



BALDUR INSTALLATION MANUAL



**BEFORE YOU BEGIN**

Read these instructions carefully and completely.

IMPORTANT SAFEGUARDS

WHEN USING ELECTRICAL EQUIPMENT, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED INCLUDING THE FOLLOWING:

**READ AND FOLLOW
ALL SAFETY INSTRUCTIONS**

1. Do not use outdoors except when marked for wet locations.
2. Do not mount near gas or electric heaters.
3. Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
4. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
5. Do not use this equipment for other than intended use.

SAVE THESE INSTRUCTIONS!

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1 INFORMATION SHIPPED WITH EACH ORDER

The following documents are shipped with Nordeon orders:

Contained in Blue Envelope:

1. Baldur Installation Manual(paper or PDF file may be provided)
2. Row by Row Analysis
3. Trunk and Fixture Power Cable Layout Drawing
4. Light Fixture Layout Drawing
5. "Special" Layout Drawing (Produce Section, Vestibule, etc.)



Verify that all of the above information has been received before installation is begun.

Please note that all quantities of each item shipped with each order are the exact quantity needed for the particular installation. Any additional items will need to be purchased on another order.



2 NORDEON BALDUR SYSTEM INTRODUCTION



See Row by Row Analysis
contained in Blue Envelope



The Nordeon Baldur system is modular. Baldur trunk sections (Trunks) are separate from the light units (gear trays, lights or fixtures). Trunk sections are installed first, then lights and other accessories are installed in the trunks.

Continuous rows are created using coupling pieces between various length trunks. Connecting locations for lights and other accessories are located on 2' nominal (1.8' actual) increments.

The Nordeon Baldur system with ClickFast, gives full-flexibility to place general lighting fixtures, spots, lighting controls, emergency fixtures and blind plates at any position in trunk sections along two-foot increments. Easy light fixture configuration changes are possible with ClickFast—no tools or technical know-how required.

A complete package contains items in four categories. Items in each of these categories are listed below. Trunks and lights are listed with their actual length and nominal length.

Trunks

- 3.7' (3' 8 1/4")—4' nominal—T4
- 5.5' (5' 6 3/8")—6' nominal—T6
- 7.4' (7' 4 1/2")—8' nominal—T8
- 11' (11' 3/4")—12' nominal—T12

Lights

Linear lights

- 3.7' (3' 8 1/4")—4' nominal
- 5.5' (5' 6 3/8")—6' nominal
- 7.4' (7' 4 1/2")—8' nominal

Spot lights

- Single spot fixture—1.8' (1' 10 1/8")—2' nominal
- Single spot fixture with diffuser—1.8' (1' 10 1/8")—2' nominal
- Double spot fixture—1.8' (1' 10 1/8")—2' nominal
- Double spot fixture with diffuser—1.8' (1' 10 1/8")—2' nominal

2 NORDEON BALDUR SYSTEM INTRODUCTION-CONTINUED

Accessories

Blind Plates

1.8' (1' 10 1/8")—2' nominal—BP 1.8

3.7' (3' 8 1/4")—4' nominal—BP 3.7

5.5' (5' 6 3/8")—6' nominal—BP 5.5

Items below are listed on the Row by Row Analysis
but are not noted on Installation Drawings

Accessories

Coupling Pieces--BCP

End-cap Sets--BEC/ODI

X-L-T-W Corner Connectors--BXC, BLC, BTC, BWC

Mounting Brackets--BMB-EYE, AIR, SM, T or RT

Suspension/Power

Suspension Cables--BSC

Power Supply Cables--PCB

Canopies--KIT/CAN

2 NORDEON BALDUR SYSTEM INTRODUCTION-CONTINUED

USE OF ROW BY ROW ANALYSIS

The Row by Row Analysis is used by Nordeon, with the light fixtures specified on the E101 Lighting Plan, to create a Bill of Materials for each installation. Materials that are contained in the order are listed with the part numbers, descriptions and Trunk and Light Fixture Designations on the Row by Row Analysis. (The quantity of each item is the exact quantity needed. Additional materials may be purchased by placing another order.)

Row column numbers correspond to the “red” numbers on Nordeon drawings. “Row Length” is the nominal length of each Row. Use the Row Length for each Row to find the correct spacing for suspension cables listed on the Baldur Suspension Spacing Schedule that is on each Nordeon Installation Drawing.

Use the Row by Row Analysis to find the quantity of each Trunk length used in each Row. If multiple Trunk lengths are used in a given Row, use the Trunk and Fixture Power Cable Layout drawing to find the order in which the Trunks need to be installed. Trunks shorter than 12 feet are not always on the ends.

USE OF DRAWINGS



Nordeon Installation Drawings are intended to support the installation of Nordeon products ONLY and are not to be used as an Electrical Engineering Drawing from the Architect.

Nordeon Installation Drawings are made by starting with the E101 Lighting Plan obtained from the architect or lighting designer. Nordeon places the Trunks, Emergency Test Button notes, Fixture Power Cable notes and title block with its notes and other information on the E101 Lighting Plan drawing to make drawings. All drawings have Row numbers in red. These Row numbers correspond to the Row columns on the Row by Row Analysis.

The two base drawings for a Nordeon installation are: Trunk & Fixture Power Cable Layout and Light Fixture Layout. These drawings show the entire scope of the install for the space, for example, a grocery store.

2 NORDEON BALDUR SYSTEM INTRODUCTION-CONTINUED

"Special" drawings are made and placed on other sheets. These drawings are typically enlarged and also include placement of suspension points. The Produce Section in a grocery store is an example of an area that has its own drawing.

Each drawing sheet for a project is printed, placed in the Blue Envelope and shipped with the order. A PDF file with all the drawing sheets is emailed to the assigned contact by Nordeon.

See paper drawings or
PDF file.



NORDEON TITLE BLOCK

		NAME	DATE	NORDEON		A
DRAWN	MR	XXXXXX				
CHECKED				TITLE:		
ENG APPR				ANY COMPANY		
MFG APPR				ANY CITY, ANY STATE		
INITIAL	QC APPR			VESTIBULE LAYOUT		
ED	COMMENTS:			SIZE	STORE:	REV
LE				D		#X
OR				SCALE: N/A	PROJECT: NX	-
				SHEET 1 OF 1		

Figure 1

Explanation of information on the title block (Figure 1):

1. Date drawing was published--Paper and/or PDF file
2. Customer company name and location of project
3. Drawing name
4. Location number, if used by client company
5. Revision: "-" is the Initial Release—any subsequent Revisions are indicated with a letter
6. Internal Nordeon project number

USE OF "BALDUR SUSPENSION SPACING SCHEDULE"

The Spacing Schedule is split into two sections. Section one, on the left, begins at 4 feet on the top of the Row Length (Nominal Feet) column, and ends at 78 feet on the bottom. Section two, on the right, begins at 80 feet on the top of the Row Length (Nominal Feet) column, and ends at 154 feet on the bottom.

See "Baldur Suspension
Spacing Schedule" on all
Nordeon drawings.



2 NORDEON BALDUR SYSTEM INTRODUCTION-CONTINUED



See printed Row by Row Analysis and drawings in Blue Envelope.



"Row Length (Nominal)" column

"Row length (Nominal)", corresponds to the first column, Line 6 on the Row by Row Analysis. For example, the Row Length (Nominal) for Row 3 can be found by moving from left to right along Line 6 until the Row 3 column is reached which is 124 (in this example). See Figure 2.

"Row Length (Actual Feet)" column

"Row Length (Actual Feet)", corresponds to the first column, Line 7 on the Row by Row Analysis. For example, the Row Length (Actual Feet) for Row 3 can be found by moving from left to right along Line 7 until the Row 3 column is reached which is 114.3 (in this example). See Figure 2.

1	City, ST			
2	Any Company Inc.			
3	John Doe			
4				
5	BILL OF MATERIAL			
6	ROW LENGTH (FEET)	76	142	124
7	ROW LENGTH (ACTUAL)	70.1	131.0	114.3

Figure 2

2 NORDEON BALDUR SYSTEM INTRODUCTION-CONTINUED



**The last four columns on the Spacing Schedule
do NOT correspond with the Row by Row Analysis.**

"MTG. Bracket Distance Each End (Inches)" column

Mounting Bracket location from each end of all Rows is 9 inches. All Rows are alike.

"Number of MTG. Brackets Req'd" column

Number of Mounting Bracket locations on each Row including the two brackets located 9" from each end of each Row.

"Spacing Between MTG. Brackets (Feet)" column

Bracket spacing in feet.

"Spacing Between MTG. Brackets (Inches)" column

Bracket spacing in inches.



**The "Baldur Suspension Spacing Schedule"
may be found in the Appendix of this manual.**

3 INSTALLATION

The Nordeon Baldur system is installed in five steps:

1. Locating and installing suspension points.
2. Trunk installation.
3. Fixture Power Cable installation.
4. Installing Light Fixtures/Gear Trays.
5. Emergency light fixture installation.

1. Locating and installing suspension points

Determine position of first suspension point for each Row

The first suspension point on each end of each Row (Trunks) must be positioned at 9" from the end of the Row as measured on the Trunk. See Figure 12 on Page 13. Find the location of the first suspension point for each Row on the ceiling accordingly. For example, if a Row is to be installed 36" from a reference point such as a wall, the first suspension point would be installed at 45" from the reference point. That is 36" to the end of the Row (Trunk) then 9" to the first mounting bracket on that Row for a total of 45" from the reference point.

Determine position of other suspension points on each Row

Use the Row by Row Analysis to find the "Row Length" for each Row. Find the "Row Length" number on the Baldur Suspension Spacing Schedule. (printed on all Nordeon Drawings.) On that row, move to the right to find the "Spacing Between Mounting Brackets" column and use that dimension to measure the distance between mounting brackets for your Row.

Install appropriate anchor for each suspension point

Install suspension points using the appropriate recommended anchors listed below, made by Sammys(R). The appropriate tools, required by Sammys(R), such as nut drivers and/or other installation tools (all tools provided by others), must be used. Visit www.itwbuildex.com for more information.

Model:

CST 200
DST 100
DST 150
DST 200
DSTR 100
GST 100
XP 200
SST 300

Substrate:

Concrete
Steel
Steel
Steel
Steel
Wood
Metal Deck, Purlin, Tubular Steel
Lath and Plaster, Sheetrock,
Pre-Cast Concrete Hollow Core (Sammys(R) Toggle)



Sammys(R) DST 100



See printed Row by Row
Analysis in Blue Envelope.



See "Baldur Suspension
Spacing Schedule".

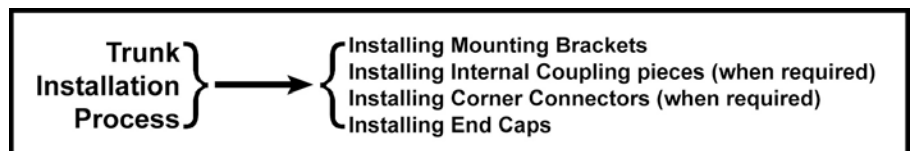


3 INSTALLATION-CONTINUED

2. Trunk Installation

There are two steps in Trunk Installation:

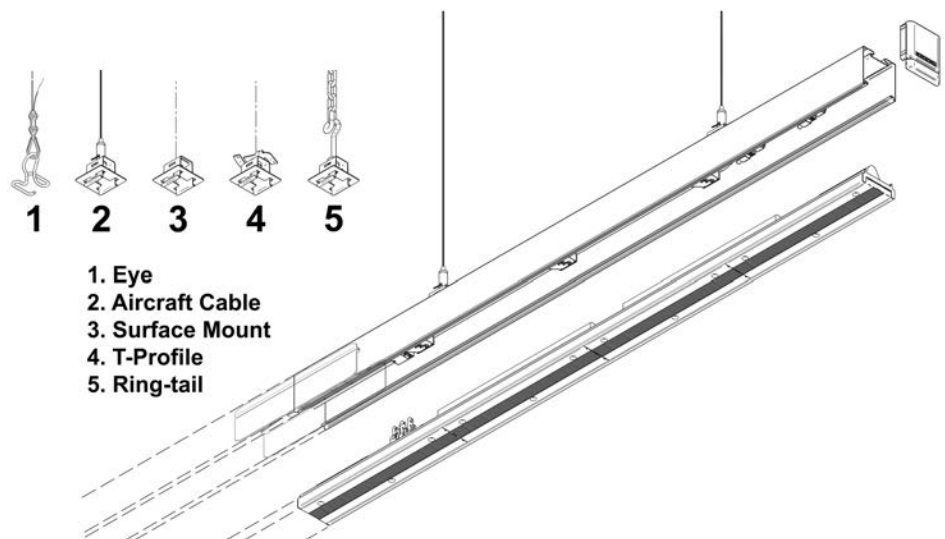
1. Installing Mounting Brackets, Installing Internal Coupling pieces (when required), Installing Corner Connectors (when required) and End Caps
2. Connecting Wire Harness



Mounting Brackets, Coupling Pieces (when required) and Corner Connectors (when required) need to be installed or put in place as the Trunks are installed. Trunks are installed one at a time as the Mounting Brackets are connected to the Trunks and the Suspension Points. Trunks are connected end-to-end using Coupling Pieces. Refer to the Row by Row Analysis for size and number of Trunks used in each Row. Then verify the placement of each Trunk in each Row by referring to the Trunk and Fixture Power Cable Layout drawing.

Installing Mounting Brackets

There are five Mounting Bracket options. The Aircraft Cable Mounting Bracket is the most common Mounting Bracket used.



3 INSTALLATION-CONTINUED

Aircraft Cable Mounting Brackets


-  Connect the cable to the Suspension Point (Sammys(R) 1/4"-20 rod size) using the "set screw/short threaded rod" and the cable coupler. See Figure 3.



Figure 3
Sammys(R) DST-100 shown
Set Screw not shown



- Mounting Brackets should be placed on the trunks in their approximate location. They will be placed in exact locations later. (Please refer to the *Baldur Suspension Spacing Schedule*). Mounting Brackets are installed as shown in Figure 4.

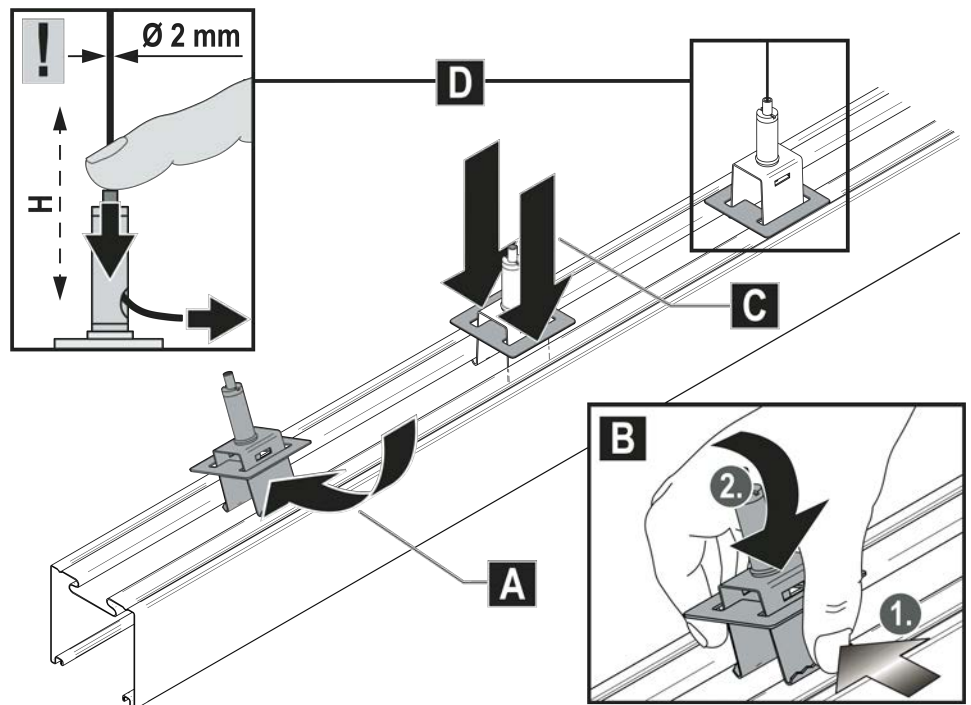


Figure 4

3 INSTALLATION-CONTINUED



See printed Row by Row
Analysis and Trunk and
Fixture Power Cable Layout
in Blue Envelope.



VERY IMPORTANT!

Nut Plates, Mounting Brackets and Metal End Plates need to be placed on Trunks as three parts of one step.

- ☑ Carefully check the Row by Row Analysis and the Trunk and Fixture Power Cable Layout drawing to find any L-, T-, and X-Corner Connectors that may be used and their location, for your particular installation. Remove the Nut Plates (see Figure 5) from the Corner Connectors you will be using (see Figure 6 for an example) and slide the Nut Plates onto the Trunks in their approximate location between the approximate location of the Mounting Brackets. Nut Plates will not slide under Mounting Brackets that are attached to the Trunk. See Figure 7.

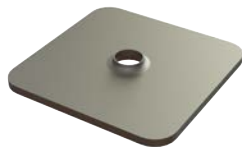


Figure 5

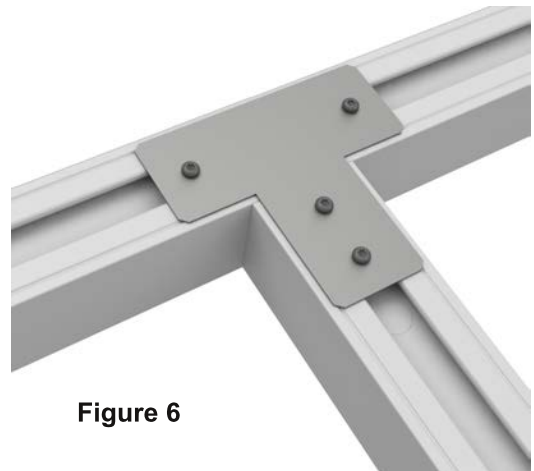


Figure 6

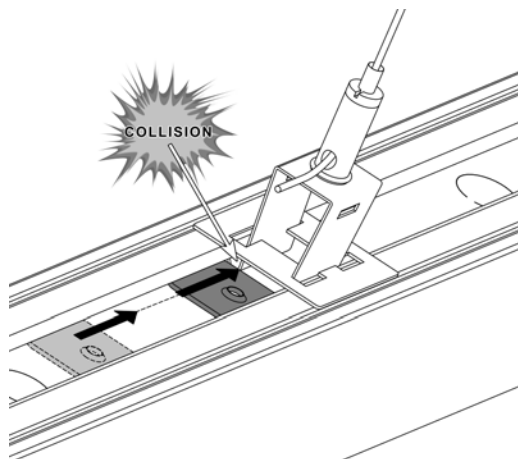


Figure 7

3 INSTALLATION-CONTINUED



■ Coupling Pieces are installed between the Trunks to connect them and form continuous Rows. The ends of the Trunks need to go together at the center of the Coupling Piece as shown in Figure 8. Use a T25 Torx screw driver to tighten the screws on the Coupling Pieces. Do not over tighten! See Figure 9. Over tightening can distort the Trunks.

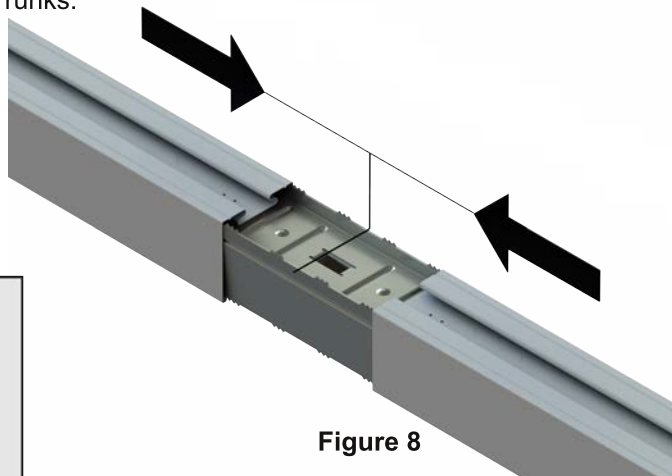


Figure 8

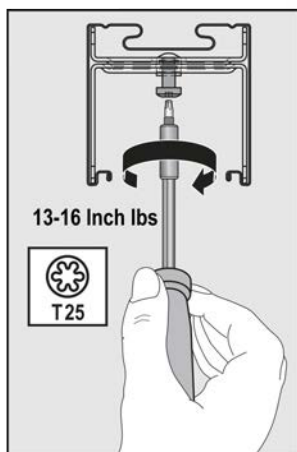


Figure 9

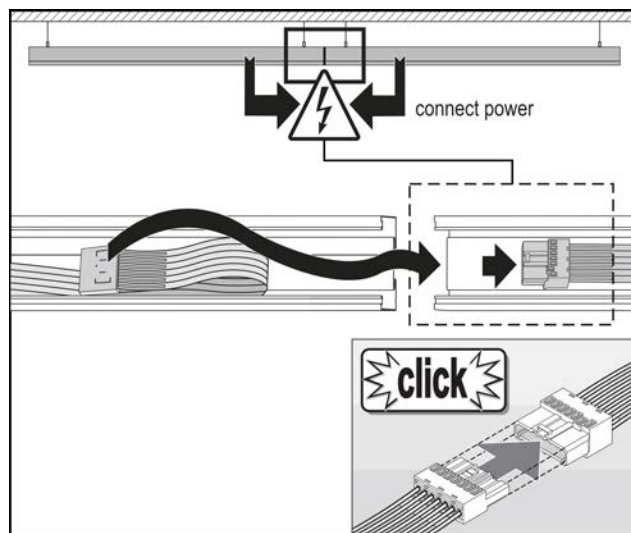


Figure 10



■ After each Coupling Piece is installed, connect the wiring harness in each Trunk as shown in Figure 10. Connection of the wire harness, between Trunks, is not required where L-, T- or X-Corner Connectors are used.

3 INSTALLATION-CONTINUED



See "Baldur Suspension
Spacing Schedule".



- After the previous steps are completed, the Metal End Plates need to be installed in the ends of each Row. (Nut Plates for Corner Connectors cannot be installed after Metal End Plates are installed.) The Metal End Plates are included in End Cap Sets BEC-BL and ODI-BL. The Metal End Plates (see Figure 11) are inserted into the Trunk 1/2" from the end and held in place with two sheet metal screws. Metal End Plates are to be used on all Rows.

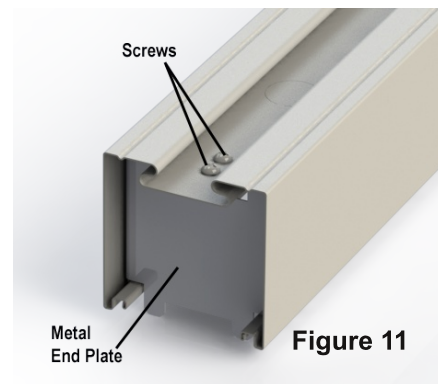


Figure 11

The final process in Trunk Installation includes the following steps:

- When applicable, adjust Rows to your "Above Finished Floor" height.
- Adjust Mounting Brackets to exact positions for each Row. Find distance between Mounting Brackets for specific Row lengths as listed on the Baldur Suspension Spacing Schedule. The first Mounting Bracket on each end of each Row should be placed at 9" from the end of the Trunk. See Figure 12.

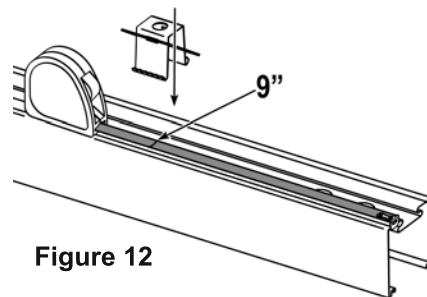


Figure 12

3 INSTALLATION-CONTINUED



See printed Row by Row Analysis in Blue Envelope.



See Trunk and Fixture Power Cable Layout and Light Fixture Layout drawings.



- BEC-BL Plastic End Caps may be installed on the Trunk ends before the Gear Trays/Light Fixtures are installed. ODI-BL Plastic End Caps must be installed after the Gear Trays/Light Fixtures are installed. (Refer to the Row by Row Analysis to find which End Caps are used on each Row.) Trunks that are inside of and connect to perpendicular Trunks do not need plastic end-caps. See Figures 13 and 14.

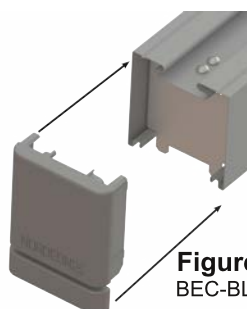


Figure 13
BEC-BL

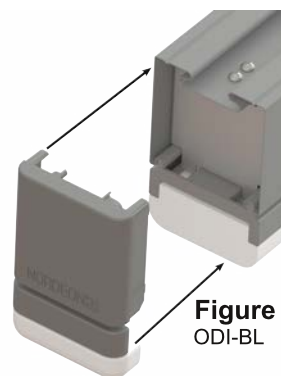


Figure 14
ODI-BL

IMPORTANT NOTES:

- Install Trunks (and Light Fixtures) in the order shown, for each Row, on the Trunk and Fixture Power Cable Layout and Light Fixture Layout drawings. Trunk placement is critical with regard to Emergency Light Fixtures, when they are in a Row.
- Start building each Row from the end with the Fixture Power Cable. Power enters on one end of the Trunk (Row) and runs in one direction. If two Fixture Power Cables are required, for a long Row, the second is installed so power continues to run in the same direction. (See the Trunk and Fixture Power Cable Layout drawing to determine where the Fixture Power Cables are located.)
- Rows with Wall Wash lights must have the Fixture Power Cable installed so that the light is correctly aimed at the wall or other feature. The Fixture Power Cable must be installed in the correct end of the Row or Trunk to accomplish this. Please refer to Figure 15.

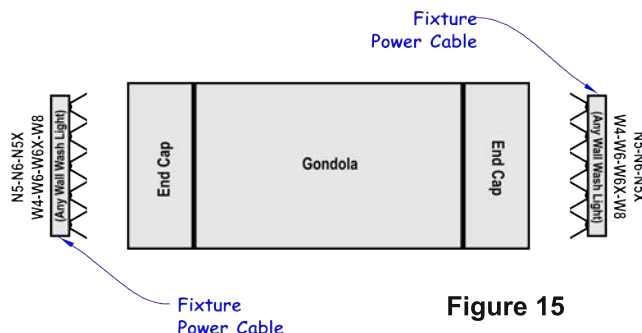


Figure 15

3 INSTALLATION-CONTINUED



3. Fixture Power Cable Installation

- ▣ Fixture Power Cables must be installed in Trunks using a ½" Trade Size Clamp Connector (strain relief), provided by others, that is UL Listed/Certified. See example illustrated in Figure 16.



Figure 16

- ▣ Remove second knockout from end of the Trunk. Knockouts pop out best when driven from the bottom or inside of the Trunk. See Figure 17.

Use first knockout position for Emergency Power Button, if required, on end of Trunk next to Fixture Power Cable

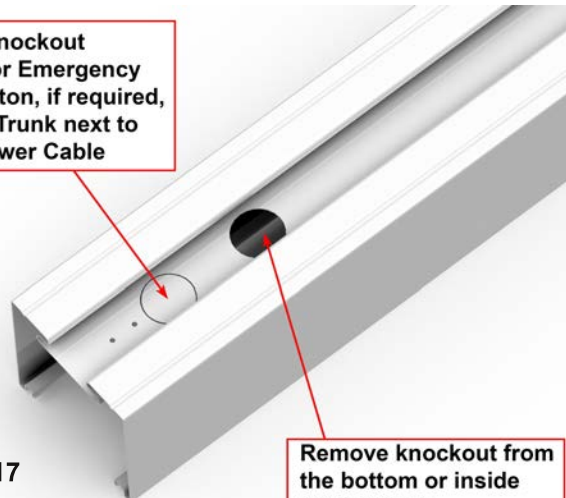
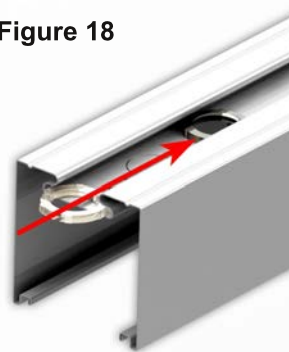


Figure 17

Remove knockout from the bottom or inside of the Trunk

- ▣ Slide the Clamp Connector Locknut into the channel, on top of the Trunk, until it is over the knockout hole to be used for the Fixture Power Cable. See Figure 18.

Figure 18



3 INSTALLATION-CONTINUED



- Install the Clamp Connector by screwing it through the knockout hole and the Clamp Locknut simultaneously. See Figure 19.

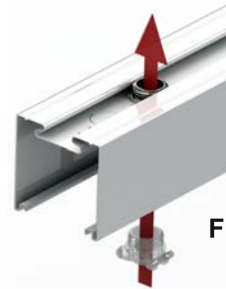


Figure 19

- Position the Clamp Screws, as the Clamp Locknut is tightened, to facilitate the use of a screw driver to tighten them, as shown in Figure 20, after the Fixture Power Cable is in the Clamp.

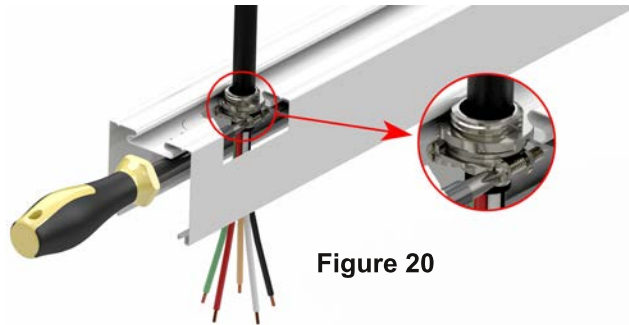


Figure 20

- Maximum Amp ratings for minimum wire sizes are shown in Figure 21.

Maximum Input Current	10A	13A	15A
Minimum Wire Size	18AWG	16AWG	14AWG

Figure 21

3 INSTALLATION-CONTINUED



- A Power Plug is required to connect the Fixture Power Cable to the Trunk (Row). There are two types of Power Plugs: Dimming and Non-dimming. BPD-DIM is the 7-wire type with dimming. BPD is the 5-wire type without dimming. Both types use the same plug to connect to the Trunk wiring harness. Power Plug types are shown in Figure 22.



Figure 22



- Connect the Fixture Power Cable wires to the Power Plug wires using appropriate wire connectors.

4. Installing Light Fixtures/Gear Trays



- Light Fixtures/Gear Trays snap into the Trunks by squeezing the latches (See Figure 23) and plugging into the Trunks (See Figure 24). See Figure 25.

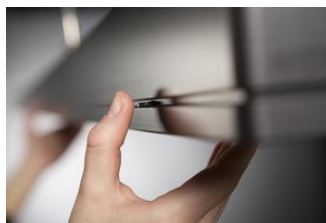


Figure 23



Figure 24

3 INSTALLATION-CONTINUED

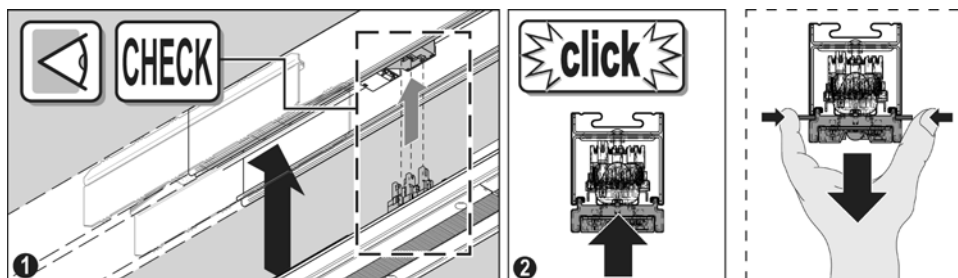


Figure 25



☑ Select Power Phase:

- L1-Switched & Switched Emergency
- L2-Switched
- L3-Unswitched Emergency Circuit. (Constant on.)

See Figure 26.

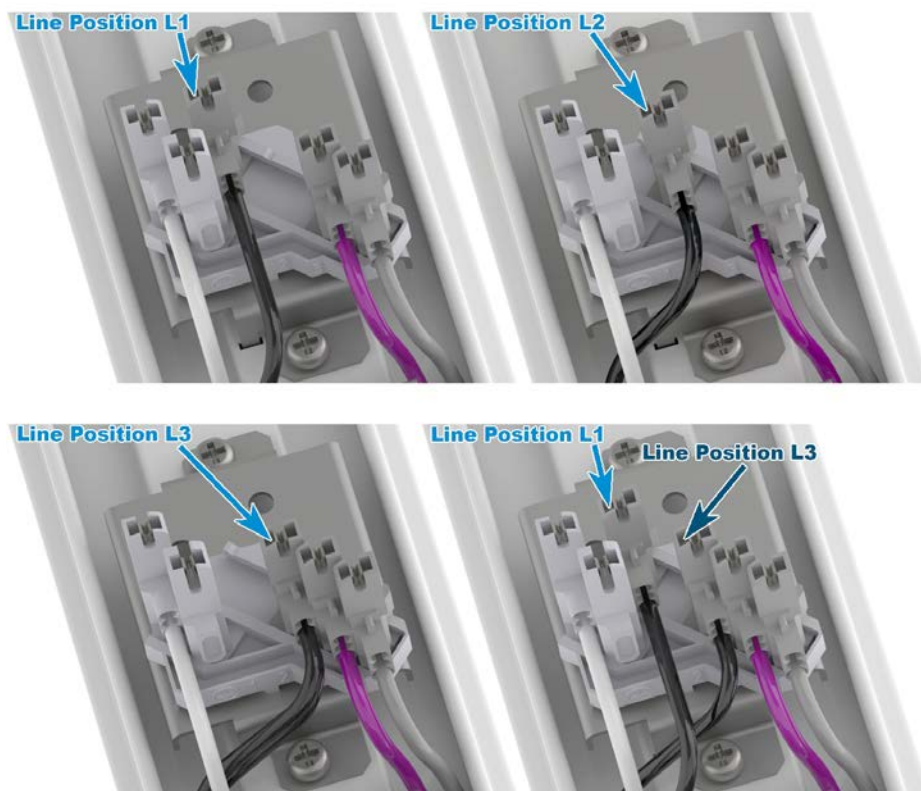


Figure 26

3 INSTALLATION-CONTINUED



- Adjust the gray connectors on the back of the Light Fixtures (Gear Trays) for the proper power phase. Non-Emergency Light Fixtures come from the factory set on L1. Standard Emergency Light Fixtures come set on L1. Fixtures that need to be on L2 will have to be adjusted accordingly. Dimming, if required, uses the positions with violet and gray wires.
- Standard Emergency Light Fixtures are set at the factory on L1 (driver switched) and L3 (battery unswitched).
- Emergency/Night Light Fixtures (EM/NL) will be powered at all times as driver and battery are wired on the L3 position. EM/NL Fixtures are marked as such on the packaging.

**Before installing Emergency Fixtures,
please read the *Emergency Test Button Installation* section.**

5. Emergency Test Button Installation

- After the Emergency Light Fixture is unpackaged, disconnect the Emergency Power Button.
- Remove the knockout from the Trunk. Knockouts pop out best when driven from the bottom or inside of the Trunk. See Figure 27.

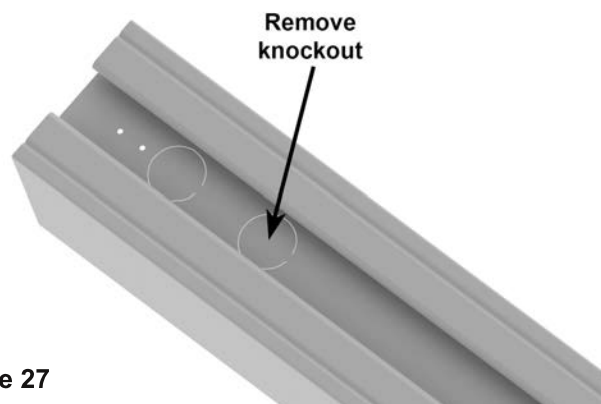


Figure 27

3 INSTALLATION-CONTINUED

- Insert Emergency Test Button wire harness through knockout and secure with cord grip nut inside Trunk. See Figure 28.



Figure 28

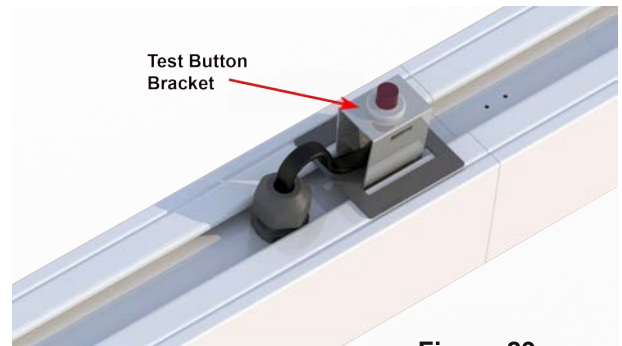


Figure 29

- Install the Test Button Bracket on top of the Trunk. See Figure 29.



- Connect the Emergency Test Button wiring harness to the Emergency Battery wiring harness on the Light Fixture (Gear Tray) before installing the Light Fixture in the Trunk. See Figure 30.

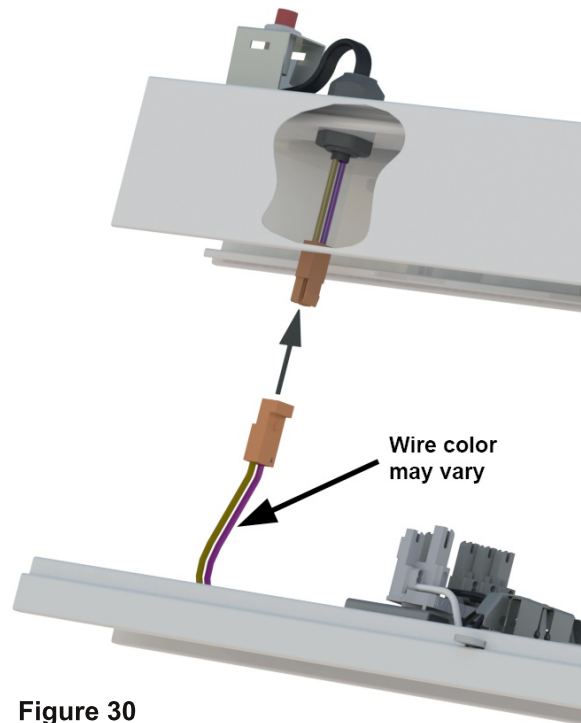


Figure 30

3 INSTALLATION-CONTINUED

6. Special Layouts



Special Layouts may be, for example, a produce section in a grocery store or an entrance/exit vestibule. Special Layouts are lighting for small spaces or areas that require a specific lighting design layout and are complete separate units. These Special Layouts may include linear light fixtures, spot fixtures and blank plates.

Procedures for assembly and installation of Special Layouts:

- ☑ Arrange all Trunks on the floor in the order they will need to be in for installation.
- ☑ For pendant mounting with air craft cables: hang all the Trunks from the Suspension Cables at eye level.
- ☑ Connect all Trunk intersections using L-, T- or X-Brackets. Loosely assemble the complete section then make final adjustments and tighten screws.
- ☑ Trunks that are inside of and connect to perpendicular Trunks do not need plastic end-caps.
- ☑ Raise the section to the correct height.
- ☑ Each Row of Trunks requires a Fixture Power Cable.
- ☑ Install the Light Fixtures/Gear Trays.



Refer to

IMPORTANT NOTES

on Page 14.



4 CONTACT NORDEON



You may contact Nordeon Customer Service directly.

(864)487-3535

5 APPENDIX

Baldur Suspension Spacing Schedule Mounting (MTG.) Bracket Locations											
Row Length (Nominal Feet)	Row Length (Actual Feet)	MTG. Bracket From Each End (Inches)	Number of MTG. Brackets Req'd	Spacing Between MTG. Brackets (Feet)	Spacing Between MTG. Brackets (Inches)	Row Length (Nominal Feet)	Row Length (Actual Feet)	MTG. Bracket From Each End (Inches)	Number of MTG. Brackets Req'd	Spacing Between MTG. Brackets (Feet)	Spacing Between MTG. Brackets (Inches)
4	3.7	9	2	2.19	26 1/4	80	73.8	9	8	10.32	123 3/4
6	5.6	9	2	4.09	49	82	75.7	9	9	9.27	111 1/4
8	7.4	9	2	5.88	70 1/2	84	77.4	9	9	9.49	114
10	9.3	9	2	7.78	93 1/4	86	79.3	9	9	9.73	116 3/4
12	11.1	9	2	9.56	114 3/4	88	81.1	9	9	9.95	119 1/2
14	13.0	9	3	5.73	68 3/4	90	83.0	9	9	10.19	122 1/4
16	14.8	9	3	6.63	79 1/2	92	84.4	9	9	10.41	125
18	16.7	9	3	7.58	91	94	86.7	9	10	9.47	113 1/2
20	18.4	9	3	8.47	101 3/4	96	88.5	9	10	9.67	116
22	20.3	9	3	9.42	113	98	90.4	9	10	9.88	118 1/2
24	22.1	9	3	10.31	123 3/4	100	92.2	9	10	10.08	121
26	24.0	9	4	7.51	90	102	94.1	9	10	10.29	123 1/2
28	25.8	9	4	8.10	97 1/4	104	95.9	9	10	10.49	125 3/4
30	27.7	9	4	8.74	104 3/4	106	97.8	9	11	9.63	115 1/2
32	29.5	9	4	9.33	112	108	99.6	9	11	9.81	117 3/4
34	31.4	9	4	9.97	119 1/2	110	101.5	9	11	10.00	120
36	33.2	9	5	7.92	95	112	103.3	9	11	10.18	122
38	35.1	9	5	8.40	100 3/4	114	105.2	9	11	10.37	124 1/2
40	36.9	9	5	8.84	106 1/4	116	106.9	9	12	9.59	115
42	38.1	9	5	9.32	111 3/4	118	108.8	9	12	9.76	117
44	40.6	9	5	9.77	117 1/4	120	110.6	9	12	9.92	119
46	42.5	9	5	10.24	123	122	112.5	9	12	10.09	121
48	44.3	9	6	8.55	102 1/2	124	114.3	9	12	10.26	123
50	46.2	9	6	8.93	107 1/4	126	116.2	9	12	10.43	125 1/4
52	47.9	9	6	9.29	111 1/2	128	118.0	9	13	9.71	116 1/2
54	49.8	9	6	9.67	116	130	119.9	9	13	9.87	118 1/2
56	51.6	9	6	10.03	120 1/4	132	121.7	9	13	10.02	120 1/4
58	53.5	9	6	10.41	124 3/4	134	123.6	9	13	10.17	122
60	55.3	9	7	8.97	107 3/4	136	125.4	9	13	10.32	124
62	57.2	9	7	9.29	111 1/2	138	127.3	9	13	10.48	125 3/4
64	59.0	9	7	9.58	115	140	129.1	9	14	9.81	117 3/4
66	60.9	9	7	9.90	118 3/4	142	131.0	9	14	9.96	119 1/2
68	62.7	9	7	10.20	122 1/2	144	132.8	9	14	10.10	121 1/4
70	64.6	9	8	9.01	108 1/4	146	134.7	9	14	10.24	123
72	66.4	9	8	9.27	111 1/4	148	136.4	9	14	10.38	124 1/2
74	68.3	9	8	9.54	114 1/2	150	138.3	9	15	9.77	117 1/4
76	70.1	9	8	9.80	117 1/2	152	140.1	9	15	9.90	118 3/4
78	72.0	9	8	10.07	120 3/4	154	142.0	9	15	10.04	120 1/2