

APPENDIX

FOYER: F1

SCHEDULES

FIXTURES

BALLASTS

DRAWINGS

3202 ROCKWELL



Fixture shown in Brushed Aluminum with Painted Black Nextel details and Etched Opal Acrylic.

Need a custom painted finish? Modified Standard combines Custom and Standard to create unique lighting solutions.



3200 • ROCKWELL (See page 68)



3201 • ROCKWELL (See page 104)



3204 • ROCKWELL (See page 254)



ANCHORED STANDARD (See page 290)

APPENDIX

FOYER: F1

"Skill to do comes of doing." (Ralph Waldo Emerson)

SCHEDULES

FIXTURES

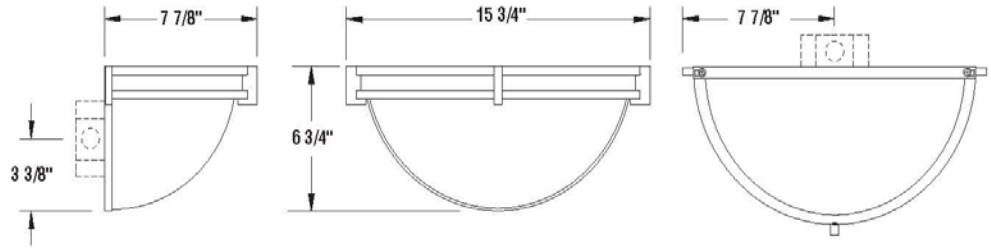
BALLASTS

DRAWINGS

WALL BRACKETS

Technical Data:

3202

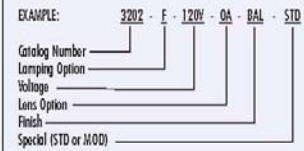


Product Specifications:

Catalog #: 3202
Lamping: 3202 1 - (2) 60W A-19/Mod.
 F - (2) CFQ13W/GX23
Voltage: 120V or 277V,
 Incandescent 120 Volt Only
Lens Options: OA: Opal Acrylic (Etched)
 FAH: Hand Painted Faux Alabaster
 FAH4: White Vein
 FAH5: Antique Alabaster (Beige)
 FAH6: Gray Vein
 FAH7: Beige Vein
 FGH: Faux Glass

Finishes: Standard BAL: Brushed Aluminum with
 Painted Black Nextel Accents
 PB: Polished Brass with
 Painted Black Nextel Accents
 Custom CPF: Custom Paint Finish
 (Consult Factory)
 CMF: Custom Metal Finish
 (Consult Factory)
Special: STD: Standard
 MOD: Modified Standard
Weight: 3202 I: 6 lbs.
 F: 8 lbs.

How to Specify:



- NOTES:**
- UL LISTED AND CUL APPROVED.
 - ALL WINONA LIGHTING PRODUCTS ARE UNION MADE.
 - CUSTOM SIZES AND FINISHES AVAILABLE UPON REQUEST.
 - ALL FLUORESCENT FIXTURES AVAILABLE IN 120 VOLT OR 277 VOLT. INCANDESCENT IN 120 VOLT ONLY.
 - WINONA LIGHTING RESERVES THE RIGHT TO MAKE DESIGN CHANGES WITHOUT PRIOR NOTICE.
 - LAMPS NOT INCLUDED.
 - COMPACT FLUORESCENT LAMP BASE INFORMATION: CFQ13W (GX23-2). SEE PAGE 337 OF TECHNICAL SECTION FOR MORE INFORMATION.
 - BALLAST INFORMATION: MAGNETIC

TO USE AS YOUR SUBMITTAL FORM, SIMPLY PHOTOCOPY THIS PAGE, FILL IN YOUR SPECIFICATIONS, AND FAX SUBMITTAL TO (507) 452-8528. A WINONA LIGHTING SALES REP WILL RESPOND TO YOUR REQUEST.
 PRODUCT SPECIFICATIONS: 3202 - _____ - _____ - _____ - _____ - _____ TYPE: _____

TO VIEW OUR LATEST FIXTURES, CURRENT SPECIFICATIONS, FEATURE PROJECTS, AND MORE, VISIT US ONLINE AT WWW.WINONALIGHTING.COM
 (FOR MORE INFORMATION ABOUT OUR WEBSITE SEE PAGES 346-349 FOR ALL THE DETAILS.)

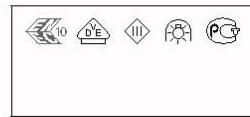
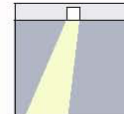
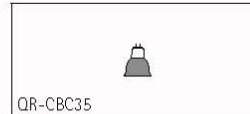
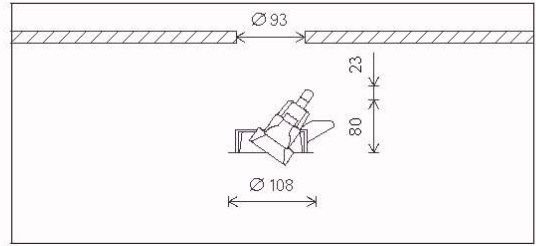
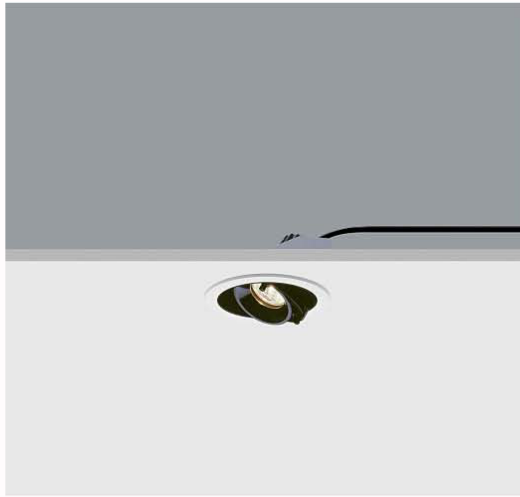


3760 West Fourth Street • Winona, MN 55987 • 1-800-328-5291 • 507-454-5113 • Fax 507-452-8528
www.winonalighting.com

ERCO

Gimbal Recessed spotlight

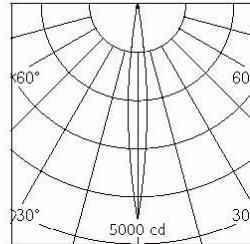
for low-voltage halogen lamps



88100.000
 QR-CBC35 20W 12V GU4 10°
 QR-CBC35 20W 12V GU4 38°

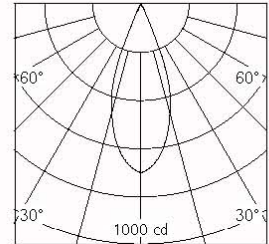
Product description

Size 3
 Luminaire: cast aluminium, black powder-coated. Heat sink: black.
 Mounting ring: plastic, white (RAL9002), with multigroove baffle, cast aluminium, black powder-coated. Fixing springs for ceiling thickness max. 25mm. Cardanic suspension of the luminaire in the mounting ring. 0°-40° tilt. Pivots are to be locked.
 Cable, L 500mm.
 Anti-dazzle ring as lamp retainer: plastic, black.
 Transformer according to EN 61558 or EN 61347 to be ordered separately.
 Weight 0.25kg



QR-CBC35 20W 12V GU4 10°

h(m)	E(lx)	D(m)
1	4500	0.17
2	1125	0.35
3	500	0.52
4	281	0.70
5	180	0.87



QR-CBC35 20W 12V GU4 38°

h(m)	E(lx)	D(m)
1	700	0.71
2	175	1.42
3	78	2.12
4	44	2.83
5	28	3.54

ERCO Leuchten GmbH
 Postfach 2460
 58505 Lüdenscheid
 Germany
 Tel: +49 2351 551 0
 Fax: +49 2351 551 300
 info@erco.com

Technical Region: 230V/50Hz
 We reserve the right to make technical and design changes.
 Edition: 13.11.2007
 Please download the current version from
 www.erco.com/88100.000

APPENDIX

FOYER: F2

SCHEDULES

FIXTURES

BALLASTS

DRAWINGS

ERCO

Gimbal Recessed spotlight

Planning data

Cleaning (a)	1				2				3			
	P	C	N	D	P	C	N	D	P	C	N	D
Ambient conditions	0.96	0.94	0.90	0.86	0.93	0.91	0.86	0.81	0.92	0.90	0.84	0.79
LMF	0.96	0.92	0.87	0.81	0.96	0.92	0.87	0.81	0.96	0.92	0.87	0.81
RSMF												

Hours of operation (h)	1000	2000
LLMF	0.96	0.84
LSF	1	1

- MF LMFxRSMFxLLMFxLSF
- MF Maintinance Factor
- LMF Lumiaire Maintenance Factor
- RSMF Room Surface Maintenance Factor
- LLMF Lamp Lumens Maintenance Factor
- LSF Lamp Survival Factor
- P Room pure
- C Room clean
- N Room normal
- D Room dirty

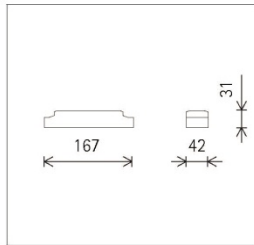
ERCO

Gimbal Recessed spotlight

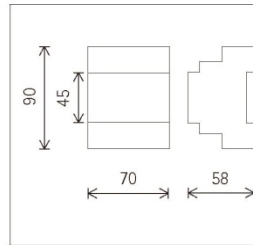
Accessories



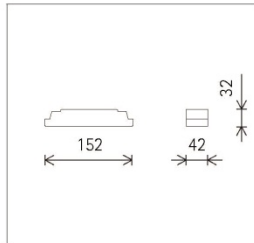
83817.000
DALI transformer EN 61347
230/240/12V, 50-60Hz. 20-105W
at max 60°C ambient temperature.
Secondary voltage 11.8V.
Installation in ceiling voids, show-
cases, furniture.
Plastic housing. Primary and sec-
ondary cable clamps and terminal
blocks.
Short-circuit protection: electronic
cut-out, reconnect once short-
circuit is cleared.
Overload and overheat protection:
automatic load-sensing.
For interference suppression
to VDE 0875, part 2, secondary
conductor length 2m max.
For ceiling aperture \varnothing 80mm,
recessed depth 90mm
Weight 0.18kg
SELV TS-115



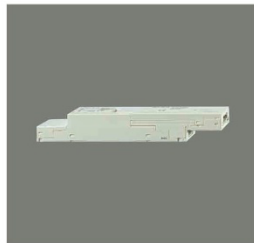
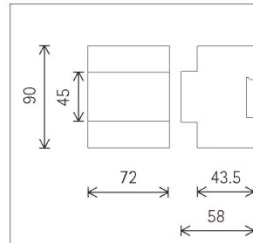
83829.000
DALI dimmer 1000W
for ohmic loads, conventional and
electronic transformers.
Mounting on DIN rail.
Weight 0.18kg



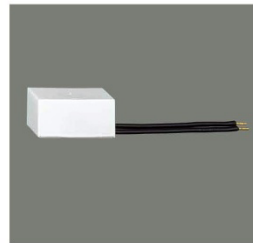
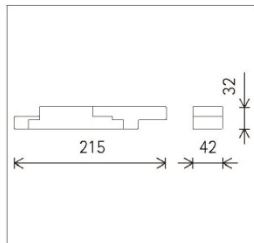
83831.000
Electronic transformer EN 61347
230/12V, 50-60Hz. 20-105W at
max 50°C ambient temperature.
Secondary voltage 11.8V.
Installation in ceiling voids, show-
cases, furniture.
Plastic housing. Primary and sec-
ondary cable clamps and terminal
blocks.
Short-circuit protection: electronic
cut-out, reconnect once short-
circuit is cleared.
Overload and overheat protection:
automatic load-sensing.
Use dimmers for electronic trans-
formers (trailing edge).
For interference suppression
to VDE 0875, part 2, secondary
conductor length 2m max.
For ceiling aperture \varnothing 80mm,
recessed depth 70mm
Weight 0.19kg
SELV TS-115



83816.000
DALI switch actuator, double, 16A
Two voltage-free contacts for
switching ohmic, inductive and
capacitive loads max 16A.
DALI interface with two independ-
ent addresses.
Mounting on DIN rail.
Weight 0.21kg



83833.000
Electronic transformer EN 61347
230/12V, 50Hz. 20-105W at max.
50°C ambient temperature, 1V-10V
controllable.
Secondary voltage 11.7V.
Installation in ceiling voids, show-
cases, furniture.
Plastic housing. Primary and sec-
ondary cable clamps and terminal
blocks.
Short-circuit protection: electronic
cut-out, reconnect once short-
circuit is cleared.
Overload and overheat protection:
automatic load-sensing.
For interference suppression
to VDE 0875, part 2, secondary
conductor length 2m max.
For ceiling aperture \varnothing 80mm,
recessed depth 125mm
Weight 0.20kg
SELV TS-115



83819.000
Overvoltage protection device
for max. 10 electronic transformers.
L 45mm, B 25mm, H 22mm.
2x1,5mm², L 80mm.
Weight 0.05kg
Only in conjunction with:
83831.000
83833.000



Extérieur Vert

RECESSED PROJECTOR
Fixed reflector :
narrow spot, flood or asymmetrical
Fluorescent lamp T2
11W / 120 / 277V

M2 SERIES

MERCURE

Projector body

- Drive over rated
- Waterproof IP67
- Available in anodized black cast aluminum.
- Integral electronic ballast.
- 3.5 Metric tons / 7600 Lbs.



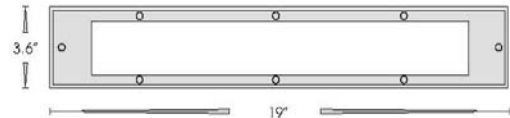
Lamp / Optics

- Fluorescent lamp T2 11W /120/277V
- Lamp holder W4,3
- Choice of 3 fixed reflectors:
 - Symetrical Spot reflector
 - Symetrical Flood reflector
 - Asymetrical reflector



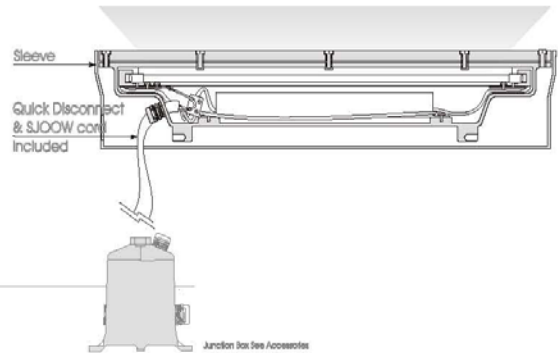
Trim

- Black anodised cast aluminium.
- Heat treated glass.
- 8 stainless steel securing screws.



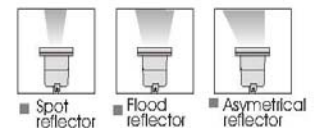
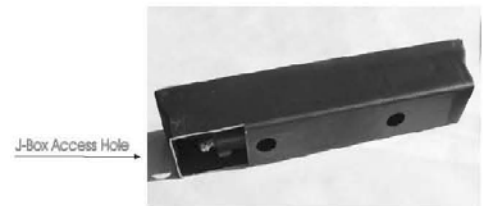
Rough-In Components

- Fixture is pre-wired with 2ft of SJOOW cord and quick disconnect anti-wicking barrier
- Sleeve is ordered separately (see accessories).
- Installation Recommendations
 - In all potentially wet/damp locations, a waterproof junction box must be used.
 - Provisions for effective drainage are



Applications

- Public spaces
- Walkways
- Commercial facilities



EXTERIEUR VERT

a division of TARGETTI NORTH AMERICA

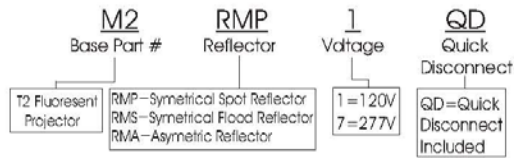
www.exterieurvert.com

1513 E. Saint Gertrude Place Tel 714 957-4960
Santa Ana, Ca 92705 Fax 714 957-4965
MercureM2 05.23.07



■ Part # Logic

MERCURE



■ Select Rough In Kit



Sleeve (Required)

Part #	Description
ME-M2QD	Aluminum sleeve with quick disconnect

Accessories

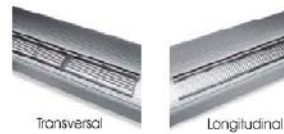
■ Filters



Color	Part #
Blue	B387
Green	G387
Red	R387
Yellow	Y387
Frosted	F387

*387mm

■ Louvers



Part #	Description
MER-LOL	Longitudinal Louver/Black
MER-LOT	Transversal Louver/Black
LFL0000T2011020	Lamp 3000° K
LFL0000T2011040	Lamp 4100° K

EXTERIEUR VERT a division of **TARGETTI NORTH AMERICA**

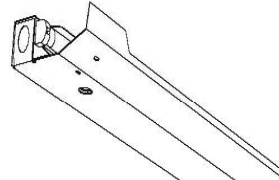
1513 E. Saint Gertrude Place Santa Ana, Ca 92705
 Tel 714 957-4960 Fax 714 957-4965

MercureM2 05.23.07

In-Cove II



Cove
Indirect
1 T5HO



Project Name

Spec Type

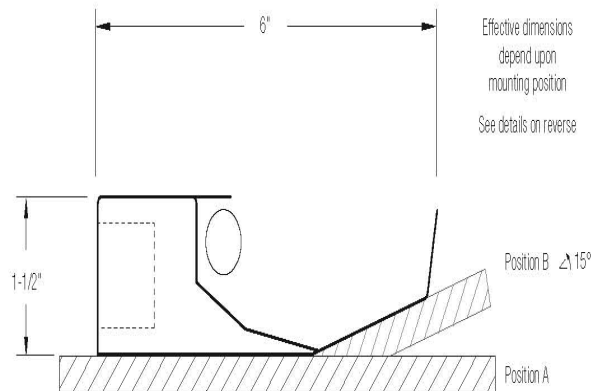
Notes

Order Guide Some combinations of product options may not be available. Consult factory for assistance with your specification.

3808	H01	E	N	-	-	-	-	-
Product Series & Type In-Cove II Indirect	Lamping 1 T5HO	Lower Optics E Solid Housing	Upper Optics N None	Run Length <i>Enter the total run length in feet</i>	Wiring 1 1 oct 3 1 oct w/ Emergency oct 5 1 oct w/ Battery Pack 7 1 oct Dimming	Voltage 1 120V 2 277V 3 347V	Ballast E Standard Ballast	Color & Finish W High Reflective White
				See details on reverse	Consult website for complete list of standard wiring options		Consult website for ballast manufacturer information	

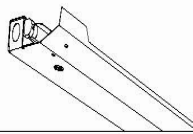
Upgrades & Accessories Please indicate with check mark.

Lamps Included Lamps Included and Installed



In-Cove II

Cove
Indirect
1 T5HO



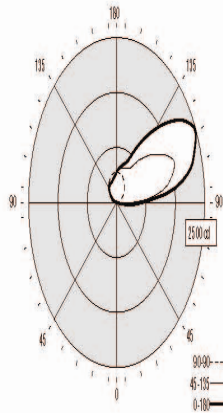
Photometry Optics EN

Report Summary

Report # 9901075	Peak Candela Value* 2480 @ 115°
Filename 3808H01ENlies	Peak to Zenith Ratio* 5.4 : 1
Efficiency 87.1%	<small>* Between 90-180° vertical angle</small>

Candela Distribution

Vertical Angle	Horizontal Angle				Zonal Lumens
	0	22.5	45	67.5	
0	0	0	0	0	0
5	0	0	0	0	0
15	0	0	0	0	4
25	0	0	0	0	4
35	0	0	0	4	4
45	0	0	0	5	5
55	0	0	0	5	7
65	0	0	0	7	7
75	0	0	0	6	8
85	425	172	0	7	71
90	744	470	9	9	5
95	1372	1047	31	15	9
105	2221	1837	100	104	86
115	2480	1645	177	171	153
125	2182	1285	257	259	229
135	1586	912	318	294	314
145	1044	628	376	312	335
155	673	587	416	340	336
165	575	534	442	385	365
175	503	492	456	434	422
180	462	462	462	462	462



Coefficients of Utilization (%)

0 RCR	Ceiling:				Wall:				0			
	70	50	30	10	70	50	30	10	70	50	30	10
0	84	84	84	84	72	72	72	50	50	50	50	2
1	75	71	68	65	64	61	58	42	40	38	0	0
2	68	62	57	52	58	53	49	36	34	31	0	0
3	62	54	48	43	53	46	42	32	29	26	0	0
4	57	48	41	36	48	41	36	28	25	22	0	0
5	52	42	36	31	44	36	31	25	21	19	0	0
6	47	37	31	26	40	32	27	22	19	16	0	0
7	44	34	27	22	37	29	23	20	16	14	0	0
8	40	30	24	19	34	26	21	18	14	12	0	0
9	37	27	21	17	32	23	18	16	13	10	0	0
10	34	25	19	15	29	21	16	15	11	9	0	0

Based on a floor reflectance of 0.2

Avg. Luminance (cd/m²)

Vertical Angle	Horizontal Angle		
	0	45	90
55	0	0	97
65	0	0	132
75	0	0	247
85	38938	0	641

IES files for this and other photometric options can be downloaded online at www.ledalite.com

Additional Information

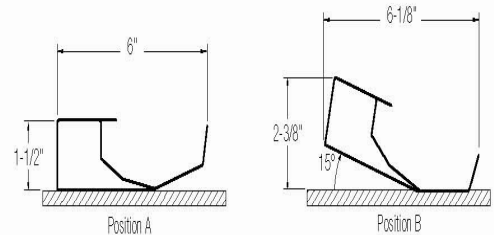
Modules

Nominal module length shown on right.

Module	Nominal Length
2ft	1'11"
3ft	2'11"
4ft	3'11"
6ft	5'9"
8ft	7'9"

Mounting Positions

Fixtures can be mounted in multiple positions to adjust for specific site and lighting requirements.



Specifications

Due to continuing product improvements, Ledalite reserves the right to change specifications without notice.

Housing

Die-formed 20 gauge cold-rolled steel painted white.

Weight

3.0 lb/ft.

Optical System

Constructed of highly specular Miro IV® aluminum* and highly reflective 20 gauge steel to produce an asymmetric distribution.

* Note: 2T8 constructed of highly specular aluminum.

Mounting

Fixtures can be screwed down in multiple positions and orientations to enable precise coordination of optical distributions.

Electrical

Factory pre-wired to section ends with quick wire connectors.

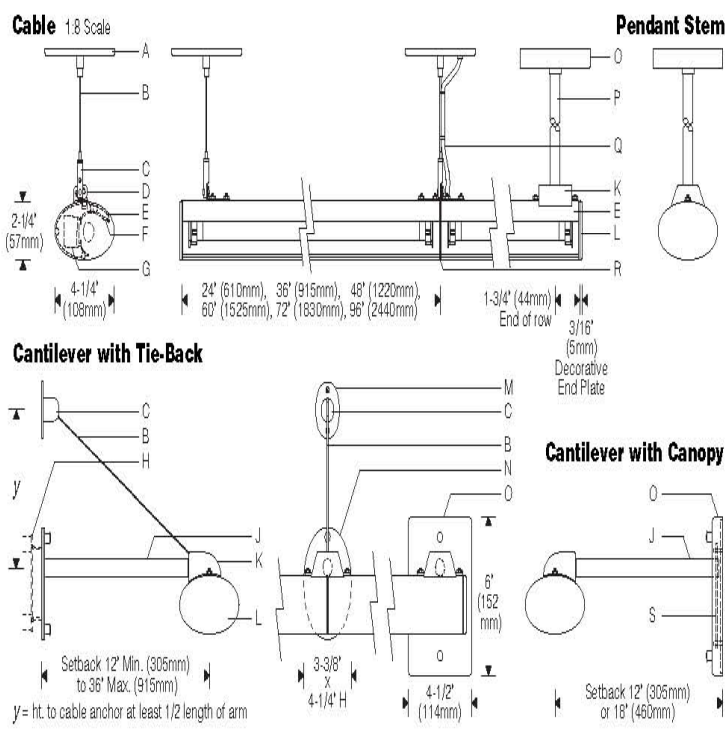
Ballast

Electronic.

Approvals

Certified to UL & CSA standards.

Lighting the Wall Xtra small enclosed oval, integral  T5 Fluorescent **ovalnear xs** **Style 140**



Specifications

A 1/4" aluminum canopy	F Specular extruded aluminum reflector	K Formed aluminum fitting	P Tubular aluminum stem
B 1/16" dia. 7x7 cable	G Electronic ballast	L Aluminum decorative end plates (order separately)	Q 18/3 cord with clips
C Adjustable cable glider	H Recessed outlet box w/ plaster ring (by others)	M Aluminum anchor plate	R Aluminum joiner/reveal plates (black)
D Leveling bracket (cable)	J Tubular steel arm	N Aluminum cover plate	S Steel wall and leveling plates (under canopy)
E Extruded aluminum housing		O Aluminum canopy	

Finish:
Semi-gloss white housing. Black joiner/reveal plates.
Painted surfaces - 6 stage pretreatment and electrostatically applied thermoset powder coat for stable, long lasting and corrosion resistant finish.
Reflector - extruded high purity aluminum with clear anodized specular finish. All luminaire hardware - stainless steel.

Mounting:
Cables, pendants or cantilevers hangers **ordered separately**.
For single unit, specify starter/individual module (**X** mount).
For continuous row, add intermediate/end modules (**Y** mount).
Joiner/reveal plates align and bolt together.
Pendant stem - 11/16" O.D. aluminum, internally threaded.
5" dia. aluminum canopy. For swivel - consult factory.
Cable - 1/16" dia. 7x7 aircraft cable, field adjustable length.
Crossbar w/ 1/4-20 stud, coupling with slipping, 5" dia. canopy.
Cantilever - 11/16" O.D. steel arm ; suitable support structure required. Choice of: **Rectangular canopy** with adjustable interface plate allows leveling of arms +/- 5°, or **Oval wall plates** with adjustable cable tieback.

Electrical:
Prewired with modular through wiring with quick connectors.
X mount - starter/individual module furnished with 18/3 cord for connection to supply at recessed outlet box (by others). Cord is clipped alongside cable or managed through cantilever arm or pendant stem. Note: cantilever with tieback requires recessed plaster ring (Raco #727 or equal by others).
Y mount - intermediate/end module plugs into adjacent unit.
Integral electronic HPF thermally protected class P ballast with end-of-life protection. Remove reflector to service ballast.
Optional electronic dimming ballast, compatible dimmer switch required (by others). Consult sales representative for compatibility and specifications.
Optional integral emergency battery operates one lamp. Separate unswitched supply is required. Note: first battery pack in row must be located in starter module (**X** mount).

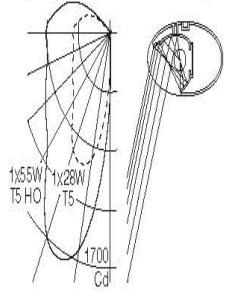
Standard:
UL listed or CSA certified.

Features

- Small classic form - full oval end plates; articulated reveals
- Powerful T5/T5HO fluorescent wall lighting - low energy
- Unequalled uniformity from minimal setbacks - ideal for conference rooms, markerboards, art walls, displays, signs
- Versatile - cable, pendant or two styles of cantilevers
- Integral electronic ballast - modular quick connect wiring

Performance

Two parabolic reflector sections drive light to the bottom of the wall. An elliptical section shields the lamp from normal viewing angles and redirects its light to a parabola. Glare is minimized and asymmetry of the beam is maximized resulting in high beam efficiency and superior surface uniformity.



For complete photometrics, see www.elliptipar.com.



8/07 U.S. Patent 6,860,618 and other patents pending

To Order

To form a Catalog Number

F | 1, 4, 0 | T | [] | [] | [] | []

1 2 3 4 5 6 7 8

1 Source

F = Linear fluorescent

2 Style

140 = Xtra small enclosed oval, integral ballast

3 Lamp

T [] [] = T5 Fluorescent Lamp Code

Lamp Wattage (see chart below)

Number of Lamps in Length, specify 1 or 2

Example: T155 = 4' (1.2m) housing with one 54W T5HO lamp

Length*	T5		T5HO	
	Code	Lamp(s)	Code	Lamp(s)

T5 Fluorescent				
24" (610mm)	T114	1 x F14T5	T124	1 x F24T5/HO
36" (915mm)	T121	1 x F21T5	T139	1 x F39T5/HO
48" (1220mm)	T128	1 x F28T5	T155	1 x F54T5/HO
60" (1525mm)	T135	1 x F35T5	T180	1 x F80T5/HO
72" (1830mm)	T221	2 x F21T5	T239	2 x F39T5/HO
96" (2440mm)	T228	2 x F28T5	T255	2 x F54T5/HO



For complete lamp and ballast information, see Accessories Section. Standard T5 lamp color is 3000K / 80+ CRI.

* Add 3/8" (10mm) to row or single unit for ADE Decorative End Plates

4 Mounting

X = Starter/individual module with electrical feed (18/3 cord)
Note: units with dimming or battery will be provided with 18/4 or two (2) 18/3 cords as required.

Y = Intermediate/end module with modular through wiring with quick connectors

Note: Order cable, pendant, or cantilever hangers separately.

5 Finish

02 = Semi-gloss white

99 = Custom RAL or computer matched color to be specified, consult sales representative

Project: []

6 Voltage/Ballast

Electronic

1 = 120V

2 = 277V

3 = 347V (Canada)

Note: Not available for use with cable hangers.

Dimming*

T = 120V

V = 277V

* Consult sales representative for dimming 5' lamps (lamp codes T135, T180). Availability for wattages and voltages varies with ballast manufacturer and control type - see www.elliptipar.com for additional dimming specifications and limitations.

Consult factory when dimming units with cable supports

The quantity of electrical feed cable hangers to accommodate the control circuit varies with ballast manufacturer and control type.

7 Option (See Accessories Section for specifications)

00 = No option

0E = Integral emergency battery pack with indicator lamp and test button. Operates one lamp. Available in 4', 5', 6' and 8' lengths (lamp codes T128, T135, T221, T228, T155, T239 and T255).

Note: For rows, 0E option must be specified for the starter/individual module (X mount). Additional battery packs may be specified on intermediate/end modules.

XX = For modification not listed, include detailed description. Consult factory prior to specification.

8 Standard

0 = UL, Underwriters Laboratories

J = CSA, Canadian Standards Association

Example

F140 - T155 - X - 02 - 2 - 000

Xtra small enclosed oval series for use with one 4' F54T5HO lamp, 48" long housing (not including decorative end plates). For use with cable, pendant or cantilever hangers (order separately). Semi-gloss white. Integral 277V ballast. UL. Order decorative end plates and hangers separately.

Accessories

Order separately. See Accessories Section for specifications.

ADE40 [] 0 = Decorative end plates,

pair, white, or custom color to match housing
Note: adds 3/8" (10mm) to length



Ovalinear XS

Style 140

Type: []

Hangers

Order separately. See Accessories Section for specifications.

Cable supports

Order one non-electrical and one electrical feed cable support for each starter/individual module (X mount). Order one non-electrical cable support for each additional intermediate/end module (Y mount) in a row.

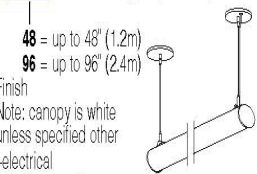
Note: For dimming (voltage/ballast code T or V), an additional electrical feed cable support may be required depending on ballast manufacturer and control type - consult factory.

Pendant and Cantilevers

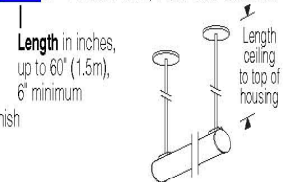
Order one hanger for each module (X or Y mount) plus one hanger for the end of each row. At location with outlet box, prewired cord on starter/individual module (X mount) is managed through stem or arm.

Electrical feed can be located at ends or intermediate joints.

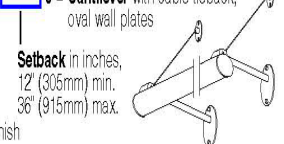
VX [] [] 0 = Cable support, field adjustable



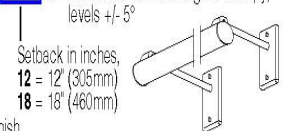
VXF [] [] 0 = Pendant stem, 1 1/16" O.D. aluminum

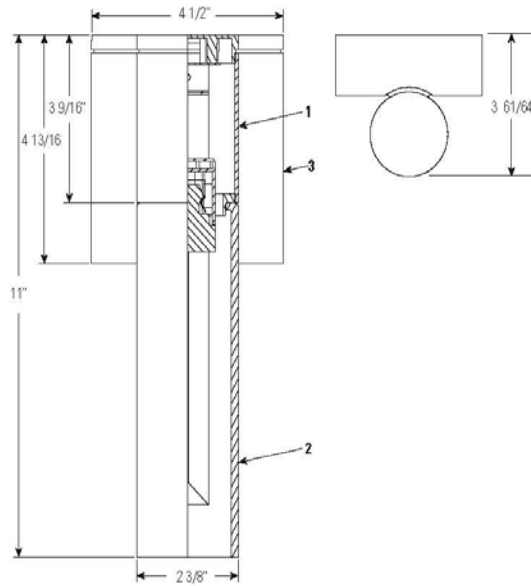


VXV [] [] 0 = Cantilever with cable tieback, oval wall plates



VXC [] [] 0 = Cantilever with rectangular canopy, levels +/- 5°





Complete Fixture Minus Suspension Kit:

Spec ID	Powerhead	Inner Glass	Outer Glass	Lamp	Volts
FW01	PW13SA	SG02	NA	4-Pin Elect. Twin Tube 13W	120V
FW201	PW132SA	SG02	NA	4-Pin Elect. Twin Tube 13W	277V
FW01Q	PW13QSA	SG02	NA	4-Pin Quad Tube 13W	120V
FW201Q	PW132QSA	SG02	NA	4-Pin Twin Tube 13W	277V
IW01	PW50SA	SG02	NA	T-4 Mini-Can 50W	120V

*All suspension kits can be shortened to length in field with the exception of SMK and CTC.

Features

- Power Compartment:** Die Cast and Machined Aluminum Components. Brushed and Clear Lacquer Finish.
- Primary Glass:** Triplex Hand Blown Glass.
- Backplate:** Die Cast Aluminum, Brushed and Clear Lacquer Finish.

Lamping (by others)

Incandescent: 50W Max. T-4 Mini Candelabra

Compact Fluorescent:

General Electric	Osram/Sylvania	Philips
(1) 13W Twin Tube 4-Pin Compact Fluorescent Lamp		
N/A	CF13DS/E/*	N/A
(1) 13W Quad Tube 4-Pin Compact Fluorescent Lamp		
F13DBX/SPX*/4P	CF13DD/E/*	PL-CL3W*/4P/ALTO

*Manufacturers Color Temperature Designation

Electrical

Lampholders

Incandescent: E11 Base, Porcelain, Plated Copper Alloy Screw Shell
Compact Fluorescent: 13W Twin: 2GX7 Base, High Impact Thermoset Polymer with Brass Contacts
13W Quad: GX24Q-1 Base, High Impact Thermoset Polymer with Brass Contacts.

Ballasts: Fluorescent: Electronic	13 Watts	
Voltage	120	277
Total Input Watts	35	28
Max. Line Current (Amps)	.33	.18

Labels

cULus Listed. Suitable for Damp Locations.

Job Information	Type:
Job Name:	
Cat. No.:	
Lamp(s):	
Notes:	

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LIGHTOLIER®

To Order

To form a Catalog Number

3 0 3 0 1

1 **2** **3** **4** **5** **6** **7**

Style

3030 = Stack light, integral ballast

Lamp

= Lamp Code

Lamp Wattage (see chart below)

Number of Lamps in Length, specify 1 or 2

A = T8 Fluorescent
T = T5 Fluorescent

Exampler: T228 = 6" (2.4m) housing with two 28W T5 lamps (end-to-end)

Length*	Code	Lamp(s)	Code	Lamp(s)
Linear Fluorescent				
36" (9.14mm)	T121	1 x F21T5	A125	1 x F25T8
48" (1.220mm)	T128	1 x F28T5	A132	1 x F32T8
72" (1.830mm)	T221	2 x F21T5	A225	2 x F25T8
96" (2.440mm)	T228	2 x F28T5	A232	2 x F32T8

For complete lamp and ballast information, see Accessories Section. Standard T5 lamp color is 3000K/80-CRI. * Add 1/4" (6mm) to row or single unit for ADE Decorative End Plates

Mounting


S = Ceiling (surface) mount
X = For use with pendant stem or cable hangers
Note: Order hangers separately
For shelf supported bridge or cantilever mount, consult factory.

Finish

01 = Bright clear anodized reflector; with black reveals (matching ADE end plates are silver - order separately)
02 = Semi-gloss white (matching ADE end plates are white - order separately)
99 = Custom RAL or computer matched color to be specified; consult factory for details

Voltage/Ballast

Electronic
1 = 120V
2 = 277V
3 = 347V (Canada)
Note: Not available for use with cable hangers.



REV. 7/07

30130 STACK LIGHT™ Style 3030

Type:

Hangers

Order separately. See Accessories Section for specifications. Singles - order one non-electrical end one electrical feed hanger for each unit (X mount). Rows - order one non-electrical hanger for each unit (X mount) plus one electrical feed for each row. Electrical feed(s) must be located at an end of row.


VE

0 = Pendant stem, 1 1/16" O.D.

Length in inches, up to 60" (1.5m), 6" minimum

01 = Silver canopy & stem
02 = White canopy & stem
99 = Custom RAL or computer matched color to be specified

F = Non-electrical
G = Electrical feed with (4) # 4 AWG leads



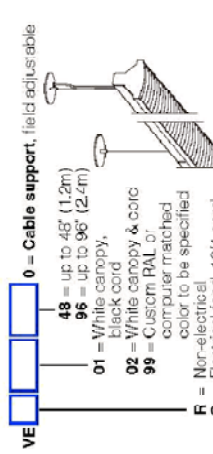
VE

0 = Cable support, field adjustable

48 = up to 48" (1.2m)
96 = up to 96" (2.4m)

01 = White canopy, Black cord
02 = White canopy & cord
99 = Custom RAL or computer matched color to be specified

F = Non-electrical
S = Electrical feed, 18/4 cord



Option

(See Accessories Section for specifications)

00 = No option
0E = Integral emergency battery pack with no color lamp and red button. Operates one lamp.
0K = Prewired modular #12 AWG through wiring with quick connectors
EK = Combination emergency battery end modular thru wire
XX = For modification not listed, include detailed description. Consult factory prior to specification.

Standard

0 = UL, Underwriters Laboratories
J = CSA, Canadian Standards Association

Example

3030 - T228 - S - 02 - 1 - 0E0

Stack light for use with two 4' F25T5 lamps, 96" long housing (not including decorative end plates). Ceiling (surface) mount. Semi-gloss white. Integral 120V electronic 2-lamp ballast. UL. Optional battery pack. Order decorative end plates separately.


Accessories

Order separately. See Accessories Section for specifications.

ADE


0 = Decorative end plates, pair, silver, white, or custom color to match housing.
Note: required for each row of single unit. Adds 1/4" (6mm) to length.

30 = Contoured
31 = Concave
32 = Convex



AFK000X = Ballast fuse kit
0 = UL
J = CSA

AMU = Module; upright, low profile, symmetrical reflector, recessed on top of mounting plate. For use with X mount stem or cable only. May be switched separately.
Note: Consult factory for complete specifications and ordering information.



The external shape of the asymmetric reflector is trademarks of elliptipar. Certain products illustrated may be covered by applicable patents and patents pending. For a list of patents, see Contents pages. These specifications supersede all prior publications and are subject to change without notice. © 2007 elliptipar.

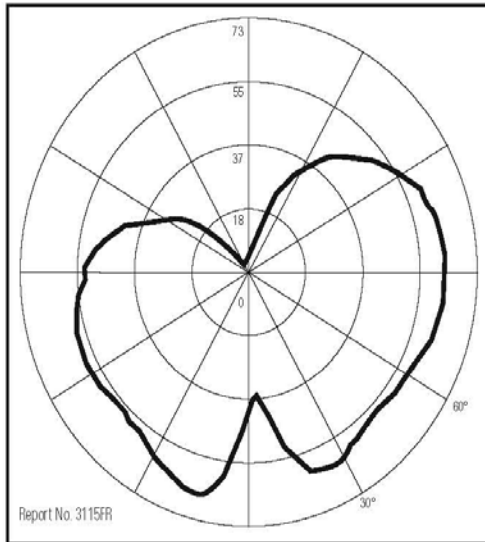
elliptipar
114 Boston Post Road, West Haven, Connecticut 06616, USA
Voice 203.931.4455 • Fax 203.931.4464 • www.elliptipar.com

Vetro Architectural Decorative **FW01**

Wall Mount

Page 2 of 2

Catalog No. FW01, 13W 4 Pin Twin Tube, 800 Lumens.



CANDLEPOWER SUMMARY

Angle	0°	45°	90°
0	42	42	42
5	35	37	50
10	43	47	62
15	53	60	88
20	60	65	69
25	61	66	67
30	61	64	65
35	59	62	63
40	58	61	61
45	57	60	60
50	57	60	60
55	58	60	61
60	59	61	61
65	60	62	62
70	61	63	63
75	62	64	63
80	63	65	64
85	63	65	62
90	63	65	63
95	63	65	62
100	63	65	62
105	62	64	60
110	61	63	59
115	60	62	58
120	57	59	53
125	55	56	50
130	51	53	46
135	47	49	41
140	43	45	36
145	39	40	30
150	33	34	22
155	27	26	14
160	19	17	8
165	10	8	3
170	3	3	1
175	1	1	1
180	1	1	1

ZONAL LUMENS AND PERCENTAGES

Zone	Lumens	%Lamp	%Fixt
0-30	53.06	6.6	8.2
0-40	97.48	11.4	14.1
0-60	190.3	23.8	29.4
0-90	381.35	47.7	58.9
90-120	174.62	21.8	27
90-130	214.22	26.8	33.1
90-150	257.49	32.2	33.1
90-180	265.77	33.2	41.1
0-180	647.03	80.9	100

** Efficiency = 80.9% **

COEFFICIENTS OF UTILIZATION

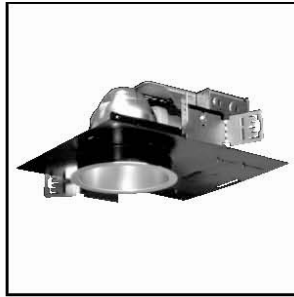
Ceiling	80%				70%				50%				30%			
	70	50	30	10	50	10	50	10	50	10	50	10	50	10	0	
RCR	Zonal Cavity Method - Effective Floor Reflectance = 20%															
0	88	88	88	88	82	82	71	71	61	61	48	48	43	32	0	
1	77	71	67	62	66	58	57	50	48	43	32	24	19	12	8	
2	68	60	54	48	56	45	48	39	40	33	24	19	12	8	0	
3	62	52	44	38	48	36	41	31	34	26	19	12	8	0	0	
4	56	45	37	32	42	30	36	26	30	22	15	12	8	0	0	
5	51	40	32	26	37	25	31	21	26	18	12	8	0	0	0	
6	47	36	28	23	33	21	28	18	24	16	11	8	0	0	0	
7	43	32	25	19	30	18	25	16	21	14	9	8	0	0	0	
8	40	29	22	17	27	16	23	14	19	12	8	0	0	0	0	
9	37	26	19	15	24	14	21	12	18	11	7	0	0	0	0	
10	35	24	18	13	22	13	19	11	16	9	6	0	0	0	0	

Determined In Accordance With Current IES Published Procedures
Luminaire Input Watts = 18

Job Information **Type:**

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LIGHTOLIER®



Featuring **VirtualSource** Reflectors

6" Horizontal Triple Open & Wall Wash Downlight CFT632HEB

One 26W, 32W, or 42W Triple Tube 4-Pin Lamp
Non-IC Rated
120V, 208V, 240V, 277V, or 347V

APPLICATIONS:

The CFT632HEB offers a horizontally lamped compact fluorescent downlight and wall wash fixture that provides superior brightness and glare control. The multi-watt multi-volt ballast provides the ability to change wattages by simply replacing the lamp. This luminaire is ideal for a wide variety of low to medium height ceiling applications including commercial, retail, and hospitality. The CFT632HEB is compatible with the Signos6 family of architectural elements.

HOUSING:

One-piece painted 18-gauge cold rolled steel platform. Prewired J-box with snap-on cover for easy access. Vented at lamp tip and socket for maximum light output. Same housing accommodates downlight and wall wash downlight reflectors.

REFLECTOR:

High purity aluminum Alzak Virtual Source® indescence suppressed reflector. Self-trim standard. Painted white self-trim available. Baffled units standard with painted white self-trim.

BALLAST:

One (1) compact fluorescent Class 'P' electronic multi-volt (120V through 277V) ballast suitable for operating 26W, 32W, and 42W triple tube lamps. HPF and EOL protection standard. Accessible from below ceiling. 347V available (specify wattage when ordering).

LAMP:

One (1) 26W (GX24q-3 base), 32W (GX24q-3 base), or 42W (GX24q-4 base) 4-pin triple tube compact fluorescent lamp. Lamps furnished by others.

SOCKET:

One (1) injection molded socket suitable for 26W, 32W, and 42W triple tube lamps (vented).

INSTALLATION:

Universal adjustable mounting brackets accommodate 1 1/2" or 3/4" lathing channel or 1/2" EMT (by others), or Prescolite 24" bar hangers (B24 or B6).

LABELS:

UL, CSA listed for damp locations
Approved for through wiring
Non-type I.C.

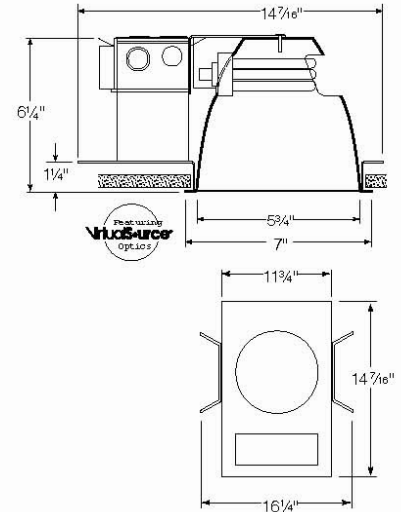
DATE: _____ TYPE: _____

FIRM NAME: _____

PROJECT: _____



Ceiling Cutout: 6 1/4"
Maximum Ceiling Thickness: 1 1/4"
For conversion to millimeters,
multiply inches by 25.4
Not to Scale



CATALOG NUMBER:

EXAMPLE: CFT632HEBDMEM-STF602HCG-B24

HOUSING	HOUSING OPTIONS	HOUSING OPTIONS	HOUSING OPTIONS	REFLECTOR	REFLECTOR FINISH	ACCESSORIES
<input type="checkbox"/> CFT632HEB 6" 26W 32W/42W triple tube, multi-volt electronic ballast	<input type="checkbox"/> 347V ¹ (Specify wattage) <input type="checkbox"/> CP ² Chicago Plenum Fixture construction and/or specifications may vary. Refer to Chicago Plenum specification sheets on www.prescolite.com for details. <input type="checkbox"/> DM Electronic Analog Dimming Ballast to 3%, 4-wire (120V or 277V) <input type="checkbox"/> SDM ³ Lutron Compact SE Dimming Ballast to 5%, 3-wire line voltage (specify supply voltage/wattage)	<input type="checkbox"/> HDM ^{2,3} Lutron Hi-Lume Dimming Ballast to 1%, 3-wire line voltage (specify supply voltage/wattage) <input type="checkbox"/> 2DM ^{2,3} Lutron Tu-Wire Dimming Ballast to 5%, 2-wire line voltage (120V only) <input type="checkbox"/> 7DM Advance Mark 7 Dimming Ballast to 5%, 4-wire, 0-10V, analog (120V or 277V) <input type="checkbox"/> XDM Advance Mark 10 Dimming Ballast to 5%, 3-wire, line voltage (specify voltage/wattage)	<input type="checkbox"/> EM Emergency battery pack with remote test switch and indicator light <input type="checkbox"/> FSDFA Fuse kit installed at factory <input type="checkbox"/> RIFI Radio interference filter (single circuit) <input type="checkbox"/> MW26 Max Wattage label, 26W <input type="checkbox"/> MW32 Max Wattage label, 32W	<input checked="" type="checkbox"/> STF602H 6" Alzak reflector REFLECTOR COLOR <input type="checkbox"/> Blank Clear Alzak <input type="checkbox"/> CG Champagne Gold Alzak <input type="checkbox"/> BL Black Alzak <input type="checkbox"/> WE Wheat Alzak <input type="checkbox"/> LW Light Wheat Alzak <input type="checkbox"/> PW Pewter Alzak	<input type="checkbox"/> Blank Specular <input type="checkbox"/> SS Semi-Specular <input type="checkbox"/> MFC American Matte REFLECTOR OPTIONS <input type="checkbox"/> WT Painted white self-flange <input type="checkbox"/> BC ⁴ Painted black cone <input type="checkbox"/> WC ⁴ Painted white cone <input type="checkbox"/> BB ⁴ Painted black baffle <input type="checkbox"/> WB ⁴ Painted white baffle <input type="checkbox"/> WW Wall wash reflector <input type="checkbox"/> TRG Trim Ring Gasket (factory installed)	joists up to 24" centers <input type="checkbox"/> FSDFI Fuse kit for field installation <input type="checkbox"/> SCA6D Sloped ceiling adapter (see note on back page) <input type="checkbox"/> Signos6 Architectural glass elements Refer to specification sheets ARCH-SIG-001 through -004
<input type="checkbox"/> B24 Set of two (2) 24" bar hangers for T-bar ceilings <input type="checkbox"/> B6 Set of two (2) bar hangers for ceiling						

¹Dimming options not available in 347V.
²Not available with 42W lamps.
³For 26W, 32W, or 42W CFL lamps specify CFT626HEB, CFT632HEB, or CFT642HEB housing and add desired dimming option suffix.
⁴Not available with MFC, haze or semi-specular finishes.
⁵Top access required to service ballast for Chicago Plenum.



In a continuing effort to offer the best product possible we reserve the right to change, without notice, specifications or materials that in our opinion will not alter the function of the product.
Web: www.prescolite.com • Tech Support: (888) 777-4832

ARCH-CFL-001

PHOTOMETRIC DATA

Architektur - 6" Horizontal Triple Open & Wall Wash Downlights - CFT632HEB

BALLAST DATA	26W Triple			32W Triple			42W Triple		
	120V	277V	347V	120V	277V	347V	120V	277V	347V
Total System Watts	28W	28W	38W	35W	35W	42W	44W	47W	48W
Input Current (Amps)	0.23	0.1	0.11	0.29	0.13	0.12	0.36	0.17	0.14
Input Frequency in Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Power Factor	>97%	>97%	>97%	>97%	>97%	>97%	>97%	>97%	>97%
Ballast Factor	>98%	>98%	>98%	>98%	>98%	>98%	>98%	>98%	>98%
Total Harmonic Distortion	<10%	<10%	<10%	<10%	<10%	<10%	<10%	<10%	<10%
Total Harmonic Distortion	-18°C (0°F)	-18°C (0°F)	-18°C (0°F)	-18°C (0°F)	-18°C (0°F)	-18°C (0°F)	-18°C (0°F)	-18°C (0°F)	-18°C (0°F)

LAMP DATA (One per fixture)

	26W Triple	32W Triple	42W Triple
Rated Watts	26W Triple	32W Triple	42W Triple
Rated Lumens	1800	2400	3200
Efficacy (LPW)	69	75	76
Rated Life	10,000 hours	10,000 hours	10,000 hours
CRI	82	82	82
Min. Starting Temp.	0° F	0° F	0° F

LUMINANCE DATA IN CANDELA/SQ. METER

Angle in Vertical	Average 0°	Average 45°	Average 90°
45°	21019	21096	14312
55°	0	0	0
65°	0	0	0
75°	0	0	0
85°	0	0	0

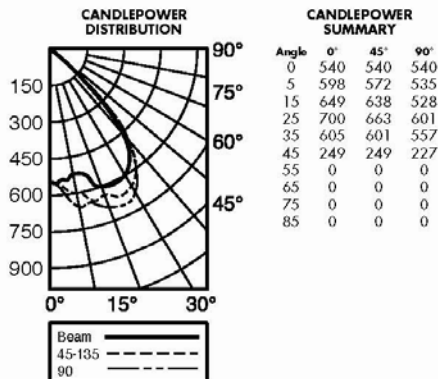
CFT632HEB-STF602H with Specular Clear Alzak Reflector

Lamp: One 32W Triple
 Spacing Criteria:
 0° = 1.5
 90° = 1.6
 Efficiency: 45.1%

AVERAGE INITIAL FOOTCANDLES

Multiple Units (Square Array)
 Ceiling 80% Wall 50% Floor 20%

32W Triple			
SPACING	RCR1	RCR3	RCR7
7.0	20	17	12
8.0	15	13	9
9.0	12	10	7
10.0	10	8	6
11.0	8	7	5



Test No. PL5221

COEFFICIENTS OF UTILIZATION Zonal Cavity Method

Room Cavity Ratio	% Effective Floor Cavity Reflectance																
	80%		70%		50%		30%		10%								
	70	50	30	10	70	50	30	10	50	30	10						
1	51	50	49	48	50	49	48	47	47	46	46	45	45	44	44	43	43
2	49	47	45	43	48	46	44	43	44	43	42	43	42	41	42	41	40
3	46	43	41	39	45	42	40	39	41	40	38	40	39	38	39	38	37
4	44	40	38	36	43	40	37	36	39	37	35	38	36	35	37	36	34
5	41	37	35	33	40	37	34	32	36	34	32	35	33	32	35	33	32
6	39	35	32	30	38	34	32	30	34	31	30	33	31	29	32	30	29
7	36	32	29	27	36	32	29	27	31	29	27	30	28	27	30	28	27
8	34	29	27	25	34	29	26	24	29	26	24	28	26	24	28	26	24
9	32	27	24	22	31	27	24	22	26	24	22	26	23	22	25	23	22
10	30	25	22	20	29	25	22	20	24	22	20	24	21	20	23	21	20

CFT632HEB-STF602H

Test No. PL5221

NOTES

☞ Denotes a Virtual Source reflector.

Refer to www.prescolite.com for additional photometric tests (IES Files).

When ordering a sloped ceiling adaptor, specify the degree of slope in 5° increments, max. of 35°. For a more precise degree or wet ceiling applications, please contact factory. Sloped ceiling adaptor and housing must be installed at the same time.

Note: Use of horizontally-lamped open downlights with amalgam-based CFL lamps in air-handling plenums is not recommended because cool air flow over the lamps will result in reduced light output. Prescolite recommends vertical lamp downlights or use of the regressed lensed trim option for horizontal downlights in these applications to reduce this effect. Refer to Prescolite White Paper WFP0003 at www.prescolite.com for more information.



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SignosM

Architectural Elements

AKTMHT

One 39W or 70W T4 or T6 Metal Halide Lamp

DATE: _____ TYPE: _____

FIRM NAME: _____

PROJECT: _____

ArchiTrak

For conversion to millimeters,
multiply inches by 25.4
Not to Scale

APPLICATIONS:

Prescolite's SignosM T4 and T6 metal halide foundations provide the perfect starting point to create your own unique style. Contemporary, and highly shielded, the final design is up to you. Specify with one of three finishes to compliment your interior space.

TRACK FOUNDATION:

Diecast aluminum foundation with electronic ballast. Lamp assembly rotates 180° both horizontally and vertically. Tool-less aiming connector has solid copper contact bars, fixed for one or two circuit connection without modification. Baked enamel finish available in black (BL), white (WH), or Zet (Z) metallic silver.

LAMP:

Use one (1) GE T4.5 or Philips T6 metal halide lamp only. Use of any other manufacturers lamps may jeopardize optical performance. Lamp furnished by others.

SOCKET:

T6: Ceramic bi-pin G12 base with 200°C wire in silicone insulator sleeve.

T4: Ceramic bi-pin G6.5 base with 200°C wire in silicone insulator sleeve.

LENS:

All reflector assemblies include diecast lens can ring with tool-less access and clear tempered glass lens.

REFLECTOR:

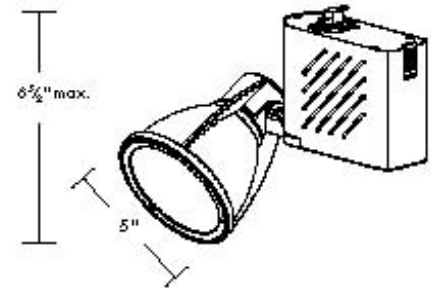
Specify spot (10°), medium (25°) or flood (40°) distribution reflector assembly (required), which features a clear specular or matte finish anodized reflector and an outer solid shade in your choice of black (BL), white (WH) or zet (Z) metallic silver painted finishes.

INSTALLATION:

Easy installation onto ArchiTrak one/two circuit track.

LABELS:

CSA/NRTL/C Listed



CATALOG NUMBER:

EXAMPLE: AKTMHT670 WH AKTR1 WH

TRACK FOUNDATION	TRACK FOUNDATION	REFLECTOR/LENS ASSEMBLY (REQUIRED)	
<input type="checkbox"/> AKTMHT4 39 Z	<input type="checkbox"/> AKTMHT639 Z	<u>T4/T6 SPOT (10°)T</u>	<u>T6 MEDIUM (25°)T</u>
<input type="checkbox"/> AKTMHT4 39 BL	<input type="checkbox"/> AKTMHT639 BL	<u>SPECULAR REFLECTOR</u>	<u>MATTE REFLECTOR</u>
<input type="checkbox"/> AKTMHT4 39 WH	<input type="checkbox"/> AKTMHT639 WH	<input type="checkbox"/> AKTSP1 Z	<input type="checkbox"/> AKTME2 Z
<input type="checkbox"/> T4.5, 39W GE	<input type="checkbox"/> T6, 39W Philips	<input type="checkbox"/> AKTSP1 BL	<input type="checkbox"/> AKTME2 BL
<input type="checkbox"/> AKTMHT470 Z	<input type="checkbox"/> AKTMHT670 Z	<input type="checkbox"/> AKTSP1 WH	<input type="checkbox"/> AKTME2 WH
<input type="checkbox"/> AKTMHT470 BL	<input type="checkbox"/> AKTMHT670 BL	<u>T4 MEDIUM (25°)T</u>	<u>T4/T6 FLOOD (40°)T</u>
<input type="checkbox"/> AKTMHT470 WH	<input type="checkbox"/> AKTMHT670 WH	<u>SPECULAR REFLECTOR</u>	<u>MATTE REFLECTOR</u>
<input type="checkbox"/> T4.5, 70W GE	<input type="checkbox"/> T6, 70W Philips	<input type="checkbox"/> AKTME1 Z	<input type="checkbox"/> AKTFL1 Z
		<input type="checkbox"/> AKTME1 BL	<input type="checkbox"/> AKTFL1 BL
		<input type="checkbox"/> AKTME1 WH	<input type="checkbox"/> AKTFL1 WH

*Note: Finish indicates exterior finish. Interior reflector finish is clear specular or matte.

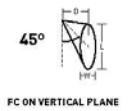
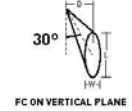


In a continuing effort to offer the best product possible we reserve the right to change, without notice, specifications or materials that in our opinion will not alter the function of the product.
Web: www.prescolite.com • Tech Support: (888) 777-4832

ATRK-032

PHOTOMETRIC DATA

ArchiTrak - Architectural Elements SignosM - AKTMHT



AKTMHT639 AKTSP1 PHILIPS 39W T6 Rated Hrs.: 12,000 CBCP: 16,434 Test No.: 914	BEAM ANGLE 11°	FC ON HORIZONTAL PLANE				FC ON HORIZONTAL PLANE				FC ON VERTICAL PLANE				FC ON VERTICAL PLANE			
		D	FC	L	W	D	FC	L	W	D	FC	L	W	D	FC	L	W
		6'	457	1.2'	1.2'	6'	297	1.6'	1.4'	5'	92	4.2'	2.1'	5'	232	2.0'	1.6'
		8'	257	1.5'	1.5'	8'	167	2.2'	1.9'	6'	57	5.0'	2.5'	6'	161	2.5'	1.8'
		10'	164	1.9'	1.9'	10'	107	2.7'	2.4'	7'	42	5.9'	2.9'	7'	119	2.9'	2.0'
		12'	114	2.3'	2.3'	12'	74	3.3'	2.9'	8'	32	6.7'	3.3'	8'	91	3.3'	2.3'
		14'	84	2.7'	2.7'	14'	54	3.8'	3.3'	9'	25	7.5'	3.7'	9'	72	3.7'	2.6'
		16'	64	3.1'	3.1'	16'	42	4.4'	3.8'	10'	21	8.4'	4.1'	10'	58	4.1'	2.9'
		18'	51	3.5'	3.5'	18'	33	4.9'	4.3'	12.5'	13	10.5'	5.2'	12.5'	37	5.1'	3.7'

AKTMHT670 AKTSP1 PHILIPS 70W T6 Rated Hrs.: 12,000 CBCP: 31,352 Test No.: 9170	BEAM ANGLE 11°	FC ON HORIZONTAL PLANE				FC ON HORIZONTAL PLANE				FC ON VERTICAL PLANE				FC ON VERTICAL PLANE			
		D	FC	L	W	D	FC	L	W	D	FC	L	W	D	FC	L	W
		6'	871	1.1'	1.1'	6'	566	1.5'	1.3'	5'	157	4.1'	1.9'	5'	443	2.0'	1.3'
		8'	490	1.5'	1.5'	8'	318	2.1'	1.7'	6'	109	5.0'	2.3'	6'	308	2.4'	1.6'
		10'	314	1.9'	1.9'	10'	204	2.6'	2.2'	7'	80	5.8'	2.6'	7'	226	2.8'	1.9'
		12'	218	2.3'	2.3'	12'	141	3.1'	2.6'	8'	61	6.6'	3.0'	8'	173	3.2'	2.1'
		14'	160	2.6'	2.6'	14'	104	3.6'	3.1'	9'	48	7.4'	3.4'	9'	137	3.6'	2.4'
		16'	122	3.0'	3.0'	16'	80	4.1'	3.5'	10'	39	8.3'	3.8'	10'	111	4.0'	2.7'
		18'	97	3.4'	3.4'	18'	63	4.6'	3.9'	12.5'	25	10.3'	4.7'	12.5'	71	4.9'	3.3'

AKTMHT639 AKTME2 PHILIPS 39W T6 Rated Hrs.: 12,000 CBCP: 2,343 Test No.: 1361	BEAM ANGLE 32°	FC ON HORIZONTAL PLANE				FC ON HORIZONTAL PLANE				FC ON VERTICAL PLANE				FC ON VERTICAL PLANE			
		D	FC	L	W	D	FC	L	W	D	FC	L	W	D	FC	L	W
		5'	86	2.8'	2.8'	5'	56	3.8'	3.5'	3'	30	6.0'	3.6'	3'	84	3.2'	2.5'
		6'	59	3.3'	3.3'	6'	39	4.6'	4.2'	4'	17	7.9'	4.8'	4'	47	4.4'	3.4'
		7'	44	3.9'	3.9'	7'	28	5.3'	4.8'	5'	11	9.9'	6.0'	5'	30	5.5'	4.2'
		8'	33	4.4'	4.4'	8'	22	6.1'	5.5'	6'	7	11.9'	7.2'	6'	21	6.6'	5.1'
		9'	26	5.0'	5.0'	9'	17	6.9'	6.2'	7'	5	13.9'	8.4'	7'	15	7.7'	5.9'
		10'	21	5.5'	5.5'	10'	14	7.6'	6.9'	8'	4	15.9'	9.6'	8'	12	8.8'	6.8'
		12.5'	14	6.9'	6.9'	12.5'	9	9.5'	8.7'	10'	3	19.9'	12.0'	10'	8	11.0'	8.5'

AKTMHT670 AKTME2 PHILIPS 70W T6 Rated Hrs.: 12,000 CBCP: 4,852 Test No.: 1546	BEAM ANGLE 28°	FC ON HORIZONTAL PLANE				FC ON HORIZONTAL PLANE				FC ON VERTICAL PLANE				FC ON VERTICAL PLANE			
		D	FC	L	W	D	FC	L	W	D	FC	L	W	D	FC	L	W
		5'	194	2.4'	2.4'	5'	126	3.4'	3.0'	3'	67	5.8'	3.1'	3'	191	3.0'	2.2'
		6'	135	2.9'	2.9'	6'	88	4.1'	3.6'	4'	38	7.7'	4.2'	4'	107	4.1'	2.9'
		7'	99	3.4'	3.4'	7'	64	4.8'	4.2'	5'	24	9.6'	5.2'	5'	69	5.1'	3.7'
		8'	76	3.9'	3.9'	8'	49	5.5'	4.8'	6'	17	11.5'	6.3'	6'	48	6.1'	4.4'
		9'	60	4.4'	4.4'	9'	39	6.2'	5.4'	7'	12	13.4'	7.3'	7'	35	7.1'	5.2'
		10'	49	4.9'	4.9'	10'	32	6.9'	6.0'	8'	9	15.4'	8.3'	8'	27	8.1'	5.9'
		12.5'	31	6.1'	6.1'	12.5'	20	8.6'	7.5'	10'	6	19.2'	10.4'	10'	17	10.2'	7.4'

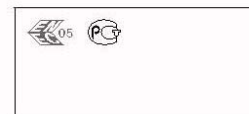
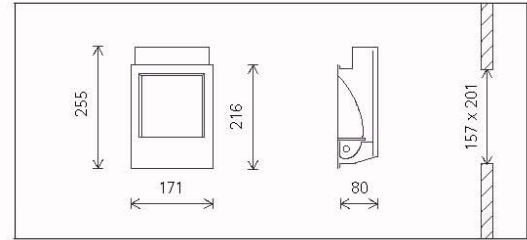
AKTMHT639 AKTFL1 PHILIPS 39W T6 Rated Hrs.: 12,000 CBCP: 1,355 Test No.: 1362	BEAM ANGLE 56°	FC ON HORIZONTAL PLANE				FC ON HORIZONTAL PLANE				FC ON VERTICAL PLANE				FC ON VERTICAL PLANE			
		D	FC	L	W	D	FC	L	W	D	FC	L	W	D	FC	L	W
		5'	54	4.7'	4.7'	5'	35	4.8'	4.8'	3'	19	6.8'	5.0'	3'	53	4.2'	3.5'
		6'	38	5.6'	5.6'	6'	18	6.7'	6.7'	4'	11	9.1'	6.6'	4'	30	5.6'	4.7'
		7'	28	6.6'	6.6'	7'	11	8.6'	8.6'	5'	7	11.3'	8.3'	5'	19	7.0'	5.9'
		8'	21	7.5'	7.5'	8'	7	10.5'	10.6'	6'	5	13.6'	9.9'	6'	13	8.4'	7.0'
		9'	17	8.5'	8.5'	9'	5	12.4'	12.5'	7'	3	15.9'	11.6'	7'	10	9.8'	8.2'
		10'	14	9.4'	9.4'	10'	4	14.3'	14.4'	8'	3	18.1'	13.3'	8'	7	11.2'	9.4'
		12.5'	9	11.7'	11.7'	12.5'	3	16.2'	16.3'	10'	2	22.7'	16.6'	10'	5	14.0'	11.7'

AKTMHT670 PHILIPS AKTFL1 70W T6 Rated Hrs.: 12,000 CBCP: 3,013 Test No.: 1547	BEAM ANGLE 51°	FC ON HORIZONTAL PLANE				FC ON HORIZONTAL PLANE				FC ON VERTICAL PLANE				FC ON VERTICAL PLANE			
		D	FC	L	W	D	FC	L	W	D	FC	L	W	D	FC	L	W
		5'	121	4.3'	4.3'	5'	78	4.8'	6.1'	3'	42	6.6'	6.3'	3'	118	4.2'	4.5'
		6'	84	5.2'	5.2'	6'	54	5.8'	7.3'	4'	24	8.8'	8.4'	4'	67	5.6'	6.0'
		7'	61	6.0'	6.0'	7'	40	6.8'	8.5'	5'	15	11.0'	10.5'	5'	43	7.1'	7.5'
		8'	47	6.9'	6.9'	8'	31	7.7'	9.7'	6'	10	13.2'	12.7'	6'	30	8.5'	8.9'
		9'	37	7.8'	7.8'	9'	24	8.7'	11.0'	7'	8	15.4'	14.8'	7'	22	9.9'	10.4'
		10'	30	8.6'	8.6'	10'	20	9.7'	12.2'	8'	6	17.7'	16.9'	8'	17	11.3'	11.9'
		12.5'	19	10.8'	10.8'	12.5'	13	12.1'	15.2'	10'	4	22.1'	21.1'	10'	11	14.1'	14.9'

ERCO

Atrium Uplight

for metal halide lamps



33511.000 Reflector silver
HIT-TC-CE 35W G8.5 3300lm
ECG

Product description

Size 5

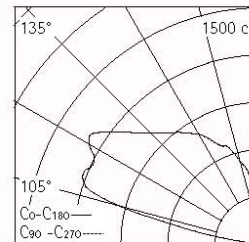
Housing for mounting in dry-wall partitions: metal, black powder-coated. Mounting bracket with screw fixing. Clamp extension 10-25mm.

Electronic control gear: 2 cable entries, through-wiring possible. 5-pole terminal block.

Front cover: cast aluminium, white (RAL9002) powder-coated.

Darklight reflector: aluminium, anodised. Horizontal diffuser as safety glass.

Weight 1.90kg



HIT-TC-CE 35W G8.5 3300lm

ERCO Leuchten GmbH
Postfach 2460
58505 Lüdenscheid
Germany
Tel: +49 2351 551 0
Fax: +49 2351 551 300
info@erco.com

Technical Region: 230V/50Hz
We reserve the right to make technical
and design changes.
Edition: 13.11.2007
Please download the current version
from
www.erco.com/33511.000

APPENDIX

CHAPEL: F10

SCHEDULES

FIXTURES

BALLASTS

DRAWINGS

ERCO

Atrium Uplight

Planning data

Cleaning (a)	1				2				3			
	P	C	N	D	P	C	N	D	P	C	N	D
Ambient conditions	0.93	0.86	0.81	0.74	0.88	0.77	0.66	0.57	0.85	0.70	0.55	0.45
LMF	0.91	0.83	0.68	0.51	0.90	0.81	0.67	0.50	0.90	0.81	0.67	0.50
RSMF												
Hours of operation (h)	1000	2000	4000	6000	8000	9000						
LLMF	0.94	0.86	0.82	0.75	0.69	0.66						
LSF	1	1	1	1	1	1						

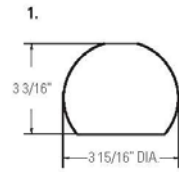
MF	LMF	RSMF	LLMF	LSF
MF	Maintenance Factor			
LMF	Luminaire Maintenance Factor			
RSMF	Room Surface Maintenance Factor			
LLMF	Lamp Lumens Maintenance Factor			
LSF	Lamp Survival Factor			
P	Room pure			
C	Room clean			
N	Room normal			
D	Room dirty			



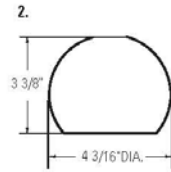
Lytespan® Accent Lighting System **8680**

Page 1 of 1

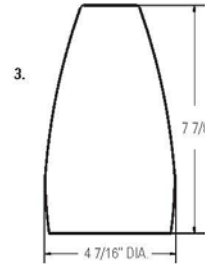
Lytejacks Style Jack Shades



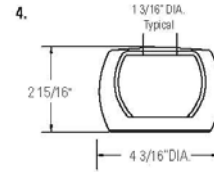
8684 Mirrored Globe



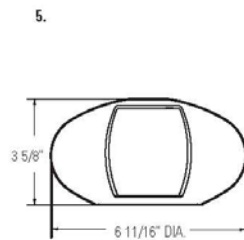
8685 Globe



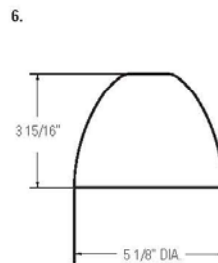
8686 Tall Bell



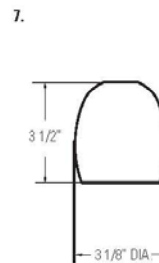
8687 Mini Barrel



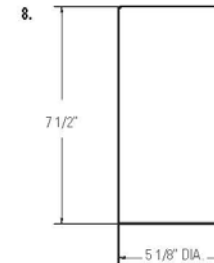
8682 Transparent with Swirl



8680 Textured Bell



8681 Beehive



8683 Transparent Cylinder

Catalog No.	Finish	Description
8684MR	Mirror	Mirrored Globe: Semi transparent mirror elegantly fades to clear mouth blown glass providing a soft glow.
8685LC	Light Caramel	Globe: Provides a soft warm glow while promoting downward light.
8686LC	Light Caramel	Tall Bell: Creates a warm focal glow and delivers a soft downward pool of light.
8687CL	Clear	Mini Barrel: Double barrel concept creates an array of soft translucent light.
8687CB	Champagne Beige	Mini Barrel: Double barrel concept creates an array of soft translucent light.
8687BL	Blue	Mini Barrel: Double barrel concept creates an array of soft translucent light.
8682WH	Clear Swirl	Transparent with Swirl: Translucent white opal glass, glows warmly through the rich white glass thread decor.
8680WH	White	Textured Bell: Soft textured white opal glass delivers a soft glow and directs downward light.
8681WH	White	Beehive: Concentrated light gently glows through the textured mouth blown glass.
8683WH	White	Transparent Cylinder: White opal glass creates a translucent glow. Clear glass radiates beautifully.

Features

1. Mouth blown clear glass with semi transparent mirror
2. Mouth blown cased glass, matte surface
3. Mouth blown cased glass, matte surface
4. Mouth blown transparent glass, with glossy finish
 - a. Inside piece: Mouth blown translucent opal glass. Matte surface
5. Mouth blown clear glass thread decor. Glossy surface
 - a. Inside piece: Mouth blown translucent opal glass. Matte surface
6. Mouth blown textured glass bell, with linen structure. Matte surface.
7. Mouth blown textured glass with linen structure. Matte surface.
8. Mouth blown, upper part translucent opal, lower part clear with glossy surface.

Features

Mouth blown glass.

Labels

UL

Job Information	Type:
Job Name:	
Cat. No.:	
Lamp(s):	
Notes:	

Lightolier a Genlyte company www.lightolier.com
 631 Airport Road, Fall River, MA 02720 • (508) 679-8131 • Fax (508) 674-4710
 We reserve the right to change details of design, materials and finish.
 © 2005 Genlyte Group LLC • A1205

LIGHTOLIER®

Drive over in ground flood lights for ceramic metal halide sources

Outer housing: Constructed of stainless steel.

Inner housing: One piece stainless steel housing with a cast bronze guard/cover secured together with stainless steel bolts. The entire lamp "module" is removable for relamping by removing two (2) captive stainless steel bolts. Reflector of pure anodized aluminum with convex molded 1/2" thick safety glass. One piece molded U-channel, high temperature silicone gasket.

Electrical: Lampholders: H.I.D. single ended G8.5 bi-pin with nickel plated contacts supplied with 180°C leads, rated 600V pulse rated 5 KV. Ballast is electronic 120V or 277 - specify. Inner housing pre-wired with three (3) feet of 18/3 waterproof cable, cable clamp, and waterproof cable gland entry into housing. A separate waterproof wiring box for power supply must be provided (by contractor).

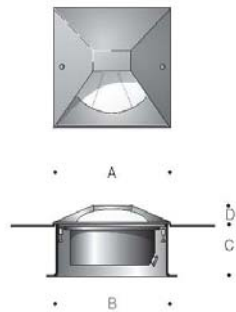
Finish: Natural bronze casting, custom colors are not available.

U.L. Listed, suitable for wet locations and vehicle drive over.

Protection class: IP 67.

Luminaires are designed to withstand loads of 6660 lbs at speeds of 30 MPH of vehicles with pneumatic tires when installed on a proper foundation. The luminaire may not be used for traffic lanes where they are subjected to horizontal pressure from vehicle braking. Proper drainage must be provided. For installation in poured concrete only.

Type:
 BEGA Product #:
 Project:
 Voltage:
 Color:
 Options:
 Modified:



Cast bronze uprights utilizing H.I.D. light sources. Light distribution from an anodized matte reflector. Convex tempered glass 1/2" thick. U.L. listed, suitable for wet locations. IP 67. Finish: Natural bronze casting. The column "T" indicates the temperature in degrees C.



Lamp	Lumen	A	B	C	D	T
0615MH	1 70W T4 G8.5 MH	6600	13 3/4	14	6 3/8	2 1/2 100°

BEGA/US 1000 BEGA Way, Carpinteria, CA 93013 [P] 805-684-0533 [F] 805-684-6682
 ©Copyright BEGA/US 2005 updated 1/05



iW CAST 14 POWERCORE



IntelliWhite™ iW Cast 14 Powercore is a first-of-its kind LED white light fixture. It is a high-performance union of linear fixture design with maximized light intensity for wall washing, highlighting architectural detail, designs, and lit surfaces to complement ambient scenes and moods. iW Cast Powercore provides flexible color temperature and brightness control through Chromacore®, the proven technology that underlies Color Kinetics' existing intelligent solid-state lighting systems. When applied to IntelliWhite products, Chromacore controls channels of warm white and cool white LEDs to produce output of color temperatures within the range of 3000 - 6500 kelvin from within a single fixture. iW Cast 14 Powercore allows the adjustment of intensity while providing the option to either maintain constant color temperature or vary the color temperature.

iW Cast 14 Powercore, designed to meet the rugged requirements of outdoor applications, is completely sealed and meets specifications for wet locations. iW Cast 14 Powercore is available with either a narrow or wide beam angle. The attached, two-point mounting plate simplifies installation and minimizes required tools. The over-molded, end-to-end locking connectors, capable of making 180° turns, make iW Cast 14 Powercore extremely versatile and easily adaptable for even the most challenging mounting environments.

iW Cast 14 Powercore incorporates patent-pending Powercore® digital power processing technology to drive LED systems, integrating power and data management directly into the fixture and eliminating the need for an external power supply. Powercore surpasses traditional power supply technology by streamlining multiple conversion and regulation stages into a single, flexible, microprocessor-controlled power stage that controls power output to LED systems directly from line voltage and significantly increases overall system efficiency. Built-in active power factor correction (PFC) yields higher system efficiencies and minimizes stress on building wiring making the installation and system more cost effective.

iW Cast 14 Powercore receives data via Color Kinetics iW Data Enabler—a data formatting device specifically designed for use with Color Kinetics IntelliWhite Powercore based fixtures and Color Kinetics line of iW controllers. Each iW Data Enabler will support up to 36 (110VAC) or 61 (240VAC) iW Cast 14 Powercore fixtures, using a 50-foot, field-cutable leader cable. The Data Enabler supports a slightly greater or fewer number of fixtures depending on customized installation parameters, including line voltage, leader and jumper cable lengths. One-foot (30 cm) and five-foot (152 cm) jumper cables are available for installations that require spacing between fixtures.

iW CAST 14 SPECIFICATIONS

TEMPERATURE RANGE	3000K to 6500K
SOURCE	High intensity, power LEDs
BEAM ANGLE	18°
HOUSING	Black or white powder coated, die cast aluminum 13.5" x 2.7" x 2.7" (34.3 cm) x (6.9 cm) x (6.9 cm)
LENS	Polycarbonate with UV and scratch resistant silicone hard coat
CONNECTORS	Over-molded, integral male/female connectors
LISTINGS	UL/cUL, CE

COMMUNICATION SPECIFICATIONS

DATA INTERFACE	Color Kinetics iW Data Enabler
CONTROL	Color Kinetics line of iW Controllers including iW Scene Controller

ELECTRICAL SPECIFICATIONS

POWER REQUIREMENT	100-240VAC, 50-60 Hz
POWER CONSUMPTION	30W at full output
POWER FACTOR	0.95 or greater at 120VAC

ENVIRONMENTAL SPECIFICATIONS

TEMPERATURE RANGE	-40°F to 122°F (-40°C to 50°C) operating temperature -4°F to 122°F (-20°C to 50°C) starting temperature
PROTECTION RATING	IP66

LED SOURCE LIFE

In traditional lamp sources, lifetime is defined as the point at which 50% of the lamps fail. This is also termed Mean Time Between Failure (MTBF). LEDs are semiconductor devices and have a much longer MTBF than conventional sources. However, MTBF is not the only consideration in determining useful life. Color Kinetics uses the concept of useful light output for rating source lifetimes. Like traditional sources, LED output degrades over time (lumen depreciation) and this is the metric for SSL lifetime.

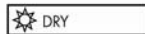
LED lumen depreciation is affected by numerous environmental conditions such as ambient temperature, humidity, and ventilation. Lumen depreciation is also affected by means of control, thermal management, current levels, and a host of other electrical design considerations. Color Kinetics systems are expertly engineered to optimize LED life when used under normal operating conditions. Lumen depreciation information is based on LED manufacturers' source life data as well as other third party testing. Low temperatures and controlled effects have a beneficial effect on lumen depreciation. Overall system lifetime could vary substantially based on usage and the environment in which the system is installed.

Temperature and effects will affect lifetime. Color Kinetics rates product lifetime using lumen depreciation to 70% of original light output. When the fixture is running on warm or cool, at room temperature, the LED lifetime is in the range 50,000 - 70,000 hours. This is LED manufacturers' test data. High output is defined as any LED device that is 1/2 watt or above. For more detailed information on source life, please see www.colorkinetics.com/lifetime.

CHROMACORE®
BY COLOR KINETICS

POWERCORE®
BY COLOR KINETICS

OPTIBIN®
BY COLOR KINETICS



ITEM# 501-000002-00 (White)
501-000002-01 (Black)
501-000003-00 (White, Conduit)
501-000003-01 (Black, Conduit)

This product is protected by one or more of the following patents: U.S. Patent Nos. 6,016,038; 6,150,774 and other patents listed at <http://colorkinetics.com/patents/>.
Other patents pending.

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BRO144 Rev 04

Specifications subject to change without notice. Refer to www.colorkinetics.com for the most recent data sheet version.

PHILIPS SOLID-STATE LIGHTING SOLUTIONS • 3 BURLINGTON WOODS DRIVE • BURLINGTON, MA 01803 • USA
TEL 888 FULL RGB • TEL 617 423 9999 • FAX 617 423 9998 • INFO@COLORKINETICS.COM • WWW.COLORKINETICS.COM

APPENDIX

COURTYARD: F15

SCHEDULES

FIXTURES

BALLASTS

DRAWINGS

IW CAST 14 POWERCORE

PHOTOMETRIC PERFORMANCE

Photometric data is based on test results from an independent testing lab.

SOURCE SPECIFICATIONS

Optics:	Metalized polycarbonate reflectors
Lens:	UV resistant soft focus polycarbonate lens
Source:	18 LEDs (12 warm white, 6 cool white)
Beam Angle:	18° (at 50% of peak illuminance)
Distribution:	Symmetric direct illumination
CCT:	Adjustable 3,000–6,500K
CRI:	82 All, 74 Warm, 87 Cool

ILLUMINANCE DISTRIBUTION

1.4	4.4	7.6	6.5	3.0	0.9	1.0'/0.3m
15.1	47.4	81.8	70.0	32.3	9.7	
1.8	6.5	12.3	11.0	5.3	1.8	2.0'/0.6m
19.4	70.0	132.4	118.4	57.0	19.4	
1.7	6.2	13.2	13.2	6.4	2.0	3.0'/1.0m
18.3	66.7	142.1	142.1	68.9	21.5	
1.4	3.8	8.8	10.6	5.6	1.7	4.0'/1.2m
15.1	40.9	94.7	114.1	60.3	18.3	
1.1	2.1	4.3	5.3	3.2	1.3	5.0'/1.5m
11.8	22.6	46.3	57.0	34.4	14.0	
0.9	1.3	2.0	2.3	1.7	1.0	6.0'/2.0m
9.7	14.0	21.5	24.8	18.3	10.8	
3.0'/1.0m		0'/0m		3.0'/1.0m		

Units: Footcandles (top)/Lux (bottom)
 Location: Ceiling mount 2'/0.6m from wall with light at a 60° angle off horizontal.
 Measured all on, reflectance model: 80 ceiling, 50 wall, 20 floor

ILLUMINANCE

	3'	6'	9'	15'
	1m	2m	3m	5m
ALL	110.0	28.9	13.1	4.8
	1184.0	311.1	141.0	51.7

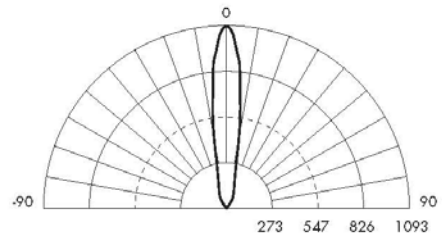
Measured in Footcandles (top)/Lux (bottom) on axis.
 Measured on all, reflectance 0.

CRI

It is common practice in the lighting industry to use color rendering index (CRI) to compare the properties of various light sources. There are known deficiencies and limitations associated with CRI and as a result, it is not always an accurate indicator of good object color appearance. This is especially true for LED-based sources. Until a better method for measuring color rendering in LEDs is accepted, Color Kinetics measures CRI in accordance with the current CIE 13.3-1995 standard using the Ra calculation. The reference illuminants employed are the Planckian locus below 5000K and CIE Daylight reference above 5000K. All measurements for Color Kinetics products are performed by third party laboratories using NIST traceable instruments.

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CANDLE POWER DISTRIBUTION



Measured on: All
 Beam center: 1093 cd
 Thin dashed lined: Indicates 50% of peak

LIGHT OUTPUT

	TOTAL OUTPUT (lumens)	POWER (Watts)	EFFICACY (lm/W)
ALL	208	37.3	5.6
WARM	135	28.5	4.7
COOL	80	19.8	4.0

Note: Efficacy figures are for a complete tested fixture not simply a lamp source.

APPENDIX

COURTYARD: F16

SCHEDULES

FIXTURES

BALLASTS

DRAWINGS

Providence® PROS

page 2 of 4

DATE

TYPE

PROS

FIXTURE	LAMP/BALLAST	COLOR	OPTIONS	DECORATIVE ARMS
1	2	3	4	5

1 Fixture

- PROS-DIRS** Symmetric direct, direct reflective optical system.
- PROS-INDA** Asymmetric indirect, indirect reflective optical system, Mini Mastercolor lamps only.
- PROS-INDS** Symmetric indirect, indirect reflective optical system, Mini Mastercolor lamps only.

2 Lamps/Ballasts

- 20MMC** 20 watt electronic metal halide ballast, 120/277 volt. Uses a PGJ5 base, Mini Mastercolor lamp.
- 39MMC** 39 watt electronic metal halide ballast, 120/277 volt. Uses a PGJ5 base, Mini Mastercolor lamp.
- 39MHT6EB** 39 watt electronic metal halide ballast, 120/277 volt. Uses a G12 base, clear T-6 ceramic lamp.
- 70MHT6EB** 70 watt electronic metal halide ballast, 120/277 volt. Uses a G12 base, clear T-6 ceramic lamp.
- CF** Compact Fluorescent, electronic ballast 120/277 volt. Use a GX24q base, 26,32 or 42 watt lamp (direct only). 0°F/-18°C minimum starting temp.

3 Color

- | | |
|--|---|
| <input type="checkbox"/> AWT Arctic White | <input type="checkbox"/> DGN Dark Green |
| <input type="checkbox"/> LGY Light Grey | <input type="checkbox"/> CRT Corten |
| <input type="checkbox"/> MAL Matte Aluminum | <input type="checkbox"/> BRM Metallic Bronze |
| <input type="checkbox"/> MDG Medium Grey | <input type="checkbox"/> DBZ Dark Bronze |
| <input type="checkbox"/> ATG Antique Green | <input type="checkbox"/> BLK Black |
| <input type="checkbox"/> VBL Verde Blue | <input type="checkbox"/> MTB Matte Black |
| <input type="checkbox"/> WRZ Weathered Bronze | <input type="checkbox"/> RAL # |
| | <input type="checkbox"/> CUSTOM |

4 Options



SPK

Decorative cast aluminum spikes on the top and bottom of the four vertical struts.



PFN

Cast aluminum finial painted a brass color.



BPS

Cast Aluminum Struts painted a brass color- spikes also painted brass if option SPK chosen



LDL

LIGHTLY DIFFUSED LENS
Frosted, flat tempered glass lens has a lightly diffused finish to minimize the lamp and reflector brightness. For horizontal reflector models.



HSS

HOUSE SIDE SHIELD. For direct optical system only. House side shield to cut off light behind the pole and shield the lamp from view. Factory/retailed.

SOLD TO

PO #

JOB NAME

Approvals

Architectural Area Lighting

14240 Artesia Blvd / La Mirada, CA 90639
714.904.2700 / fax 714.904.0522 / www.aal.net
Design patents pending. Copyright 2007.

5 Decorative Arms



TRA59D

Cast Scroll Arm - 4"7/100 mm O.D. Side Mount Down



TRA59U

Cast Scroll Arm - 4"7/100 mm O.D. Side Mount Up



WMA59D

Cast Scroll Arm - Wall Mount Down



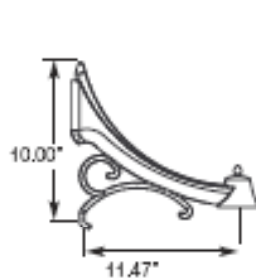
WMA59U

Cast Scroll Arm - Wall Mount Up

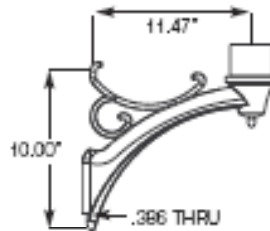
Decorative Arms

These one piece cast aluminum arms are prewired with quick disconnects. Wall mounted arms do not include wall mounting hardware. Pole mounted arms use 3/8-16 hex head bolts for attaching to the pole.

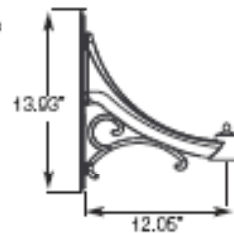
NOTE: For use with other AAL wall and post top arm models, consult the factory.



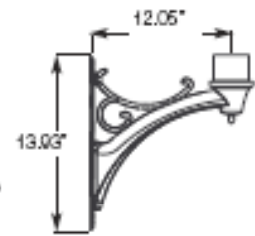
TRA59D



TRA59U



WMA59D



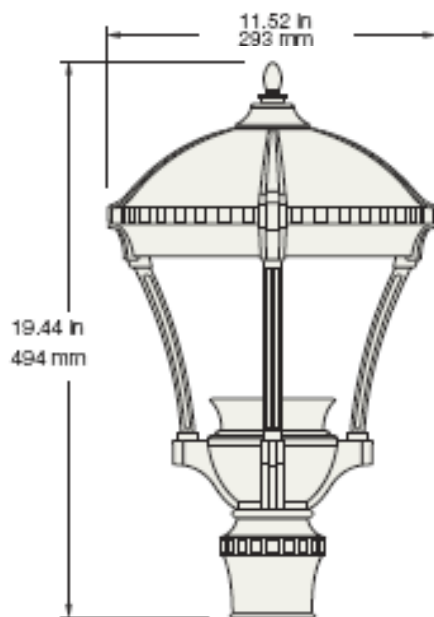
WMA59U

Architectural Area Lighting

14240 Artesia Blvd / La Mirada, CA 90638
 714.904.2700 / fax 714.904.0522 / www.aal.net
 Design patents pending. Copyright 2007.

Specifications

WEIGHT: 9 lbs EPA: 0.46

**REFLECTOR MODELS - REFLECTOR/LAMP**

The upper lamp housing shall be die cast aluminum. The internal reflector module is sealed from the outer housing with a one piece, memory retentive, molded silicone gasket. The tempered glass lens shall be sealed to the housing with a silicone gasket. One stainless steel latch shall release the door to allow access to the lamp.

The reflector module shall be composed of a spun, specular aluminum panel rigidly attached in a die cast aluminum housing. The horizontal lamp reflectors shall meet ANSI-IES standards for full cutoff reflector systems.

REFLECTOR MODELS - BALLAST

The lower ballast housing shall be cast aluminum. The tool-less ballast access for servicing is accomplished by a quarter turn motion of the top cover. The ballast shall be mounted on a prewired tray with a quick disconnect plug attached to the underside of the cover. HID ballasts are high power factor, rated for -30°F starting. Electronic ballasts for metal halide lamps are sound rated A. Sockets are medium base, G12 for use with T8 lamps. All sockets are pulse rated porcelain. Ballasts are multi tap, wired at the factory for 277 volts. Compact fluorescent transformers shall accept 120 to 277 volt input and rated for 0°F starting.

INDIRECT MODELS - LOWER LAMP MODULE

The lower housing shall contain the lamp module. The cover shall be die cast aluminum with a tempered glass lens. The lamp shall be accessed by turning the lamp housing cover a quarter turn. The reflector shall be polished, anodized aluminum with an extremely narrow beam for directing the light to the upper reflector. Sockets are PGJ5 for use with BT-5 lamps. All sockets are pulse rated porcelain.

INDIRECT MODELS - UPPER REFLECTOR/BALLAST

The die cast aluminum upper housing shall contain the ballast assembly and the indirect reflector. The tool-less ballast access for servicing is accomplished with a single stainless steel latch and hinged top cover. The ballast shall be mounted on a prewired tray with a quick disconnect plug. The HID ballasts are high power factor, rated for -30°F starting. Ballasts are multi-tap, wired at the factory for 277 volts. The indirect reflector is mounted to the underside of the upper housing. The reflector shall be die cast aluminum, finished in a high reflectance white. The indirect reflector models shall be IES classified as cutoff with less than 1% lumen output above 90 degrees.

INSTALLATION & MOUNTING

The PROS shall be factory supplied as a complete, prewired assembly. The fixture shall slip over a 3"/75mm open top pole or 4"/100mm pole mounted arm and secured and leveled with 3 stainless steel set screws.

FINISH

Fixture finish consists of a five stage pretreatment regimen with a polymer primer sealer, oven dry off and top coated with a thermoset super TGIC polyester powder coat finish. The finish shall meet the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance.

CERTIFICATION

The fixture shall be listed with ETL for outdoor, wet location use, UL1598 and Canadian CSA Std. C22.2 no.250, IP55.

WARRANTY

Fixture shall be warranted for three years. Ballast components carry the ballast manufacturer's limited warranty.

Architectural Area Lighting

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Design patents pending. Copyright 2007.

ALLSCAPE®

2930 South Fairview Street
Santa Ana, CA 92704
Phone: 714 668 3660
Fax: 714 668 1107
sales@allscape.net
http://www.allighting.com

FL-02

Specification Grade

- Sign Accent**
- Building Entrances**
- Doorways**
- Pedestrian Areas**
- Landscape Areas**
- Building Accent**
- Wall Wash**



FL-02-YM



FL-02-VO



FL-02

Specifications



Certifications

ETL and CETL listed for wet location and meets IP65 standard, dust-tight and water-jet proof.

Fixture Housing/Knuckle

The housing and knuckle is constructed of heavy wall die cast aluminum castings with a minimum 1/8" thickness.

Lens

Clear tempered 3/16" thick, high temperature silicone gasket sealed to fixture housing.

Lens Frame

Die cast aluminum minimum thickness of 1/8", attached to fixture housing with one center pinned latch and four rear mounted stainless steel cap screws.

Reflectors

Spun aluminum highly specular Alzak™ finish for either type R2 spot (1H1V), R3 flood (3H3V) or R4 flood (4H4V) distributions. One segmented asymmetric reflector is available, type R5 (distribution varies with lamp).

Lamp Holder

Porcelain 4kv pulse rated medium base for HID and Incandescent lamp sources.

Options

Color Filter (CF), Polycarbonate Lens Shield (PL), Barndoors (BD), Grid Louver (GL), Long Visor (LV), Short Visor (SV), Full Visor (FV), Fusing (F), Double Fusing (FF), Quartz Standby (QS), Photo Control Button (PCB). The Vertical Orientation (VO) allows the FL-02 to be configured in the vertical position. Note: when in the VO orientation the asymmetric optics are rotated 90°.

Mounting Detail

The FL-02 Knuckle is field adjustable up to 136° tilt and 360° horizontal rotation and slips over a 2-3/8" tenon. The FL-02-K or FL-02-VO may be horizontal surface mounted using either the Pier Mount (PM) or Stanchion Mount (SM) options. The FL-02-K or FL-02-VO may be wall mounted using the Designer Wall Bracket (DWB), or Standard Wall Bracket (WBT). The FL-02-Y is field adjustable up to 300° tilt and 90° horizontal rotation and can be secured to any surface with two screws using a cast adaptor. Mounting hardware and junction box by others. Call factory for custom mounting arrangements.

Finish

BK-BZ-WH-GR-GY-NA baked enamel paint standard. Powder coat and custom colors available on request.

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Due to a program of continuous improvement, ALLSCAPE reserves the right to make any variation in design or construction to the equipment described.

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APPENDIX

COURTYARD: F17

SCHEDULES

FIXTURES

BALLASTS

DRAWINGS

PROJECT
FIXTURE TYPE
CATALOG#

2930 South Fairview Street
 Santa Ana, CA 92704
 Phone: 714 668 3660
 Fax: 714 668 1107
 sales@allscape.net
 http://www.allighting.com

FL-02

Product Order Guide

Series	Mounting Type	Max Watts	Lamp Type	Voltage ¹	Reflector Type	Finish ²	Options
FL-02	K Knuckle Y Yoke	13 CF	CF	120	R2 1H1V Spot	BK ³ Black	CF Color Filter
		26 CFQ	CFQ	208	R3 3H3V Flood	BZ ³ Bronze	PL Polycarbonate Lens Shield
		42 CFT	CFT	240	R4 ⁴ 7H7V Flood	WH ³ White	BD Barn Doors
		70 HPS	E17	277	R5 ⁵ Asymmetric	GR ³ Green	GL Grid Louver
		70 MH	E17			NA ³ Natl Aluminum	LV Long Visor
		70 MH	T6			GY ³ Gray	SV Short Visor
		150 HAL	T4 ⁴	120		CC ³ Custom Color	FV Full Visor
							DWB Designer Wall Bracket
							PM Pier Mount
							SM Stanchion Mount
							WBT Wall Bracket with Tenon
							JBA Junction Box 1/2" NPT
							Adaptor
							F Fusing
							FF Double Fusing
							QS Quartz Standby
							PCB Photo Control Button
							VO Vertical Orientation

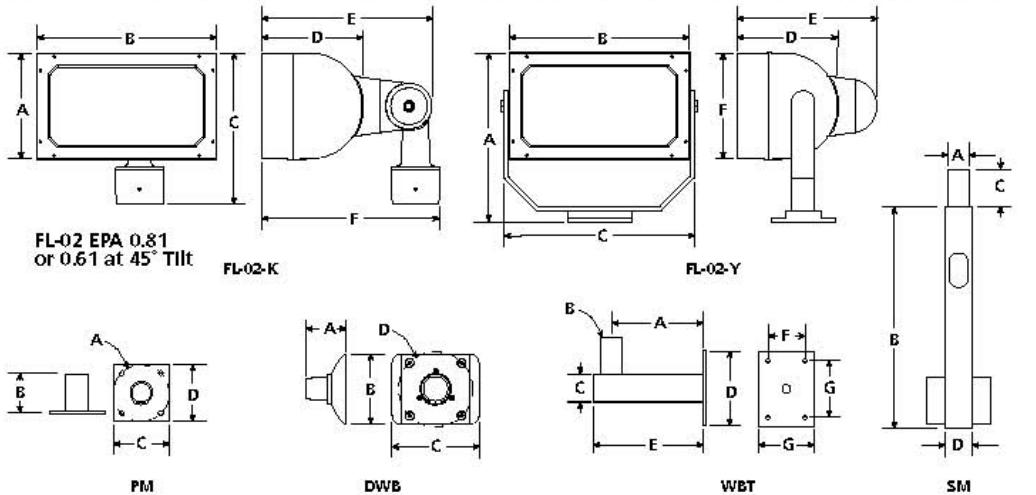
- ¹ Consult factory for other voltages.
- ² Consult factory for other finishes.
- ³ Baked enamel paint is standard, powder coat is optional.
- ⁴ T4, Clear lamp and Mini-Can Base
- ⁵ Compact fluorescent limited to R4 and R5 reflector types. R4 only compact fluorescent.

Note: E-17 Lamps 175W and below are medium base
 CF=single biax, CFQ=double biax, CFT=triple biax

Example: FL-02-K-70MH-E17-277-R3-BK-DWB

Luminaire Dimensions

Luminaire	A		B		C		D		E		F		G		Weight	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	lbs.	kg
FL-02-K	7.00	178	11.88	302	10.00	254	6.59	167	11.19	284	11.73	298	n/a	n/a	25	11.3
FL-02-Y	11.16	283	11.88	302	12.52	318	6.59	167	9.18	233	7.00	178	n/a	n/a	20	9.1
PM	6.00	152	4.00	102	6.00	152	6.00	152	n/a	n/a	n/a	n/a	n/a	n/a	3	1.4
SM	2.375	60	24.00	610	4.09	104	3.00	76	n/a	n/a	n/a	n/a	n/a	n/a	4	1.8
WBT	10.00	254	2.375	60	3.00	76	8.00	203	12.00	305	4.00	102	6.00	152	7	3.2
DWB	4.31	109	7.50	191	9.50	241	8.00	203	n/a	n/a	n/a	n/a	n/a	n/a	5	2.3



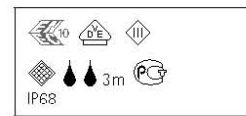
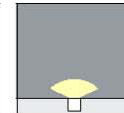
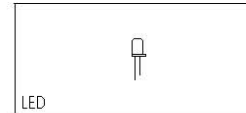
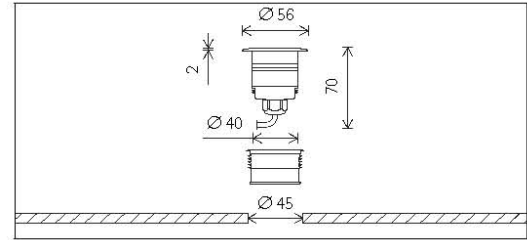
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ERCO

LED orientation luminaire



33766.000 LED amber
LED 0.9W 30V DC 2lm

Product description

Housing with gasket: stainless steel.

Installation bush with ribs: plastic.

Cable 4x0.75mm², L 500mm.

Clear prismatic diffuser with circular light aperture.

Cover ring: corrosion resistant stainless steel, with 6mm safety glass. Load 5kN.

Control gear to be ordered separately.

Protection mode IP68 3m: protection against dust ingress, and continuous immersion up to 3m deep.

Weight 0.16kg

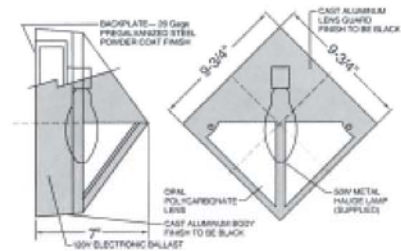
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Postfach 2460
58505 Lüdenscheid
Germany
Tel: +49 2351 551 0
Fax: +49 2351 551 300
info@erco.com

Technical Region: 230V/50Hz
We reserve the right to make technical and design changes.
Edition: 13.11.2007
Please download the current version from
www.erco.com/33766.000



peaquad

- Cast Aluminum body
- UV stabilized opal polycarbonate lens
- Fluorescent or HID lamps
- Cast Aluminum shroud
- Fluorescent fixtures supplied with -25°F cold weather electronic ballast
- UL, cUL listed, wet label IP55
- Metal Halide units supplied with open fixture lamps
- 70 watt HID units supplied with remote F can ballast. Remote ballast to be installed in appropriate wet label enclosure by contractor.



ORDERING CHART

SERIES	Prod. ID XXX	Lamp X	Wattage XX	Body X	Finish XX	Grill X	Ballast X	Lens X	Options XX
Peaquad	PEA	8- Fluorescent 9- HID	H3-1X32W TRIPLE 3500K H5-1X42W TRIPLE 3500K F1-35W MH A7-50W MH A8-50W HPS B4-70W MH B6-70W HPS B7-35W HPS	1-Surface Mount No Conduit Entries	00-Semi Gloss Black 01-Semi Gloss White 02-Black Suede 03-Grey 04-Bronze 05-Hammered Bronze 07-Hammered Copper 10-Matte Silver 17-Granite 47-Weathered Bronze 48-Weathered Moss 49-Good Earth 80-Weathered Copper 81-Weathered Iron 82-Hammered Gunmetal 83-Metallic Silver 84-Aluminum Painted 85-Terra cotta 86-Metallic Gold 87-Chrome 88-Quick Silver 89-Zinc Gray HB-Hand Painted Weathered Bronze HC-Hand Painted Weathered Cooper 99-Custom	1-Standard	C-120-277V Elect. 2-347V Elect. 9-120V MAG. HPF A-277V MAG. HPF R-120-277V REM MAG.	X-Opal	0-None 4-One Circuit Fusing 7-Photocontrol (stationary) 8-Special Screws A-DC Bayonet Socket F-Quartz Restrike (HID Only) G-Remote Emerg. Fluor. Only

To order choose one number from each column and two numbers from options column. Use 00 for options to signify none required.

NOTE:
Fluorescent is always C or 2.
HID is always 9 or A.

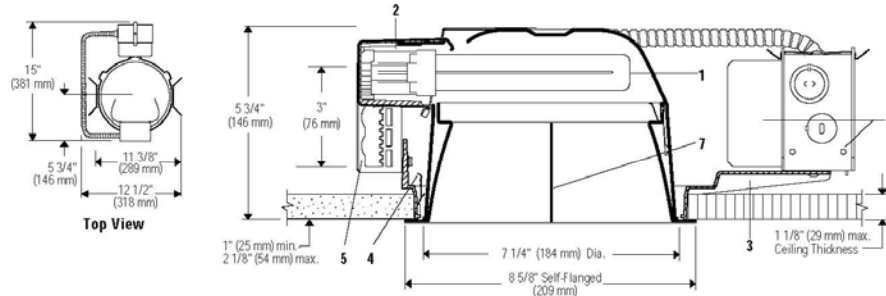
designplan 
79 Trenton Avenue Frenchtown, NJ 08825 Tel: (805) 896-7710 Fax: (808) 896-7042



Calculite® Compact Fluorescent Open Downlight **8096CB**

Page 1 of 2

7 3/8" Aperture (2) Quad Tube Cross Blade Louver



Ceiling Cutout: 8" (203 mm) Dia.

Reflector Trim	Frame-In Kit	Lamp
8096CBW White Cone, White Flange	7218HU Electronic 4-pin 120V-277V	(2) 18W Quad Tube
8096CBA Aluminum Cone, White Flange	7218H DU3 PowerSpec® Dimming 4-pin 120V-277V	
	7218HM120 Magnetic 2-pin 120V	
	7218HM277 Magnetic 2-pin 277V	
Note: Add S for Steel frame: ex. S7226HU - Steel Frame Without S - Die Cast: ex. 7226HU - Die Cast		
	S7226HU Electronic 4-pin 120V-277V	(2) 26W Quad Tube
	S7226H DU3 PowerSpec® Dimming 4-pin 120V-277V	
	7226HM120 Magnetic 2-pin 120V	
	7226HM277 Magnetic 2-pin 277V	
	S7226HUEM Electronic Emergency 4-pin 120V-277V	

Features

- Reflector:** 16 ga. Die-formed aluminum, Anobrite® finish.
- Socket Cup:** Die-cast zinc cup effectively dissipates heat and positions lamp holder. Snaps onto reflector neck to assure consistently correct optical alignment without tools.
- Mounting Frame:** Die-cast aluminum for dry or plaster ceilings. Accepts other 7" quad tube reflectors.
- Retaining Springs:** Precision-tooled steel friction springs secure reflector to mounting frame for quick, tool-less installation.
- Mounting Brackets:** 16 ga. steel. Adjust from inside of fixture. Use 3/4" or 1 1/2" lathing channel, 1/2" EMT, or optional mounting bars.
- Ballast/J-Box:** Outboard mounted to reduce heat transfer and maintain lamp efficacy and life. Service from below without tools.
- Cross Blade Louver:** Die-formed, 16 ga. Aluminum, matte white or painted aluminum finish. Accepts lens (consult factory). 50° cut-off to lamp, medium beam. Keyed for orientation.

Electrical

Note: For ballast electrical data and latest lamp/ballast compatibility refer to "Ballast" specification sheet for complete electrical data.

UL listed for through branch circuit wiring with max of (8) No. 12 AWG, 90°C supply conductors.

Options and Accessories

Other Louver Finishes

Consult Factory

- Emergency Add suffix **EM***
- Chicago Plenum Add suffix **LC**
- Existing/Trk. Ceiling **FA EC7***

Options and Accessories (continued)

- Emergency Ltg. Kit **FA EM3E*(4 pin)**
- FA EM4E*(4 pin)**
- FA EM2T*(2 pin)**

Fuse (Slow Blow) Add suffix **F**
*See Spec. Sheets: FAEC, FAEM

Mounting Bars & Accessories; see Specification Sheet MBA.
Sloped Ceiling Adapters; see Specification Sheet SCA.

Labels

UL listed for damp locations.

Alzak® is a registered trademark of ALCOA.

US Patent Pending.

Job Information	Type:
Job Name:	
Cat. No.:	
Lamp(s):	
Notes:	

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LIGHTOLIER®

APPENDIX

CHAPEL: F20

SCHEDULES

FIXTURES

BALLASTS

DRAWINGS



Calculite® Compact Fluorescent Open Downlight **8096CB**

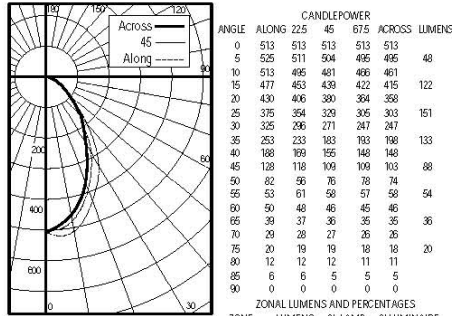
Page 2 of 2

7 3/8" Aperture (2) Quad Tube Cross Blade Louver

18W

Spacing Ratio = 0.8

CERTIFIED TEST REPORT NO. LSI 12561
CALCULITE COMPACT FLUORESCENT
DIFFUSE REFLECTOR WITH WHITE PAINTED 4 CELL LOUVER
2-18W SYLVANIA DULUX D/E FLUORESCENT LAMPS, LUMEN RATING = 1250 LMS.



** EFFICIENCY =26.3% **
DATE: JUL 13, 1996

ZONAL LUMENS AND PERCENTAGES			
ZONE	LUMENS	% LAMP	% LUMINAIRE
0-30	321	12.88	48.92
0-40	454	18.38	68.08
0-60	595	23.82	90.52
0-90	667	26.32	100.00
40-90	203	8.34	30.92
60-90	62	2.49	9.48
90-180	0	.00	.00
0-180	667	26.32	100.00

Coefficients of Utilization

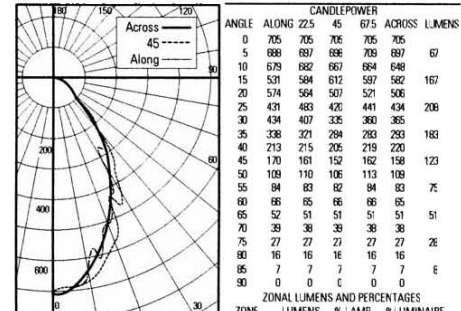
ROOM CAVITY RATIO	% EFFECTIVE CEILING CAVITY REFLECTANCE														
	80						70								
	50		30		10		50		30		10				
1	29	28	27	28	27	27	27	26	26	26	25	25	25	24	
2	26	25	24	26	25	24	23	24	23	23	23	23	22	22	
3	24	23	21	24	22	21	23	22	21	22	21	20	20	22	
4	22	21	19	22	20	19	21	20	19	21	20	19	19	19	
5	21	19	18	20	19	17	20	18	17	19	18	17	19	18	17
6	19	17	16	19	17	16	18	17	16	18	17	16	18	17	16
7	18	15	15	17	16	15	17	16	15	17	15	14	16	15	14
8	16	15	13	16	15	16	16	14	13	16	14	13	15	14	13
9	15	14	12	15	14	12	15	13	12	15	13	12	14	13	12
10	14	13	11	14	13	11	14	12	11	14	12	11	14	12	11

20% FLOOR CAVITY REFLECTANCE
Conversion Factors: Aluminum Cross Blade, C.U. x 0.7.

26W

Spacing Ratio = 0.9

CERTIFIED TEST REPORT NO. LSI
CALCULITE COMPACT FLUORESCENT
DIFFUSE REFLECTOR WITH WHITE PAINTED 4 CELL LOUVER
2-26W SYLVANIA DULUX D/E FLUORESCENT LAMPS, LUMEN RATING = 1800 LMS.



** EFFICIENCY =25.3% **
DATE JUL 30, 1996

ZONAL LUMENS AND PERCENTAGES			
ZONE	LUMENS	% LAMP	% LUMINAIRE
0-30	441	12.27	46.51
0-40	624	17.36	68.63
0-60	823	22.88	90.43
0-90	910	25.30	100.00
40-90	285	7.94	31.37
60-90	287	2.42	9.57
90-180	0	.00	.00
0-180	910	25.30	100.00

Coefficients of Utilization

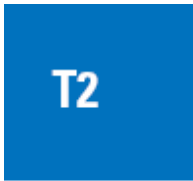
ROOM CAVITY RATIO	% EFFECTIVE CEILING CAVITY REFLECTANCE													
	80						70							
	50		30		10		50		30		10			
1	27	27	26	27	26	26	25	25	25	25	24	24	24	23
2	25	24	23	25	24	23	24	23	22	23	22	22	21	21
3	23	22	20	23	21	20	22	21	20	22	21	20	19	19
4	21	20	19	21	20	18	21	19	18	20	19	18	19	18
5	20	18	17	19	18	17	19	18	17	19	17	16	18	17
6	18	17	15	18	16	15	18	16	15	17	16	15	17	16
7	17	15	14	17	15	14	15	15	14	16	15	14	16	15
8	16	14	13	16	14	13	15	14	13	15	14	13	15	14
9	15	13	12	15	13	12	14	13	12	14	13	12	14	13
10	14	13	11	14	12	11	13	12	11	13	12	11	13	12

20% FLOOR CAVITY REFLECTANCE
Conversion Factors: Aluminum Cross Blade, C.U. x 0.7.

Job Information	Type:
-----------------	-------

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LIGHTOLIER®



- Programmed Rapid Starting Options
- 1-2 Lamp Applications

TRIAD® ELECTRONIC BALLASTS FOR F6T2, F8T2, F11T2 AND F13T2 LAMPS

Fluorescent-Electronic

Lamp Qty.	Starting Method	Line Volts	Catalog Number	Certification			Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor (BF)	Ballast Efficacy Factor (BEF)	THD %	Min. FC Start Temp	Wiring Diag.	Dim.
				UL	SE	NOM									
F6T2 - One And Two Lamp Applications															
2	SER-PRS	120 277	ES1786X	*	*		0.12 0.07	14 15	> .97	1.00	7.14 6.67	< 10	0-18	37	ESX
1	PRS	120 277	ES1786X	*	*		0.07 0.05	8 9	> .97	1.00	12.50 11.11	< 10	0-18	37	ESX
F8T2 - One And Two Lamp Applications															
2	SER-PRS	120 277	ES1786X	*	*		0.17 0.08	20 21	> .97	1.00	5.00 4.76	< 10	0-18	37	ESX
1	PRS	120 277	ES1786X	*	*		0.10 0.06	11	> .97	1.00	9.09	< 10	0-18	37	ESX
F11T2 - One And Two Lamp Applications															
2	SER-PRS	120 277	ES1786X	*	*		0.20 0.09	26	> .97	1.00	3.85	< 10	0-18	37	ESX
1	PRS	120 277	ES1786X	*	*		0.12 0.07	15	> .97	1.00	6.67	< 10	0-18	37	ESX
F13T2 - One And Two Lamp Applications															
2	SER-PRS	120 277	ES1786X	*	*		0.27 0.13	31 32	> .97	1.00	3.23 3.13	< 10	0-18	37	ESX
1	PRS	120 277	ES1786X	*	*		0.15 0.08	16 17	> .97	1.00	6.25 5.88	< 10	0-18	37	ESX

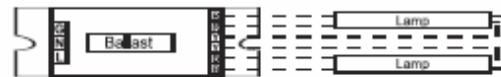
STARTING METHOD LEGEND

- IS = Instant Start
- PAR-IS = Parallel Instant Start
- PAR-PRS = Parallel Programmed Rapid Start
- RS = Rapid Start
- PAR-RS = Parallel Rapid Start
- SER-RS = Series Rapid Start

Draw #	Overall Dimensions			Mounting Dimensions		
	L	W	H	M	X	
ESX	14.13"	1.24"	0.73"	13.78"	—	



WIRING DIAGRAMS



FOR ONE LAMP OPERATION, CAP YELLOW LEADS INDIVIDUALLY

DIAGRAM 37

APPENDIX

BALLAST: B4

SCHEDULES

FIXTURES

BALLASTS

DRAWINGS

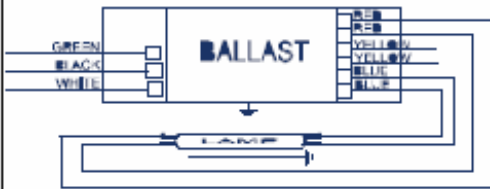


Electrical Specifications

ICN-2S24@120V	
Brand Name	CENTIUM T5
Ballast Type	Electronic
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	120
Input Frequency	50/60 HZ
Status	Active

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (*F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
F24T5/HO	1	24	0/-18	0.23	27	1.02	10	0.98	1.7	3.78
F24T5/HO	2	24	0/-18	0.44	52	1.00	10	0.98	1.7	1.92
* F38T5/HO	1	39	0/-18	0.34	40	0.90	10	0.98	1.7	2.25
FC12T5	1	40	0/-18	0.34	40	0.84	10	0.98	1.7	2.10
FC9T5	1	22	0/-18	0.23	27	1.02	10	0.98	1.7	3.78
FC9T5	2	22	0/-18	0.44	52	1.00	10	0.98	1.7	1.92
FT24W/2G11	1	24	0/-18	0.23	27	1.02	10	0.98	1.7	3.78
FT24W/2G11	2	24	0/-18	0.44	52	1.00	10	0.98	1.7	1.92
FT38W/2G11	1	36	0/-18	0.29	34	0.90	10	0.98	1.7	2.65
FT40W/2G11/RS	1	40	0/-18	0.40	47	1.00	10	0.98	1.7	2.13

Wiring Diagram

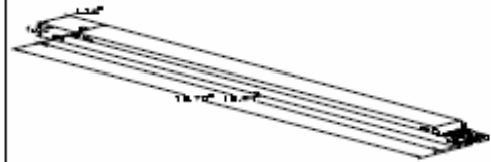


The wiring diagram that appears above is for the lamp type denoted by the asterisk (*)

Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	0	0	Yellow/Blue	0	0
White	0	0	Blue/White	0	0
Blue	0	0	Brown	0	0
Red	0	0	Orange	0	0
Yellow	0	0	Orange/Black	0	0
Gray	0	0	Black/White	0	0
Violet	0	0	Red/White	0	0

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
16.70"	1.18"	1.00"	16.34"
16 7/10	1 9/50	1	16 17/50
42.4 cm	3 cm	2.5 cm	41.5 cm

Revised 09/01/2004



Data is based upon tests performed by Advance Transformer in a controlled environment and representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.

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APPENDIX

BALLAST: B5

SCHEDULES

FIXTURES

BALLASTS

DRAWINGS

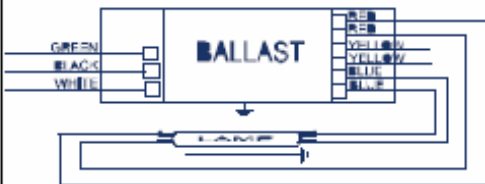


Electrical Specifications

ICN-2S24@120V	
Brand Name	CENTIUM T5
Ballast Type	Electronic
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	120
Input Frequency	50/60 HZ
Status	Active

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
* F24T5/HO	1	24	0/-18	0.23	27	1.02	10	0.98	1.7	3.78
F24T5/HO	2	24	0/-18	0.44	52	1.00	10	0.98	1.7	1.92
F39T5/HO	1	39	0/-18	0.34	40	0.90	10	0.98	1.7	2.25
FC12T5	1	40	0/-18	0.34	40	0.84	10	0.98	1.7	2.10
FC9T5	1	22	0/-18	0.23	27	1.02	10	0.98	1.7	3.78
FC9T5	2	22	0/-18	0.44	52	1.00	10	0.98	1.7	1.92
FT24W/2G11	1	24	0/-18	0.23	27	1.02	10	0.98	1.7	3.78
FT24W/2G11	2	24	0/-18	0.44	52	1.00	10	0.98	1.7	1.92
FT36W/2G11	1	36	0/-18	0.29	34	0.90	10	0.98	1.7	2.85
FT40W/2G11/RS	1	40	0/-18	0.40	47	1.00	10	0.98	1.7	2.13

Wiring Diagram

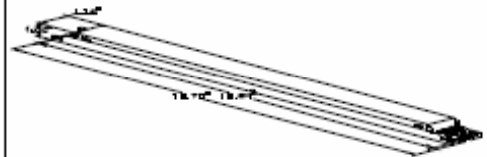


The wiring diagram that appears above is for the lamp type denoted by the asterisk (*)

Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	0	0	Yellow/Blue	0	0
White	0	0	Blue/White	0	0
Blue	0	0	Brown	0	0
Red	0	0	Orange	0	0
Yellow	0	0	Orange/Black	0	0
Gray	0	0	Black/White	0	0
Violet	0	0	Red/White	0	0

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
16.70"	1.18"	1.00"	16.34"
16.7/10	1.9/50	1	16.17/50
42.4 cm	3 cm	2.5 cm	41.5 cm

Revised 09/01/2004



Data is based upon tests performed by Advance Transformer in a controlled environment and representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.

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APPENDIX

BALLAST: B6

SCHEDULES

FIXTURES

BALLASTS

DRAWINGS

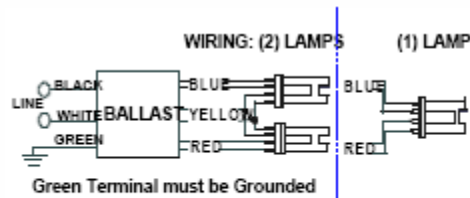


Electrical Specifications

RCF-2S13-H1-LD-QS	
Brand Name	AMBISTAR - HPF
Ballast Type	Electronic
Starting Method	Rapid Start
Lamp Connection	Series
Input Voltage	120
Input Frequency	60 HZ
Status	Active

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (*F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
CFQ13W/G24Q	1	13	0/-18	0.13	16	1.00	10	0.98	1.7	6.25
CFQ13W/G24Q	2	13	0/-18	0.25	29	1.00	10	0.98	1.7	3.45
* CFTR13W/GX24Q	1	13	0/-18	0.13	16	1.00	10	0.98	1.7	6.25
CFTR13W/GX24Q	2	13	0/-18	0.25	29	1.00	10	0.98	1.7	3.45

Wiring Diagram



The wiring diagram that appears above is for the lamp type denoted by the asterisk (*)

Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	0	0	Yellow/Blue		0
White	0	0	Blue/White		0
Blue	0	0	Brown		0
Red	0	0	Orange		0
Yellow	0	0	Orange/Black		0
Gray		0	Black/White		0
Violet		0	Red/White		0

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
4.98 "	2.4 "	1.0 "	4.6 "
4 49/50	2 2/5	1	4 3/5
12.6 cm	6.1 cm	2.5 cm	11.7 cm

Revised 09/10/2007



Data is based upon tests performed by Advance Transformer in a controlled environment and representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.

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APPENDIX

BALLAST: B7

SCHEDULES

FIXTURES

BALLASTS

DRAWINGS



Electrical Specifications

ICN-2S28@120	
Brand Name	CENTIUM T5
Ballast Type	Electronic
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	120
Input Frequency	50/60 HZ
Status	Active

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
F14T5	1	14	0/-18	0.16	19	1.07	20	0.98	1.7	5.63
F14T5	2	14	0/-18	0.29	34	1.06	10	0.98	1.7	3.12
F21T5	1	21	0/-18	0.21	26	1.03	15	0.99	1.7	3.96
F21T5	2	21	0/-18	0.40	48	1.02	10	0.98	1.7	2.13
* F28T5	1	28	0/-18	0.28	33	1.04	10	0.98	1.7	3.15
F28T5	2	28	0/-18	0.55	64	1.03	10	0.99	1.7	1.61
F35T5	1	35	0/-18	0.34	41	1.01	10	0.98	1.7	2.46
F35T5	2	35	0/-18	0.67	80	1.00	10	0.99	1.7	1.25

Wiring Diagram

The wiring diagram that appears above is for the lamp type denoted by the asterisk (*)

Standard Lead Length (inches)

	In.	cm.		In.	cm.
Black	0	0	Yellow/Blue	0	0
White	0	0	Blue/White	0	0
Blue	0	0	Brown	0	0
Red	0	0	Orange	0	0
Yellow	0	0	Orange/Black	0	0
Gray	0	0	Black/White	0	0
Violet	0	0	Red/White	0	0

Enclosure

Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
16.70 "	1.18 "	1.00 "	16.34 "
16 7/10	1 9/50	1	16 17/50
42.4 cm	3 cm	2.5 cm	41.5 cm

Revised 08/21/2006



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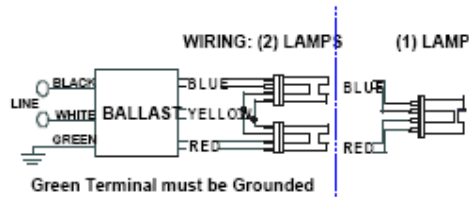


RCF-2S26-H1-LD-QS	
Brand Name	AMBISTAR - HPF
Ballast Type	Electronic
Starting Method	Rapid Start
Lamp Connection	Series
Input Voltage	120
Input Frequency	60
Status	Active

Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
CFQ26W/G24Q	1	26	0/-18	0.23	27	1.00	10	0.98	1.7	3.70
CFQ26W/G24Q	2	26	0/-18	0.43	51	1.00	10	0.98	1.7	1.96
* CFTR26W/GX24Q	1	26	0/-18	0.24	29	1.10	10	0.98	1.7	3.79
CFTR26W/GX24Q	2	26	0/-18	0.45	54	1.00	10	0.98	1.7	1.85
CFTR32W/GX24Q	1	32	0/-18	0.31	36	0.98	10	0.98	1.7	2.72
CFTR42W/GX24Q	1	42	0/-18	0.38	46	0.98	10	0.98	1.7	2.13

Wiring Diagram

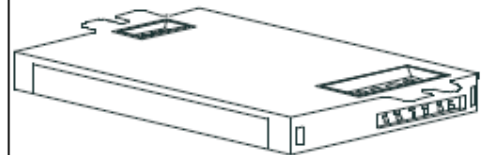


The wiring diagram that appears above is for the lamp type denoted by the asterisk (*)

Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	0	0	Yellow/Blue		0
White	0	0	Blue/White		0
Blue	0	0	Brown		0
Red	0	0	Orange		0
Yellow	0	0	Orange/Black		0
Gray		0	Black/White		0
Violet		0	Red/White		0

Enclosure



Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
4.98"	2.4"	1.0"	4.6"
4 49/50	2 2/5	1	4 3/5
12.6 cm	6.1 cm	2.5 cm	11.7 cm

Revised 09/10/2007



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ADVANCE

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APPENDIX


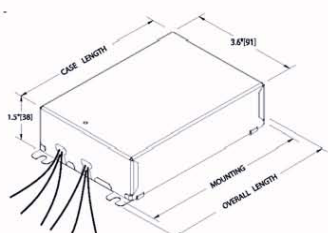
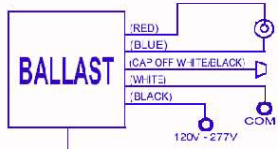
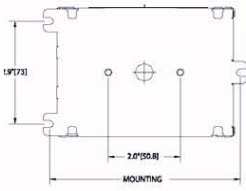
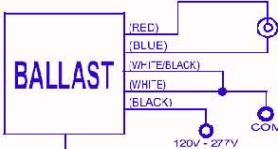
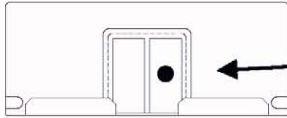
BALLAST: B9,B10,B16,B19

SCHEDULES

FIXTURES

BALLASTS

DRAWINGS

		e-Vision® Electronic Ballast for Metal Halide Lamps					Catalog Number IMH-50-A For (1) 39W ANSI M130 or (1) 50W ANSI M110 Metal Halide Lamp 120-277V 50/60Hz Electronic Status: Active										
							DIMENSIONS AND DATA										
Lamp Data		Input Volts	Catalog Number*	Line Current (Amps)	Input Power (W)	Ballast Factor	Max THD (%)	Min Power Factor	Wiring Dia	Figure	Weight (lb)	Max Distance to Lamp (ft)					
Number	Watts																
39 Watt Lamp, ANSI Code M130 Minimum Starting Temp -30°C/-20°F																	
1	39	120	IMH-50-A-xxx	0.38	45	1.0	15	0.9	1	A	1.4	5					
		277		0.16	44												
50 Watt Lamp, ANSI Code M110 Minimum Starting Temp -30°C/-20°F																	
1	50	120	IMH-50-A-xxx	0.47	56	1.0	15	0.9	2	A	1.4	5					
		277		0.20	55												
 <p style="text-align: center;">Figure A</p>						 <p style="text-align: center;">Wiring Diagram 1</p>											
<p> CASE LENGTH = 4.72" [120mm] □ □ MOUNTING LENGTH = 5.20" [132mm] □ □ MOUNTING WIDTH = 2.87" [73mm] □ □ OVERALL LENGTH = 5.51" [140mm] □ □ CASE WIDTH = 3.62" [92mm] □ □ HEIGHT = 1.50" [38mm] □ □ </p> 						 <p style="text-align: center;">Wiring Diagram 2</p>											
 <p style="text-align: center;">Case Temperature Measurement Location</p>						<p style="text-align: center;">MEASURE CASE TEMPERATURE ON RIGHT HEAT SINK CLIP AT BALLAST END</p>											
<p>INSTALLATION & APPLICATION NOTES:</p> <ol style="list-style-type: none"> Maximum allowable case temperature is 85°C. See figure above for measurement location Ignition pulse is 4 kV max All leads are 12 inches long Ballast output will shutdown after 20 minutes if lamp fails to ignite Power must be cycled off – then on, after replacing lamp 						<p style="text-align: center;">*Ordering Information</p> <table border="1"> <thead> <tr> <th>Order Suffix</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>-LF</td> <td>Ballast with side exit leads and mounting feet</td> </tr> <tr> <td>-BLS</td> <td>Ballast with bottom exit leads and mounting studs</td> </tr> </tbody> </table>						Order Suffix	Description	-LF	Ballast with side exit leads and mounting feet	-BLS	Ballast with bottom exit leads and mounting studs
Order Suffix	Description																
-LF	Ballast with side exit leads and mounting feet																
-BLS	Ballast with bottom exit leads and mounting studs																
<small>Data is based on tests performed by Advance transformer in a controlled environment and representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.</small>																	

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10/11/05

APPENDIX


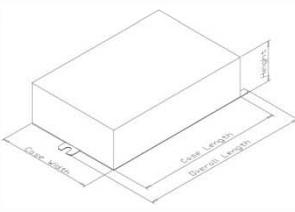
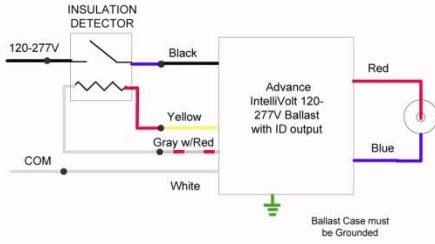
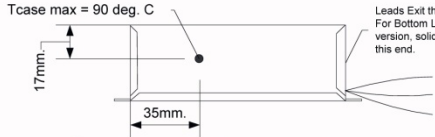

BALLAST: B14,B17

SCHEDULES

FIXTURES

BALLASTS

DRAWINGS

			e-Vision® Electronic Ballast for Metal Halide Lamps				Catalog Number IMH-70-A-BLS-ID For 70W Metal Halide Lamps ANSI M98, M143 or M139 120-277V 50/60Hz Electronic Status: Released								
DIMENSIONS AND DATA															
Lamp Data		Input Volts	Catalog Number*	Line Current (Amps)	Input Power (W)	Ballast Factor	Max THD (%)	Min Power Factor	Wiring Dia	Figure	Weight (lb)	Max Distance to Lamp (ft)			
Number	Watts														
70W Watt Lamp, ANSI Code M98, M143 or M139 Minimum Starting Temp -30°C/-20°F															
1	70	120	IMH-70-A-xxx-ID	0.72	86	1.0	18%	0.9	8	A	1.5	5			
		277		0.31	84										
 <p>Figure A</p> <p>CASE LENGTH = 4.72" [120mm] MOUNTING LENGTH = 5.20" [132mm] MOUNTING WIDTH = 2.87" [73mm] OVERALL LENGTH = 5.51" [140mm] CASE WIDTH = 3.62" [92mm] HEIGHT = 1.50" [38mm]</p>						 <p>Wiring Diagram 8</p> <p>Ballast Case must be Grounded</p>									
 <p>Case Temperature Measurement Location</p>						<p>Ballast will not operate if Insulation Detector is Absent, Shorted or Failed Open</p> 									
INSTALLATION & APPLICATION NOTES: <ol style="list-style-type: none"> Use with any Thermal Protector having equivalent resistive value 5k to 25k ohm (4 wire versions only) Open Circuit voltage across ID output approx 270VDC Maximum allowable case temperature is 90°C. See figure above for measurement location Ignition pulse is 4 kV max All leads are 12 inches long Ballast output will shutdown after 20 minutes if lamp fails to ignite Power must be cycled off – then on, after replacing lamp 						*Ordering Information <table border="1"> <thead> <tr> <th>Order Suffix</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>-BLS</td> <td>Ballast with bottom exit leads and mounting studs</td> </tr> </tbody> </table>						Order Suffix	Description	-BLS	Ballast with bottom exit leads and mounting studs
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9/29/06

APPENDIX

50RVR AQUAZONE™

Indoor, Water-Cooled
High Efficiency Water Source Heat Pumps

50RHR - Horizontal - ½ to 5 Nominal Tons
50RVR - Vertical - ¾ to 5



The 50RHR, RVR indoor, water-cooled heat pump units are designed for vertical and horizontal installation with a variety of airflow configurations. These units provide a practical and economical approach for comfort conditioning requirements in both traditional and geothermal replacement, renovation, and new construction applications.

Performance Features

- Capacities of ½, ¾, 1, 1-1/3, 1 ½, 2, 2 ½, 3, 3 ½, 4, and 5 tons
- EERs up to 18.5
- Three-speed, direct drive PSC (permanent split capacitor) blower
- Compressors mounted on computer selected vibration isolator springs
- Water loop (boiler/tower and ground loop/water) application use with operating temperature range of 20 to 110 F
- Extended range package for open loop and geothermal applications (factory-installed option)
- Blower upgrades for high-static applications (size 048; factory-installed option)
- Fully insulated unit with acoustic type insulation
- Equipped with performance monitor to ensure efficient heat pump operation
- TXV (thermostatic expansion valve) controlled
- Copper or cupronickel heat exchanger (factory-installed option)
- Mute package for applications requiring especially low noise levels (factory-installed option)
- Complete control system (standard) or deluxe microprocessor control, PremierLink™, and LON (Local Operating Network) control systems (factory-installed options)
- Exceeds ASHRAE 90.1 performance requirements
- ARISO 13258-1 certified
- Energy Star certified

Reliability Features

- Galvanized steel construction
- Coated and insulated condensate pan
- E-coated coils for corrosive environments (factory-installed option)
- Eight standard safeties include anti-short cycle, random start delay, high/low refrigerant pressure protection, condensate overflow sensor, high/low voltage protection, automatic intelligent reset, water coil freeze protection, and air coil freeze protection
- Shipped with "report card" validating factory test and proper operation
- Two-way motorized control valve (factory-installed option)
- Reversing valve (4-way), water-to-refrigerant coaxial coil, and enhanced aluminum finned copper tube refrigerant-to-air heat exchanger standard
- Microprocessor control with DDC (Direct Digital Controls) options
- UL, UL Canada, and ETL certified

Additional Information

[Physical data](#)

[Documents/Downloads](#)

Controls

[WSHP Control Panel](#)

[PremierLink™](#)

Other Horizontal WSHPs

[50RHC - Std Eff](#)

[50RHS - Premium Eff](#)

[50HQL - Large Cap](#)

Other Vertical WSHPs

[50RVC - Std Eff](#)

[50RVS - Premium Eff](#)

Electrical data



50RHR,RVR ELECTRICAL DATA

50RHR,RVR UNIT	VOLTS-PHASE 60 Hz	VOLTAGE MIN/MAX	COMPRESSOR		FAN MOTOR FLA	TOTAL UNIT FLA	MIN CIRCUIT AMP	MAX FUSE/HACR
			RLA	LRA				
006*	208/230-1	197/254	2.9	17.7	0.40	3.3	4.0	15
	265-1	239/292	2.5	15.0	0.35	2.8	3.5	15
009	208/230-1	197/254	3.9	22.2	0.80	4.7	5.7	15
	265-1	239/292	3.3	18.8	0.90	4.2	5.0	15
012	208/230-1	197/254	5.3	27.9	0.80	6.1	7.5	15
	265-1	239/292	4.2	22.2	0.90	5.1	6.2	15
015	208/230-1	197/254	5.9	29.0	1.00	6.9	8.4	15
	265-1	239/292	5.4	27.0	0.86	6.3	7.7	15
019	208/230-1	197/254	7.9	48.3	1.10	9.0	11.0	15
	265-1	239/292	7.1	41.0	0.90	8.0	9.7	15
024	208/230-1	197/254	8.7	48.3	1.30	10.0	12.1	20
	265-1	239/292	8.3	47.0	1.58	9.9	12.0	20
	208/230-3	197/254	6.0	50.0	1.30	7.3	8.8	15
	460-3	414/506	3.2	25.0	0.85	4.1	4.9	15
030	208/230-1	197/254	11.2	60.0	1.90	13.1	15.9	25
	265-1	239/292	10.3	58.0	1.66	11.9	14.5	20
	208/230-3	197/254	6.4	50.0	1.90	8.3	9.9	15
	460-3	414/506	3.2	25.0	1.00	4.2	5.0	15
036	208/230-1	197/254	14.1	84.0	3.00	17.1	20.6	30
	265-1	239/292	13.5	83.0	2.70	16.2	19.5	30
	208/230-3	197/254	8.2	63.4	3.00	11.2	13.3	20
	460-3	414/506	4.1	36.0	1.70	5.8	6.8	15
042	208/230-1	197/254	16.2	96.0	3.00	19.2	23.2	35
	208/230-3	197/254	10.3	75.0	3.00	13.3	15.8	25
	460-3	414/506	4.3	40.0	1.70	6.0	7.1	15
	575-3	518/633	3.7	31.0	1.50	5.2	6.1	15
048	208/230-1	197/254	18.3	102.0	3.40	21.7	26.2	40
	208/230-3	197/254	12.6	91.0	3.40	16.0	19.2	30
	460-3	414/506	5.7	42.0	1.80	7.5	8.9	15
	575-3	518/633	4.7	39.0	1.60	6.3	7.5	15
060	208/230-1	197/254	25.6	170.0	4.30	29.9	36.4	60
	208/230-3	197/254	14.7	124.0	4.30	19.0	22.7	35
	460-3	414/506	7.4	59.6	2.50	9.9	11.8	15
	575-3	518/633	5.9	49.4	2.20	8.1	9.8	15

LEGEND

FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
LRA — Locked Rotor Amps
RLA — Rated Load Amps

*Size 006 is available in 50RHR units only.

APPENDIX

50VQL AQUAZONE™

Indoor, Water-Cooled
Large Capacity Water Source Heat Pump

50HQL - Horizontal - 6 to 10 Nominal Tons
50VQL - Vertical - 6½ to 25 Nominal Tons



The 50HQL,VQL large capacity, indoor water-cooled heat pump units are designed for vertical and horizontal installation with a variety of airflow configurations. These units provide a practical and economical approach for comfort conditioning requirements in both traditional and geothermal replacement, renovation, and new construction applications.

Performance Features

- Capacities of 6, 6 ½, 8, 8 ½, 10, 13, 17, 20, and 25 tons
- EERs up to 18.7
- Belt driven centrifugal blowers
- Scroll compressors mounted on computer selected vibration isolator springs
- Water loop (boiler/tower and ground loop/water) application use with operating temperature range of 20 to 110 F
- Extended range package for open loop and geothermal applications (factory-installed option)
- Blower upgrades for high-static applications (factory-installed option)
- Fully insulated unit with acoustic type insulation
- Dual refrigerant circuits
- Equipped with performance monitor to ensure efficient heat pump operation
- TXV (thermostatic expansion valve) controlled
- Copper or cupronickel heat exchanger (factory-installed option)
- Mute package for applications requiring especially low noise levels (factory-installed option)
- Complete control system (standard) or deluxe microprocessor, PremierLink™, and LON (Local Operating Network) control systems (factory-installed options)
- Exceeds ASHRAE 90.1 performance requirements
- ARISO 13256-1 certified
- Energy Star certified

Reliability Features

- Galvanized steel construction
- Coated and insulated condensate pan
- E-coated coils for corrosive environments (factory-installed option)
- Eight standard safeties include anti-short cycle, random start delay, high/low refrigerant pressure protection, condensate overflow sensor, high/low voltage protection, automatic intelligent reset, water coil freeze protection, and air coil freeze protection
- Shipped with "report card" validating factory test and proper operation
- Two-way motorized control valve (field-installed accessory)
- Reversing valve (4-way), water-to-refrigerant coaxial coil, and enhanced aluminum fin/rified copper tube refrigerant-to-air heat exchanger standard
- Microprocessor control with DDC (Direct Digital Controls) options
- UL, UL Canada, and ETL certified

[Additional information](#)

[Physical data](#)

[Documents/DownLoads](#)

[Controls](#)

[WSHP Control Panel](#)

[PremierLink™](#)

[Other Horizontal WSHPs](#)

[50RHC - Std Eff](#)

[50RHR - High Eff](#)

[50RHS - Premium Eff](#)

[Other Vertical WSHPs](#)

[50RVC - Std Eff](#)

[50RVR - High Eff](#)

[50RVS - Premium Eff](#)

APPENDIX

Electrical data



50HQL072,096,120

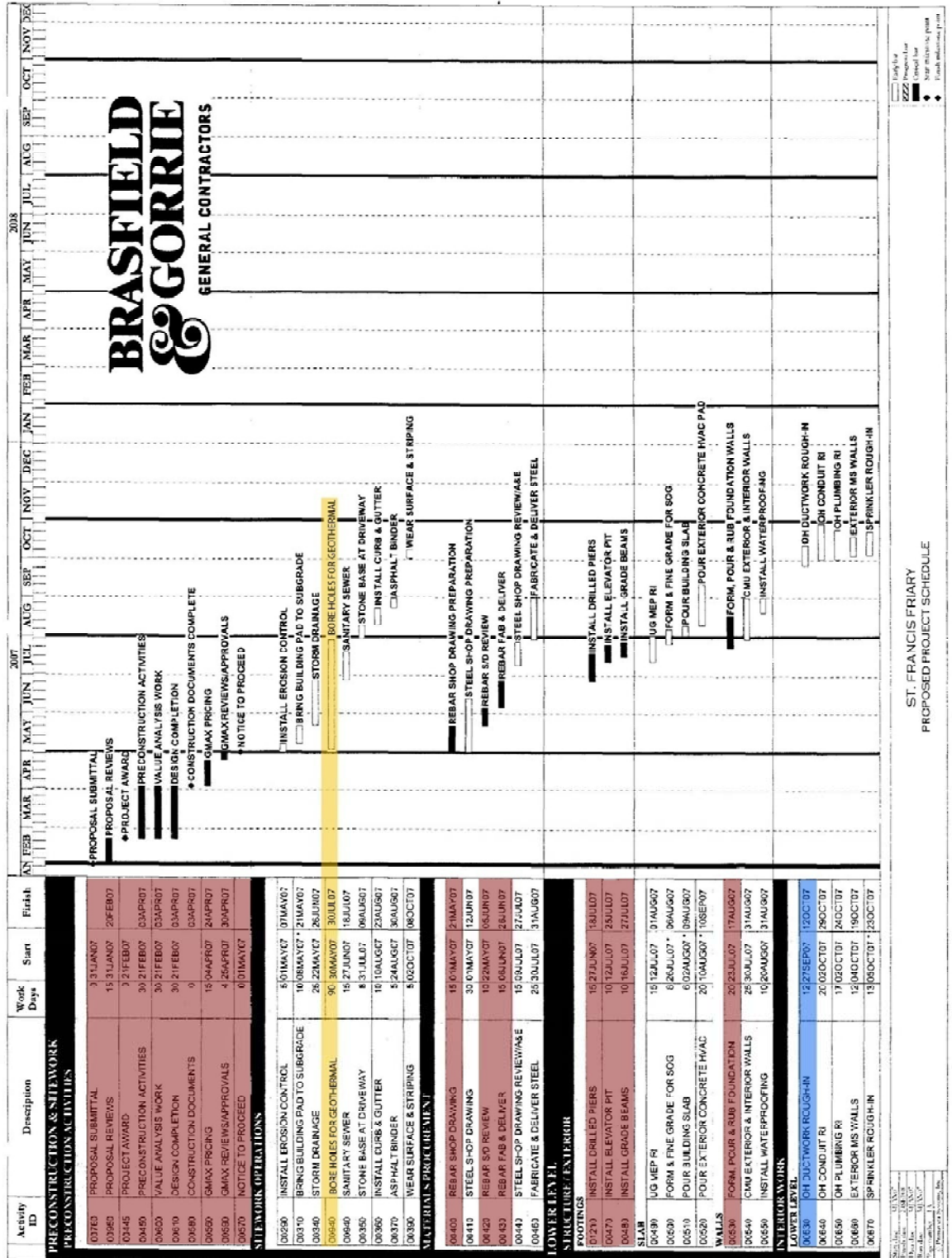
UNIT 50HQL	VOLTAGE (3 Ph — 60 Hz)	VOLTAGE RANGE		BLOWER MOTOR FACTORY- INSTALLED OPTION	COMPRESSOR			FAN MOTOR		TOTAL FLA	MCA	MOCP*
		Min	Max		Qty	RLA	LRA	HP	FLA			
072	208/230	187	253	Standard	2	10.4	65.5	1.5	5.0	25.8	28.4	35
				Large	2	10.4	65.5	2.0	6.2	27.0	29.6	40
	460	414	506	Standard	2	4.9	33.0	1.5	2.4	12.2	13.4	15
				Large	2	4.9	33.0	2.0	3.1	12.9	14.1	15
096	208/230	187	253	Standard	2	14.3	91.0	2.0	6.5	35.1	38.7	50
				Large	2	14.3	91.0	3.0	8.8	37.4	41.0	50
	460	414	506	Standard	2	7.2	46.0	2.0	3.1	17.5	19.3	25
				Large	2	7.2	46.0	3.0	4.2	18.6	20.4	25
	575	518	633	Standard	2	5.7	37.0	2.0	2.8	14.2	15.6	20
				Large	2	5.7	37.0	3.0	3.4	14.8	16.2	20
120	208/230	187	253	Standard	2	19.3	123.0	2.0	6.5	45.1	49.9	60
				Large	2	19.3	123.0	3.0	8.8	47.4	52.2	70
	460	414	506	Standard	2	7.5	49.5	2.0	3.1	18.1	20.0	25
				Large	2	7.5	49.5	3.0	4.2	19.2	21.1	25
	575	518	633	Standard	2	6.4	40.0	2.0	2.8	15.6	17.2	20
				Large	2	6.4	40.0	3.0	3.4	16.2	17.8	20

LEGEND

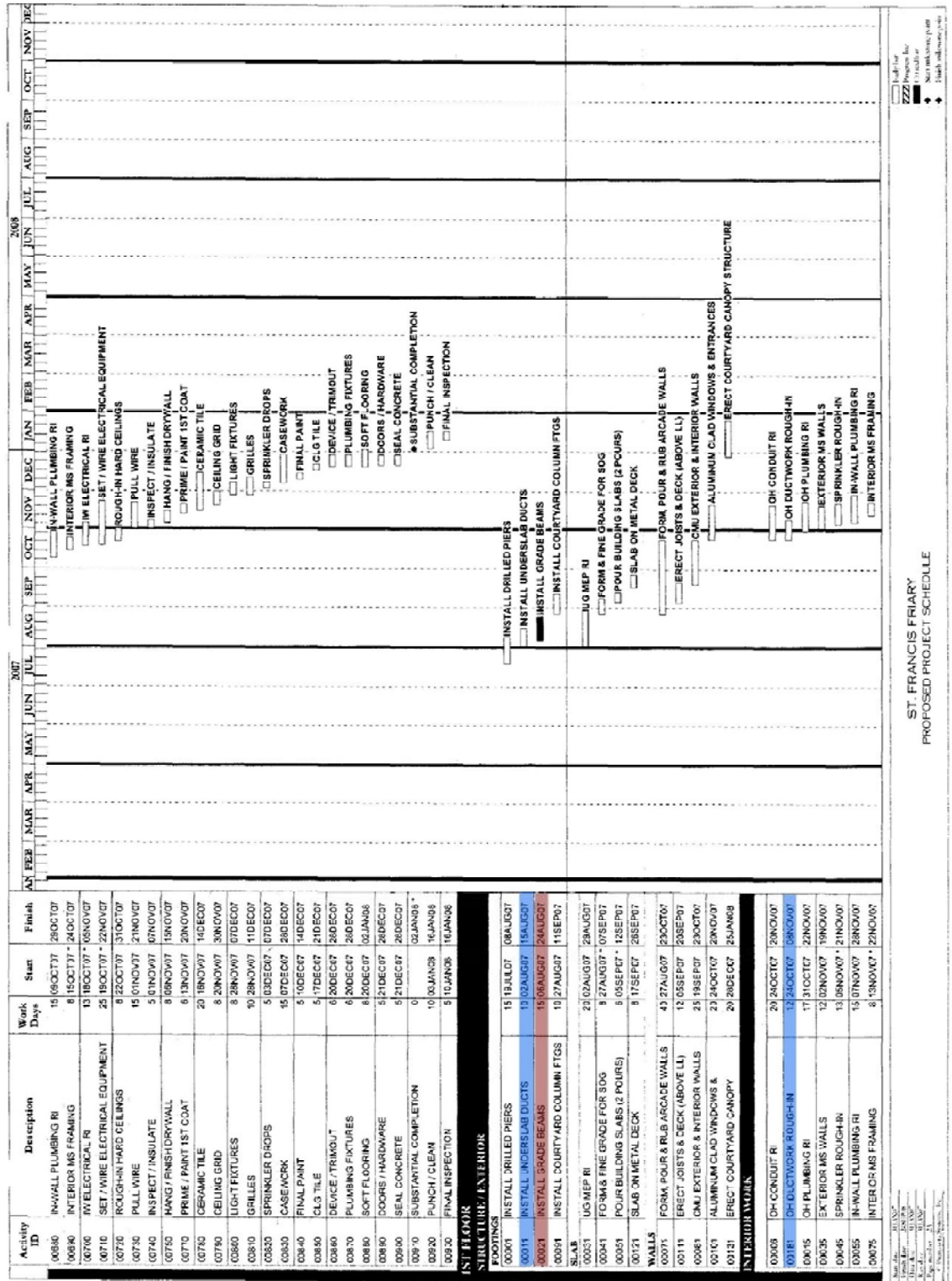
FLA	—	Full Load Amps
HACR	—	Heating, Air Conditioning, and Refrigeration
LRA	—	Locked Rotor Amps
MCA	—	Minimum Circuit Amps
MOCP	—	Minimum Over Current Protection
RLA	—	Rated Load Amps

*Time-delay fuse or HACR circuit breaker.

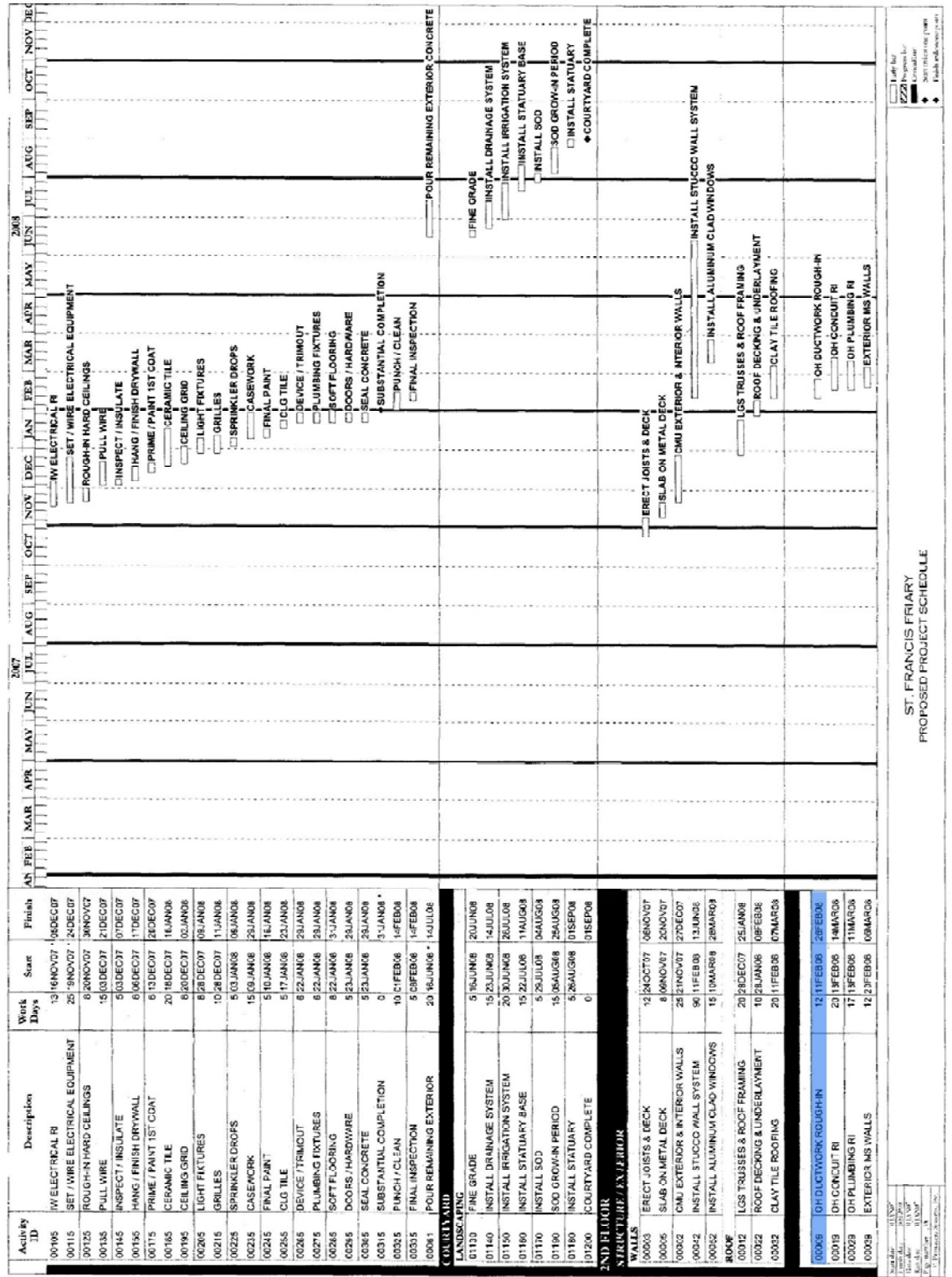
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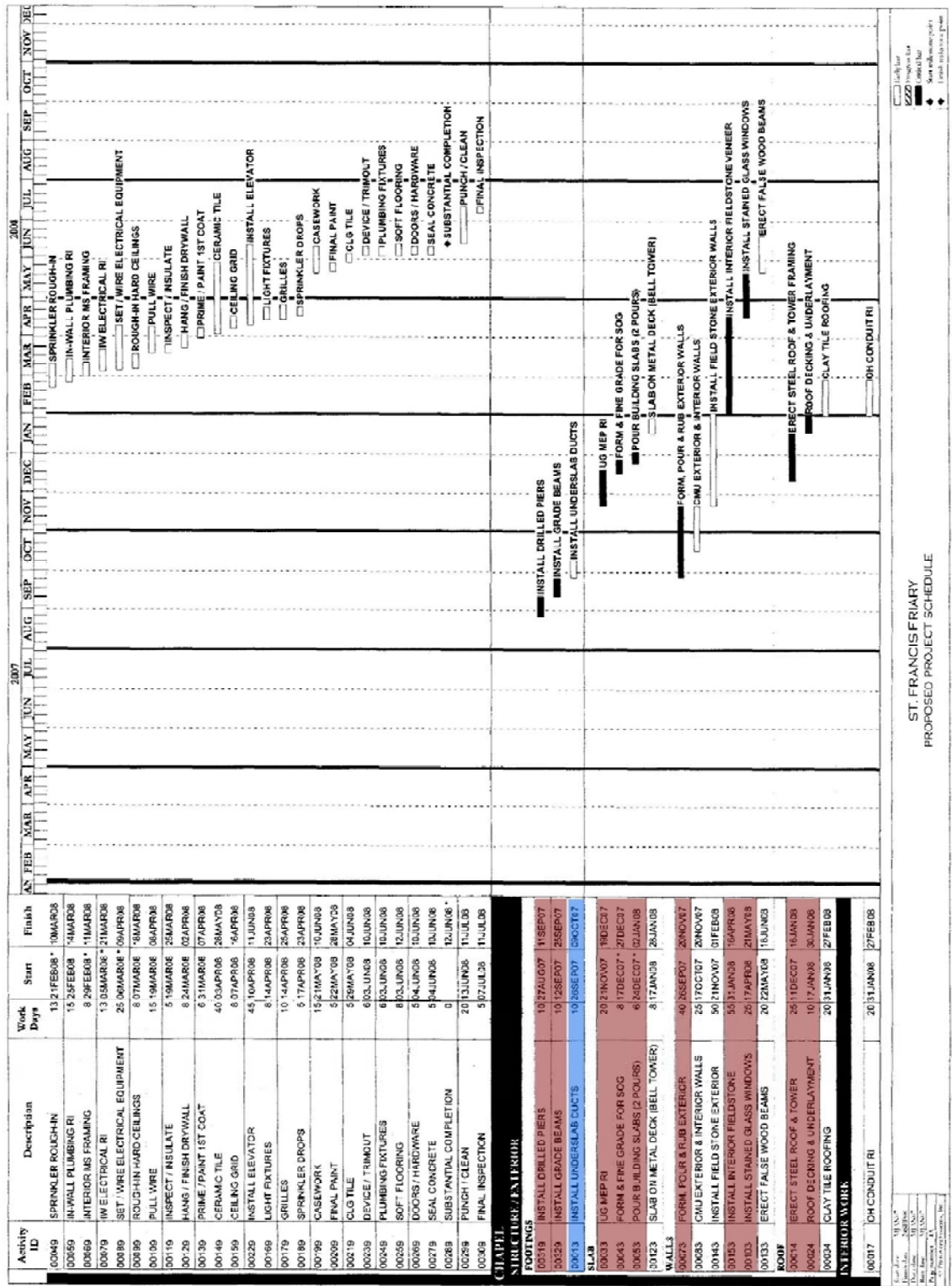


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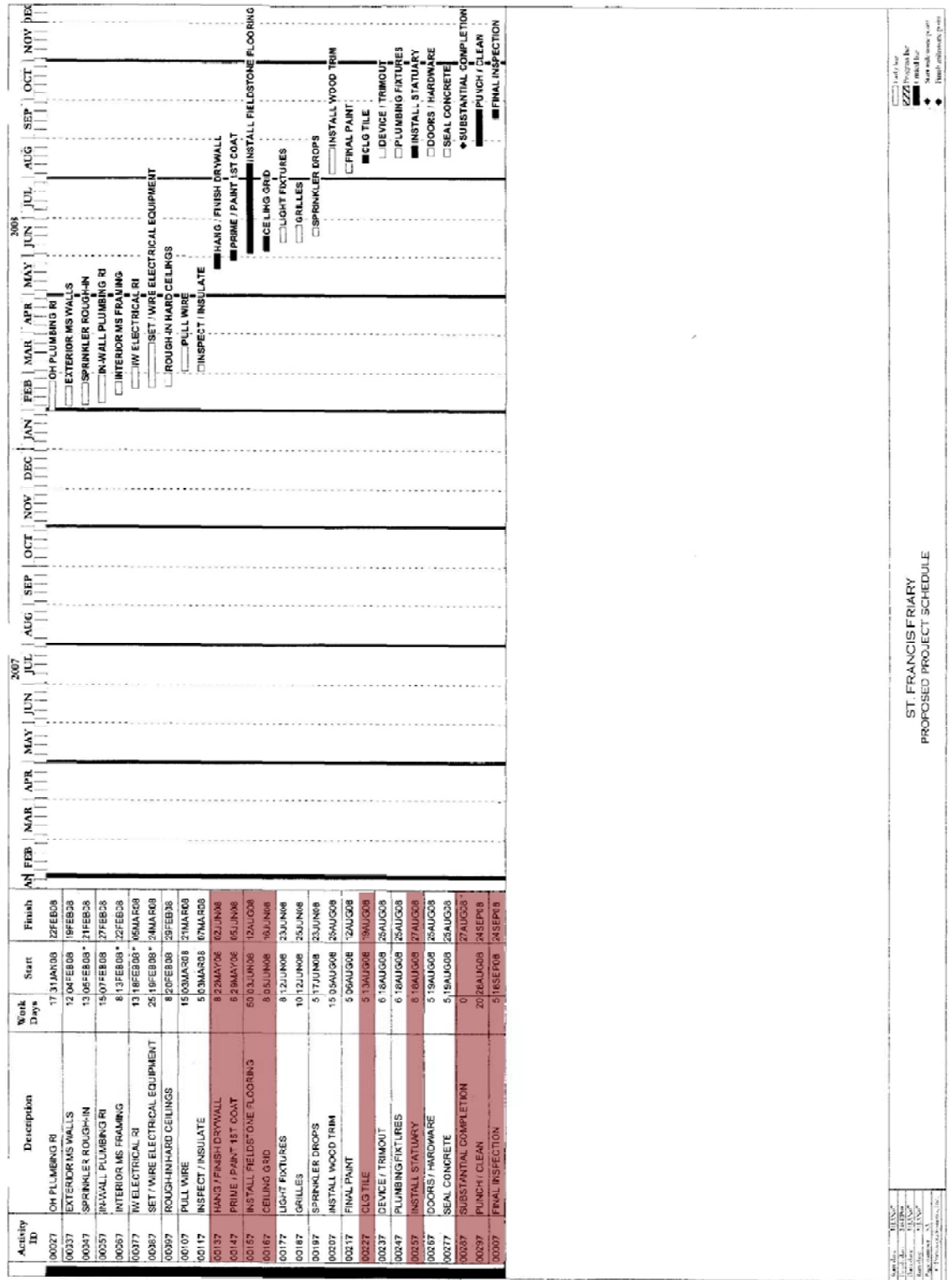
ST. FRANCIS FRIARY
PROPOSED PROJECT SCHEDULE

APPENDIX



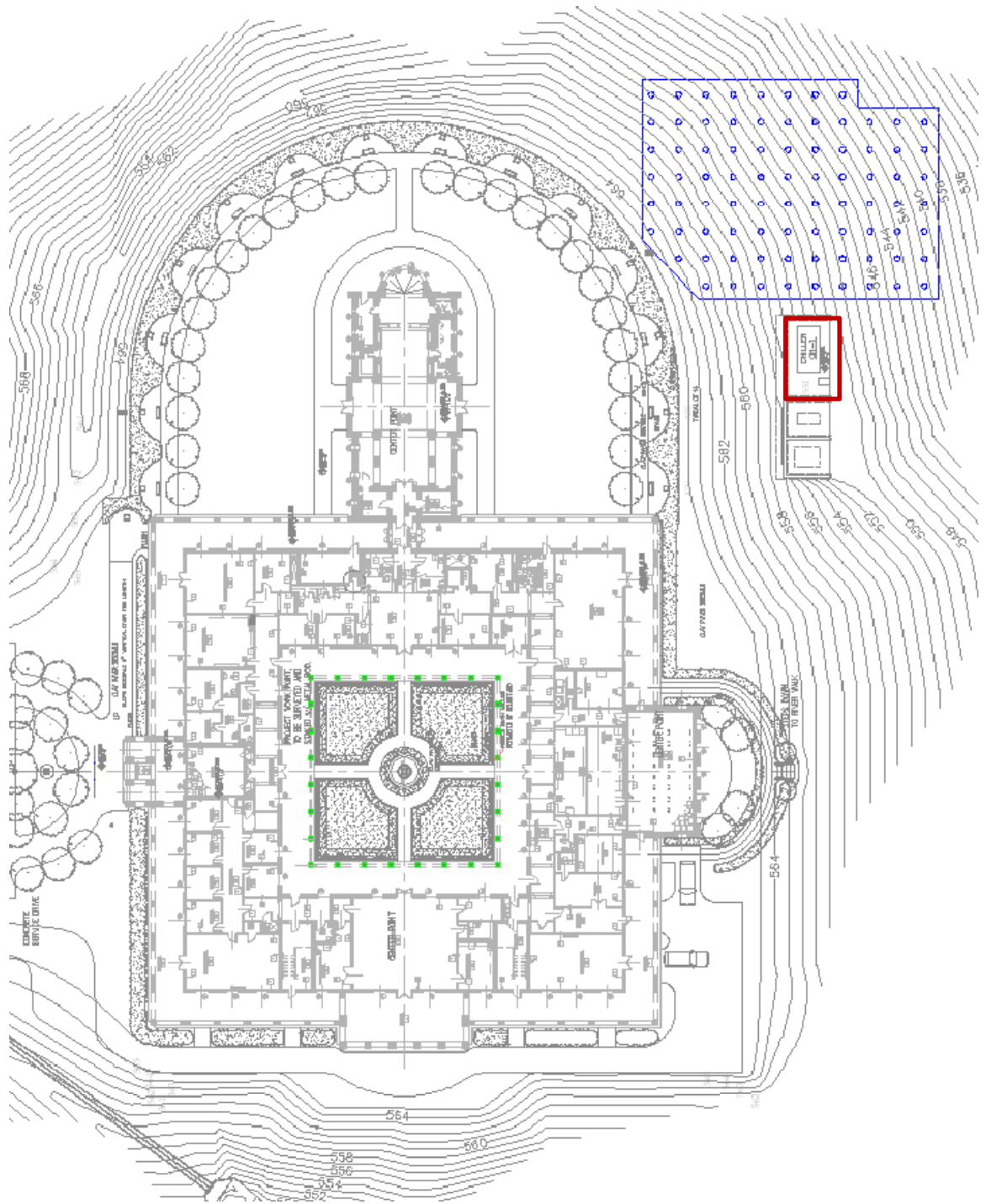
ST. FRANCIS FRIARY
PROPOSED PROJECT SCHEDULE

APPENDIX



APPENDIX

SITE IMPLICATIONS OF GEOTHERMAL SYSTEM



- Current design site elements: Chiller location
- Proposed Geothermal system site elements: (84) 250' vertical holes