Electrical and Lighting Program
Means of Egress Illumination
2009 IBC 1006

Developed by:
Electrical & Lighting Unit
Division of Industry Services
WI Department of Safety & Professional Services

http://dsps.wi.gov

Means of Egress Illumination Seminar Objectives

- Review Basic Egress Illumination Requirements
  - Normal Source
  - Emergency Standby Source
- Documentation for Required Emergency Lighting Plan Review
- Testing Emergency Lighting Systems

Basic Requirements

2009 IBC

Section 1006

(No changes from 2006 IBC)

Means of Egress Illumination Basic Requirements

- Section 1006
- Requirements for Means of Egress Illumination
- Two types of requirements:
  - Normal (utility power)
  - Emergency (standby power)

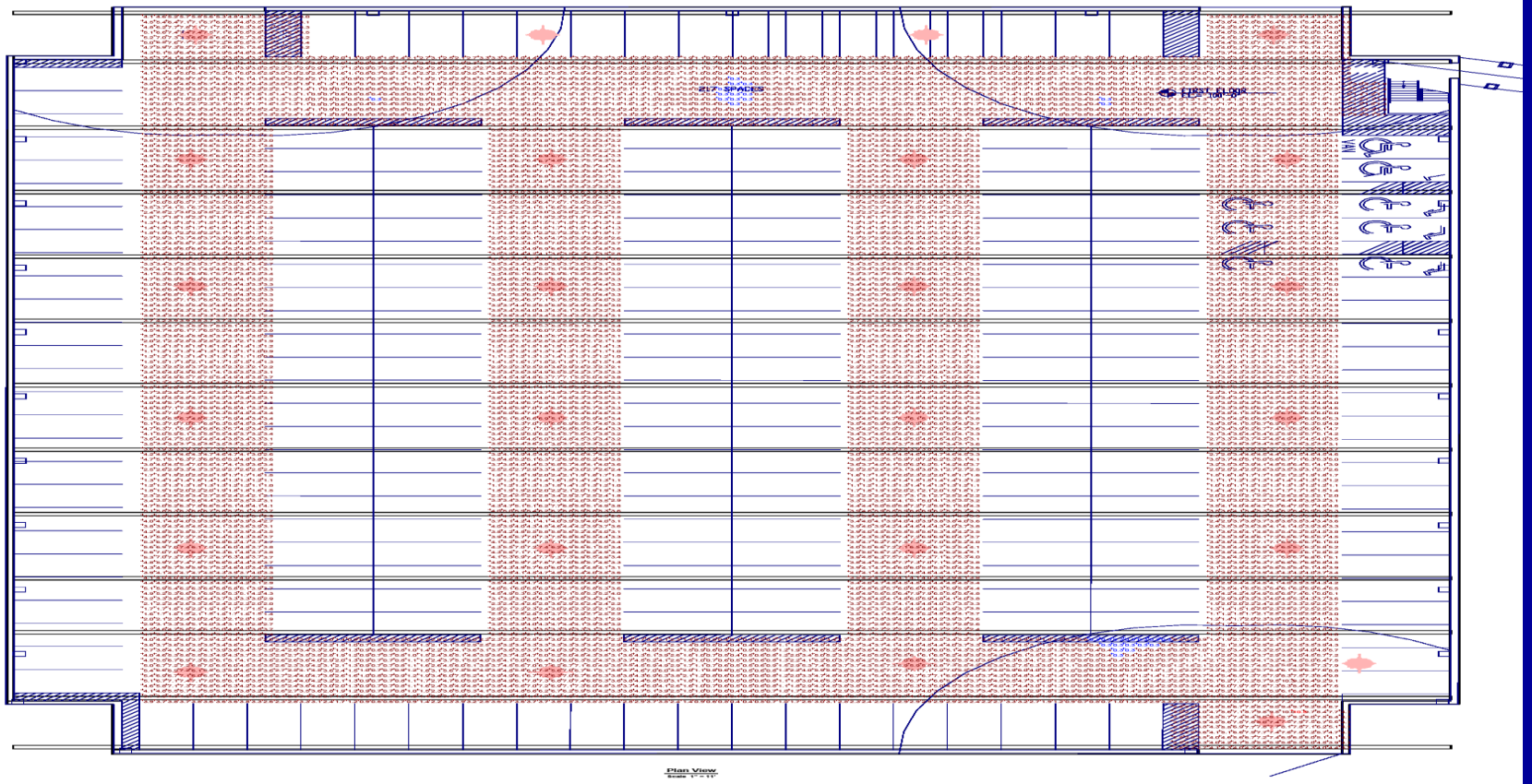
Means of Egress Illumination Key Definitions

- Means of Egress
  - "A continuous and unobstructed path of vertical and horizontal egress travel from any occupied portion of a building or structure to a public way."
- Consists of three parts:
  - Exit Access
  - The Exit
  - Exit Discharge

Means of Egress Illumination Key Definitions

- Exit Access:
  - "That portion of a means of egress system that lead from any occupied portion of a building to an exit."
- Examples:
  - Access isles
  - Interior corridors that are not fire rated
  - The entire floor area in open room

Access Isles



Plan View
Scale: 1" = 11'

STATISTICS						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
EGRESS @ FLOOR	+	3.7 fc	10.5 fc	0.3 fc	35.0:1	12.2:1

LUMINAIRE SCHEDULE									
Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
	EGRES	25	GP1-ps 150MH	CLEAR ACRYLIC LENS	CLEAR 150MH/U/MED ps	gardco GP1175M.IES	11000	1.00	210

Calculated values include direct and interreflected components.

Means of Egress Illumination Key Definitions

- The Exit:
  - "**That portion of a means of egress system which is separated from other interior spaces by fire resistive rated construction.**"
- Examples:
  - **Exterior doors at ground level**
  - **Exit enclosures**
  - **Exit passageways**
  - **Exterior exit stair and ramps**
  - **Horizontal exits**

Stair Enclosure

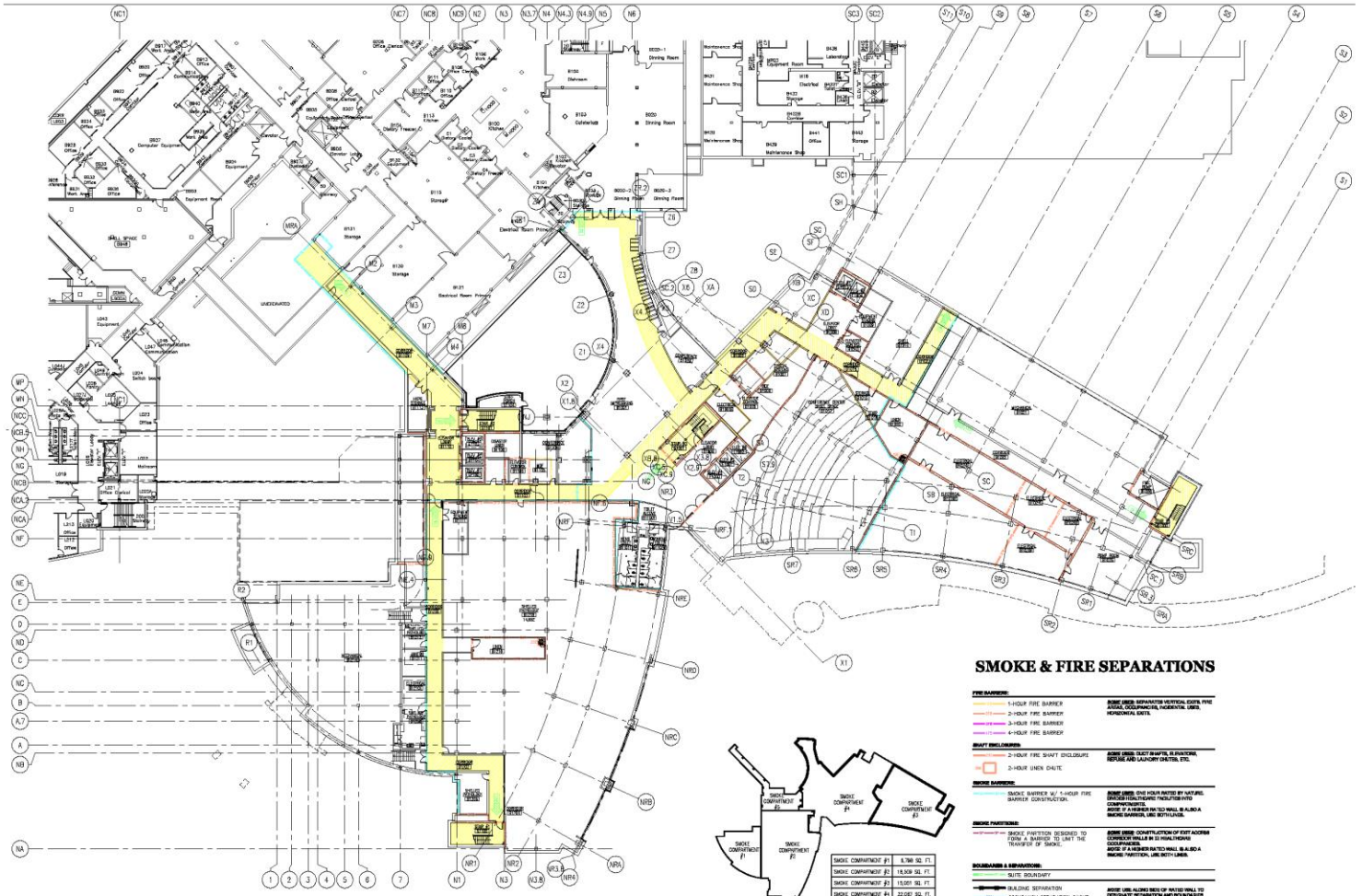
Means of Egress Illumination Key Definitions

- Exit Discharge:
  - “That portion of a means of egress system between the termination of an exit and a public way.”
- Examples:
  - Exterior landings
  - Exterior sidewalks
  - Exterior courts that lead to the public way

Exit Discharge

Means of Egress Illumination Basic Requirements

- These elements typically shown on a “Life Safety” Egress Plan
- Type of floor plan
- Required to be prepared for all building plans that require approval by DSPS or Delegated Agents
- Used by local officials


SMOKE & FIRE SEPARATIONS
BASEMENT LIFE SAFETY FLOOR PLAN
Kahler Slater
experience design
Luther Midelfort
Mayo Health System
95% CONSTRUCTION DOCUMENTS - QA/QC FOR REFERENCE ONLY NOT FOR CONSTRUCTION
Luther Midelfort Bed Tower Expansion
Eau Claire, WI
Project No.
206200
Sheet Title
LIFE SAFETY BASEMENT FLOOR PLAN
Sheet No.
A1-0B-LS

Means of Egress Illumination Normal Power

- Illumination for means of egress
  - Required all times the building occupied
- Exceptions:
  - Occupancies in group U (Utility)
  - Aisle accessways in Group A
  - Dwelling and sleeping units in R-1, R-2, and R-3 occupancies
  - Sleeping Units of Group I occupancies

Means of Egress Illumination Normal Power

- Illumination level
  - Minimum 1 foot-candle (fc)
  - Measured at walking/floor level
- Exception:
  - Auditoriums, theaters, concert halls, etc
  - May reduce to 0.2 fc during a show
  - Auto-restore to normal levels upon activation of fire alarm system

Means of Egress Illumination Emergency Standby Power

- Illumination level
  - **Measured at floor level**
  - **1 foot-candle (fc) Average**
  - **Minimum of 0.1**
  - **Maximum to minimum ratio not to exceed 40:1**
- Exception:
  - **Average permitted to decline to 0.6 fc at end of required duration.**
  - **Minimum permitted to decline to 0.06 fc at end of required duration**
  - **Example: Unit equipment with required duration of 90 minutes.**

Means of Egress Illumination Emergency Standby Power

- Areas requiring Emergency Illumination:
  - Applies only to buildings or spaces that **require** two (2) or more exits
  - Look for Exit Signs

Means of Egress Illumination Emergency Standby Power

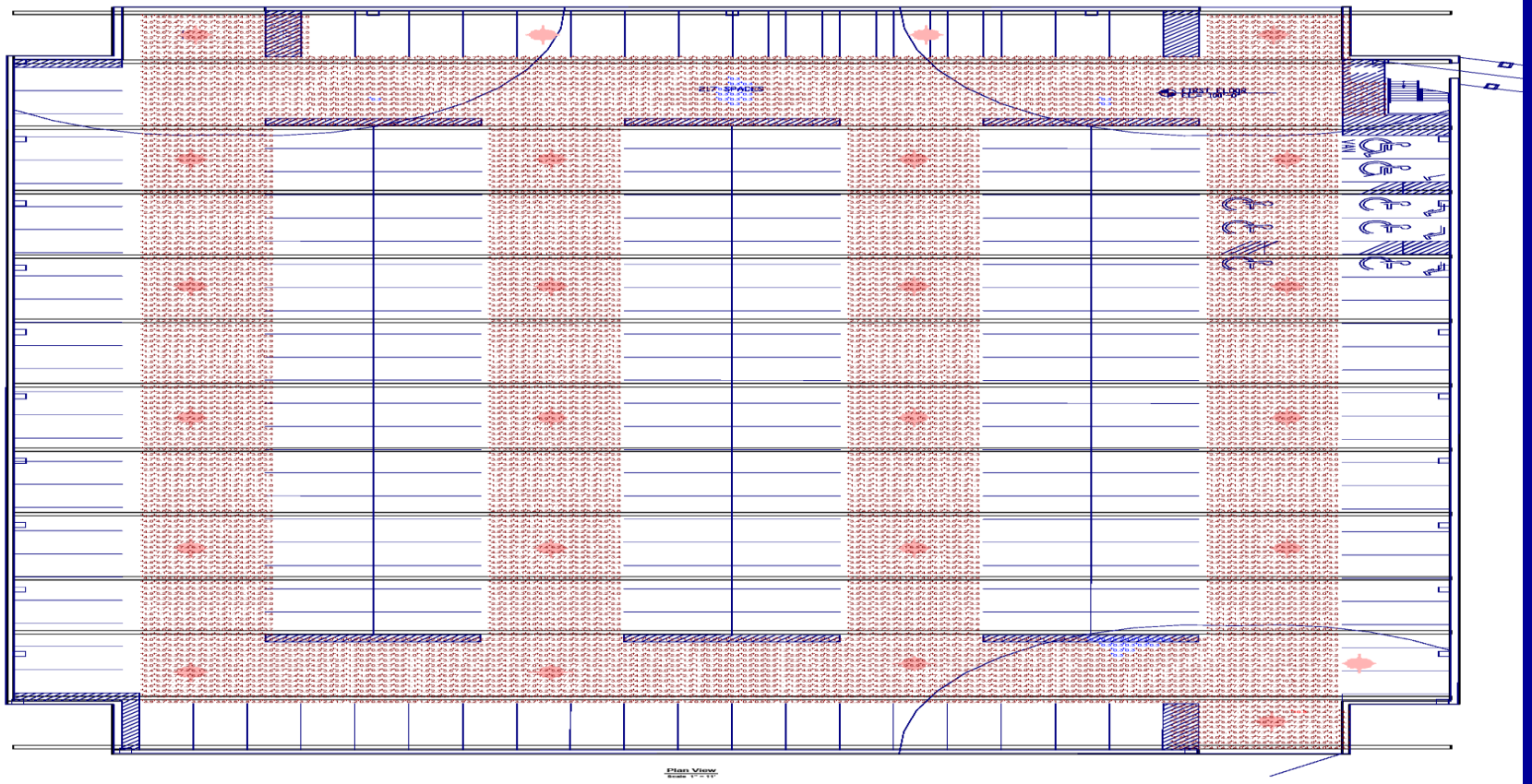
- Why might a bldg or space REQUIRE 2 or more exits? Reference IBC 1015
- **If the room, space or building exceeds the limits listed**

OCCUPANCY	MAXIMUM OCCUPANT LOAD
A, B, E[a], F, M, U	49
H-1, H-2, H-3	3
H-4, H-5, I-1, I-3, I-4, R	10
S	29

Means of Egress Illumination Emergency Standby Power

- Areas requiring Emergency Illumination:
  - 2) Elements:
    - Aisles and unenclosed stairways
    - Corridors, exit enclosures and passageways
    - *Exterior* egress components at other than level of discharge

Access Isles



Plan View
Scale: 1" = 11'

STATISTICS						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
EGRESS @ FLOOR	+	3.7 fc	10.5 fc	0.3 fc	35.0:1	12.2:1

LUMINAIRE SCHEDULE									
Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
	EGRES	25	GP1-ps 150MH	CLEAR ACRYLIC LENS	CLEAR 150MH/U/MED ps	gardco GP1175M.IES	11000	1.00	210

Calculated values include direct and interreflected components.

Exit Corridor

Exterior Egress Components

Means of Egress Illumination Emergency Standby Power

- Elements:
  - Interior exit discharge elements per 1024.1
    - **Vestibules**
    - **Some open parking garages**
  - Exterior landings required by 1008.1.5
    - **Minimum of 44-inches in the direction of travel**
      - **Exception: Minimum of 36-inches in the direction of travel for R-3 and individual units of R-2 Occupancies**

Vestibule

Documentation for Required Emergency Lighting

Emergency Lighting Plans

- Plans No longer required to be submitted to DSPS as of 5/1/2012.
- Submit to Delegated Agents as part of permitting process.
- Was Part of Building Plan Review, now part of Field Inspection
- Examines Key Elements of Emergency Lighting

Emergency Lighting Plans

- DSPS Requires Plans to be On-site for:
  - New Buildings
  - Building Additions
  - Initial Tenant Space Build-out

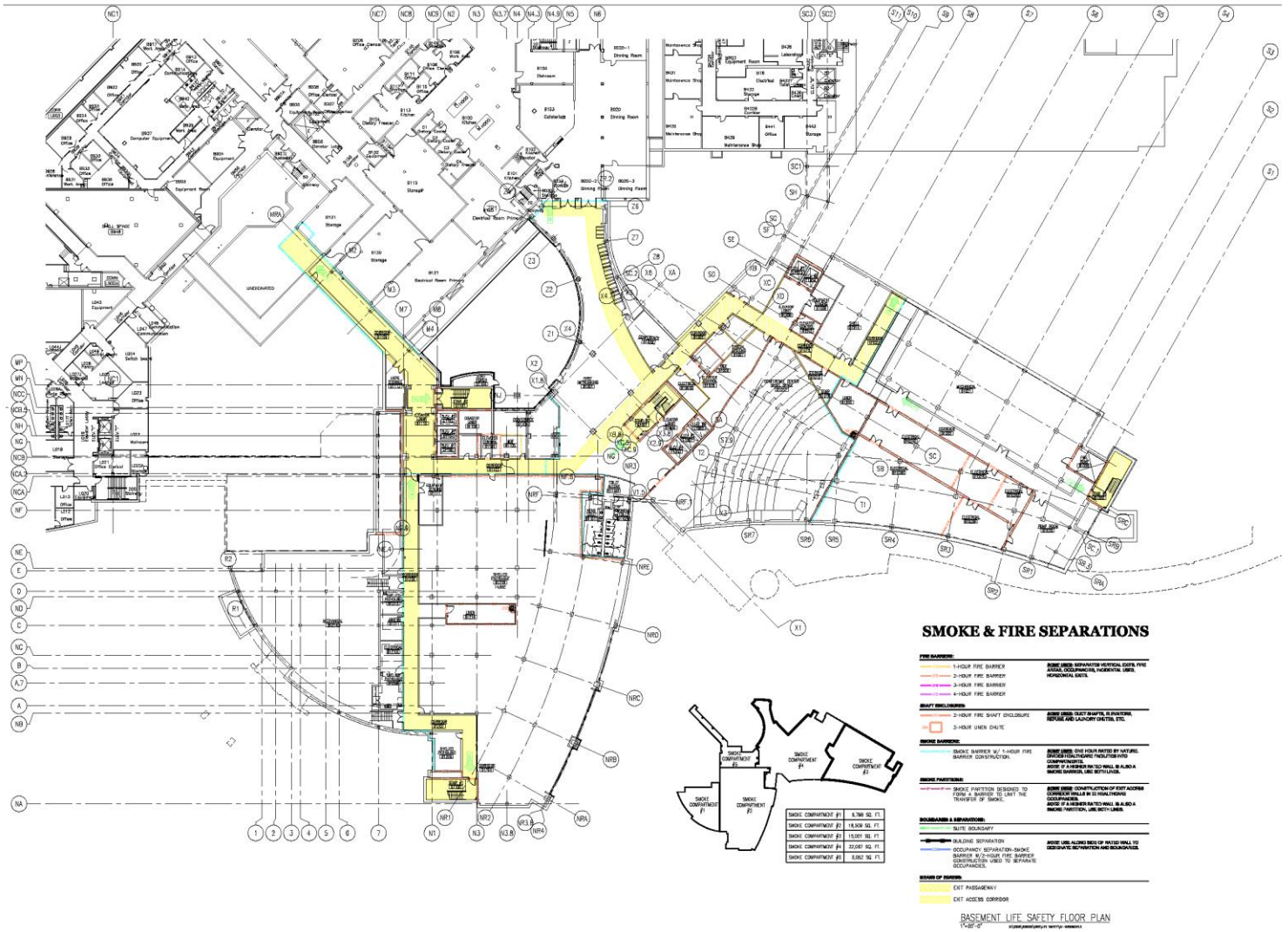
- Local Communities or Other Agencies may require plan submittal for other projects.

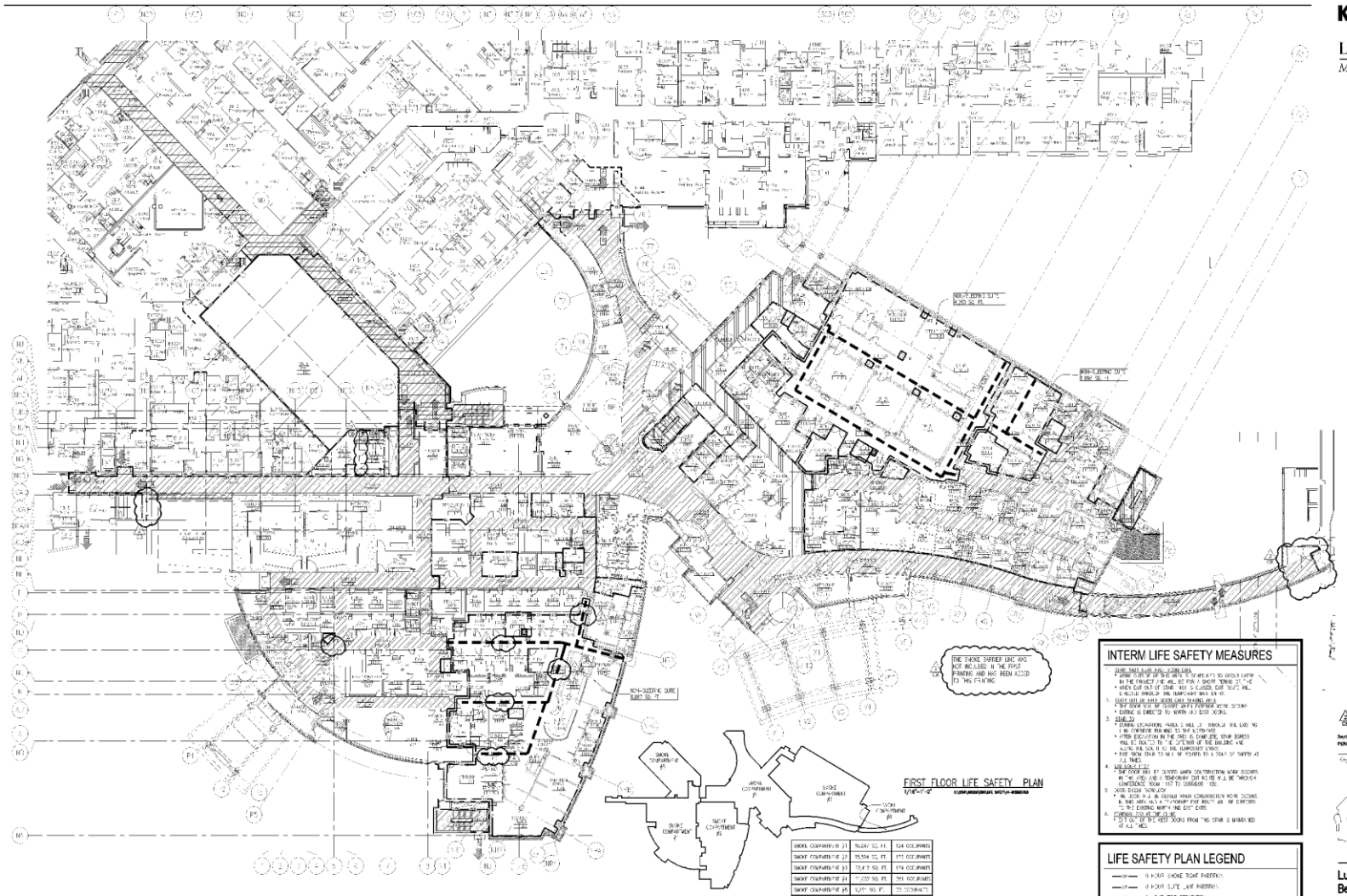
Emergency Lighting Plan Checklist

- Egress Plan
- Photometric Study
  - Option for Unit Equipment
- One-line Diagram of Emergency System
- Load Calculations

Emergency Lighting Plan Checklist

- Life Safety Egress Plan
- Photometric Study
  - Option for Unit Equipment
- One-line Diagram of Emergency System
- Load Calculations


SMOKE & FIRE SEPARATIONS
BASEMENT LIFE SAFETY FLOOR PLAN
Kahler Slater
experience design
Luther Midelfort
Mayo Health System
95% CONSTRUCTION DOCUMENTS - QA/QC FOR REFERENCE ONLY NOT FOR CONSTRUCTION
Luther Midelfort Bed Tower Expansion
Eau Claire, WI
Project No.
206200
Sheet Title
LIFE SAFETY BASEMENT FLOOR PLAN
Sheet No.
A1-0B-LS



INTERM LIFE SAFETY MEASURES

LIFE SAFETY PLAN LEGEND

CODE ANALYSIS SUMMARY

Kahler Slater
experience design

Luther Midelfort
Mayo Health System

CONSTRUCTION BULLETIN #2
NOVEMBER 21, 2008

September 15, 2008
PERMIT SET

Luther Midelfort
Bed Tower Expansion

Eau Claire, WI

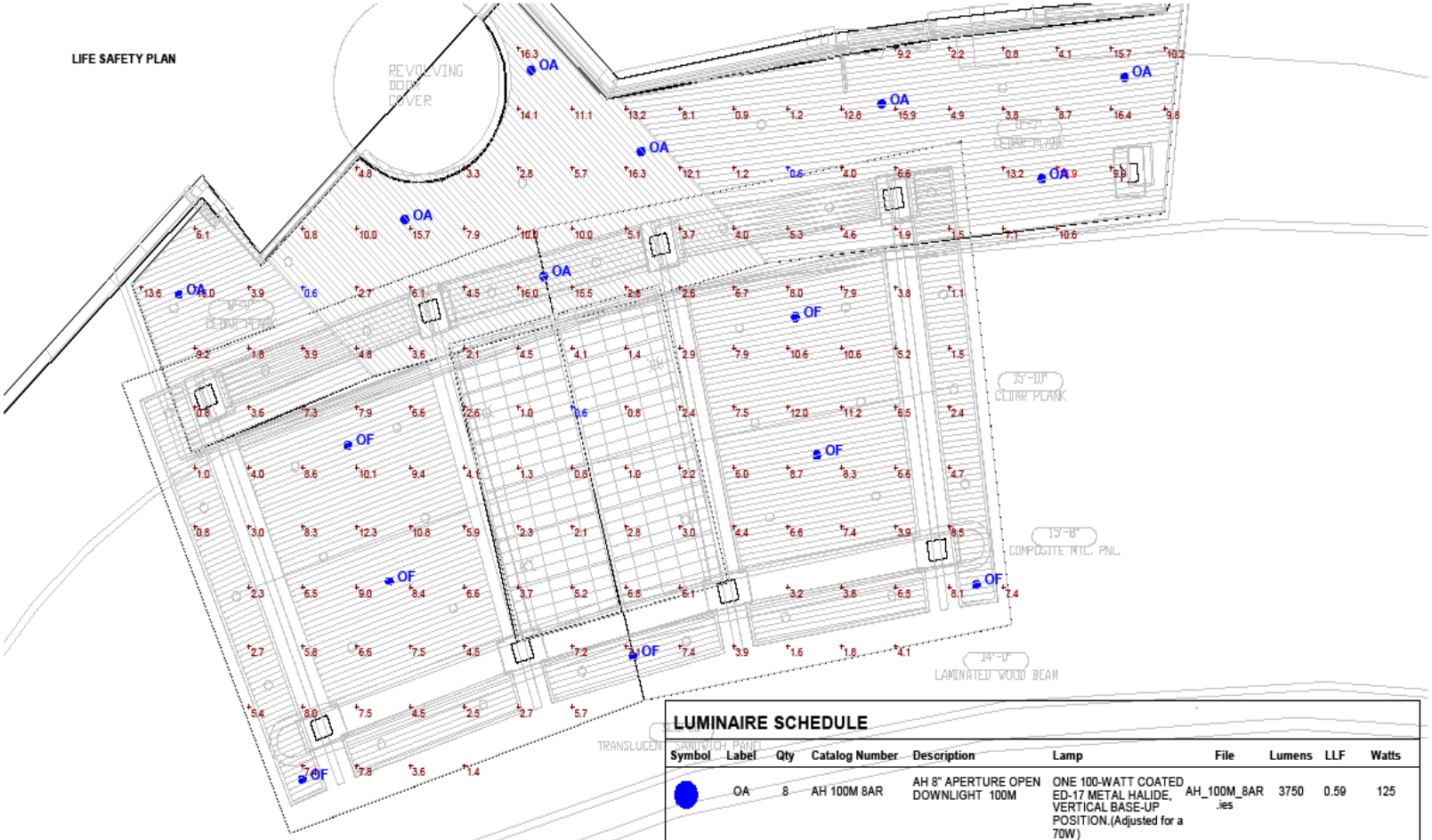
Project No.
206200

Sheet Title
LIFE SAFETY
FIRST FLOOR
PLAN

Sheet No.
A1-01-LS

Emergency Lighting Plan Checklist

- Egress Plan
- Photometric Study
  - Additional Option for Unit Equipment
- One-line Diagram of Emergency System
- Load Calculations



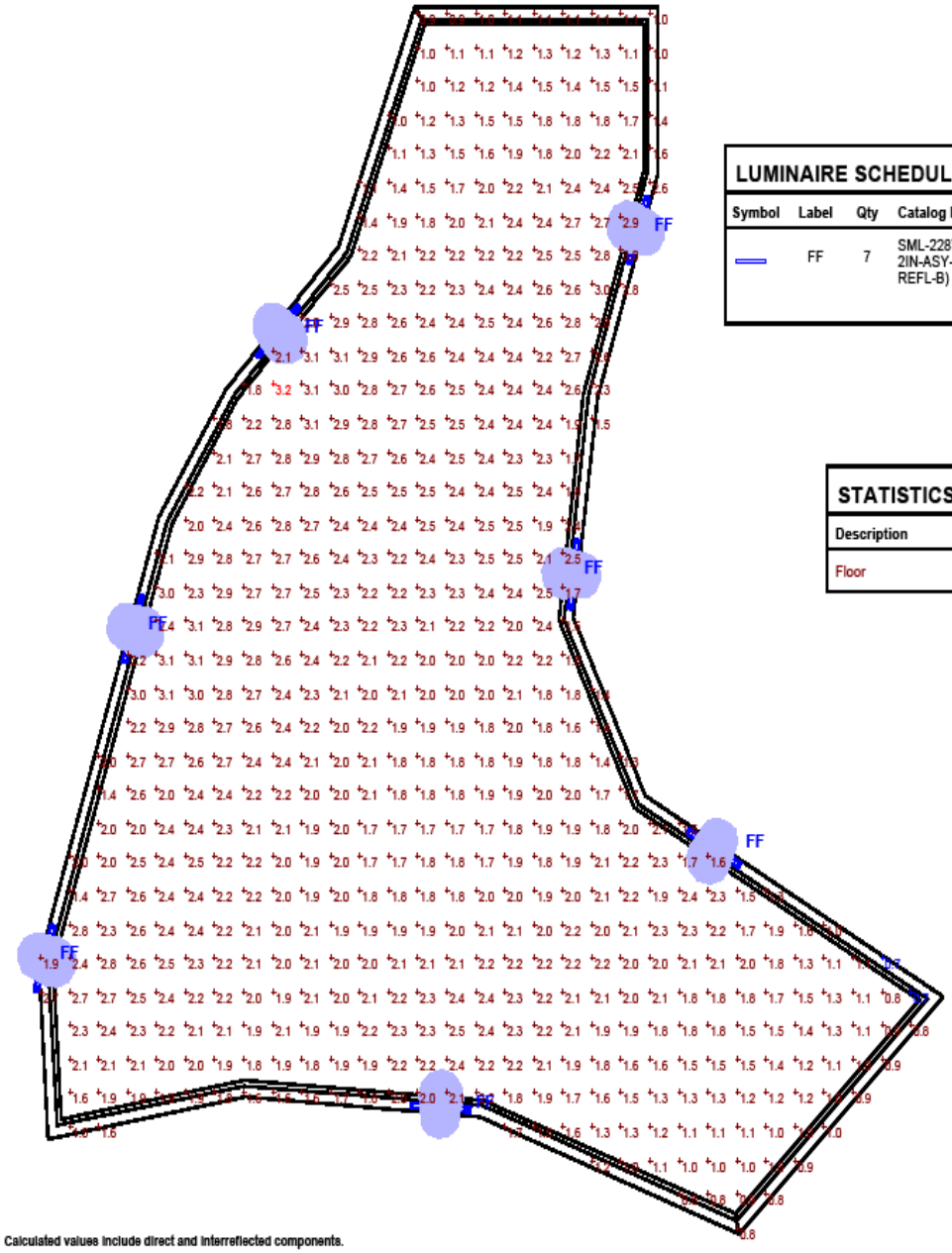
STATISTICS

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Ground	+	6.2 fc	16.9 fc	0.6 fc	28.2:1	10.3:1

Calculated values include direct and interreflected components.

LUMINAIRE SCHEDULE

Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
	OA	8	AH 100M 8AR	AH 8" APERTURE OPEN DOWNLIGHT 100M	ONE 100-WATT COATED ED-17 METAL HALIDE, VERTICAL BASE-UP POSITION.(Adjusted for a 70W)	AH_100M_8AR .ies	3750	0.59	125
	OF	7	AH 100M 8AR	AH 8" APERTURE OPEN DOWNLIGHT 100M	ONE 100-WATT COATED ED-17 METAL HALIDE, VERTICAL BASE-UP POSITION.(Adjusted for a 150W)	AH_100M_8AR .ies	5500	0.59	125
	OG	0	E1WT1002-1M150-FT (CLEAR LENS)	EXTRUDED METAL HOUSING WITH CAST WHITE PAINTED METAL END PLATES, FABRICATED PREMIUM SPECULAR TEXTURED	ONE 150-WATT CLEAR T-6 CERAMIC METAL HALIDE, PHILIPS CDM150/T6/830, HORIZONTAL POSITION.	OG - ITL56041.IES	14000	0.59	150



LUMINAIRE SCHEDULE

Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
	FF	7	SML-228T5 (SML-2IN-ASY-4FT-2LT-REFL-B)	SML Series Staggered Commercial Micro-Striplight with a solid asymmetrical reflector.	Two - F28T5/835 - 2900 Lumens ea. - 28 Watts ea. (LUMENS ADJUSTED TO REPLICATE (1) 24W T5HO)	SML-228T5 (SML-2IN-ASY-4FT-2LT-REFL-B).ies	2000	0.73	65

STATISTICS

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Floor	+	2.0 fc	3.2 fc	0.7 fc	4.6:1	2.9:1

Calculated values include direct and interreflected components.

STATISTICS

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Floor	+	7.5 fc	14.3 fc	0.9 fc	15.9:1	8.3:1

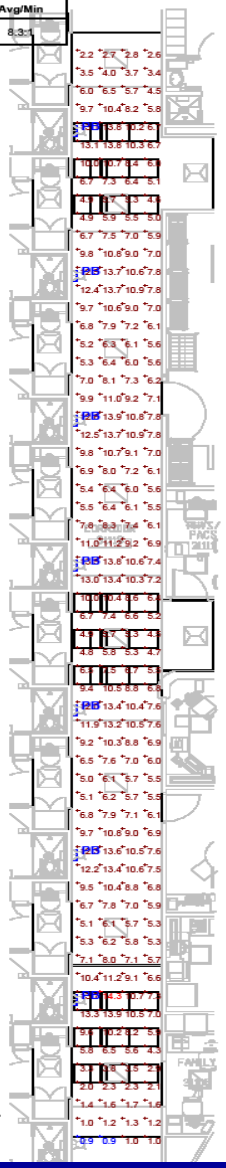
NOTES

1. This light level calculation is typical for all patient wing corridors. Refer to sheets EL1-02-01, EL1-02-02, EL1-03-01, and EL1-03-02 for patient wing lighting plans.

2. Refer to Light Fixture Schedule on sheets E5-00 and E5-01 for luminaire description.

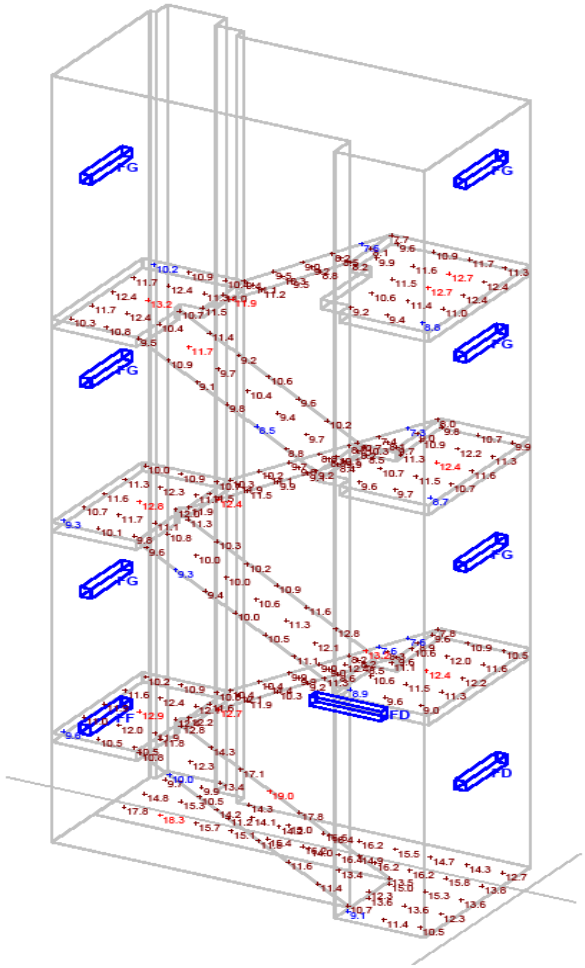
3. The calculation points are a 2' x 2' grid.

4. Reference Comm 63 2008, 63.0505 2008 and NFPA 101 2008, 7.9.2.1.



Plan View
Scale 1" = 8'

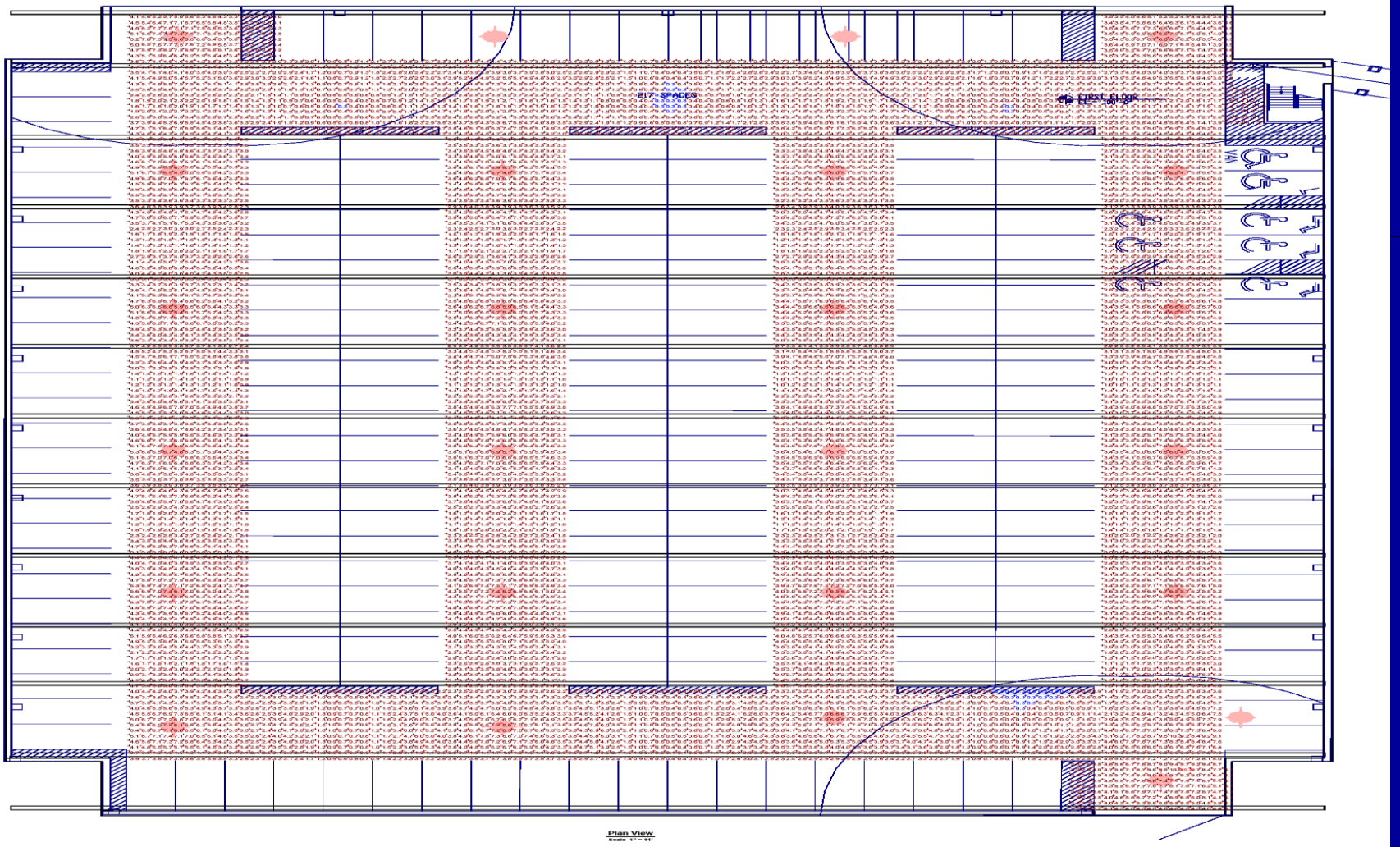
Calculated values include direct and interreflected components.



LUMINAIRE SCHEDULE

Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
	FD	2	LADA-SERIES - 1-UP & 2-DN	LIFE SAFETY - 2-DN		FD-BAL12183.IES	1900	0.72	61
	FG	6	LADA-SERIES - 2-UP & 2-DN	LIFE SAFETY - 2-DN		BAL11556.IES	1900	0.72	61
	FF	1	LADA-SERIES - 2-DN	LIFE SAFETY - 2-DN		FD-BAL12183.IES	1900	0.72	61

Calculated values include direct and interreflected components.



Plan View
Scale 1" = 11'

STATISTICS

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
EGRESS @ FLOOR	+	3.7 fc	10.5 fc	0.3 fc	35.0:1	12.2:1

LUMINAIRE SCHEDULE

Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
	EGRES	25	GP1-ps 150MH	CLEAR ACRYLIC LENS	CLEAR 150MH/U/MED ps	gardco GP1175M.IES	11000	1.00	210

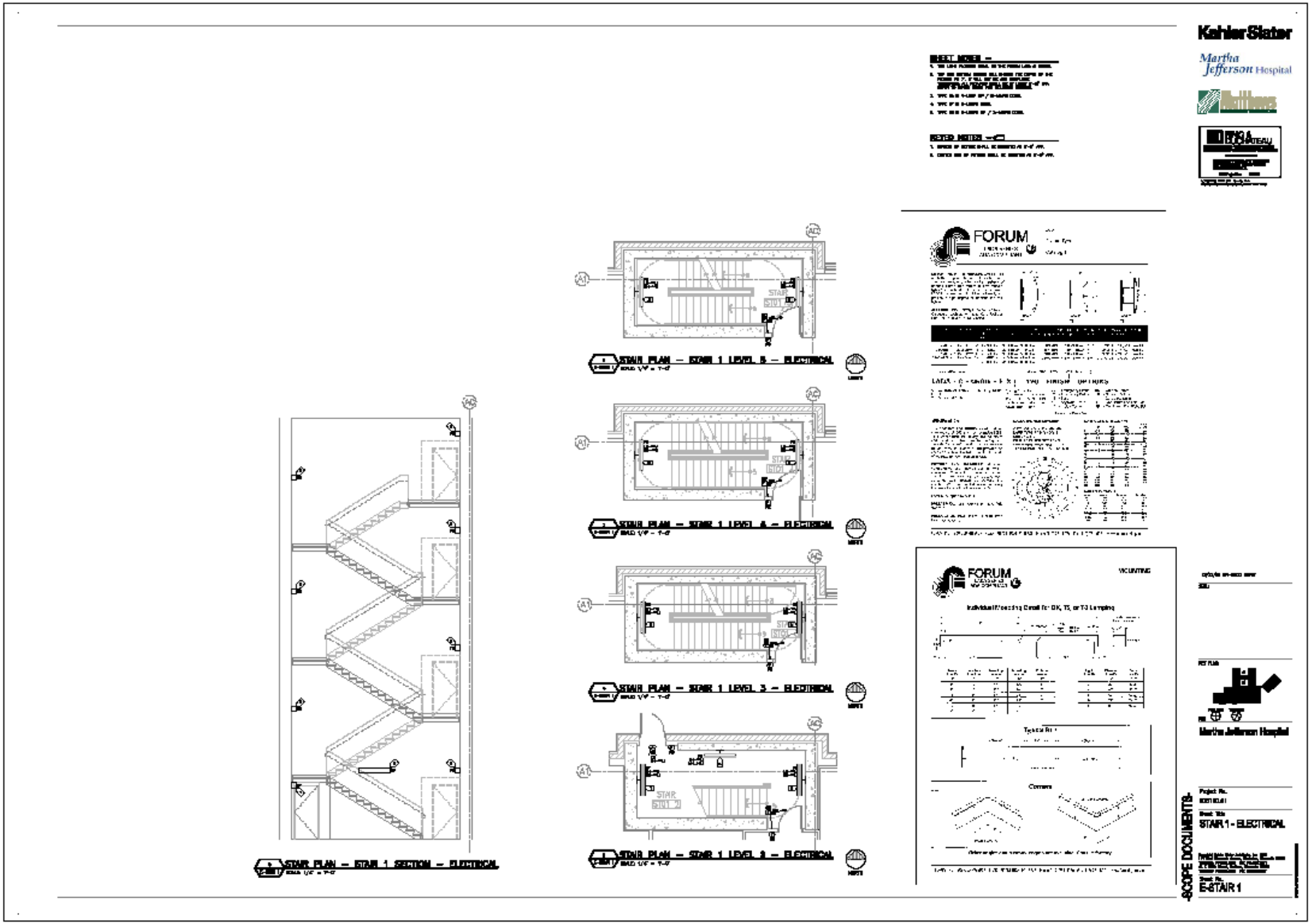
Calculated values include direct and interreflected components.

STATISTICS						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #2	+	13.3 fc	19.0 fc	10.0 fc	1.9:1	1.3:1
Calc Zone #3	+	9.7 fc	12.7 fc	7.6 fc	1.7:1	1.3:1
Calc Zone #4	+	10.9 fc	13.2 fc	9.3 fc	1.4:1	1.2:1
Calc Zone #5	+	9.6 fc	12.4 fc	7.3 fc	1.7:1	1.3:1
Calc Zone #6	+	10.0 fc	11.7 fc	8.5 fc	1.4:1	1.2:1
Calc Zone #7	+	9.5 fc	11.9 fc	7.6 fc	1.6:1	1.3:1
Calc Zone #8	+	11.5 fc	13.2 fc	10.2 fc	1.3:1	1.1:1
Calc Zone #9	+	11.0 fc	12.7 fc	8.8 fc	1.4:1	1.3:1
Calc Zone #10	+	10.7 fc	12.4 fc	8.7 fc	1.4:1	1.2:1
Calc Zone #11	+	11.1 fc	12.8 fc	9.3 fc	1.4:1	1.2:1
Calc Zone #12	+	10.8 fc	12.4 fc	8.9 fc	1.4:1	1.2:1
Calc Zone #13	+	11.4 fc	12.9 fc	9.6 fc	1.3:1	1.2:1
Calc Zone #21	+	14.4 fc	18.3 fc	9.1 fc	2.0:1	1.6:1

Calculated values include direct and interreflected components.

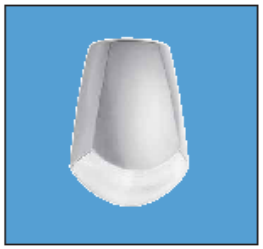
Emergency Lighting Plan Checklist

- Egress Plan
- Photometric Study
  - Option for Unit Equipment
- One-line Diagram of Emergency System
- Load Calculations


Kahler Slater
Martha Jefferson Hospital
FORUM
STAIR PLAN – STAIR 1 LEVEL 5 – ELECTRICAL
STAIR PLAN – STAIR 1 LEVEL 4 – ELECTRICAL
STAIR PLAN – STAIR 1 LEVEL 3 – ELECTRICAL
STAIR PLAN – STAIR 1 LEVEL 2 – ELECTRICAL
STAIR PLAN – STAIR 1 SECTION – ELECTRICAL
Martha Jefferson Hospital
STAIR 1 - ELECTRICAL
E-STAIR 1
SCOPE DOCUMENTS

Die-Cast Architectural Emergency Lighting Units

Affinity®



Intended Use

Provides a minimum of 90 minutes illumination for the rated wattage upon loss of AC power. Ideal for applications requiring attractive unit equipment.

Features

Compact, low-profile, architectural design with die-cast aluminum housing that has a contemporary brushed nickel-plated finish. Other available finishes are texturized polyester powder coat paint in white, black and dark bronze.

U.S. Patent No. D468,046.

Two 6W wedge-base xenon lamps offer 55 percent more light output than standard incandescent lamps.

Patent-pending reflector/refractor design features superior vac-metallized, die-casted reflectors and multi-faceted, highly transmissive refractor that significantly improve photometrics.

Maintenance-free lead-calcium battery (as a standard). Nickel-cadmium optional.

Dual-voltage input capability (120/277V).

Low-profile, integrated test switch/pilot light located below the lens.

Rigid conduit entry provision on top of the unit.

Remote version available for exterior use. Ideal for exit discharge applications.

Listings

UL Listed. Wet location (EXT) listed. Damp location (PREM, EXT) listed. Cold Weather (EXT) listed. Meets UL 924, NFPA 101, NFPA 70-NEC and OSHA illumination standards.

Ordering Information

Example: **AFN BN PREM**

Family	Input voltage	Finish	Option packages
AFN	(blank) 120/277V	W White B Black BN Brushed nickel DB Dark bronze[2]	(blank) Features lead-calcium battery PREM Features nickel-cadmium battery, self-diagnostics and damp location (0° to 50°C (32° to 122°F)) EXT Features high-temperature nickel-cadmium battery listed from -18° to 50°C (0° to 122°F), self-diagnostics, damp and wet location

NOTES:
1 Bronze housing only available with emergency package. This finish is not available on other units.

For fixture performance charts, see page 458.

Accessories	(Order separately)
ELA AFNRDB	Remote fixture (less batteries and electronics) to be powered by 6V battery equipment as part of an emergency lighting system (Listed from -40°C to 60°C)[1]

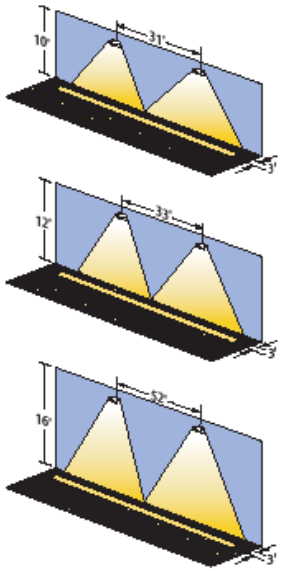
Width: 6-1/2 (16.5 cm)
Depth: 2-7/16 (6.2 cm)
Height: 9-1/2 (24.1 cm)
Weight: 3.5 lbs. (1.59 kgs.)

Dimensions are shown in inches (centimeters) unless otherwise noted.

Electrical Application Data					
	AC Input			Output	Output Watts
Type	Volts	Amps	Watts	Volts	1-1/2 hrs
AFN	120 277	.11 .12	1.1 1.3	6	12
AFN PREM	120 277	.15 .14	1.4 1.4	6	12
AFN EXT	120 277	.23 .25	2.1 3.5	6	12

MR24 Lamp Head Performance

High-Capacity Quantum® MR24 Lamp Head



ELM6 PERFORMANCE ADVANTAGE[2]

- 6-volt, 9-watt krypton lamp
- Typical 10' mounting height delivers 31 feet center-to-center spacing

ELM12 PERFORMANCE ADVANTAGE[2]

- 12-volt, 9-watt krypton lamp
- Typical 12' mounting height delivers 33 feet center-to-center spacing

ELM6 HALOGEN PERFORMANCE ADVANTAGE[2]

- 6-volt, 20-watt halogen lamp
- Higher mounting heights deliver 50+ feet center-to-center spacing

MR24 Lamp Head Recommended Center-to-Center Spacing Chart

Lamp type	Lamp voltage/ wattage	Quantum® unit lamp is used on	7.5' mounting height	10' mounting height	12' mounting height	16' mounting height	20' mounting height
K0606	6V/5.4W	ELM2[2]	25'	N/A	N/A	N/A	N/A
K0906	6V/9W	ELM618[2], ELM27[2], ELM654[2]	25'	31'	29'	27'	23'
K0912	12V/9W	ELM1254[2], ELM1272[2]	25'	33'	30'	29'	28'
H1206	6V/12W	ELM627, ELM654	N/A	29'	N/A	22'	N/A
H1212	12V/12W	ELM1254, ELM1272	N/A	31'	33'	39'	41'
H2006	6V/20W	ELM654	N/A	35'	37'	52'	49'
H2012	12V/20W	ELM1254, ELM1272	N/A	43'	41'	38'	32'

NOTES:

1 Meets LifeSafety Code® standards minimum illuminance of 0.1FC and average illuminance of 1.0FC. Assumes open space with no obstructions, 5-foot-wide path of egress, and reflectances of 80/50/20.

2 Standard lamp for this unit.

As Lithonia Lighting continues to improve the performance of its emergency lighting products, we also continue to improve the manner in which we communicate our products' performance. Instead of relying on lamp iso-footcandle diagrams to compare one source to the next, we now perform point-by-point illuminance calculations to more accurately depict how our products will perform in real commercial or industrial applications.

Point-by-point calculations depict illuminance coverage of an individual unit and/or multiple units in a space. Graphical representation of point-by-point for both a 3' and 6' path of egress are highlighted throughout the next few pages.

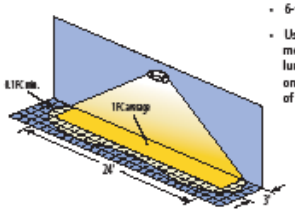
In the graphical representation, the rectangle depicts the area where an average of one footcandle (FC) is maintained. The surrounding curve represents the minimum 0.1 FC isocontour along the floor. The coverage of an individual unit, as well as the maximum spacing that can be achieved with multiple units is depicted in feet. The footnotes detail all the relevant information necessary to replicate each layout using your own lighting analysis software and IESNA format photometrics.

ELM2 MR24 Lamp Head

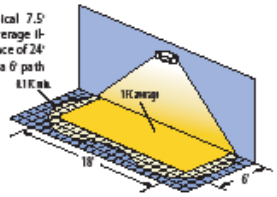
ELM2 Performance Advantage

Single-unit coverage[1]

- 6-volt, 5.4-watt krypton lamp
- Using a single unit at a typical 7.5' mounting height delivers an average illuminance of 1.0 FC over a distance of 24' on a 3' path of egress and 18' on a 6' path of egress.



Example of single ELM2 unit illuminating a 3' path of egress.



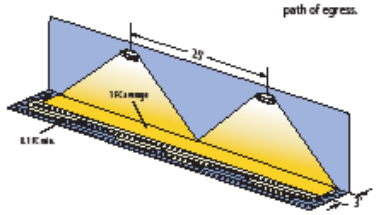
Example of single ELM2 unit illuminating a 6' path of egress.

1 FC average 0.1 FC minimum

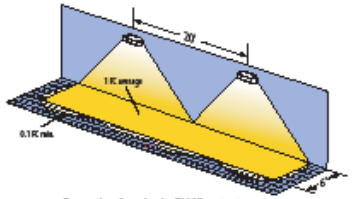
ELM2 Performance Advantage

Multiple-unit coverage[1]

- 6-volt, 5.4-watt krypton lamp
- Using multiple units at a typical 7.5' mounting height delivers 25' center-to-center spacing on a 3' path of egress and 20' center-to-center spacing on a 6' path of egress.



Example of multiple ELM2 units in a row illuminating a 3' path of egress.



Example of multiple ELM2 units in a row illuminating a 6' path of egress.

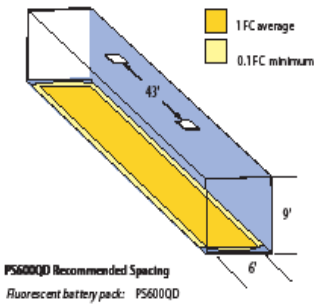
NOTES:

1 Meets Life Safety Code® standards in an illuminance of 0.1 FC and average illuminance of 1.0 FC. Assumes open space with no obstruction, mounting height: 7.5', ceiling height: 9', and reflectances: 80/50/20. Analysis is based on independent photometrics.

Power Sentry® Fluorescent Battery Pack Performance

Power Sentry Performance

Corridor Spacing



PS600QD Recommended Spacing

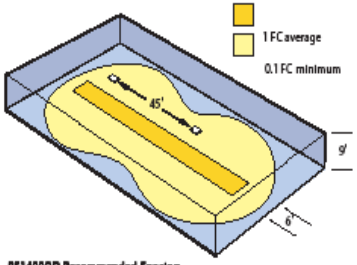
Fluorescent battery pack: PS600QD
Fluorescent fixture: Lensed troffer
Lamp type: F32T8

Power Sentry® Recommended Center-to-Center Spacing Chart

One Footcandle Average Spacing Guidelines – Corridor			
	T8 lensed troffer	T8 direct/indirect	T8 parabolic
PS300QD	24'	18'	21'
PSQ500QD	35'	28'	32'
PS600QD	43'	34'	40'
PS1400QD	57'	59'	53'

NOTE:
Meets Life Safety Code® standard minimum illuminance of 0.1 FC and average illuminance of 1.0 FC. Assumes (5) T8 lamps in each fixture, 8' WIDE 100' L corridor, ceiling height of 9' and reflectances of 80/50/20.

Open Office Spacing



PS1400QD Recommended Spacing

Fluorescent battery pack: PS1400QD
Fluorescent fixture: 2 x 4 parabolic
Lamp type: F32T8

Power Sentry® Recommended Center-to-Center Spacing Chart

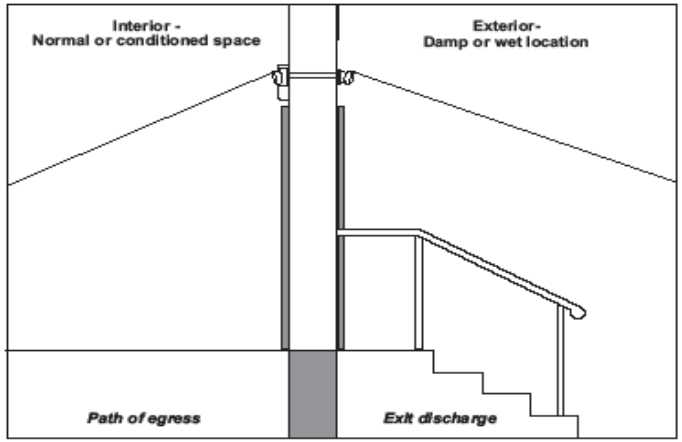
One Footcandle Average Spacing Guidelines – Open Office			
	T8 lensed troffer	T8 direct/indirect	T8 parabolic
PS300QD	16'	13'	17'
PSQ500QD	29'	21'	27'
PS600QD	35'	26'	34'
PS1400QD	47'	47'	45'

NOTE:
Meets Life Safety Code® standard minimum illuminance of 0.1 FC and average illuminance of 1.0 FC. Assumes (5) T8 lamps in each fixture, 100' WIDE 100' L open office, ceiling height of 9' and reflectances: 80/50/20.

Exit Discharge Application Guide

for Normally-off Fixtures

Traditional emergency lighting and exit signs were primarily focused on guiding occupants to the exterior of a building. Today, an additional focus is being placed on getting occupants to an exit safely and down a path of safety once they are out of the building. This guide will help define the exit discharge, reference code requirements for the exit discharge, and identify products that can be applied to meet exit discharge requirements. Either *normally-on* or *normally-off* fixtures can provide exit discharge illumination. **However, this guide will only cover *normally-off* remote fixtures.**



Exit Discharge

The exit discharge is the portion of the means of egress between the building exit and the public way. According to the 2003 Life Safety Code, section 3.3.175, a public way is defined as "A street, alley or other similar parcel of land essentially open to the outside air deeded, dedicated, or otherwise permanently appropriated to the public for public use and having a clear width and height of not less than 30ft (50mm) (120in)."

See page 4 for Code information.

Description

Since the nature of the exit discharge is outdoor applications, standard luminaires may not be suitable. Outdoor applications fall into two categories: *damp location* or *wet location*. According to chapter one, article 100, of the 2002 National Electrical Code, *damp locations* include ". . .partially protected locations under canopies, marquees, roofed open porches, and like locations. . ." *Wet location* is partially defined as ". . .locations subject to saturation with water or other liquids, such as vehicle washing areas; and in unprotected locations exposed to weather."

INDX

Intended Use

Provides a minimum of 90 minutes of illumination for the rated wattage upon loss of AC power. Unique design for heavy and demanding industrial applications such as manufacturing plants, refineries, chemical plants, wastewater treatment facilities, food processing facilities, breweries, loading docks and other applications subject to hosedown or industrial conditions. Superior-performance lamp heads are ideally suited for higher mounting heights. Perfect for pole and column mounting.

Features

Rugged, heavy-duty polycarbonate housing is sealed, gasketed and corrosion resistant.

Vertical orientation – designed especially for pole or column mounting. Also suitable for wall and I-beam mounting.

Easy-mount installation with one epoxy-coated galvanized, 12-gauge steel mounting bracket shipped standard. Conduit entry points are located on top and both sides of the unit. Maintenance is made easy by tool-less re-lamp, single tool entry, hinging front cover, printed circuit board mounting shelf and battery belt.

Sealed maintenance-free, lead-calcium battery with wattage capacities from 18 to 125W for 90 minutes of emergency operation. Available in 6, 12 and 24V.

Dual-voltage input (120/277V). U.S. Patent No. D419,097, 6,135,624 and 6,193,395.

Listings

UL Listed. Cold weather (ULT) listing. Meets UL 924, NFPA 101, NEC and OSHA illumination standards. NOM Certified units available (consult factory). NEMA 4; 4X Rated. IP66 and NSF listed.

Ordering Information

Example: **INDX12100 H1212 ULT**

Family

6 volts	
INDX0618	18W
INDX0654	54W
INDX0610[1]	100W
12 volts	
INDX1236	36W
INDX1254	54W
INDX12100	100W[2]
INDX12125	125W
24 volts	
INDX2410[3]	100W

Housing color

(blank)	Gray
W	White

Lamp type (2 heads)

6 volts	
PAR36 composite	
(blank)	9W/6V krypton
H1206	12W/6V halogen
H2006	20W/6V halogen
12 volts	
PAR36 composite	
(blank)	9W/12V krypton
H1212	12W/12V halogen
H2012	20W/12V halogen
12 volts (cont'd)	
PAR36 sealed-beam	
H35125	35W/12V halogen
H50125	50W/12V halogen
24 volts	
PAR36 composite	
(blank)	18W/24V incand.
H2424	20W/24V halogen
PAR36 sealed-beam	
H50245	50W/24V incand.

Option packages

(blank)	UL Listed to 4X standards.
XTRA	Extra package features remote test and time delay. UL Listed for 10°C to 40°C (50°F to 104°F).[1]
SEL	Select package features self-diagnostics, time delay and audible failure indicator. UL Listed for 10°C to 40°C (50°F to 104°F).
PREM	Premium package features high temperature nickel-cadmium battery (INDX0618 or INDX1236 only) or high ambient lead-calcium battery (INDX12100 only), self-diagnostics, time delay and audible failure indication. UL Listed for 10°C to 55°C (32°F to 131°F).[1]
ULT	Ultimate package features heater, thermostat and battery blanket with a high temperature nickel-cadmium battery (INDX0618 or INDX1236 only) or high ambient lead-calcium battery (INDX12100 only), self-diagnostics, time delay and audible failure indication. UL Listed for -40°C to 55°C (-40°F to 131°F).[1]

Electrical Application Data

Type	AC Input Volts	AC Input Amps	AC Input Watts	Output Volts	Output Watts 1-1/2hr.	2hr.	3hrs.	4hrs.
Primary Circuit								
INDX0618	120	.095	19.56	6	18	13.5	9	6
	277	.41	19.11	6	18	13.5	9	6
INDX0654	120	.171	20.64	6	54	40	27	20
	277	.073	20.78	6	54	40	27	20
INDX06100	120	.144	20.52	6	100	75	50	37.5
	277	.062	20.22	6	100	75	50	37.5
INDX1236	120	.174	18.24	12	36	27	18	13
	277	.078	17.73	12	36	27	18	13
INDX1254	120	.174	20.88	12	54	40	27	20
	277	.078	21.61	12	54	40	27	20
INDX12100[3]	120	.160	20.88	12	100	75	50	37.5
	277	.072	20.55	12	100	75	50	37.5
INDX12125	120	.160	20.88	12	125	93	62	46
	277	.072	20.55	12	125	93	62	46
INDX2410[3]	120	.33	39.6	24	100	75	50	37
	277	.15	41.55	24	100	75	50	37

Accessories (Order separately)

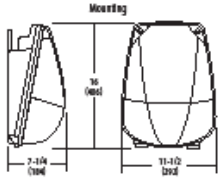
ELA RTT	Remote test transmitter[2] (for use with XTRA package, remote testing option.
ELA BS	Banding strap
ELA INDXCM2	Ceiling mount kit for INDX0654/1236/1254
ELA WG4/8	Wireguard

NOTES:
1. INDX12100 is available with either the PREM or ULT package only.
2. Must order a remote transmitter (ELA RTT). One per job required.
3. Only available on INDX0618, INDX1236 or INDX12100.

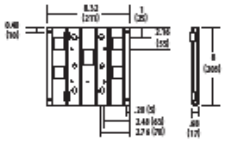
For spacing and performance guidelines, please see page 459.

Dimensions are shown in inches (millimeters) unless otherwise noted.

Mounting



Mounting Bracket

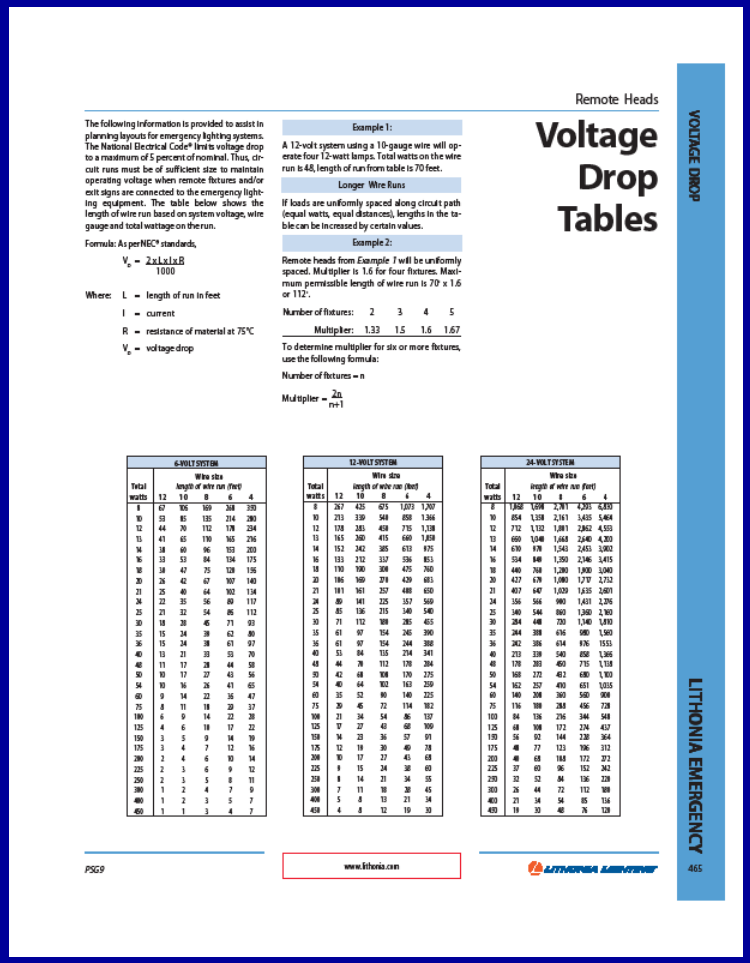


www.lithonia.com, keyword: INDX

NEC 700.16

- Failure of any individual lighting elemental… cannot leave in total darkness any space that requires emergency illumination

Using Remote Heads?



Remote Heads

Voltage Drop Tables

VOLTAGE DROP

The following information is provided to assist in planning layouts for emergency lighting systems. The National Electrical Code® limits voltage drop to a maximum of 5 percent of nominal. Thus, circuit runs must be of sufficient size to maintain operating voltage when remote fixtures and/or exit signs are connected to the emergency lighting equipment. The table below shows the length of wire run based on system voltage, wire gauge and total wattage on the run.

Formula: As per NEC® standards,

$$V_d = \frac{2 \times L \times I \times R}{1000}$$

Where: L = length of run in feet
I = current
R = resistance of material at 75°C
V_d = voltage drop

Example 1:

A 12-volt system using a 10-gauge wire will operate four 12-watt lamps. Total watts on the wire run is 48, length of run from table is 70 feet.

Longer Wire Runs

If loads are uniformly spaced along circuit path (equal watts, equal distances), lengths in the table can be increased by certain values.

Example 2:

Remote heads from *Example 1* will be uniformly spaced. Multiplier is 1.6 for four fixtures. Maximum permissible length of wire run is 70' x 1.6 or 112'.

Number of fixtures:	2	3	4	5
Multiplier:	1.33	1.5	1.6	1.67

To determine multiplier for six or more fixtures, use the following formula:

Number of fixtures = n

$$\text{Multiplier} = \frac{2n}{n+1}$$

6-VOLT SYSTEM

Total watts	Wire size / length of wire run (feet) 12	10	8	6	4
8	67	106	169	268	393
10	53	85	135	214	280
12	44	70	112	178	234
13	41	65	170	165	216
14	38	60	96	153	203
16	33	53	84	134	175
18	30	47	75	120	156
20	26	42	67	107	140
21	25	40	64	102	134
24	22	35	56	89	117
25	21	32	54	86	112
30	18	30	45	71	93
35	15	24	39	62	80
36	15	24	38	61	97
40	13	21	33	53	70
48	11	17	28	44	58
50	10	17	27	43	56
54	10	16	26	41	65
60	9	14	22	36	47
75	8	11	18	29	37
100	6	9	14	22	28
125	4	6	10	17	22
150	3	5	9	14	19
175	3	4	7	12	16
200	2	4	6	10	14
225	2	3	6	9	12
250	2	3	5	8	11
300	1	2	4	7	9
400	1	2	3	5	7
450	1	1	3	4	7

12-VOLT SYSTEM

Total watts	Wire size / length of wire run (feet) 12	10	8	6	4
8	267	435	675	1,073	1,707
10	213	339	548	858	1,366
12	178	285	458	715	1,138
13	165	260	415	660	1,050
14	152	242	385	613	975
16	133	212	337	536	853
18	120	190	308	475	760
20	106	169	278	439	685
21	101	161	257	488	650
24	89	141	225	357	569
25	85	136	215	340	540
30	71	112	180	285	455
35	61	97	154	245	390
36	61	97	154	244	388
40	53	84	135	214	341
48	44	70	112	178	284
50	42	68	108	170	275
54	40	64	102	163	259
60	35	52	90	140	225
75	30	45	72	114	182
100	21	34	54	86	137
125	17	27	43	68	109
150	14	23	36	57	91
175	12	19	30	49	78
200	10	17	27	43	68
225	9	15	24	38	60
250	8	14	21	34	55
300	7	11	18	30	45
400	5	8	13	21	34
450	4	8	12	19	30

24-VOLT SYSTEM

Total watts	Wire size / length of wire run (feet) 12	10	8	6	4
8	1,068	1,698	2,701	4,293	6,830
10	854	1,358	2,161	3,435	5,464
12	712	1,132	1,801	2,862	4,553
13	660	1,048	1,668	2,650	4,202
14	610	970	1,543	2,453	3,903
16	534	848	1,350	2,146	3,415
18	440	768	1,200	1,900	3,040
20	427	679	1,080	1,717	2,732
21	407	647	1,029	1,635	2,601
24	356	566	900	1,431	2,276
25	340	546	860	1,360	2,160
30	284	448	720	1,140	1,810
35	244	388	616	980	1,560
36	242	386	614	976	1553
40	213	338	540	858	1,366
48	178	283	450	715	1,138
50	168	272	432	680	1,100
54	162	257	490	651	1,035
60	140	208	360	560	900
75	116	188	288	456	728
100	84	136	216	344	548
125	68	108	172	274	437
130	56	92	144	230	364
175	48	77	123	196	312
200	48	68	108	172	272
225	37	60	96	152	242
230	32	52	84	136	228
300	26	44	72	112	188
400	21	34	54	85	136
450	19	30	48	76	128

PSG9

www.lithonia.com

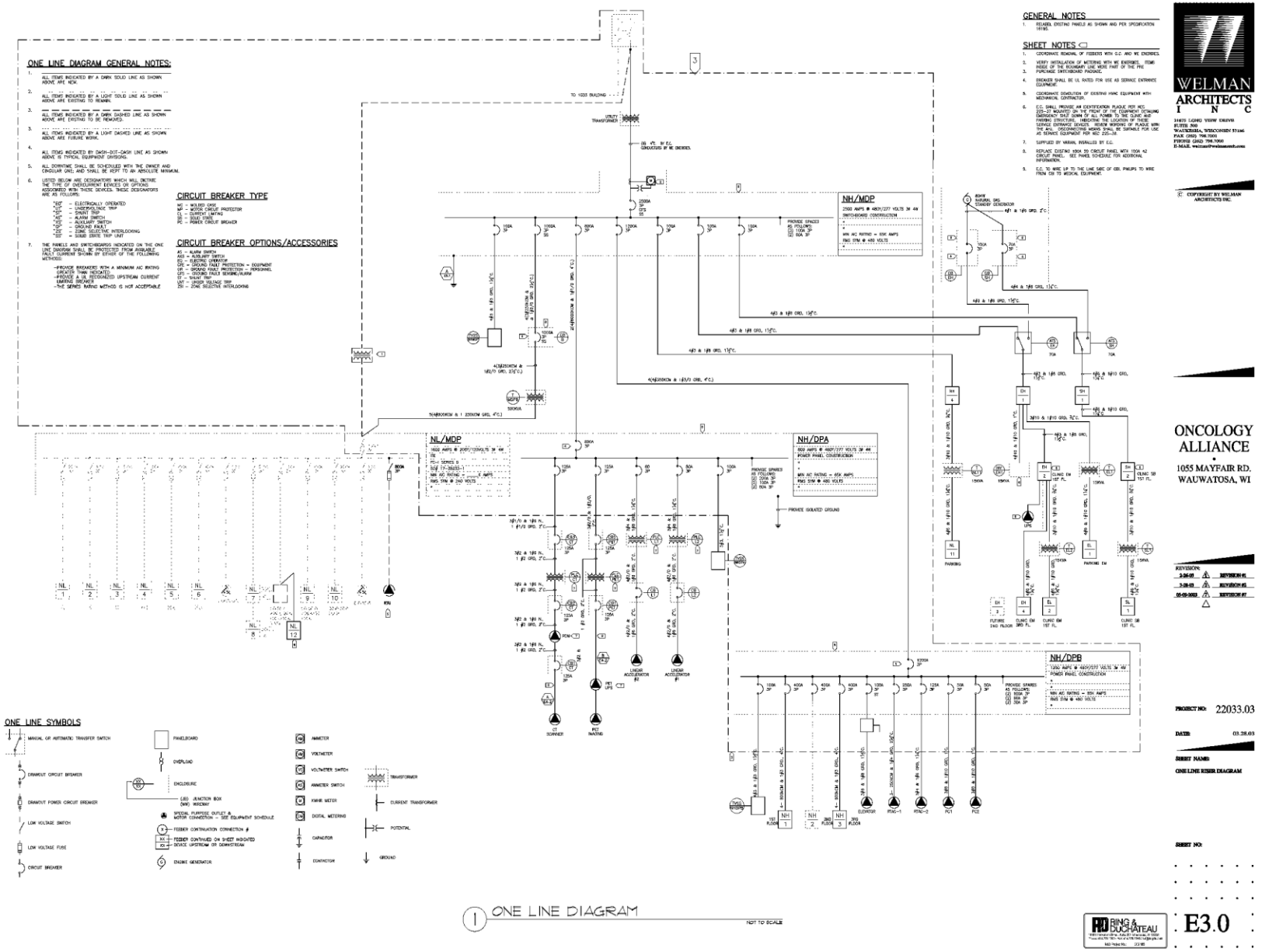
LITHONIA EMERGENCY

465

- Voltage Drop
- Wiring Method
- SPS 316.700

Emergency Lighting Plan Checklist

- Egress Plan
- Photometric Study
  - Option for Unit Equipment
- One-line Diagram of Emergency System
- Load Calculations


ONE LINE DIAGRAM GENERAL NOTES:
CIRCUIT BREAKER TYPE
CIRCUIT BREAKER OPTIONS/ACCESSORIES
NH/MDP
NL/MDP
NH/DPA
NH/DPB
ONE LINE SYMBOLS
GENERAL NOTES
SHEET NOTES
WELMAN ARCHITECTS INC
ONCOLOGY ALLIANCE
1055 MAYFAIR RD.
WAUWATOSA, WI
PROJECT NO: 22033.03
DATE: 03.28.03
SHEET NAME: ONE LINE RISER DIAGRAM
SHEET NO: E3.0
ONE LINE DIAGRAM
NOT TO SCALE

Emergency Lighting Plan Checklist

- Egress Plan
- Photometric Study
  - Option for Unit Equipment
- One-line Diagram of Emergency System
- Load Calculations

Emergency Lighting Plan Checklist

- Load Calculations for Emergency Lighting
  - Sum of emergency lighting load less than source capacity
- Battery Information for Unit Equipment
  - Ampere-hour rating sufficient for required duration

Reduced-Profile Fluorescent Battery Packs, Linear Fluorescent Fixtures

Power Sentry®

Intended Use

Factory- or field-installed inside or outside (field only) a fluorescent fixture to operate lamp(s) at an initial output of 10% to 95% of rated lamp lumens, providing optimum glare-free illumination for a minimum of 90 minutes upon interruption of normal power.

Features

Mounts concealed within fixture wireway for clean appearance and protection against vandalism.

Reduced-profile footprint fits in the tightest application. Durable thermoplastic/metal housing resists impact, scratches or corrosion.

Sealed, maintenance-free, high-temperature nickel-cadmium batteries.

Patent-pending Quick-Dis connect connector system allows for quick and easy replacements at end of life without re-wiring.

Patents pending. U.S. patent No. 5,814,971.

Listings

UL Listed. Damp location listing available.

Ordering Information

Example: **PS1400QD SD**

PS300QD	Reduced profile, Quick-Disconnect, 300 lumen output
PS0500QD	Reduced profile, Quick-Disconnect, 15-minute installation, 500 lumen output
PS600QD	Reduced profile, Quick-Disconnect, 600 lumen output
PS1400QD	Reduced profile, Quick-Disconnect, 1400 lumen output

QD QUICK DISCONNECT

Options	
SD	Self-diagnostics[2]
DW	UL Listed for use inside damp or wet location listed fixtures 0-50°C (32-122°F)[3]

Factory Installation[4,5]	
EL	PS300QD Installed[6]
EL5	PS0500QD Installed[6,7]
EL6	PS600QD Installed[6,8]
EL41LP	PS600QD one-lamp operation Installed[6,7]
EL14	PS1400QD Installed[6,7]
EL141LP	PS1400QD one-lamp operation Installed[6,8]

NOTES:
1. Self-diagnostics (PSSD) module ships separately. See PSSD spec sheet for details. Not available on PS300QD.
2. Not available with Quick Disconnect wire harness. See below for housing dimensions.
3. To order factory-installed battery pack, add suffix to fixture catalog number.
4. Add DW to factory-installed suffix to receive correct ordering location listed, depending on the fixture. Applies to EL, EL5, EL6, EL14. Example: EL14 DW.
5. Add SD to suffix to receive self-diagnostics version. Example: EL5SD. Applies to EL5, EL6 and EL14.

Accessories	(Order separately)
PSSD	Field installable self-diagnostic modules for PS0180 DW, PS0300QD, PS600 DW, PS600QD, PS1400 DW or PS1400QD
ELATSPLP	Remote or replacement test switch/pilot light and mounting plate PS300, PS300QD, PS0180, PS0180QD, PS600, PS600QD, PS1400 and PS1400QD.
ELATSPLP SD	Remote or replacement test switch/pilot light and mounting plate for self-diagnostics PS0180SD, PS0180QDSD, PS600SD, PS600QDSD, PS1400SD and PS1400QDSD
ELAPSTS	Double-pole, single-throw test switch (no pilot light)
ELA PSMK	External mounting kit
ELA PSMKSD	External mounting kit for self-diagnostics module
ELA PSDMT	External mounting tray

lightquick XD
Express delivery products.
See page 11 for details about LightQuick XD.

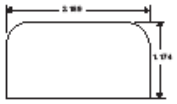
Description
PS300QD
PS0500QD
PS1400QD

Special voltages/frequencies available; consult factory. For lamp/ballast compatibility, see page 457. For application guidelines and fixture performance data, see pages 454 and 460.

Electrical Application Data			
	AC Input		
Type	Volts	Amps	Watts
PS300QD	120/277	.39	2.5
PS0500QD	120/277	.39	2.5
PS600QD	120/277	.39	3.0
PS1400QD	120/277	.39	3.5

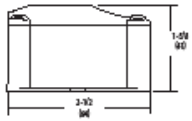
All measurements are shown in inches (and fractions) unless otherwise noted.

PS300QD/PS0500QD/PS600QD/PS1400QD
Cross section and view



Length: 13.0 (331.0) – PS1400QD
Length: 9.5 (241.3) – all others
Width: 2.2 (59.9)
Height: 1.3 (32.9)
Shipping weight:
PS300QD: 1.0 lbs. (0.45 kgs.)
PS0500QD: 1.0 lbs (0.45 kgs.)
PS600QD: 1.5 lbs (0.68 kgs.)
PS1400QD: 2.0 lbs (0.9 kgs.)

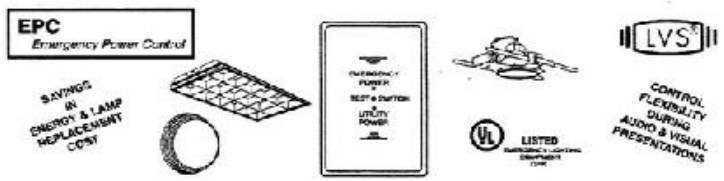
PS300 DW / PS0500 DW / PS600 DW / PS1400 DW
Cross section and view



Length: 13.0 (331.0) – PS1400DW
Length: 9.5 (241.3) – all others
Width: 2.5 (63.5)
Height: 1.9 (49.0)
Shipping weight:
PS300DW: 1.4 lbs. (0.6 kgs.)
PS0500DW: 1.8 lbs (0.45 kgs.)
PS600DW: 1.8 lbs (0.8 kgs.)
PS1400DW: 4.0 lbs (2.5 kgs.)

Emergency Lighting Plan Checklist

- Switching Emergency Lighting?
  - Use only UL 924 Listed control Modules
  - Submit control diagram



Applications and Instructions of Model EPC & EPC- PM

In the past all emergency lights had to be on 24 hours a day to meet safety codes. However, now you can specify and install a UL 924 listed emergency power control device that can convert and control up to 20 regular light fixtures to approved emergency lights which can be turned on and off. The emergency power control Model EPC is and ceiling mounted in a single gang plaster ring and is usually located in the room or area where the emergency fixtures are, or you can use a device Model EPC-PM which is fast and simple to install in the appropriate junction box in the space above a suspended ceiling.

Method of control

The emergency light fixtures' power is supplied by a 24 hour emergency power distribution panel. The utility power company normally supplies the power to this panel, but during a utility power failure this panel is automatically switched over to a local generator source by means of a UL 1008 transfer switch. The standard room switch turns on and off both regular lights and emergency lights through the same switch leg by means of the Emergency Power Control that controls all the emergency light fixtures. You can save energy by using an EPC and turn on and off your room emergency lights manually with your room switch, or automatically with an occupancy sensor or energy management system. During local or general power failure these emergency fixtures will illuminate automatically, regardless of room switch on or off position, conforming to all life safety codes.

EPC Specifications and Features

■ Fail safe operation ■ Visible emergency power LED ■ Visible regular power LED ■ All components are protected with surge protectors. ■ Convenient to operate test switch ■ Fast to install ■ Short circuit proof output because EPC load relay is able to withstand 15 direct shorts on a 20 Amp circuit breaker without damage.

The EPC is equipped with a green LED which indicates if regular utility power is available and field wiring is connected correctly. The red LED on EPC has the same function for emergency power in a new installation. The above test will confirm the correct wire connections and continuity to branch panels and emergency panels.

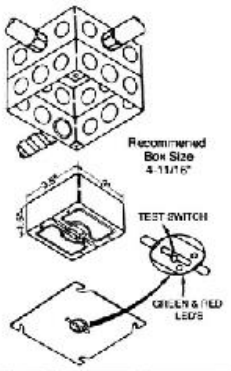
Automatic Diagnostic Test Feature

Model EPC is equipped with an automatic diagnostic test feature which is initiated when the room switch is momentarily turned on and then off. This simple, effortless test procedure will turn the emergency luminaires on for 5 seconds, indicating that an emergency power source is available and that the Model EPC, ballast, and lamp, are all functioning correctly. At all other times the room switch operates normally by turning both regular and emergency luminaires on at the same time. The unique advantage of the Model EPC leaves only the emergency luminaires on for an additional 5 seconds after regular luminaires are turned off, providing safety and convenience while leaving the area. In addition it eliminates the use of a ladder during the required every 30 days testing, which is usually done by a custodian.

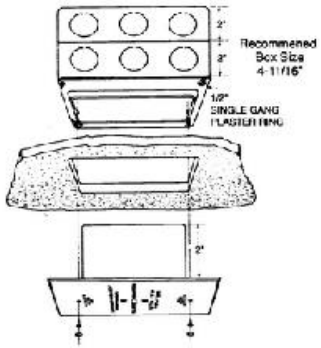
1

Print This Page Return to Menu Page 1 of 4 Next Page

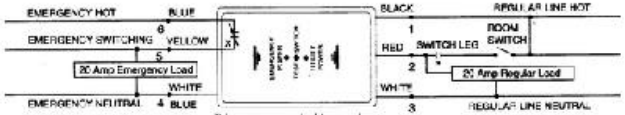
EPC-PM JUNCTION BOX INSTALLATION



EPC-CEILING INSTALLATION

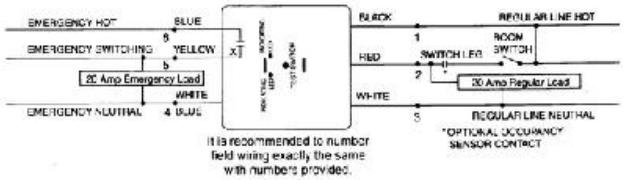


MODEL EPC WIRING DIAGRAM



LISTED

MODEL EPC-PM WIRING DIAGRAM

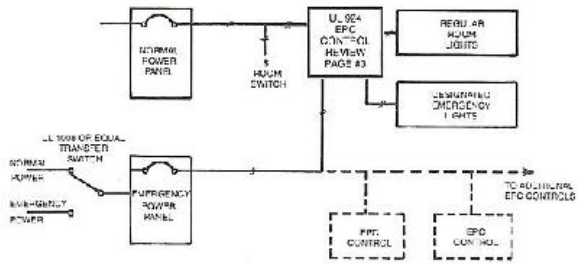


NOTE: Regular room lighting load does not affect E.P.C. current rating. Room switch is only used to control E.P.C. 30 milli amp relay current coils, and regular lighting load. Regular line HOT connected to breaker and E.P.C. is only drawing milli amps to sense if normal power is available. See E.P.C. wiring diagram for clarification.

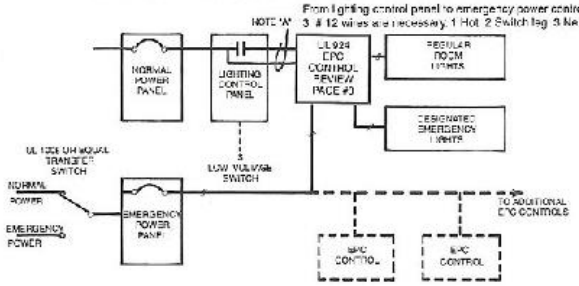
3

Print This Page Return to Menu Previous Page **Page 3 of 4** Next Page

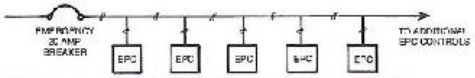
STANDARD LINE VOLTAGE SWITCHING LINE DRAWING



RELAY PANEL LOW VOLTAGE SWITCHING LINE DRAWING



On a 20 amp circuit 1 emergency power control unit (Model EPC) can control up to 18 amp of emergency lighting load, or 18 emergency power controls can each control 1 amp of emergency lighting load.



NOTE: Regular room lighting load does not affect E.P.C. current rating. Room switch is only to control E.P.C. 60 milli amp relay current coils, and regular lighting load. Regular line HOT connected to breaker and E.P.C. is only drawing milli amps to sense if normal power is available. See E.P.C. wiring diagram for clarification.

LVS, Inc. 2555 Nicholson St., San Leandro, CA 94577
Tel: 1-800-882-4587 Fax: 510-352-6707

4

Print This Page Return to Menu Previous Page Page 4 of 4

Testing Emergency Lighting Systems

Emergency Lighting-Testing

- Pre-test Coordination
- Running the Test
- Calculating the Results

Emergency Lighting-Testing
Pre-test Coordination Meeting

- Who needs to participate?
  - Designer
  - Inspector
  - Installer

Pre-Test Coordination

Emergency Lighting-Testing Pre-test Coordination Meeting

- What needs to be present?
  - State Approved Plans
    - **Including Life Safety Plan**
  - Conditional Approval Letter
  - Floor Plans showing emergency fixture locations
  - Light meter or two

Emergency Lighting-Testing Pre-test Coordination Meeting

- When should the meeting take place?
  - Prior to testing

Emergency Lighting-Testing Pre-test Coordination Meeting

- Agenda Items:
  - **Assign roles:**
    - **Who will use light meter(s)?**
    - **Who will record results?**
  - **Areas to be tested?**
    - **Mark on floor plan**
  - **Sequence that areas will be tested?**
    - **Mark sequence on floor plan**
  - **Does emergency source need to be active?**
    - **Test generator start and run under full load at least once**
    - **Unit Equipment- Identify location of normal source circuit breaker**

Emergency Lighting-Testing Pre-test Coordination Meeting

- Agenda Items:
  - **Agree to Test Methodology for each area**
  - **Identify Unique Areas**
    - **Determine test pattern**
    - **Example: Atrium**
      - **Grid spacing?**
  - **Identify Similar Areas**
    - **Determine test pattern**
    - **Example: Corridors with similar characteristics**
      - **Width and height**
      - **Ceiling, wall, and floor reflectance**
      - **On center spacing?**

Emergency Lighting-Testing Pre-test Coordination Meeting

- Agenda Items:
  - Special Test Considerations:
    - **Stairways- Develop a systematic test pattern**
      - **Test on nose of tread?**
      - **How many locations?**
      - **Test on each landing?**
      - **Occupancy Sensors?**
    - **HID lighting with Quartz Lamp-**
      - **Re-strike Interval? Test Quickly**
      - **Base results on Quartz Lamp**

Emergency Lighting-Testing Pre-test Coordination Meeting

- Prior to Start:
  - Background lighting?
    - **Exterior**
    - **Adjacent areas**
    - **Normal lighting**

Emergency Lighting-Testing Run Test

- Execute plan:
- Example: Atrium
  - Grid spacing- 25 foot on-center
  - Meter on Floor at grid-point
  - Record each result

Atrium

Emergency Lighting-Testing Run Test

- Execute plan:
- Example: Corridor
  - Test spacing- 15 foot on-center
  - Test down center-line for narrow corridors
  - Test using W-pattern for wide corridors
  - Meter on Floor at test-point
  - Record each result

STATISTICS

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Floor	+	7.5 fc	14.3 fc	0.9 fc	15.9:1	8.3:1

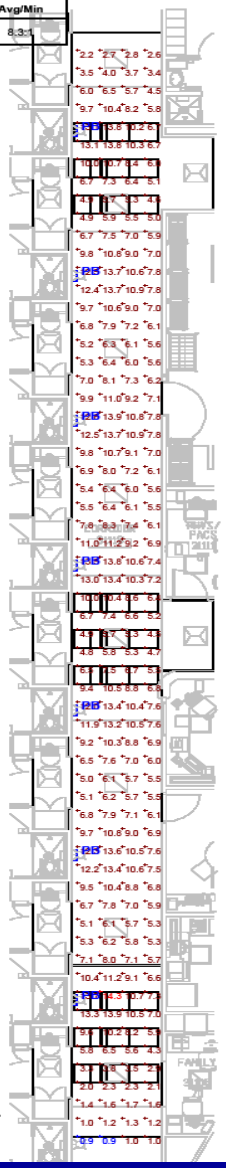
NOTES

1. This light level calculation is typical for all patient wing corridors. Refer to sheets EL1-02-01, EL1-02-02, EL1-03-01, and EL1-03-02 for patient wing lighting plans.

2. Refer to Light Fixture Schedule on sheets E5-00 and E5-01 for luminaire description.

3. The calculation points are a 2' x 2' grid.

4. Reference Comm 63 2008, 63.0505 2008 and NFPA 101 2008, 7.9.2.1.



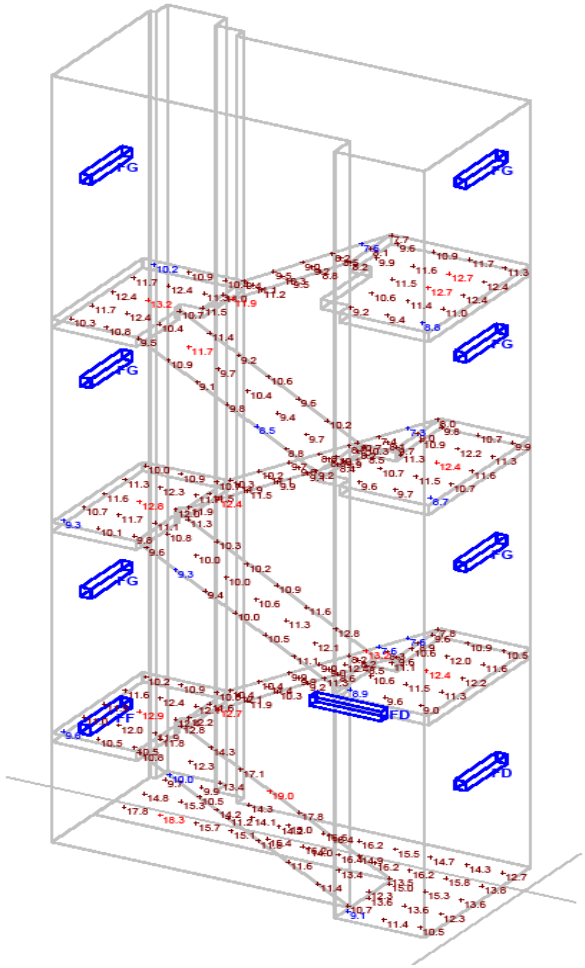
Plan View
Scale 1" = 8'

Calculated values include direct and interreflected components.

Corridor

Emergency Lighting-Testing Run Test

- Execute plan:
- Example: Enclosed Stairway
  - **Test spacing**
    - **Each landing**
    - **Each top step**
    - **½ way between landings**
    - **Each bottom step**
    - **Nose of tread**
    - **1/3-center-1/3**
  - **Take advantage of symmetry**
  - **Meter on Floor at test-point**
  - **Record each result**



LUMINAIRE SCHEDULE

Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
	FD	2	LADA-SERIES - 1-UP & 2-DN	LIFE SAFETY - 2-DN		FD-BAL12183.IES	1900	0.72	61
	FG	6	LADA-SERIES - 2-UP & 2-DN	LIFE SAFETY - 2-DN		BAL11556.IES	1900	0.72	61
	FF	1	LADA-SERIES - 2-DN	LIFE SAFETY - 2-DN		FD-BAL12183.IES	1900	0.72	61

Calculated values include direct and interreflected components.

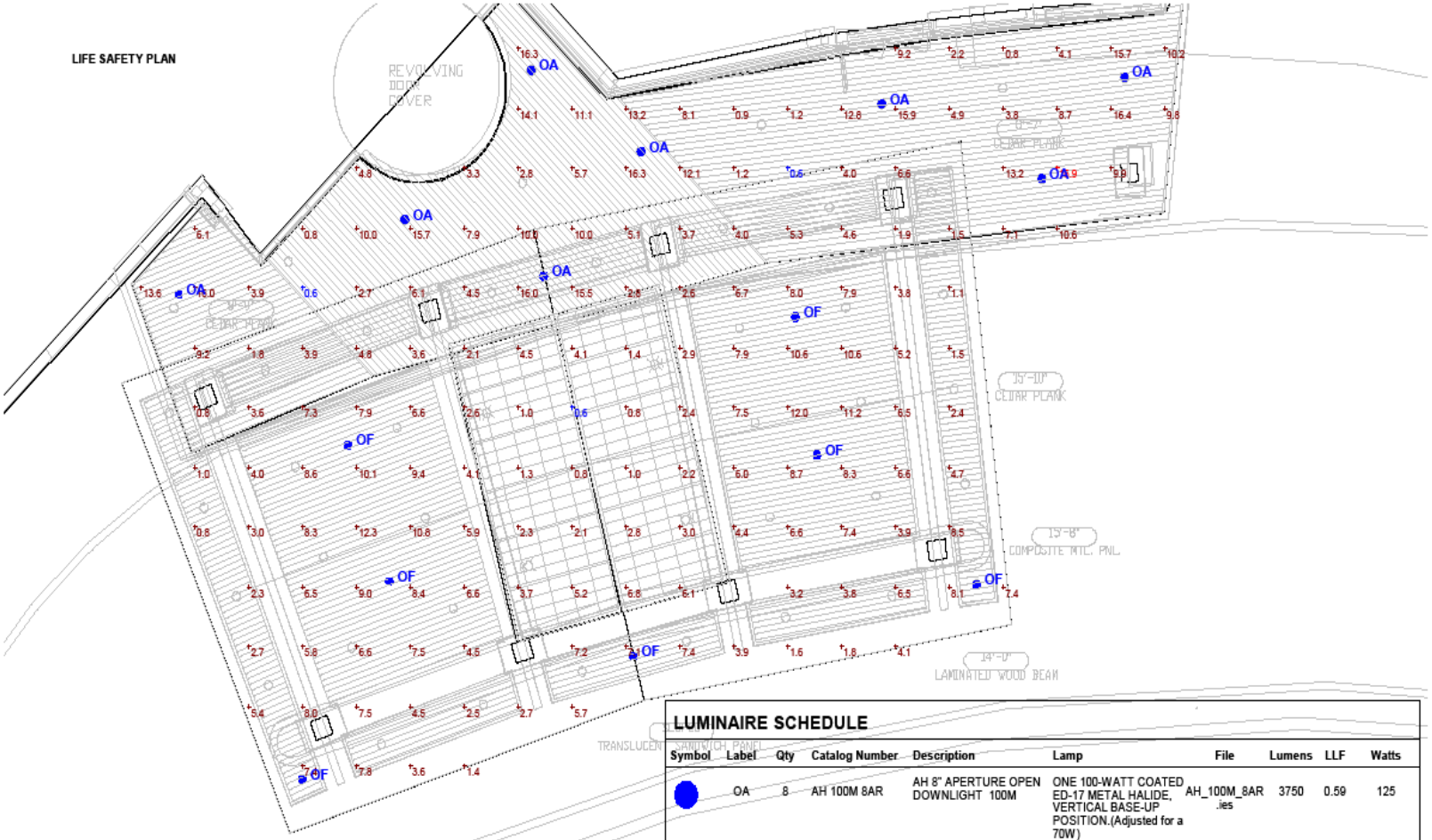
Stair Landing

Stair Testing

Emergency Lighting-Testing Run Test

- Execute plan:
- Example: Atrium
  - Grid spacing- 25 foot on-center
  - Meter on Floor at grid-point
  - Record each result

Atrium



STATISTICS

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Ground	+	6.2 fc	16.9 fc	0.6 fc	28.2:1	10.3:1

Calculated values include direct and interreflected components.

LUMINAIRE SCHEDULE

Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
	OA	8	AH 100M 8AR	AH 8" APERTURE OPEN DOWNLIGHT 100M	ONE 100-WATT COATED ED-17 METAL HALIDE, VERTICAL BASE-UP POSITION.(Adjusted for a 70W)	AH_100M_8AR .ies	3750	0.59	125
	OF	7	AH 100M 8AR	AH 8" APERTURE OPEN DOWNLIGHT 100M	ONE 100-WATT COATED ED-17 METAL HALIDE, VERTICAL BASE-UP POSITION.(Adjusted for a 150W)	AH_100M_8AR .ies	5500	0.59	125
	OG	0	E1WT1002-1M150-FT (CLEAR LENS)	EXTRUDED METAL HOUSING WITH CAST WHITE PAINTED METAL END PLATES, FABRICATED PREMIUM SPECULAR TEXTURED	ONE 150-WATT CLEAR T-6 CERAMIC METAL HALIDE, PHILIPS CDM150/T6/830, HORIZONTAL POSITION.	OG - ITL56041.IES	14000	0.59	150

Additional Requirements for Unit Equipment

- NEC 700.12(F)
- Unit equipment shall be on same branch circuit as normal lighting in area
- Connected ahead of any local switches
- Branch circuit breaker clearly identified
- Exception for open areas
- Exception for remote heads

Emergency Lighting-Testing Calculate Results

- Means of Egress = “A continuous and unobstructed path of vertical and horizontal egress travel from any occupied portion of a building or structure to a public way.”
- Material used to calculate results
  - **Floor plan or life safety plan with recorded measurements**
  - **Floor plan with emergency fixtures shown**
  - **Calculator**

Emergency Lighting-Testing Calculate Results

- Example: Corridor
  - **Pick the mid-point**
  - **Sum up the reading to the nearest exit discharge**
  - **Calculate**
    - **Average = 1.0 fc or better?**
      - **Pass**
    - **Minimum recorded measurement along that path = 0.1 fc or better?**
      - **Pass**
    - **Maximum to minimum measurement along that path = or less than 40:1?**
      - **Pass**
  - **Must pass all three criteria along each exit path.**

Emergency Lighting-Testing Report Results

- Post Test Meeting
  - Testing done prior to occupancy
  - Key personal present
  - Identify areas that failed
    - **All emergency fixtures working?**
    - **Segments with less than 0.1 fc?**
  - Proposed solutions and re-test date?
- Written Correction Notice within acceptable time period.

Additional Information

- Check Industry Services website
  - Announcement
  - Submitter Checklist
  - Training Opportunities
- e-Mailbox for EM Lighting Questions

dspssbelectrictech@wi.gov

- Number for EM Lighting Questions

608-264-7823