City of Greenfield

Street Lighting Standards

BY:
THE CITY OF GREENFIELD
ENGINEERING DEPARTMENT

11-3-00

11/03/2000
City of Greenfield
Street Lighting Standards

INTRODUCTION

This document details the current City of Greenfield street lighting standards, with reference items included. The ability to set forth lighting standards within the City is set forth in the Municipal Code (*Ref: Item A-9 Municipal Code 21.06.0404*). The City standards include details relating to uniform poles, style of fixtures used on residential, collector and major streets, location of lights, WEPCO, City and private light types, height of lights, spacing of lights, cost of lights, glare, pole material, wattage, and lighting patterns.

Streetlights within the City are installed, owned and maintained by:

(1) Wisconsin Electric Power Company (WEPCO);
(2) City of Greenfield;
(3) County of Milwaukee;
(4) State of Wisconsin.

In addition, the City imposes lighting standards for private residential, commercial and industrial development projects.

1. WISCONSIN ELECTRIC POWER COMPANY (WEPCO) LIGHTS

The City of Greenfield has adopted the following standards for Wisconsin Electric Power Company (WEPCO) streetlights where no municipal street lighting system exists (*Ref: Item A-14 Board of Public Works 7-1-99; Item A-15 Common Council 7-20-99; and Item A-13 Engineering Department Letter, dated 6-26-00 to WEPCO*). This includes decorative streetlights recently provided in some subdivisions and along residential streets. In new developments, subdivision light installation costs are by the developer and operational costs by the City (*Ref: Item A-8 Municipal Code 20.08(8)*).

- ***(Item A-1)*** On streets with a rural cross-section having no curb and gutter – 100-watt high-pressure sodium (HPS) light with a full cut-off cobra head fixture on a 30-foot wooden pole (overhead or underground service depending upon location).

- On streets with an urban cross-section fully improved with curb and gutter using underground service:

  - ***(Item A-2)*** 100-watt high pressure sodium (HPS) light with an "*acorn luminaire*" fixture on a 15-foot Washington pole (e.g. Foxwood Crossing subdivision); or

  - ***(Item A-3)*** 100-watt high-pressure sodium (HPS) light with a "*dayform traditionaire*" or "coach light" type fixture on a 15-foot black fiberglass pole (smooth/direct buried) (e.g. Coldspring Woods Subdivision; S. 122nd St. and W. Barnard Ave.; S. 52nd St. and W. Bottsford Ave.).

2. CITY OF GREENFIELD LIGHTS

The City of Greenfield has adopted the following standards for City-owned and maintained streetlights.

- ***(Item A-4)*** On **major streets** full cut-off type, with minimal fixture arms, "*gullwing*" fixtures (bronze in color) mounted on 30-35' aluminum poles (natural aluminum color) will be utilized (*Ref: Item A-10 Plan Commission 3-9-99; Item A-11 Board of Public Works 4-1-99; and Item A-12 Common Council 4-20-99*).

  (Item A-6) Decorative lighting with a "*DMS30 luminaire*" ("shepherds head," full cut-off type, black in color) may be placed on decorative ("R-80" type) black poles at a height of 15-20' in commercial areas, in conjunction with the "*gullwing*" fixtures in the median.

  The light spacing in the medians is intended to provide a continuous pattern of light (generally, in the 1-1.5 foot-candle range) without dark areas. Where "*gullwing*" fixtures are in the median, spacing of decorative lights is not intended to provide continuous lighting; rather it is to provide some aesthetic benefit.

- ***(Item A-5)*** On **collector streets** with a residential character and a lower volume of traffic, decorative lighting will be used. Specifically, 100-watt high-pressure sodium (HPS) light with an "*L-61 hexagonal luminaire*" all black-colored fixture on a on decorative ("R-80" type) black pole will be used.

  Light spacing on alternate street sides in the curbed right-of-way areas is intended to provide a regular, but not continuous pattern of light (generally, in the 0.7-1.0 foot-candle range).

- ***(Item A-6)*** On **collector streets in designated commercial development corridors** with a lower volume of traffic, high-pressure sodium (HPS) light with a "*DMS30 luminaire*" ("shepherds hook," full cut-off type) may be placed on black, decorative type poles.

  Light spacing on alternate street sides in the curbed right-of-way areas is intended to provide a regular, but not continuous pattern of light (generally, in the 0.7-1.0 foot-candle range).

- ***(Item A-6)*** In **City Parks** decorative lighting with a "*DMS30 luminaire*" ("shepherds hook," full cut-off type) may be placed on decorative ("R-80" type) 18-20' poles.

  Light spacing according to Park and Recreation Department requirements.

3. COUNTY OF MILWAUKEE LIGHTS
4. STATE OF WISCONSIN LIGHTS

Both Milwaukee County and the State of Wisconsin own and maintain streetlights within the City of Greenfield along their jurisdictional right-of-ways. These are located near freeway entrance and exit ramps and along County Trunk Highways within the City. The City also maintains lights in both County and State right-of-ways. The lighting fixture and mountings vary, but future installations should be consistent with City standards.

5. PRIVATE RESIDENTIAL, COMMERCIAL AND INDUSTRIAL DEVELOPMENT PROJECTS

In designated development areas, private development projects will be required, as a part of the City Site Development Standards and/or Planned Unit Development, to utilize decorative lighting for private drives, parking areas, streets, etc. Also, within the zoning code, there are specific standards for private exterior lighting (*Ref: Item A-7 Municipal Code 21.06.0401*).

ATTACHMENT ITEMS

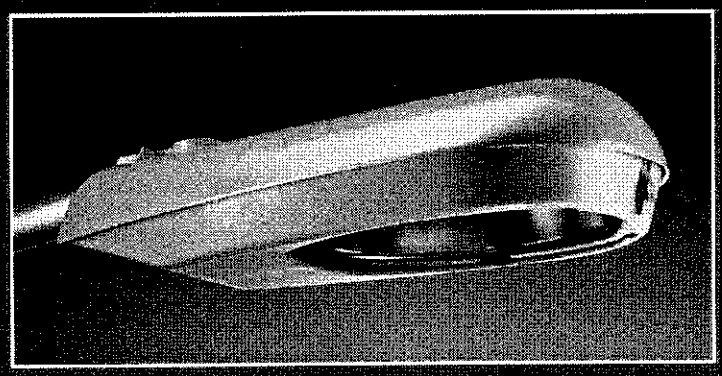
Item	Description
A-1	Brochure of full cut-off cobra head, a light fixture used by WEPCO on rural cross sections streets.
A-2	Brochure of "Acorn Luminaire", a light fixture used by WEPCO on curb/gutter streets.
A-3	Brochure of "Dayform Traditionaire", a light fixture used by WEPCO on curb/gutter streets.
A-4	Brochure of "Gullwing", a light fixture used in the City of Greenfield on major streets
A-5	Brochure of "Hexagonal Luminaire, L61," a light fixture used on collector streets with a residential character.
A-6	Brochure of "DMS30 luminaire" ("shepherds hook," full cut-off type), a light fixture used on curb and gutter streets and in conjunction with median street lighting in designated commercial development corridors. It is also used within City parks and within private developments.
A-7	Municipal Code – Zoning 21.06.0401 Exterior lighting standards
A-8	Municipal Code – Subdivision and Platting 20.08(8) Street Lighting
A-9	Municipal Code – Zoning 21.06.0404 Street Lighting
A-10	March 9, 1999 Plan Commission, item #14, regarding street lighting fixtures on W. Layton Ave. (CTH "Y") from S. 84th St. to S. 108th St. (STH "100") project 1998#1.
A-11	April 1, 1999 Board of Public Works, item #15 B, regarding street lighting standards on W. Layton Ave. (CTH "Y") from S. 84th St. to S. 108th St. (STH "100") project 1998#1, and item #15 C, relative to City's street lighting standard.
A-12	April 20, 1999 Common Council, item 15 -- Approve street lighting standards on W. Layton Ave. (CTH "Y") from S. 84th St. to S. 108th St. (STH "100") project 1998#1, and City's major street lighting standard.
A-13	June 26, 2000 Letter to Wisconsin Electric regarding City street lighting
A-14	July 1, 1999 Board of Public Works, item #14, relative to Wisconsin Electric Power Company ornamental street lighting on residential streets.
A-15	July 20, 1999 Common Council, item #14 -- Approve Acorn fixture/Washington pole and Coachlight fixture with smooth fiberglass pole as the City's standard Wisconsin Electric Power Company ornamental street lighting on new and existing curb/gutter streets.

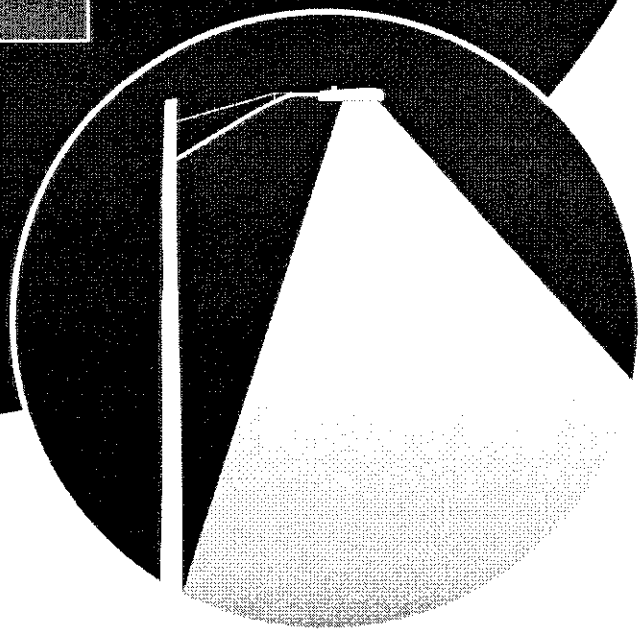
/lightstd

ATTACHMENTS

A-1

COBRA HEAD LUMINAIRIES

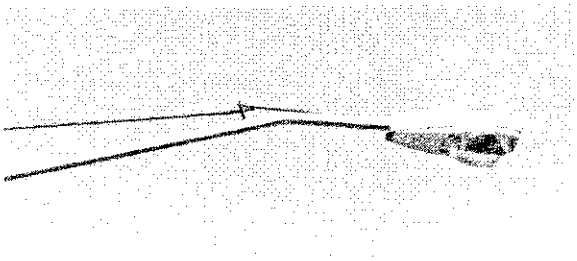




NIGHT AURA

Distinctive Outdoor Lighting

Cobra Head Luminairies

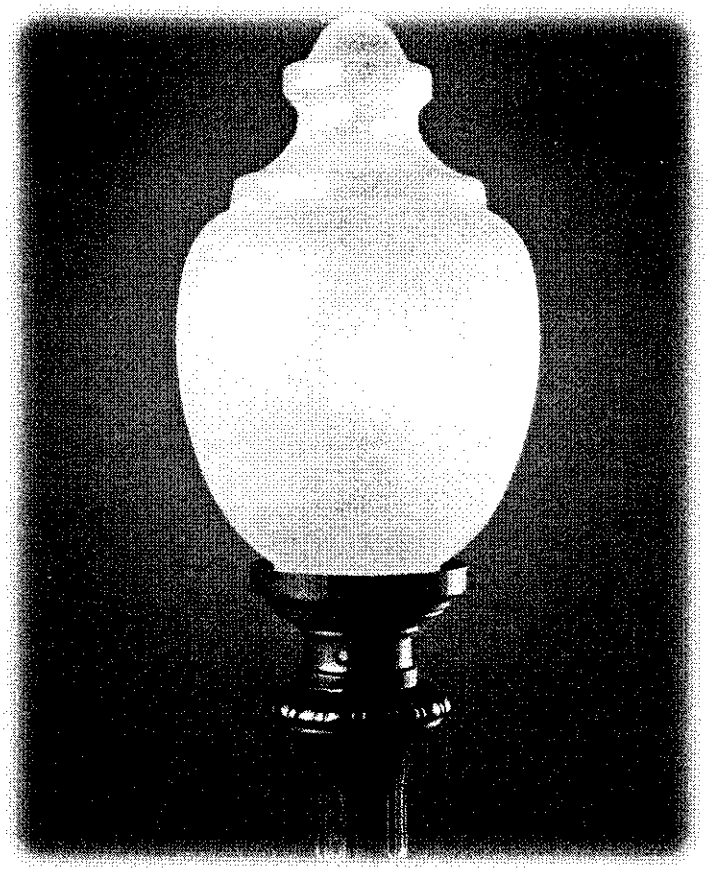


NIGHT AURA

Outdoor Lighting

Ornamental Series

ACORN LUMINAIRE



Nostalgic styling gives the Acorn Luminaire a truly distinctive look. An outstanding choice to enhance a company or community image.

Common Applications:

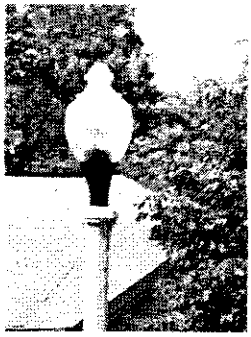
SUBDIVISION STREET LIGHTING
PARKING LOTS
RECREATION AREAS
PATHWAYS
DOWNTOWN RENOVATIONS

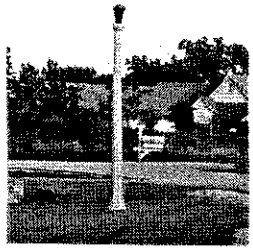
NIGHT AURA

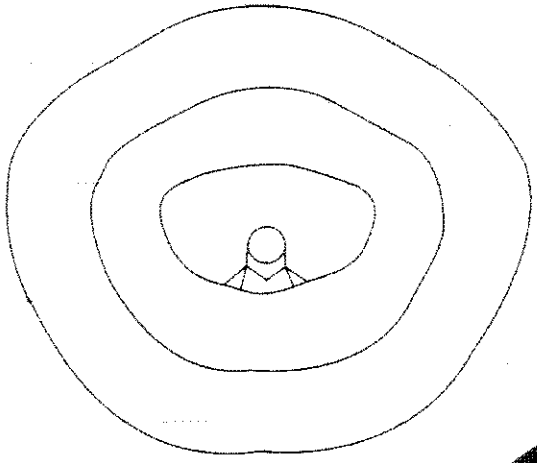
Distinctive Outdoor Lighting from Wisconsin Electric

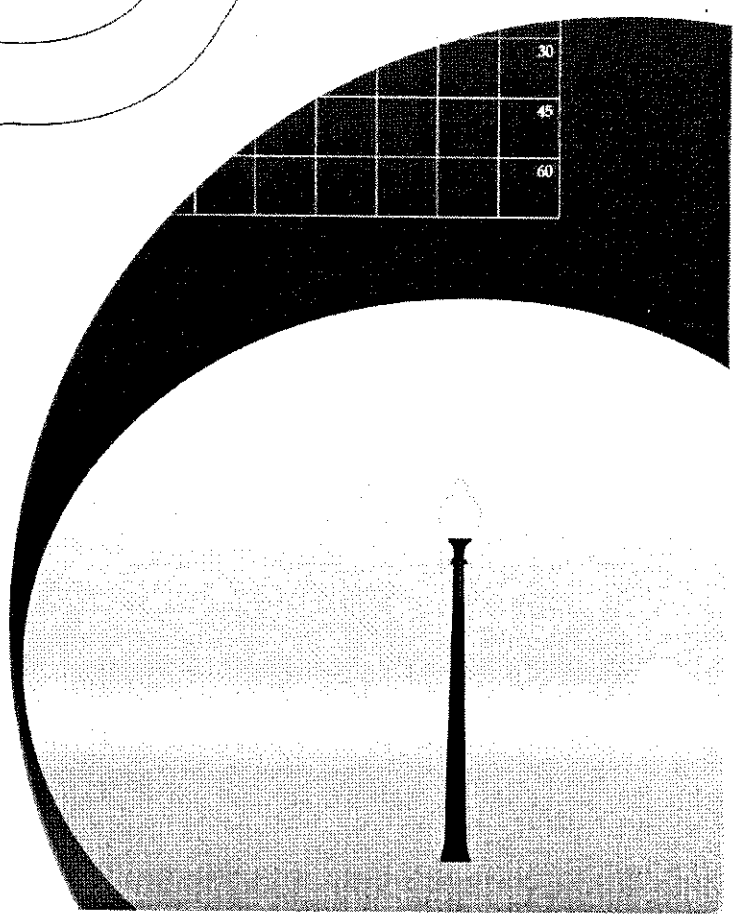
NIGHT AURA

ACORN LUMINAIRE









LIGHTING PATTERNS

IV — Non-cutoff very wide elliptical pattern.

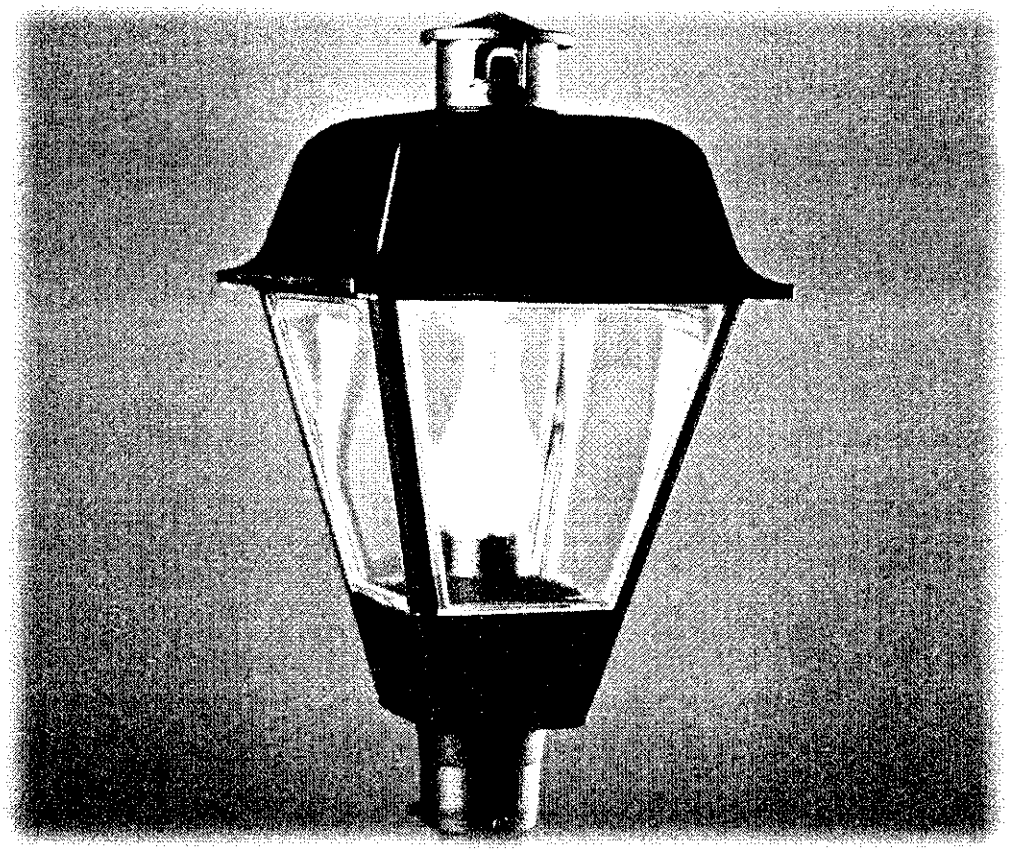
POLES

This luminaire is mounted between 12' – 16'. (It is not recommended to mount the 150-watt luminaire below 16' due to glare.) Poles available for these luminaires are: concrete, black aluminum or black fiberglass. Black-fiberglass poles are available either buried or anchor base.

Anchor base poles require a concrete foundation. Fiberglass poles installed in parking lot interiors where they could be hit by vehicles must be mounted on a concrete foundation that extends 2" above grade.

Ornamental Series

DAYFORM TRADITIONAIRE

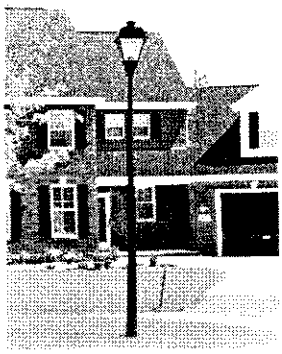


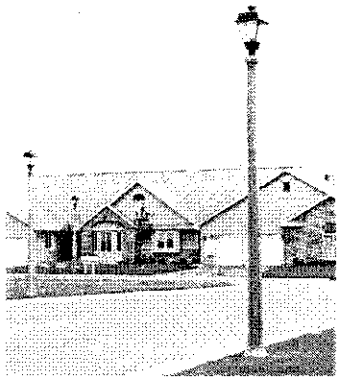
The Dayform Traditionaire is [illegible] the most popular street and area light [illegible]. Traditional style and superior light output make this a versatile choice for any residential [illegible] area.

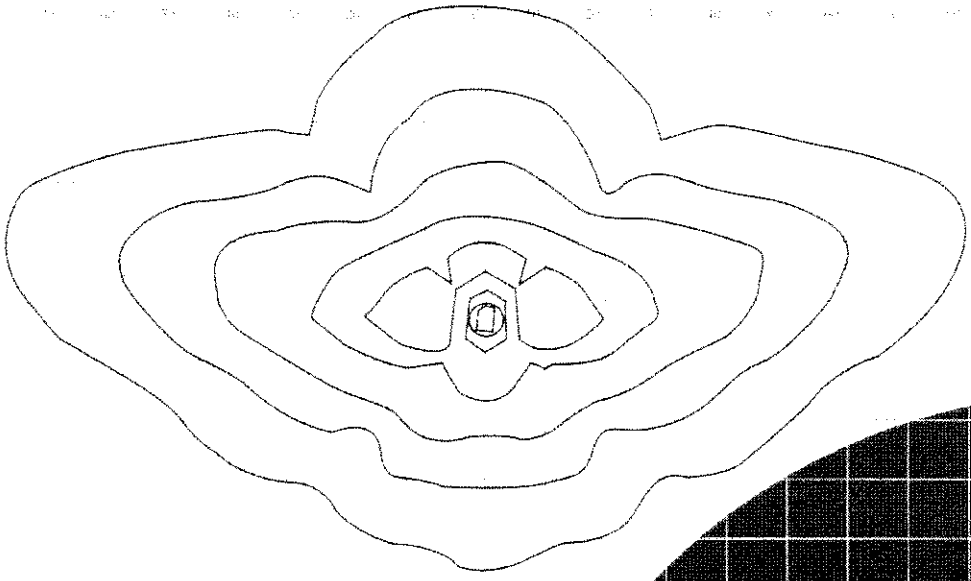
NIGHT AURA

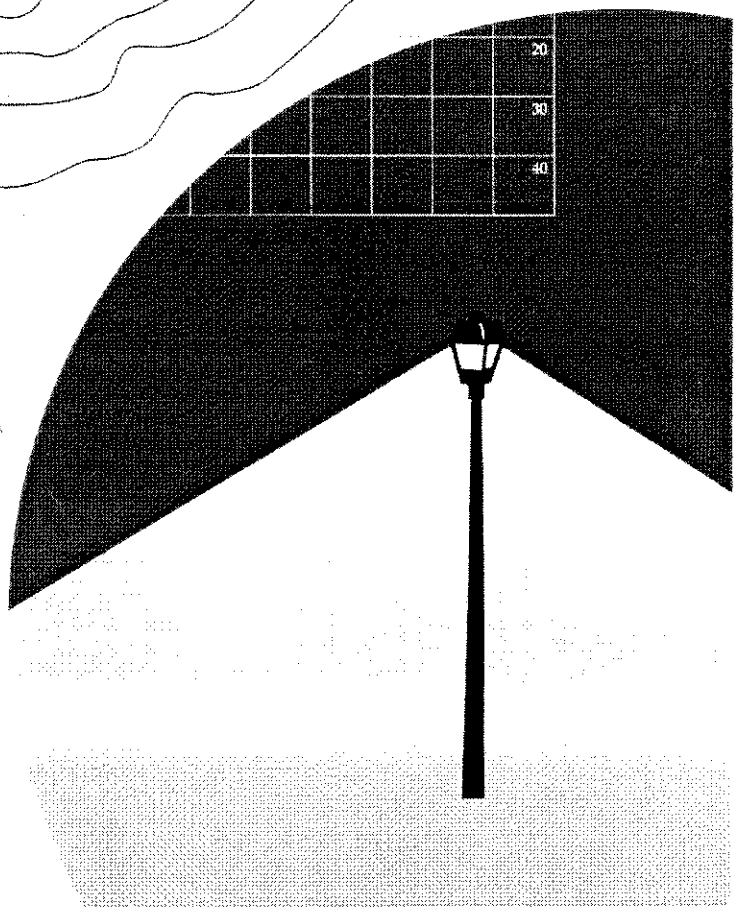
NIGHT AURA

DAYFORM TRADITIONAIRE









LIGHTING PATTERNS

II - III Full cutoff elliptical pattern.
V Full cutoff circular pattern.

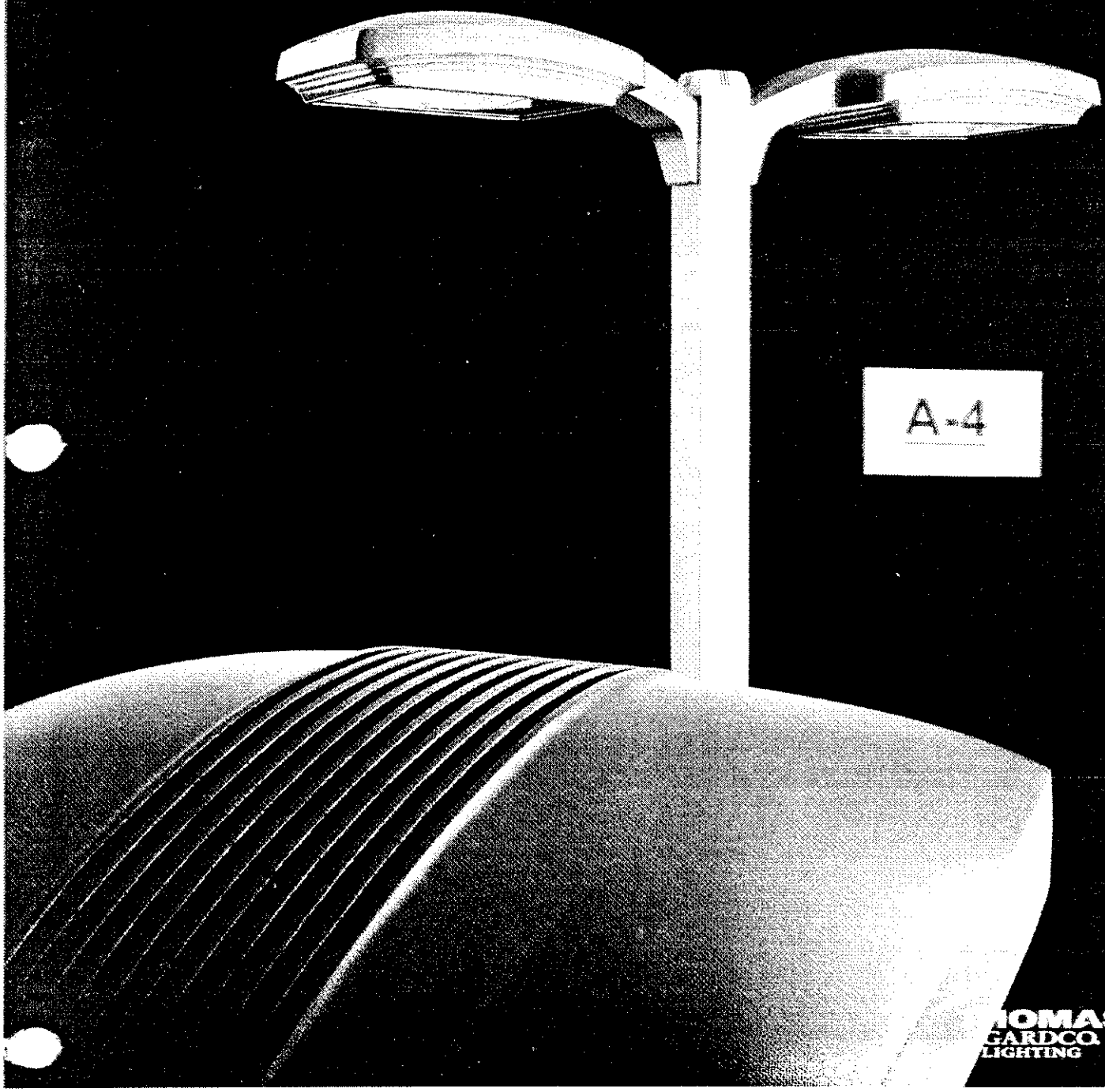
POLES

This luminaire is mounted between 12' - 16'. It is not recommended to mount the 150-watt luminaire below 16' due to glare.) Poles available for these luminaires are: concrete, black aluminum or black fiberglass. Black-fiberglass poles are available either buried or anchor base.

Anchor-base poles require a concrete foundation. Fiberglass poles installed in parking lot interiors where they could be hit by vehicles must be mounted on a concrete foundation that extends 24" (56") grade.

A-4

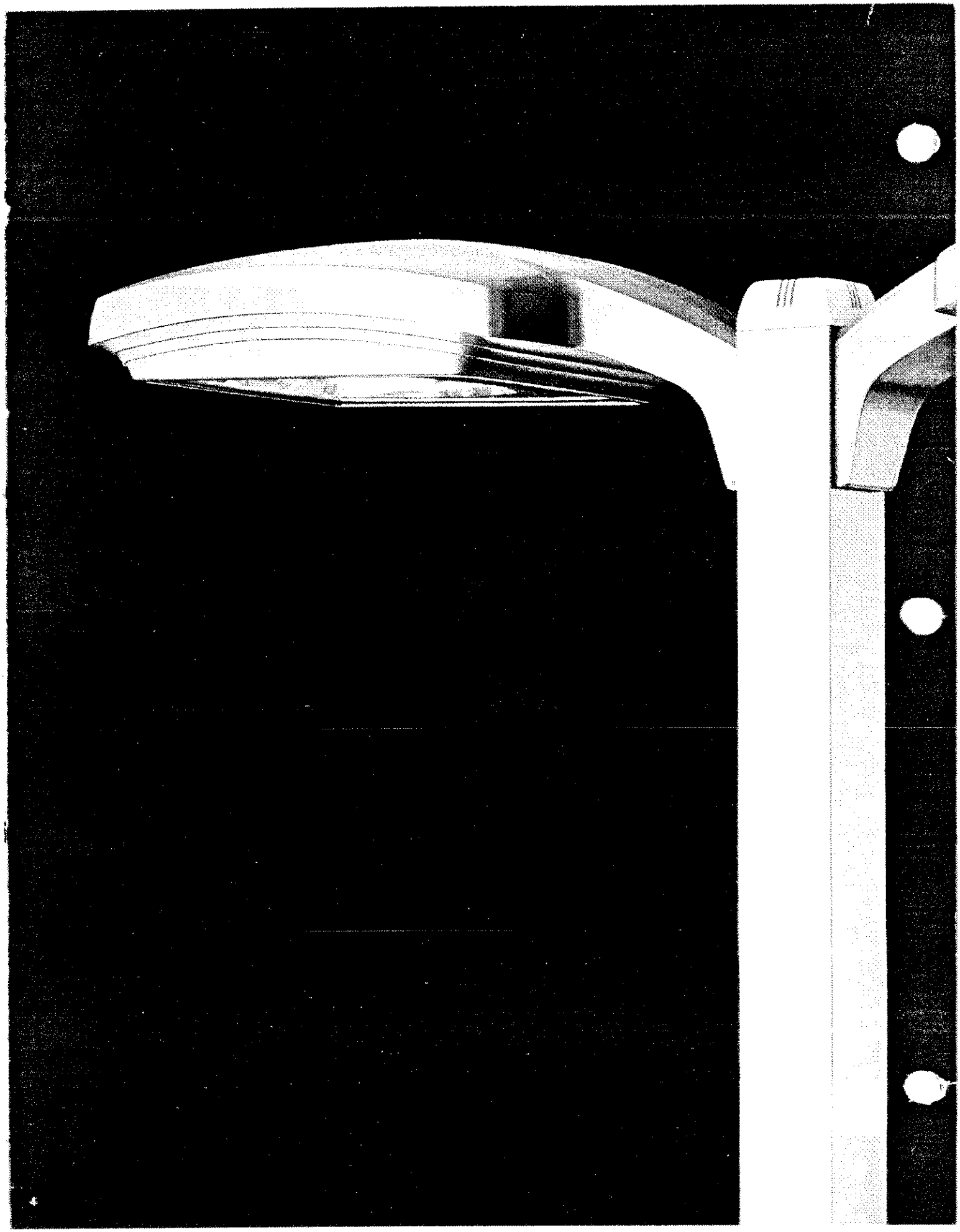
Gardco

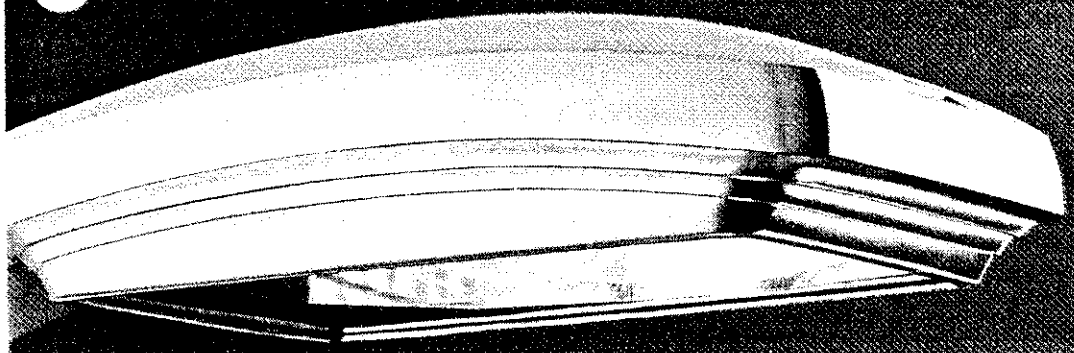


A-4

THOMAS
GARDCO
LIGHTING

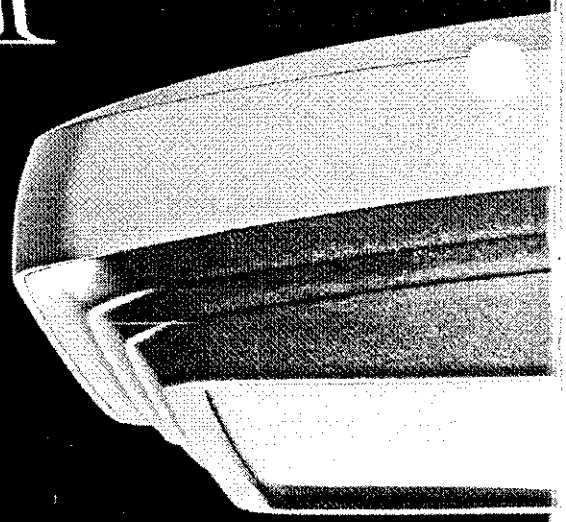
G U L L W I N G



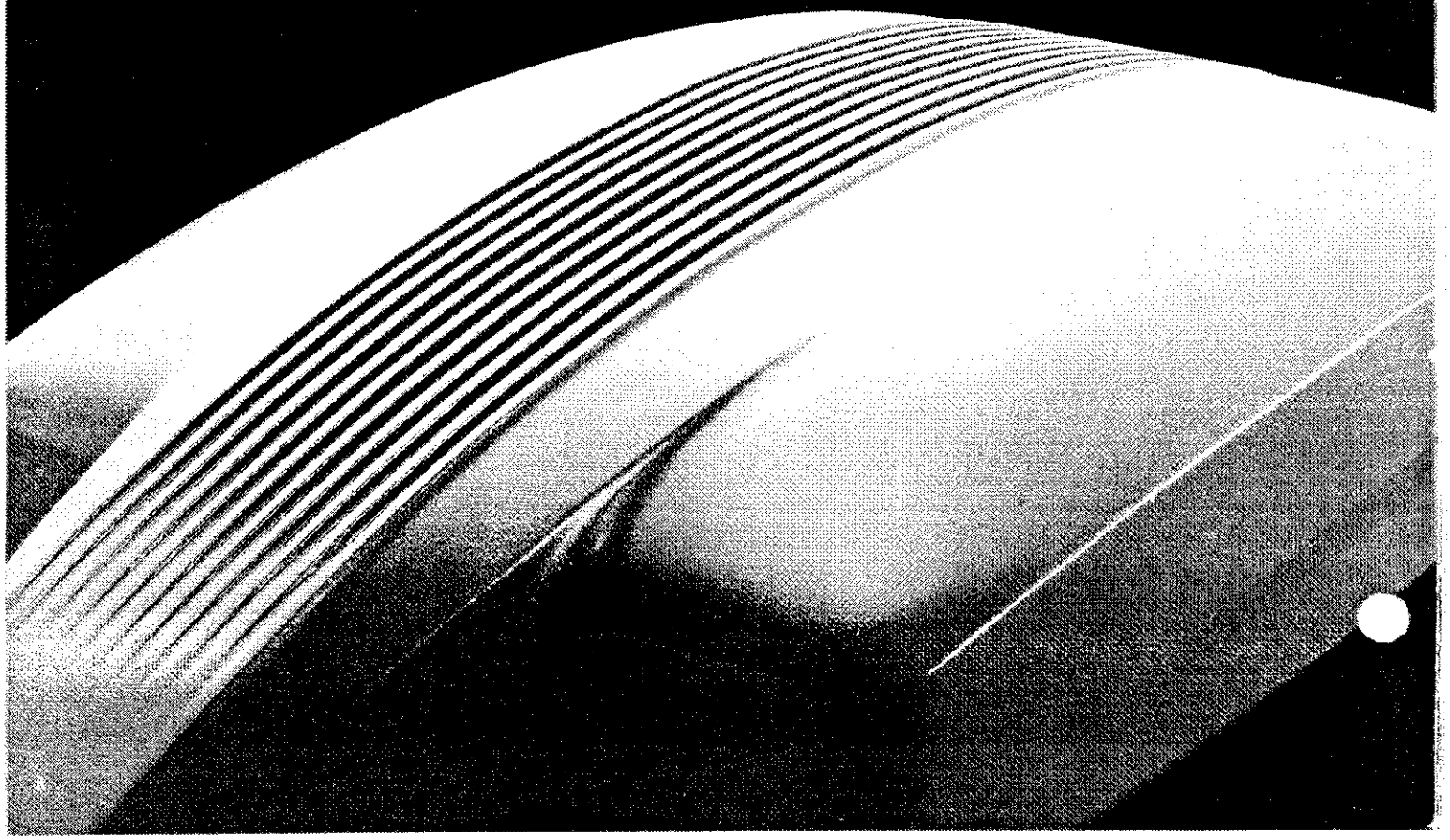


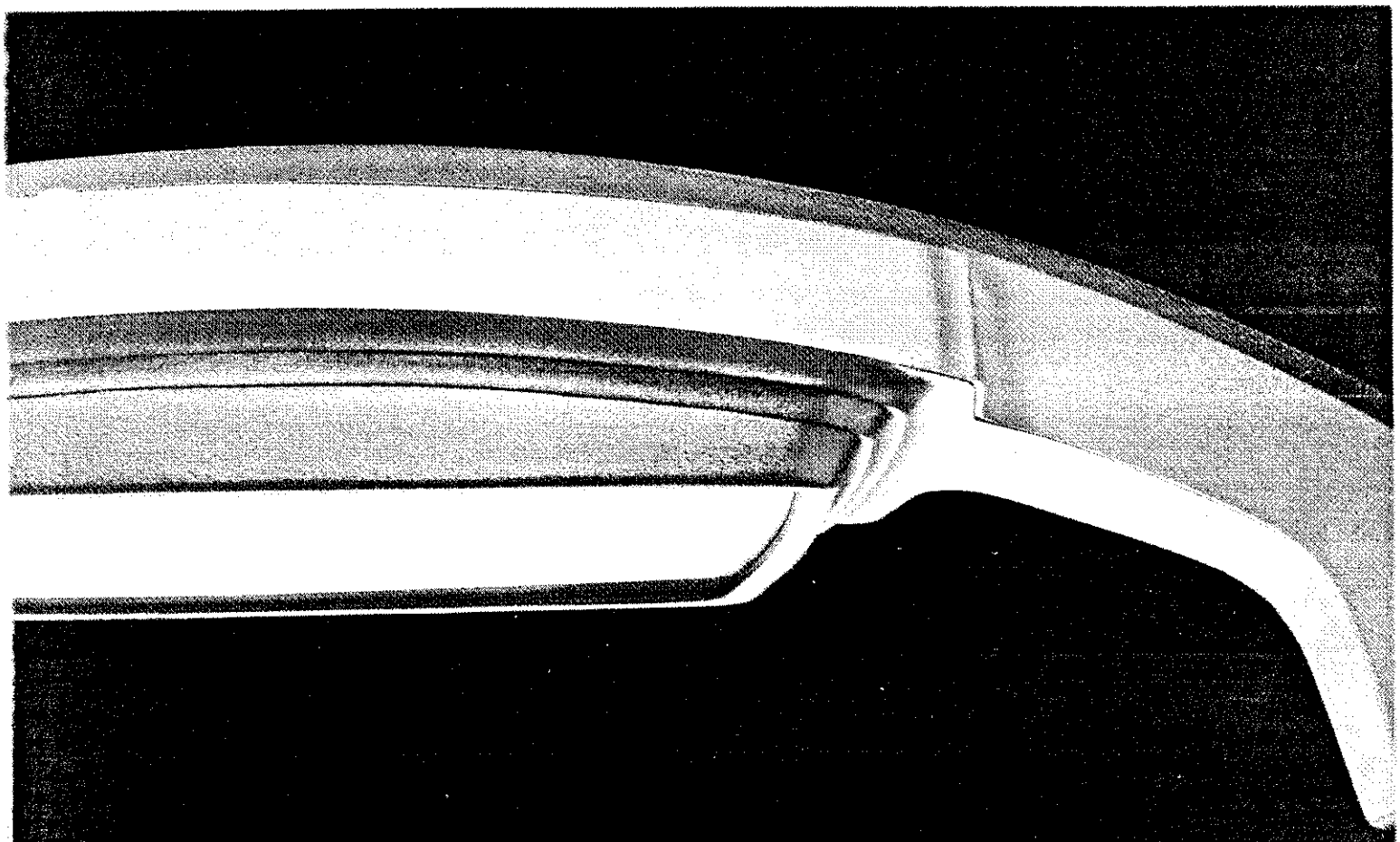
An inspiration born of classic forms and thirty years practical experience, Gullwing is equal parts architecture, engineering and performance. This is a luminaire where the lines between form, function and performance are indistinguishable. By virtue of its minimal, contoured form, integrated die cast construction and powerful 1000W optical systems, it has changed the shape of high performance lighting.

FORM

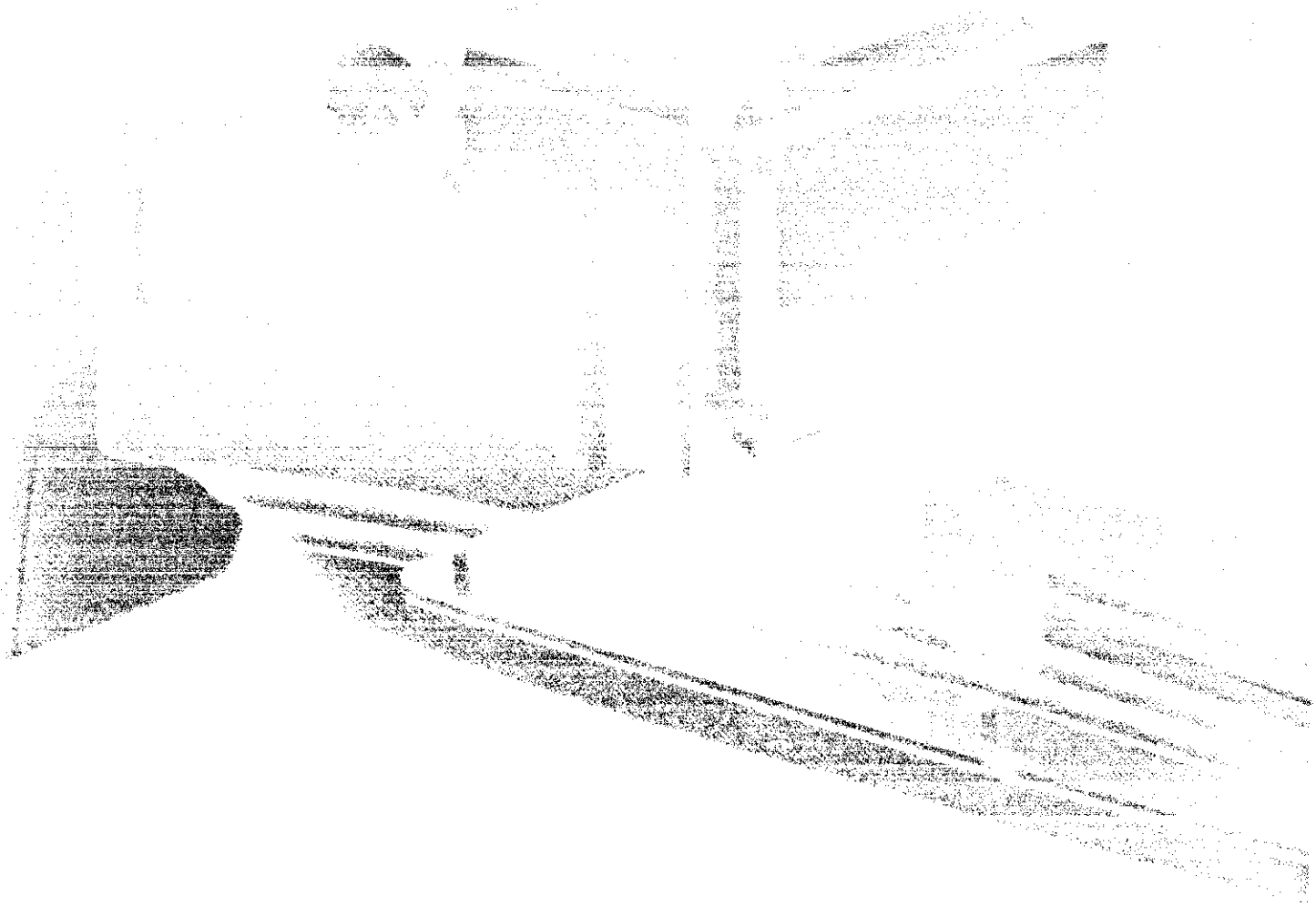


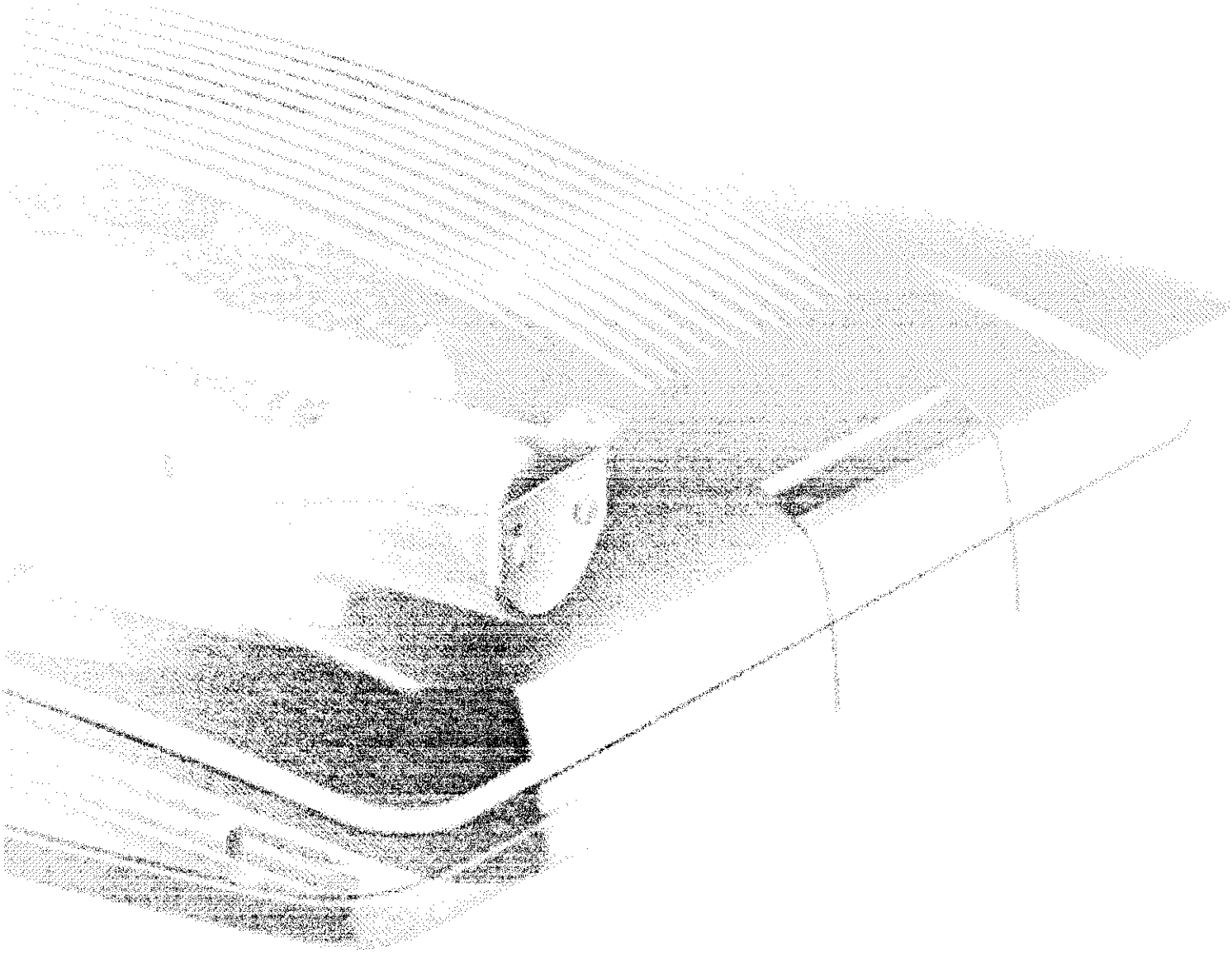
Aesthetically, Gullwing's strength is the simplicity of its form – a natural complement to any architectural vocabulary. The subtle elimination of the mounting arm allows the Gullwing an uninterrupted transition from luminaire to pole. The striking effect – is that the luminaire and arm become one. But this design serves practical purposes as well. First, it creates a ballast compartment away from the optical system, minimizing both heat and luminaire profile. Second, the tapered transition provides an exceptionally strong and stable connection across the entire face of the pole.



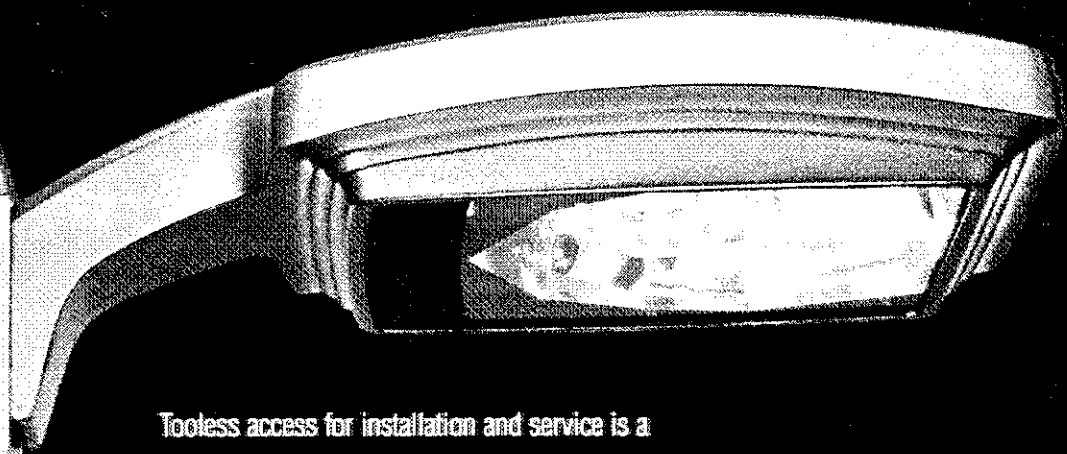


In Gullwing, performance takes on a new shape. Inside this streamlined, ultra-thin luminaire is an optical system that sets new standards for site illumination. The enlarged lens and patent pending Gardco conical "XL" optics provide an optimal lighting package – high lumen lamps to 1000 watts, sharp cutoff glare control, wide spacings and excellent maximum to minimum uniformity. The result of higher performance at every mounting height is economy – in fixture, pole, installation and maintenance costs.

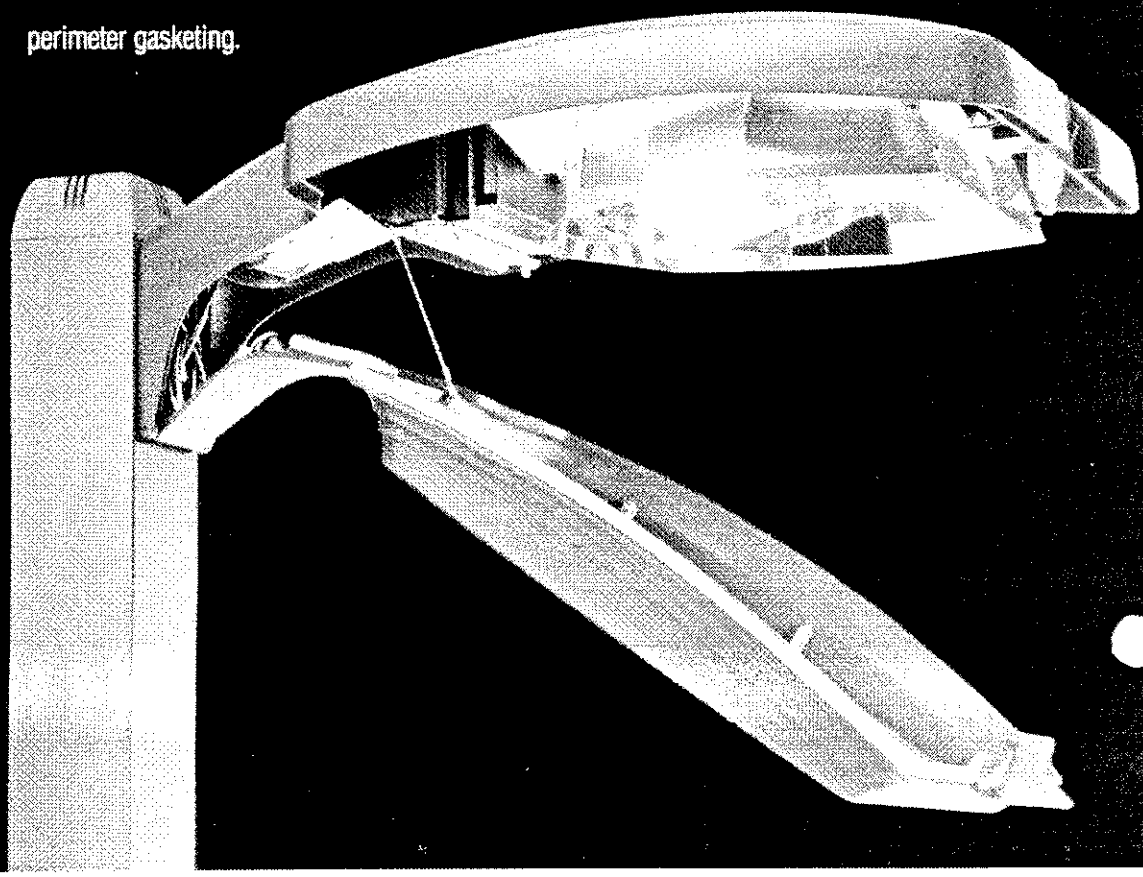


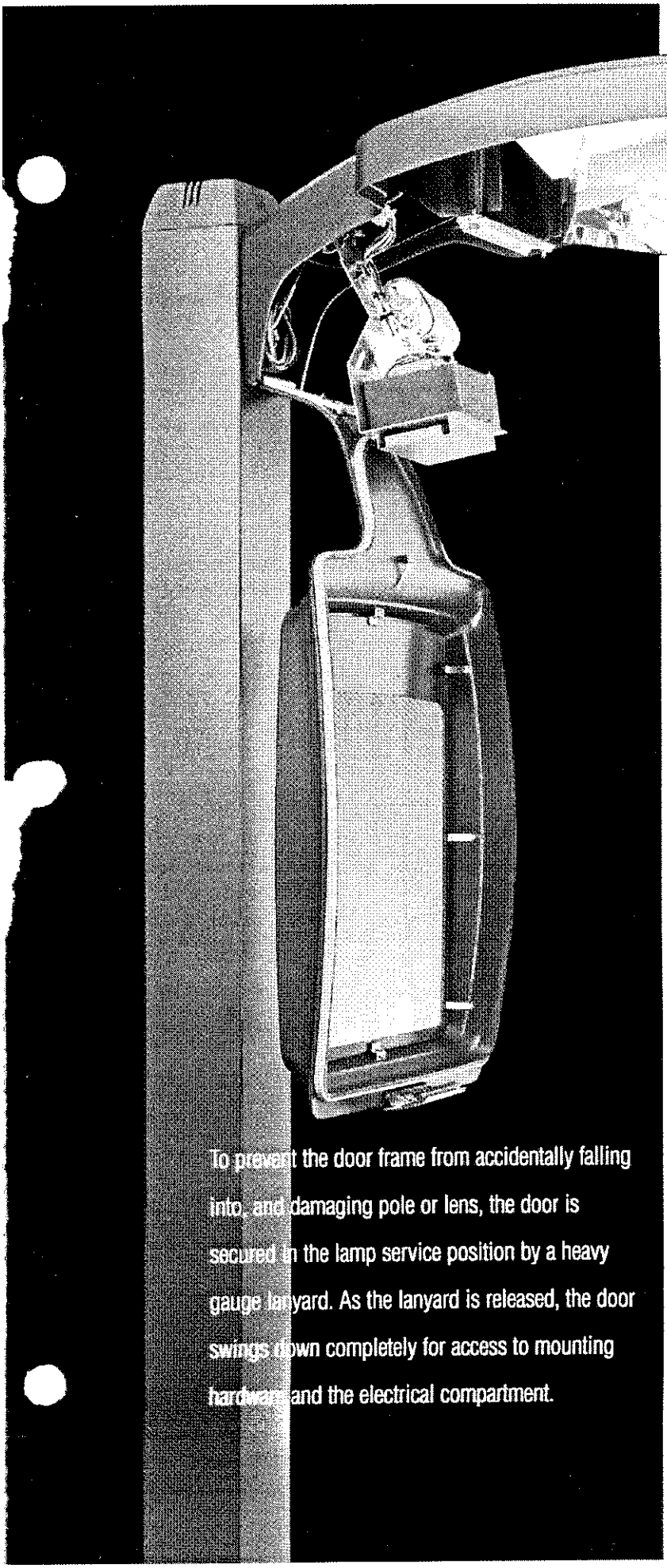


SERVICE

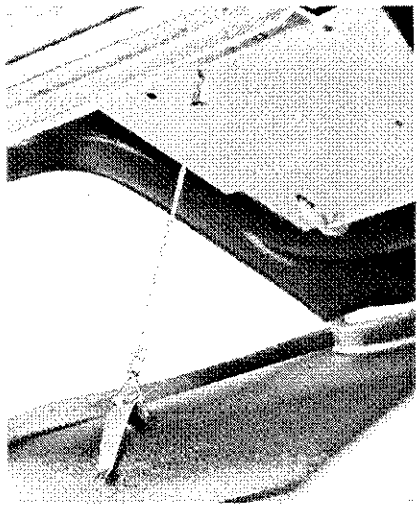


Tooless access for installation and service is a Gardco trademark. Gullwing improves on the tradition with a quick entry door handle providing complete access to optical, electrical and mounting hardware systems. The point of entry is the integral quick-lock handle. The latch firmly engages as the door is closed, creating a weather-tight seal by compressing the hollow core, perimeter gasketing.

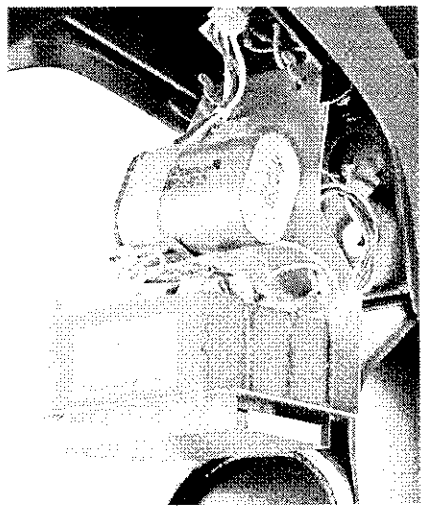




To prevent the door frame from accidentally falling into, and damaging pole or lens, the door is secured in the lamp service position by a heavy gauge lanyard. As the lanyard is released, the door swings down completely for access to mounting hardware and the electrical compartment.



For safety and ease of relamping, a heavy gauge lanyard secures the door frame in a semi-open position. A quick release is provided to allow the door to swing down, so that the optical assembly can be lowered.

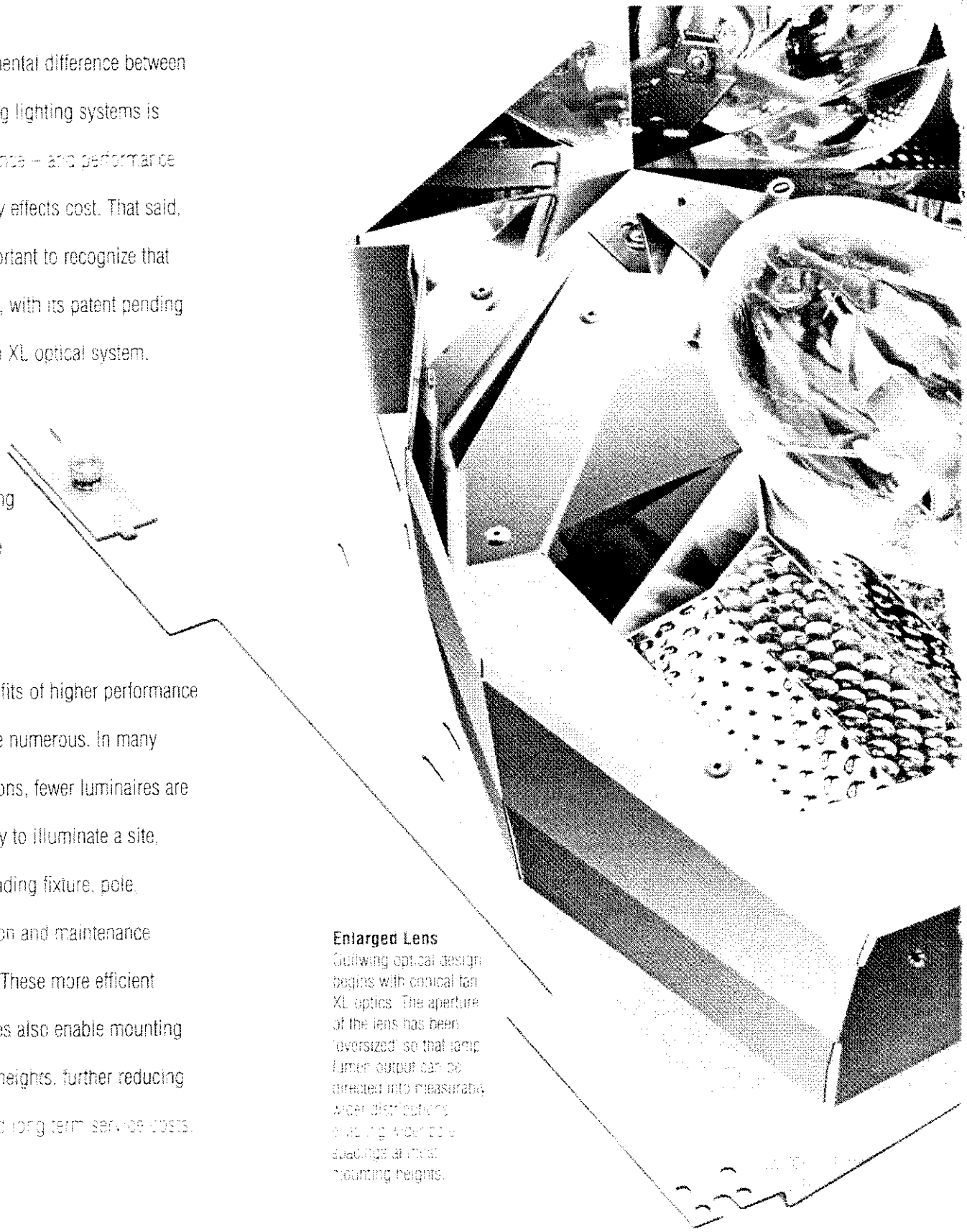


All electrical components within the luminaire are factory pre-wired with quick disconnect plugs. The ballast assembly is a [illegible] pre-wired component, [illegible] hinges or stainless steel mounting [illegible] it is removable without tools.

PERFORM

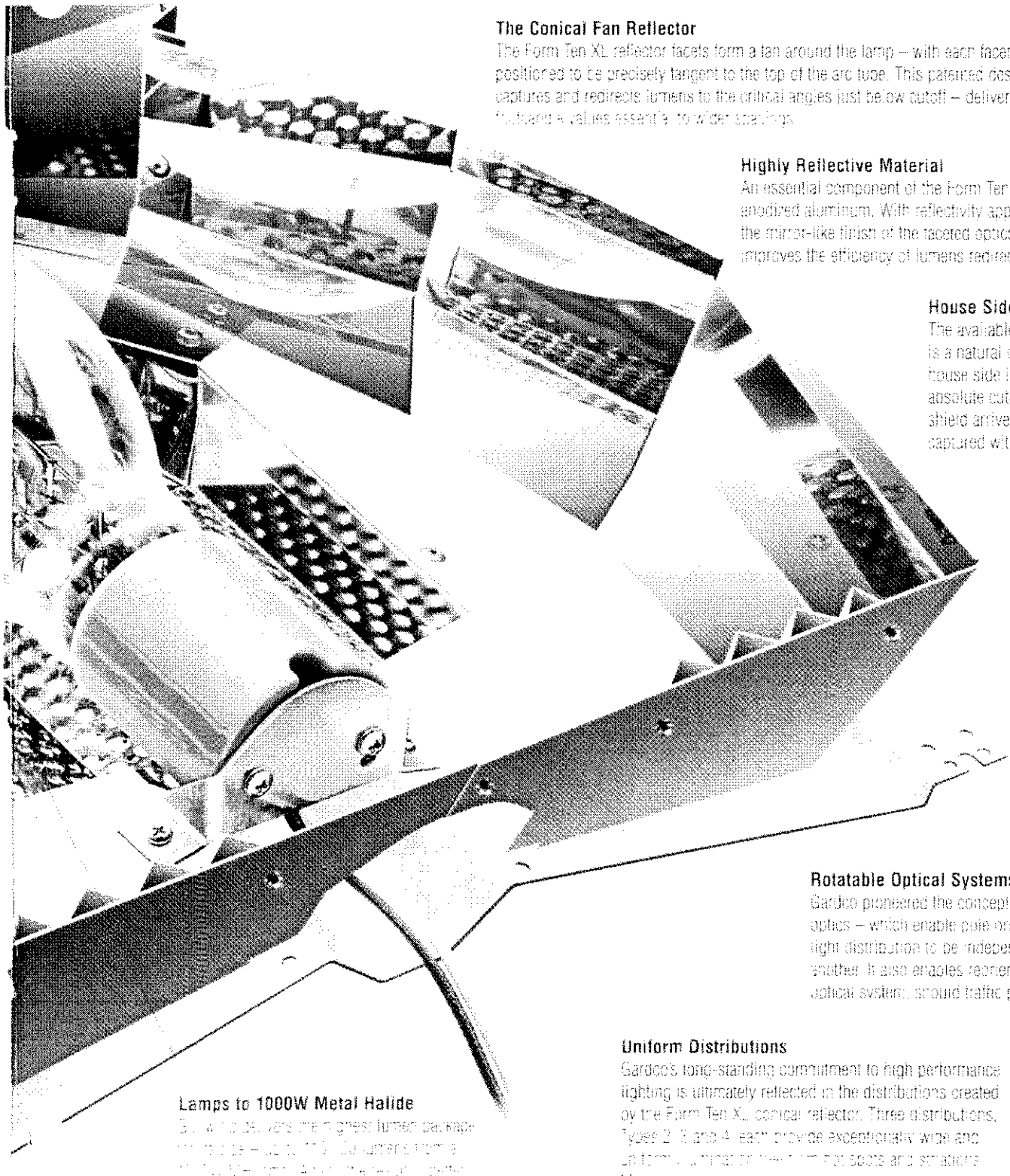
A fundamental difference between competing lighting systems is performance – and performance ultimately effects cost. That said, it is important to recognize that Gullwing, with its patent pending Form Ten XL optical system, is the best performing luminaire made.

The benefits of higher performance levels are numerous. In many applications, fewer luminaires are necessary to illuminate a site, compounding fixture, pole, installation and maintenance savings. These more efficient luminaires also enable mounting at lower heights, further reducing initial and long term service costs.



Enlarged Lens
Gullwing optical design begins with conical fan XL optics. The aperture of the lens has been "oversized" so that lamp lumen output can be directed into measurable, wider distributions allowing increased savings at lower mounting heights.

ANCE



The Conical Fan Reflector

The Form Ten XL reflector facets form a fan around the lamp – with each facet positioned to be precisely tangent to the top of the arc tube. This patented design captures and redirects lumens to the critical angles just below cutoff – delivering the [illegible] values essential to wider spacings.

Highly Reflective Material

An essential component of the Form Ten XL is a new anodized aluminum. With reflectivity approaching 95%, the mirror-like finish of the faceted optics substantially improves the efficiency of lumens redirected by the reflector.

House Side Shield

The available house side shield is a natural option to eliminate house side illumination where absolute cutoff is desired. The shield arrives factory installed, captured within the reflector.

Rotatable Optical Systems

Gardco pioneered the concept of rotatable optics – which enable pole orientation and light distribution to be independent of one another. It also enables reorientation of the optical system, should traffic patterns change.

Uniform Distributions

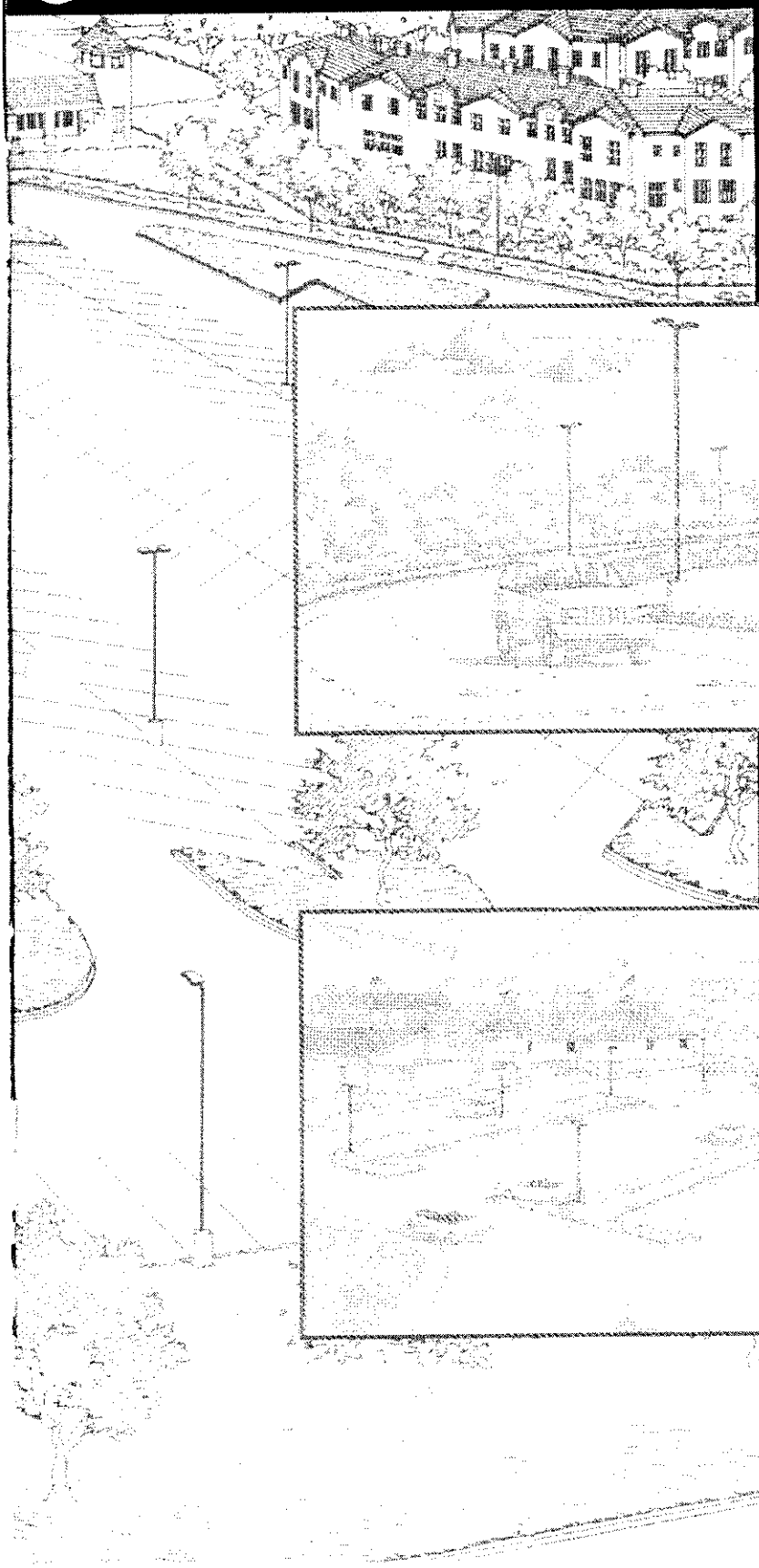
Gardco's long-standing commitment to high performance lighting is ultimately reflected in the distributions created by the Form Ten XL conical reflector. Three distributions, Types 2, 3 and 4, each provide exceptionally wide and uniform illumination for most roads and situations. Maximum to minimum ratio is excellent, and there is sharp cutoff at the required angle for each distribution. Gardco also includes Type 1 and C (TypeV) optics in the original Form Ten reflector design.

Lamps to 1000W Metal Halide

[illegible] the highest lumen package [illegible] lumens from a [illegible] lamp. The result is highly performance in wider spacings and lower overall project cost.

APPLICA

TION

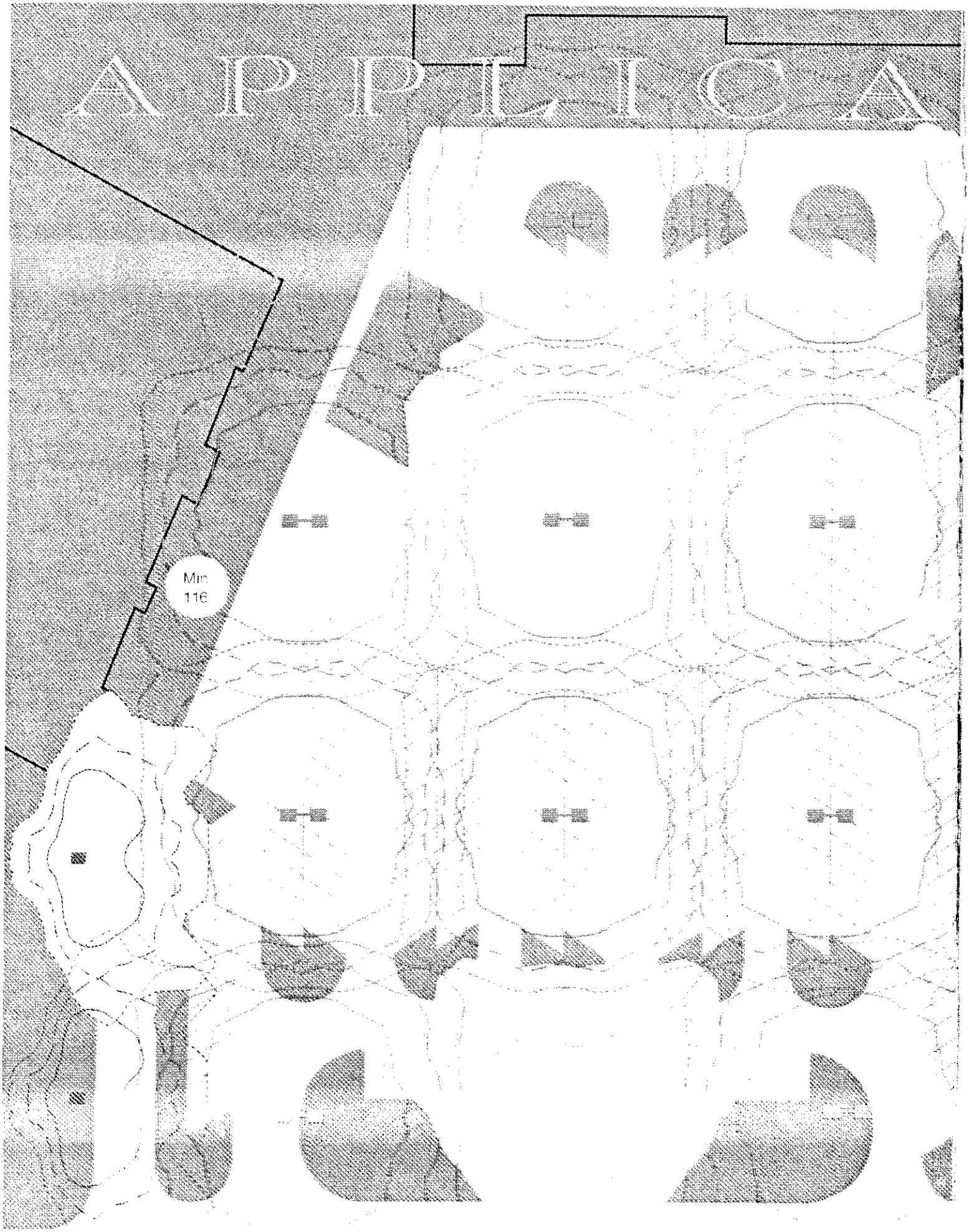


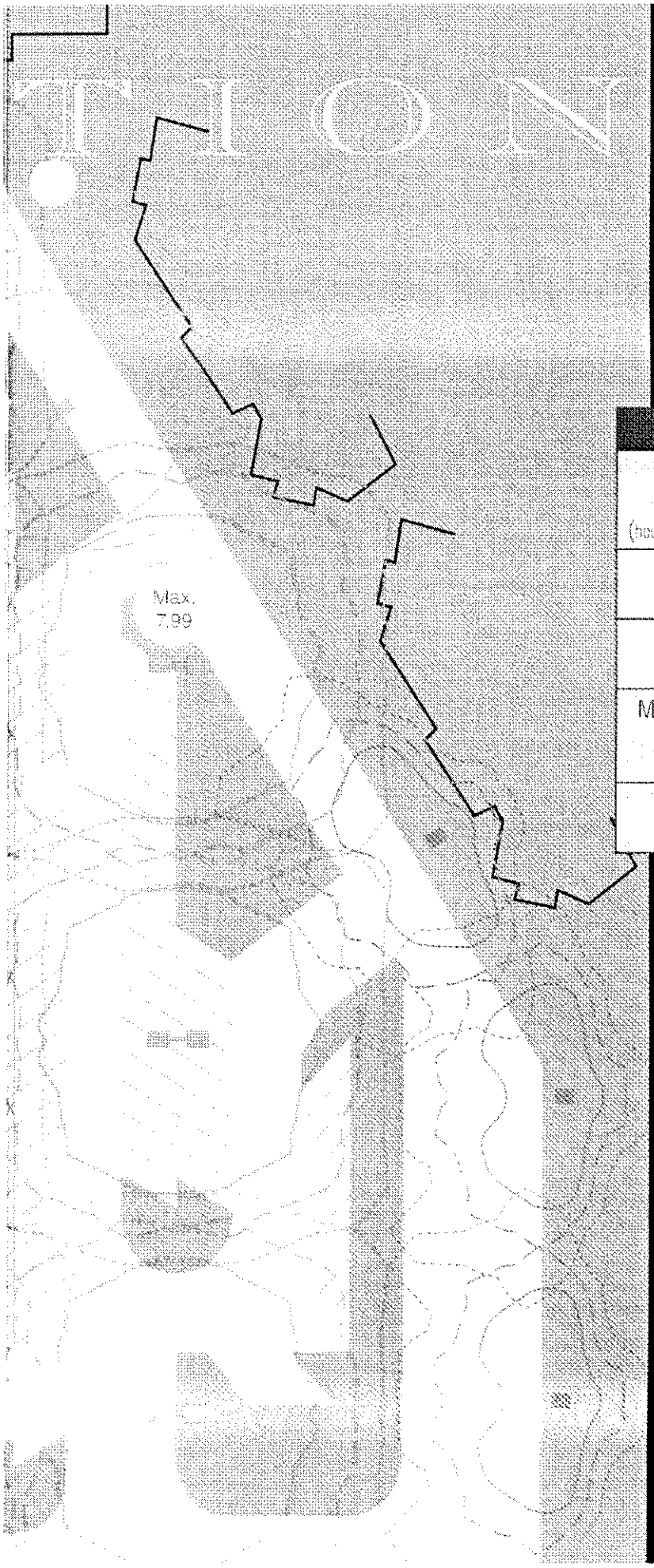
Five rotatable, high performance optical systems, types 1, 2, 3, 4 and 5, make Gullwing a remarkably flexible lighting instrument. Not only do these precision optics make it possible to tailor mounting locations, pole heights and lamps to unique site geometries, they continue the Gardco tradition of providing absolute sharp cutoff, glare free illumination.

Of particular interest is the extended forward throw of the 4XL optical system, which enables illumination across four traffic lanes. Even at a mounting height of 24', Gullwing eliminates the need for cobra heads and unsightly mast arm extensions.

A comprehensive Gullwing Applications Guide and the expert services of Gardco's applications engineering lab are available to assist site lighting analysis and development. Photometric data is available in hard copy and disk format.

APPLICA





Closer inspection of a typical lighting plan demonstrates how the Gullwing conical fan XL optics deliver uniform illumination free from hot spots and striations – **even with wide pole** spacing. Maximum pavement illumination is 7.99, yielding a maximum to minimum ratio of 6.88:1.

SITE SPECIFICS
Optical Systems 4XL (house side shield where required)
Lamp 400W MH
Mounting Height 30'
Minimum Maintained Footcandle 1.16
FC Max/Min 6.88:1

Though five optical systems are available, this site is illuminated using just one. In the center of the parking area, 4XL optics are mounted back-to-back in twin luminaires, with the result being a very efficient square distribution. Note how the addition of the factory-installed house side shield completely eliminates backside trespass at the perimeter — **in this instance where traffic** lanes abut office and residential areas.

SPECIFICATIONS

HOUSING: A one-piece die cast aluminum housing mounts directly to a pole or wall without the need for a support arm. The low profile rounded form generates wind loading requirements of 1.2 EPA.

LENS ASSEMBLY: A single-piece die cast aluminum lens frame hinges down from the housing and is secured by a stainless steel lanyard and hinge pin.

An optically clear, heat and impact resistant tempered flat glass lens is mechanically secured with eight retainers. The electrical and optical chambers are thoroughly sealed with a one-piece memory retentive hollow core EPDM gasket to prevent intrusion by rain, dust and insects.

OPTICAL SYSTEMS: The segmented optical systems are manufactured from homogenous sheet aluminum which has been electrochemically brightened, anodized and sealed. The multifaceted arc image duplicating systems are designed to produce IES Types 1 (1), 2 (2XL), 3 (3XL), 4 (4XL), and 5 (Q). With the 2XL, 3XL and 4XL luminaires, the reflector facets form a conical fan around the arc tube with each facet positioned to be precisely tangent to the top of the arc tube.

A mogul base lampholder is glazed porcelain with a nickel plated screw shell. Position-oriented sockets are supplied standard to accept super metal halide lamps. All units feature lamp stablizers except 150 HPS.

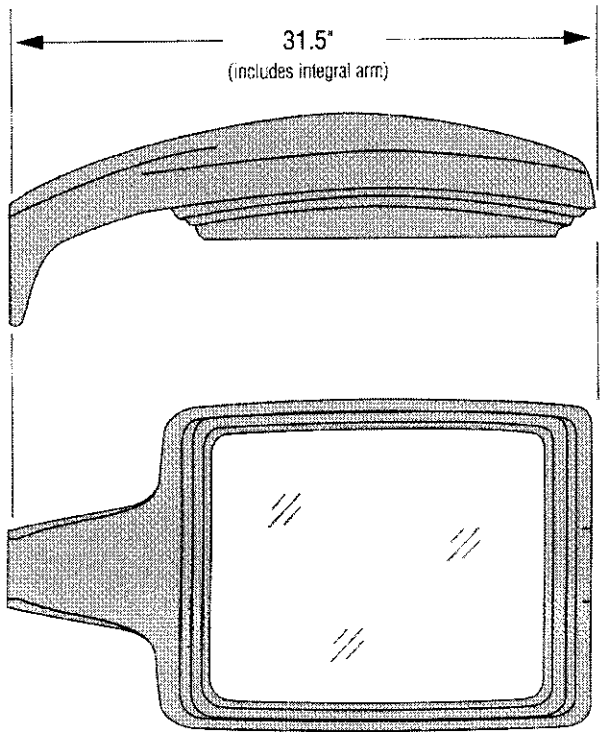
ELECTRICAL: All electrical components are UL recognized, factory tested, and mounted on a unitized plate with quick electrical disconnects. Each high power factor ballast is the separate component type capable of providing reliable lamp starting down to -20°F.

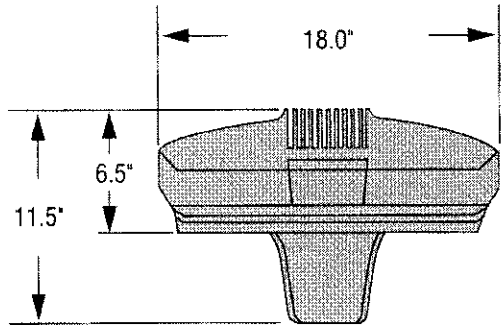
FINISH: Luminaires are finished with a fade and abrasion resistant, electrostatically applied, thermally cured TGIC powder coat. Units are thoroughly cleaned and provided with a patented chromate acid pretreatment.

LABELS: All fixtures bear UL and CSA (where applicable) wet location and I.B.E.W. labels.

Gardco reserves the right to change materials or modify the design of its product without notification as part of the company's continuing product improvement program. Design and optical patents are pending.

DIMENSIONS





E.P.A. (SQ.FT.)

1-way – 1.2
2-way – 2.4
4-way – 3.2

ORDERING

G18	1	2XL	250HPS	208	BRP	PC
PREFIX	**CONFIGURATION**	**DISTRIBUTION**	**WATTAGE**	**VOLTAGE**	**FINISH**	**OPTIONS**
G18	1	1	150 HPS	120	BRP	HF
	2	2XL	250 HPS	208	BLP	LF
	3	3XL	400 HPS	240	WP	PC
	4	4XL	600 HPS	277	NP	PCR
	W	Q	750 HPS	347	SC	POLY
	WS		100 MH	480		HS
			150 MH			QS
			175 MH			RPA1 *(see Note)*
			250 MH			RPA2 *(see Note)*
			400 MH			PTF
			750 MH			
			1000 MH			

All lamps are mogul base.

CONFIGURATION

1 - Single Fixture Assembly
2 - Twin @ 90° or 180° - Indicate
3 - Triple @ 90°
4 - Quad
W - Wall Mount, Recessed J - Box
WS - Wall Mount, Surface Conduit
(splice compartment within wall adaptor)

DISTRIBUTION

1 - Type 1 Horizontal Lamp*
2XL - Type 2 Horizontal Lamp
3XL - Type 3 Horizontal Lamp
4XL - Type 4 Horizontal Lamp
Q - Type 5 Horizontal Lamp*

* Not available above 400W.

FINISH

BRP - Bronze Paint
BLP - Black Paint
WP - White Paint
NP - Natural Paint
SC - Special Color Paint

OPTIONS

HF - In-Head Fusing***
LF - In-Pole Fusing
PC - Receptacle and Photo Control
PCR - Photo Control (Receptacle Only)
POLY - Polycarbonate Sag Lens (Not Available in 400W or Higher)
HS - Houseside Shield
QS - Quartz Restrike***
RPA1 - 3" Round Pole Adaptor *(see Note)*
RPA2 - 4" & 5" Round Pole Adaptor *(see Note)*
PTF - Pole Top Fitter

*** Not available with 1000W.

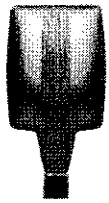
NOTE: RPA1 is required for 3" o.d. poles or tapered round poles where top o.d. is less than 4".
RPA2 is used for 4" to 5" round poles.

CONFIGURATIONS

Gullwing is designed around square poles, which are inherently more economical than round. In single, twin and four-way configurations the luminaire-to-pole transition is smooth and natural.

For wall-mounted applications, the the design allows mounting to both a j-box and surface conduit. For surface conduit, the splice is made inside the wall adaptor. Splice volume is 50 cubic inches.

Gullwing is UL approved for through wiring.



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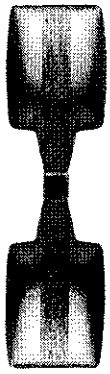

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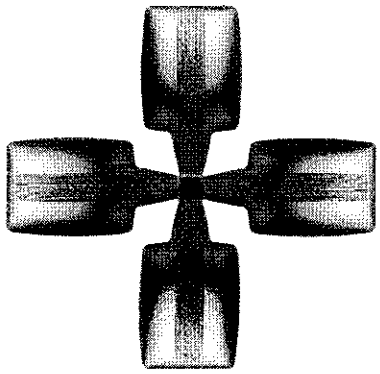


4

SQUARE POLES

STRAIGHT SQUARE ALUMINUM POLES

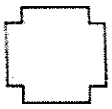
	CATALOG NUMBER PREFIX	POLE SIZE HEIGHT (feet)	BASE TENON HEIGHT (feet)	WALL THICKNESS (inches)	MAXIMUM* LUMINAIRE LOADING EPA (ft²) @100	@90	@80	ANCHOR BOLT DATA BOLT CIRCLE (inches)	CONDUIT OPENING (inches)	BOLT SIZE (inches)	MAX PROJ. (inches)
4"	SSA4-8	7'8"	1.25	.100	14.0	17.3	22.5	7.00	2.25	1/2 X 18 X 4	3.0
	SSA4-10	9'8"	1.25	.100	9.6	12.1	15.8	7.00	2.25	1/2 X 18 X 4	3.0
	SSA4-12	11'8"	1.25	.100	6.8	8.5	11.5	7.00	2.25	1/2 X 18 X 4	3.0
	SSA4-15	14'9"	2	.100	3.4	6.1	8.5	7.00	2.25	1/2 X 18 X 4	3.0
	SSA4-18L	17'9"	2	.100	–	2.0	3.3	7.00	2.25	1/2 X 18 X 4	3.0
	SSA4-18M	17'9"	4	.100	2.5	3.3	4.9	7.00	2.25	5/8 X 18 X 3	3.0
	SSA4-18H	17'9"	6	.100	3.1	3.9	6.0	7.00	2.25	5/8 X 18 X 3	3.0
	SSA4-20L	19'9"	2	.100	–	1.5	3.0	7.00	2.25	1/2 X 18 X 4	3.0
	SSA4-20M	19'9"	4	.100	1.4	3.0	4.8	7.00	2.25	5/8 X 18 X 3	3.0
	SSA4-20H	19'9"	6	.100	1.8	4.7	6.8	7.00	2.25	5/8 X 18 X 3	3.0
4.5"	SSA4.5-15	14'6"	2.5	.150	7.5	9.7	13.2	9.00	3.00	5/8 X 18 X 3	3.0
	SSA4.5-18	17'6"	2.5	.150	4.5	6.4	9.4	9.00	3.00	5/8 X 18 X 3	3.0
	SSA4.5-20	19'6"	2.5	.150	2.9	4.8	7.3	9.00	3.00	5/8 X 18 X 3	3.0
	SSA4.5-24	23'6"	2.5	.150	–	1.8	3.9	9.00	3.00	5/8 X 18 X 3	3.0
	SSA4.5-25L	24'6"	2.5	.150	–	1.3	3.2	9.00	3.00	5/8 X 18 X 3	3.0
	SSA4.5-25H	24'6"	7	.150	3.7	5.7	8.4	9.00	3.00	3/4 X 18 X 3	3.0
	SSA4.5-29H	28'6"	7	.150	–	3.2	5.3	9.00	3.00	3/4 X 18 X 3	3.0
5"	SSA5-12	11'9"	2.5	.130	13.9	17.9	23.6	9.00	3.25	5/8 X 18 X 3	3.5
	SSA5-15	14'9"	2.5	.130	7.7	9.6	13.2	9.00	3.25	5/8 X 18 X 3	3.5
	SSA5-18	17'9"	2.5	.130	4.9	6.5	9.5	9.00	3.25	5/8 X 18 X 3	3.5
	SSA5-20	19'9"	2.5	.130	3.4	4.4	6.9	9.00	3.25	5/8 X 18 X 3	3.5
	SSA5-25L	24'9"	2.5	.130	–	–	2.7	9.00	3.25	5/8 X 18 X 3	3.5
	SSA5-25M	24'9"	4	.130	2.1	2.7	5.3	9.00	3.25	3/4 X 18 X 3	3.5
	SSA5-25H	24'9"	7	.130	2.2	3.1	5.7	9.00	3.25	3/4 X 18 X 3	3.5
	SSA5-28M	27'9"	4	.130	–	–	2.2	9.00	3.25	3/4 X 18 X 3	3.5
	SSA5-28H	27'9"	7	.130	–	–	3.4	9.00	3.25	3/4 X 18 X 3	3.5
6"	SSA6-15	14'8"	3	.170	19.5	25.1	33.0	11.00	4.00	3/4 X 18 X 3	4.0
	SSA6-18	17'9"	3	.170	14.4	17.9	23.9	11.00	4.00	3/4 X 18 X 3	4.0
	SSA6-20	19'9"	3	.170	11.7	14.6	20.3	11.00	4.00	3/4 X 18 X 3	4.0
	SSA6-25	24'9"	3	.170	6.5	8.2	12.6	11.00	4.00	3/4 X 18 X 3	4.0
	SSA6-28	27'9"	3	.170	4.0	5.2	9.1	11.00	4.00	3/4 X 18 X 3	4.0
	SSA6-30L	29'9"	3	.170	2.2	3.1	6.4	11.00	4.00	3/4 X 18 X 3	4.0
	SSA6-30M	29'9"	6	.170	2.4	3.6	7.0	11.00	4.00	1 X 36 X 4.5	4.0
	SSA6-30H	29'9"	9	.170	6.3	7.8	12.4	11.00	4.00	1 X 36 X 4.5	4.0
	SSA6-33L	32'9"	3	.170	–	–	1.5	11.00	4.00	3/4 X 18 X 3	4.0
	SSA6-33M	32'9"	6	.170	–	–	4.1	11.00	4.00	1 X 36 X 4.5	4.0
	SSA6-33H	32'9"	9	.170	3.5	3.9	7.0	11.00	4.00	1 X 36 X 4.5	4.0

STRAIGHT SQUARE STEEL POLES

4"	SSS10-4-11	10'	4	11	20.9	26.3	34.0	8.00	3.64	3/4 X 18 X 3	3.5
	SSS12-4-11	12'	4	11	16.3	20.8	27.1	8.00	3.64	3/4 X 18 X 3	3.5
	SSS14-4-11	14'	4	11	12.9	16.7	22.0	8.00	3.64	3/4 X 18 X 3	3.5
	SSS15-4-11	15'	4	11	11.5	15.0	19.9	8.00	3.64	3/4 X 18 X 3	3.5
	SSS18-4-11	18'	4	11	6.2	8.5	11.8	8.00	3.64	3/4 X 18 X 3	3.5
	SSS20-4-11	20'	4	11	4.6	6.6	9.6	8.00	3.64	3/4 X 18 X 3	3.5
	SSS20-4-7	20'	4	7	8.8	11.8	16.0	8.00	3.64	3/4 X 18 X 3	3.5
	SSS24-4-11	24'	4	11	2.0	3.6	6.0	8.00	3.64	3/4 X 18 X 3	3.5
	SSS24-4-7	24'	4	7	5.4	7.8	11.4	8.00	3.64	3/4 X 18 X 3	3.5
	SSS25-4-11	25'	4	11	1.4	3.0	5.3	8.00	3.64	3/4 X 18 X 3	3.5
	SSS25-4-7	25'	4	7	4.7	7.0	10.4	8.00	3.64	3/4 X 18 X 3	3.5
5"	SSS25-5-11	25'	5	11	3.7	6.3	9.8	10.00-12.00	4.64	1 X 36 X 4.5	4.0
	SSS25-5-7	25	5	7	9.1	12.7	17.8	10.00-12.00	4.64	1 X 36 X 4.5	4.0
	SSS30-5-11	30	5	11	–	2.0	4.7	10.00-12.00	4.64	1 X 36 X 4.5	4.0
	SSS30-5-7	30	5	7	3.9	6.7	10.7	10.00-12.00	4.64	1 X 36 X 4.5	4.0

CRUCIFORM POLES

CRUCIFORM ALUMINUM POLES



	CATALOG NUMBER PREFIX	POLE SIZE HEIGHT (feet)	BASE TENON HEIGHT (feet)	WALL THICKNESS (inches)	MAXIMUM* LUMINAIRE LOADING EPA (ft²) @100	@90	@80	ANCHOR BOLT DATA BOLT CIRCLE (inches)	CONDUIT OPENING	BOLT SIZE (inches)	MAX PROJ. (inches)
4.5"	CA4.5-10	9'11"	1.5	.150	16.9	23.1	27.9	7.00	2.75	5/8 X 18 X 3	3.0
	CA4.5-12	11'11"	1.5	.150	13.1	16.1	22.1	7.00	2.75	5/8 X 18 X 3	3.0
	CA4.5-15	14'11"	1.5	.150	7.2	9.5	12.6	7.00	2.75	5/8 X 18 X 3	3.0
	CA4.5-18	17'11"	1.5	.150	4.4	6.2	8.7	7.00	2.75	5/8 X 18 X 3	3.0
	CA4.5-20	19'11"	1.5	.150	2.9	4.4	6.6	7.00	2.75	5/8 X 18 X 3	3.0
5"	CA5-12	11'9"	2.5	.130	13.8	18.6	24.3	9.00	3.25	5/8 X 18 X 3	3.5
	CA5-15	14'9"	2.5	.130	7.6	11.0	16.1	9.00	3.25	5/8 X 18 X 3	3.5
	CA5-18	17'9"	2.5	.130	4.8	7.6	10.6	9.00	3.25	5/8 X 18 X 3	3.5
	CA5-20	19'9"	2.5	.130	3.3	5.6	8.1	9.00	3.25	5/8 X 18 X 3	3.5
	CA5-25L	24'9"	2.5	.130	–	1.7	3.4	9.00	3.25	5/8 X 18 X 3	3.5
	CA5-25M	24'9"	4	.130	1.0	2.1	4.2	9.00	3.25	3/4 X 18 X 3	3.5
	CA5-25H	24'9"	7	.130	2.3	4.0	6.3	9.00	3.25	3/4 X 18 X 3	3.5
	CA5-28M	27'9"	4	.130	–	–	2.0	9.00	3.25	3/4 X 18 X 3	3.5
	CA5-28H	27'9"	7	.130	–	2.2	4.1	9.00	3.25	3/4 X 18 X 3	3.5
6"	CA6-15	14'8"	3	.170	20.3	32.4	42.1	10.00	4.00	3/4 X 18 X 3	4.0
	CA6-18	17'9"	3	.170	14.3	18.6	24.6	10.00	4.00	3/4 X 18 X 3	4.0
	CA6-20	19'9"	3	.170	11.2	14.9	20.1	10.00	4.00	3/4 X 18 X 3	4.0
	CA6-25	24'9"	3	.170	5.1	6.2	10.2	10.00	4.00	3/4 X 18 X 3	4.0
	CA6-28	27'9"	3	.170	2.5	4.0	7.4	10.00	4.00	3/4 X 18 X 3	4.0
	CA6-30L	29'9"	3	.170	1.0	2.2	5.4	10.00	4.00	3/4 X 18 X 3	4.0
	CA6-30M	29'9"	6	.170	2.9	4.6	8.0	10.00	4.00	1 X 36 X 4.5	4.0
	CA6-30H	29'9"	9	.170	5.8	7.0	11.1	10.00	4.00	1 X 36 X 4.5	4.0
	CA6-33L	32'9"	3	.170	–	–	3.0	10.00	4.00	3/4 X 18 X 3	4.0
	CA6-33M	32'9"	6	.170	–	2.7	5.3	10.00	4.00	1 X 36 X 4.5	4.0
	CA6-33H	32'9"	9	.170	2.8	5.0	8.1	10.00	4.00	1 X 36 X 4.5	4.0

STEEL POLE SPECIFICATIONS

POLE SHAFT
The pole shaft is a one section design fabricated from hot rolled welded steel tubing (round) or a single piece of 11 gauge (.1196") or 7 gauge (.1793") commercial carbon steel (square). The formed steel plate is longitudinally welded providing minimum yield strength of 36 KSI (round) or 46 KSI (square).

POLE TOP CAP
Each pole assembly is provided with a removable pole top cap.

HANDHOLE
The reinforced handhole has an inside opening in the pole shaft. Included is a cover plate with attachment screws. A nut holder is welded to the handhole and includes a 1/2"-13 UNC hex head bolt and nut for grounding.

ANCHOR BASE
The anchor base is fabricated from structural quality hot carbon steel plate with minimum yield strength of 36 KSI. The base plate telescopes the pole shaft and is circumferentially welded on both top and bottom.

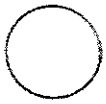
BASE COVER
A base cover completely covers the entire base plate and anchorage. The base cover is attached with provided hardware.

ANCHOR BOLTS
Anchor bolts are fabricated from a commercial quality hot rolled carbon steel bar with a minimum guaranteed yield strength of 50 KSI. Bolts have and "L" bend on one end and are threaded on the opposite end a minimum of 4 1/2". Anchor bolts are completely hot dipped galvanized a minimum length of 12" on the threaded end. Four (4) properly sized bolts, each furnished with two (2) regular hex nuts, two (2) flat washers and one (1) lock washer are provided per pole, unless otherwise specified.

FINISH
Poles are available with a TGIC powdercoat finish. Natural aluminum, bronze, black or white finishes are available as standard. Special colors are available.

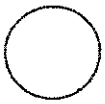
ROUND POLES

STRAIGHT ROUND ALUMINUM POLES



	CATALOG NUMBER PREFIX	POLE SIZE HEIGHT (feet)	BASE TENON HEIGHT (feet)	WALL THICKNESS (inches)	MAXIMUM* LUMINAIRE LOADING EPA (ft²) @100	@90	@80	ANCHOR BOLT DATA BOLT CIRCLE (inches)	CONDUIT OPENING (inches)	BOLT SIZE (inches)	MAX PROJ. (inches)
4"	RA4-10	10'	1.25	.135	7.0	9.0	11.7	7.00	2.25	1/2 X 18 X 4	3.0
	RA4-12	11'6"	1.25	.135	5.0	6.5	8.7	7.00	2.25	1/2 X 18 X 4	3.0
	RA4-15	14'11"	2	.135	3.3	4.8	6.7	7.00	2.25	1/2 X 18 X 4	3.0
	RA4-20L	19'11"	2	.135	–	1.5	2.3	7.00	2.25	1/2 X 18 X 4	3.0
	RA4-20M	19'11"	4	.135	1.1	2.3	3.3	7.00	2.25	5/8 X 18 X 3	3.0
	RA4-20H	19'11"	6	.135	2.0	3.1	4.4	7.00	2.25	5/8 X 18 X 3	3.0
5"	RA5-15	14'10"	2.5	.175	10.1	13.6	16.3	9.00	3.25	5/8 X 18 X 3	3.0
	RA5-18	17'9"	2.5	.175	6.2	8.2	11.2	9.00	3.25	5/8 X 18 X 3	3.0
	RA5-20	19'10"	2.5	.175	4.8	6.3	8.8	9.00	3.25	5/8 X 18 X 3	3.0
	RA5-25L	24'10"	2.5	.175	2.0	3.4	5.2	9.00	3.25	5/8 X 18 X 3	3.0
	RA5-25M	24'10"	4	.175	2.1	4.2	6.1	9.00	3.25	3/4 X 18 X 3	3.0
	RA5-25H	24'10"	7	.175	4.1	5.9	8.5	9.00	3.25	3/4 X 18 X 3	3.0
	RA5-28L	27'11"	2.5	.175	–	2.3	3.5	9.00	3.25	5/8 X 18 X 3	3.0
	RA5-28M	27'11"	4	.175	1.0	2.8	4.3	9.00	3.25	5/8 X 18 X 3	3.0
	RA5-28H	27'11"	7	.175	2.6	4.0	6.0	9.00	3.25	3/4 X 18 X 3	3.0
	RA5-30L	29'10"	2.5	.175	–	1.6	2.7	9.00	3.25	5/8 X 18 X 3	3.0
	RA5-30M	29'10"	4	.175	–	2.1	3.3	9.00	3.25	3/4 X 18 X 3	3.0
	RA5-30H	29'10"	7	.175	1.6	3.3	4.8	9.00	3.25	3/4 X 18 X 3	3.0

STRAIGHT ROUND STEEL POLES



3"	SRS-10-3.0	10'	3 X 10	.120	6.0	7.7	10.0	8.0	2.75	3/4 X 17 X 3	3.75
	SRS-15-3.0	15'	3 X 15	.120	2.3	3.2	4.6	8.0	2.75	3/4 X 17 X 3	3.75
	SRS-20-3.0	20'	3 X 20	.120	–	1.4	2.4	8.0	2.75	3/4 X 17 X 3	3.75
4"	SRS-10-4.0	10'	4 X 10	.120	12.2	15.0	19.1	8.0	3.75	3/4 X 17 X 3	3.75
	SRS-15-4.0	15'	4 X 15	.120	5.9	7.4	9.6	8.0	3.75	3/4 X 17 X 3	3.75
	SRS-20-4.0	20'	4 X 20	.120	3.5	4.4	6.0	8.0	3.75	3/4 X 17 X 3	3.75
	SRS-25-4.0	25'	4 X 25	.120	1.4	1.9	2.8	8.0	3.75	3/4 X 17 X 3	3.75
5"	SRS-20-5.0	20'	5 X 20	.120	7.0	9.1	11.7	8.0	4.75	3/4 X 17 X 3	3.75
	SRS-25-5.0	25'	5 X 25	.120	4.0	5.5	7.2	8.0	4.75	3/4 X 17 X 3	3.75
	SRS-30-5.0	30'	5 X 30	.120	2.0	3.0	4.2	8.0	4.75	3/4 X 17 X 3	3.75

Factory supplied template must be used when setting anchor bolts. Thomas Lighting will not honor any claim for incorrect anchorage placement resulting from failure to use factory supplied templates.

ALUMINUM POLE SPECIFICATIONS

POLE SHAFT
The pole shaft is one piece, 4" (RA4) or 5" (RA5) diameter or 4" (SSA4), 5" (SSA5) or 6" (SSA6) square, seamless 6000 series extruded aluminum cylindrical tubing. The shaft is heat treated to achieve a T6 temper with a guaranteed minimum yield strength of 31 KSI.

TOP CAP
Each pole assembly is provided with a removable cast aluminum pole top cap. The cap is secured with two (2) stainless steel allen head set screws.

HANDHOLE
The handhole has a nominal rectangular inside opening in the pole shaft and tenon assembly. Included is an aluminum cover plate with attachment screws. The handhole is located 180° with respect to the luminaire arm when viewed from the top of the pole for one arm. For two arms, the handhole is located directly under one arm.

BASE TENON ASSEMBLY
The tenon anchor base assembly consists of structural quality A53 carbon steel tubing welded to an A36 structural steel base with a guaranteed minimum yield strength of 36 KSI. The base tenon telescopes the pole shaft and is circumferentially welded on both top and bottom. The entire assembly is hot dipped galvanized after fabrication. Four (4) mechanically galvanized fasteners secure the shaft to the tenon assembly.

BASE COVER
A heavy wall spun (round) or fabricated (square) aluminum cover completely conceals the entire base plate and anchorage. The base cover is secured to the base assembly with provided hardware.

ANCHOR BOLTS
Anchor bolts are fabricated from a commercial quality hot rolled carbon steel bar with a minimum guaranteed yield strength of 50 KSI. Bolts have and "L" bend on one end and are threaded on the opposite end a minimum of 4 1/2". Anchor bolts are completely hot dipped galvanized. Four (4) properly sized bolts, each furnished with two (2) regular hex nuts, two (2) flat washers and one (1) lock washer are provided per pole, unless otherwise specified.

FINISH
Poles are available with a TGIC powdercoat finish. Natural aluminum, bronze black or white finishes are available as standard. Special colors are available.

CITY OF GREENFIELD
S. 76th ST. (LAYTON-EDGERTON)
STREET LIGHTING IMPROVEMENT

CONCEPT DIAGRAM

EXISTING LIGHTING

- 250 WATT SODIUM PRESSURE
- [illegible]
- [illegible]
- [illegible]

PROPOSED LIGHTING

- 250 WATT HIGH PRESSURE
- [illegible]
- [illegible]
- [illegible]

[illegible]

L24™, L28™, L60™ and **L61™** luminaires feature a one-piece hexagonal tapered cast-aluminum housing with six fully-gasketed tempered-glass or polycarbonate lenses. Their cast-aluminum hood and decorative finial, as well as their spun-copper cupola are secured to the top of the housing by two built-in hinges.

Mechanically assembled onto a decorative one-piece cast-aluminum yoke-mount pole-top adaptor, the housing of the **L24** features a base with glass lens.

The housing of the **L28, L60** and **L61** is mechanicaly assembled onto a cast-aluminum pole-top adaptor. The adaptor of the L28 model can accommodate a ballast up to 175W.

The L60 model is available with an optional luminous glow top (GT option) when used with an SG optical system.

Optical systems
These luminaires are available with a choice of optical systems including:

- an **RR** refractor,
- cut-off optics such as the **SE** which provides excellent optical performance with maximum light control,
- segmented **SG** (L60 only) cut-off optics set in triple-stage, multi-faceted arc-image duplicating patterns which provide excellent optical performance and light control,
- a **RACE** optical system which enhances the performance of the refractor with a segmented uplight recovery dome for hyper-extensive pole spacings.

Ease of maintenance
All luminaires are fitted with hoods that can be opened thanks to a captive screw.

As well, all feature a unitized ballast assembly with quick-disconnect terminals. For greater ease of maintenance, this assembly is either integrated into the housings or remote in the mounting or pole base, depending on the optics and lamp wattage (see lamp guide chart).

Lumital surface treatment
All luminaires, mountings and poles are protected by the **Lumital™** surface treatment, which involves the chemical treatment of all surfaces prior to the application of a coating of polyester-based textured powder for superior resistance.

Printed in Canada.

Luminaire

The **L24™** luminaire consists of a one-piece cast-aluminum tapered hexagonal housing with six lenses on the side and one on the bottom as well as a decorative cast-aluminum hood and finial with spun-copper cupola. Its housing is mechanically assembled to a decorative cast-aluminum yoke-mount pole adaptor.

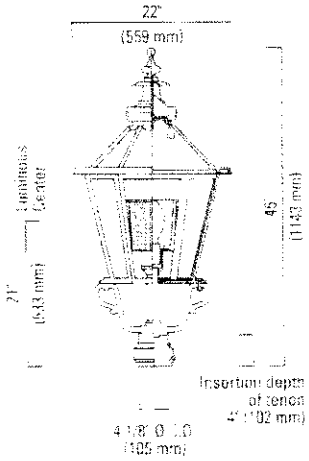
Though also similar to the L24 model, **L28™, L60™** and **L61™** luminaires are mechanically assembled to a different decorative cast-aluminum pole adaptor. The base of the L28 can accommodate a 175W ballast.

The L60 is available with an optional luminous glow top (option GT) when used with an SG optical system.

L24, L28, L60 and L61 luminaires are UL and CSA approved.

These lanterns are available with the following lens finishes:

PCC:	Clear Polycarbonate	**GLC:**	Clear Tempered Glass
PCO:	Opal Polycarbonate	**GLBR:**	Bronze Tempered Glass
PCBR:	Bronze Polycarbonate	**GLCBG:**	Clear Bevelled Tempered Glass
PCFC:	Frosted Clear Polycarbonate	**GLBRBG:**	Bronze Bevelled Tempered Glass



EPA: 2.17 sq.ft.
Weight: 37 lbs (16.8 kg)

L24-RR

Lamp Guide

Wattage	L24 RR	L24 SE/RACE	L28/L61 RR	L28/L61 SE/RACE	L60 RR	L60 SE/SG/RACE
70 MH	●	●	—	●	—	●
100 MH	●	●	—	●	—	●
175 MH	●	●	—	●	—	●
250 MH*	■	●	■	●	■	●
35 HPS	●	●	—	●	—	●
50 HPS	●	●	—	●	—	●
70 HPS	●	●	—	●	—	●
100 HPS	●	●	—	●	—	●
150 HPS	●	●	—	●	—	●
250 HPS*	■	●	■	●	■	●

● *Remote ballast in mounting or pole base.*
■ *Not available.*
* *Tempered-glass lenses are required with these wattages.*

L24™, L28™, L60™ and **L61™** series luminaires accommodate H.I.D. or incandescent lamps as shown in the above table.

The UL or CSA-recognized CWA-type ballast features a -30F° (-34C°) lamp-starting capacity, a power factor of 90% or better and a regulation of lamp within ±10% of rated input voltage. HPS ballasts operate within ANSI trapezoidal limits.

The luminaire's hood pivots along one of the edges of the housing to permit easy access to the lamp and/or ballast.

The ballast is integrated in the hood of the luminaire, on a unitized ballast tray or is remote in the mounting of the pole base.

Optical Systems

RR optics
Round borosilicate refractor

RR5:	Symmetrical (V)
RR3:	Asymmetrical (III)
RR3D:	Asymmetrical (III) with deflector

SE optics
Hydro-formed cut-off reflector system set in faceted arc-image duplicating patterns

SE5:	Symmetrical (V)
SE4:	Asymmetrical (IV)
SE3:	Asymmetrical (III)

SG optics (L60 only)
Segmented cut-off reflector system set in faceted arc-image duplicating patterns

SG0:	Symmetrical (V)
SG3:	Asymmetrical (III)
SG2:	Asymmetrical (II)
SG1:	Asymmetrical (I)
SGFM:	Forward Throw

RACE optics
Round acrylic (100W max.) or borosilicate (150 to 250 W) refractor with segmented uplight recovery dome

RACE5:	Symmetrical (V)
RACE3:	Asymmetrical (III)
RACE3D:	Asymmetrical (III) with deflector

Other optical systems available

LN:	Nickel-plated louvers
LB:	Bronze-plated louvers
LMP:	Lamp without optical system

(Lamps not included)

For further information, refer to the Photometric Guide.

Mountings

CR

Arms are made of a 2" x 4" (51 x 102 mm) aluminum extrusion. The **CR** luminaire support is a 4" (102 mm) round aluminum extrusion.

CRA

The **CRA** mounting consists of a decorative cast-aluminum arm welded to a rectangular 1" x 2" (25 x 51 mm) aluminum extrusion.

CRC

The **CRC** is made of a cast-aluminum arm welded to a rectangular 1" x 2" (25 x 51 mm) aluminum extrusion.

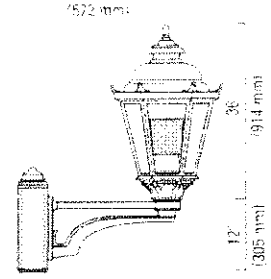
CRD

The **CRD** downward mounting is made of a one-piece cast-aluminum arm.

CRE

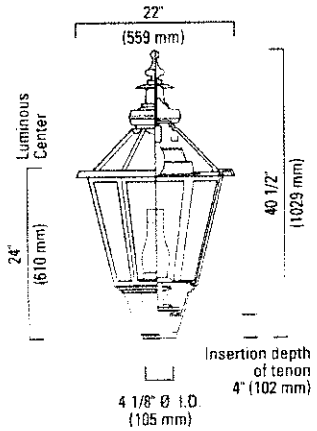
The **CRE** is a highly-decorative mounting made of a one-piece cast-aluminum arm.

L60-CRC1A
L60 on CRC1A mounting



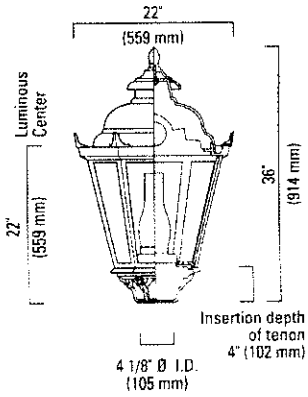
Ordering Sample

Lamp	Luminaire	Optical System	Voltage	Mounting & Configuration	Pole	Finish	Options
100 HPS	L24-GLC	RR	120V	CRC-2	RBC-15	GN-TX	FS



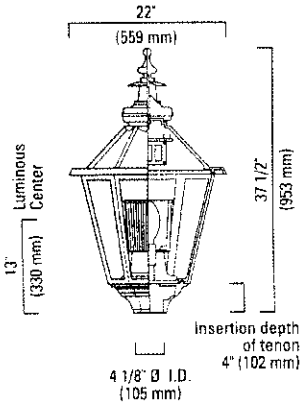
EPA: 2.90 sq.ft.
Weight: 54 lbs (24.5 kg)

L28-SE



EPA: 2.95 sq.ft.
Weight: 40 lbs (18.1 kg)

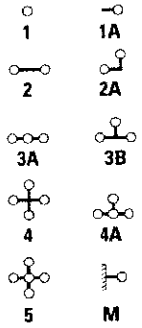
L60-SG-GT



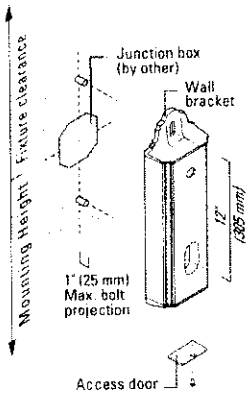
EPA: 2.95 sq.ft.
Weight: 49 lbs (22.2 kg)

L61-RR

Configurations

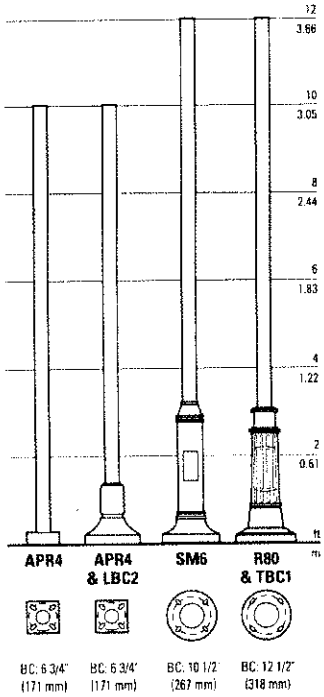


Typical traditional wall mounting detail



Consult the Pole Guide for details.

Poles



Consult the Pole Guide for details and the complete line of poles.

Finishes

16 Standard Colors Available

The specially-formulated textured (TX) Lumital powder coat is available in a range of 16 standard colors. This unique coating of thermosetting polyester resins provides a highly-durable UV-resistant exterior finish as per ASTM G7.

Lumital coatings are specially formulated for outstanding salt-spray resistance according to ASTM B117 standards.

All surfaces are chemically treated using a four-step (aluminum) or seven-step (steel) process prior to painting. Consult Lumec for complete specifications.

SCL Special Color (liquid)
SCP Special Color (powder)
Provide a 4" (102 mm) square color chip.

It is possible to order smaller minimal quantities of powder paint at a premium. Your representative will be able to tell you if a powder coat paint can be developed for your project.

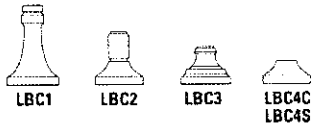
Please note that where quantities do not warrant it, Lumec reserves the right to use an oven-cured liquid polyurethane finish.

Options

FS	Luminaire integrated fuse
GT	Glow top (For L60 only)
HS	House shield (For SE and SG optics only)
HB	Hinged base (APR4 & APS4 poles only)
DR*	Duplex receptacle (120 volts only)
GFI*	Duplex receptacle with ground fault interrupter (120 volts only)
PH	Photoelectric cell
LS*	Provision for loudspeaker outlet
BA*	Banner arm
IP	Interior paint (pole only, consult factory for applicable poles)
LBC	Optional base cover

* *Consult factory for feasibility with cast-aluminum shafts.*

Base covers for APR4 & SPR4 poles only (replace standard base cover).



At Lumec, blueprints have long since given way to functional reality and the performance of our products is proven and documented.

The following drawings illustrate a few of the many variations offered. All of these luminaires unless noted accept lamps of up to 175 watts. Should you wish to mix and match these components please contact our representative regarding feasibility.

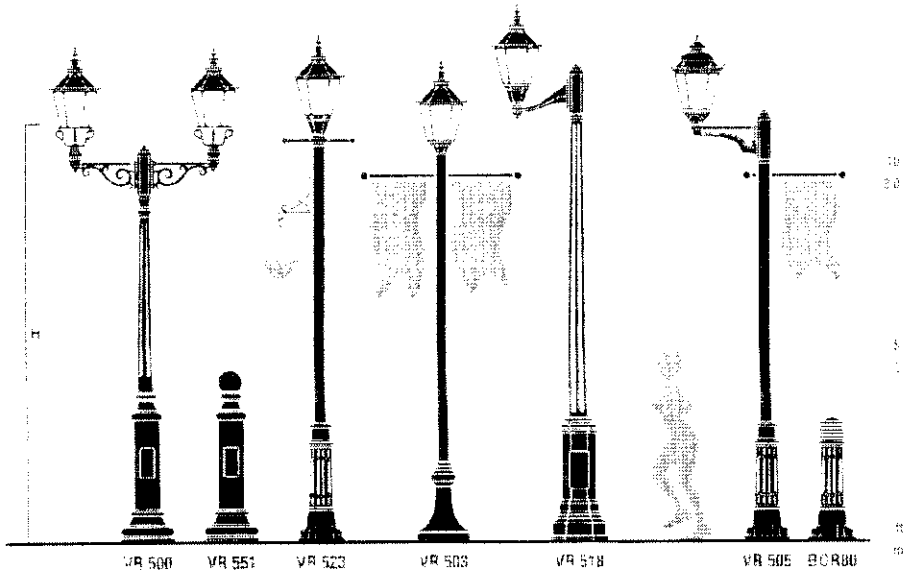
VR numbers describe illustrated ballast housing, bracket, pole, base cover and configuration.

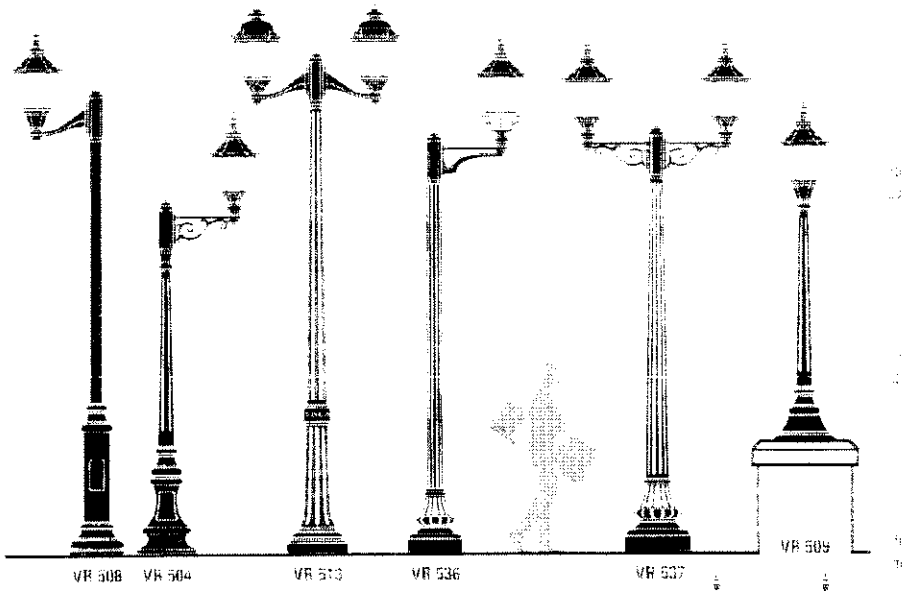
When ordering Verselux luminaires, use a unique number substituting VR number for ballast, bracket and pole number.

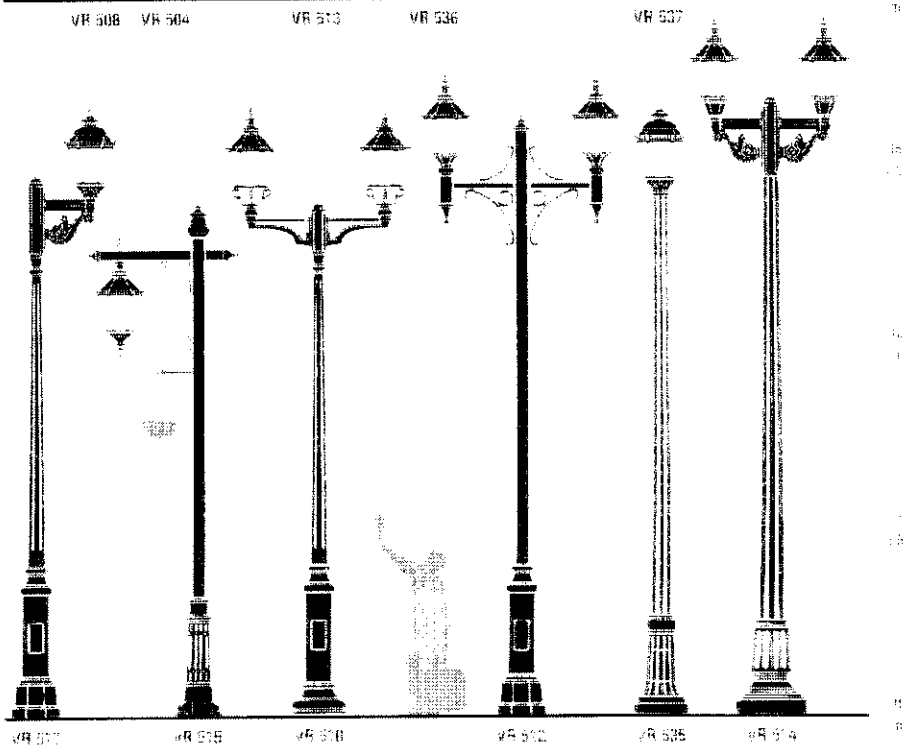
The mounting height of the luminaire is indicated by identifying the height in feet, of the light source above the ground. For a cluster, refer to the lowest source of the assembly.

An original concept can also be developed in cooperation with our technical services department.

Banners are not included with Banner Arms
Flower baskets are not included with hangers.







To achieve a high level of customer satisfaction, Lumec designs and manufactures products according to the most stringent standards.

ISO 9002 Registered

The quality management system of Lumec is ISO 9002-94 registered with QMI.

640 Curé-Boivin
Boisbriand, Quebec
Canada, J7C 2A7

Tel: (514) 430-7040
Fax: (514) 430-1453
As of the end 1998 the area code will be 450.

Domus Series

DMS10™, DMS20™, DMS30™ and DMS40™

DMS10™, DMS20™, DMS30™ and **DMS40™** models in the Domus series of luminaires feature a spun and cast-aluminum housing fitted with a large or small cast-aluminum mounting adaptor/heat sink as well as a flat or bell-shaped spun-aluminum skirt.

DMS10 and DMS30 luminaires can be fitted with a decorative luminous dome (**LD**) or optional luminous ring (**LR**) for greater nighttime presence and visual effect.

Optical systems
These luminaires are equipped with **SG** segmented cut-off reflectors set in triple-stage, multifaceted arc-image duplicating patterns. Developed for maximum light control, these systems deliver outstanding optical performance and application versatility.

Ease of maintenance
Units in this series feature a lens assembly consisting of a tempered glass lens and corrosion-resistant hardware along with memory-retentive silicone gasket which extends the lifespan of the components by weatherproofing the optical and electrical chamber.

The lens assembly is secured by two captive quarter-turn screws and pivots to allow easy access to the lamp and/or ballast.

A unitized ballast tray with quick-disconnect terminals is integrated into the housing of the luminaires for ease of maintenance (see lamp guide for maximum wattage).

Lumital Surface treatment
All luminaires, mountings and poles are protected by the **Lumital™** surface treatment, which involves the chemical treatment of all surfaces prior to the application of a coating of polyester-base textured powder for superior resistance.

Luminaire

The **DMS10** luminaire consists of a spun and cast-aluminum exterior housing with large built-in cast-aluminum mounting adaptor/heat sink and flat, spun-aluminum skirt.

It can accommodate ballasts up to 400W. When used with a decorative luminous ring (**LR** option) or luminous dome (**LD** option) the 250W or 400W ballasts must be remote in the mounting or pole base.

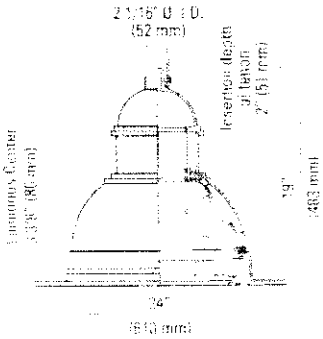
The lens assembly, that has silicone gaskets along the lens and frame, keeps the housing watertight and is secured by two quarter-turn captive screws. The lens pivots, providing easy access to the lamp and/or ballast.

Similar to the DMS10, the **DMS30** is distinguished by its bell-shaped spun-aluminum skirt.

The **DMS20**, on the other hand, features a smaller mounting adaptor than the DMS10, accepts ballasts of no more than 175W and is not available with the LD and LR options.

The **DMS40** is similar to the DMS30 except for its smaller mounting adaptor. It accepts ballast up to 175W or [illegible] and is not available with the LD and LR options.

***DMS10, DMS20, DMS30** and **DMS40** luminaires are UL and CSA approved.*



EPA 1.00 sq.ft.
Weight 40 lbs (18.1 kg)

DMS10

Lamp Guide

Wattage Options	DMS10/30	DMS20/40 DMS10/30 LD/LR
70 MH	—	—
100 MH	—	—
175 MH	—	—
250 MH	—	●
400 MH*	—	●
35 HPS	—	—
50 HPS	—	—
70 HPS	—	—
100 HPS	—	—
150 HPS	—	—
250 HPS	—	●
400 HPS*		●

Remote ballast is recommended or required.
* *Consult factory as the wattage requires a remote ballast in a specified pole base. 400 MH must use a pulse start lamp.*

DMS10™, DMS20™, DMS30™ and **DMS40™** luminaires accommodate H.I.D. or incandescent lamps as shown in the above table.

The UL or CSA-recognized DWA-type ballast features a -30F (-34C) lamp-starting capacity, a power factor of 90% or better and a regulation of lamp within ±10% of rated input voltage. HPS ballasts operate within ANSI trapezoidal limits.

The luminaire's lens frame, secured by two captive quarter-turn screws, pivots along an hinge to permit easy lamp and/or ballast access.

The ballast is integrated in the hood of the luminaire, on a unitized ballast tray, or is remote in the mounting or the pole base.

Optical Systems

SG optics
Segmented cut-off reflector system set in faceted arc-image duplicating patterns.

SG1: Asymmetrical (I)

SG2: Asymmetrical (II)

SG3: Asymmetrical (III)

SGQ: Symmetrical (V)

SGFM: Forward-throw

(Clear lamps not included)

SE optics
Small hydro-formed cut-off reflector system set in faceted arc-image duplicating patterns are also available in type III, IV and V distributions. Please consult factory for details.

For further information, refer to the Photometric Guide.

Mountings

IF

A 180° bent section of extruded aluminum 2 3/8" (60 mm) O.D., mechanically assembled to the side of a pole.
- Accepts no ballast.

LM

A 180° bent section of extruded aluminum 2 3/8" (60 mm) O.D., welded to a cast-aluminum pole adaptor and a flat rolled aluminum spiral.
- 2 ballasts, max. 175W.

MM

A 2 3/8" (60 mm) round aluminum arm welded to a 4 1/2" (114 mm) O.D. pole adaptor. The mounting is complete with two bent decorative rods, spheres and a cast-aluminum luminaire adaptor.
- 2 ballasts, max. 175W.

NM

A 180° bent section of extruded aluminum 2 3/8" (60 mm) O.D., with cast-aluminum decorative spirals, and a pole adaptor. The mounting slip fits into a 4" (102 mm) pole.
- Accepts no ballast.

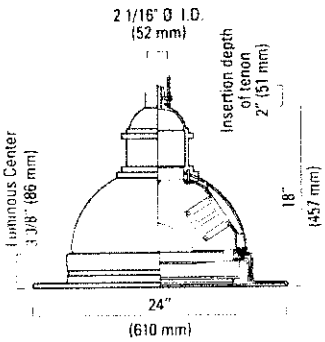
OM

Two straight 1 5/8" (41 mm) O.D. aluminum side-arms welded to a 4" (102 mm) round aluminum pole adaptor and to a cast-aluminum luminaire adaptor.
- 2 ballasts, max. 100W.

Ordering Sample

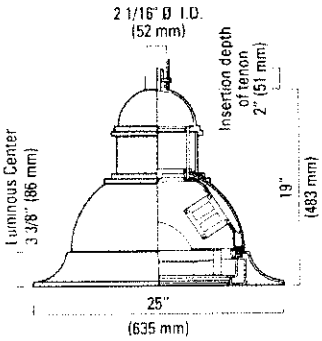
Lamp	Luminaire	Optical System	Voltage	Mounting & Configuration	Pole	Finish	Options
100 HPS	DMS20	SG2	120V	IF-1A	980-15	BN-RX	FS-LD

Printed in Canada.



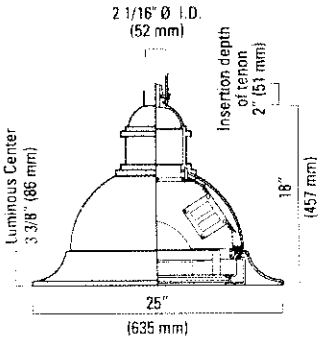
EPA : 0.87 sq.ft.
Weight : 36 lbs (16.3 kg)

DMS20



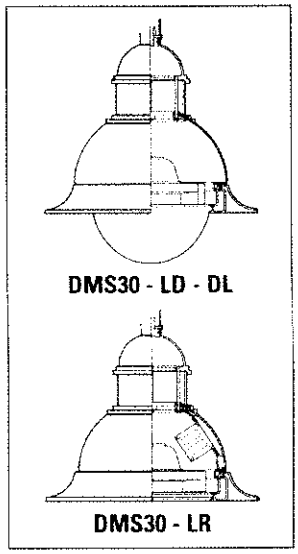
EPA : 1.00 sq.ft.
Weight : 40 lbs (18.1 kg)

DMS30



EPA : 0.87 sq.ft.
Weight : 36 lbs (16.3 kg)

DMS40



Mountings

PM

A 90° bent section of extruded aluminum, 2 3/8" (60 mm) O.D., welded to two 1" (25 mm) extruded aluminum arms, two decorative adaptors and a 4" (102 mm) round pole adaptor.

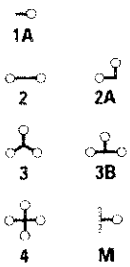
- 2 ballasts, max. 100W.

RM

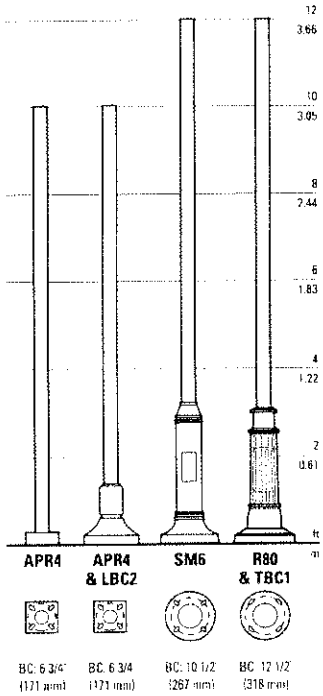
A 2 3/8" (60 mm) O.D. aluminum arm welded to a 4" (102 mm) round pole adaptor and a cast-aluminum luminaire adaptor, with decorative half-sphere. A structural 1/2" (13 mm) rod is welded to the arm and pole adaptor.

- 2 ballasts, max. 100W.

Configurations



Poles



Consult the Pole Guide for details and the complete line of poles.

Finishes

16 Standard Colors Available

The specially-formulated textured (TX) or non-textured Lumital powder coat is available in a range of 16 standard colors. This unique coating of thermo-setting polyester resins provides a highly-durable UV-resistant exterior finish as per ASTM G7.

Lumital coatings are specially formulated for outstanding salt-spray resistance according to ASTM B117 standards.

All surfaces are chemically treated using a four-step (aluminum) or seven-step (steel) process prior to painting. Consult Lumec for complete specifications.

SCL Special Color (liquid)
SCP Special Color (powder)
Provide a 4" (102 mm) square color chip.

It is possible to order smaller minimal quantities of powder paint at a premium. Your representative will be able to tell you if a powder coat paint can be developed for your project.

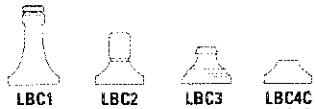
Please note that where quantities do not warrant it, Lumec reserves the right to use an oven-cured liquid polyurethane finish.

Options

FS	Luminaire integrated fuse
HS	House shield
DL	Polycarbonate drop lens
LD	Luminous dome (DMS10 and 30 only)
LR	Luminous ring (DMS10 and 30 only)
HB	Hinged base (APR4 & APS4 poles only)
DR*	Duplex receptacle (120 volts only)
GFI*	Duplex receptacle with ground fault interrupter (120 volts only)
PH	Photoelectric cell
LS*	Provision for loudspeaker outlet
BA*	Banner arm
IP	Interior paint (pole only, consult factory for applicable poles)
LBC	Optional base cover

* *Consult factory for feasibility with cast-aluminum shafts.*

Base cover for APR4 & SPR4 poles only (replace standard base cover).



LBC1 **LBC2** **LBC3** **LBC4C** **LBC4S**

At Lumec, blueprints have long since given way to functional reality and the performance of our products is proven and guaranteed.

The following drawings illustrate a few of the many versions offered. All of these luminaires are equipped with [illegible] sockets [illegible] to 250 watts [illegible] wish to interchange these components please contact our representative regarding feasibility.

VR numbers describe illustrated pattern housing, bracket, pole, base cover and configuration.

When ordering Verdaux luminaires, use the proper number identifying the VR number, the pattern of housing and bracket and pole number.

The distinctive height of the luminaire is indicated by identifying the height, in feet, of the light source above the ground. This is indicated. Height is the overall height of the luminaire.

[illegible] given concept can not be developed in cooperation with our technical services department.

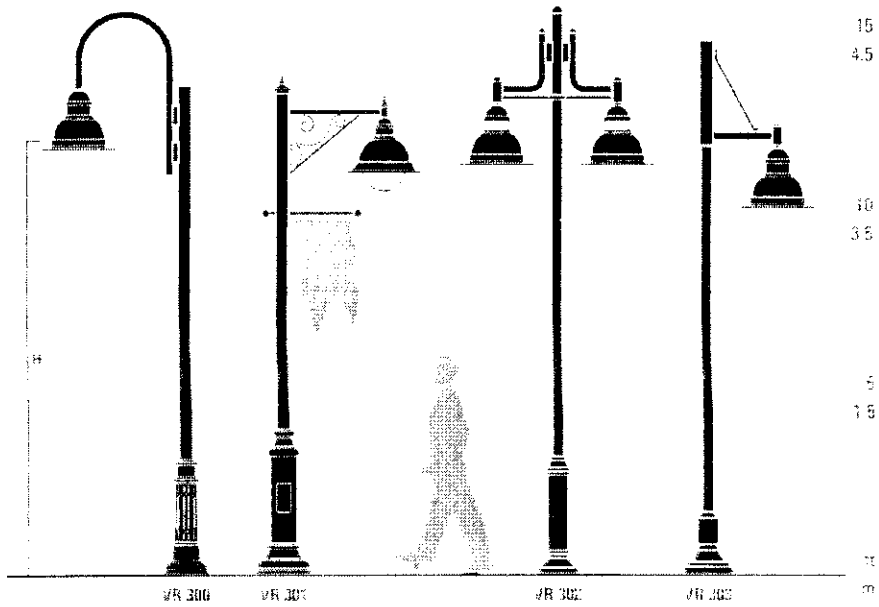
Banners are not included with Banners Arms.
Flower baskets are not included with hangers.

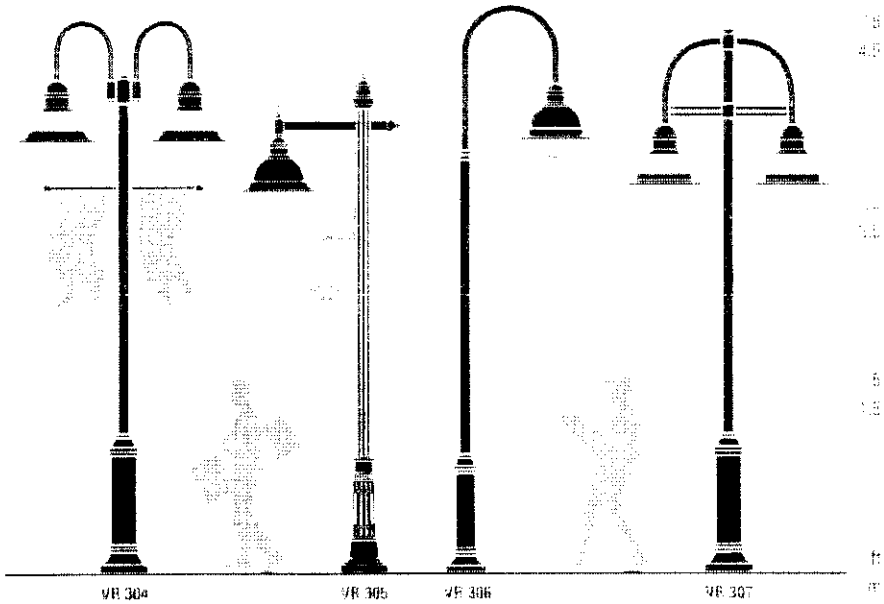
To achieve a high level of customer satisfaction, Lumec designs and manufactures products according to the most stringent standards.

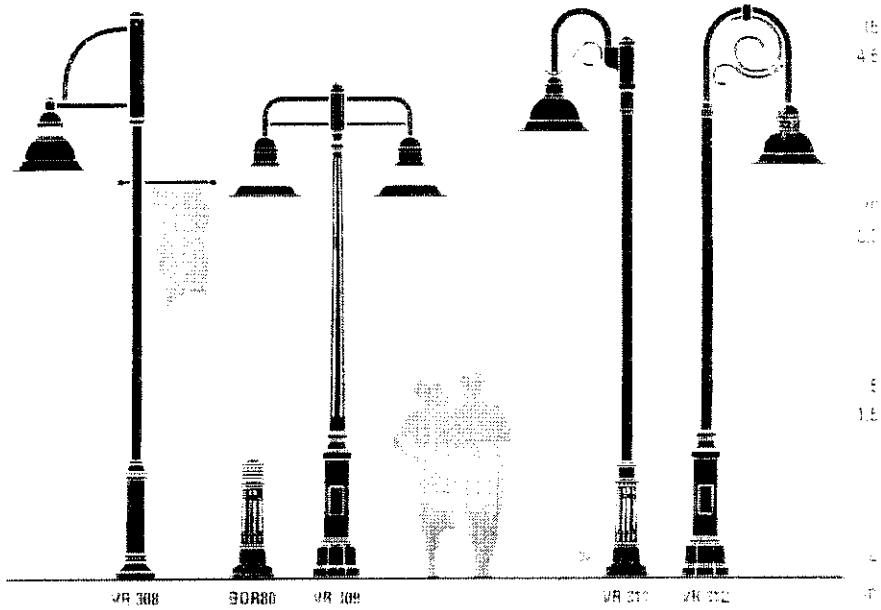
ISO 9002

The quality management system of Lumec is registered to ISO 9002-94.

[illegible]
[illegible]
Canada [illegible]
Tel: (514) 430-7040
Fax: (514) 430-1452







CITY OF GREENFIELD
74TH & BARNARD
STREET LIGHTING IMPROVEMENT

CONCEPT DIAGRAM

EXISTING LIGHTING

- 150 WATT HIGH PRESSURE SODIUM
- 35 FOOT MOUNT HEIGHT
- TRADITIONAL STYLE

PROPOSED LIGHTING

- 150 WATT HIGH PRESSURE SODIUM
- 25 FOOT MOUNT HEIGHT
- DECORATIVE STYLE

DIVISION 21.06.0400 LIGHTING

21.06.0401 EXTERIOR LIGHTING STANDARDS.

Exterior lighting shall meet one (1) of the following standards:

A. REQUIREMENTS FOR THE USE OF NO CUT-OFF TYPE LUMINAIRES. When a light source or luminaire has no cut-off type luminaire (see Figure 21.06.0401(A)), the maximum permitted illumination and the maximum permitted luminaire height shall be as set forth in Table 21.06.0401(A).

Table 21.06.0401(A)

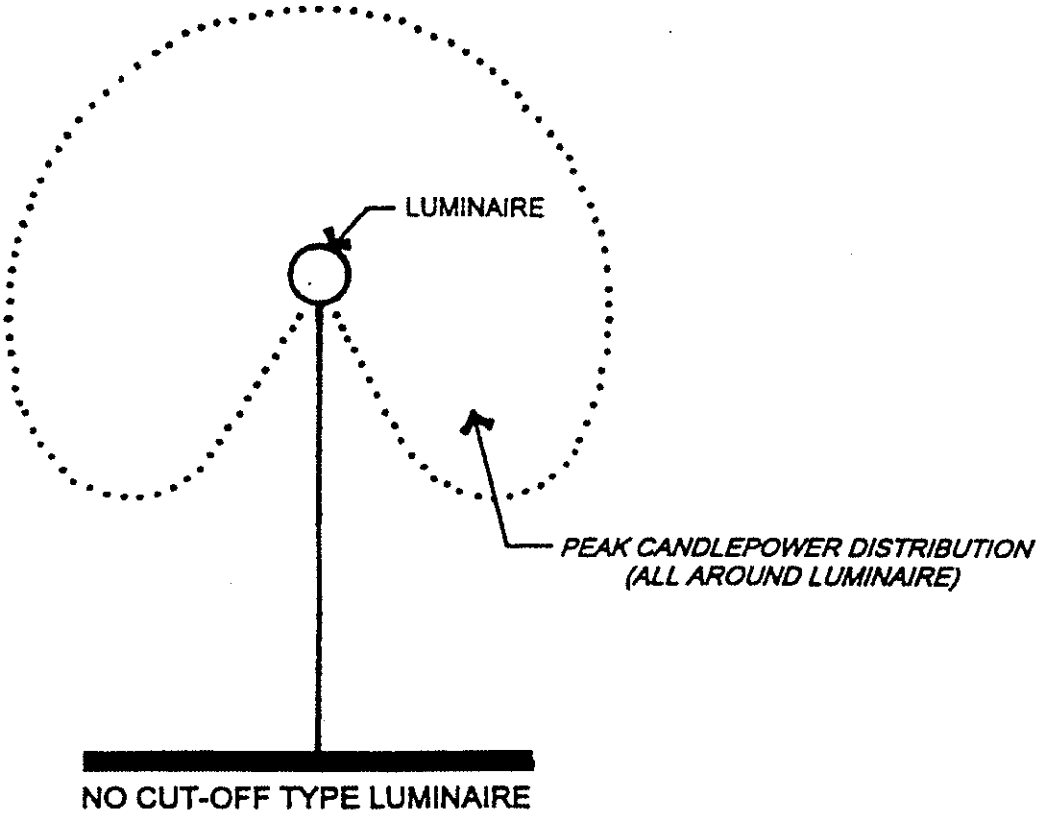
REQUIREMENTS FOR THE USE OF NO CUT-OFF TYPE LUMINAIRES (a)

Zoning District	*Maximum Permitted Illumination (a) (footcandles)*	*Maximum Permitted Luminaire Height (feet)*
R-1, R-2, R-2A, R-3, R-3A, R-4, R-4A, R-4B Residential Districts	0.20 (b)	10 (b)
All Other Districts	Not Permitted	Not Permitted
City Required Street Lights in All Districts	Per City of Greenfield Requirements and Specifications (Section 21.06.0404 of this Code)	Per City of Greenfield Requirements and Specifications (Section 21.06.0404 of this Code)

(a) These standards do not address illumination levels or fixture height that may be required by the City of Greenfield for the adequate lighting of public street rights-of-way. These represent maximum illumination levels on private property.

(b) Any no cut-off luminaire which does not meet the requirements of this Table requires Plan Commission review and approval.

Figure 21.06.0401(A)
NO CUT-OFF TYPE LUMINAIRE



B. REQUIREMENTS FOR TOTAL CUT-OFF TYPE LUMINAIRES (WITH ANGLE LESS THAN 90 DEGREES). When a luminaire has total cut-off of light at an angle less than ninety (90) degrees and is located so that the bare light bulb, lamp, or light source is completely shielded from the direct view of an observer five (5) feet above the ground at the point where the cut-off angle intersects the ground (see Figure 21.06.0401(B)), then the maximum permitted illumination and the maximum permitted height of the luminaire shall be as set forth in Table 21.06.0401(B). Ground level building and sign lighting shall be reviewed and approved by the Plan Commission.

Table 21.06.0401(B)

REQUIREMENTS FOR THE USE OF CUT-OFF TYPE LUMINAIRES WITH ANGLE LESS THAN 90 DEGREES (a,c,d,e)

Zoning District	*Maximum Permitted Illumination (a) (footcandles)*	*Maximum Permitted Luminaire Height (feet)*
R-1, R-2, R-2A, R-3, R-3A, R-4, R-4A, R-4B Residential Districts	0.8	15
MFR-1, MFR-2, MFR-3 Districts	1.0	15
C-1 District	2.0	20
All Other Districts	4.0 (b)	20 (b)
City Required Street Lights in All Districts	Per City of Greenfield Requirements and Specifications (Section 21.06.0404 of this Code)	Per City of Greenfield Requirements and Specifications (Section 21.06.0404 of this Code)

(a) These standards do not address illumination levels or fixture height that may be required by the City of Greenfield for the adequate lighting of public street rights-of-way. These represent maximum illumination levels on private property.

(b) See Section 21.06.0403 for lighting standards for outdoor recreational facilities in the PR Park and Recreation District.

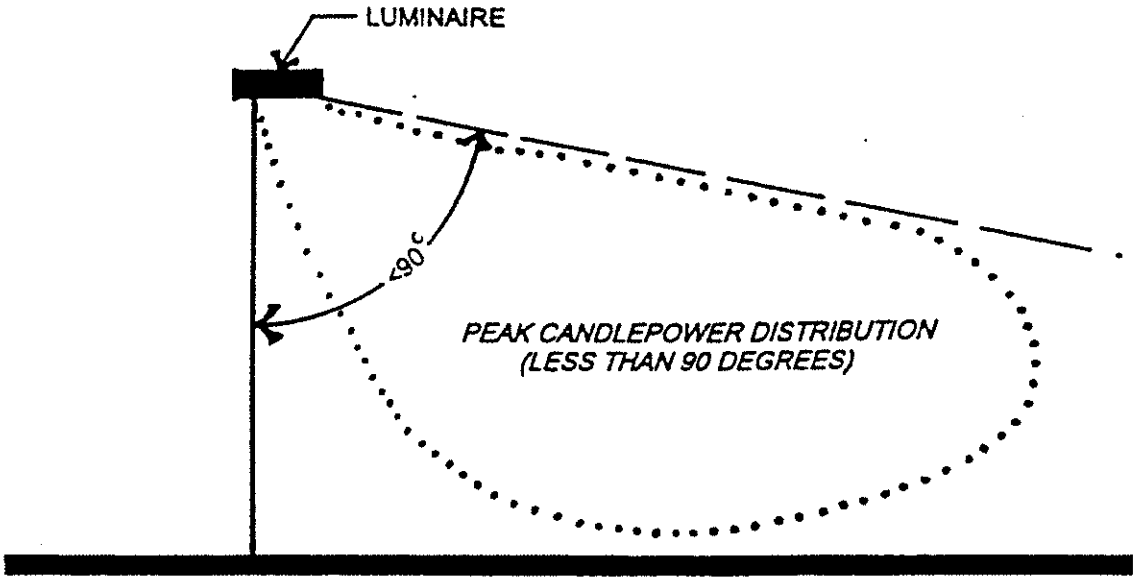
(c) Not greater than the height of the building.

(d) A commercial property abutting a residential district shall have lighting luminaire heights approved by the Plan Commission.

(e) Light source within fifty (50) feet of a residential district shall not exceed twelve (12) feet in height.

Figure 21.06.0401(B)

CUT-OFF TYPE LUMINAIRES
WITH ANGLE LESS THAN 90 DEGREES



TOTAL CUT-OFF TYPE LUMINAIRE WITH ANGLE LESS THAN 90 DEGREES

(8) STREET LIGHTS. The developer shall provide street lights at intersections, and such other locations within the subdivision as required by the Plan Commission, in conformity with a street lighting plan as provided by Wisconsin Electric Power Company. Cost of the light installation shall be paid by the developer. Operational cost will be paid by the City.

21.06.0404 STREET LIGHTING.

Street lighting shall conform to the standards set forth by the State of Wisconsin for State Trunk Highways, Milwaukee County for County Trunk Highways, and the City of Greenfield for City streets and highways.

14. Planning and Economic Development Director Report.

a) Consider making a recommendation to the Board of Public Works regarding the design of the street lighting fixtures used on the Layton Avenue reconstruction project (84th Street to 108th Street)

Discuss street lighting fixtures

Planning Commission members received information showing a variety of styles of street lighting. They agreed that the lighting should be down lighting and that the City no longer use low pressure sodium lights.

Mr. Erickson said that at this time the recommendation for the street lighting would be for the Layton Avenue project. Mr. Kinnick said that the style of lighting would determine the spacing. He said that on a divided highway you can have a combination of down lighting and decorative lighting, but you can't just have decorative lighting on such a wide street.

Mayor Seider said that on West Layton Avenue he would think that it would be most appropriate to have the down lighting in the median and have either the Gullwing or Shoe Box style. There was further discussion on different lighting types.

Moved by Mayor Seider, seconded by Mr. Smith, to recommend to the Board of Public Works that the Gullwing fixture be the first choice with the Shoe Box as the second choice for the street lighting fixtures to be used on the West Layton Avenue reconstruction project (South 84th Street to South 108th Street). On a roll call vote the motion carried unanimously.

Rec. to Bd. of Public Works Gullwing #1 and Shoebox #2 for W. Layton Ave.

15 B. Discussion and decision relative to determining lighting specifications and electric wire relocation for West Layton Avenue (C.T.H. 'Y') from South 84th Street to South 108th Street (S.T.H. '100'), Project 1998 #1 (BPW 1/14/99; 2/8/99; PC 2/23/99; 3/9/99)(Dist. 3 & 4). Mr. Kinnick stated the Planning Commission's first choice was the gullwing and the second choice was the shoebox. Mr. Kinnick stated the proposal is to have the lighting in the median, they would be down lights on standard aluminum poles since if some time in the future the area east is relamped, they could put the gullwing fixture on the same poles.

Determine Street lighting standards W. Layton Ave., S. 84th/S. 108th Project 1998 #1

It was moved by Alderman Ochnikowski, seconded by Mrs. Meyer, to accept the Planning Commission's recommendation for the gullwing fixture using aluminum poles down the median on West Layton Avenue, South 84th Street to South 108th Street, Project 1998 #1 and to accept the gullwing fixture as the city's street lighting standard all major streets.

Rec. Gullwing Fixture/aluminum poles in W. Layton S. 84th/S. 108th Project 1998 #1 . as city standard on major streets Motion carried

Under discussion, Alderman Badem questioned if this fixture met the City's street lighting standard and if the Board wanted to adopt the gullwing fixture for future use on all major roads.

Mr. Kinnick stated the city has to have plans to Milwaukee County by April 15; therefore, they will proceed based on using the gullwing fixtures on aluminum poles using standardized lighting but the lighting will be reduced somewhat from commercial areas since this is a residential area.

Mr. Kinnick stated if the Board adopts the gullwing as the standard that could be addressed when another reconstruction project or lighting project comes to the Board for approval of the plans.

Alderman Badem stated this is only one standard, they had discussed possibly having two standards for business and two for residential.

Motion carried unanimously.

Item #15B Accept Plan Commission's recommendation for the gullwing fixture using aluminum poles down the median on West Layton Avenue, South 84th Street to South 108th Street, Project 1998 #1 and to accept the gullwing fixture as the City's street lighting standard on all major streets

Use gullwing fixture on Layton Ave. median, Proj. 1998 #1/street lighting standard

Motion carried unanimously.

CITY OF Greenfield
Pledged to Progress

June 26, 2000

Mr. William H. Kobs
Wisconsin Electric
7815 Northwestern Avenue
Racine, WI 53406

Re: City Street Light Standards
WEPCO Lights

Dear Mr. Kobs:

The City of Greenfield has adopted standards for Wisconsin Electric street lights on City streets where no municipal street lighting system exists. Those standards are as follow:

1) Existing streets with a rural cross-section having no curb and gutter:

100 watt HPS light with a full cut-off Cobra fixture on a 30 foot wooden pole (overhead or underground service dependent on location)

2) Existing or new streets with an urban cross-section having curb and gutter:

100 watt HPS light with an Acorn fixture on a 15 foot Washington pole or a Coachlight fixture on a 15 foot black fiberglass pole (smooth/direct buried) with underground service

These standards were approved and adopted by the City of Greenfield Board of Public Works (7/1/99) and Common Council (7/20/99). Copies of the respective minutes are enclosed.

Should you have any questions on this matter, please contact me at 414-329-5322.

Sincerely,

CITY OF GREENFIELD

R. Daniel Kinnick, P. E.
Assistant City Engineer

RDK:dm
cc: Ronald Marusich, WEPCO
Rick Sokol, DPW

14. Discussion and decision relative to Wisconsin Electric Power Company ornamental street lighting on residential streets (BPW 12//14/98; 1/4/99;2/8/99; PC 2/23/98; BPW 3/4/99; 4/1/99; 6/3/99). Mr. Kinnick stated he met with Mr. Vandermeuse regarding charges for various type lighting fixtures. Mr. Kinnick stated there are so many variables with regard to the ongoing cost but it is always 1/2 % of whatever the installation costs are.

Discuss WEPCO ornamental street lights/residential streets

There was further discussion relative to the type lighting the city should have on residential streets which are maintained by the Wisconsin Electric Power Company. Mr. Kinnick stated at some point in the future when WEPCO is changing lights in a subdivision, that might be the time to replace and upgrade from the wooden pole and cobra fixture to the city's new standard residential street light.

It was moved by Alderman Neitzke, seconded by Alderman Dixon, to recommend the Acorn fixture/Washington pole and Coachlight fixture/smooth fiberglass pole as the city's standard Wisconsin Electric Power Company ornamental street lighting on new and existing curb and gutter cross-section streets. On a roll call vote, motion carried with Mr. Slosiarek voting no.

Acorn/Washington Coachlight/smooth fiberglass pole a city's std. WEPCO ornamental street light, new/existing curb & gutter sts.

12. Board of Public Works Meeting held July 1, 1999

Bd. of Pub. Wrks. 7/1/99

It was moved by Alderperson Dixon, seconded by Alderperson Almquist, to approve the following:

Item #14 Acorn fixture/Washington pole and Coachlight fixture/ smooth fiberglass pole as the City's standard Wisconsin Electric Power Company ornamental street lighting on new and existing curb and gutter cross-section streets

City's standard WEPCO ornamental street lighting

On a roll call vote, the motion carried unanimously.

The problem of ingress and egress through the development has been the focus of many discussions. It was determined that there be only one ingress/egress through the Fountainview development. Mayor Seider stated there will not be a devaluation of property in the area during construction. The developers agreement will require that there are specific guarantees in place as to the precondition and postcondition of the road as well as the future maintenance. The construction damage to the road will be repaired by the contractor. There are noise ordinances that the contractors would have to adhere to and any debris, dust and dirt will be addressed in the developers agreement.

Mr. Jablonski added that when cars are parked on the road it is difficult for another car to get through.

Mayor Seider said it is a private street and the condo associations can restrict parking on one side if they so choose. He indicated there are no plans for the reconstruction of the roads unless damaged by the contractor.

It was moved by Alderperson Almquist, seconded by Alderperson Dixon, to close the public hearing. Motion carried unanimously. — Close public hearing

After further discussion, Mayor Seider indicated a decision on this item is to be placed on the next Common Council agenda. — Decision NEXT AGENDA

8. Continuation of public hearing to rezone properties located along South 76th Street from West Coldspring Road to the north City limits, Tax Key Nos. 570-8952-002, 570-8952-003, 570-8955-002, 570-8956-001, 570-8957, 570-8960-001, Part of 570-8986, 571-8984-004, 571-8984-005, 571-8984-006, 571-8997 and Part of 571-8998 from C-3 Commercial and C-4 Commercial to Planned Unit Development--Commercial, Retail Sales & Services (recessed from 5/15/01 Council meeting) — Continuation of pub. hrg. to rzn. props. on S. 76th St. from W. Coldspring to north City lmts. NEXT AGENDA

This item is to be placed on the next Common Council agenda.

9. Board of Public Works Meeting held May 10, 2001 (action taken on Item #12 at 5/15/01 Council meeting) — Bd. of Pub. Wrks. 5/10/01

It was moved by Alderperson Ochnikowski, seconded by Alderperson Dixon, to approve the following:

Item #5 Authorize the Department of Public Works to proceed with the reditching project at 4931 South 82nd Street, Tax Key #616-1039 as proposed — Reditching project @ 4931 S. 82nd St.

Item #9a Lighting policy for West Layton Avenue and South 108th Street, West Loomis Road and West Forest Home Avenue be the 175 watt metal halide bronze colored Gullwing fixture on a new 30 foot aluminum pole — Lighting policy for Layton, 108th, Loomis & Forest Home

Item #9b Direct the Department of Public Works to begin undertaking the retrofitting of the lights on West Layton Avenue from South 76th Street to South 43rd Street — Retrofitting of lights on Layton, 76th to 43rd

Item #9c The Engineering Department and the Department of Public Works enter into negotiations with the Wisconsin Department of Transportation and/or the contractor for replacing the high pressure sodium lights with metal halide lights on West Layton Avenue from South 84th Street to South 108th Street

Eng. & DPW enter into negotiations for replacing lights on W. Layton Ave.

Item #9d The priority of replacing street lights be as follows: 1) Complete the Shepherd Hook retrofit lighting on South 74th Street and West Barnard Avenue; 2) Begin retrofitting on West Layton Avenue from South 76th Street to South 43rd Street including the corners of major cross streets; 3) Start at the south end of South 108th Street and proceed north, as funds are available; 4) West Loomis Road and West Howard Avenue

Priority of replacing street lights

Item #9e Standard for shepherd hook pole and fixture be the very dark green color and no higher than 25'

Standard for shepherd hook pole & fixture

Motion carried unanimously.

Item #6 Allowing the construction of an asphalt off-the-street parking area in the public right-of-way adjacent to 4641 South 47th Street, Tax Key #601-0276, subject to the property owner executing the standard city agreement is to be placed on the next agenda.

Construction of parking area in r-o-w adjacent to 4641 S. 47th St. NEXT AGENDA

Item #7 Vacation of the alley right-of-way west of South 68th Street from West Coldspring Road to West Plainfield Avenue and request that this matter be placed on the Plan Commission agenda after the appropriate fee is paid

Vacation of alley r-o-w west of 68th from Coldsp. to Plainfield PLAN COMM. and FUTURE COMMON COUNCIL AGENDA

No action is required on this item at this time. This item will be placed on a future Council agenda when the Plan Commission report is acted upon by the Common Council.

10. Legislative Committee Meeting held May 29, 2001

Legislative Comm. 5/29/01

It was moved by Alderperson Ochnikowski, seconded by Alderperson Almquist, to approve the following:

Item #3 Adopt an ordinance amending Section 21.04 of the Municipal Code pertaining to noise sensitive land uses adjacent to freeway corridors

Adopt ord. re noise sensitive uses adj. freeway

Item #5 The Unlawful Library Acts Policy be amended to be adopted as an ordinance

Unlawful Library Acts as ord.

Item #6 & #7 Adopt an ordinance placing 'Yield' signs at the intersection of West Whitaker Avenue and South Foxwood Boulevard and at the intersection of West Whitaker Avenue, South 121st Street and South 122nd Street

Adopt ord./Yield signs Whitaker/ Foxwood Blvd./ 121st/122nd

Motion carried unanimously.

TRAFFIC SIGNAL INFORMATION

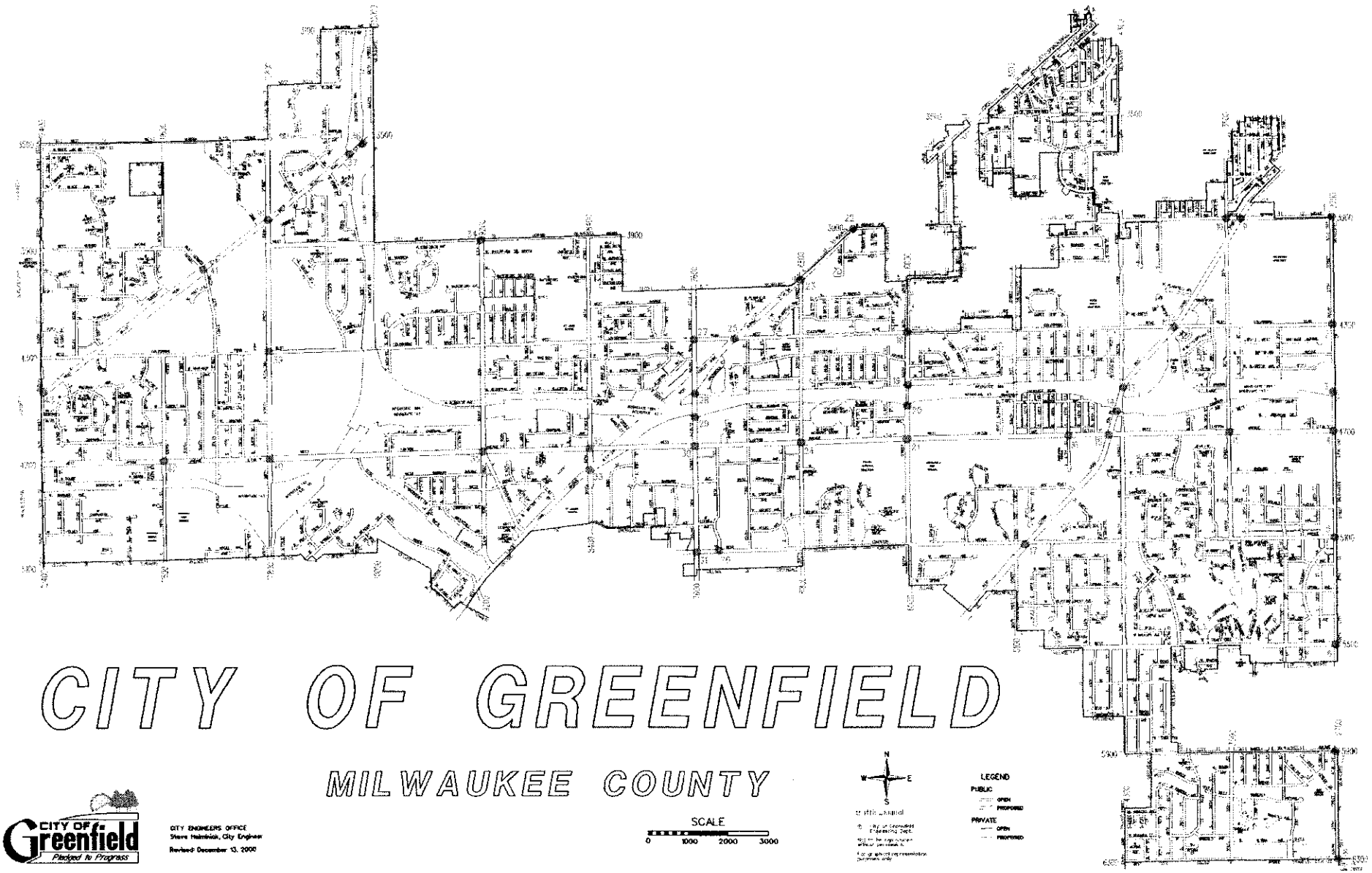
BY:
THE CITY OF GREENFIELD
ENGINEERING DEPARTMENT

12-14-00

Traffic Signal Lights Located within the City of Greenfield Boundaries | BY: John Willms 12-8-00 | Pictures Taken 12-8-00

City of Greenfied Engineering Department

NO.	LOCATION	JURISDICTION	POLE COLOR	BACK BOX COLOR	FRONT BOX & LIGHT SHIELD COLOR	PICTURE	CONTROL BOX COLOR
1	S. 27th St. and W. Howard Ave.	United States U.S.H. "241"	Aluminum	Yellow	Black		
2	S. 27th St. and W. Coldspring Rd.	United States U.S.H. "241"	Aluminum & 1 Wooden	Yellow	Yellow and Black	9,10,11	Green
3	S. 27th St. and I-894 / I-43	United States U.S.H. "241"	Aluminum & Yellow	Yellow	Yellow and Black		
4	S. 27th St. and W. Layton Ave.	United States U.S.H. "241"	Aluminum/Yellow/Wooden	Yellow	Black		
5	S. 27th St. and W. Edgerton Ave.	United States U.S.H. "241"	Aluminum & 1 Yellow	Yellow	Black		
6	S. 27th St. and W. Grange Ave.	United States U.S.H. "241"	Aluminum	Yellow	Black		
7	S. 27th St. and W. Ramsey Ave.	United States U.S.H. "241"	Aluminum & Yellow	Yellow	Black		
8	S. 27th St. and W. College Ave.	United States U.S.H. "241"	Aluminum & 1 Yellow	Yellow	Black		
9	W. Howard Ave. and W. Loomis Rd.	State S.T.H. "36"	Aluminum	Yellow	Black		
10	S. 35th St. and W. Howard Ave.	City of Greenfield	Aluminum & Yellow	Yellow	Black	5,6,7	Aluminum
11	S. 35th St. and W. Layton Ave.	Milw. County C.T.H. "Y"	Yellow & 2 Aluminum	Yellow	Black		
12	W. Coldspring Rd. and W. Loomis Rd.	State S.T.H. "36"	Aluminum	Yellow	Black		
13	W. Loomis Rd. and Interstate (N. Side)	State S.T.H. "36"	Aluminum	Yellow	Black		
14	W. Loomis Rd. and Interstate (S. Side)	State S.T.H. "36"	Aluminum	Yellow	Black		
15	W. Loomis Rd. and W. Layton Ave.	State S.T.H. "36"	Aluminum	Yellow	Black		
16	S. 47th St. and W. Layton Ave.	Milw. County C.T.H. "Y"	Aluminum & Yellow	Yellow	Black		
17	W. Loomis Rd. and W. Edgerton Ave.	State S.T.H. "36"	Aluminum	Yellow	Black		
18	S. 60th St. and W. Coldspring Rd.	City of Milwaukee	Yellow & 1 Aluminum	Yellow	Yellow	1,2,3,4,8	Aluminum
19	S. 60th St. and Interstate (N. Side)	State D.O.T.	Aluminum	Yellow	Black		
20	S. 60th St. and Interstate (S. Side)	State D.O.T.	Aluminum	Yellow	Black		
21	S. 60th St. and W. Layton Ave.	Milw. County C.T.H. "Y"	Aluminum & Yellow	Yellow	Black		
22	W. Howard Ave. and W. Forest Home Ave	State S.T.H. "24"	Aluminum	Yellow	Black		
23	S. 68th St. and W. Forest Home Ave.	State S.T.H. "24"	Aluminum	Yellow	Black		
24	S. 68th St. and W. Layton Ave.	Milw. County C.T.H. "Y"	Aluminum & Yellow	Yellow	Black		
25	W. Coldspring Rd. and W. Forest Home Av	State S.T.H. "24"	Aluminum	Yellow	Black		
26	S. 74th St. and W. Edgerton Ave.	City of Greenfield	Aluminum & Yellow	Yellow	Black	18,19,20	Aluminum
27	S. 76th St. and W. Coldspring Rd.	Milw. County C.T.H. "U"	Aluminum & Yellow	Yellow	Yellow and Black	12,13,14	Yellow
28	S. 76th St. and W. Forest Home Ave..	State S.T.H. "24"	Aluminum	Yellow	Black		
29	S. 76th St. and Interstate	Milw. County C.T.H. "U"	Aluminum	Yellow	Black		
30	S. 76th St. and W. Layton Ave.	Milwaukee County	Aluminum & Yellow	Yellow	Black		
31	S. 76th St. and W. Edgerton Ave.	Milw. County C.T.H. "U"	Aluminum & Yellow	Yellow	Yellow and Black		
32	S. 84th St. and W. Layton Ave.	Milw. County C.T.H. "Y"	Temporary	Yellow	Black		
33	S. 84th St. and W. Forest Home Ave.	State S.T.H. "24"	Aluminum	Yellow	Black		
34	S. 92nd St. and W. Howard Ave.	Milw. County C.T.H. "N"	Aluminum	Yellow	Black		
35	S. 92nd St. and W. Layton Ave.	Milw. County C.T.H. "Y"	Under Construction	Under Const.	Under Construction		
36	W. Beloit Rd. and Interstate (E. Side)	Milw. County C.T.H. "T"	Aluminum	Yellow	Black		
37	W. Beloit Rd. and Interstate (W. Side)	Milw. County C.T.H. "T"	Aluminum	Yellow	Black		
38	W. Beloit Rd. and S. 108th St	State S.T.H. "100"	Aluminum	Yellow	Black		
39	S. 108th St. and W. Coldspring Rd.	State S.T.H. "100"	Aluminum	Yellow	Black		
40	S. 108th St. and W. Layton Ave.	State S.T.H. "100"	Aluminum	Yellow	Black		
41	S. 112th St. and W. Beloit Rd.	Milw. County C.T.H. "T"	Aluminum	Yellow	Black	15,16,17	Aluminum
42	S. 116th St. and W. Layton Ave.	State - Ramp to Interstate	Temporary	Temporary	Temporary		
43	S. 124th St. and W. Beloit Rd.	Milw. County C.T.H. "T"	Aluminum	Yellow	Black		



CITY OF GREENFIELD

MILWAUKEE COUNTY

CITY OF Greenfield
Pledged to Progress

CITY ENGINEERS OFFICE
Steve Heimlich, City Engineer
Revised: December 13, 2000

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LEGEND
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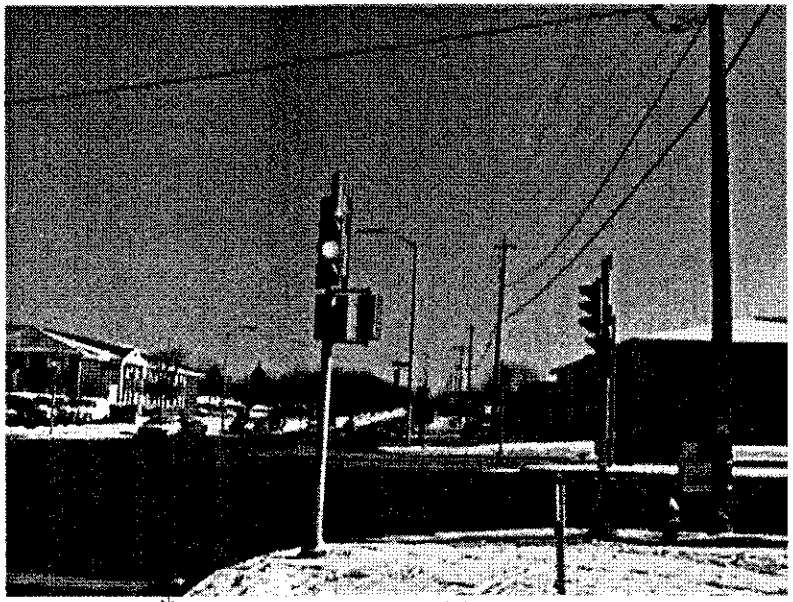
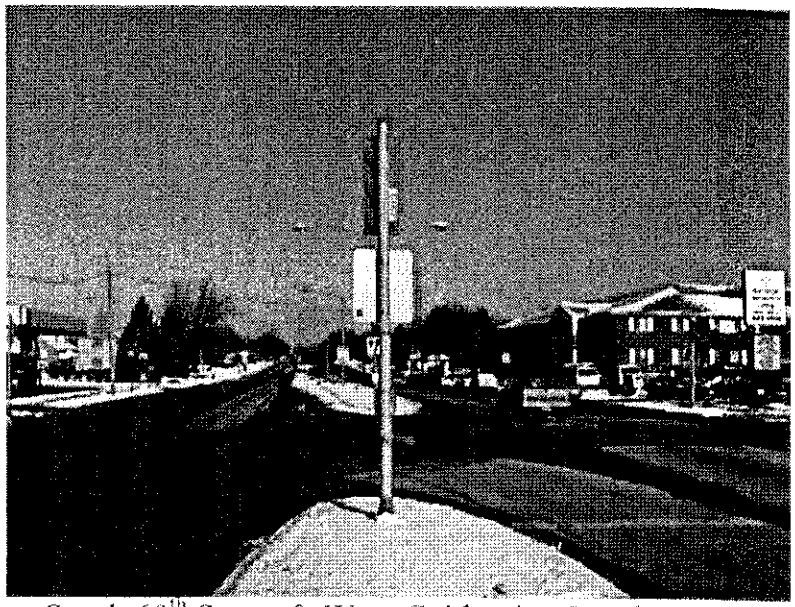
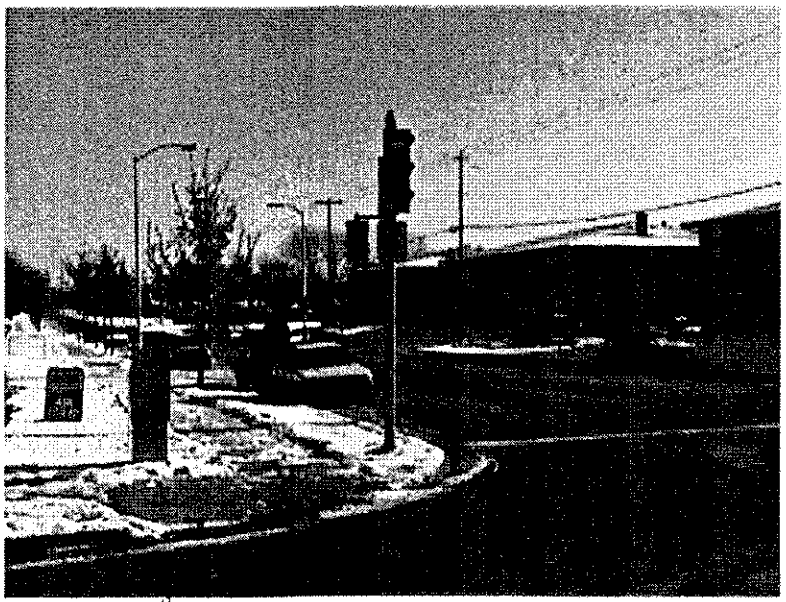
PROPOSED



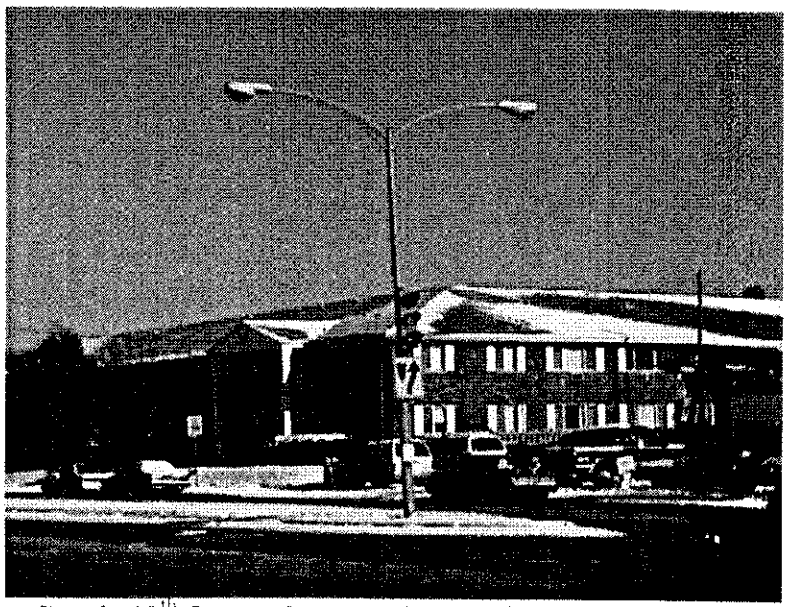
South 60th Street & West Coldspring Road (# 1)



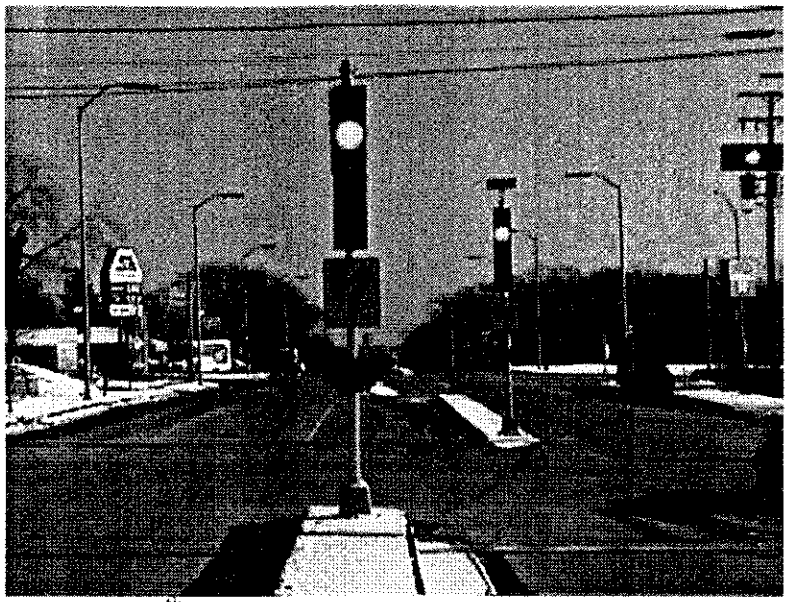
South 60th Street & West Coldspring Road (# 2)



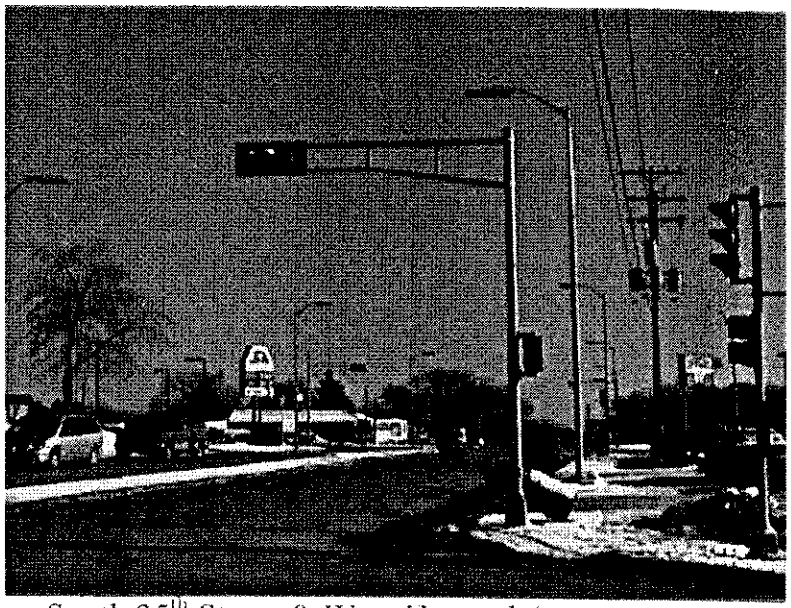
South 60th Street & West Coldspring Road (# 3)



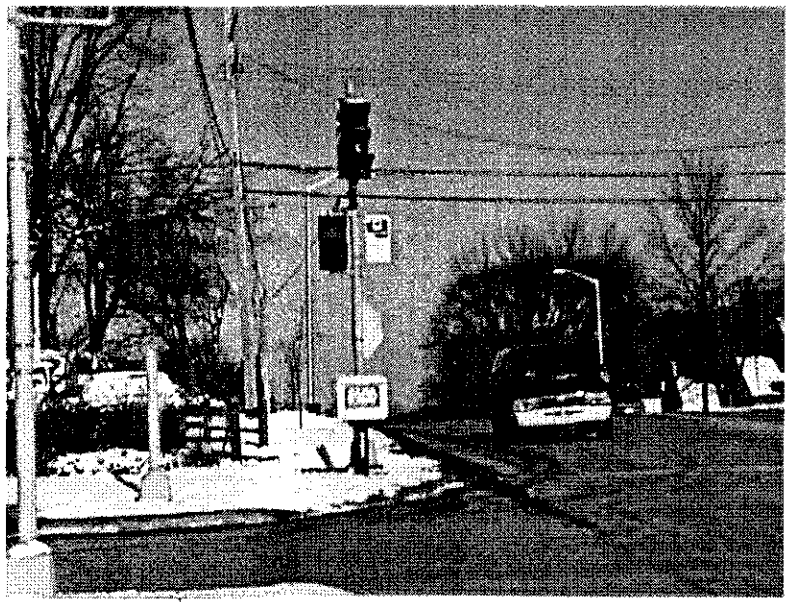
South 60th Street & West Coldspring Road (# 4)



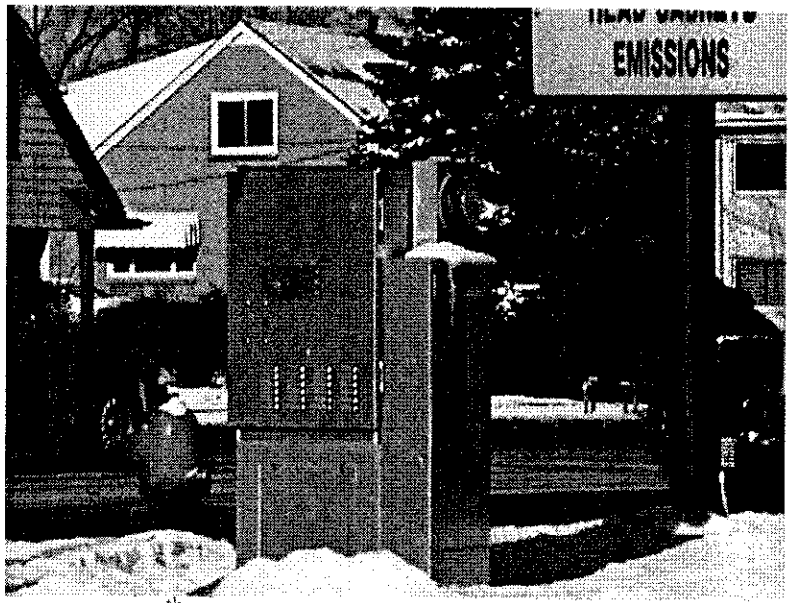
South 35th Street & West Howard Avenue (# 5)



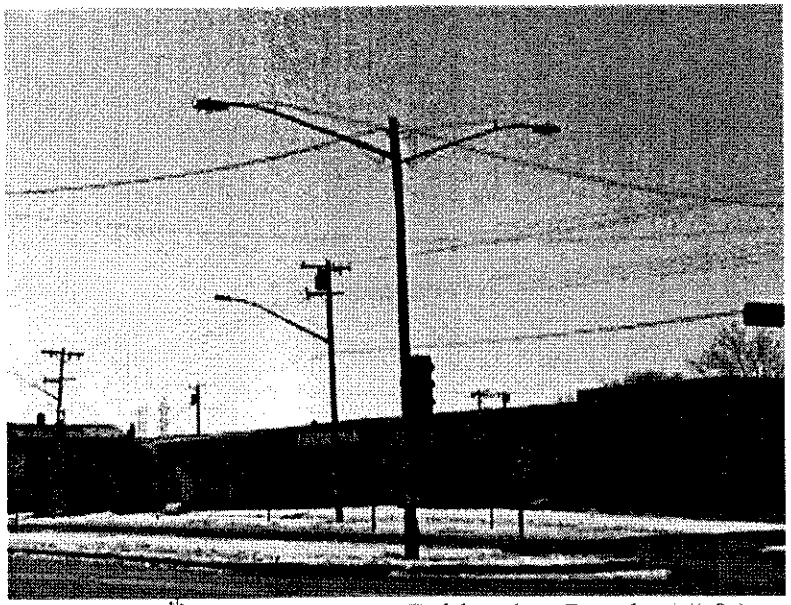
South 35th Street & West Howard Avenue (# 6)



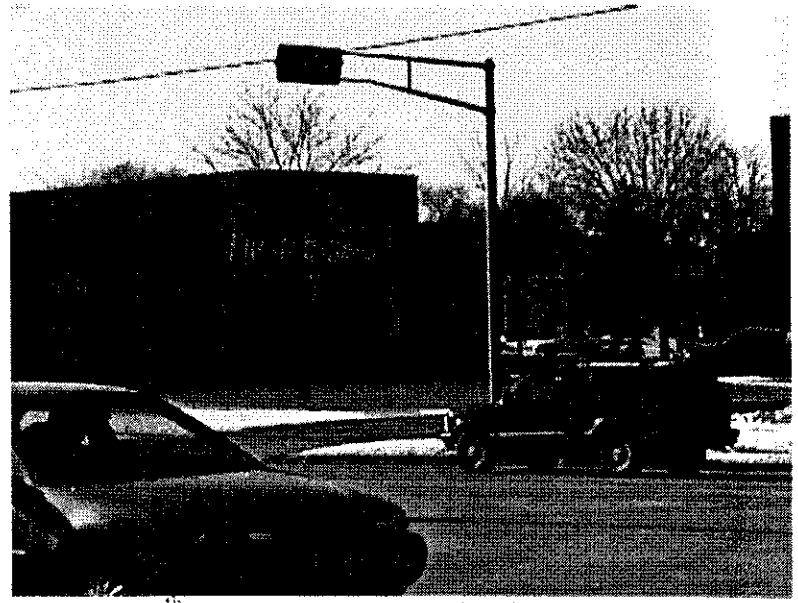
South 35th Street & West Howard Avenue (# 7)



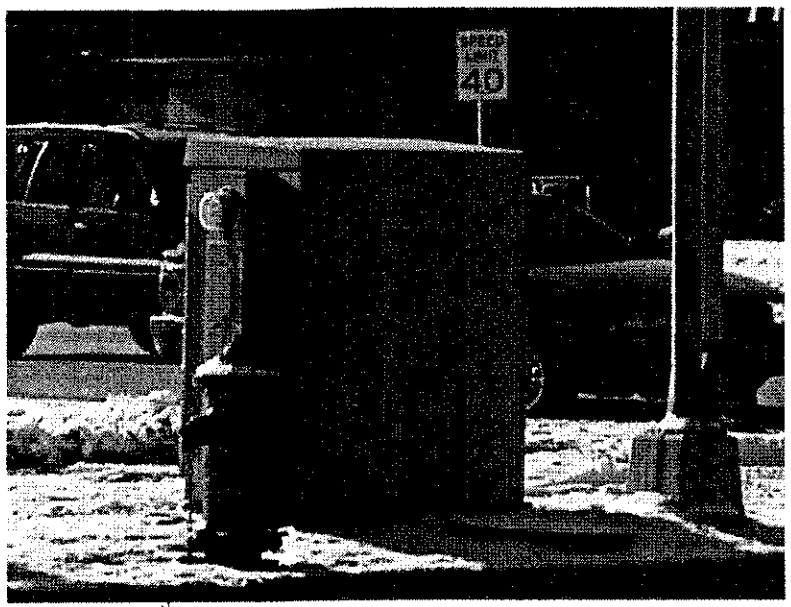
South 60th Street & West Coldspring Road (# 8)



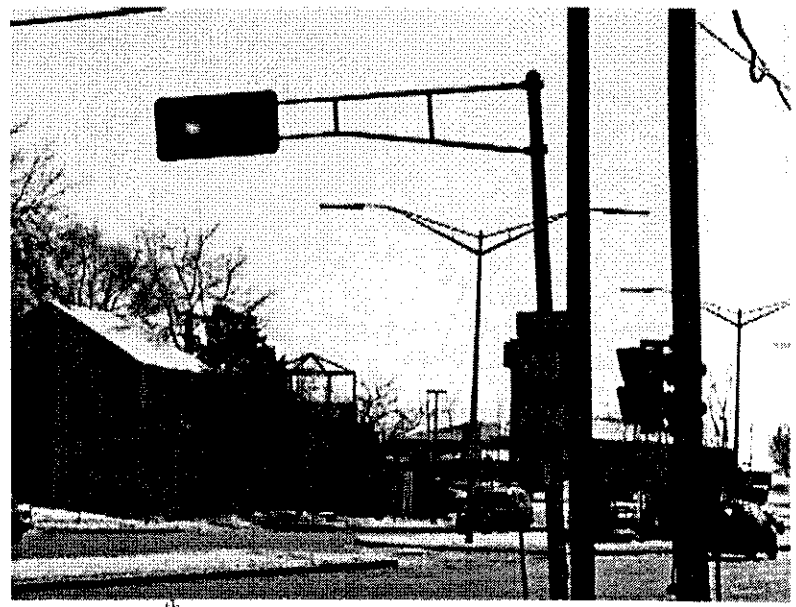
South 27th Street & West Coldspring Road (# 9)



South 27th Street & West Coldspring Road (# 10)



South 27th Street & West Coldspring Road (# 11)

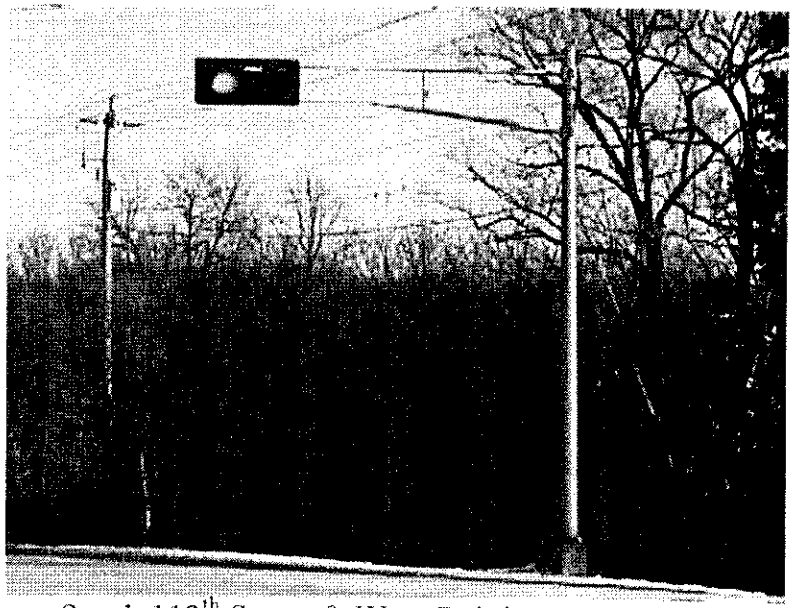


South 76th Street & West Coldspring Road (# 12)

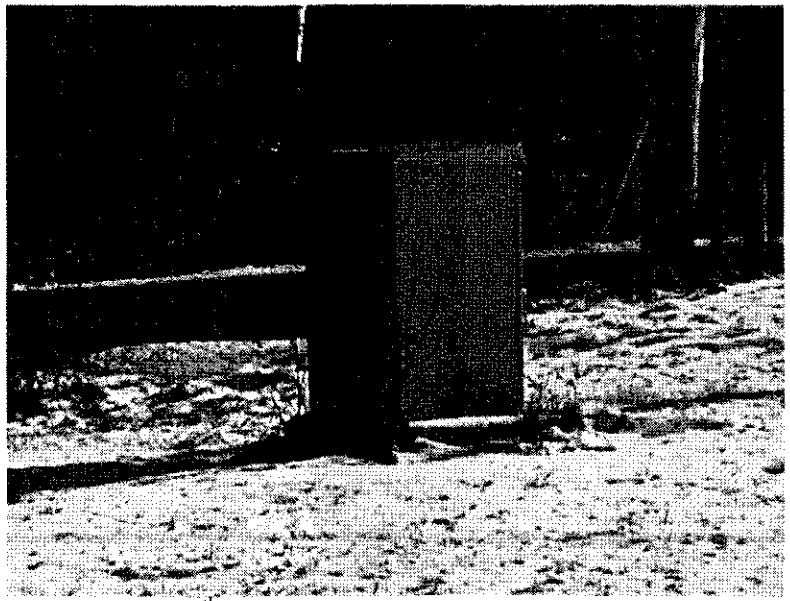
South 76th Street & West Coldspring Road (# 13)

South 76th Street & West Coldspring Road (# 14)

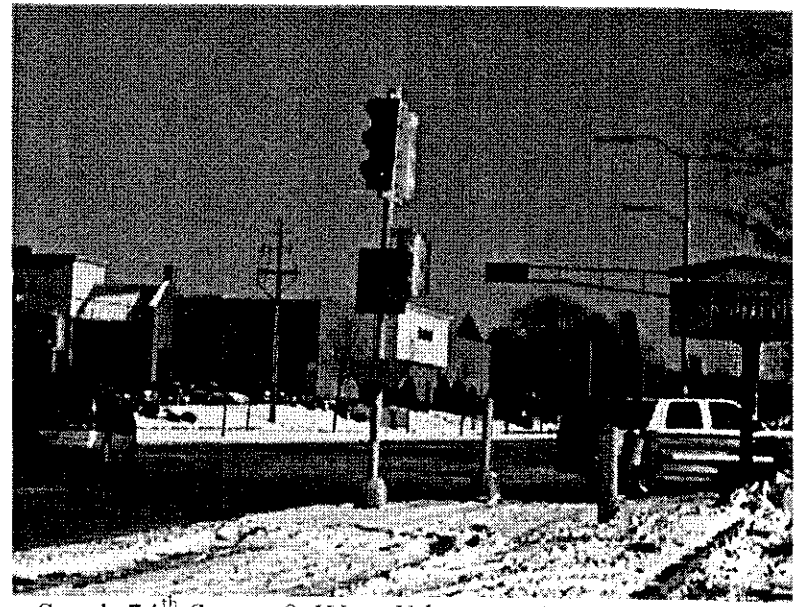
South 112th Street & West Beloit Road (# 15)



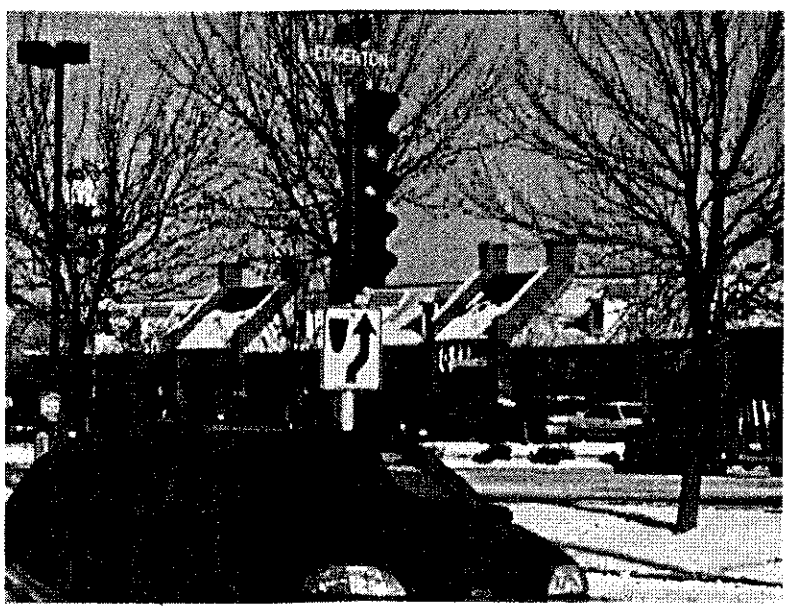
South 112th Street & West Beloit Road (# 16)



South 112th Street & West Beloit Road (# 17)



South 74th Street & West Edgerton Avenue (# 18)



South 74th Street & West Edgerton Avenue (# 19)

South 74th Street & West Edgerton Avenue (# 20)