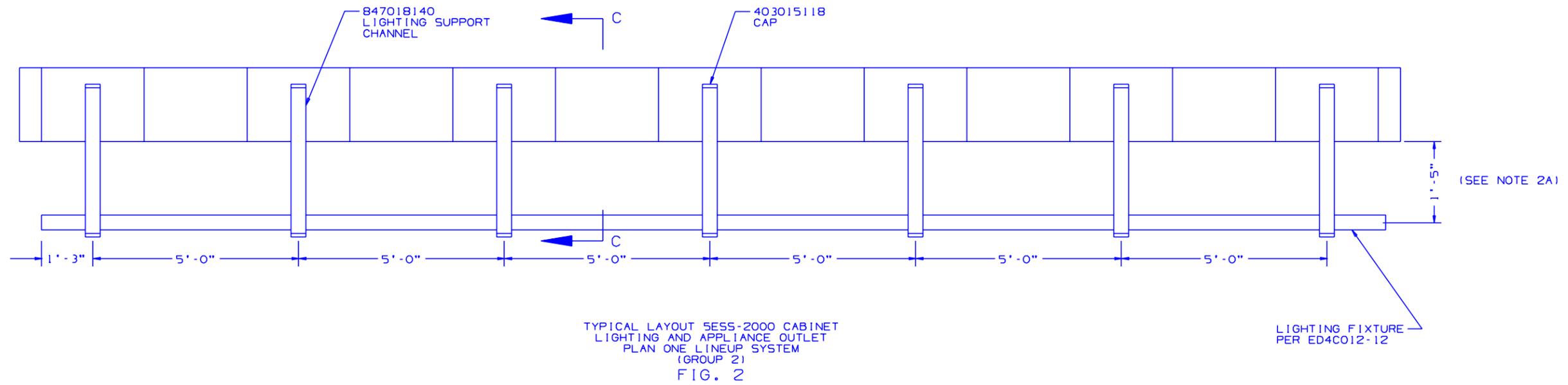
- 1A. THE ENGINEER SHALL ORDER THE NECESSARY 847056959 LIGHTING SUPPORT CHANNELS WITH 'A' DIMENSION AS REQUIRED. THE 'A' DIMENSION IS THE NOMINAL WIRING AISLE WIDTH, WITH A 34" FRONT AISLE. (SEE VIEW A-A)
- 1B. PROVIDE TWO ROWS OF LIGHTING FIXTURES, WHEN EQUIPMENT AISLE IS 4'-0" WIDE OR GREATER OR ADD APPROPRIATE LENGTH TO CHANNEL 'A' DIM IF AISLE IS OTHER THAN 34" (AS SHOWN) TO INSURE LIGHT FIXTURE ARE CENTERED IN AISLE.



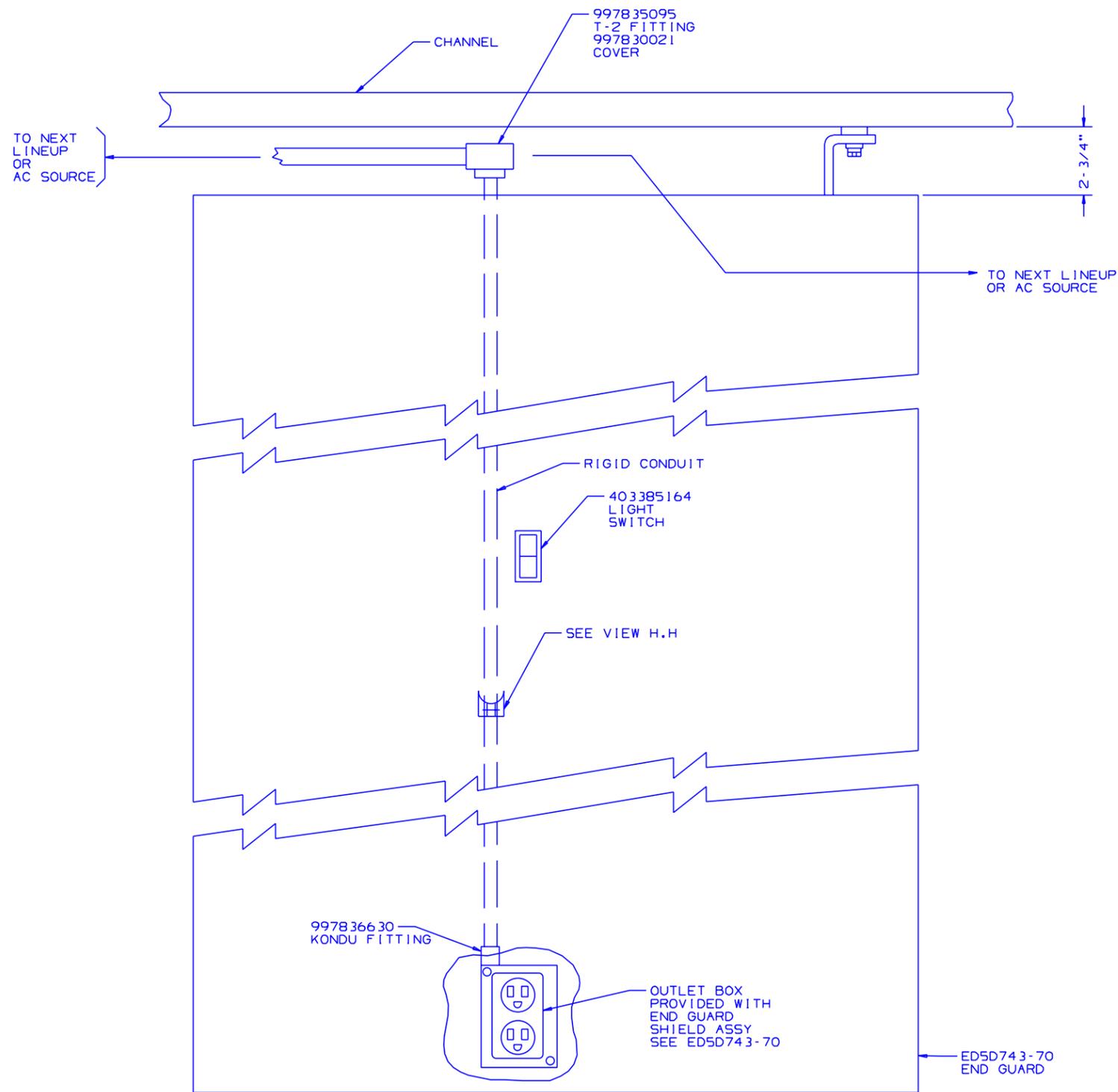
TYPICAL LAYOUT 5ESS-2000 CABINET  
 LIGHTING AND APPLIANCE OUTLET  
 PLAN TWO LINEUP SYSTEM  
 (GROUP 1)  
 FIG. 1

SEE PROPRIETARY NOTICE ON SHEET ONE		
5ESS-2000 SWITCH CABINET LIGHTING		DWG SIZE C2
		ISSUE 1
AT&T	ED5D753-70	SHEET B1

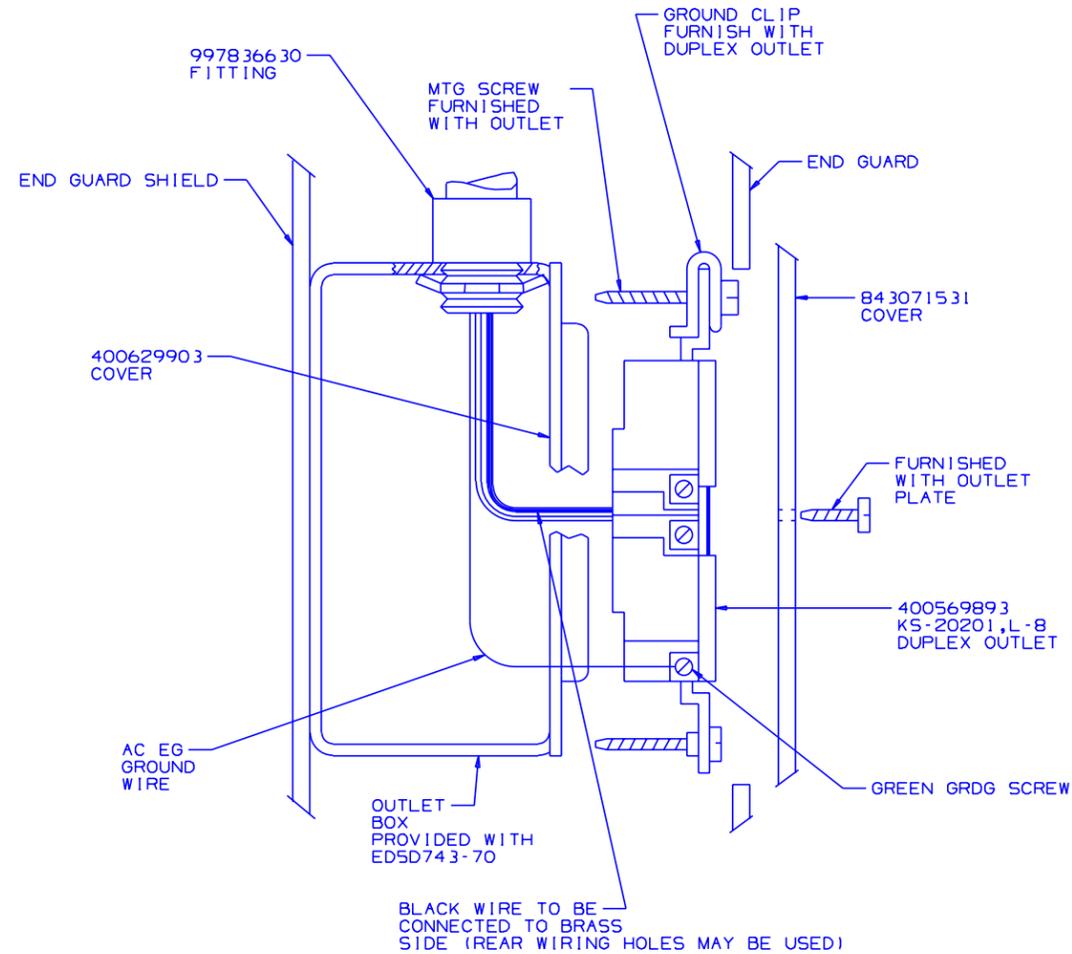
NOTES:  
 2A. THE ENGINEER SHALL ORDER THE NECESSARY 847056959 LIGHTING SUPPORT CHANNELS WITH 'A' DIMENSION AS REQUIRED. THE 'A' DIMENSION IS THE NOMINAL WIRING AISLE WIDTH, WITH A 34" FRONT AISLE. (SEE VIEW A-A)



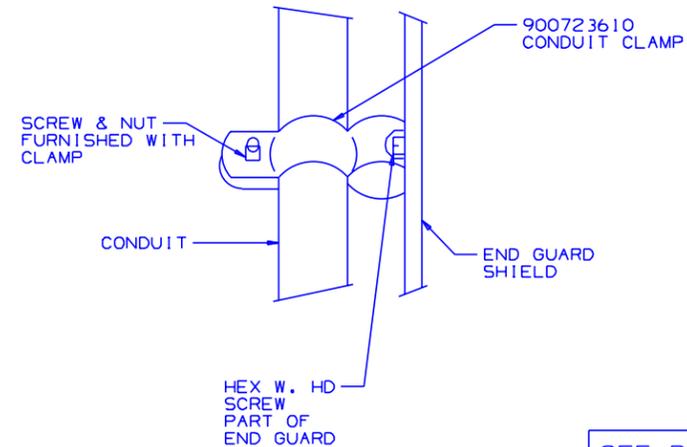
SEE PROPRIETARY NOTICE ON SHEET ONE		
SESS-2000 SWITCH CABINET LIGHTING		DWG SIZE C2
		ISSUE 1
AT&T	ED5D753-70	SHEET B2



TYPICAL APPLIANCE OUTLET AND CONDUIT RISER  
 FIG. 3  
 (GROUP 3)



TYPICAL METHOD OF WIRING OUTLET BOX  
 FIG. 4



VIEW H-H

SEE PROPRIETARY NOTICE ON SHEET ONE		
5ESS-2000 SWITCH CABINET LIGHTING		DWG SIZE C2
		ISSUE 1
AT&T	ED5D753-70	SHEET B3

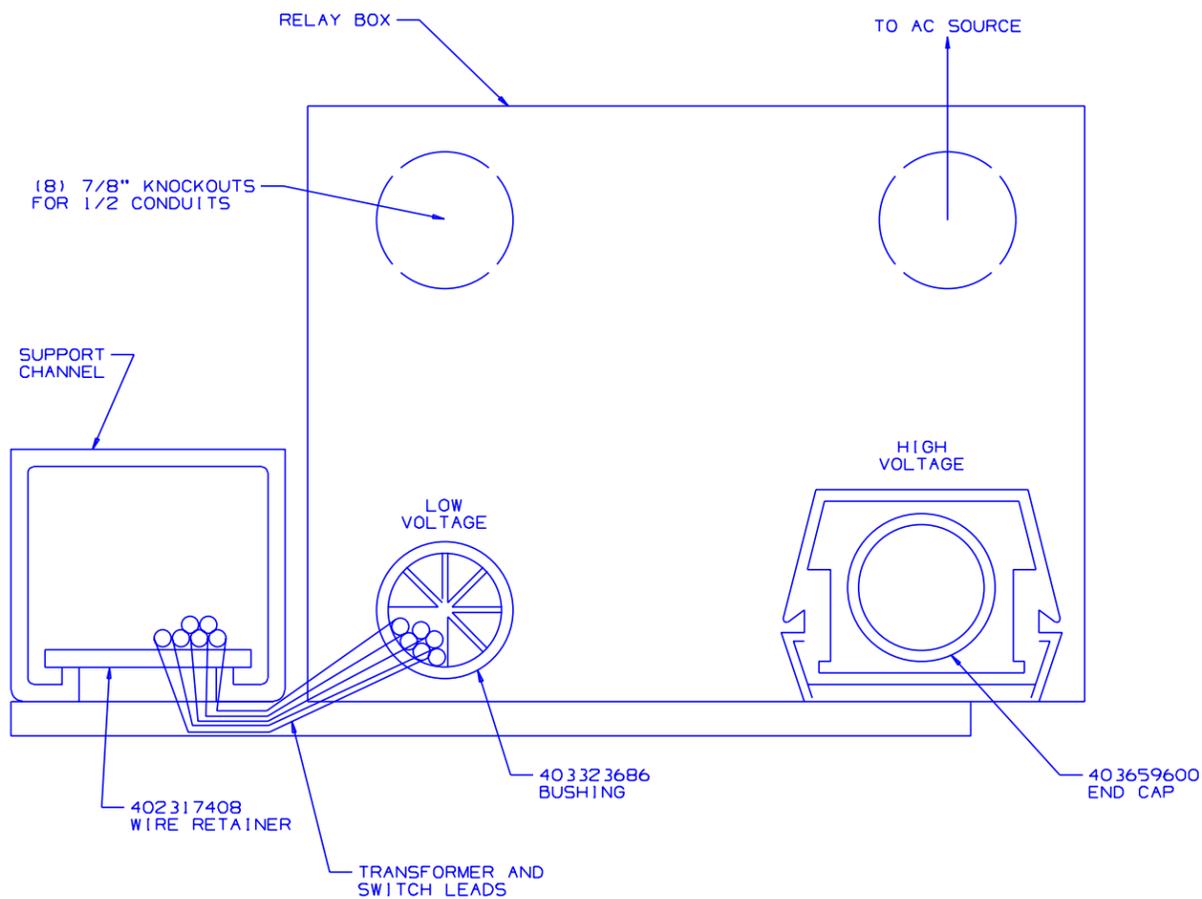


FIG. 5  
TYPICAL CABLE DRESS OF  
LOW VOLTAGE WIRING

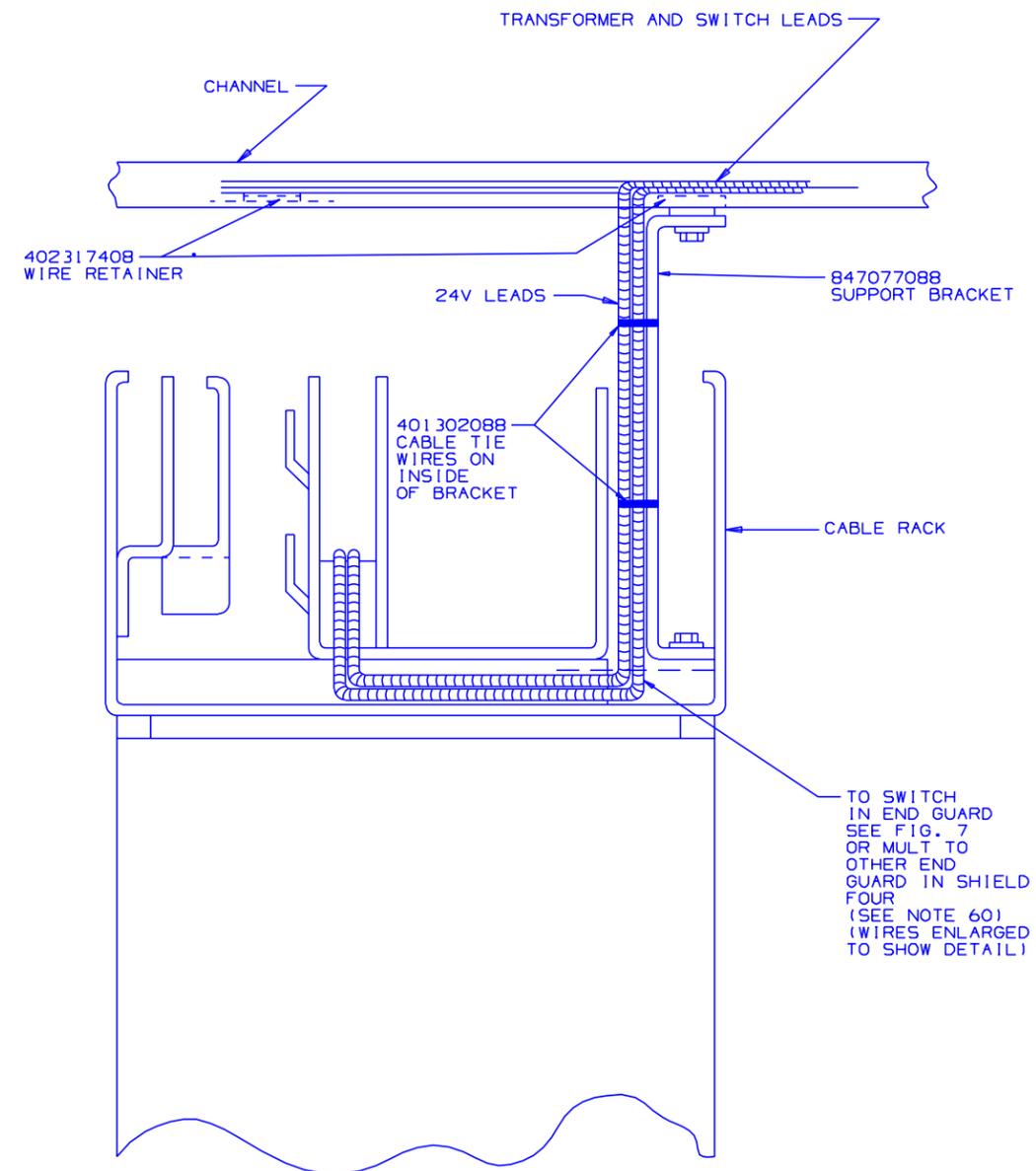


FIG. 6  
TYPICAL CABLE DRESS OF  
SWITCH LEADS FEEDING  
INTO CABLE RACK

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5ESS-2000 SWITCH CABINET LIGHTING		DWG SIZE C2
AT&T		ISSUE 1
ED5D753-70		SHEET B4
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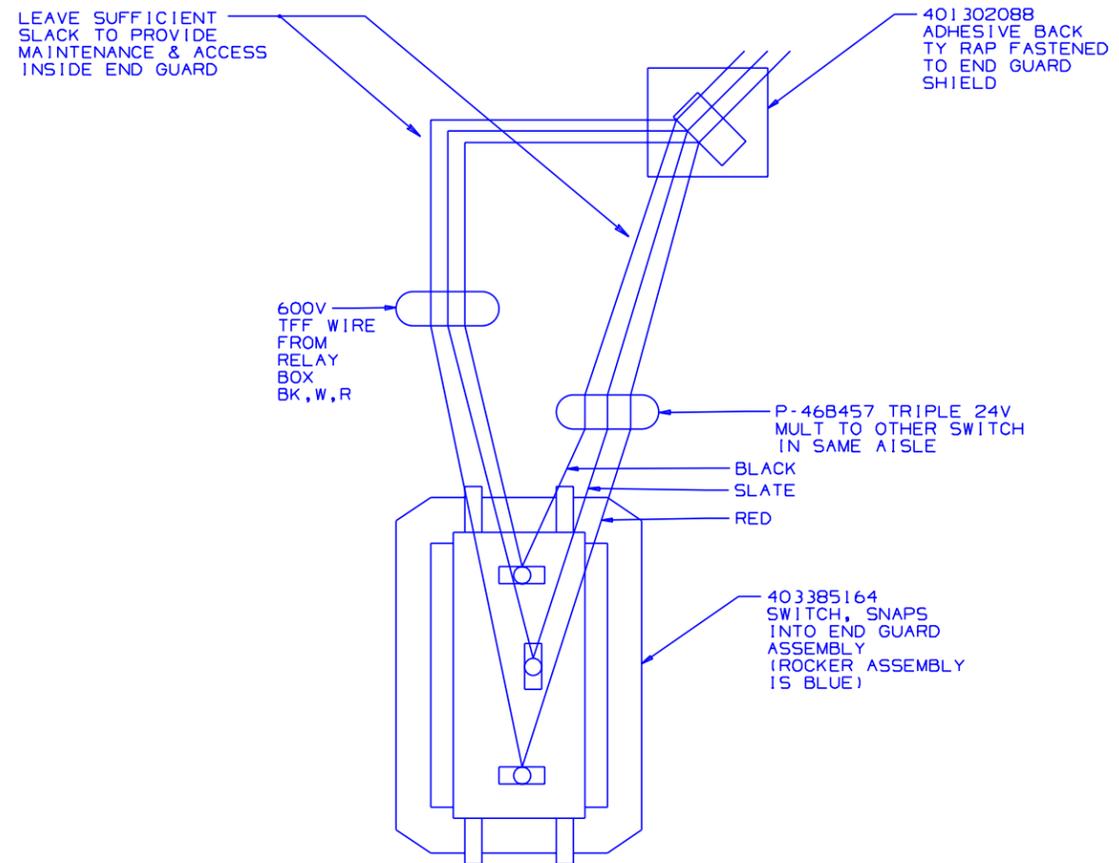


FIG. 7  
PARTIAL VIEW OF BACK SIDE OF END GUARD DOOR SHOWING SNAP-IN SWITCH ASSEMBLY

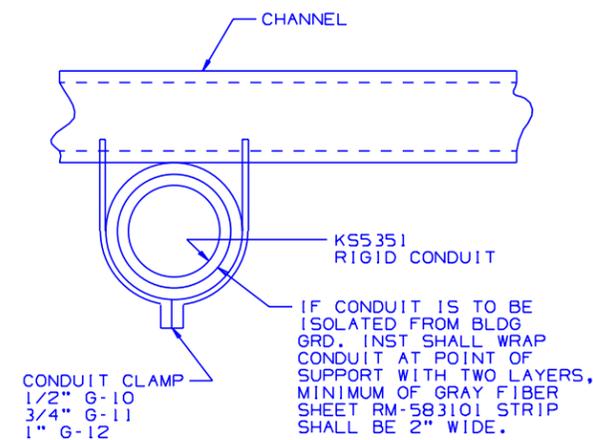


FIG. 9  
TYPICAL ARRANGEMENT FOR SUPPORTING CONDUIT UNDER "U" CHANNEL

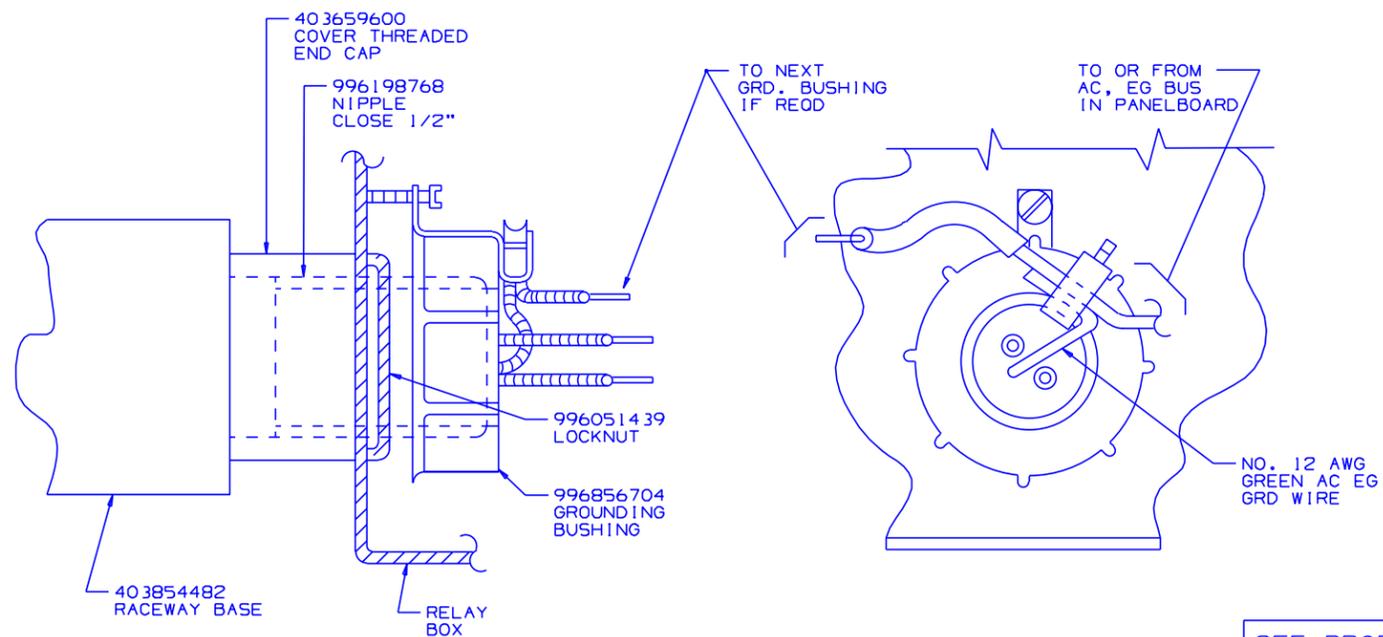


FIG. 8  
TYPICAL ARRANGEMENT FOR RACEWAY (CONDUIT) CONNECTIONS TO RELAY, SPLICE OR PULL BOX

SEE PROPRIETARY NOTICE ON SHEET ONE

SESS-2000 SWITCH CABINET LIGHTING		DWG SIZE	ISSUE
		C2	1
AT&T	ED5D753-70	SHEET B5	

TABLE B

LIST OF STANDARD NEW EQUIPMENT OR REPLACEMENT FLUORESCENT LIGHTING FIXTURE BALLAST FOR CKT FIGURES A THRU C												
COL	CKT FIGURE	BALLAST MFR. AND CAT. NO.	RATING	CKT FIGURE	BALLAST MFR. AND CAT. NO.	RATING	CKT FIGURE	BALLAST MFR. AND CAT. NO.	RATING	CKT FIGURE	BALLAST MFR. AND CAT. NO.	RATING
	A	B	C	D	E	F	G	H	J	K	L	M
	A 2-40W LAMPS 120V	AIREY-THOMP. SL5500-2/40-120SS	STD STD(1)	B 2-40W LAMPS 277V	AIREY-THOMP. SL5500-2/40-277SS	STD	C 1-40W LAMP 120V	AIREY-THOMP. SL5500-1/40-120SS	STD  STD	C 1-40W LAMP 277V	AIREY-THOMP. SL5500-1/40-277SS	STD

TABLE C

LIGHTING BRANCH CIRCUIT CAPACITY - FLUORESCENT FIXTURES E/W 1-40W, 2-40W LAMPS AND HIGH POWER FACTOR BALLAST											
VOLTS	CKT OVCURR PROT	NO. OF CONDUCT IN* RACEWAY	CONTROL RELAY	BRANCH CKT MAX LOAD		MAX FIXTURES PER BRANCH CKT			CUMULATIVE ALLOWABLE LAMP WATTS PER BR CKT		
				AMPS	WATTS	—	2-40W	1-40W	—	2-40W	1-40W
120	15A	≤6	20AMP	12.0	1440	—	14	27	—	1120	1080
120	15A	7-24	20AMP	10.5	1260	—	12	24	—	960	960
120	20A	≤6	20AMP	16.0	1920	—	19	36	—	1520	1440
120	20A	7-24	20AMP	14.0	1680	—	16	32	—	1280	1280
120	20A	25-42	20AMP	12.0	1440	—	14	27	—	1120	1080
277	15A	≤6	20AMP	12.0	3320	—	32	63	—	2560	2520
277	15A	7-24	20AMP	10.5	2900	—	28	55	—	2240	2200
277	20A	≤6	20AMP	16.0	4430	—	43	85	—	3440	3400
277	20A	7-24	20AMP	14.0	3880	—	38	74	—	3040	2960
277	20A	25-42	20AMP	12.0	3325	—	32	63	—	2560	2520

\* INCLUDES NEUTRAL WIRES PER NEC ARTICLE 310-15 NOTE B AND 10C.  
DO NOT INCLUDE "EG" EQUIPMENT GROUNDING CONDUCTOR.

TABLE D

LINE	POWER INPUT PER FIXTURE E/W 1-40W, 2-40W LAMPS & HIGH POWER FACTOR BALLAST							
	VOLTS	FIXTURE LAMPS						
		2-40W		—		1-40W		
	A	W	—	—	A	W		
1	120V	0.8	100	—	—	0.4	52	
2	277V	0.37	102	—	—	0.19	52	

SEE PROPRIETARY NOTICE ON SHEET ONE

5ESS-2000 SWITCH CABINET LIGHTING		DWG SIZE C2	ISSUE 1
		AT&T	ED5D753-70 SHEET B6



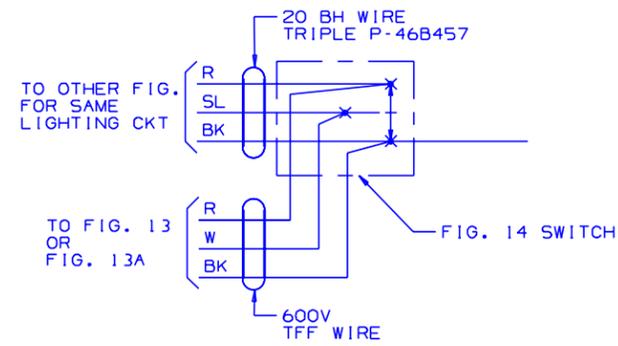


FIG. 16  
LIGHTING SWITCH LEAD SPLICE IN END GUARD

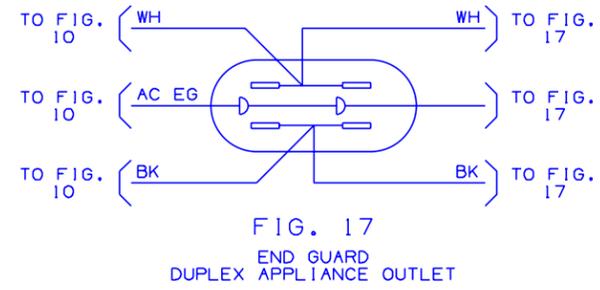


FIG. 17  
END GUARD  
DUPLEX APPLIANCE OUTLET

SEE PROPRIETARY NOTICE ON SHEET ONE

SESS-2000 SWITCH CABINET LIGHTING		
DWG SIZE C2	ISSUE 1	
AT&T	ED5D753-70	SHEET B8

FIG. A  
 SENTINEL LIGHTING FIXTURE  
 2 40 WATT RAPID START LAMPS  
 120V OR 277V  
 (WIRED FOR NORMAL AISLE LTG.)

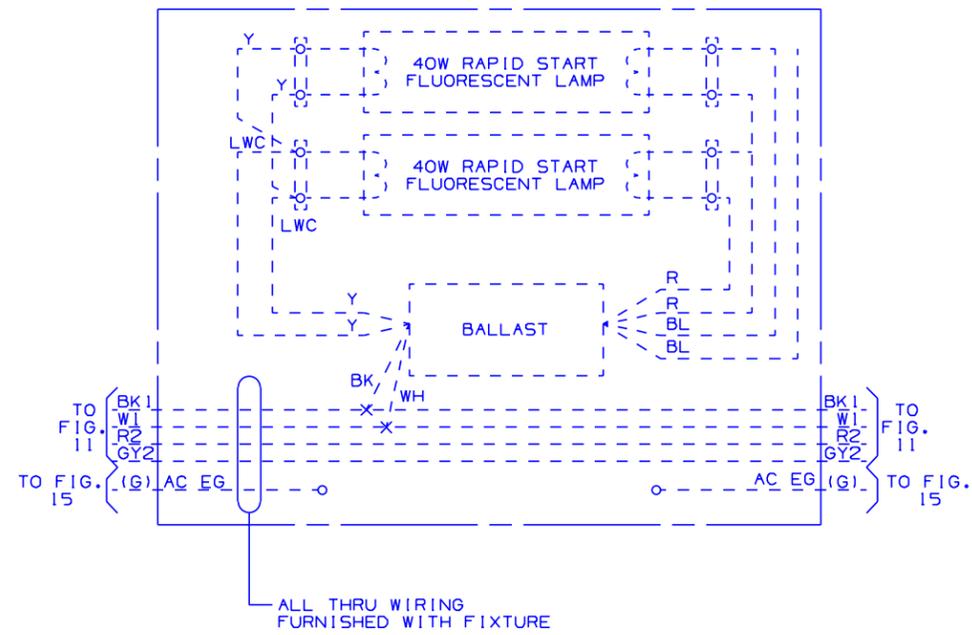


FIG. B  
 SENTINEL LIGHTING FIXTURE  
 1 40 WATT RAPID START LAMP  
 120V OR 277V  
 (WIRED FOR NORMAL AISLE LTG.)

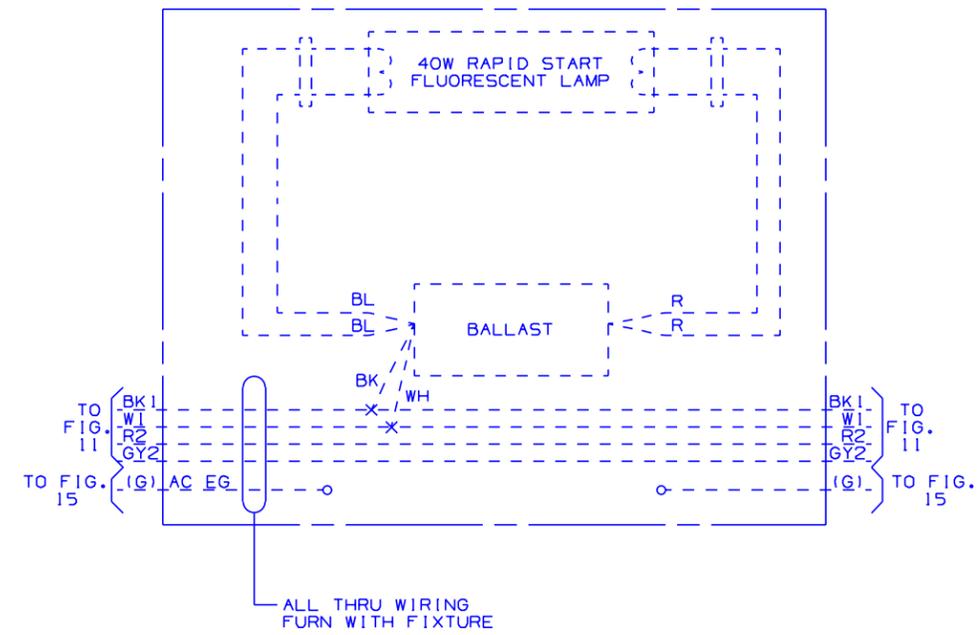
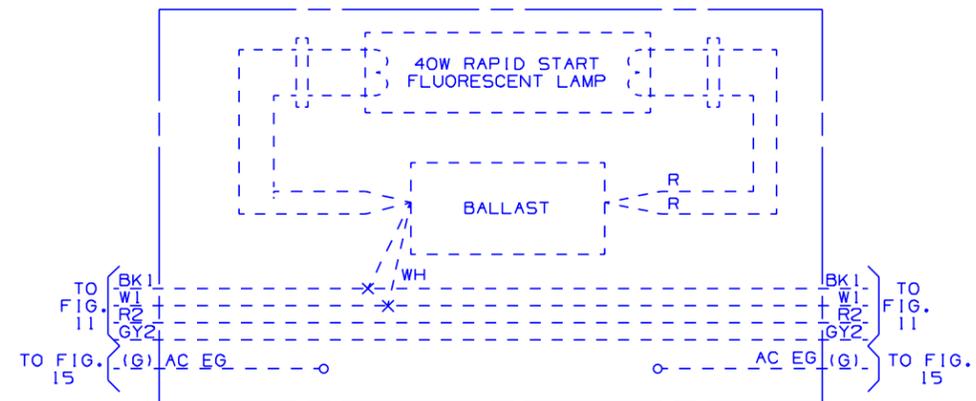


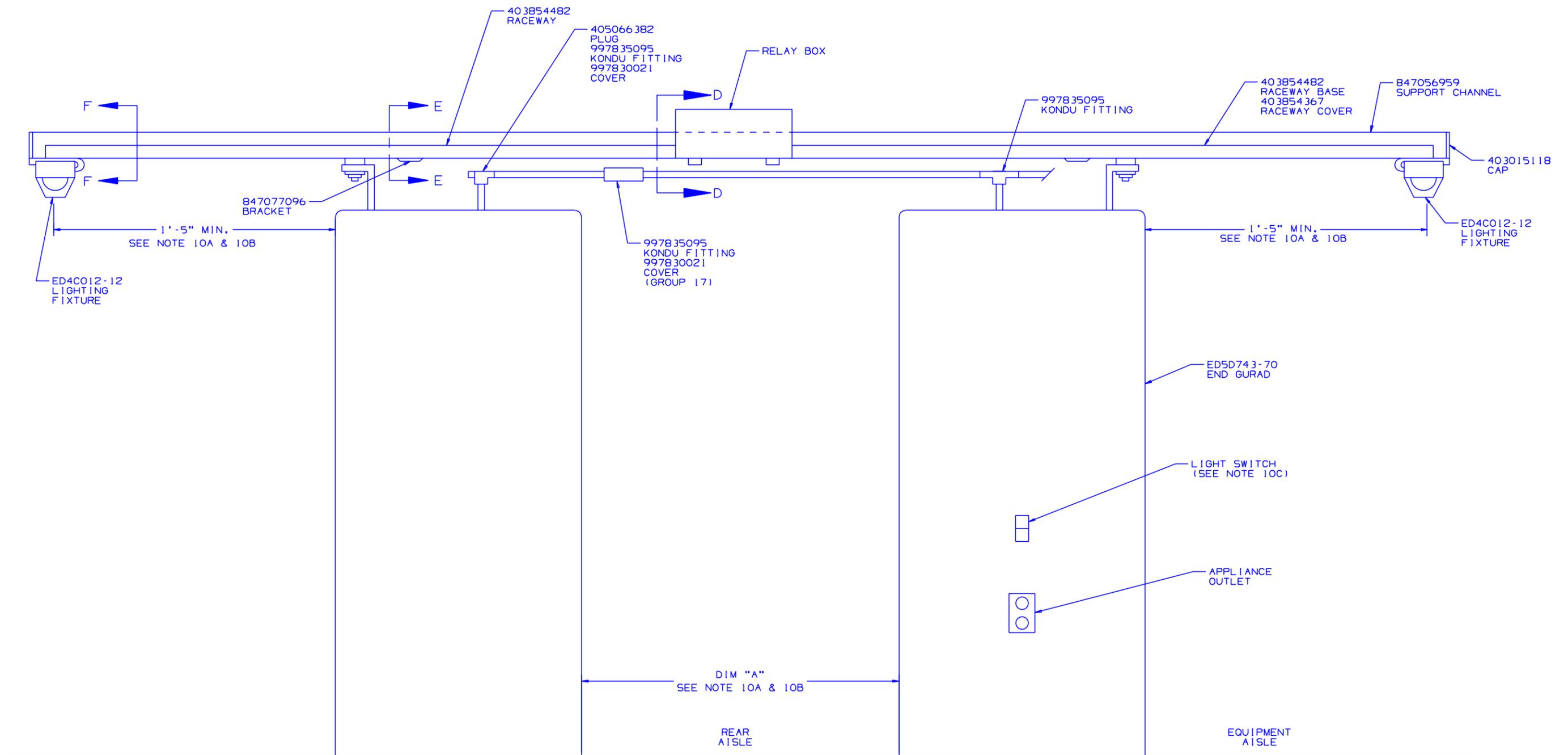
FIG. C  
 SENTINEL LIGHTING FIXTURE  
 1 40 WATT RAPID START LAMP  
 120V OR 277V  
 (WIRED FOR LOW INTENSITY LTG.)



SEE PROPRIETARY NOTICE ON SHEET ONE		
5ESS-2000 SWITCH CABINET LIGHTING		DWG SIZE C2
		ISSUE 1
AT&T	ED5D753-70	SHEET B9

NOTES:

- 10A. THE ENGINEER SHALL ORDER THE NECESSARY 847056959 LIGHTING SUPPORT CHANNELS WITH 'A' DIMENSION AS REQUIRED. THE 'A' DIMENSION IS THE NOMINAL WIRING AISLE WIDTH, WITH A 34" FRONT AISLE. (SEE VIEW A-A)
- 10B. PROVIDE TWO ROWS OF LIGHTING FIXTURES WHEN EQUIPMENT AISLE IS 4'-0" WIDE OR GREATER OR ADD APPROPRIATE LENGTH TO CHANNEL 'A' DIM IF AISLE IS OTHER THAN 34" (AS SHOWN) TO INSURE LIGHT FIXTURES ARE CENTERED IN AISLE.
- 10C. LIGHT SWITCH SHALL BE MOUNTED ON LEFT AS YOU ENTER THE EQUIPMENT AISLE.



VIEW A-A

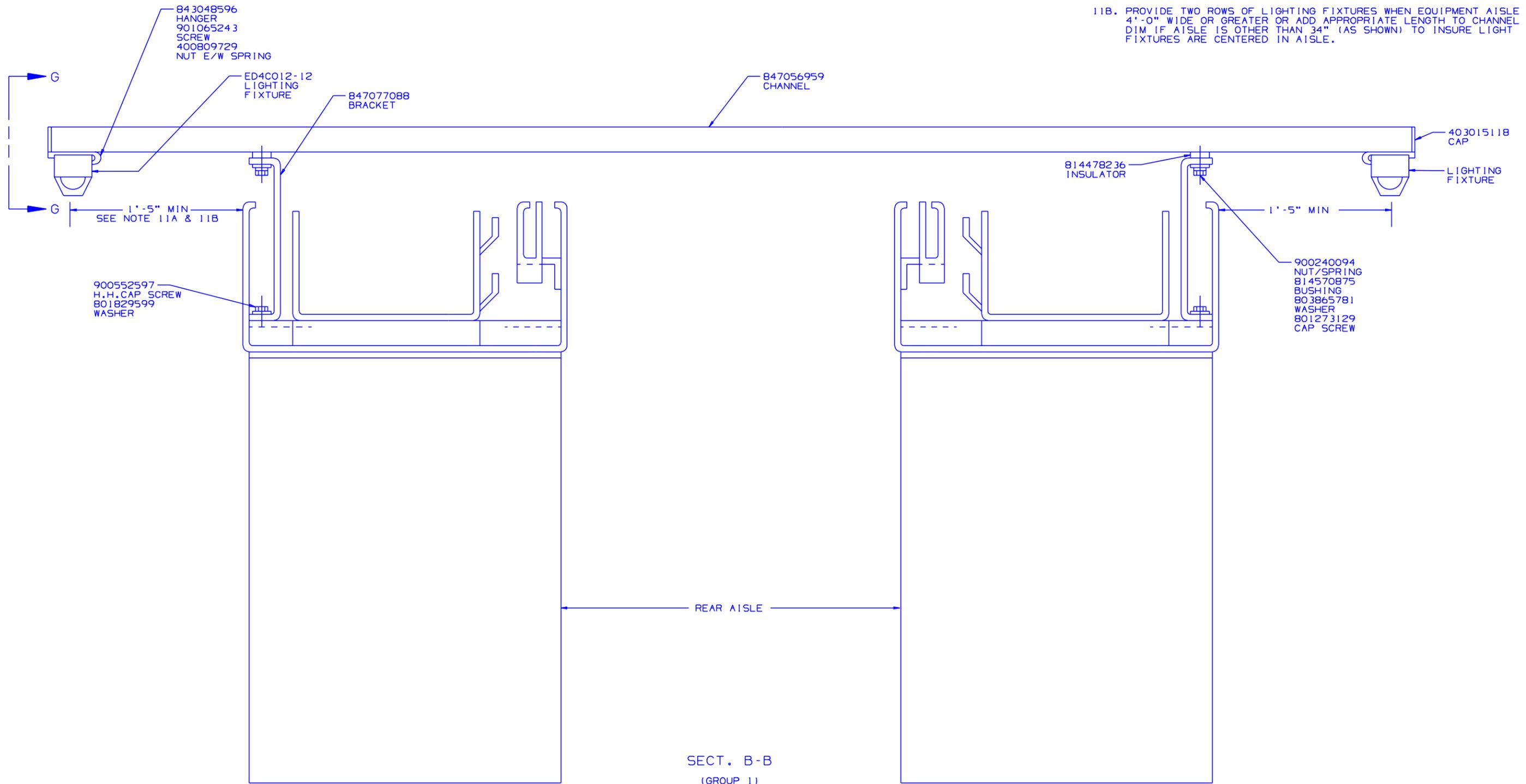
SEE PROPRIETARY NOTICE ON SHEET ONE		
SESS-2000 SWITCH CABINET LIGHTING		DWG SIZE C2
		ISSUE 1
AT&T	ED5D753-70	SHEET B10

ED5D753-70

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NOTES:

- 11A. THE ENGINEER SHALL ORDER THE NECESSARY 847056959 LIGHTING SUPPORT CHANNELS WITH 'A' DIMENSION AS REQUIRED. THE 'A' DIMENSION IS THE NOMINAL WIRING AISLE WIDTH, WITH A 34" FRONT AISLE. (SEE VIEW A-A)
- 11B. PROVIDE TWO ROWS OF LIGHTING FIXTURES WHEN EQUIPMENT AISLE IS 4'-0" WIDE OR GREATER OR ADD APPROPRIATE LENGTH TO CHANNEL 'A' DIM IF AISLE IS OTHER THAN 34" (AS SHOWN) TO INSURE LIGHT FIXTURES ARE CENTERED IN AISLE.



REAR AISLE

SECT. B-B  
(GROUP 1)

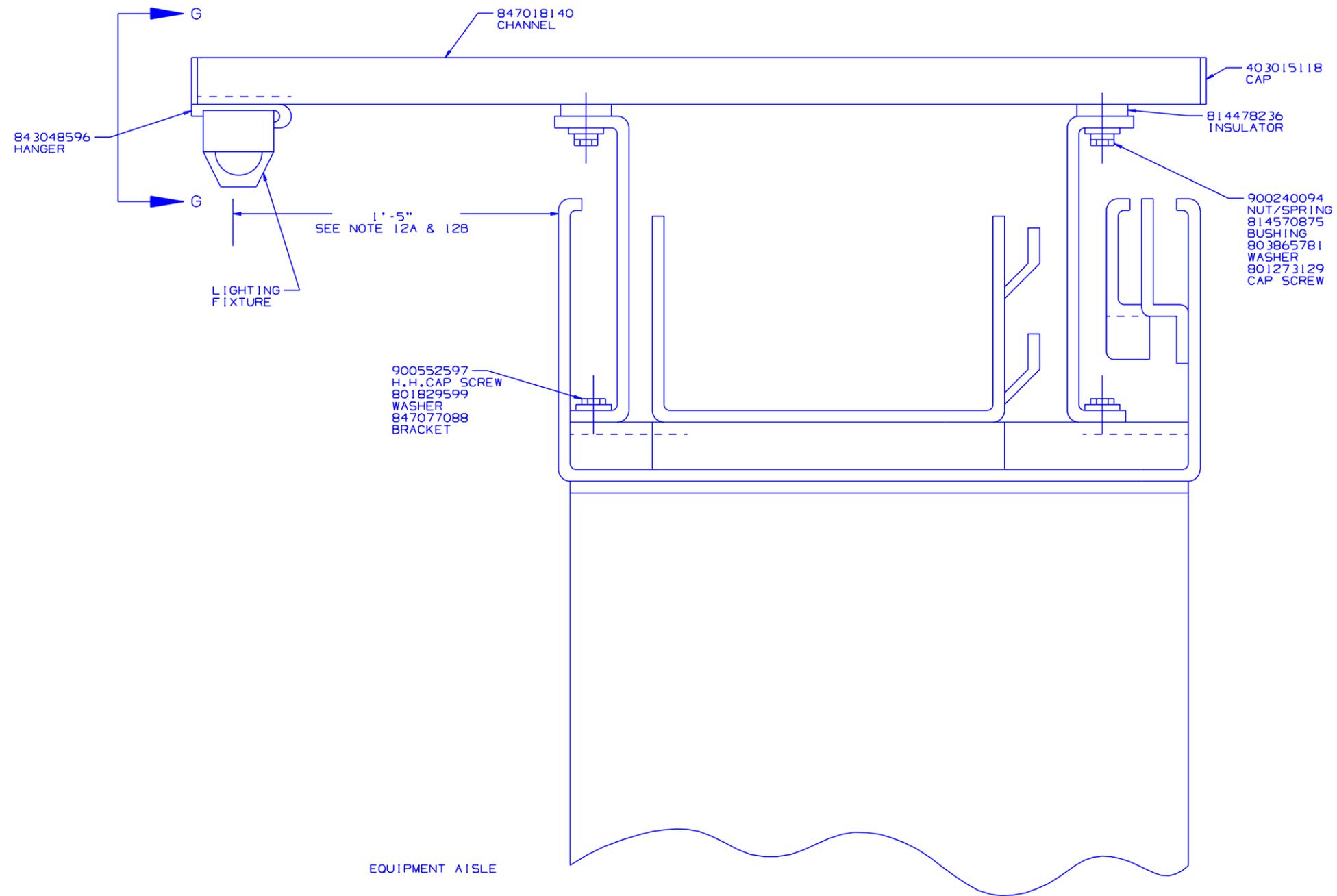
SEE PROPRIETARY NOTICE ON SHEET ONE		
5ESS-2000 SWITCH CABINET LIGHTING		DWG SIZE C2
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ED5D753-70	ED5D753-70	SHEET B11

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NOTES:

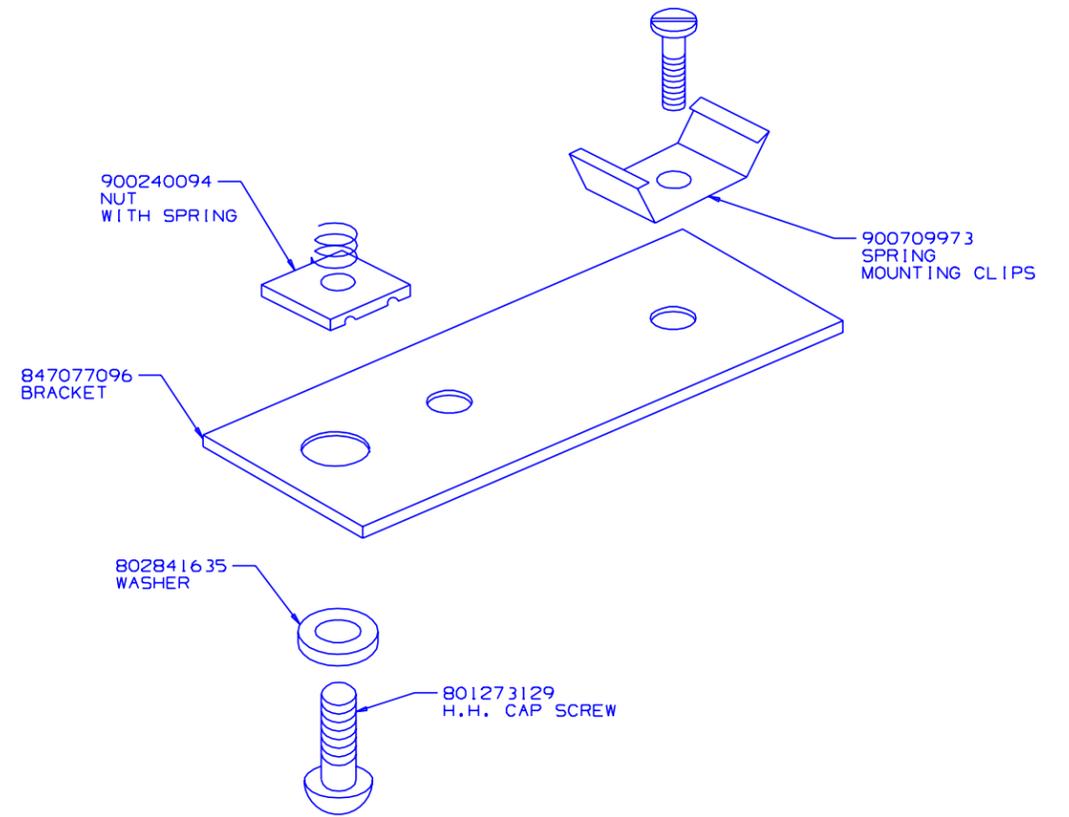
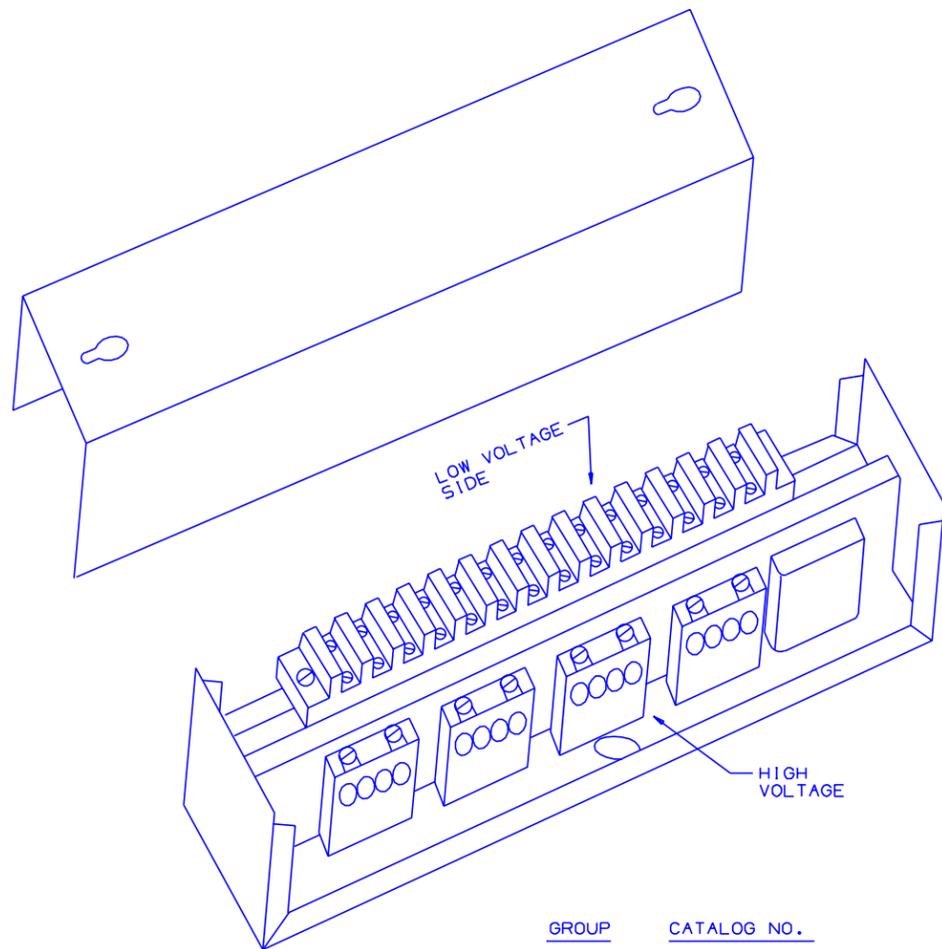
- 12A. THE ENGINEER SHALL ORDER THE NECESSARY 847056959 LIGHTING SUPPORT CHANNELS WITH 'A' DIMENSION AS REQUIRED. THE 'A' DIMENSION IS THE NOMINAL WIRING AISLE WIDTH, WITH A 34" FRONT AISLE. (SEE VIEW A-A)
- 12B. PROVIDE TWO ROWS OF LIGHTING FIXTURES WHEN EQUIPMENT AISLE IS 4'-0" WIDE OR GREATER OR ADD APPROPRIATE LENGTH TO CHANNEL 'A' DIM IF AISLE IS OTHER THAN 34" (AS SHOWN) TO INSURE LIGHT FIXTURES ARE CENTERED IN AISLE.



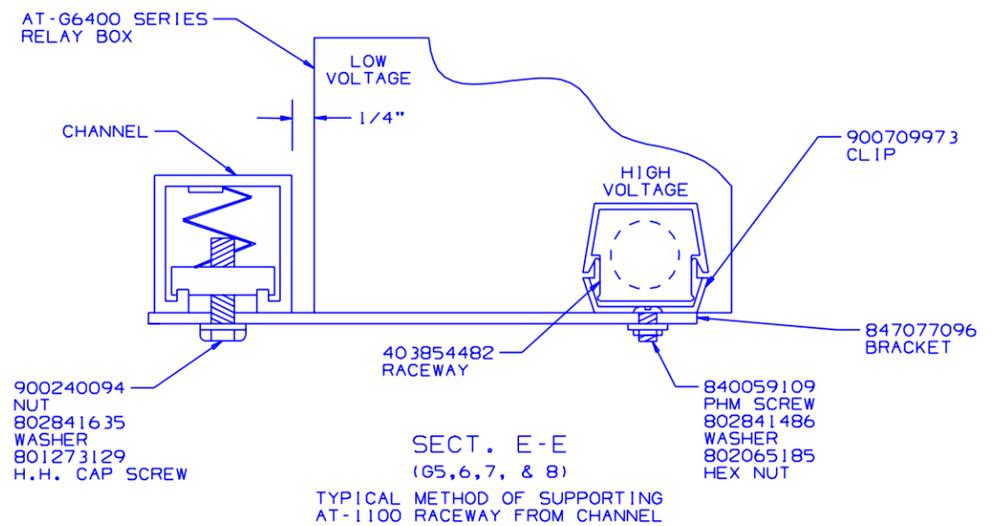
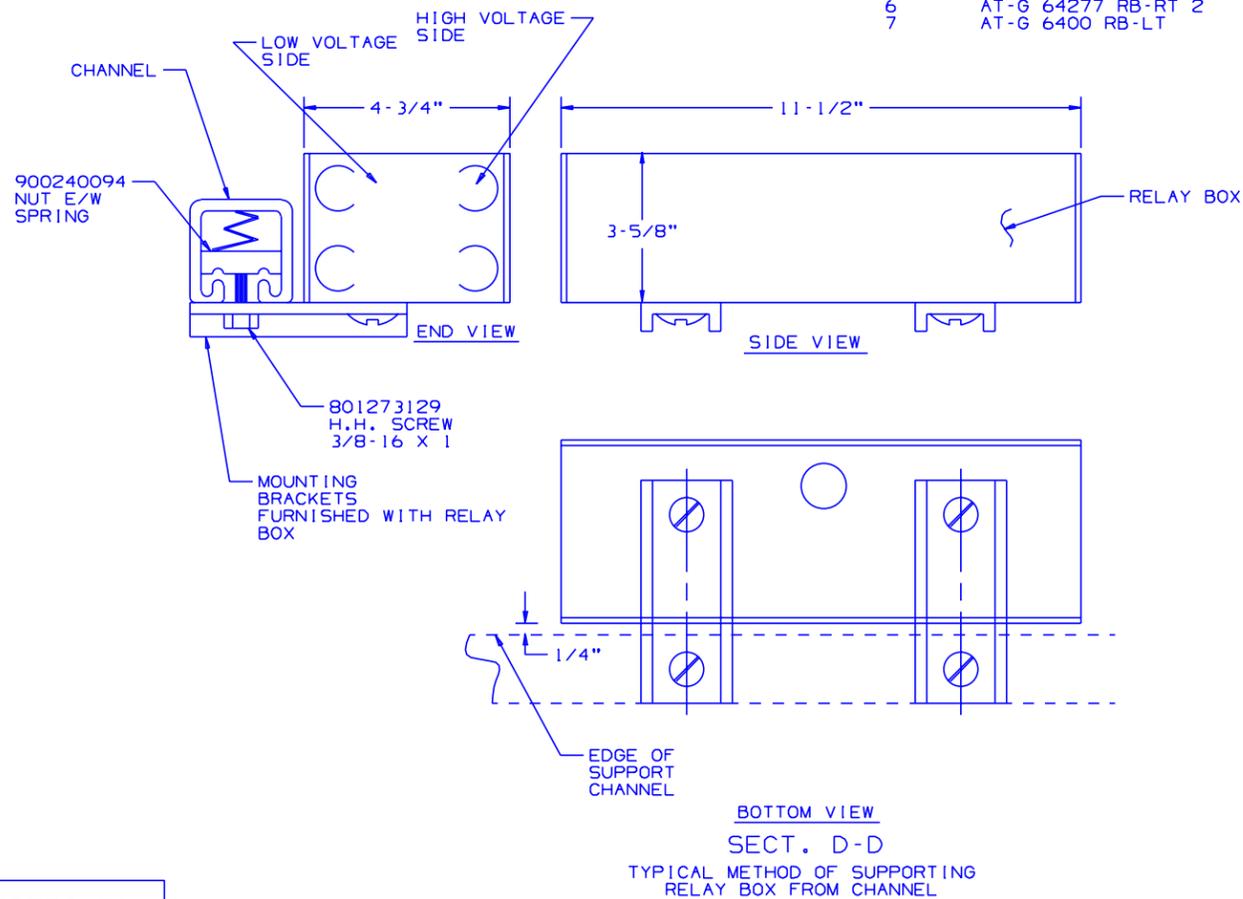
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SESS-2000 SWITCH CABINET LIGHTING		DWG SIZE C2
		ISSUE 1
AT&T	ED5D753-70	SHEET B12

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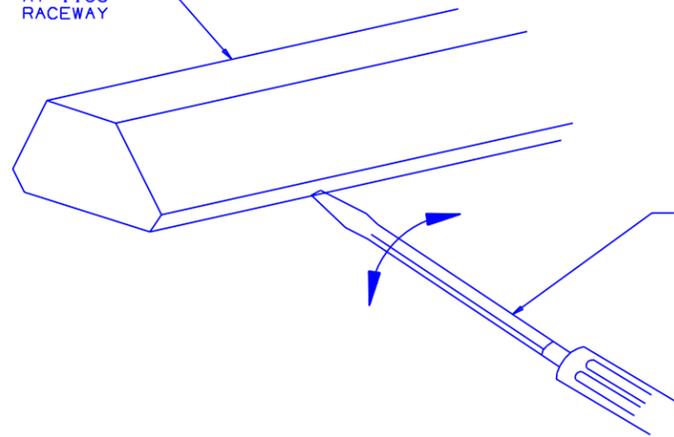


GROUP	CATALOG NO.	TRANSFORMER
5	AT-G 6400 RB-RT 1	120 VOLT
6	AT-G 64277 RB-RT 2	277 VOLT
7	AT-G 6400 RB-LT	W/O TRANSFORMER

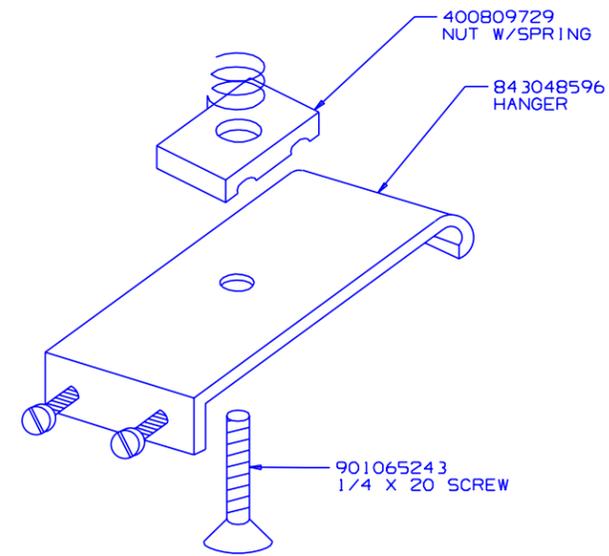


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5ESS-2000 SWITCH CABINET LIGHTING		DWG SIZE C2
		ISSUE 1
AT&T	ED5D753-70	SHEET B13

403854482  
AT-1100  
RACEWAY

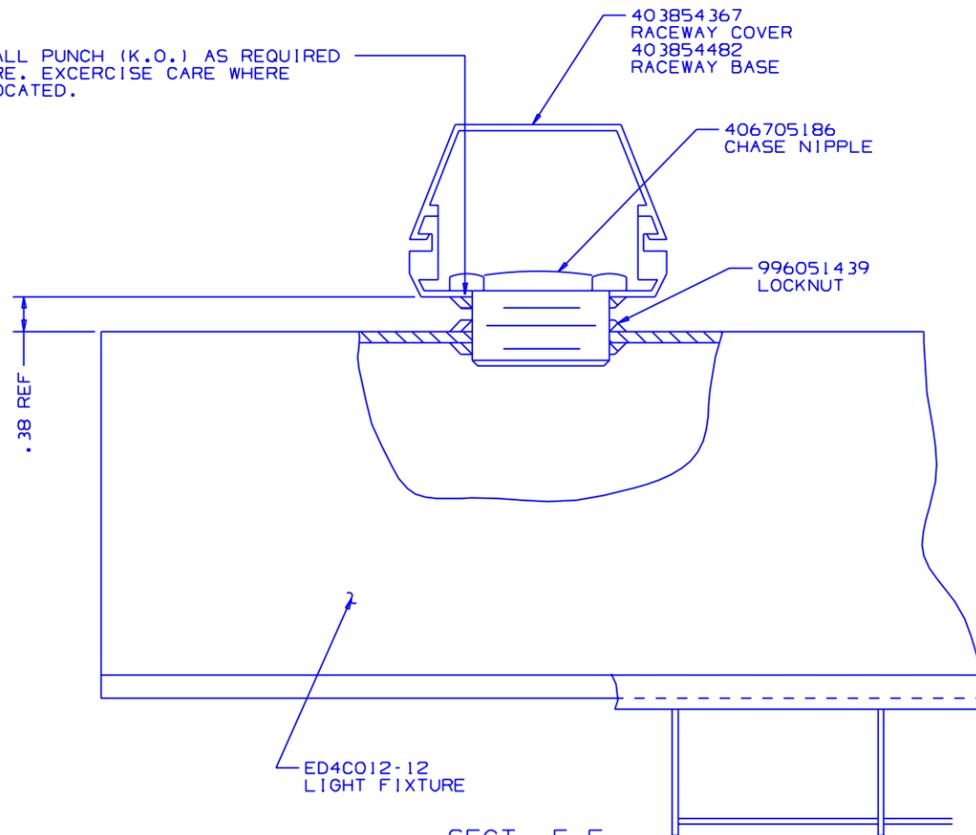


TO REMOVE COVER INSERT LARGE  
FLAT-BLADE SCREWDRIVER IN  
GROOVE, PUSH DOWN, AND TWIST

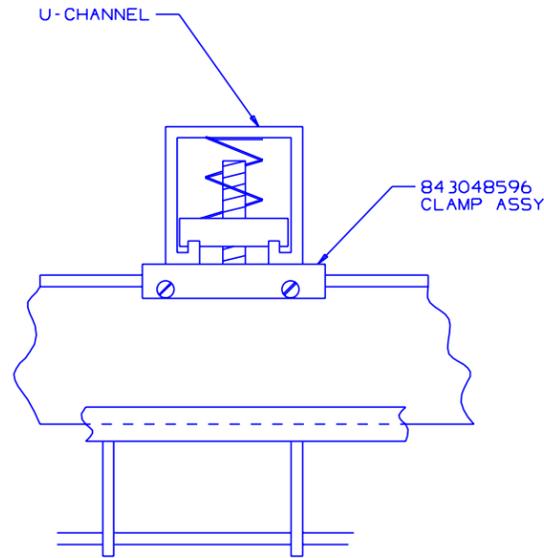


CLAMP ASSEMBLY

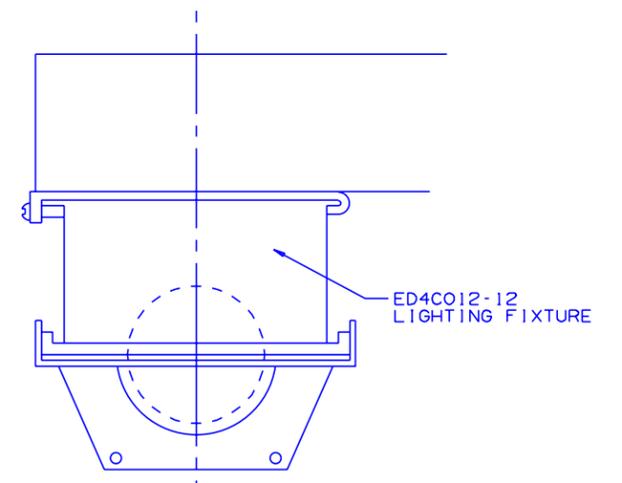
INSTALLER SHALL PUNCH (K.O.) AS REQUIRED  
TOP OF FIXTURE. EXERCISE CARE WHERE  
BALLAST IS LOCATED.



SECT. F-F  
TYPICAL METHOD OF CONNECTING  
AT-1100 RACEWAY TO ED4C012-12  
LIGHTING FIXTURE



SIDE VIEW



END VIEW

VIEW G-G

SEE PROPRIETARY NOTICE ON SHEET ONE		
SESS-2000 SWITCH CABINET LIGHTING		DWG SIZE C2
AT&T		ISSUE 1
ED5D753-70		SHEET B14
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STOCKLIST								
ITEM NBR	LIST GROUP CODE	QTY PER CODE	PRODUCT IDENTIFIER	CODE	DESCRIPTION	REFERENCE POSITION	NOTE	
							SYM	NBR
1010	1	1	847056959		CHANNEL,SUPPORT		S	56
1020	1	2	847077088		BRACKET,SUPPORT		S	
1030	1	2	900552597		SCREW,HEXAGON HEAD CAP 3/8 X 1-1/4 #HHCS037125EG UNISTRUI CORP.		S	
1040	1	2	801273129	F-127312	SCREW,HEXAGON HEAD CAP .375-16 X 1 STEEL 289A FINISH		S	
1050	1	2	801829599	F-182959	WASHER,SPRING LOCK (.375) 289A FINISH		S	
1060	1	2	900240094		NUT E/W SPRING #P4008 UNISTRUI CORP. OR EQUIVALENT		S	
1070	1	2	803865781	F-386578	WASHER		S	
1080	1	2	814570875	F-45G087	BUSHING,INSULATING		S	
1090	1	2	814478236	F-44G823	INSULATOR		S	
1100	1	2	843048596		CLAMP,ASSEMBLY		S	
1110	1	2	901065243		SCREW,FLAT HEAD MACHINE .250-20 X 5/8 IN LG ELECTRO-GALVANIZED #HFMS025062 EG UNISTRUI CORP.		S	
1120	1	2	400809729		NUT,WITH SPRING #P4006-1420 UNISTRUI CORP.		S	
1130	2	1	847018140		CHANNEL,SUPPORT		S	
1140	2	2	847077088		BRACKET,SUPPORT		S	
1150	2	2	900552597		SCREW,HEXAGON HEAD CAP 3/8 X 1-1/4 #HHCS037125EG UNISTRUI CORP.		S	
1160	2	2	801273129	F-127312	SCREW,HEXAGON HEAD CAP .375-16 X 1 STEEL 289A FINISH		S	
1170	2	2	801829599	F-182959	WASHER,SPRING LOCK (.375) 289A FINISH		S	
1180	2	2	900240094		NUT E/W SPRING #P4008 UNISTRUI CORP. OR EQUIVALENT		S	
1190	2	2	803865781	F-386578	WASHER		S	
1200	2	2	814570875	F-45G087	BUSHING,INSULATING		S	
1210	2	2	814478236	F-44G823	INSULATOR		S	
1220	2	1	843048596		CLAMP,ASSEMBLY		S	
1230	2	1	901065243		SCREW,FLAT HEAD MACHINE .250-20 X 5/8 IN LG ELECTRO-GALVANIZED #HFMS025062 EG UNISTRUI CORP.		S	
1240	2	1	400809729		NUT,WITH SPRING #P4006-1420 UNISTRUI CORP.		S	
1250	3	1	400569893	KS2020118	RECEPIACLE		S	
1260	3	1	847284379		COVER,AC OUTLET FOR 5ESS SM2000		S	
1270	3	1	995838612		COVER,BLOCK #8468A APPLETON ELECTRIC OR EQUIVALENT		S	
1280	3	2	997835095		BOX,CONDUIT RIGID OBLONG #1-2 KONDU CORP. OR EQUIVALENT		S	

STOCKLIST CONTINUED ON SHEET D2

S H O P	I N S T	MANUFACTURING NOTES	
		SYM	NBR
X			
X			12. THE INST SHALL CUT, DRILL OR PUNCH K.O.'S WHERE REQUIRED.
X			13. FOR RETOUCHING TOOL MARKS OR OTHER ABRASIONS ON WHITE FINISH USE JOHN L. ARMITAGE AND CO. WATERBORNE FINISH CAT. WW4092. OBTAIN FROM COMMON INST. ENGR. ROLLING MEADOWS,IL.
X			14. ALL WIRE SPLICES WITHIN A TWO PIECE RACEWAY SHALL BE MADE WITH T&B CO. CAT PT 66M STA-KON CONNECTORS.
X			15. THE 'A' DIMENSION LISTED ALONG WITH THE PIECE PART IN THE JOB SPEC REPRESENTS THE REQUIRED LENGTH.
X			16. ALL RACEWAY SUPPORTED TO WALLS COLUMNS OR CEILING IN THE ESS EQPT AREA SHALL BE WRAPPED AT THE POINT OF SUPPORT WITH TWO LAYERS OF GRAY FIBRE SHEET 995831013 FURNISHED BY INSTALLER. EXCEPT FOR LOW INTENSITY WALL SWITCH CONDUIT OR OTHER CONDUIT ON BLDG GROUND PRIOR TO CONNECTION AT GROUND WINDOW.
X			17. RESERVED.
X			18. X DENOTES SPLICES WHICH MAY BE MADE AT POINTS OTHER THAN THOSE INDICATED AS FOUND CONVENIENT TO SUIT JOB CONDITIONS.
X			19. ALL LIGHTING UNITS OR FIXTURES ARE FACTORY WIRED AND ASSEMBLED. THEY ARE CONNECTED IN THE CIRCUIT AS REQUIRED BY MEANS OF SPLICES. WHERE BALLAST WIRE COLORS AND POINTS OF CONNECTION WITHIN THE UNIT OF FIXTURE DIFFER FROM THIS DRAWING, THE WIRING INFORMATION SHOWN ON THE BALLAST SHALL APPLY.
X			20. WHERE PHASE IDENTIFICATION IS SPECIFIED BY THE TELEPHONE CO. FOR A POLYPHASE INSTALLATION, THE LIVE LEADS FOR THE SECOND AND THIRD PHASES SHALL BE P AND BL RESPECTIVELY INSTEAD OF BK AS SHOWN, AND Y AND BN LEADS SUBSTITUTED FOR R AND BL LEADS SHOWN. THESE COLOR CHANGES DO NOT APPLY TO LEADS FURNISHED AS PART OF BALLASTS OR ARMORED CABLE.
X			21. WHEN BOTH 120V AND 277V BRANCH CIRCUITS ARE USED IN THE SAME OFFICE, THEY CAN RUN IN THE SAME CONDUIT OR RACEWAY.
X			22. WHERE 120V AND 277V AC BRANCH CIRCUIT ARE USED IN THE SAME OFFICE, THE 277V IDENTIFIED CONDUCTORS SHALL BE READILY DISTINGUISHABLE FROM 120V IDENTIFIED CONDUCTORS AT ALL TERMINATIONS INCLUDING SPLICES. R-4079 MARKER SHALL BE USED FOR IDENTIFICATION. (FURNISHED BY INSTALLER IN ADDITION TO PROPER COLOR CODING)
X			23. FOR OPERATION OF TWO OR MORE (MAX 4) RELAYS FROM THE SAME SWITCH OR SWITCHES, MULTIPLE R TO R AND BL TO BL AND BK TO BK AT THE ASSOCIATED TERM STRIPS AS REQUIRED.
X			24. ALL (120V OR 277V) WIRING SHALL BE KS-22641 TYPE THHN WIRE SHALL BE NO. 12 AWG MINIMUM. APPLIANCE OUTLETS SHALL BE NO. 12 AWG MAX.
X			25. BALLASTS FOR FLUORESCENT LIGHTING FIXTURES PER FIG. A & B LISTED IN TABLE A.
X			26. AC, EG CONDUCTORS SHALL BE TERMINATED IN A MANNER THAT ENSURES GROUND TO BALLAST AND FIXTURE.
X			27. TO INSURE RELIABLE STARTING & EFFICIENT OPERATION THE LINE VOLTAGE FOR 120V OR 227V BRANCH CKTS SHALL BE A MINIMUM OF 107V OR 250V RESPECTIVELY AT INPUT TO THE BALLASTS.
X			28. FIG. 13 INDICATES TYPICAL RELAY BOX EQUIPMENT WITH 4 RELAYS AND 1 TRANSFORMER FOR 24V SUPPLY. FIG. 13A IS IDENTICAL EXCEPT WITHOUT THE 24V TRANSFORMER. FIG. 13A IS USED WHEN ADDITIONAL RELAYS ARE REQUIRED BY MULTING A PAIR OF NO. 18 AWG TYPE TFF 600V STRD WIRE FROM SECONDARY OF TRANSFORMER TERM SCREWS BL & W TO TERM SCREWS OF ADDITIONAL FIG. 13A 'BL' & 'W' POSITIONS. 5 RELAY BOX IS ESSENTIALLY THE SAME EXCEPT 2 LESS RELAYS.
X			29. WHEN NO EQPT GROUND BUS IS PROVIDED IE; CEILING OUTLETS, RUN THE GREEN WIRE IN FIXTURE CHANNELS AND RETURN TO CEILING OUTLETS AND FASTEN WIRE DIRECT TO BOX.
X			30. THE ONLY LIMIT ON THE QUANTITY OF RELAYS FED FROM ONE CIRCUIT IS THE CONNECTED LOAD. SEE TABLE C.

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BT13

5ESS-2000  
SWITCH CABINET LIGHTING

DWG SIZE C2 ISSUE 3

ED5D753-70

LUCENT TECHNOLOGIES INC ED5D753-70

SHEET D1 OF 19

STOCKLIST								
ITEM NBR	LIST GROUP CODE	QTY PER CODE	PRODUCT IDENTIFIER	CODE	DESCRIPTION	REFERENCE POSITION	NOTE	
							SYM	NBR
1290	3	2	997830021		COVER, CONDUIT BOX OBLONG 1/2 INCH #20 KONDU CORP. OR EQUIVALENT		S	
1300	3	2	997836630		CONDUIT, ELECTRICAL #KU-2 KONDU CORP. OR EQUIVALENT		S	
1310	3	2	405066382		PLUG 1/2 IN THREADED CLOSE UP #PLG50 APPLETON ELECTRIC OR EQUIVALENT		S	
1320	3	2	900723610		CLAMP #136-1/2 ELCEN METAL PRODUCTS CO. OR EQUIVALENT		S	
1330	4	1	403385164		SWITCH, SNAP IN ROCKER #8941K441 CUTLER HAMMER CO OR EQUIVALENT		S	
1340	4	3	402440473		LUG, TERMINAL #RB2573 THOMAS & BETTS CORP. OR EQUIVALENT		S	
1350	5	1	406246892		BOX, RELAY 4.75WD X 11.5LG X 3.625HT IN. #ATG640URB-D AIREY-THOMPSON OR EQUIVALENT		S	
1360	6	1	406246926		BOX, RELAY 4.75WD X 11.5LG X 3.625HT IN. #ATG6427/RB-D AIREY-THOMPSON OR EQUIVALENT		S	
1370	7	1	406257626		BOX, RELAY 4.75WD X 11.5LG X 3.625HT IN. #ATG640URB-D(W/ AIREY-THOMPSON OR EQUIVALENT		S	
1380	5,6,7	35	402990626		TERMINAL #RB2213 THOMAS & BETTS CO. OR EQUIVALENT		S	
1390	5,6,7	1	401985171		BUSHING #B312-250 HEYMAN MFG. CO. OR EQUIVALENT		S	
1400	5,6,7	10	402317408		RETAINER #728 ELCEN METAL PRODUCTS CO. OR EQUIVALENT		S	
1410	5,6,7,8	1	403854482		BASE 10 FEET LONG #AT-1100B AIREY-THOMPSON CO. OR EQUIVALENT		S	
1420	5,6,7,8	2	403854367		COVER, BLOCK 5 FEET LONG #AT-1100C AIREY-THOMPSON CO. OR EQUIVALENT		S	
1430	5,6,7	2	403659584		COVER, END CAP #AT-1147B AIREY-THOMPSON CO. OR EQUIVALENT		S	
1440	5,6,7,8	4	403857089		RETAINER, WIRE #AT1199 AIREY-THOMPSON CO. OR EQUIVALENT		S	
1450	5,6,7,8	1	403655137		COUPLING #1143 AIREY-THOMPSON CO. OR EQUIVALENT		S	

\*\*\*\*\* STOCKLIST CONTINUED AT RIGHT \*\*\*\*\*

ED5D753-70

STOCKLIST								
ITEM NBR	LIST GROUP CODE	QTY PER CODE	PRODUCT IDENTIFIER	CODE	DESCRIPTION	REFERENCE POSITION	NOTE	
							SYM	NBR
1460	8	1	403854375		COVER, SPLICE #1144 AIREY-THOMPSON CO. OR EQUIVALENT		S	
1470	5,6,7	2	403659600		COVER, CAP THREADED END #AT-1147-1 AIREY-THOMPSON OR EQUIVALENT		S	
1480	5,6,7,8	3	900709973		CLIP #1149 AIREY-THOMPSON CO. OR EQUIVALENT		S	
1490	5,6,7,8	3	847077096		BRACKET, SUPPORT		S	
1500	5,6,7,8	3	900240094		NUT E/W SPRING #P4008 UNISTRUT CORP. OR EQUIVALENT		S	
1510	5,6,7,8	3	801273129	P-127312	SCREW, HEXAGON HEAD CAP .375-16 X 1 STEEL 289A FINISH		S	
1520	5,6,7,8	3	802841635	P-284163	WASHER		S	
1530	5,6,7,8	3	840059109		SCREW, PAN HEAD MACHINE .164-32 X 5/8 STEEL 289A FINISH		S	
1540	5,6,7,8	3	802841486	P-284148	WASHER, PLAIN		S	
1550	5,6,7,8	3	802065185	P-206518	NUT, HEXAGON .164-32 STEEL 289A FINISH		S	
1560	9	2	900300765		NUT E/W SPRING .375-16 #617 ELCEN METAL PRODUCT CO. OR EQUIVALENT		S	
1570	10	1	900670100		CLAMP 1/2 IN RIGID STEEL PIPE #650 ELLEN CO. OR EQUIVALENT		S	
1580	11	1	900670118		CLAMP 3/4 IN. RIGID STEEL PIPE #650 ELLEN CO. OR EQUIVALENT		S	
1590	12	1	900670126		CLAMP 1 IN. RIGID STEEL PIPE #650 ELLEN CO. OR EQUIVALENT		S	
1600	5,6,7	2	996051439	KS-5351	LOCKNUT 1/2 IN. STEEL		S	
1610	5,6,7	2	996856704		BUSHING, GROUNDING #3870 THOMAS & BETTS CO. OR EQUIVALENT		S	
1620	5,6,7	2	403323686		BUSHING #2119 HEYCO CO. OR EQUIVALENT		S	

STOCKLIST CONTINUED ON SHEET D3

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DWG SIZE C2	ISSUE 3
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SHEET D2 OF 19	

STOCKLIST

ITEM NBR	LIST GROUP CODE	QTY PER CODE	PRODUCT IDENTIFIER	CODE	DESCRIPTION	REFERENCE POSITION	NOTE	
							SYM	NBR
1630	5,6,7	2	900300765		NUT E/W SPRING .375-16 #617 ELCEN METAL PRODUCT CO. OR EQUIVALENT		S	
1640	5,6,7,9	2	801273129	P-12/312	SCREW,HEXAGON HEAD CAP .375-16 X 1 STEEL 289A FINISH		S	
1650	13	1	401302088	AT8742	TIE,CABLE ADHESIVE IVORY 100/PKG		S	
1660	14	1	847074044		CHANNEL,SUPPORT		S	
1670	9	1	847077112		PLATE,CONNECTOR		S	
1680	15	1	847241536		COVER,BLANK		S	
1690	1,2	2	403015118		COVER,CAP END CHANNEL #P2860-33 UNISTRUT CORP. OR EQUIVALENT		S	
1700	5,6,7	2	996198768		NIPPLE,CONDUIT 1/2 IN CLOSE SIZE		S	
1710	16	1	406705186		NIPPLE,CHASE ID .625 IN X THRD SIZE 10X OA LG 1 IN, STEEL, FINI SH GALVANIZED #HA211 STEEL CITY OR EQUIVALENT		S	
1720	16	3	996051439	KS-5351	LOCKNUT 1/2 IN. STEEL		S	
1730	17	1	997835095		BOX,CONDUIT RIGID OBLONG #T-2 KONDU CORP. OR EQUIVALENT		S	
1740	17	1	997830021		COVER,CONDUIT BOX OBLONG 1/2 INCH #20 KONDU CORP. OR EQUIVALENT		S	

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DWG SIZE C2 ISSUE 3

ED5D753-70

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SHEET D3 OF 19

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