THE FIRST 100 YEARS

LIGHTING THAT MAKES A DIFFERENCE >

LIGHTOLIER

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The First 100 Years, A History of Lightolier by Daniel L. Blitzer

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• *The story of Lightolier chronicles the sweeping changes to the patterns of home life, work, and leisure during the twentieth century.*]

Everything we see, most of what we do, and much of what we feel is touched by light.

Light is a natural phenomenon that gives life and stimulates our perceptions. *Lighting* is our effort to create and harness light to meet our human needs: to see the world around us, to perform work, to control our environment, and to enjoy our leisure time. *Lightolier* is a lighting company celebrating its centennial anniversary — 100 years of developing and selling lighting equipment. It is a history that tracks the path of the lighting industry itself. This is Lightolier's story.

In the swirling, free enterprise economy of the United States, hundreds of new businesses take life every day. Yet, few companies survive their birth. Aspirations run high, but talent, market opportunity, capital, and luck rarely stick together for very long. Of those who do make it, few overcome the challenges of changing technology, competitive markets, and aging leadership. And, of this elite group of successful companies only a select handful live to see their 100th anniversary.

That Lightolier — a fledgling company in a fledgling industry — survived long enough to experience the Great Depression and two World Wars is remarkable. That it prospered in the dramatically changed circumstances of the later 20th century, capitalized on the emerging technologies of a maturing lighting industry, and passed through three generations of leadership is even more significant. That its products have illuminated and transformed American residential, commercial, and institutional building is plainly visible.

Lightolier is now poised to grow further in its second century. Its history reflects the inspiration and energy of many people with diverse backgrounds and skills. It is a story worth telling.

The story of Lightolier not only chronicles the success of an American business over a century, it acts as a prism through which to view the evolution of electric lighting, the rise of modern architecture, and the sweeping changes to the patterns of home life, work, and leisure during the 20th century.

INTRODUCTION

New York City, c. 1900, looking South on Broadway

THE NEW CENTURY

Recall the United States at the turn of the 20th century. The population is 76 million, just a quarter of what it would be 100 years later. Most people reside in the Northeast and Midwest; 60 percent live in rural communities. New York, Chicago, and Philadelphia reign as the major cities. The sprawling metropolises of the sunbelt, the dramatic population shift to the West and South, and urban and suburban concentration in general still lie beyond the horizon.

People and freight move by rail between cities, by foot and horse otherwise. There are a few trams and trolleys in large cities. Twenty-five years after their invention, one million telephones connect America, but all communications still travel very slowly by modern standards.

Comfortably into its second century and boasting the world's largest economy, the United States steps assertively onto the international stage. Following its lopsided victory in the Spanish-American War, the U.S. now rules the Philippines, where it faces a bloody insurrection, Cuba, and Puerto Rico. President Theodore Roosevelt mediates the end to the Russo-Japanese War. American forces are among those besieged in Peking during the Boxer Rebellion. And the U.S. begins construction of the Panama Canal.

The early 20th century sees remarkable invention and commercial activity. The Ford Motor Company and Cadillac Company are founded and sell their first automobiles. The Wright Brothers complete the successful flight of a heavier-than-air craft. Marconi demonstrates the first transatlantic wireless communication. The Eastman Kodak Company is founded, consolidating the leading photographic technologies developed in the 1880s. Color photography becomes practical, and photos are transmitted by telegraph. Motion picture technology is patented. Long distance and automated switching technology advance. But the most significant development of this period is the rapid electrification of America.

Early electric lighting

Kitty Hawk, 1904

THE AGE OF ELECTRICITY

The development of electric power arose from neither a simple discovery, nor a single invention. Rather, a series of steps — some giant, others more incremental — resulted in the creation of viable electric light sources, practical generators, and distribution systems, all at a competitive cost. Together, these essential elements transformed American cityscapes in the three decades between 1880 and 1910.

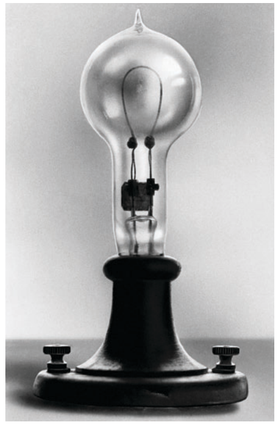
Without an electric supply and distribution industry to provide electricity, the light bulb might have languished as a tinker's curiosity. And without the desire for electric illumination, there would have been little economic incentive to lay down the initial electrical infrastructure. To borrow a late-20th-century metaphor, lighting was the "killer application" for electricity (as the spread sheet would be for the personal computer 100 years later).

As it happened, Thomas Edison proved his carbonized filament lamp in the fall of 1879 (lab notes show it burned for less than 16 hours, not yet the much-recalled 40) and demonstrated it outside the laboratory by the end of the year. He followed this demonstration with successful installations on a steamship in 1880 and in a printing factory in 1881. Both operated on direct current supplied by local generators. The next year, Edison created the first centrally powered lighting, first on the Holborn Viaduct in London and shortly thereafter in the famous Pearl Street Station in the Wall Street area of New York.

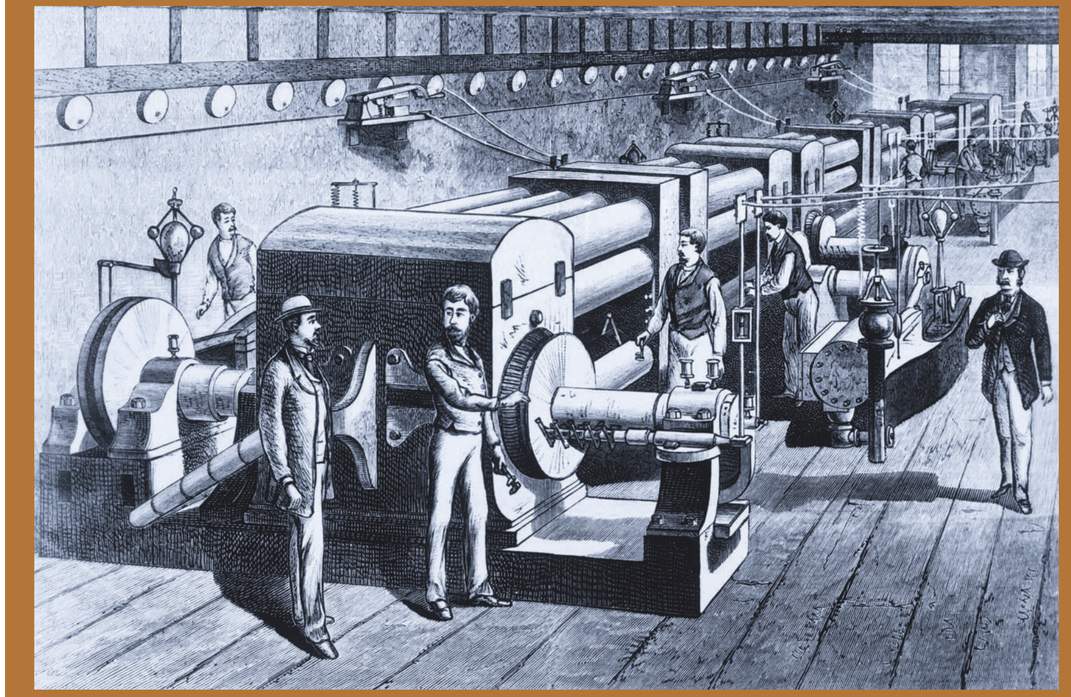
Thomas Edison, 1880

Edison was not alone; other incandescent lamps (notably Swan's) were invented nearly simultaneously. And the intellectual property that might bring outsized financial rewards was hotly contested. In 1892, Edison moved to resolve a patent dispute by merging his company with a key competitor, and the General Electric Company was born. In 1897, Edison's original patents expired, opening the business.

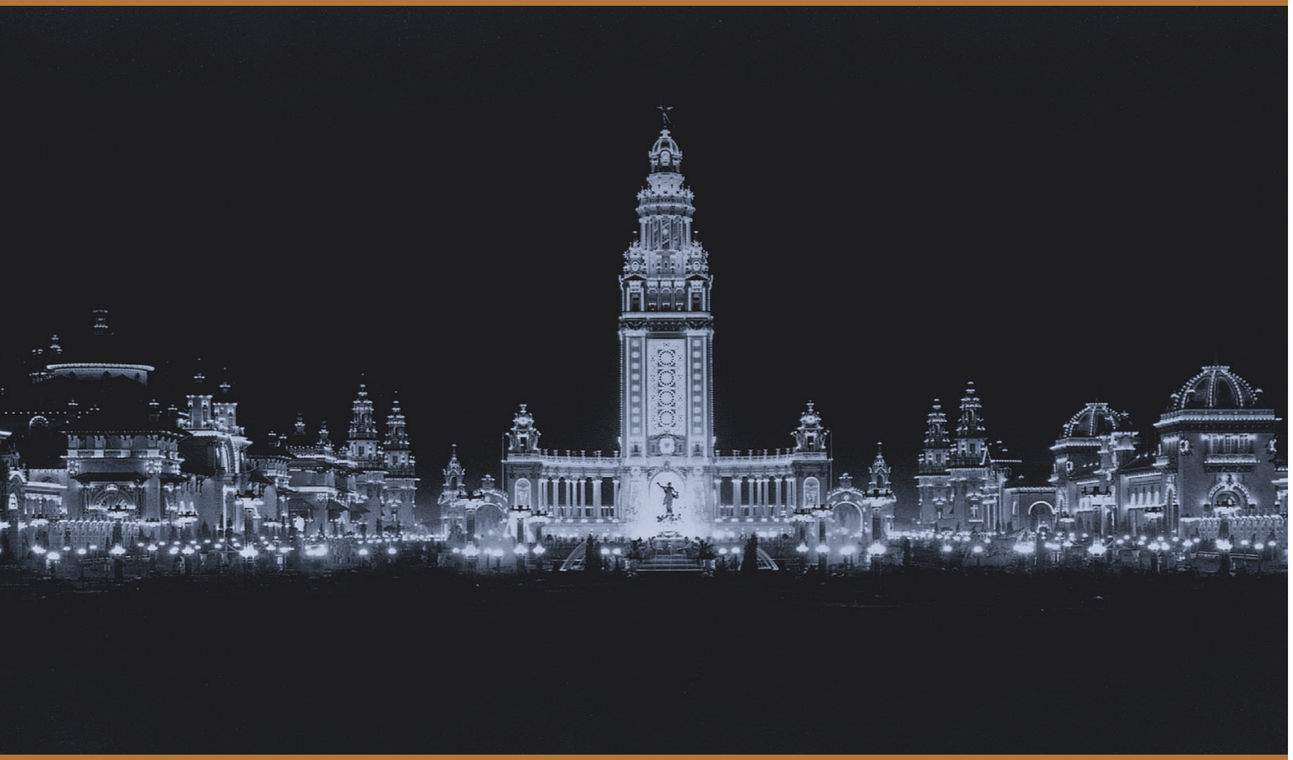
Within a decade of the Pearl Street installation, there were over 1500 "central" generating stations in the United States, powering about three million incandescent lamps. The proliferation of generating stations resulted in part from the use of direct current, which could not be transmitted for more than about a mile in any direction. But this "atomized" industry would consolidate rapidly with the emergence of alternating current in the next decade.



Early incandescent lamp



The Pearl Street Station



Pan-American Exposition, Buffalo, 1901

CITIES OF LIGHT

In 1893, the Chicago Columbian Exposition sparkled with the illumination of thousands of electric lights. The World's Fair also featured electrified moving sidewalks, launches, and elevated trains. Lighting and electricity captured popular opinion. Robert Anderton Naylor reported in 1893:

> "Perhaps the portion of the World's Exposition which America is far ahead of all in competition is the Palace of Electricity; here she is seen in her natural splendour, eclipsing by her dazzling light every other nation."

In 1895, George Westinghouse completed the first remote generating station based on Nikola Tesla's ideas. It featured a large-scale transformer, called a "dynamo," and used alternating current to transmit electricity to the city of Buffalo, some 20 miles away. By the 1901 Pan-American Exposition in Buffalo, that city could claim to be The City of Light, an apt, if borrowed term (from Paris). It was the first American city to have its streets illuminated by electric incandescent lighting. Wrote Arthur Goodrich in 1901 about the Exposition:

> "In chronicling the additions that have been made to the uses of electricity and the development of its many applications, of course the first thing that strikes attention at Buffalo is the unprecedented illumination. The areas lighted are larger than has ever before been attempted, and still the success is in every particular greater and more brilliant."

Electric illumination shone brightly as the 20th century opened, but it was not yet the dominant technology. In 1907, only eight percent of dwellings were electrified. Familiar and economical for the low levels of lighting then accepted, gas illumination still prevailed. Its production and distribution were in place, and these industries fought the onset of electricity. It was not until the advent of the tungsten filament lamp by 1910, which delivered an impressive ten lumens per watt, that electric lighting began to sweep away gas. But, we are a little ahead of our story.

George Westinghouse

NEW YORK CITY

Focus now on New York City. In 1900 it is the second biggest city in the world after London. With some three and half million residents, the city teems with people. The bustle of pushcarts, horse-drawn wagons, trolleys, elevated railways, and pushy citizens raises a noise immediately remarkable to any new arrival. The city air chokes with soot from coal- and wood-fired furnaces and stinks from animal and factory wastes. Work on the subways that will transport residents throughout the city and open up the streets to daylight begin in 1900.

The "EL" c. 1890

New York is a center of light manufacturing: metal fabrication, furniture, clothing, and nascent electrical products. These co-exist with printing, publishing, finance, and telecommunications, which have survived to the 21st century.

It is just 11 years since the amalgamation with the city of Brooklyn. Breathtaking suspension bridges span the East River. But freight to and from the American heartland to the West must reach the city by ferry.

Above Wall Street, lower Manhattan is thick with tenements, bars, dives, and sweatshop factories. The major avenues boast department stores. Recently completed Central Park is sprouting apartment buildings for the affluent. Much of the city's acreage, however, remains bucolic.

Skyscraper architecture, pioneered in Chicago, is elevating the New York skyline. The Park Row Building facing City Hall opens in 1899. It will stand as the world's tallest building for a decade. The slightly shorter Flatiron building opens in 1902. It is not the first steel skeleton building in New York — dozens were erected in the 1890s — but it is an iconic turn-of-the-century building. When the Singer building tops out in 1908, it becomes the tallest building in the world at 612 feet. The Metropolitan Life Tower surpasses it at 700 feet just a year later.

These new steel frame structures are clad in masonry. Their interior walls and ceilings use traditional plaster. There is little or no air conditioning and some early electric lighting.

Brooklyn Bridge, c. 1900

New York City waterfront

THE BEGINNING

1904
1920

II


The New York Gas Appliance Co. employees, c. 1915

BERNHARD BLITZER FOUNDS A BUSINESS

Into the swarm of late-19th-century New York steps Bernhard Blitzer. Born in the Austro-Hungarian Empire in 1867, he is 19 years old when he arrives in the United States in 1886 with virtually no money. Later photographs show a man of average build, with a weathered face, a clipped moustache, and a severe mien. He is a Jew with some education and apparently some facility for language, because he attends night school and picks up English easily. As an adult, he has no remarkable accent.

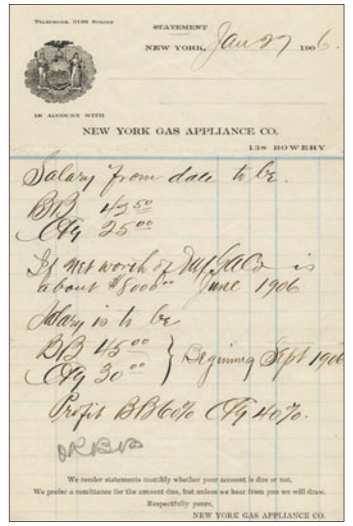
He marries quickly, and by 1890, fathers a son, Moses. Ultimately, the family will grow to include three sons and two daughters. Without other promising business prospects, Bernhard begins his career peddling red suspenders from a pushcart. The sale of one load finances the purchase of the next. Aggressive but honest, Bernhard has a knack for the trade; he makes a living, but it is fairly precarious.

In the early years of the new century, Bernhard Blitzer joins the Consolidated Gas Company of New York, a giant power supplier formed in 1884 out of the six largest gas utilities in the city. The advent of electric lighting dims the prospects of gas utilities, depressing their share prices. But gas companies still enjoy strong market access and capitalization. So, from 1899 on, Consolidated Gas starts buying electric utilities, merging them into the New York Edison Company in 1901. Thus, the dominant supplier of gas protects its market by diversifying into electricity.

Consolidated Gas will continue to expand, unifying various power companies throughout the city. By 1932 it will become the largest provider of electricity in the world, and in 1936, changes its name to the Consolidated Edison Company of New York.


Bernhard Blitzer, c. 1920

Consolidated Gas assigns Bernhard to survey buildings and record the extent of gas piping and fixtures. In the process, he perceives an opportunity to sell gas lighting fixtures to the occupants. He leaves the gas company after two years and sets up in business with several partners. Although this initial enterprise fails, Bernhard is not deterred. With his brother-in-law, Charlie Gottesman, he forms a new business — "The New York Gas Appliance Company" in March 1904. That May, the company is officially registered and incorporated.


STATEMENT
NEW YORK, Jan 27 1906
NEW YORK GAS APPLIANCE CO.
138 BOWERY
Salary from date to be.
BB 45.50
CG 25.00
If net worth of NYGACo is about $5000.00 June 1906
Salary is to be
BB 45.00
CG 30.00 } Beginning Sept 1906
Profit BB 60% CG 40%.
We render statements monthly whether your account is due or not,
We prefer a remittance for the amount due, but unless we hear from you we will draw.
Respectfully yours,
NEW YORK GAS APPLIANCE CO.

The New York Gas Appliance Co. statement, 1906

TURN-OF-THE-CENTURY BUSINESS

To Bernhard Blitzer and other European immigrants, America is the land of opportunity, especially compared to their homelands. In Europe, only a relatively few families own the vast majority of agricultural and industrial property. Class distinctions rule government, society and commerce. Apart from Great Britain – home of "liberal" (free-market) economics – governments, cartels, and trade practice control markets. Decades after the Dreyfus Affair in France and vicious pogroms throughout Russia, anti-semitism permeates Europe. Hardship and a lack of prospects drive millions of desperate or ambitious immigrants to the New World from the middle of the 19th century on.

In America, a burgeoning population, undeveloped land, and a free-wheeling society offer a brighter future. But life in the United States at the turn of the 20th century is not easy, certainly by comparison to our times. City dwellers face a life that is crowded, dirty, and vulnerable to disease and crime. Government provides few "safety nets"; those are not created until the 1930s. Each successive wave of immigrants feels the heel of political and economic domination from those who have arrived decades or centuries before.

It is a violent continent. Bitter memories of the Civil War are still fresh. The last battles of native resistance to European conquest take place during Bernhard Blitzer's first years in New York. In 1901 President McKinley falls to an anarchist's bullet in Buffalo. He is the third U.S. president to die violently in less than 40 years.

Business operates largely without regulation. Financial capital moves abruptly and without the constraints that will be implemented as a result of the Great Depression. Governmental power still resides with the States, where entrenched business interests rule. Labor unions face both legal and violent resistance. It is just a few decades since the "Robber Barons" exploited weak financial controls to accumulate immense wealth in railroads. And concentration continues in heavy industry, notably in the emerging utility and oil industries. Although President Theodore Roosevelt earns fame as a "trust buster," institutionalized power and wealth circumscribe his efforts.

Any business – but small ones in particular – are fragile things, prey to economic cycles, financial panic, and manipulation. Steep economic declines, aggravated by collapse in the unregulated financial markets, hit in 1901 and again in 1907. Mere survival requires considerable acumen and good fortune to tap into a growing industry, in this case electric lighting.

President Theodore Roosevelt

Glass workers in Pittsburgh, c. 1913

Crystal Palace, London, 1851

THE ADVENT OF ELECTRIC LIGHTING

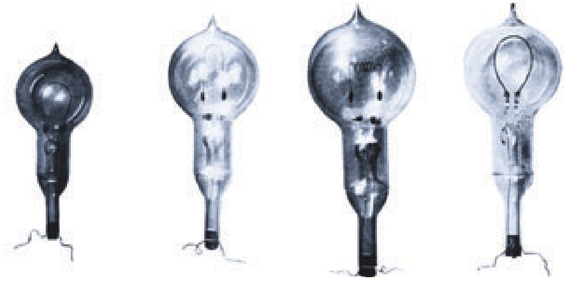
Widespread, economical, man-made illumination predates electric lighting by at least fifty years. Exterior gas lighting originates in England in the 1790s. London installs its first gas lighting in 1807, while Baltimore is the first American city to do so in 1816, a few years ahead of Paris. New York streets convert to gas lighting in 1825. Gas illumination figures prominently in the 1851 Crystal Palace Exhibition in London and captures the imagination of mid-century thinkers and writers. The control of light in the urban environment, while still primitive, marks one of the important steps into the industrial age.

By the late 19th century, centrally-fuelled gas illumination is common throughout New York City. Residents become accustomed to its comfort and security, as well as the freedom it affords from the rule of daylight. Gas lighting is a successful technology, supported by miles of gas mains and central gas plants. But its limitations are well recognized; principally health and safety risks, dirt, cost, and the quality and quantity of illumination. Thus the market is ripe for the invention of electric lighting.

The first efforts, in the early 1870s, produce electric arc lights. These devices generate illumination by creating an electric arc between two carbon rods. They are exceedingly bright – suitable only for exterior use – and require constant maintenance to replace the rods, adjust performance, and cope with the inherent unreliability of the system. The principle of incandescence – producing light by heating a combustible material – is already well known. By the end of the decade, Edison is racing against Joseph Swan to achieve the first commercially successful incandescent lamp. Edison prevails, partly due to the superiority of his carbonized thread filament and partly due to his keen entrepreneurial abilities.

In 1904, a quarter of a century after the introduction of electric lighting, gas still represents the primary source of illumination for residences. Its dominance has been temporarily sustained by the invention of the gas mantle, an impregnated gauze sleeve that fits over the flame and incandesces to produce light. Introduced in 1886 by Carl Auer Von Welsbach, the gas mantle burns more brightly than competing electric lamps but suffered from the other drawbacks of gas lighting. By 1910, with the invention of tungsten filaments, electric lamps attain an efficiency of nearly 10 lumens per watt and are the acknowledged standard for illumination. The transition to electric lighting is unstoppable.

Modern gas lighting fixture



Early incandescent lamps

EARLY YEARS OF BUSINESS

Bernhard is 37 years old when he founds The New York Gas Appliance Company, certainly not a young man for those times. Moses, his eldest son, leaves school and joins the company from the outset. He is just 14 years old. From this family of middle-European immigrants, their relatives, friends, and neighbors come the men (no women, at this time) who will drive the company through its perilous first years.

Bernhard leases a storefront at 42 Bowery, a four-story brick structure, since demolished, just south of Canal Street in lower Manhattan, less than a mile from City Hall and the northern reaches of the downtown business district. Once the center of the notorious "Five Points" slum, the area had steadily improved from the 1870s on. Now sandwiched between Chinatown to the West and the largely Jewish tenements of the Lower East Side, the neighborhood is a bustling commercial site. The "El" — an elevated railway and precursor of New York's subway system — rumbles overhead. The Brooklyn Bridge and new Manhattan Bridge (begun 1901 and opened 1909) link the neighborhood to the city's most populous borough. Today the heart of New York's retail lighting business still beats on the Bowery, about a half-mile up from its origins.

During its first years, The New York Gas Appliance Company acts as a wholesaler, reselling the gas and electric lighting equipment of primary manufacturers, to peddlers who carry the wares to the end consumers. Gas lights consist of glass chimneys, which shield and diffuse the flame source and Welsbach gas mantles, which enhance the light output of the flame itself through incandescence. Gas fixtures are suspended on conduit from the ceiling or project from the wall. Etched and decorative glassware distinguish the more costly models, but the presence of the gas flame prevents the use of combustible shade materials.

Early electric fixtures are simple conversions of gas models, with the new wiring typically running through the gas conduit. As new electric fixtures appear, they are initially sold as component kits, which are wired and installed on site. In this early component-dominated electric lighting industry, glassmakers play an important role as manufacturers and marketers. Pre-assembled lighting fixtures arrive later.

The new electric technology stimulates two early innovations: chain suspension and direct-installation on the ceiling. Using cord and chain, fixtures can be easily suspended at different heights. At the same time, creating chain with links in different styles, sizes, and finishes adds substantially to the aesthetic options without changing the basic fixture cost.

Lighting showroom, c. 1920

Lightolier employees, c. 1920

A COMPANY CULTURE EMERGES

The new choices available with electric lighting pose a business challenge to the still small New York Gas Appliance Company. How many styles of chain should the company keep in inventory? How much risk should a young company take with its scarce capital?

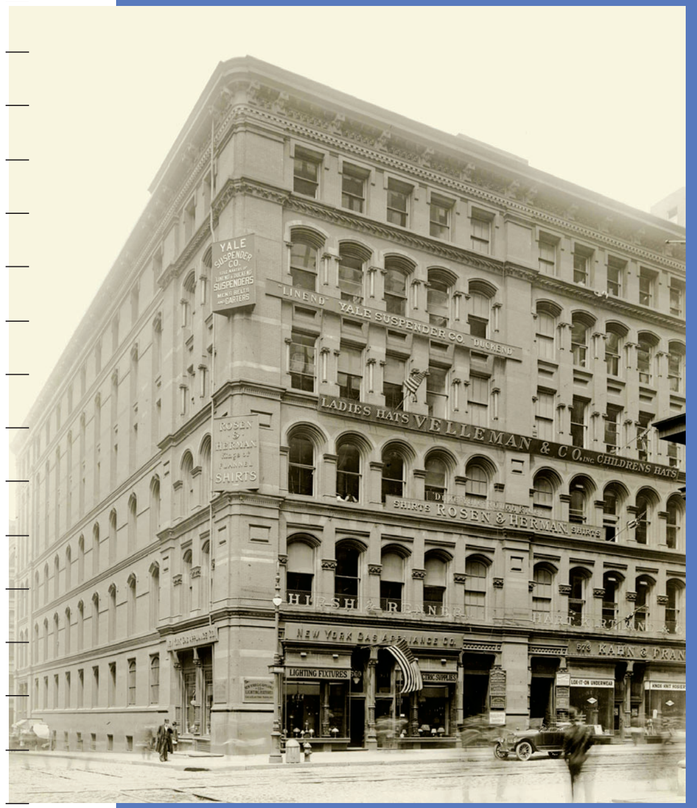
It is not an easy decision at the time. Bernhard Blitzer has a more conservative business temperament than his initial entrepreneurship might suggest. But his associates — particularly the young Moses — are more aggressive, and their counsel prevails. They take a risk on marketing through style. It is a crucial step — one that the company will repeat throughout its history — and one that pays off. The fledgling company invests its limited resources in a range of the most popular chain styles, which supports a growing sales volume. And the company is launched as a style leader!

The young company thinks innovatively in other ways too. It supplies a new tool for installers — chain pliers — whose jaws open when the handles are squeezed, thus opening the chain link.

Blitzer works hard, leaving on trips the night before so he can return the following morning to open the business with new orders. He sees himself as a quintessential American success, truly a "rags to riches" business builder. As he says later, "Three things I have always done step by step as my business has grown: first, organize, then systemize, then deputize . . . giving over most of the detail of the business to the younger men." But that would follow.

Bernhard, or Mr. B as he is called, is known as a merchant willing to teach members of the Brooklyn community, many recent immigrants, how to do business. Family, friends, and neighbors press their young men (and they are all men in these early years) into service to learn the basics: how to wrap a package, write up a sales order, and wait on a customer. His sons enter the business running errands, handling inventory, and cleaning up. In his 50s, he is a stern taskmaster, strict on discipline, but willing to teach. This early culture of mentoring nurtures a cadre of savvy merchandisers and aggressive salespeople that propels the company forward throughout its formative years.

Mr. B takes a proprietary interest in the life of his employees. A story told by Paul Raskin, whose career with the company spans forty years, captures the flavor of Lightolier's founder. When a young man working in the warehouse, Paul gets into a fistfight. The incident reaches Bernhard's attention, and he tells Paul, "You bring your mother here tomorrow." The next day he counsels Paul's mother, "Paul has an opportunity in the company. But, if he keeps this up, he's going to get fired." A couple of years later, Bernhard learns that Paul is engaged to be married and inquires after Paul's fiancée. After meeting her he pronounces them a "very good couple" and pays for the honeymoon.



569 Broadway, New York City

Lightolier truck, c. 1920

THE FIRST CHANGES

In 1915, the company relocates uptown to expansive new quarters at 569 Broadway at the corner of Prince Street, in what is now SoHo. Leasing 10,000 square feet is ambitious, but again, boldness pays off. Profits are sufficient to send Bernhard's youngest son to an elite college – along with a servant and a horse! In 1916, when the company distributes $15,000 in bonuses among its managers and salespeople (more than $250,000 in today's dollars), Blitzer's story makes news in industry and local papers throughout the Northeast.

Founder and son differ in their approach to business. In Moses' words, "Any difference in opinion on any business topic would require some introduction not to raise my father's hackles." Where Bernhard is cautious, Moses takes risks. Even as a young man, he has an eye for style and a warm, gregarious personal approach. Married for the first time in 1914, he takes his honeymoon in Havana, then a wide-open city with a wealthy ruling class and rich blend of Old and New World culture. Mixing business and pleasure, Moses brings both his new bride and his sample bag on the trip. Whether Havana is more expensive than anticipated, or the trip simply more fun, Moses finds himself out of funds. Fortunately, he has made friends with one of the local customers, "a sporty and successful gentleman," as Moses later recalls. The young salesman sells him the rest of his samples, pays for the trip, and returns with his aura brightened by the stay in Cuba.

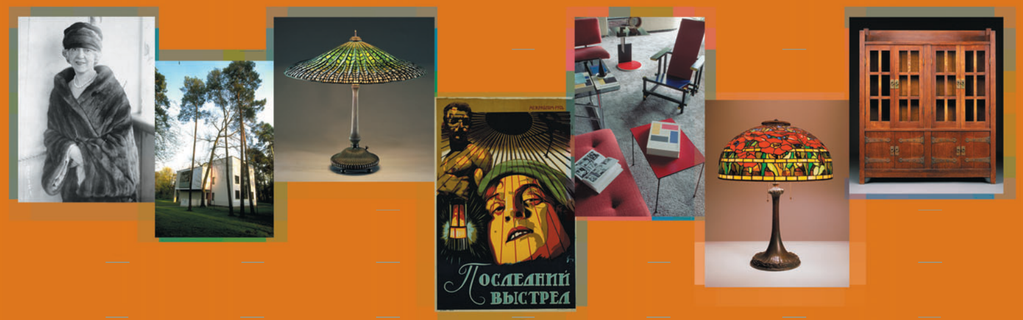
Moses, now 24, presses his father to move into manufacturing. But, Mr. B opposes the idea as too risky. It takes three years of wrangling for the son, who promises to take care of the business, to win over his father. Even then, the manufacturing arm must be structured as the distinct Corona Corporation to protect the parent entity. Beginning in 1918, the company's initial efforts on Wooster Street are rocky. There is a fire and a confusion of inventory. Moses purchases a million loops of chain at $10 a dozen, committing more than the company's entire capital. But, quickly the young man learns from suppliers and customers to expand the size of the product line by mixing and matching a small number of components and to promote a select number of items to a market that is willing to be sold on what is "right for them."

Lighting Exposition, c. 1920

LIGHTOLIER IS BORN

In 1917, the United States enters the Great War (later renamed World War I). While the financial and military contribution of the United States saves Britain and France from defeat, the war is not popular throughout the country. Labor leaders are jailed for their resistance, and many Americans of German descent are viewed with suspicion. This extends to the American Jewish community as well, with its ties to Germany, middle Europe, and Russia, which is consumed with the Bolshevik revolution. German nationals are stranded in America. Among them is a young man named Martin Thurnauer, who works for the company during the war and becomes a friend of the family. After the Armistice, Martin returns to Germany. Later, when he perceives the rising threat of Nazism, Martin will return to the U.S. and assist other Jews in escaping Germany and settling here. Martin will join the company, along with many of those he helps to safety, and play a critical role in its operations.

A decade after its founding, electric fixtures dominate the company's business; it changes its name to The New York Gas and Electric Fixture Company in 1915 and publishes its first all-electric catalog. As the gas lighting business dies out and fashion grows in importance, the young company changes its identity again in 1918. Uncle Charlie Gottesman coins the new name, Lightolier, by combining "light" and "chandelier."



II A WINDOW ON INTERIOR DESIGN > 1904 > 1920

At the dawn of the 20th century, two decades after the invention of the light bulb and well into the industrial age, traditional Beaux-Arts architecture remained the dominant style, and interiors had the weighty clutter and dim lighting typical of the Victorian era. As Europe emerged from a period of political and social conflict, there were those who sought a new approach to design, one more suited to the modern world. Josef Hoffmann and his Wiener Werkstatte colleagues, Antonio St'Elia and his fellow Futurists, Reitveld and others at De Stijl, the Russian Constructivists, and, of course, the Bauhaus under Walter Gropius, would all help to shape a new aesthetic that would affect every aspect of architecture and design in the decades ahead.

In a bright new century, America began to shake off the apron strings that tied it to Europe, taking chances on new ideas and inventions, homegrown as well as imported. These decades introduce ragtime jazz, talking pictures, traffic lights, and the transcontinental telephone. Einstein proposed his Theory of Relativity and Elsie de Wolfe invented the profession of interior decorator.

Modern times called for a new look in interiors — dark colors and clutter were out, simplicity, comfort and function were in — and our homes took on the first faint flushes of what would become a singularly "American" look befitting our egalitarian lifestyle. European Art Nouveau was generally too fancy for American taste, but striking Tiffany lamps, with colorful favrile glass shades that protected eyes from the imagined hazards of electric light, were a must-have in fashionable homes. Frank Lloyd Wright went his own way in his Prairie Houses for dedicated clients, but the English Arts & Crafts style was translated by Gustav Stickley and others into an affordable American variety — one less morally-motivated and far more practical than that of the William Morris school.

As the decades drew to a close, Cubism had shaken up the art world and the seeds of design change had been sown. The optimism, however, was dimmed by the shadow of international conflict. World War I devastated Europe, but America's victory helped establish it as a major nation.

FORMATIVE YEARS

1920
1945

III

Wall Street, c. 1929

THE ROARING '20s

The post-war years bring much of America dizzying prosperity. It is the age of F. Scott Fitzgerald, General Motors, and the Wall Street syndicates. Money is cheap and fuels a boom in real estate and stock market speculation. The 1920s also ban beer, wine, and spirits; grant women the right to vote; and initiate our enduring love affair with parkways and suburban development. Americans visiting Europe bring back fresh ideas of style — in art, music, and design. Grafted onto native ingenuity and frontier heritage, these new ideas inspire a looser lifestyle than in the previous era.

For the newly named Lightolier company, the '20s bring more business success. Now well established, the company emphasizes distinctive products, sells aggressively, and promotes its brand. As the decade ends, however, Lightolier will face the challenges of leadership succession and the Great Depression.

Automobile showroom, c. 1930, Lightolier pendants

Art Deco interior, c. 1930

BUILDING A SALES FORCE

From its inception, Lightolier is a selling company, employing and training its own salespeople. Shortly before his death, Moses Blitzer recalled, "Our sales training program began with the hiring of our first salesman."

At first, new hires work in the store to become familiar with the products. Then they travel with more experienced salespeople. There are numerous techniques to master, mostly about preparation and determination. Look the part — shoes shined, clothes pressed, and a clean collar. Ask where the train is going! (Most salespeople traveled by train in the early days.) Befriend your customers, learn when they are accessible for sales calls so you can plan the day to catch them at the right times. Study how the products fit into a customer's business so you can position them effectively and explain how they will turn a profit for him. Use the company's advertising copy; it's usually better than your own words. Be sure not to waste the buyer's time talking about the relatively unessential. Sell with a picture of success in your mind; be emphatic. Take notes, so when a customer says he has enough, you can remind him on your next call. Recall what made a call click, so you can gain by the experience. Study your colleagues; each salesman has his own style, but salesmanship is a subject one can always learn more about.

Lightolier Link, customer newsletter, c. 1926

Lightolier delivers sales training through meetings, printed manuals, and weekly letters to the salesmen. For many years, these are written by Bob Fish, Moses' brother-in-law. Salespeople respond with their own letters and suggestions, for which they are rewarded. "No salesman without an occasional original idea is worthy of being a Lightolier rep," says Moses.

The salesmen who begin with the company in the years before World War II — Sam Black, Pierson Cohen, Jesse Erlebaum, Jackie Ellis, Leon Richman, and many others — become the stuff of legends. And, of course, there are the stories, handed down over the decades: the salesman who has friends call up the customer to ask for the products he is about to sell or those extra "ticks" on the order pad that make 6 into 16. Certainly, the Lightolier sales force sells aggressively and with an esprit de corps unequalled in the industry. But, ultimately, its success depends on satisfying the customer in terms of product turn and margin and personal service. That so many of these salespeople earn a good living, advance in the company, and achieve strong market penetration testifies to the fundamental soundness of their techniques.

Sam Black, c. 1947

Leon Richman and Jack Blitzer, c. 1947

Jesse Erlebaum, c. 1947

Pierson Cohen, c. 1940

Bob Fish, c. 1940

BUILDING A CUSTOMER BASE

As electric lighting matures, demand for the modern, clean, and efficient illumination is strong, and the company prospers with growing sales and profitability. The company augments its sales to local peddlers by reaching out to distributors and resellers in other cities. Hoboken, just a ferry trip across the river, electrifies in the first decade of the century and offers a ripe market. These out-of-town accounts, initially businesses very similar to The New York Gas Appliance Company, become the company's most promising opportunity — and its road to the future. From its early days, the company develops a distinctive competence in "business-to-business" marketing. It becomes one of the company's core growth strategies.

The electrical supply industry grows up with the electrification and wiring of the country. In 1908, the Electrical Supply Jobbers Association forms in Chicago. It moves to New York City in 1928 and changes its name to the National Electrical Wholesalers Association. It will become the National Association of Electrical Dealers in 1949. Westinghouse incorporates its Electric Supply Company in 1922 and General Electric starts its wholesale supply operations in 1928.

These are the large supply companies, focused on commercial and industrial users. Lightolier's early customers, however, are the smaller, independent businesses who supply residential building, as well as commercial projects. Some of these firms have roots in the earliest days of the electrical industry; many others start during the boom times of the 1920s. Initially, the supply companies provide a wide range of products, from electrical wiring to appliances to lighting. There are few lighting showrooms, as we know them today. But savvy merchants across the country see the opportunity presented by lighting and look to Lightolier for product and selling ideas.

Lightolier helps its customers to enter the lighting business and to merchandise and sell effectively. The company learns from its customers in return and then spreads the knowledge across the country. Many of the relationships formed at this time — between Lightolier and its customers and, equally important, between Lightolier salespeople and the buyers and merchandisers they sell to — will carry the company forward through more than two generations of ownership.

Buffalo, New York showroom, c. 1921

ART AND SCIENCE

While most competitors simply copy existing parts and products, the company sees the value in original designs. It hires a Swedish designer, Thure Dahl, who has left England rather than enlist in the war or stay on the home front.

Dahl has what it takes. He introduces tassels as a differentiating feature, the first of several successful ideas. Thure Dahl's initial designs are inspired by the silk shades of English fashion. As one salesperson says, "Anything with a tassel will sell." They become the successful Corona line. Other fixtures feature proprietary glassware or bare bulbs. Flame-shaped lamps are still in the future.

In the '20s, Lightolier develops Da-Ray (pronounced day-ray), performance-oriented pendants and torchieres with pressed glass diffusers. Marketed with photometric reports from the Independent Testing Laboratory, Da-Ray becomes a best selling line, illuminating stores, churches, and public circulation spaces. Flexlite introduced in the 1930s offers separately controlled uplight and downlight at different intensities.

By the 1920s, Lightolier has become identified with originality in design. Bernhard and Moses repeatedly oppose the copying and design piracy prevalent in the lighting industry. Moses says proudly, "At Lightolier, we do not design with our competitor's catalog open on the desk." But flagrant copying is a by-product of — if not the fuel for — a wide-open lighting fixture business. As with fashion everywhere, only intensive branding protects the originators of new ideas.

Carl Moser and Moses Blitzer, 1950s

As the company moves into the 1930s, it hires Carl Moser, another designer from Scandinavia. Although Moser has no experience with lighting, he soon becomes adept, ultimately adding color to his glass designs. Moser's influence extends into the early 1950s.

Reproduction of Lightolier Advertisement—New York Times, March 18, 1923.
Display this Advertisement in your showrooms or show-window.

YOU CANNOT AFFORD TO OVERLOOK LIGHTOLIER WHEN YOU MAKE YOUR SELECTION

Beautiful—and yet scientifically correct

The striking color combination of silk shade in most unusual colors, with genuine pottery vase of jet black or blue have made this Lightolier table lamp quite unusual and distinctly a feature of Lightolier galleries. $23.50 complete.

From the hand tailored flat silk shade with its thread silk fringe and tassels, to its browntone and gold, or black and gold or just simple mahogany finish, this Lightolier bridge lamp will be more than satisfying, both as to looks and as to price. $19.50 complete.

If it is a Chinese teak-wood table to go with an Oriental lamp you will find it at Lightolier, or if it is just a simple little mirror, or side table, to accentuate the quaint beauty of a bridge lamp, you will find it at Lightolier.

The odd lamp shade, shields in parchment or silk and decorative tasseled ropes, are all displayed in splendid profusion at Lightolier.

THE DINNER TABLE with sparkling glass, shimmering silver and vivid whiteness of napery, bids you welcome under the magic of Lightolier Corona.

The impulse of style has again returned the dining room lighting fixture to its proper position over the table. And in this return of the dining room fixture the scientist has joined hands with the artist and craftsman and together they have wrought the finest of all dining room fixtures—the new Lightolier Corona.

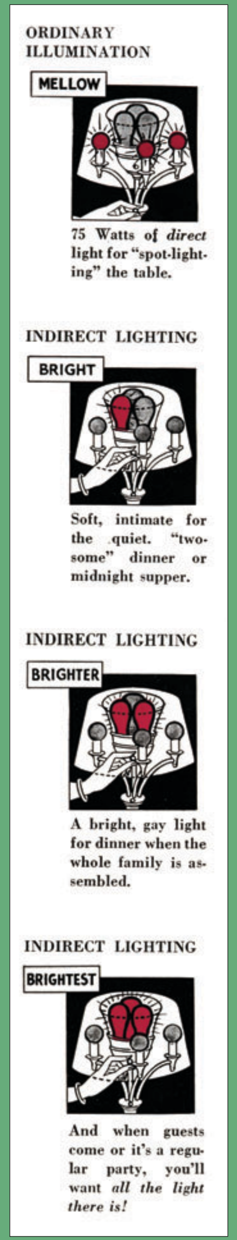
A vital part of the artistically correct Lightolier Corona is the scientifically accurate, patent protected, lighting bowl. No other designers have succeeded in producing a bowl which floods the table with light, and also diffuses a soft radiance throughout the room.

There is a Lightolier for every room in the house at a price that will come well within your appropriation, no matter how modest it may be. See Lightoliers for yourself in our spacious galleries. Lightolier is most accessible by the B. R. T. Subway. The Prince St. Station is right at our door. Number 569 Broadway.

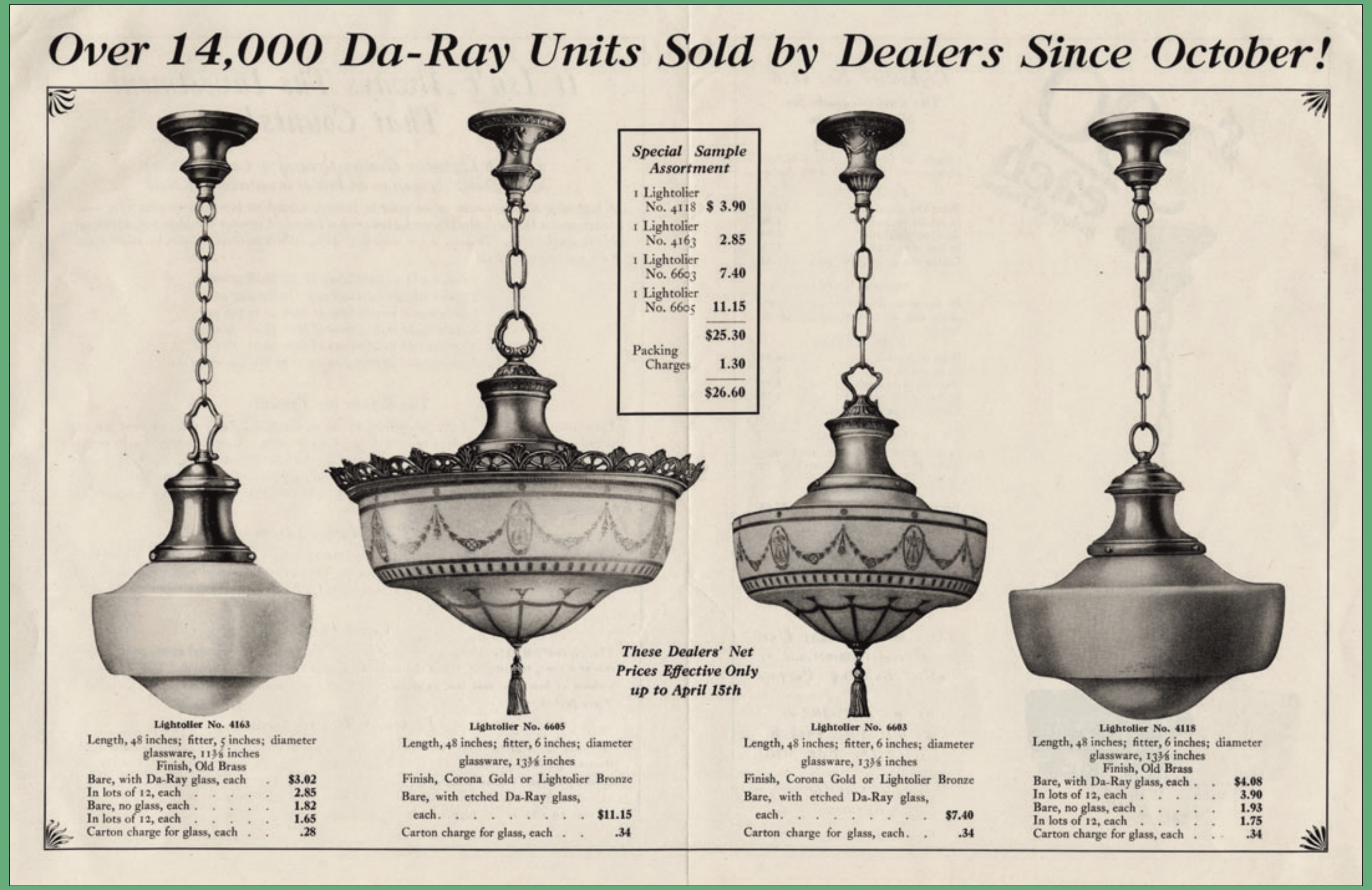
Lightolier Coronas represent a skillful adaptation of the designs of Louis XVI, shown in this illustration, the Brothers Adam, Chippendale and Modernized Georgian in four distinct models produced in Lightolier plants. Lightoliers bear ample evidence that lighting fixtures, to be beautiful, need not be expensive.

Lightolier
569 Broadway
At Prince St. Station, B.R.T.

Corona advertisement, 1923



Flexlite, 1930s



Da-Ray promotion, c. 1925

AFTER SUNSET — LIGHTOLIER

In the 1920s, the company begins to advertise in upscale "shelter" magazines, such as *The House Beautiful* and *Country Living*. The tagline, "After Sunset — Lightolier," recognizes that most homeowners do not operate their electric lighting during the day because electricity is still relatively expensive. Lightolier's phrase catches attention, and the company prints the slogan on its packing tape.

Continued advertising builds the Lightolier brand and ties its lighting to elegant and modern living. One full-page ad from 1922 suggests "Two Ways of Lighting a Bedroom." Another offers, "Here Are Two Ideal Ways of Lighting Your Living Room." And a third introduces "The Charm of a Well-Lighted Living Room."

The company uses the term "Lightoliers" to distinguish its products. As Moses recalled, "Everyone else sold chandeliers, we offered Lightoliers." A 1923 ad has a proud consumer proclaim, "We put Lightoliers in every room." By the end of the decade, Lightolier is advertising "Exquisite Lighting Effects are Developed in These New Fixtures" and "Light for Better Living."

In 1928, Lightolier publishes its *Blue Book of Authentic Designs in Decorative Lighting*. The 80-page catalog features over 300 items, an impressive assortment, ranging from lavish crystal chandeliers to simple utility fixtures, including exit signs! Equally impressive are the 11 application renderings, done in a detailed pen and ink style. The tone is knowledgeable and confidently upscale.

The first properly titled *Style Book* arrives in 1930. Now 96 pages, with over 400 items, it features an illustrated cover in an Art Deco motif. There are 21 pages devoted to styling, merchandising, and how to use "light for better living." "The Spirit of the Moderns" — a small Deco-inspired collection — takes its place among the more traditional styles. And portable lamps make an important entry into the line. A major section of the book profiles public buildings, hotels, churches, and schools, along with an assortment of appropriate fixtures. The company's showroom, galleries, and modern plant rate a two-page spread with 10 photographs.

The elements of this initial *Style Book* — application and styling ideas, family presentation, a broad line of residential and commercial products — are what we call today "value-added marketing," and they set the course for the rest of the century.

The House Beautiful, 1922

Country Life, 1922

The Architect, 1923

After Sunset LIGHTOLIERS

SUCCESSION

Bernhard Blitzer dies in 1928. He arrived nearly penniless and leaves wealthy, at least in a modest way. In a quarter century, he has built a lighting company from nothing to prominence and financial success. And he has left it to a new generation, already well seasoned in the business.

Moses Blitzer, now 38 and with 24 years of experience in the business, becomes president. Where his father had a well-brushed, serious demeanor, Moses comes across as a more comfortable man, constantly photographed with a smile. The soft button-down of the new generation replaces the starched collar of the last.

He brings in his brother-in-law, Bob Fish, who in his sales letters and marketing pieces becomes the "voice" of Lightolier to its salesforce and customers. There are numerous other relatives throughout the company. Jack Blitzer, Moses' brother, is vice president for sales. Pierson Cohen, another brother-in-law, is a key salesperson.

Martin Thurnauer returns from Germany and heads up the company's operations. He is Moses' close friend, trusted confident, and right-hand man. The power and influence of an "outsider" rankles some family members, and several ultimately depart the company. But Lightolier, already a large and complex company in its industry, needs the vigor of outside ideas. The ability to recognize, attract, and promote external talent is a trait that will serve in the decades ahead. During the 1930s, Thurnauer visits Germany several times to help Jews escape the rising danger of Nazism. The talent that joins Lightolier is a small reflection of the hundreds of architects, artists, scientists, and scholars who settle in the United States and ultimately make a remarkable contribution in a wide range of fields.

In a step that is quite uncommon for the time, Moses begins to sell stock in the company, still a private corporation, to key executives at modest prices. As Mike Loebelson, later Vice President of Sales, recalled in 1979, "His [Moses'] purpose was to enlist greater loyalty, cooperation and the enthusiasm which comes with being an owner, rather than just an employee. His own description of the result, 'The more I give away, the more I have left over for myself' — tells its own story." The principle of widespread employee ownership in the company will continue to be a part of the corporate culture when the company goes public in 1969 and later becomes part of The Genlyte Group.

Moses Blitzer and Martin Thurnauer, 1950s

Mike Loebelson, 1954

SERVICE STRIPES FOR HARD TIMES

The company's second president, known as "M.D." (for Moses David) to most at Lightolier, has little time to settle into his new role. In October 1929, Wall Street implodes. Easy money, rampant speculation, and rigged syndicates bring a crashing end to the bull market of the '20s. While those with direct losses in the stock market represent just a small fraction of the population, no one remains untouched by the national and worldwide Depression that follows. One immediate consequence is the abrupt end of the building boom. Nearly 20 years will pass until the post-World War II expansion fuels another ebullient construction market.

Of course, it is not immediately apparent that the economy will sink into a decade of idleness, bankruptcy, and despair. But, the new Lightolier leadership must sense that there is peril ahead. Moses slashes marketing expenses by 50 percent and imposes a 5 percent reduction in salaries. There will be several more such pay cuts in the coming years, culminating in a 25 percent overall drop in compensation. Veterans of these tough years will call them "service stripes."

During the 1930s, Lightolier responds to the general business contraction by continuing to rein in expenses, refining its product mix, and sharpening its promotion. Business does not disappear, especially for a company catering to the upper part of the market. For some, continued luxury is a necessity; for others, hard times mean more modest furnishings. Nevertheless, people and businesses move and refurnish; lighting must be installed. Lightolier places more emphasis on remodeling — both residential and commercial — and on table and floor lamps, which grow to nearly half the business. And, mindful of opportunity, the company bucks the national trend and expands.

Breadline, New York City, 1931

346 Claremont Avenue, Jersey City, 1930s

EXPANSION

By the mid-1920s, Lightolier has outgrown its manufacturing operations in crowded Manhattan. In 1926, it purchases a 350,000-square-foot factory in Jersey City from the Western Electric Corporation and moves across the Hudson River. By 1929, the company has grown to 700 employees.

In 1930, just as the boom of the 1920s passes, Marshall Fields opens the Merchandise Mart in Chicago. It is a massive building, 4,000,000 square feet across two city blocks, and hosts a variety of showrooms. It is an aggressive move, and, initially, it does not succeed. Joseph P. Kennedy, successful banker, industrialist, ambassador, and alleged bootlegger, will purchase the Mart in 1945 at about half of what it cost to build. In 1930, Pierson Cohen secures what he argues is a favorable lease, and persuades M.D. to open a showroom. Lightolier will remain a tenant in the space for nearly 60 years, and it proves invaluable to building the company's business throughout the Midwest.

In 1934, the company moves its primary New York City showroom uptown to 11 East 36th Street, between Fifth and Madison Avenues, just a few blocks from the recently completed Empire State Building. This new address better suits the up-market profile of the company and will be its face to the New York design community for the next 50 years.

11 East 36th Street, New York City, 1934

THE HANDBOOK TO LIGHTING FIXTURE SUCCESS

In 1932, following two years of diminished construction, Lightolier publishes *The Handbook to Lighting Fixture Success.* Subtitled "a guide for the electrical dealer who thinks," this remarkable booklet opens, "It's not easy to forget the golden years of 1928 and 1929 — but on one thing every intelligent person must agree: there is no profit today in dreaming of yesterday." It continues by identifying market opportunities (re-fixturing, stores, technology, and pent-up demand for housing) and propounding successful business practices (purchasing, promotion, sales, display, and collection).

The *Handbook,* which is still fondly recalled today, is actually an expansion of an earlier piece, *Forging Ahead to Lighting Fixture Profits.* And it encapsulates more than a decade of trying to "sell through, not to" its customers, helping them build their trade. Most of its business lessons sound familiar: Concentrate your purchases. Buy for net profit. Expand with advertising. Use direct mail. Group your displays. Create a feeling of reality. Promote your most important merchandise on the most prominent outlets. Maintain displays in perfect condition. Light your store. And many of today's merchants might adopt some of the selling tips: Make your customer feel important. Display the order pad. Get a list of all requirements. Get the move-in date. Emphasize the package, not individual prices.

The *Handbook* goes on for 68 pages, including merchandising illustrations, promotional letters, handling objections. Interestingly, the showroom photographs come from around the country, not the company's backyard: Atlanta, Cincinnati, Jamestown, and Wichita.

While some of this material is common sense, much is specific to the texture of the lighting business, a testament to its being written in house, largely by Bob Fish.

A few years later, in the teeth of the Depression, Lightolier publishes *The Charm of a Light Conditioned Home.* The 24-page consumer-oriented booklet combines what you should know about lighting with application photographs and a small assortment of fixtures for each area in the home. The booklet also includes a planning schedule and Lightolier's written guarantee. Lightolier publishes three editions, the last in 1941, distributing over 1,000,000 copies in total.

The Handbook to Lighting Fixture Success, 1932

MODERN(E) TIMES

Lightolier continues to develop new designs during the 1930s and promote them through new editions of the Stylebook. The end of the decade sees two notable introductions. At one end of the spectrum is a line of chandeliers in the style of the 18th Century to commemorate Colonial Williamsburg, opened in Virginia with Rockefeller funding. Lightolier's Henry Stollnitz researches English designs of the Georgian era and names his fixtures after historical estates. Lightolier merchandises the collection with a handbook on lighting history that is used to train distributor salespeople. Over time, the term "Williamsburg" – after the town – comes to describe any style inspired by Georgian-era design, regardless of the authenticity.

At the other end of the spectrum is a collection of floor and table lamps executed in modern style by the designer Kurt Versen. The latter catches the eye of home furnishing and fashion critics, and the introduction is reported in *The New York Times*, among other major newspapers. The streamlined style, known as Art Moderne, captures only a little of the Lightolier product line. The austere styling does not make much of an impact on the market, and the products quickly fade from the line.

Modern is more than style. Lightolier applies functional lighting ideas to a growing segment of commercially directed products, such as direct/indirect pendants with a combination of diffusing and prismatic glass.

Meanwhile, an innovation appears that will dramatically change lighting. The first commercial fluorescent light sources debut in 1938 and are featured the following year in the New York World's Fair and the San Francisco Golden Gate Exposition. General Electric applies for its first patent in 1936, which is awarded in 1941. Its efforts are bolstered by the purchase of a 1927 German patent and paralleled by competing manufacturers.

The roots of fluorescent technology reach back, however, to the American Peter Cooper Hewitt's mercury-based lamps, introduced in 1901.

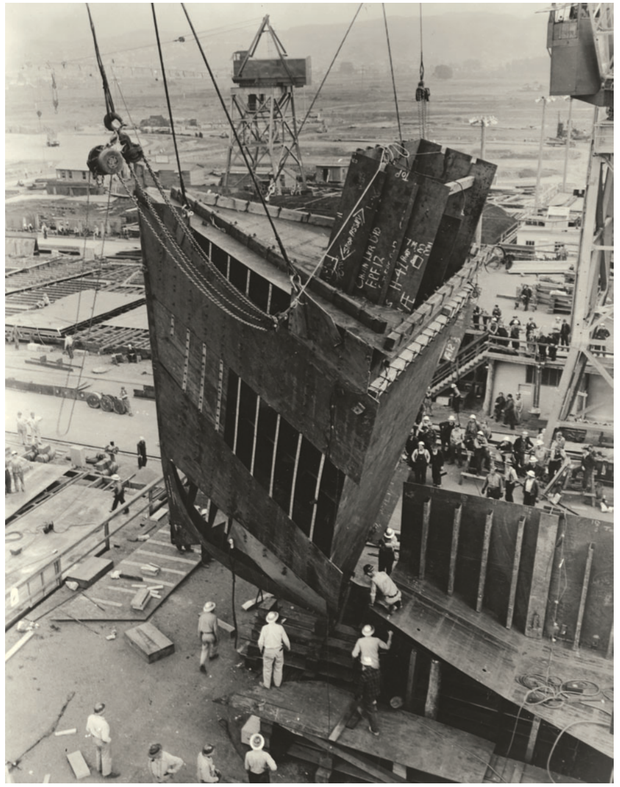
The chief appeal of the technology, then as now, is its high efficiency and long life. An early fluorescent demonstration in France achieves 30 lumens per watt, three times the efficacy of filament sources. It so surprises one U.S. engineer that he thinks the data are a misprint of 3.0 LPW! There are no fluorescent fixtures in 1938, of course. But the need to light America's re-industrialization for the Second World War will change that – and transform the lighting fixture industry as well.

Kurt Versen designed Lightolier floor lamps, 1938

Colonial Williamsburg

New York World's Fair, 1939

• The first commercial fluorescent tubes debut in 1938.]



Building a Liberty ship, c. 1943

THE WORLD GOES TO WAR — AGAIN

In September 1939, Germany stuns the world with its blitzkrieg of Poland. By late 1941, the Nazi regime and its Axis partners rule all of Continental Europe and Scandinavia, with the exception of neutrals, Spain, Switzerland, and Sweden. Their dominion extends to the gates of Moscow and Cairo and contests the airspace over Great Britain. On December 7, 1941, Japan surprises the U.S. Pacific Fleet at Pearl Harbor, and the United States enters the war.

The "Arsenal of Democracy" gears up for war. As the nation enters the fighting, the Army is small, untested in battle, and poorly equipped. The Navy, deprived of battleships by the Japanese air attack, depends on its surviving, but aging, aircraft carriers. The Air Force is still an appendage of the army.

Civilian industry converts to war production: arms and ammunition, uniforms and rations, tanks and other vehicles, ships and aircraft, communications and fuel — both for U.S. forces and for our beleaguered allies, Britain and Russia. As more men join the armed forces, women take their places on production lines. Initially, demand swamps capacity. But quickly America learns to produce equipment at a blistering pace. In these early days of the war, speed and urgency are paramount.

For the civilian industry that is not involved in the war effort, there is no immediate recovery from the tough years of the 1930s. Purchasing power is sopped up by Government spending, consumers are focused on the war, and raw materials are redirected to military use.

LIGHTOLIER GOES TO SEA

Becoming involved in the war effort is not only a moral imperative, it is an economic one as well. Lacking both essential production capabilities and Government connections, Lightolier strives to find a role.

The Navy is an important lighting user, so Lightolier calls on its purchasing agents and sends off numerous letters. But, the company is ill-suited for manufacturing the industrial-grade products the Navy seeks, and it gets nowhere. Finally, Jack Blitzer manages an introduction to an admiral. It turns out that the Navy has a serious problem: due to the exacting metric specifications, no one has produced the lights required for reading charts, which in turn is delaying the completion of much-needed ships. Jack suggests that if the Navy really needs the chart lights, they should "get any kind of light that will do the trick and get the ships off." His pragmatic approach finally gets Lightolier noticed by the Purchasing Office.

It is a crucial sales opportunity, and M.D. takes the lead personally. Right away, he is in trouble. Procurement wants to qualify any supplier: Does Lightolier have any foundries, any sheet metal works, or any production facilities that justify its entering this business? As M.D. recalled, "In every case, I came to the answer that we were as ill-fitted to make Navy lighting as anyone they could find." But the issue of deliveries keeps Lightolier in the running. M.D. asks for a few more minutes to tell one of his grandfather's stories.

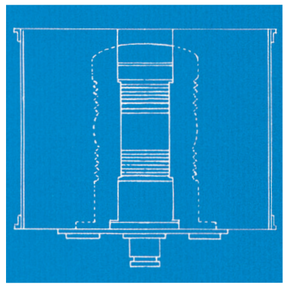
He trots out a tale at least two generations old: A wealthy gentleman is hiring a coachman and after much examination is still not satisfied. He asks each candidate, "Tell me, what would you do if I employed you, and you had to drive a sleigh through hilly country, with poorly shod horses, a light snow cover, and the requirement to make the trip as fast as possible?" The candidates each give some answer about how they would control the sleigh and the horses. Finally one man says, "It looks like someone is bound to break his neck, but you have to take the chance and go." He gets the job. A few days later, Lightolier is offered its first Navy order.

Lightolier Defense Capabilities, 1940s

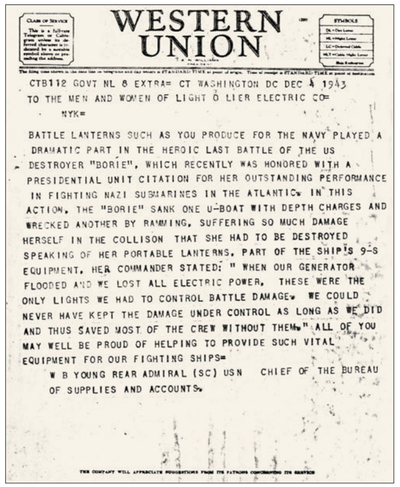
Lightolier employees, 1940s

"That's a hell of a way to sell lighting fixtures to the Navy, grandpa's stories," M.D. thinks."I knew all the reasons we were not entitled to the business, but my earnestness, frankness, and recognition of their problem enabled me to make the sale."

Lightolier winds up producing portable battle lanterns and receiving a letter of commendation for its efforts. Lightolier issues a catalog of its Navy-qualified fixtures to all shipyards, and its designers assist the Bureau of Ships in developing equipment from non-critical materials. As Sol Fisher, Lightolier's long-time Vice President of Purchasing, recalled, "We completely reorganized the plant for the production of marine lighting. This was a major undertaking, inasmuch as none of our production methods were applicable to these fixtures."



Navy Lantern, 1940s



WESTERN UNION

CTB112 GOVT NL 8 EXTRA= CT WASHINGTON DC DEC 4 1943
TO THE MEN AND WOMEN OF LIGHT O LIER ELECTRIC CO=
NYK=

BATTLE LANTERNS SUCH AS YOU PRODUCE FOR THE NAVY PLAYED A DRAMATIC PART IN THE HEROIC LAST BATTLE OF THE US DESTROYER "BORIE", WHICH RECENTLY WAS HONORED WITH A PRESIDENTIAL UNIT CITATION FOR HER OUTSTANDING PERFORMANCE IN FIGHTING NAZI SUBMARINES IN THE ATLANTIC= IN THIS ACTION, THE "BORIE" SANK ONE U-BOAT WITH DEPTH CHARGES AND WRECKED ANOTHER BY RAMMING, SUFFERING SO MUCH DAMAGE HERSELF IN THE COLLISON THAT SHE HAD TO BE DESTROYED SPEAKING OF HER PORTABLE LANTERNS, PART OF THE SHIP'S 9-S EQUIPMENT, HER COMMANDER STATED; " WHEN OUR GENERATOR FLOODED AND WE LOST ALL ELECTRIC POWER, THESE WERE THE ONLY LIGHTS WE HAD TO CONTROL BATTLE DAMAGE= WE COULD NEVER HAVE KEPT THE DAMAGE UNDER CONTROL AS LONG AS WE DID AND THUS SAVED MOST OF THE CREW WITHOUT THEM= " ALL OF YOU MAY WELL BE PROUD OF HELPING TO PROVIDE SUCH VITAL EQUIPMENT FOR OUR FIGHTING SHIPS=

W B YOUNG REAR ADMIRAL (SC) USN CHIEF OF THE BUREAU OF SUPPLIES AND ACCOUNTS=

Thank you telegram, 1944

Sol Fisher

III A WINDOW ON INTERIOR DESIGN 1920 1945

Though dominated by the crises of a worldwide depression and the rise of National Socialism, this era was also marked by cultural high points such as the discovery of the Tomb of Tutankhamun in 1922 and the founding of the Museum of Modern Art in 1929. Of no less significance, this tumultuous period also saw Modernism take root in American design.

The landmark 1925 Paris Exposition des Arts Décoratifs et Industriels Modernes showcased the style we now call Art Deco — a wake-up call to America, which had not yet produced any modern design. The luxurious new look was imported for museum and department store exhibitions, and democratized into "Streamline Style" or "Art Moderne," reflecting this country's fascination with fast-moving vehicles and modern machines.

Raymond Loewy, Henry Dreyfuss, Norman Bel Geddes, Donald Deskey and others, mostly trained in theater or advertising design, created the profession of industrial design. They dressed up ordinary household objects in stylish wrappings of plastic and aluminum that enabled even modest homes to acquire a modern touch.

America became a magnet for expatriate architects. Eero Saarinen and Richard Neutra, and later Bauhaus masters like Walter Gropius, Marcel Breuer and Mies van der Rohe, settled in this country. They brought with them a new approach to design that would inspire an entire generation of young Americans. The International Style, introduced in a landmark 1932 exhibition at the Museum of Modern Art, began to influence the retro styles that still dominated the American landscape.

We had bubble gum or Wheaties to chew on, Monopoly or yo-yos to play with, Scotch tape, Band-Aids and ballpoint pens. The Joy of Cooking encouraged home-cooked meals, and midway through, the repeal of Prohibition returned alcoholic beverages to bars and dinner tables.

The New York World's Fair in 1939 introduced nylon, television, and a bright vision of the future. But it also marked the end of an era, as Europe and America moved towards another war. Despite its hardships, military production led to the developments that would later spearhead a wave of design innovation. The war's most significant by-product, however, was the atomic bomb, whose mushroom cloud would cast a shadow on the postwar decades.

NEW OPPORTUNITIES

1945
1959

IV

PAX AMERICANA

The United States emerges triumphant from the Second World War — its armed forces victorious, and unlike Europe and Japan, its home country unscarred. It is a time for rebirth. Soldiers, sailors, and pilots return from abroad. Many marry promptly and just as quickly begin families. Some women find themselves pushed out of the industries they helped to sustain during the war. Others leave happily for careers as homemakers. The baby boom is begotten — or at least begun. Demand for consumer products, pent up from four years of war production, takes off. Housing, home furnishings, automobiles all enjoy strong sales growth. It is the dawn of popular television. American industry, much strengthened by four years of 'round the clock activity, shifts from war production back to consumer products.

Despite the horrors of the war — or perhaps because of them — an optimistic, progressive spirit rises. The United Nations is formed in 1945. The Marshall Plan to assist European recovery is articulated by the Truman administration in 1947. Homeowners again take on debt to fund their ever-growing appetite for consumption. Even the resumption of land warfare in Korea in 1950 (which will ultimately cost 50,000 American lives) cannot dampen consumer aspirations.

In these newly robust times, the challenge for a company such as Lightolier is no longer simple survival. More than just finding business, it is now critical to find the best opportunities. Otherwise, faster-growing rivals will come to dominate the market. There is an urgency to change, to discard conservative practices from the last 15 years, and to strike out in new directions: But in which direction?

The decades that follow the Second World War will dramatically transform the company with new leadership, new markets and products, and coast-to-coast expansion.

Levittown, 1950s

< New York City, c. 1950

THE NEXT GENERATION COMES FORWARD

The early post-war years bring new faces to the company, as those who served in the military return to civilian life. At the war's end, Moses is 55 years old. His eldest son, Edward, who first joined the company in 1939 and left for the Navy in 1942, returns in 1945. He begins in sales — the heart of the company — covering the Sears stores in Philadelphia. Ed says, "As I think anybody who has spent any real time at Lightolier would know, my father thought selling was the total center and most important part of any operation," says Ed, "And therefore, one had to learn to be a salesman."

Ed Blitzer, c. 1954

Bill Blitzer, c. 1954

Soon, however, Ed returns to headquarters to master the basics of sales management, under the tutelage of Moses and Bob Fish, now acting as a consultant. Bob writes ably, and for two decades, his voice has spoken through Lightolier's catalogs and weekly "Home Office News" letters, which advise salespeople and offer selling tips. Bob's tough style alienates some sales people, however, and he vies unsuccessfully with Martin Thurnauer for influence. When arthritis begins to cripple him, he resigns from the company. Ed is appointed sales manager.

Moses' second son, Bill, elects to pursue graduate work at MIT; 1949 finds him working as a research assistant in the architecture department. As Bill recalls, "I had a call from Ed, saying there was a job opportunity at Lightolier and if I were interested I should show an interest, stop having such a good time, and get down to work, which I did." He begins as Lightolier's first product engineer, tackling the thermal problems occasioned by new UL® standards for ceiling-mounted fixtures. Bill soon moves from engineering into design, and a remarkable and talented team begins to collect around him.

In 1950, Lightolier's design department consists of the veteran Carl Moser and a young Gerry Thurston. Gerry has a flair for contemporary styling, which is crucial for the design of portable lamps. Carl, on the other hand, is responsible for fixtures, but is nearing the end of his career. Business is strong enough to support expansion of the design group, although the first step is more serendipitous than planned.

Bill meets Noel Florence at a party in early 1950. Noel has studied industrial design at Cooper Union. But, as an English immigrant without much money, he is repairing automobiles to make ends meet. Close in age and interests, the two hit it off, and Noel joins the company and begins working with Carl Moser.

Kingsley Chan, whose family left China when the Nationalist government flees to Taiwan, has studied engineering. He is working in a Chinese restaurant when he spots Lightolier's help wanted ad in a newspaper. Living in Brooklyn, New York, he doesn't realize that Lightolier is two rivers away when he decides to apply. He takes two trains and a bus to reach the factory in Jersey City and is hired in 1954.

Tony Donato is a student at Parsons School of Design in 1953, looking for a summer job. He knows Lightolier from Parsons and from his father, who worked in the Lightolier factory. His interview is successful, and he goes to work with Gerry Thurston. Manny Newman, a German refugee by way of Cuba, also joins the group and brings additional engineering talent. Henry Muller, a Swiss emigré, familiar with the company from its advertisements, asks for an interview upon arriving in New York and is hired in 1960. Key additions to the manufacturing team also expand the company's capabilities.

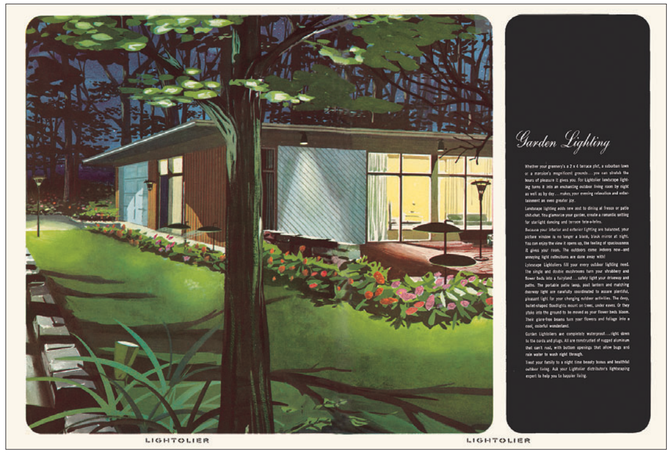
Lightolier's own efforts are supported by outside consultants, as well. Sam Hamel is an engineer who has worked for Robert Moses in developing the Jones Beach Theater complex. Mauritzio Tempestini, an Italian architect and designer, becomes a friend of the Blitzer family. Edward Wormley is a prominent designer, well known for his work with the Dunbar, and later, Drexel, companies. Tommy Parzinger, a pre-war German refugee, is a fashionable interior designer, recognized for refined approaches to a wide variety of furnishings.

Thus, within a short time, Lightolier has significantly strengthened its design team with diverse talents and an international background. They are led by an experienced pair of merchandise managers. In fixtures, Ted Berk is polished and quick to spot trends, while Sam Black is an excitable promoter of portable lamps. The next decade sees a flowering of new product ideas.

Kingsley Chan, left, Tony Donato, second right, c. 1955

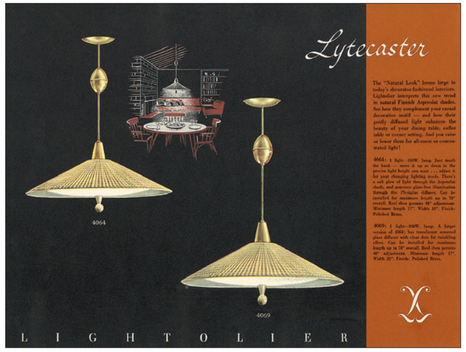
Gerry Thurston, c. 1967

Noel Florence, left, c. 1955



Lytescape outdoor lighting, 1954

Phenolic reading light, 1954



Lytecaster pendants, 1952

LIGHTOLIER GOES MODERN

Lightolier's first post-war offerings are little more than holdovers from the early 1940s. As Bill Blitzer recalls, "I was very much aware that the architects in whose presence I was working [at MIT] didn't have a great deal of respect for what Lightolier was doing. They thought we weren't really with it and that our products were not really responsive to what was going on in the field of architecture." Bob Fish is more dismissive: "In the immediate post-war years, we could sell anything we made — and we did; it was some of the worst junk to ever carry Lightolier's name."

Home construction booms after the war. It is spurred by strong demand from growing families, new highways, and the mortgage interest tax deduction (introduced in 1939). Affordable housing, blending "ranch" styling and open-plan interiors, caters to young buyers. Lightolier's first important introduction is Pacemaker. Designed by Carl Moser, Pacemaker is the original shallow, oversized ceiling bowl fixture designed for open-plan living spaces with relatively low ceilings. It is an immediate hit.

Moses' brother, Jack, begins to travel to Europe right after the war. He makes contacts with European designers, Tempestini and the Sciolari family among them, and brings home an appreciation of more functional and stylish lighting products. Jack's introductions pass to Moses and later to Bill. By Lightolier's 50th anniversary in 1954, a new spirit appears in the company's products, and a series of innovative ideas take their place alongside older designs.

European ideas of style — from Denmark, Finland, and especially Italy — stimulate Lightolier's thinking. Simple lines replace traditional ornament. Enhanced functionality augments style. Flexibility shows up in decorative pendants and wall fixtures with retractable cord suspension (the first UL® listed cord-reel construction), extendable "traveler" mounting tracks, counter weights, and pantograph mounting. New materials achieve pleasing luminosity. These include Permaweld shades; the first dielectrically welded, vinyl-coated steel frame shades with matchstick, wood veneer, and grass cloth covering; and the first flat-disk, radially pleated plastic diffusers.

Plastics are an important development and find their way into lighting in many areas. The first true plastic, Bakelite, known generically as phenolic, begins to see widespread use in consumer products. It is a thermoset material; once formed, it is solid and heat resistant. It is an effective insulator and can be integrally colored. Lightolier is the first company to incorporate compression-molded phenolic parts in portable lamps and lighting fixtures.

Lightolier's head of purchasing, Sol Fisher, plays a key role in bringing outside knowledge and capabilities to the company. His creativity — along with the craftsmanship of model makers and factory personnel — contributes significantly to product development.

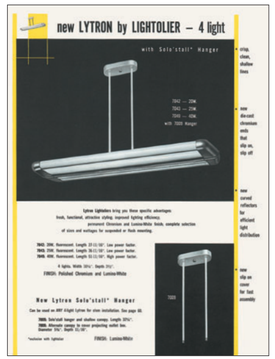
As suburban development spreads, interest grows in lighting residential landscapes. Lightolier introduces Lytescape, a line of garden-lighting equipment featuring the first deeply shielded, self-draining floodlights. Lytescape uses the waterproof PAR lamp, introduced in the 1940s. The product also features the Add-a-Unit Cordset, the first weatherproof plug-in system for tandem-wiring garden lighting.

Pacemaker ceiling fixture, 1950

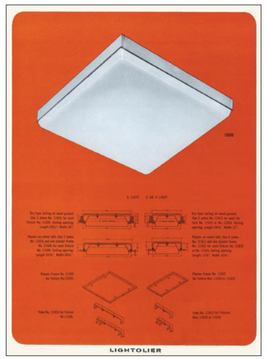
LIGHTOLIER'S FIRST FLUORESCENTS

Fluorescent lighting, first commercialized in 1938, becomes widely used in wartime factories. The lighting companies that produce these new fixtures are well positioned to expand into the growing commercial office market after the war ends. Lightolier, which manufactured specialty fixtures for the Navy, finds itself on the sidelines.

Although suitable for industrial use, the early open-channel fixtures are too glary for office applications. Simple louvers of stamped steel solve this problem by shielding the lamps, but the fixtures lack architectural appeal. Early plastic diffusers discolor badly.



Lytron pendant fixture, 1950



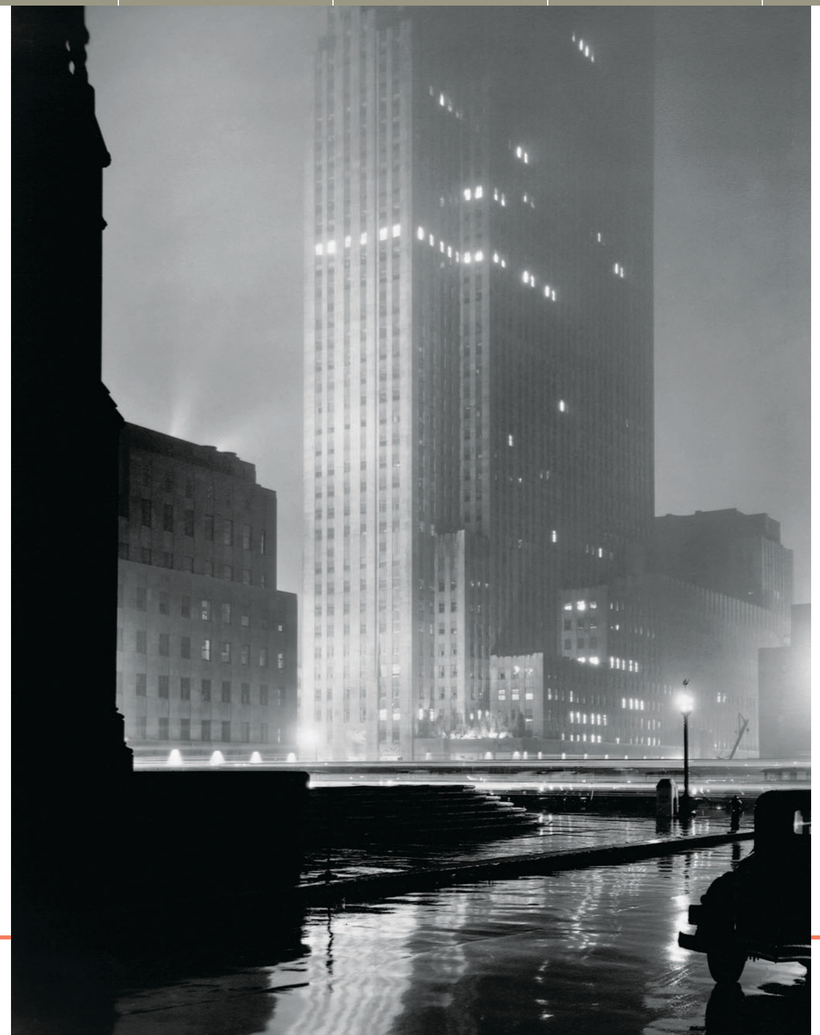
Optiplex surface fixture, 1952

Bill Klein is working as a salesman in New York City and collaborating with Ted Berk. As he remembers, "It was obvious that something better had to be done. I realized that the Plexiglas (acrylic) noses on bombers did not darken despite continual exposure to sunlight. It seemed like a good choice of material for a diffuser."

The concept has already been proved by the New Haven Railroad, which uses fluorescent lighting and Plexiglas diffusers in its passenger cars. Lightolier tracks down the vendor, Safety Car Heating and Lighting Company, and goes to work. And in 1947, Optiplex is born. It is a simple box with a translucent white acrylic diffuser — the first fixture with a modular, frameless, dished cover.

Klein succeeds in selling Optiplex to an addition to Rockefeller Center. The project architects agree that Optiplex not only looks better than the alternatives, it performs well too. The acrylic diffuser provides effective shielding, delivers superior efficiency, and wipes clean more easily than an egg-crate louver. With Optiplex, Lightolier enters the commercial fluorescent market.

The company's commercial competitors also recognize Optiplex's advantages and quickly copy it. Lightolier sees style as its primary means of differentiation and continues to develop distinctive designs. Strialux features a patented, corrugated vinyl diffuser with resilient edges for a secure, frameless installation. The textured lighting panel looks clean and distinctive, but the idea does not catch on. Another Lightolier innovation is Domex, the first frameless arched diffuser. The gently concaved surface and trimless detail suggest an intriguing and ambiguous depth. If these original ideas leave an impression on the architectural community, it does not show up in the sales results. Lightolier remains a minor player in the commercial office market.



Rockefeller Center, 1950s

Bill Klein, c. 1955

EXPLORING THE NEW TECHNOLOGY

Following Optiplex, Lightolier turns its attention to the residential markets, where the company's sales and marketing efforts are strongest. The technological advance of fluorescent lighting — and the bright washes of light it makes possible — captures the imagination of progressive architects. They incorporate valances and wall brackets into their modern home designs. Lightolier sees opportunities for new kitchen, bath, and circulation lighting. While its Lytron fixture appears just after the war, the exposed tube design is neither comfortable nor visually appealing. And it hardly stands out among competing products.

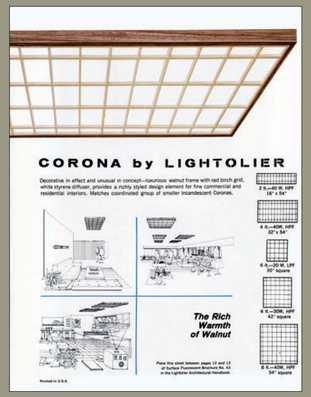
Lyteline wall fixture, c. 1957

Noel Florence inherits his first assignment from Carl Moser: a fluorescent bath fixture called Sightron. Sightron becomes the first fully enclosed fixture with an extruded plastic diffuser. "We patented it and it was selected for the Museum of Modern Art's permanent collection," Noel recalls. "The extruding process was quite new at the time but intrinsically low in cost. Pretty soon people doing office lighting started buying it, and we had to solve new problems to make it go in continuous rows." Sightron evolves into a modular design, ultimately including an injection-molded diffuser, the first such fixture in the industry.

Lightolier continues to develop new ideas around the fluorescent light source, focusing on fixtures that can be used both residentially and commercially. Lyteline is the first standard fluorescent wall bracket with baffled shielding. Prismalux is the first fixture to offer a one-piece, extruded lens/diffuser in two colors. Reflectaline is the first low-profile design to arrange the ballast in line and wrap a reflector tightly around the lamp. Corona is a ceiling-mounted fixture with a diffuser framed in wood. Its shoji-like styling is inspired by the exhibition of a traditional Japanese house at the Museum of Modern Art. Corona's walnut frame holds a finely scaled birch lattice, precisely arranged to obscure the image of the lamps on the diffuser, which permits a very shallow housing.

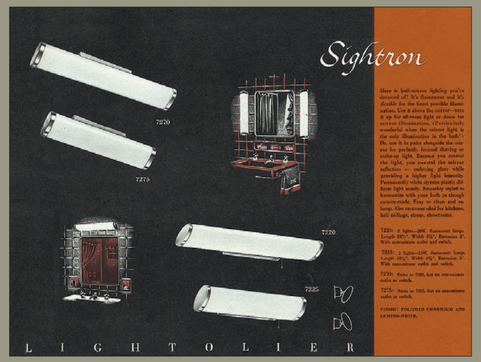
Ed and Bill Blitzer both light their homes in the mid 1950s, and their choices illustrate the appeal of the new fluorescent lighting beyond the kitchen and utility rooms. Ed's apartment on Manhattan's fashionable Central Park West features concealed fluorescent lighting in the dining room, Prismalux in the bathroom, and Corona in one of the bedrooms. Bill's summer home in the suburbs uses fluorescent valances over the bedroom closets and Lyteline on the living room wall. The lighting is still in place today.

Architectural interest in fluorescent lighting for the home peaks toward the end of 1950s and will not be equaled for the next half century.



Corona ceiling fixture, c. 1959

Sightron ceiling fixture, 1952



Sightron wall fixture, 1952

Seagram Building, c. 1960

Installing the Seagram luminous ceiling

THE SEAGRAM BUILDING

In 1958, the Seagram Building, a bronze glass office tower, opens on New York's Park Avenue to great acclaim. It is the only New York City building by noted architect Mies van der Rohe. But, it does not begin that way. Samuel Bronfman, the head of Seagram's, chooses Charles Luckman to design his new building. Luckman, originally trained as an architect, had risen to the top of Lever Brothers, makers of Pepsodent toothpaste and other well-known soaps, before leaving to return to architecture. The Lever House, by Skidmore, Owings & Merrill and completed in 1952, stands across the avenue from the Seagram site.

Bronfman's daughter, Phyllis Lambert, intervenes and campaigns for Mies van der Rohe and collaborator Philip Johnson instead. Father ultimately agrees with daughter — on condition that she oversee the project personally. While Mies has completed numerous landmark buildings, this is Johnson's first significant commercial commission. Luckman goes on to design other monumental projects, including the Cape Canaveral and Johnson Space Centers.

The design for the Seagram Building calls for a large-scale luminous ceiling around the perimeter offices so that the building will appear to glow from within. It is a high-profile project, and Lightolier decides to pursue it.

Bill Blitzer remembers, "It was in the newspapers, and we got on the trail of the job and found out that there was a competition. The scheme had been proposed, but no detailing had been done. The great challenge was that they wanted very large, uninterrupted panels of light. At the time, they were larger than anything we knew how to make or buy."

Noel Florence conceives a vacuum-formed diffuser in a frame. Lightolier's hand-made factory demonstration pleases the Seagram's Team, who award Lightolier the job and ask for a larger mock-up on site.

Working in the actual building, however, proves more difficult. When daylight glances over the installed panels, it reveals waves and bulges. Philip Johnson rejects the work, and a competing suggestion comes in for an alternate construction. Lightolier risks losing the order all together.

Noel, skeptical about the new idea and concerned about losing the job, takes a completely different approach: "I started reading about rigid vinyl and plastics in general and cold flow, which is what happens when you keep the plastic under stress. It will gradually stretch. And, if you heat it, the process goes faster." To accommodate the diffusers, nearly five feet on a side, Lightolier engages a loyal vendor to build a special hot water tank to heat the plastic, which when removed to cool, stretches tightly over the frame. The new concept eliminates the surface irregularities entirely, and Johnson approves the revised mock-up. Lightolier uses its own plating tanks — underutilized at the time — to complete the full production run.

There are other challenges: the design of the lighting cavity must eliminate any shadowing on the diffuser, a task complicated by ducts in the plenum. These are overcome as well. The luminous ceiling succeeds brilliantly. Photographed at night, the entire building glows richly, its curtain wall receding from view. Lightolier wins a lighting prize for its ingenuity. The Seagram Building finally elevates Lightolier's reputation in architectural circles.

CALCULITE DOWNLIGHTS

Recessed downlights first appear in the 1930s as adaptations of theatrical lighting equipment. Their first use is generally credited to Century Lighting, a pioneer in the field. In 1933, it introduces an ellipsoidal reflector theatrical spotlight, a breakthrough product commonly called a Leko or Lekolite, which takes the names of the company's founders — Joseph Levy and Ed Kook.

Early downlights assume several forms. Some are theatrical instruments, custom-fitted to architectural interiors; others are simple housings with glass diffusers. To deliver a beam of light effectively from a compact enclosure, downlights require precise optical control. This is achieved by means of highly polished reflectors, such as an ellipsoidal, which collects and redirects light through a small aperture.

Sam Hamel, c. 1954

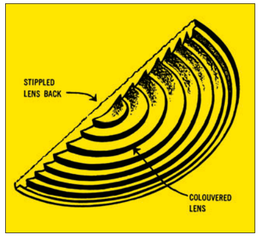
An earlier theatrical development, the fresnel spotlight, uses a molded glass lens to bend light into a beam. The idea originates with French physicist Augustine Fresnel, who develops it for use in lighthouses in the early 19th century. When adapted for a spotlight, the fresnel lens is basically a flattened plano-convex lens, whose curved surface has been echeloned into a thin disk. In a downlight, the fresnel lens bends the light down toward the floor and reduces glare.

By the late 1940s, pioneering designers, such as Abe Feder and Richard Kelly, are applying theatrical lighting techniques to enhance architectural compositions. Architecturally integrated lighting equipment begins to play an increasing role in expressing the clean lines and planes of the emerging architectural fashion.

Lightolier sees an opportunity but has little expertise to exploit it. It engages Sam Hamel as a consultant. An engineer with experience in building the Jones Beach Theater complex outside of New York and the new United Nations headquarters, Hamel has developed equipment for Century Lighting. Among Hamel's patented ideas is the colouvered fresnel lens, in which the risers in the lens are treated with colored enamel to tint the light.

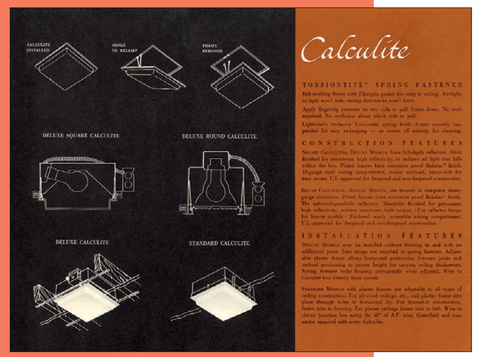
Working with Ted Berk, Hamel introduces the colouvered fresnel lens into a small aperture downlight as its distinguishing feature. At first, the colouvering has a coral color to impart a warm, pinkish tint; later, the risers are enameled gray to reduce glare. In 1952 Lightolier creates a line of downlights, including the colouvered fresnel, a pinhole and ring louver. The company names the new line Calculite.

Involved in a separate project, Noel Florence is researching concealed springs, which turn out to be expensive. While he is playing with a paper clip, he discovers that, when bent around on itself, it acts as a negative spring. The more you push it up through a slot, the tighter it gets. The more you pull it down, the easier it travels. From this, he invents the Tortiontite spring. Lightolier patents the device and then licenses it in the industry. Tortiontite fastening becomes a standard method of securing diffusers of all types.

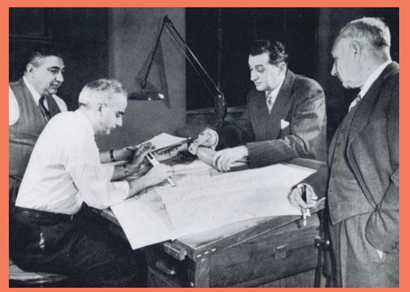


Colouvered lens

Calculite fresnel downlight, 1954

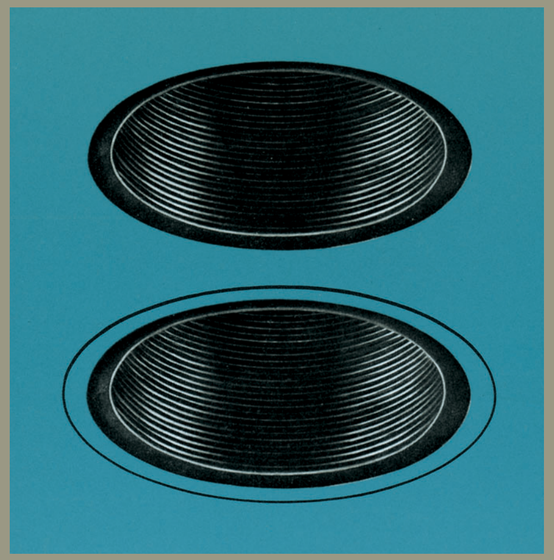


Calculite fresnel downlight, 1952

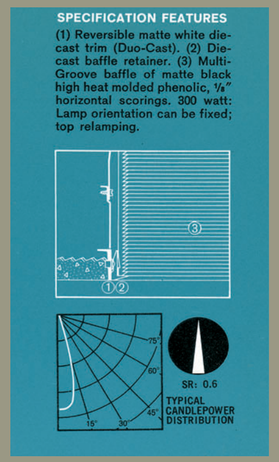


Paul Raskin, designer, Ted Berk, M.D. Blitzer, 1950s

• The colouvered fresnel lens differentiates Lightolier's new downlights.]



Multigroove downlight with reversible trim, c. 1960



Multigroove downlight, c. 1960

IN THE MULTIGROOVE

Lightolier includes round and square recessed Calculites in its 1952 Style Book, marketing downlights to residential applications for the first time. Fresnel downlights work well in low ceilings, but they lack the punch needed for use in most commercial applications. Higher-wattage fixtures require open apertures, which are often shielded by a baffle of formed metal rings that block stray light and reduce glare. The result is a costly fixture requiring a large and unsightly trim plate at the ceiling, which is objectionable to many architects by the late 1950s.

The solution walks in the door at Lightolier. As Bill Blitzer relates it, "We were approached by Oliver Lundquist and his partner, two architects who worked for Century Lighting. Ed Kook of Century and my dad were friends and not really competitors. Kook said, 'These architects have a new idea. I don't think we can use it to any advantage, but I believe you could.' And so we were introduced to what they called the "pipe coupling" – because of its tightly spaced, threaded sides. We ultimately named it Multigroove."

The 3" pipe coupling requires an expensive, machined spiral groove. In an example of the "organic" nature of product development at Lightolier, purchasing, design, manufacturing, and marketing collaborate to turn a clever concept into a winning product.

Lightolier designers, recently introduced to compression molded phenolic by the purchasing department, decide to mold the baffle in two parts. They translate the coupling concept into a series of tiny concentric ledges, each flat on top and sloped on the bottom, forming a continuous cylinder. Spaced 1/8" apart, the grooves block the light in the same way as the large widely spaced rings on the typical baffle of the time. Multigroove does not require a large trim plate; it is economical and easy to install. Multigroove reaches the market in 1959 and has a powerful impact.

The company's toolmakers ultimately figure out how to produce Multigroove from more durable aluminum by spinning a cylinder on a lathe and applying enough pressure to form the grooves. Finished in an optical black paint, Multigroove looks clean and quiet in the ceiling. A gentle glow on each edge says the light is on, while the finely textured surface of the baffle "organizes any dust that settles on the fixture," as the company advises its sales people.

Distinctive and easy to sell against clumsier alternatives and supported by advertising in architectural magazines, Multigroove gains champions among Lightolier's salespeople. They increase attention on architectural selling and move the company deeper into the business. But Multigroove affects more than Lightolier's sales penetration. Its winning design supports the desire of architects to "see the light, not the fixture" and leads to the growth of downlighting in both commercial and residential construction.

Calculite in 1966 Style Book

Tony Donato, 2003

"Tree" lamp, 1959

THE INVENTION OF LYTESPAN TRACK LIGHTING

A tense meeting is playing out at Lightolier's Claremont Avenue headquarters. It is 1957, and Lightolier's profitable "tree" lamp business faces a new competitive challenge. Tree lamps, with their adjustable spotlights, are a signature product in Lightolier's new modern, functionally driven product offering. The threat comes from an innovative pole version of the tree lamp. It's fresh; it's architectural. And to make matters worse, the new product comes from Stiffel.

As Bill Blitzer puts it, "Stiffel was not a company known for contemporary design. They made beautiful, classic reproductions of period styles. And now they were in our business."

Tony Donato echoes the consternation at headquarters: "Stiffel shook up the whole lighting community with their new way of lighting interiors. It was really a "cat pole," such as photographers would spring from the floor to the ceiling and clip floodlights onto for fill light."

Bill returns from seeing the new lamp, and the design team envisions Lightolier's "leapfrog" response: a pole lamp with detachable lighting elements that can be placed anywhere on the pole. Bulldog "Electristrip," a baseboard strip of extruded plastic with twist-on connectors, suggests how to implement the idea.

Together with Manny Newman, Tony starts to design and engineer a system of parallel electrical conductors held in an extruded aluminum channel and protected by an extruded plastic insulating sheath. The lighting elements connect by means of a rotating contact that simultaneously secures them to the channel. A small lever activates the connection.

Executing the system, however, takes time, and proving it to Underwriter's Laboratories, which has no standards for such a product, extends the process. Named Lytespan, because it spans from floor to ceiling, Lightolier's new pole lamp finally hits the market in 1959. The line includes adjustable Lytespots, an indirect element for ambient lighting, and a tray that serves as a small table. It is easy to envision a comfortable reading chair near the Lytespan pole, or pictures hanging on a nearby wall.

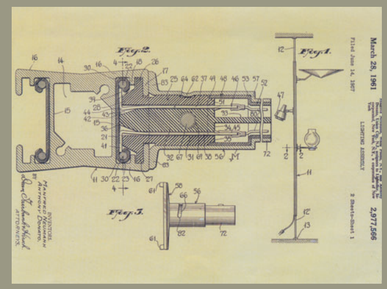
The tree lamp is just one source of inspiration. Electrified channel, such as Bulldog Trolley Duct, serves factory assembly lines, providing an electrical buss that holds plug-in power tools at any point. And, of course, theatrical lighting systems, with instruments clamped to a suspended pipe and plugged into an electrical channel, offer great flexibility. But, both of these approaches lack architectural appeal. In the 1950s, designer George Nelson adapts the electrical buss with custom spot lights to illuminate the new Bonniers store on New York's Madison Avenue. It's a straw in the wind.

The Lytespan pole lamp is an immediate hit with designers, but it is rather a niche product — and, with a separate pole and multiple attachments, fairly expensive.

The "ah ha" comes when a friendly architect comments that Lytespan would be more effective on the ceiling than as a pole lamp.

Lightolier undertakes another round of design and engineering to provide for ceiling installation, plug-in extension of the track modules, and permanent electrical connection. The Lytespots also require beefing up now that they are on the ceiling, instead of at your fingertips. The pole lamp and ceiling systems coexist for a brief time. But by the early 1960s, Lytespan track lighting has completely eclipsed the earlier concept and is transforming the lighting of museums, galleries, stores, and homes.

Lytespan catalog illustration, 1960s



Lytespan connector and pole patent drawing

Lytespan pole lamp, 1959

LIGHTOLIER LOOKS WEST

Harold Baldauf, 1967

Nat Blumberg, 1967

Mary Tatum, 2003

In 1948, Lightolier sends Nat Blumberg to develop sales in California. Nat, a cousin of Moses' wife, has been a successful salesman in New England. Tall, and graced with a broad smile and an engaging manner, he quickly plants roots in the West.

California in the 1940s and '50s is home to Hollywood and a thriving agricultural industry. The Second World War has brought military industries, particularly ship building and aerospace, and an influx of new workers. Disneyland opens in 1955. Popular culture depicts the Golden State as an alluring picture of sunshine, beaches, convertibles, and open development. Blessed with a big window on the Pacific, a wide-open pioneer ethos, and deep Asian and Hispanic cultural roots, California gains population and economic strength. Together with receptivity to modern design and relaxed life styles, this brews up fresh architectural ideas — a fertile ground for Lightolier's continuing development of modern-style lighting.

To establish Lightolier rapidly, Nat offers exclusive distribution arrangements to local lighting and electrical distributors. Their salespeople add "feet on the street" and promote the Lightolier brand. In 1960, Lightolier finally opens a showroom in Los Angeles. Nat is more than a fair judge of character and a good teacher. Many of the Lightolier salespeople he hires and trains continue in the company and build its franchise.

Equally important, Lightolier's presence in the West opens up opportunities for business expansion through acquisition over the next decades. Frequent business trips to the West bring East the unique perspectives of the West Coast marketplace. In 1956, Lightolier acquires Dorner Lighting and establishes a manufacturing presence in Los Angeles. The purchase will ultimately affect the company in ways it cannot possibly imagine.

Lightolier also sees opportunities in Texas. The automobile economy, with its dependence on plentiful oil, buoys the state and leads to growth in finance and other industries. Texans have wealth and are willing to spend it on their homes and businesses.

As Ed Blitzer recounts with a smile, "I particularly remember one day my dad coming to me and saying, 'Send Harold to Texas.' I said, 'What? Harold Baldauf!' Harold was a Jewish refugee from Germany. His English was pretty poor. And my dad said, 'He will make it.' I argued with my dad for a while, but he was totally right."

Harold is working in customer service at the time and he takes the assignment eagerly. He goes to Dallas where he begins to build a following among Texans, many of whom had yet to work with a Jew.

Mary Tatum, one of the many successful salespeople Harold later develops, remembers him this way:

> "Harold had a wonderful way of identifying with people and of making them feel that they were more important than whatever it was he was selling. He always had the customer's interest as his primary concern. If we talked about a project, it was never, 'How big is the order?' it was more, 'How are we meeting the needs of the customer?' And it always seemed that the size of the order followed without a problem. He saw specifiers and distributors as partners, rather than customers. And most of them became his personal friends."

Harold is also a shrewd negotiator and has an eye for sales talent. He settles permanently in Dallas and is personally responsible for developing the territory into one of Lightolier's strongest over the next three decades. He never loses his German accent entirely, but it acquires a gentle, Texas twang over the years.

Disneyland, 1950s

FIFTY YEARS YOUNG

In 1954 Lightolier celebrates its 50th anniversary with a black-tie dinner and special catalogs. If Moses Blitzer, now 64, is pleased, he has every reason to be. He has steered Lightolier for more than half of its already substantial life. The company has weathered the Great Depression and the dislocations of World War II. It is prospering with a broad product line and is taking advantage of the technological changes in lighting. Both Lightolier's showroom distributors, spread across the country, and consumers, hold the company's brand in high regard. Lightolier is a privately held corporation, with the stock in the hands of the Blitzer family and company executives. The next generation of leadership is in position.

Moses, personally, is revered by most of his colleagues at the company. Lightolier has given him — and numerous friends and family members — a good living. A high school dropout, he has continued his education at The New School for Social Research in New York's Greenwich Village. It is an intellectually stimulating and diverse environment, home to many émigré European thinkers. He has seen his sons graduate from prestigious private universities, marry, and produce four grandsons.

If there is a discordant note, albeit a very soft one, it is that the business is growing more complex. The vision and drive may be M.D.'s, but he does not run the company by himself, and he does not rely exclusively on relatives. Martin Thurnauer is his chief lieutenant, and Moses makes regular use of outside consultants, both for design and for business practice. But, the company will need more talent to continue to grow in the years ahead.

Lightolier's 50th Anniversary celebration, 1954

IV

A WINDOW ON INTERIOR DESIGN > 1945 > 1959

The period after World War II was a time of unprecedented growth and prosperity, limitless potential and widespread optimism. Consumers were eager to start buying again after years of rationing and wartime shortages, and military facilities returned to peacetime use. Atomic power was hailed for its promise of new possibilities.

New materials and technologies devised for war production were re-interpreted for the consumer market, giving birth to an era of fiberglass and Tupperware, the Frisbee and the hula-hoop, the microwave, the Polaroid camera and transistor radio, Scrabble, the Barbie Doll... and the TV remote control.

When Levittown opened in 1947, 1400 of the $7,990, 800-square-foot homes were sold the first day. The new suburban lifestyle called for a new look in design that proclaimed freedom from the past — and that look was Modernism. Open-plan interiors, walls of windows, patios, and freeform pools proliferated in white-walled homes fitted with furniture that was either straight-lined or comfortably biomorphic. Eames chairs, Saarinen pedestal chairs and tables, Nelson bubble lights, and other iconic designs coexisted with pole lamps, boomerang tables, Formica surfaces, matchstick blinds, foam cushions and Abstract-Expressionist prints. In addition to new materials, designers often borrowed motifs from the war, including camouflage patterns and the atom itself, which was used as a symbol of modernity.

For the first time, high art and popular culture adopted the same forms. As mediator between modern art and the consumer, design often became more extreme to reach a wider market, sometimes descending into kitsch. Mid-century Modernism, America's first truly original design genre, ran the gamut from superb to silly, but freedom meant the right to one's own taste, even if it was bad. As the period drew to a close, pop and op art, Mylar and primary colors were countered by the more subdued appeal of accessible styles of Scandinavian modernism. Reaching American shores in the 1950s, it became a tidal wave in the decade to follow

In the corporate world, Modernism spoke with a Bauhaus-born accent. International-Style buildings sprang up across America. Their glass-walled interiors inspired new types of lighting; a new genre of office-style furniture from companies like Knoll, Herman Miller, and Steelcase; and the new specialty of contract design.

ARCHITECTURAL EMPHASIS AND GROWTH

1959
1980

V

NEW FRONTIERS

A calendar of neat decades does not really capture history's many-stranded tapestry. As many historians have observed, the spirit of the sixties really begins with the prosperity of the fifties and ends darkly, prematurely, during the quagmire of the Vietnam War. Roiled times of protest, division, and economic troubles follow, until, at the end of the seventies, America is questioning its very confidence.

When newly elected President John F. Kennedy rides down Pennsylvania Avenue, grinning confidently, he refreshes the spirit of America. The vigor this young politician projects — and the bright advisors who make up his inner circle — suggest that all problems can be solved by intelligent, well-meaning people.

The "baby boom" generation enters adolescence and matures over the next two decades. Reared in post-war prosperity, it rebels against the conservatism and caution of parents who grew up in depression and war. Youth — challenging received cultural practice and opening its pocketbooks — establishes new styles in music, fashion, and home furnishings. Ironically, it is the generation born in hard times that achieves the substantial social changes in civil rights, which are perhaps the greatest heritage of these times.

But at the outset, building booms. Clusters of office towers, clad in steel and glass, spring up. "Urban renewal" hollows out the older core of many cities, and implants concrete cultural centers and high-rises. Skeins of highways feed suburban housing developments and enclosed shopping malls. Inside homes and offices, walls give way to open plan, as spaces are partitioned by furniture. Suspended ceilings become the standard in offices, supporting recessed lighting and concealing air conditioning ducts. Office windows no longer open. Massive mainframe computer systems dominate planning, accounting, and process control. Telephone networks connect far-flung facilities.

By the beginning of the 1960s, Lightolier has broadened its business, adding downlights and architectural fluorescent fixtures to its lines of decorative fixtures and portable lamps. And, the company is poised to launch track lighting. While enjoying this strong momentum, Lightolier faces a persistent challenge throughout the next two decades: how to manage and sustain its growth.

It is the ingenuity and drive of a new generation, taking the reins of the company — and a powerful sales and marketing organization — that propel Lightolier forward. Over the next twenty years, the company succeeds in expanding its product lines, facilities, and sales. Despite — or perhaps as a result of — these accomplishments, Lightolier finds itself in weakened financial condition at the end of the period.

1970s skyline, Houston

New and old: John F. Kennedy and Dwight D. Eisenhower, 1961

CHANGES AT THE TOP

In 1956, Moses Blitzer passes the presidency to his son Edward, retaining his role as chairman of the board. In 1964, Ed makes a very significant hire and brings in Fred Heller to help guide the operations of the company. Fred, educated in engineering, has 17 years of experience with The Burndy Corporation, a manufacturer of electrical devices, five of them as a general manager. Looking for advancement, he has several attractive employment offers. He meets Ed and several Lightolier board members for the first time and impresses them enough to receive an offer of employment.

Fred recalls, "I had a tough decision, whether to join a small, family-oriented company or one of the big conglomerates. I chose Lightolier." The strong construction market, Lightolier's stock ownership plan for key managers, and the possibility of the company going public weigh heavily with Fred. "I decided because of the prospect to share in the company's growth that Lightolier was a better opportunity than a larger, public company. And so it turned out."

Fred is the first senior manager with substantial outside experience, and he is replacing Martin Thurnauer, M.D. Blitzer's personal friend and right-hand man for thirty years, who is retiring. To smooth the transition into the tight Lightolier family, Fred spends six months as assistant to the president. He is then named Vice President for Operations.

During Fred's first week on the job, Moses celebrates his 75th birthday, and Fred is invited. He remembers, "As we socialized, everyone came up to me and asked who I was related to. 'How are you related to the Blitzers?' Or, 'Are you related to the Fish family?' I didn't even know who they were. No one could believe that I was coming into the company at a senior level without family connections."

As the evening progresses, Fred gleans something of the deeply personal Lightolier culture. "Everyone gave testimonials to their careers at Lightolier. People got up who had been with the company fifty years, and they were not yet 65. They were the children of immigrants and had to go to work at age eleven or twelve." As long-time employees tell their stories, they are paying homage to a paternalistic style of business that is now firmly in Lightolier's past.

M.D. Blitzer, family and friends, 1967

PERSONAL LOSS AND PUBLIC OFFERING

Moses Blitzer dies in 1967. He has been a formidable, dominant leader, shepherding Lightolier first into original design, then manufacturing, and finally into a national presence. He has helped populate the company with talented and hard-working associates, both family and outsiders, and rewarded them with stock ownership. His eye for style and appreciation of sales have powered the company forward, through good times and bad. Moses best summarizes his approach to business in a televised interview with Bob Considine, "Do it first. Do it better. Make a life while you make a living." To a remarkable degree, he has lived up to his ideas and passed them to those who worked with him.

Moses leaves his company with great prospects and a full management team. Ed Blitzer replaces Moses as chairman of the board. In 1972, Bill Blitzer is named president, and Fred Heller becomes the new chief executive officer.

By the late 1960s, Lightolier's business growth and rapid expansion have consumed the company's capital. It has borrowed, but loans to a small, private company are expensive. With a booming stock market, and many executives eager to see their private holdings rendered liquid, the solution is clear — Lightolier will go public.

Lightolier management has discussed going public for several years, but Moses opposed the move, fearing loss of control. With his passing, the way is clear. The company issues its Initial Public Offering in 1968, near the top of the market, and the shares trade on the American Stock Exchange.

Customers and competitors, alike, snap up the offering documents. As they read the now public financial statements, most are astonished at the small size of the company. Lightolier's outstanding market reputation — the prominence of its products in prestige buildings and in glossy magazines — had made the company appear much larger than it really was.

For the next dozen years, Lightolier follows the practices that have built the company. Four new decorative Style Books appear, although the pace gradually slows. The architectural product lines — Lytespan, Calculite, Lytecaster, Fluorescent, and Systems — all flourish. Lightolier catalogs become both more attractive and more useful. Lightolier advertising fills pages in Interior Design and Architectural Record. The sales force grows, and a showroom is added in Atlanta. But, the market is changing. Difficult times lie ahead.

Ed Blitzer, 1972

Fred Heller, 1972

Bill Blitzer, 1972

Style Book, 1961

BOOTS ON THE GROUND

By the 1960s, Lightolier's sales organization is structured regionally. Unlike most of the industry, which relies on independent sales agents, Lightolier salespeople continue to be directly employed. Salespeople are directly commissioned, and the successful ones earn a handsome income (standardized commission tables date from the 1930s). A career in sales at Lightolier attracts aggressive, colorful, and entrepreneurial personalities, typically recruited from family contacts or, a bit ticklishly, from customers.

Individual salespeople handle small markets, working out of their homes. Larger markets merit more staff. Many senior managers and salespeople grow up with the company and have extraordinarily strong ties to their customers. Most are steeped in product knowledge and selling technique, particularly in helping local distributors build their lighting business.

Regional vice presidents lead by example. Stu Thompson recalls learning under Jack Mark, whom he eventually succeeds as RVP. "You had to call him every Sunday night, regardless of where you were, and review the previous and upcoming weeks with him. Distance between customers was always measured in minutes, not miles. He was tough, difficult — even with customers — but, he absolutely supported you, and he got things done."

As the company's business grows more complicated, Lightolier intensifies its training to maintain professional capabilities. Formal two-week-long Lightolier "college" brings new salespeople face to face with the company's top executives, key designers, and product managers — as well as outside experts. Training resources in the field now include a comprehensive Engineering Guide, as well as literature and application guides.

Lightolier's distribution reflects its diverse product lines and varies widely: from the furniture departments of department stores, to stationary and furniture stores that sell lamps, to lighting showrooms, to full-line electrical distributors. A single salesperson covers a lot of ground.

The successful, architecturally oriented salespeople have a sensitivity to design and assist in the lighting specification and layout. Since any important project requires a wider range of lighting equipment than Lightolier or any of its competitors can supply, local distributors assemble the complete lighting package.

For distributor salespeople, selling the Style Book involves special techniques. Stu describes the process, "In the early 70s we brought our customers to Bermuda: it was one of the best Style Books ever. You never hand the book to the customer; you go page by page. And you ask, 'If you had all the money you wanted, what in this book would enhance your business? Because we understood and helped build their business, they had confidence in us."

Lightolier supports distributor sales with co-op advertising, introduced by Sam Zitter, who joins the Sales department in 1951. "It was not only new to Lightolier, it was a first for the industry at the time," Sam recalls. He also adds a display program and audio training cassettes to Lightolier's promotional arsenal.

Lightolier sales convention, c. 1970

DEVELOPMENT OF THE NEW YORK MARKET

New York City, in Lightolier's backyard, develops differently from other markets. From its opening in 1934, the 36th Street showroom serves both as a showcase and as a supplier to the designer trade. After the Second World War, luxurious, imported decorative fixtures hang side-by-side with Lightolier's own standards. Salespeople of the "Escort" Division help interior designers select appropriate pieces and apply recessed down-lighting and track lighting. Experienced salespeople, such as Sid Feltman, create a loyal following and teach lighting principles to interior designers. Feltman receives the Distinguished Service Award from the Illuminating Engineering Society of North America in 1973; the Feltman Chair in the Humanities at Cooper Union is later named for him.

Operating out of the back of the showroom, the "Contract Division" pursues large projects. Herbert Schatz and his team work with developers and architects, building on long-term relationships. As lighting design uses more built-in and special-purpose equipment, the Contract Division increasingly buys out and commissions custom lighting to augment Lightolier's own products.

George Blumenthal, 1967

Sid Feltman, 1967

From this background, the New York sales team acquires special expertise in project selling, as well as a network of business relationships with builders. George Blumenthal, who cuts his teeth in purchasing, rises to the top of the New York sales group and comes to play an influential role in the city's high-rise construction market.

A diminutive figure with a soft, thickly accented voice, George is a shrewd negotiator with a gift for befriending both specifiers and builders. On the one hand, he draws on Lightolier's design staff, notably Noel Florence, to assist specifiers with their designs and better position Lightolier to sell the project. On the other, he applies his purchasing and contracting knowledge to help builders buy their lighting on time and on budget.

Lightolier equipment fills prominent buildings such as the Chase Manhattan and Marine Midland Banks, both by Skidmore, Owings & Merrill; Citicorp Center, Hugh Stubbins Associates; Equitable Center, Edward Larrabee Barnes; The Ford Foundation, Roche and Dinkeloo; and Pepsico Headquarters, Office of Edward Stone. And there are numerous lesser-known projects that fill up the city skyline.

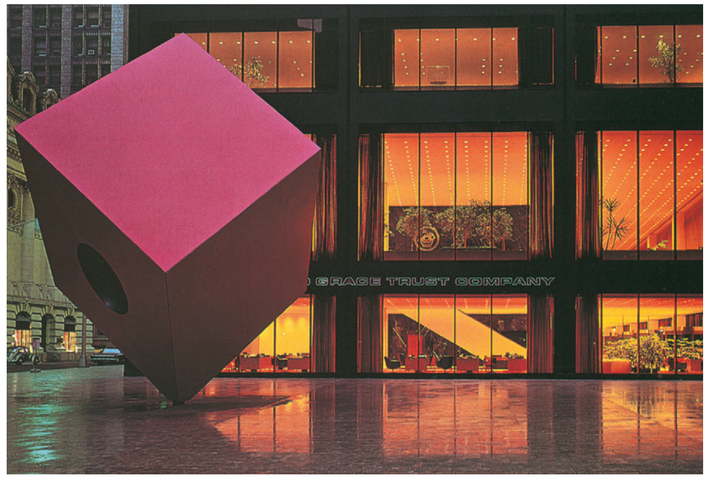
George's ability to navigate the cut-throat market, while maintaining relationships with competing customers, becomes legendary. Recalls Dan Blitzer, "One day, George asks me to take a walk with me, explaining that he expects a call from a contractor bidding an important project. 'I can't tell him my strategy,' George says smoothly, 'and I can't lie to him. So I have to be out of the office." A good orchestrator of job selling, George excels at deploying the different skills of his sales staff to surround and close projects. George's integrity, savvy, and drive are typical of Lightolier's most successful regional vice presidents.

THE INTERNATIONAL STYLE TRIUMPHANT

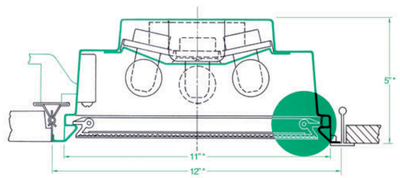
The architectural philosophy that guides much of the construction of these times has its roots in the ideas of the Bauhaus and innovative American and European architects of the early 20th century. Philip Johnson coins the name "The International Style" in 1929, while curator of architecture at the Museum of Modern Art. There is a modern, progressive color to these ideas. First principles of function should drive design and material. The essence of materials should be expressed. Traditional ornament undermines the integrity of a building. Refinement arises from careful detailing, especially where different materials meet. Young architects look to the words of Louis Sullivan, "Form ever follows function," Le Corbusier's thought that a house is a machine for living, or an aphorism Mies van der Rohe was fond of quoting, "God is in the details."

These ideas are exemplified by seminal buildings, such as Philip Johnson's Glass House; Mies van der Rohe's towers in Chicago, Toronto, and the Seagram Building in New York; Eero Saarinen's swooping concrete airport terminals; office towers by Skidmore, Owings & Merrill; and many others. For those who do not experience the buildings directly, dramatic photographs, such as those by Ezra Stoller, promote them in architectural magazines.

Ford Foundation Building, New York City



Marine Midland Bank, New York City



Cross Section: 1 x 4 PRISMALUX

Prismalux troffer, c. 1960

Chase Manhattan Bank, New York City

DEVELOPMENTS IN FLUORESCENT LIGHTING

While the Seagram project shows off Lightolier's engineering proficiency, the large-scale luminous ceiling is not a promising avenue for development. A custom treatment for a high-profile building, it is expensive, both in terms of initial cost and energy consumption.

Mainstream buildings — and indeed the interior offices at Seagram — use suspended ceilings, with acoustical tiles and modular recessed lighting fixtures. Suspended ceilings hide air conditioning ducts and cleanly integrate lighting equipment. In addition, recessed lighting permits the use of lower ceiling heights, which reduces building cost.

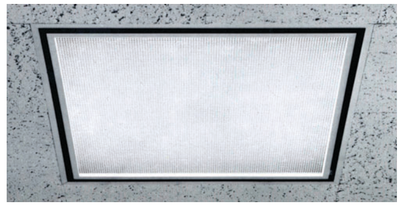
Better interiors conceal the supporting ceiling members above the finished surface and attach ceiling tiles by means of hidden splines. Some finish the ceiling using painted metal pans, with acoustical insulation above. Less expensive construction exposes the ceiling T-bar runners, which support lay-in panels. And there are always special areas with gypsum board or wet plaster ceilings. Each ceiling is built a little differently, and recessed fixtures need to be able to install cleanly in a broad range of conditions.

The efficiency of fluorescent light sources and the spread of central air conditioning leads to rising light levels in offices. Lighting engineers want more efficient lighting equipment, as well as better control of fixture brightness. Clear prismatic lenses outperform translucent diffusers in both respects. While glass lenses have served for incandescent lighting from the early part of the century, they are too heavy and costly for the large area of a fluorescent fixture.

New plastic technology, using injection molding to form precise prisms and mounting details, holds the key. When Lightolier introduces recessed Prismalux for the Chase Manhattan Bank tower in 1960, it is the first fixture with a frameless, prismatic lens. Other innovations follow quickly.

In the 1950s, recessed fixtures are installed in pieces. First, a supporting yoke attaches to the channels that support the ceiling. Then the housing is installed, fastened in place, and wired. Finally the shielding and ceiling trim are attached. But, assembly-on-the-job is too costly to survive. Fixtures need to install in one piece. Soon fixtures include swing-out brackets that rest on the ceiling channel and adjust to align the fixture with the ceiling plane. With Prismalux II, Lightolier improves on the process by incorporating an innovative method of trimming the fixture to the ceiling opening. Extruded aluminum rails are held precisely in place with internal die-cast corners.

In the final element of ceiling integration, recessed fixtures are designed to serve as supply and return registers for the air conditioning system. The lens is reduced in size to provide for the air slots. Special air diffusing "boots," connected to the air conditioning ducts, are fitted over the fixture to distribute air into the space. Lightolier adds Prismalux Air to the line, but by now, commercially focused competitors have moved ahead of the company.



Ventilume air troffer, c. 1970

Noel Florence, 2003

HVP AND THE ADVENT OF PARABOLIC LOUVERS

By the mid-1960s, the highly competitive market for lensed fixtures turns Prismalux, a leader just a few years before, into a relic. Lower-cost lenses are now held in metal frames and extruded of thinner and thinner material. They now call attention to the ceiling, instead of blending in. Lightolier and several other companies experiment with new designs in an effort to differentiate their products. Issues of style interact with the practical concerns of fixture efficiency and a growing body of research on visibility.

Some of the new ideas include louvers that block or redirect the brightness of the fluorescent lamp. These are not the stamped-steel, egg-crate types of the post-war years; they are formed of reflective aluminum in a parabolic contour. Parabolic reflectors, in use from pre-electric times, direct light from its focal point into parallel rays, providing precise optical control. A custom 6" wide installation appears in San Francisco's ALCOA building by Skidmore, Owings & Merrill. Change is in the air.

At Lightolier, Noel Florence is working on the problem of making a more efficient fixture. Most better buildings use a concealed-spline ceiling with a 12" square tile and one-foot wide fixtures with two lamps to achieve a high light level. However the cramped optical cavity of the typical lensed fixture traps light and heat, which together reduce fixture efficiency. Noel recounts the story: "I conceived of putting one lamp over the other, rather than side-by-side. And it turned out to be more efficient." With parabolic side reflectors, the design produces a widespread light distribution that resembles a bat wing.

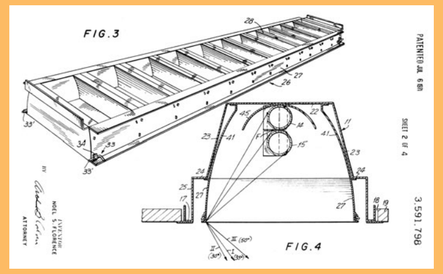
Noel continues, "About that time, Bill Blitzer had been talking with "Cash" Crouch who was extolling the virtues of bat-wing lighting equipment." Cazamer Crouch, 1906–1998, is then the Technical Director for the Illuminating Engineering Society of North America and head of the affiliated Illuminating Engineering Research Institute. "I said, 'Hey, we have one of those.' " Noel fits his new design with a louver made up of parabolic reflectors running across the lamps, which makes the design both remarkably efficient and comfortable.

Concerned that he has not yet patented what he believes is a very marketable idea, Noel reluctantly shows a mock-up. It is well received, but some observers do not grasp the lamp-over-lamp design. One visitor says, "That's great. Now, if you could just make a two-light version of that."

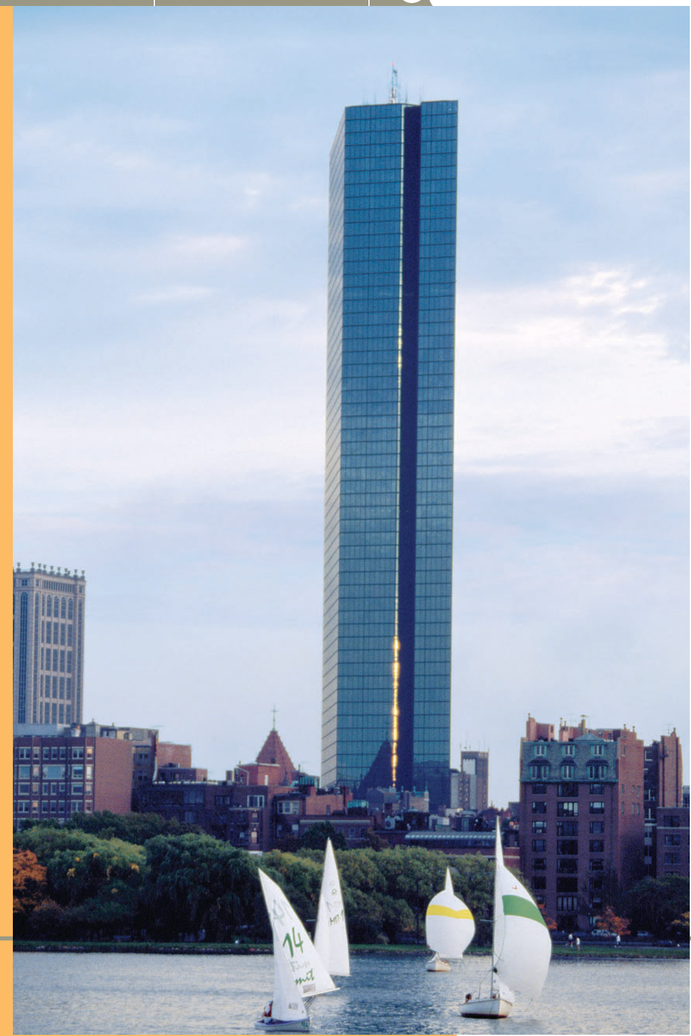
The lamp-over-lamp configuration also permits one lamp to be switched off without spoiling the symmetrical lighted appearance of the fixture. But superior efficiency and visual comfort, not switching, are the primary marketing features. Lightolier names the product HVP for High Visual Performance and by 1968 has secured a patent.

In the 1970s, Lightolier's HVP is used in a procession of architecturally distinguished buildings such as the John Hancock Tower in Boston, designed by I.M. Pei and Partners; Citicorp Center in New York, by Hugh Stubbins Associates, Baxter Laboratories headquarters in Oakbrook Illinois, by Skidmore, Owings & Merrill. The look and performance of HVP also set a trend in the lighting of public spaces, such as the San Francisco airport.

HVP troffer, c. 1970

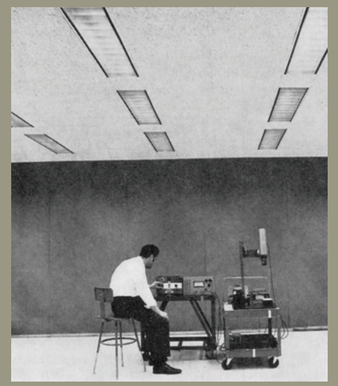


HVP patent drawing, 1967



John Hancock Tower, Boston

• The HVP design is both remarkably efficient and comfortable.]



Photometering HVP test installation, c. 1970

Citicorp Center, New York City

PERFORMANCE AND APPEARANCE

Noel's work on HVP coincides with a growing body of research on visibility and the quality of illumination. In the years before desktop computers, the quality of office lighting systems is measured by two fundamental attributes: control over glare and effective visual contrast in "paper" tasks. In the early 1960s, lighting engineers only measure the glare from a single luminaire; there are no accepted approaches to evaluating a lighting design with multiple luminaires in an actual space.

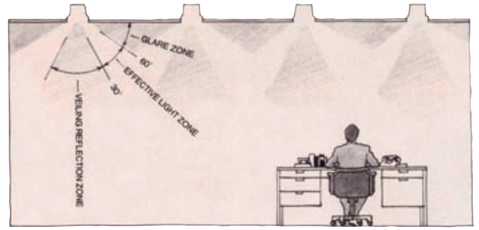
Visual Comfort Probability, or VCP, adopted as a standard by the IES in 1966, changes this practice. Based on studies that record workers' expressed comfort with different levels of luminaire brightness, researchers create a model that correlates visual comfort with luminaire light distribution and the layout of luminaires in rooms of various sizes. As calculated by the model, VCP predicts the probability that a lighting system will be comfortable to workers seated anywhere in the room. A VCP of 95 (typical for a layout of HVP producing 100 footcandles) means that 95% of the occupants in the room will find the lighting comfortable. Although the VCP model is based on lensed fixtures, it is quickly applied to fixtures with parabolic louvers and marks an important advance in promoting the quality of lighting systems.

Research in visibility is pioneered in the 1950s by H. Richard Blackwell (1921–1995), developer of the Vision Research Laboratory at the University of Michigan and later a researcher in vision, bio-physics, and physiological optics at Ohio State University. Blackwell identifies the contrast of a task — for example, black type on white paper — as one of the key variables in visibility. Beginning in the late 1950s, studies show how light reflecting off of a visual task can reduce visibility. "Veiling reflections" — the term used to describe this effect — enters the industry vocabulary in the mid-1960s.

Following the introduction of HVP in 1967, Noel Florence researches the performance of Lightolier's parabolic lighting systems. In 1971, he and Sheldon Glickman, Lightolier's head of Application Engineering, publish "An Evaluation of Troffer Lighting Systems" in *Illuminating Engineering*. Noel follows with "A Comparison of the Energy Effectiveness of Office Lighting Systems," presented at the 1976 IES Annual Conference and published in *Lighting Design and Application*. In 1978, Noel's paper on task lighting promotes the practice of task/ambient lighting in the emerging landscaped open office.

In an era of growing technical sophistication, Lightolier markets the parabolic fixture on the basis of its light control capabilities, supported by Noel Florence's research and publications. Lightolier leads in the establishment of high-quality parabolic troffers as the superior approach to office lighting. Responding to early concerns about energy conservation, it promotes HVP with the slogan "See Better with Less Light."

Nevertheless, it is not clear that visual performance is what really appeals to the architects deciding on building lighting systems. Perhaps the draw is the distinctive appearance — low in brightness, clean and metallic, without messy trim details. The higher cost of the parabolic louver, which requires substantial fabrication and assembly, limits its use to high-profile buildings with strong architectural control. That will change in the 1980s.



Controlling veiling reflections, c. 1975

CALCULITE RISES TO THE TOP

Architectural lighting design as a profession begins with Richard Kelly, the first important practitioner to approach it without a theatrical background. Kelly begins practice in the 1930s, and by the 1960s has achieved national prominence. Other designers, many with backgrounds in theater, move into the architectural lighting field. At first, they are retained just to work on prestigious commissions and the special or public areas of commercial buildings. Architects particularly seek their expertise in achieving architecturally integrated lighting, with downlighting as a key effect.

Lighting designers demand a broader range of lighting equipment than just the successful Multigroove downlight. Lightolier finds that it must enhance its Calculite offering to satisfy the growing roster of lighting professionals, many of whom still see Lightolier as a manufacturer of decorative fixtures and are skeptical of the company's downlighting products.

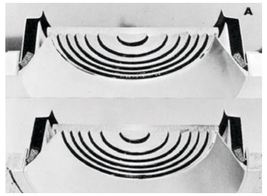
Kingsley Chan leads the effort to build the business. As he describes the challenge, "Competition is very tough, so you have to have lots of features and many different fixtures. So we look at the competition and find better ways to solve problems."

An early innovation is the Duo-Cast trim ring, which reverses to provide an overlapping flange for drywall ceilings and a flush fit for wet plaster. Another is unitized construction for adjustable accent lights and wall washers, which offers virtually foolproof installation. By attaching the lamp holder directly to the aperture cone, the lamp remains in proper orientation regardless of how the housing above is installed.

Slowly, lighting designers — some perhaps challenged by Lightolier's powerful selling organization — come around. As they scrutinize and critique Lightolier products, they develop a growing appreciation of the company's skill and commitment. And they offer their own suggestions that teach the company: for example, a black anti-dazzle band at the top of a reflector to neutralize the stray light from the edge of a PAR lamp. That comes from Leslie Wheel, a pioneering lighting designer. Others, such as Jules Horton, are also helpful. Lightolier listens and keeps improving the Calculite line.

Crucial to effective downlighting is a broad range of fixtures, offering different lighting distributions — wide and narrow downlights, wall washes, adjustable accent lights — all in a coordinated family of aperture sizes and finishes. Lightolier diligently builds Calculite into the most useful assortment in the market.

Unitized optics



Duo-Cast trim, 1964

Whitney Museum at Philip Morris, New York City

MANAGING THE CHANGING BUSINESS

As Lightolier expands its office lighting business, the company's most intractable problem is customer service. Part of the problem is capacity, which Lightolier addresses during the next five years. But part is simple communication: orders are entered incorrectly, creating costly returns and frustrating customers. Nor can the service staff tell customers the status of an order or what is available in inventory.

Lightolier decides to go online with a real-time order processing, tracking, and inventory system, which it names SCOOP. Computerized protocols greatly reduce clerical errors, and speed up response time. SCOOP connects by dedicated phone lines to Lightolier's nationwide facilities and provides an early intranet email system, called TWX, which further improves communication. SCOOP is the first system of its kind in the lighting fixture industry; other large companies quickly follow suit.

Service problems are compounded by the rise of big-project selling, which clog the factory and tie up design and engineering time. Financially, the projects are a mixed bag: some are profitable, others not. Additionally, the prospect of a high commission payout leads many salespeople to invest their time here, instead of selling more profitable products in smaller orders. Moreover, the commissioned salespeople often fight over sales credit, or worse, compete against each other for the same order. Compared to such project business, the flow of sales orders through distributor stock is more profitable. But, many distributors direct their discretionary business on the basis of competitive "deals." These problems prompt Lightolier to refocus its selling efforts and improve results.

George Carter, 1973

When Mike Loebelson, Lightolier's current sales manager, retires in 1972, the company looks outside for fresh thinking and a firm hand. George Carter, a veteran of lighting sales at GE and ITT, a former salesman, and author of a distributor marketing program, is the perfect fit.

George creates Lightolier's initial distributor program — the Master Merchant Program — with incentives for increasing business with the company. It is the first standardized program in the fixture industry. The Master Merchant Program supports George's dual-vector strategy of specification-driven "job business" plus distributor-supported "flow business."

George then reorganizes the salesforce, creating teams paid out of a shared bonus pool, in lieu of straight commission. The new compensation system rewards teamwork, reduces internal competition, and helps the company to direct sales efforts to most profitable business segments.

All of this is risky, since so much of Lightolier's success stems from the salesforce. To ease the transition, George tailors the new scheme to assure that no salesperson experiences an initial drop in income. Significantly, no one departs when the change goes through.

MARKETING MAGIC

It is not just product innovation — or salesmanship — that drives Lightolier's business in the 1960s. The company deploys a wide range of marketing tools. The company advertises consistently, adding architectural magazines, such as *Architectural Record*, to a media mix increasingly aimed at design professionals. The company continues to provide application tips for good design in its Style Books, as it has since the 1920s. It also retains well-regarded interior designers to write the text, and gives them by-lines.

In 1962, Lightolier, recognizing the emerging lighting design profession, hires Richard Kelly to write *The ABC of Lightplay at Home*. Kelly pens a magical piece that covers both functional and aesthetic concerns, room by room. He writes, "A is for the Attraction of Focal Glow. B is for the Background of Ambient Luminescence. And C is for the Charm of a Play of Brilliants." And he sums it up, "ABC is Abracadabra — the creative part of putting together the lighting art."

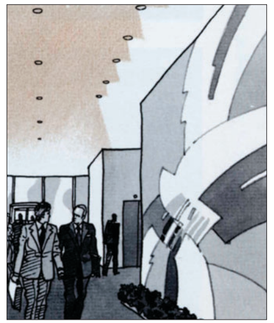
As Lightolier expands the Calculite product line, it picks up the language of downlighting, the technical terms to describe lighting effects and the products that create them. Mixing with lighting professionals in organizations such as the IES and the Designers Lighting Forum exposes the company to new concepts — and provides an avenue for communicating its own ideas.

In 1959, Bill Blitzer writes a guide to downlighting that is published in *Progressive Architecture* magazine. When John Flynn and Samuel Mills publish their influential *Architectural Lighting Graphics* in 1962, Bill promptly secures a copy of the book. Lightolier literature soon features more graphics and simple explanations for architectural lighting effects. The company publishes an application guide to the lighting of vertical spaces, which is later reprinted for the ASID.

Lightolier promotes its architectural products in bound catalogs, in addition to the conventional collection of technical data sheets. Professionalizing its literature helps the company educate architects and engineers about downlighting and how to use the products most effectively.

This lighting knowledge also finds its way into Lightolier's sales training via face-to-face instruction, printed material, and filmstrips. As Mary Tatum says, "Lightolier was very good about telling us salespeople how — and importantly why — a product was developed, as well as what it could do. So we were well prepared when we visited a professional. I always felt that I went to educate a customer, rather than to sell them."

Lightolier takes the same approach with its distributors, supporting each new product release with reasons why their customers would want to buy the product and how best to get the message across.



Illustrating downlights, 1978

Installing Lytecaster, 1967

Illustrating Lytecaster, 1968

THE BIRTH OF LYTECASTER DOWNLIGHTS

Even as Lightolier gains market share with Calculite in the commercial market, new competitors are eroding the company's residential downlighting business. Cheap "high hats" with stamped steel donut-type trims become available at a fraction of the cost of a Lightolier. Even loyal distributors cannot resist the threat; many customers simply follow the path of least resistance. The Lightolier sales organization clamors for an equal. A debate ensues inside the company: should it undermine its brand with such a low-quality product? And, if not, how will it protect the lucrative Calculite business?

Calculites are costly because they can handle high-wattage light sources, control the light for high efficiency and superior glare control, and fit neatly into a wide range of ceiling conditions. The fixtures are deep. Each reflector is hand-spun to a precise contour, using high purity aluminum, individually polished and finished in ALCOA's patented Alzak process to preserve the specularity. Each Multigroove baffle is turned on a lathe to cut in the grooves. All of the work is done by skilled spinners.

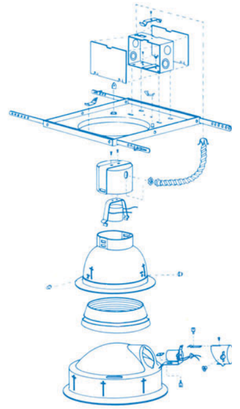
Lightolier decides to take an entirely different route. It plans a new idea — an economical, high-quality downlight designed specifically for 8" wood joist construction, typical of residential and light commercial applications. Lightolier researches the market. It seizes on easy installation as the primary selling feature and identifies a short line of fixtures. Borrowing the name of several successful functional decorative fixtures, it calls the new line Lytecaster.

To make Lytecaster intrinsically low in cost, the designers, led by Kingsley Chan and product manager Dick Godnick, divide the downlight into a simple stamped steel frame and a series of interchangeable reflectors, all to be sold separately. Distributors can hold a large supply of frames and adjust their stock and selection of reflectors as customer demand dictates — a sound inducement to sell Lightolier.

Unlike more costly Calculites, Lytecaster reflectors are shallower and self-trimmed. They are brightened in an anodizing bath, a process that uses less costly aluminum. Baffles are die-cast in volume.

Optimized for the wood joist construction common to most homes, installation goes fast. First the contractor nails the frame to the joists; then he wires to the junction box; after the ceiling is finished, he snaps the socket, enclosed in a cup, to the top of the reflector; finally, he pushes the assembly into the frame, where it is held in place by friction clips. There is just one problem: no one has built a downlight this way, and UL® has no procedure for evaluating one!

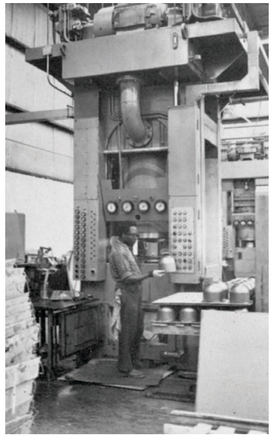
As the engineering of each component proceeds, Lightolier's engineer Sid Wolkin works doggedly with UL to develop a listing. Finally, UL agrees to list the frame and reflector separately, using the terminology, "frame-in" and "finishing."



Lytecaster construction, 1967

VERTICAL INTEGRATION

Fred Heller, newly arrived in the midst of the Lytecaster debate, immediately supports the new concept. However, his early travels to Lightolier customers have exposed him to widespread complaints about service problems. It is 1964; Lightolier has just purchased Sheldon Metal Products, its supplier of spun aluminum reflectors, which has recently relocated from Brooklyn to Fall River, Massachusetts.



Hydroform press

Fred checks the forecast for the new line and compares it to the rate of spinning. As he recalls, "We had 14 spinners and needed 40 to meet the forecast! I asked about hiring and training more and was told that it takes six months to train a spinner for just a simple reflector. I said, 'We can't wait. What are the options?' Stan Dworsky, the Production Manager recommended a hydroform machine. And that's what we did."

Hydroform presses chiefly produce hubcaps, not reflectors. But these large machines can turn out more than ten parts in the time it takes to spin one. Importantly, they do not require as highly skilled an operator. When the hydroform arrives, it is too big and heavy for the old mill building occupied by the recently renamed the Aluminum Processing Corporation, or APC. Lightolier is a good tenant, so the owner agrees to build an enclosure next to the building entrance for the unwieldy machine. Looking back, Fred notes, "Without the hydroform, Lytecaster would have died at birth."

Shortly before Lightolier buys Sheldon Metal Products, Joe Capostagno, a young engineer, comes to the plant looking for a job. "I toured the plant. The buffing department was covered in smoke — this was before there were serious environmental concerns. The men had to leave 15 minutes early so they could clean their hands. The press room floor was covered with oil, and noisy! I said, 'I am a graduate industrial designer, and this is not for me. Well, by the time I got home, there was a telegram to come back."

On his return, Joe is promised that he will be the chief designer, with a full range of assignments, but is told to keep it a secret. Lightolier, the factory's biggest customer is buying the operation. Joe is assigned to the Lytecaster project — called Builders Group, internally — working closely with Kingsley Chan and Bill Blitzer. The project is so sensitive that anytime another Sheldon customer enters the plant, Joe is alerted and covers up his work.

Joe and Ray Silvia, another engineer, are among the first to see the need for the hydroform. As the Lytecaster product takes off, demand for hydroformed reflectors swamps the plant. Lightolier expands to the second floor, then the basement, adding more hydroforms. But demand continues to grow over the next several years. By this time, Fred has hired a new Vice President of Manufacturing, Al Thompson, another Burndy veteran. Thompson works with the Fall River Development Corporation, and Lightolier purchases 25 acres for what becomes a factory dedicated to the manufacture of downlights in 1973.

Joe Capostagno, 2003

THE EXPANSION CONTINUES

Led by its new architectural product lines, Lightolier's business takes off. The acquisition of Sheldon Metal Products in 1964 initiates a burst of acquisitions and factory expansions with long-term strategic implications.

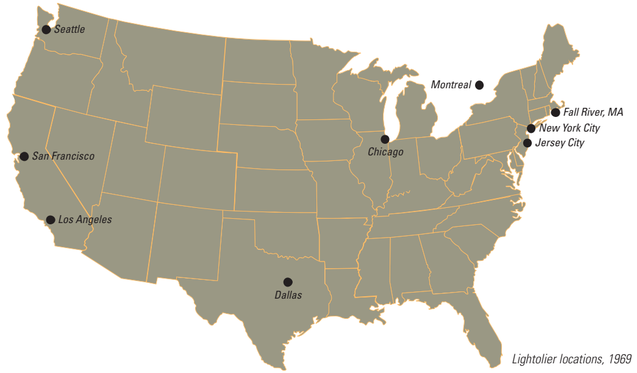
In 1965, Lightolier has the opportunity to purchase Modulite in Montreal, Canada. Owner Avi Drazin and his partner disagree about the future of their company; selling out to Lightolier provides a resolution.

Originally a supplier of racks and stands to department stores, Modulite now makes mostly decorative lighting. Avi recalls his entry into the lighting business: "We had a call from a major department store in need of five chandeliers to open a store because their original supplier had backed out. We said yes, and were successful in building, installing and getting paid for them. At the end of the job, we looked at our cost and our selling price and said there was more money to be made in lighting than in what we were doing."

After the acquisition, Avi heads up the company, now called Lightolier Canada. Taking advantage of Lightolier's successful track and downlighting product lines, Avi builds a strong sales and marketing team, which steadily grows sales, coming to dominate key segments of the Canadian lighting business.

Back in 1956, Martin Thurnauer and Ed Hill open fluorescent operations in rented facilities outside of Chicago, where Lightolier has had a high profile for 20 years. It is a central location, which reduces shipping costs, and offers a deep pool of talented toolmakers. Determined to catch up with the growth in its fluorescent business, Lightolier builds a large factory of its own in Elgin, Illinois, in 1968.

The same year, Lightolier purchases a manufacturer of outdoor lighting in San Francisco. The following year it acquires a Los Angeles operation that produces commodity-grade fluorescent fixtures. These 1968–69 moves augment the Dorner Lighting Division, purchased a decade earlier. But they remain separate operations until 1977, when they combine to form Lightolier West.



Lightolier locations, 1969

Parker Median Hotel, New York City

THE DOMINANT DOWNLIGHTING COMPANY

The combination of two, focused product lines — Calculite and Lytecaster — and the manufacturing capabilities in Fall River propel Lightolier to the number one position in the downlighting market.

Lightolier continues to invest in product development, which strengthens its market share throughout the 1970s. New Calculites include incandescent "A" lamp and HID downlights. Both draw on the reflector expertise at Fall River. While virtually all competitors rely on outside suppliers, sometimes multiple vendors, to spin and finish their reflectors, Lightolier asserts complete control over reflector quality, from design through all aspects of production. Lightolier's black alzak finish, which uses a special dye and a prolonged anodizing bath, is regarded as unequalled for its non-fading permanence.

Supported by strong literature and easy-to-use application information, both in dedicated catalogs and the popular Style Book, the Lightolier sales force grows ever more proficient, confident, and aggressive in selling downlighting. Using Lytecaster, salespeople find they can still close an order when the cost of Calculite exceeds the customer's budget. The ability to "trade down" provides a further incentive to concentrate on selling the company's most profitable products.

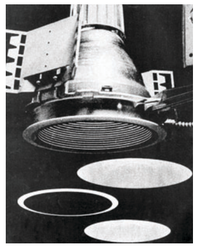
Downlighting becomes all but synonymous with architectural lighting technique. In offices, downlights fill the ceilings of lobbies, circulation areas, and conference rooms. They illuminate the public areas of hotels and institutional buildings. Better stores replace fluorescent equipment with downlights, which reveal the form and texture of merchandise and give the space a quiet, sophisticated appearance.

As commercial design spills over into residential architecture, more homes use downlights. Builders can now escape committing to a specific style of decorative lighting. And designers can easily avoid the clashing styles of chandeliers and other decorative fixtures.

The result is a strong upward sales trend for Lightolier. As volume grows, so does Lightolier's expertise. It finds ways to increase production, reduce cost, and assure consistent quality — challenges that bedevil competition. A major improvement is the introduction of modular Calculites, which replace the old Duo-Cast trim and mounting frame with a die-cast mounting ring and snap-on socket cup, ideas adapted from Lytecaster. Lightolier applies the principle of unitized optics so that all Calculites enjoy a precise focus for the light source.

By the 1970s, the downlighting business no longer poses a significant technical challenge to either Lightolier's engineers or its manufacturing team. With just a handful of light sources available for downlights — pretty much the same ones that have been used for 25 years — Lightolier has largely mastered the optical and thermal issues of fixture design. But, the business will not remain simple for long.

Modular system, 1976



Calculite downlights, 1976

LYTESPAN GETS ON TRACK

Lightolier's ability to consummate its expansion deals owes a lot to its high profile in the marketplace. And, no product enhances the company's image more than Lytespan. Lightolier forms a licensing agreement with Concord Rotoflex of Great Britain in 1960. Concord brings Lytespan to its markets in the Commonwealth, Continental Europe, and British-influenced economies around the world.

Once Lightolier understands how to position the product — on the ceiling for accent and display applications — architects and designers, particularly museum designers and store planners, become major specifiers of Lytespan. The ability to locate, aim, and readjust display lighting with complete freedom fundamentally alters lighting practice — and lowers costs. The appearance of stores changes altogether, from uniformly lighted displays to more exciting compositions of focal highlights and lower ambient illumination.

New museums and major renovations in New York, Philadelphia, Washington, and San Francisco adopt Lytespan as their display lighting standard. And numerous smaller galleries follow their lead.

Lightolier quickly develops Dramalux, a family of theatrically styled Lytespots that accept color filters and louvers, and includes low voltage and framing projectors. Recessed and two-circuit Lytespan track augment the initial program along with a system for concealing Lytespan behind a valance or in a trough. By the mid-1970s, Lytespan offers softly rounded fixtures, bright colors, halogen floodlights, and even a motorized effects projector!

The new Lytespots appeal to the taste for modern style. With contemporary interiors featuring track lighting as an icon of modern design, and upscale shelter magazines popularizing its use, track lighting finds wide application in homes. For more than a decade, Lytespan becomes a residential fashion idea.

As with downlighting, Lytespan soon faces low-price competition, first from contractors fitting out stores and then from showrooms promoting lower price points. Lightolier responds — belatedly — with Basic Lytespan, a line of new lower-cost track and spots, oriented to residential and light commercial applications. Importantly, original and Basic Lytespan are "backwards and forwards" compatible, so any Lytespot, new or old, can fit on any Lytespan track, new or old.

Basic Lytespan helps slow the price-driven erosion of Lightolier's share of the track lighting business. But, Basic is a "defensive" strategy, not a successful counterstroke. This is a disturbing signal that the growing business is taxing Lightolier's ability to address the diverging needs of different markets.

Dramalux, 1974

Pan Parabolic, 1974

Lumiere projector, 1974

San Francisco Museum of Art >

• *The Museum of Modern Art selects Lytegem for its permanent design collection.*]

Lightolier showroom, c. 1970

Lumilon portable lamp, 1968

Lytegem advertisements, 1966

THE RISE AND FALL OF PORTABLE LAMPS

Portable floor and table lamps are an important part of Lightolier's business from the 1920s on. When home construction falters during the Depression, they help sustain the company. Following World War II, Lightolier portables offer numerous functional innovations through flexibility and a gallery of contemporary style.

In the early '60s, there is a sudden interest in small, "personal" portable lamps based on the 12-volt "bulbs" used in automobile tail-lights. Dubbed "high intensity" lamps, they are small enough to bring the light source close to the task, resulting in "high intensity." Lightolier hires Michael Lax, an industrial designer known for his work with Copco and other distinctive household products, to create Lytegem. While it is not the first such lamp, it is the first task light to claim a place in the living room, or anywhere else where style counts.

Ed Blitzer remembers Lax presenting his designs. "Mike came in with four boxes. When he opened the first, we said, 'Gee, that's nice looking.' But after the first three, we didn't know which one's best; they were all so good. Then he opened the last one, and there was no question." The iconic sphere-above-a-cube design makes a splash. The Museum of Modern Art selects it for its permanent design collection.

Stu Thompson, then a salesman in New England, recalls selling Lytegem, "We had six colors, so when the customer asked for six, I wrote up six of each. When I handed him the order, he said, 'What's this?' I want six gross of each.' It was phenomenal and who would have thought, a portable lamp."

Lightolier follows with a series of high-intensity lights. The high-intensity craze lasts a few years and then dies out.

In 1965 the Better Light Better Sight Bureau announces a program to certify study lamps that meet performance requirements for visibility and comfort developed by the IES. The BLBS Bureau is supported by the Edison Electric Institute, a public utility association, and the use of a 200W light bulb is key to the performance.

Lightolier develops the Lumilon Study Lamp to meet the BLBS specifications. It features a substantial one-piece diffuser with a louvered top and an internal refractor to prevent veiling reflections. The patented Lumilon design, certified by the BLBS, is an exclusive item. Lightolier produces several generations of Lumilon lamps, which grace thousands of desks in college dorms and children's bedrooms.

Despite its achievements, Lightolier's portable lamp business is problematical, at best. There are too many styles and too short a product life cycle. Worse still is the distribution required. Department stores pay slowly and deduct aggressively. And, calling on the stationary stores that retail the volume of these products takes time away from the slighting distributors who provide the bulk of Lightolier's sales. "I don't think we ever made money consistently," recalls Ed Blitzer. By the end of the 1970s, the company exits the business.

Promoting BLBS

• *Lightolier's portable lamp business is problematical, at best.*]

THE CUSTOM AND SYSTEMS BUSINESS

Zia Eftekhar, 1983

Horst Bernhardt, 2003

On the West Coast, Dorner Lighting, renamed the Custom Division, creates striking chandeliers for such projects as the Dorothy Chandler Pavilion and Ambassador College, in Los Angeles, and builds an early parabolic design for the Quantas offices, designed by Skidmore, Owings & Merrill, in San Francisco. But, Sid Dorner, the division manager, finds a diet of unique projects difficult to digest profitably. He plans a flow of "systems" products, based on custom ideas but using standardized, modular components. The new produce mix levels the workload and enhances the bottom line.

Lightolier's Systems business begins with large-scale decorative lighting — chandelier concepts, modular in construction, that can be sized to fit the customer's space. The continuing volume of a standard product permits the tooling of high-quality connectors, impossible with the time and budget constraints of a custom design. Space frame and ceiling coffer systems follow.

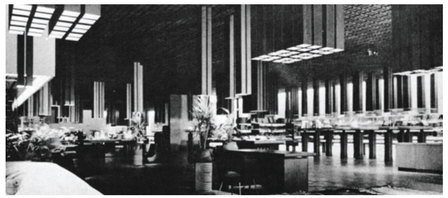
The Custom Division markets its first linear fluorescent system — Execuline — in the mid-1960s. In 1964, it provides a cylindrical fluorescent system — the first light tube — in Spokane, Washington. The basic components can be ordered out of a catalog and assembled into large arrays, even a space frame, and Lightolier readily customizes large orders, as well. As energy and maintenance concerns limit the use of incandescent sources, Lightolier adds more fluorescent systems.

One of Dorner's designers is Zia Eftekhar, a graduate in aeronautical engineering, hired in 1968. Zia takes the point in dealing with architects and designers and implementing their ideas. Zia's energy and resourcefulness impress Ed Blitzer, who tells Dorner, 'This bright young man could replace you when you retire." And so it happens. Zia first takes charge of design and marketing, rising to General Manager of Lightolier West in 1979. In another decade he will become president of Lightolier.

Lightolier also does custom work on the East Coast. In 1964, it collaborates on the lighting for the Spanish Pavilion at the New York World's Fair. Horst Bernhardt, Lightolier's designer for the project, describes the fixtures: "They were 4" square extruded aluminum tubes, with a bronze anodized finish. The tubes emanated from the ceiling, extending to various lengths, and were arranged to draw attention to the exhibits. We decided to make it a product line, which we called Quadrille. That was my first major project with Lightolier." Horst goes on to work on systems on the West Coast.

With the creation of Lightolier West in 1977, Lightolier looks for ideas that can be used in everyday spaces. Lytetube, introduced in an array of colors, is a stand-alone product, a version of the space frame. In 1979, Kingsley Chan joins the operation, and Lightolier introduces the Perimeter Trough System (PTS) for lighting walls. PTS features a telescoping section to provide a field-adjustable, fully lighted trough along the wall. It is also the first standard "wall slot" to shield the fluorescent lamp above the ceiling and cantilever a parabolic louver to hide wall irregularities.

By the end of the 1970s, the systems from Lightolier West have become the most exciting products in the Lightolier line.



Spanish Pavilion, New York World's Fair

Ambassador College

MLS System, c. 1972

AN ORGANIC PROCESS

Lightolier in these optimistic years is alight with new ideas from diverse sources: new employees, new technologies, European contacts, expanded markets. Product concepts enter the company from all directions. Some are immediate successes; others take time to prove themselves; and some simply fail. Good luck and opportune timing play a role. But fortune favors the well prepared and the open-minded, as well as the brave.

With the benefit of hindsight, many of Lightolier's modern designs appear prescient. On the other hand, Moses Blitzer's emphasis on high-end residential lighting leaves the company vulnerable during the rapid take off of the commercial fluorescent market. Most importantly, the company's efforts are not the result of a tightly directed, "top down" process. Moses, firmly atop the company, stresses the importance of new products. He enjoys looking in on the design process but exercises leadership with a light touch. Bill Blitzer, by contrast, is very much a "hands on" leader in design. Even so, it remains a team approach.

Although M.D. Blitzer had withdrawn from the day-to-day business by 1960, his spirit is plainly visible in the decades that follow.

M.D. Blitzer, 1960

"I remember so well. Every morning M.D. came in, he would walk around and always ask me, 'Are you having fun?' Of course, we said yes. But, he came to my wedding, too."

Kingsley Chan

"Early on, M.D. Blitzer said to me in a positive way, 'There are two ways of making ends meet: one is to spend less, the other is to earn more. I prefer the latter.' I thought, this is wonderful. He's the boss of the company inviting me to earn more money. All I have to do is work for it. That was very encouraging."

Noel Florence

"I was new with the company, Moses Blitzer came up and he looked over my shoulder and he asked, 'What are you working on?' I said, 'This is a new wall washer.' Well, the look on his face was just precious — I don't think he knew what it was. But he'd talk to you like you were family."

Joe Capostagno

"Moses said to me, 'You will find out that if lighting gets into your blood, you'll be a success, and you'll really like it.' And lighting got into my blood."

Fred Heller

"My dad always had a keen interest in what was going on in design. He used to look at the drafting tables and ask 'What are you doing?' and why and went on to some personal things, 'How's your son?' He believed in the slogan, 'Management by wandering around' and his firm conviction was that the destiny of the business was determined in that corner, which meant the design corner. If what was coming out was good, you were on the right track. If not, there wasn't a whole lot you could do."

Bill Blitzer

A WINDOW ON INTERIOR DESIGN > 1959 > 1980

As the "New Frontier" energized the country, advances in technology brought a new dimension to our lives. In the next two decades, the word processor, the microprocessor, and the hand-held calculator would all begin to change the way Americans (and the rest of the world) lived and worked.

The decade that brought the Beatles and Woodstock also ushered in the Peace Corps and environmentalism, the first oil embargo, the Apollo moon landing and the first transatlantic commuter flight, stereo records and the laser, Rubik's Cube and Post-it notes.

As Jacqueline Kennedy redid the White House in French-influenced traditional style, other Americans took a contemporary view. Danish modern was the definitive design statement of the sixties, introducing natural-finish teak and rosewood and paving the way to acceptance of more radical modern materials. But its understated looks and aversion to "trendiness" was open to attack by provocative new designs from Italy. The pendulum swung, and pundits declared the death of Modernism.

In search of a new direction, an era of design pluralism brought new buzzwords — historicism, contextualism, vernacular design. Closets were filled, and interiors outfitted in an explosion of exaggerated fashions and short-lived trends: bell-bottoms, look-at-me psychedelics, neon-hued plastics, and conversation pits. In "high-tech," industrial objects and materials came into the home. Postmodernism surfaced in Rogers and Piano's Centre Pompidou in Paris, coming into full flower with the provocative designs of Memphis in the 1980s. Novelty became a substitute for originality in scores of less-skillful imitations.

Meanwhile, the gray-flannel corporate world discovered the office landscape, systems furniture, and ergonomics. More designers began to specialize in office interiors, as the contract market spawned dozens of new manufacturers and products, and curtain-walled buildings with suspended ceilings turned the design of lighting systems into a separate, specialized field. Corporate identity programs reinforced the use of design as image-builder and sales tool, a lesson that would not be lost on museums and public institutions in the decades ahead.

The celebration of the Bicentennial led to revisiting American tradition, and a new interest in the heritage of the past. Moving towards maturity, the baby-boom generation took a more conservative view of the world around them, and the understated look supplanted attention-getting styles. The comforts of home became a refuge from the unpredictability of the world beyond its walls.

TRANSFORMATION

1980
1992

VI

Decorative Lytecaster downlights, c. 1990

BOOM AND BUST

"It's morning in America," says a smiling Ronald Reagan, who sweeps into the Presidency in a landslide victory. Stimulated by massive tax cuts and loosened financial regulation, the economy rebounds from its '70s malaise. Pent-up demand for space, combined with free-flowing institutional investment, fuels a building boom.

Reflecting the country's conservative political shift, ornament and a nostalgic treatment of traditional design dominate mainstream architecture and interiors. Sumptuous replaces simple. Subtlety is passé. Architects Philip Johnson and John Burgee top AT&T's new headquarters on Madison Avenue in New York with a massive pediment, seemingly inspired by a grandfather clock. Their headquarters for the PPG Corporation in Pittsburgh features towers and a crenellated roofline. Both are completed in 1984, a date celebrated most notably by Apple Computer during the Super Bowl.

In 1987, Gordon Gekko in the Oliver Stone film, *Wall Street*, proclaims, "Greed is good." Maybe too good. The stock market implodes that October, and the economy falls into recession, recovering too slowly to give George H. W. Bush a second term as president. The real estate industry, burdened by its own excesses, staggers into a prolonged decline.

The next 12 years from 1980 to 1992 transform Lightolier and its industry. New light sources sweep through the market. Construction codes and design practices alter lighting products and their application. The entire structure of the industry changes and the effects are dramatic. For Lightolier, they begin with the company's very identity.

Kuwaiti oil field, 1991

Ronald Reagan, 1980

THE WHITE KNIGHT

Lightolier executives and board members are meeting solemnly to discuss the future of the company. It is August 1981, and Lightolier faces a hostile takeover from The Criton Corporation of Bellevue, Washington. Criton's bid appears on the verge of success, and desperate measures are needed.

The experience is a swift lesson in the hard realities of American capitalism. A decade after its IPO in 1967, Lightolier again finds itself in need of capital — this time, critically. The combination of rapid expansion, problems in the large-project fluorescent business, two construction recessions, and increasing competition in its most profitable business force the company to convert some of its debt into new equity capital. In May 1981, it issues a secondary offering of stock. The stock price is 50 percent ahead of the prior year, but it still does not adequately reflect the company's growth potential. Criton sees the opportunity and begins to accumulate shares.

At first, Lightolier management and its advisors are not worried. Insiders and retired executives — the Lightolier family — own most of the shares. However, as trading accelerates and the price of the stock continues to rise, it becomes clear that something is wrong. While loyal Lightolier stockholders refuse to sell to Criton, many see no harm in selling to other buyers. The stock quickly winds up in the arbitrage community — and with it, any hope to resist the takeover.

Fred Heller seeks out Glenn Bailey, chairman of the Bairnco Corporation. Bailey had met with Fred and Ed Blitzer the previous year to explore adding Lightolier to the group of lighting companies he had acquired over a period of 15 years, but feeling secure, Lightolier preferred to remain independent. Now, with time pressing, the talks resume.

Lightolier wants to remain a distinct business within Bairnco, separate from the rest of its businesses. An agreement is quickly struck, and Bairnco — with the endorsement of Lightolier's board — tops Criton's bid. Bairnco finalizes the acquisition by the end of the year, ultimately valuing the company at $47 million above the assumed debts.

Bairnco pays $28 a share, roughly 30 percent more than Criton's offer and more than twice the share price six months before. The following year, Lightolier validates Bairnco's move by doubling its own earnings.

The Lightolier acquisition also increases Bairnco's lighting business more than twofold and adds luster to the parent's less distinguished products. Initially, the changes appear to be mostly organizational. A new board of directors is named for Lightolier, with Glenn as chairman. Ed Blitzer retires, and Fred is appointed president.

Glenn Bailey, c. 1990

NEW MANAGEMENT — NEW DIRECTIONS

Steadily, Bairnco exerts its influence. As Lightolier gains access to much needed capital for expansion, sales and earnings grow rapidly over the next several years. The company adopts Bairnco's more sophisticated management practices and benefits from exposure to Bairnco's other successful non-lighting businesses. It tightens its financial controls, pruning unprofitable products from its lines and purging smaller accounts from its books. Lightolier has long practiced product line management, analyzing the profitability and breadth of its different product lines as well as the items within them. "Don't water down the wine," has been one of Bill Blitzer's maxims. Now, these principles find expression in strict numerical objectives.

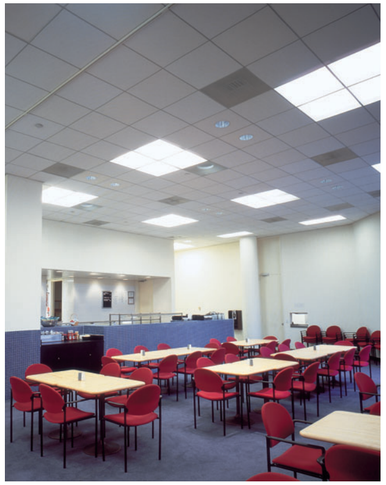
The acquisition brings palpable cultural change, with some feeling the chafe of newly imposed guidelines. Nevertheless, the transition offers financial compensations. Salaries, depressed by financial constraints and loyalty to the once-closely held company, rise to industry standards, and the company's performance leads to more substantial — and widely distributed — bonuses. And there are small touches: when sales travel, they no longer stay two to a hotel room, as they have done previously.

The company now faces a strategic challenge that has been growing for a decade. Its residential and commercial businesses — products, customers, selling paths, and marketing efforts — increasingly diverge. As a result, the company's longtime strategy of serving both markets no longer works effectively. Market-specialized competitors move more quickly and adeptly.

Adopting a recommendation from outside consultants, the company splits its manufacturing and marketing operations into Residential and Commercial Divisions. Bill Blitzer heads the Residential Division; Zia Eftekhar is called east to run the Commercial Division. The reorganization also opens leadership opportunities for younger managers.

Despite these benefits, "divisionalization," as it is called, founders in short order. The manufacturing factories, which are divided among the Divisions, serve the managing Division well, but do not respond adequately to the other. Designers, experienced in one product area, find it difficult to master the intricacies of their new assignments. Competitors continue to erode Lightolier's market share, and the company, frustrated and entangled internally, de-divisionalizes in 1985.

Meanwhile, Bairnco continues to build its lighting business. In 1983, it acquires Wide-Lite, a noted manufacturer of high-performance industrial and flood lighting, and Craftlight, whose Hadco brand produces area lighting. Bairnco intends to spin off its diversified businesses as they gain strength and plans for the divestiture of its lighting operations as a single entity. The various lighting companies are brought together into The Genlyte Corporation in 1984, headed by Fred Heller. In 1988, Bairnco spins off Genlyte to its stock holders, creating North America's largest company dedicated to lighting fixtures.



Genlyte offices, c. 1990

PPG headquarters, Pittsburgh

CONSOLIDATION

Bairnco's acquisitions signal a long round of consolidations throughout the lighting industry as the largest lighting fixture companies scramble to broaden their product lines through acquisition. Even as a handful of large companies emerge atop the commercial market, small manufacturers continue to start up; entry into the lighting business remains easy, particularly for companies with a keen sense of style or a protected market niche.

Consolidation fuels changes in the light source industry as well. In 1983, Westinghouse Electric sells its lighting business to Philips Electronics, making it the first European manufacturer to take a major position in the U.S. lighting market. Osram, the lighting division of electrical giant Siemens, follows a decade later by absorbing Sylvania, a division of GTE since 1959. By 1995, Europeans own the majority of the U.S. market for light bulbs, with the worldwide market divided about equally among GE, OsramSylvania, and Philips.

By contrast, the residential side of the lighting industry remains relatively untouched and fragmented. The largest companies are just a fraction of the size of the big commercially-oriented combines, while a few brands of decorative lighting, such as Thomas and Forecast, belong to the diversified industry leaders. Most residential manufacturers specialize. The biggest change, though, is the nearly total reliance on offshore manufacturing, which begins in the late 1970s. Decorative lighting is the first to move offshore, but by the 1990s, an increasing share of track and downlighting is coming from China.

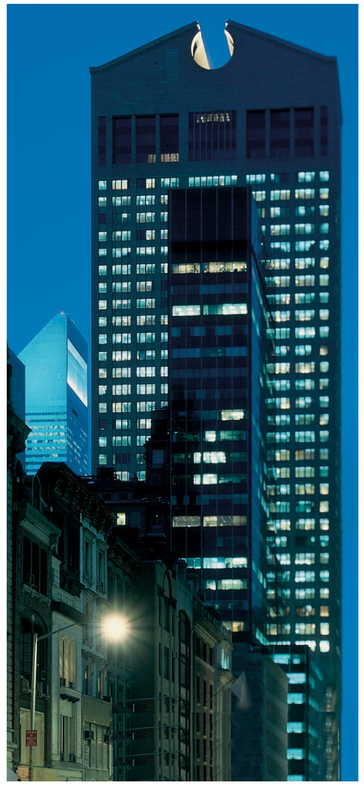
As manufacturing consolidates throughout the lighting industry, so does electrical and lighting distribution. Buying groups emerge to balance the purchasing power of growing electrical chains. Affiliated Distributors forms in 1981. The Independent Electrical Distributors group (TIED), established in 1976, merges with the Western Independent Electrical Distributors to create the IMARK Group in 1996. As important Lightolier customers join the groups, Lightolier becomes a key supplier and marketing partner.

Ominously for Lightolier, the independent lighting distributors that serve both its commercial and residential markets begin to disappear. Frequently family-owned for several generations, these businesses form the heart of Lightolier's customer base. Many have personal ties to the company that extend back 50 years or more. Their staffs know lighting, provide design assistance, and can assemble a complete package of lighting requirements for their customers.

Increasing specialization, demands for more capital, and the passing of generations impact the independent distributor, much as they do Lightolier. In the 1990s, a few large, international electrical chains absorb numerous longtime Lightolier customers. The rise of national home centers in the late 1980s further imperils small lighting retailers as well as the convenience business of many electrical supply houses.

Consolidation begins first in Canada and moves rapidly until just four major organizations dominate the market. Avi Drazin notes, "We recognized that to continue to be number one in Canada, we had to be one with three of the four majors. And that became our objective."

Lightolier Canada, already the leading brand in Canada, quickly partners with Bairnco's other Canadian operations, forming Canlyte, and focuses its marketing. Leveraging demand for its products and using a combination of key account selling, local support, and annual promotions, Canlyte extends its market share to become the dominant lighting supplier in Canada.



AT&T (now SONY) building, New York City

MAINSTREAM FLUORESCENT LIGHTING

Bill Fabbri, 2004

By the early 1980s, parabolic troffers are no longer a premium business fought over by two or three companies. They are now mainstream. Energy concerns spur interest in the efficiency of parabolics, while big developers come to view the fixture as an affordable architectural fashion statement, almost a requirement for a class "A" building.

As big fluorescent competitors enter the parabolic business, the depth of the louver shrinks, along with its quality and shielding power; prices fall; so does manufacturing cost. Genlyte must rationalize its fluorescent business or it will be pushed out of the market.

In Keene Lighting Products (KLP), Genlyte has a resource with long experience competing against bigger companies. Bill Fabbri runs the fluorescent division, which is based north of Boston in Wilmington, Massachusetts. He has grown up in the operation, having headed engineering and marketing. In 1978, Bill designs Parabaffle, a 78-cell parabolic, whose unique, shallow construction fits in tight plenum conditions. Parabaffle also marks the first use of progressive-die stamping to form parabolic louver blades.

Wilmington fluorescent manufacturing

Compared to manual operation, the savings are substantial. Bill describes the process: "With a progressive die, aluminum from a coil feeds through a large press. The die on the press is divided into different stages, each of which performs a different operation — piercing, stamping, forming, and so on. Each time the press comes down, the aluminum progresses through to the next stage of the die without being handled by an operator." Moreover, output rises four to five times, enabling the factory to service the growing business.

In 1985, Bill rolls out Deepcel, the first parabolic with a louver produced entirely from progressive tools. Lightolier and KLP sell the product under different names. Soon, however, the two fluorescent operations merge, and Wilmington becomes the center of Lightolier's fluorescent business with Bill at the helm.

Reduced shielding makes parabolics more affordable, but it causes problems with the visual display terminals (VDTs) that have sprouted up on virtually every office desk. Cardboard masks, taped over screens, and lamps removed from overhead lighting fixtures, testify to the discomfort and visual fatigue experienced by computer users.

Strong light from overhead washes out screen contrast, while the reflected images of bright ceiling fixtures obscure information and force the eye to refocus repeatedly. Additionally, most ceiling fixtures are much brighter than the typical VDT screen, so the eye is forced to contract and expand rapidly each time the user's gaze shifts from the screen to the surrounding space and back again.

The Illuminating Engineering Society begins work on the VDT problem in 1984 and, in 1989, publishes RP-24, *IES Recommended Practice for Lighting Offices Containing Computer Visual Display Terminals*. Lightolier's Noel Florence serves on the committee.

While RP-24 offers a general discussion of the visibility and lighting issues, its most widely noted conclusions are the quantified recommendations for surface and luminaire brightness and task illuminance levels. Unsurprisingly, these spark a flurry of new parabolic louver designs that make an immediate impact on the market.

Unfortunately, they are not Lightolier fixtures. The company, with its resources committed to the other projects, does not solve the problem quickly. If there is any consolation, it is that the new fixtures are an imperfect solution. It will take Lightolier several more years to improve on them.

Deepcel parabolics, c. 1986

PACKAGE SELLING

As the first company to market a broad range of lighting products, Lightolier initiates the packaged selling of large commercial lighting projects in the 1960s. Bundling a project's lighting requirements into a mostly complete bill of materials gives the Lightolier salesperson two key advantages. First, individual product weaknesses — either in cost or performance — are buried in the package. Second, armed with the ability to price all of the lighting, a salesperson can negotiate the order directly with electrical contractors. Package selling takes root wherever Lightolier has strong contract-selling abilities.

Lightolier begins by training its sales force to package by product line, keeping all of the downlighting, track, or fluorescent lighting together. The successful tactic soon becomes a key strategy. "Product managers would teach how to sell downlights against the competition, using our best products as 'hooks' to hold a larger order together," recalls Dan Blitzer. "But after the classroom sessions, experienced salespeople would privately explain how to use the same idea to control a major project involving multiple product lines."

Initially, competition cannot respond. These companies sell through independent sales representatives, who handle several companies. Reps, typically small, family-run concerns, are hurt by the new selling game, but not for long. Adopting Lightolier's approach, reps begin to assemble packages of their own, strategically building a "line card" from all the products needed for a major job. As large conglomerates create their own product packages, reps start to accumulate an ever-growing roster of specialty lines, which serve to lock up lighting packages.

Downlights in hotel, c. 1990

Some seasoned Lightolier salespeople, seeing an opportunity to increase their incomes, quit the company to become reps and lead the move to packaging. Along with their sales savvy, they take with them their lighting knowledge and strong customer relationships.

Packaging enables reps to create "overage" by pricing specialty products *above* the manufacturer's quoted price. Manufacturers offer reps the majority of the overage — sometimes as much as 90 percent — as an incentive to sell their complex and propriety items. By controlling the total price of the package and negotiating down the quoted prices of its most competitive items, reps build substantial overage into their orders. Overage comes to represent an important part of the agent's income — often more than standard commissions — and thus directs the reps' specification and sales efforts.

Packaging takes off in the 1980s. By the end of the decade, a few large rep agencies dominate commercial lighting sales in each local market. These "super" reps — maybe 100 nationwide — handle dozens of product lines, sell more volume than all but the biggest manufacturers, and employ large organizations of specialized sales and service personnel. They say, "We are in the *agency* business" — a clear indication of how the economics of packaging and overage have affected lighting.

The rise of the super rep trumps one of Lightolier's strongest marketing advantages — the complete package of lighting. To compensate, the company looks for answers in three initiatives: lighting labs, Fast Track service, and National Accounts.

Chicago, 1984

Lightolier lighting lab, c. 1990

Nancy McCoy demonstrating beamspreads

THE LIGHTING LABORATORY

Lightolier opens a new seminal showroom near Los Angeles in 1978. Building on the design of existing facilities in New York, Chicago, and Dallas, the new showroom goes considerably further in demonstrating the use of architectural lighting equipment.

The principal addition is a large training area dedicated to downlights and track lighting. A wall covered by 1- and 12-inch grid lines enables Lightolier salespeople to compare the beam spreads from various light sources. Moving wall panels with different finishes and textures distinguish the effects of wall washing and wall grazing. Downlights arranged in realistic arrays show coverage on the floor and demonstrate concepts such as spacing-to-mounting height ratio.

The sales conference area includes downlights and companion wall-washers and accent lights, providing a working example for architects. Recessed fluorescent fixtures, installed in different ceiling systems, demonstrate trim details and enable comparisons of shielding and glare control.

Decorative lighting, with products grouped by application, is displayed with architects in mind. Bath lighting surrounds mirrors so users can judge its effectiveness. Pendants are vignetted against vertical screens to profile their distinctive forms. Outdoor lighting is surrounded by exterior furnishings.

Within a few years, the Compton scheme is reproduced in New York, when Lightolier moves from the 36th Street showroom into a new 10,000-square-foot office and showroom. As distributors visit these new spaces, they take away key ideas, which they then apply to their own facilities. In 1984, Lightolier formalizes the process when it launches its Lighting Lab program. The Lab program provides customers with plans for renovating their spaces, product display ideas, on-site training in the use of the lab, marketing materials to promote it, and visiting speakers to present lighting ideas to local specifiers, builders, and contractors. Customers rapidly adopt the lab concept and soon build more than 200 labs across the country.

Initially, Gerry Zekowski, a veteran specification salesman from Houston, champions the lab program. Charismatic and captivating, Gerry has combined education with selling for years, speaking around the country on lighting and designing small labs based on a dining-room vignette. Handy with a camera, Gerry delights audiences with photographs of "the good, the bad, and the ugly" in lighting. Although his personal selling approach is difficult to imitate, it succeeds in inspiring.

Nancy McCoy, formerly of Luminae Lighting Design in San Francisco, takes over the effort from Gerry in 1986. She organizes the program, introduces Autocad support, and spearheads the rollout nationwide.

Customer lighting lab, c. 1995

From a broad business perspective, the Lab program is a modest success. It supports value-added selling and offers distributors a tool to increase their business in small commercial and upscale residential projects. However, it demands continuous attention from the distributor's most knowledgeable personnel; the technical selling often intimidates walk-in customers who are only shopping for a couple of decorative fixtures; and it consumes valuable real estate coveted by Lightolier's focused residential competitors. Gradually, distributors pare down the full-scale lab concept to a dining-room demonstration and some vignetted displays.

FAST TRACK

As interest rates run up from the 1970s through the 1980s, the higher cost of financing drives commercial builders to shorten construction lead times. Even so, inflation outpaces many construction budgets and leads to cost-cutting late in the project. The fast pace and price-conscious buying particularly affect lighting, among the last products purchased.

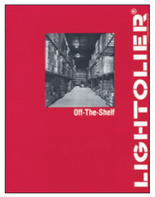
Lightolier, struggling to keep up with demand for its most popular products, feels the impact keenly. In 1983, the company inaugurates its Fast Track program to cope with the new conditions. More than a "quick-ship" exercise, Fast Track offers 300 items, selected to support targeted small projects, such as office tenant fit-outs, restaurants, and stores. The program is supported by its own catalog and sold through distribution. Lightolier's Fast Track assortment becomes both the company's suggested stocking list for architectural products and its recommendations to specifiers of fast-track jobs.

Fast Track — and its successors — does more than highlight the most available products. Fast Track helps the company to concentrate its factories on "A" items. Measured, on-time performance becomes a key objective for operations and marketing managers.

Moreover, Fast Track embodies a key principle underlying the company's profitability, which is best expressed by Bill Blitzer's maxim: "Make products in large volumes to achieve economies of scale, but sell them in small lots to avoid sharp price negotiation."

Fast Track is not uniformly successful. Only slowly does Lightolier overcome decades of project-driven dislocations in its production scheduling. Over time, the company installs new systems to track product availability and adjust production planning accordingly. Demand "filters" screen out large job "hits," whose longer lead times do not require fast-track availability. With practice, Lightolier begins to develop the ability to apply "fast-track" principles throughout its operations, improving service on orders of all sizes. Sustained improvement comes later, though, when Lightolier more tightly focuses its factories.

As the Fast Track mentality permeates the company, Lightolier first discontinues the dedicated catalog, then renames its most available products as Off the Shelf (OTS). Finally, as service standards improve, the company simply distinguishes "made-to-order" products as those requiring longer lead times.



New York City, 1983

Crate & Barrel

THE FIRST NATIONAL ACCOUNTS

Amid the industry turmoil of the 1980s, Lightolier's National Accounts program provides an essential flow of business, largely insulated from packaging in local markets.

The roots of Lightolier's National Accounts program extend back to the late 1960s. Gerry Leland, the district sales manager in Ohio, is under consideration for promotion to run the entire Midwest region. In Fred Heller's words, "Gerry is a fantastic salesman: He knows the product well and his customers love him. This guy can sell anything to anybody, but as an administrator, he is terrible. And if he is not promoted, he'll surely quit."

Promoting great salespeople into poor managers is a common pitfall for companies with direct sales organizations. Lightolier avoids it by asking Gerry to aim his considerable selling skills at the company's biggest opportunities nationwide. The newly created National Accounts program targets large customers who maintain multiple buying offices around the country or purchase for multiple locations.

In 1976, New Jersey voters open up Atlantic City to legal gambling; within two years, hotels and casinos rise up less than 100 miles from Lightolier's headquarters. Although Atlantic City does not really satisfy the definition of a National Account, it is a tempting opportunity and Gerry attacks it aggressively.

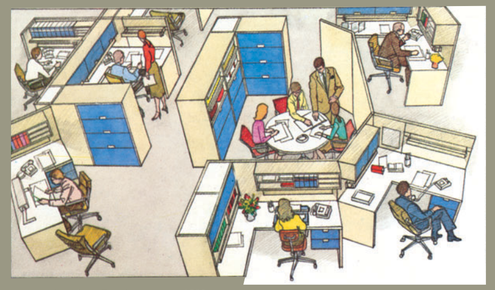
He connects with the Golden Nugget casino and navigates through the complex buying influences — local contractor, Las Vegas owner, and California designers — to close the order. When the Golden Nugget opens in 1980, after a furious 16-months of construction, it out-grosses the existing seven casinos put together! During Atlantic City's initial burst of construction, Lightolier sells thousands of high-performance Lytecaster downlights.

In 1983, Gerry lands the company's largest order — the new lighting for Sears stores across the country. To support Sears' strategic repositioning, Lightolier helps to develop a layered lighting scheme that departs radically from the accepted practice among mass merchants of the time.

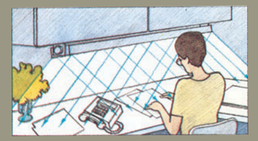
Low-brightness parabolic louvers, Lightolier's second generation and less costly version, replace glary lensed troffers for ambient lighting. Custom low-voltage accent lights add punchy highlights. The accent lights exploit a 1979 Calculite innovation — a die-cast elbow that pulls down for aiming high up on the wall, or retracts neatly into the ceiling for lighting downwards. Lightolier West mounts three elbows in a single 2x4 panel for easy installation and powers them with a single transformer. Sears rolls the design out nationwide, building new stores and renovating existing ones.

To prevent the National Accounts program from disrupting the rest of its sales efforts, Lightolier sales manager George Carter makes a key strategic move. He pays "dual" compensation to the sales organization, recognizing the salespeople who service the local installations, as well as National Accounts personnel who call on headquarters and other specifying influences. This investment drives sales, prevents internal conflicts, and makes National Accounts a dynamic and ongoing part of the company's core business.

Sears store, c. 1984



Illustrations from Taskline catalog, 1980



Undercabinet task lighting

TASK LIGHTING AND THE OEM BUSINESS

Throughout the 1970s landscaped furniture systems replace the combination of fully enclosed and "bull-pen" offices. The trend, driven by a quest for improved worker performance and fresh styling, parallels the growth of parabolic louvers. Workstations, separated by short, movable partitions, include storage shelves and "binder bins" to organize office work more efficiently. Underneath these storage units, furniture manufacturers install fluorescent task lights.

At the same time, energy concerns, sparked by the oil embargo of 1973–74, are turning designers towards "task ambient" office lighting systems. In 1978, Noel Florence demonstrates that the combination of a single-lamp HVP troffer for ambient lighting and a local task light provides more illumination, and requires less power, than relying entirely on overhead lighting. However, one major problem remains to be addressed: conventional task lights, mounted in what is called the "offending zone" — above and in front of the primary desktop work area — create serious veiling reflections.

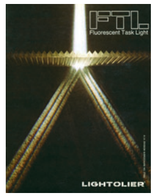
Noel goes to work, thinking about HVP and its widespread "bat-wing" light distribution. When HVP 1x4 fixtures are arrayed parallel to workers' line of sight, the bat-wing distribution, which washes across the desks, significantly reduces "veiling reflections" and improves the visual contrast of paper tasks. But, how does a fixture located in the offending zone create the same quality of light? In response, Noel develops a new lens that precisely splits light into two crossing beams. In 1980, Lightolier introduces Taskline, the first furniture-mounted task light with an injection-molded bat-wing lens.

Lightolier salespeople carry the message of task ambient lighting to a receptive specifying community, which is duly impressed. But they do not control the specification of task lighting; furniture manufacturers and their dealers do. While Taskline fails to meet Lightolier's sales expectations through its lighting channel, National Accounts pursues the furniture industry. After a few small orders with specialty manufacturers, Gerry Leland finally interests Herman Miller.

But there is a catch. The office furniture giant, several times Lightolier's size, does not believe the lighting manufacturer can be a cost-effective supplier. They do not want the Lightolier fixture — only the Lightolier lens. Gerry enlists Fred Heller's direct participation, and together, they persuade Herman Miller's purchasing staff that Lightolier can perform. As a result, the contract goes to Lightolier West.

The business nearly doubles the Division's volume and contributes substantially to Lightolier's financial success in the early 1980s. The company reengineers the lens to meet Herman Miller's tough price targets and substantial volume.

Nevertheless, the contract remains a challenge. Herman Miller continues to demand cost concessions, while the business clogs the plant. After several years, Lightolier licenses the design to the furniture-maker, and the contract lapses. The loss in volume contributes to Lightolier's difficulties in the upcoming years. It will be more than two decades before Lightolier again teams up with a furniture-maker — and it will be an entirely different relationship.



The bat-wing lens

MISSTEPS . . .

Lightolier's 1985 reorganization ushers in a series of executives from outside the lighting fixture business. While lighting equipment itself is not all that complicated, the nuances of product differentiation and the implications of new light sources are difficult for outsiders to appreciate. More significantly, the new executives puzzle over Lightolier's overlapping sales channels, multiple purchasing influences, and personal relationships. The results are nearly disastrous.

Larry Powers, 2004

Although the direct sales force has been one of Lightolier's strengths for 80 years, the company decides to change its tactics and begins to emulate the rep structure. Capitalizing on the relationships enjoyed by other Genlyte companies, Lightolier takes on its first sales reps. Initially, the company signs up agencies for its traditionally weaker territories — smaller, less cosmopolitan markets, but strong agencies are also available in major markets, such as Atlanta and Houston.

Fred Heller, 2003

Quickly, momentum builds and even well-penetrated East Coast markets — the core of Lightolier's profitable distributor business — convert from direct to independent. On balance, it is a costly, nearly fatal exercise. The new reps do not know the Lightolier product line and many lack the patience for selling and servicing distributors. The dynamics of the "agency business" often lead reps to favor non-Lightolier lines, and most resist taking direction from Lightolier sales management.

The company recoils at the brink and starts to rebuild its direct-selling teams — a move that happens none too soon. Ultimately, Lightolier strikes a balance between direct and independent selling organizations, retaining its strongest reps and upgrading others when industry consolidation "frees up" effective agencies.

Meanwhile, executive turmoil strikes the upper echelons of Genlyte. Fred Heller, facing retirement, looks for outside leadership to guide Genlyte. His first choice for president of Genlyte departs quickly for a bigger opportunity. The second choice further churns the organization and, with sales dropping, leads the company into what appears to be its first losing year ever. After six months, the board fires him and calls Avi Drazin down from Canada to repair the damage.

In Avi's words, "Before 1985, the company grew and was profitable. When Fred decided to retire, we went to look for outside people, none of whom lasted very long or understood the lighting business, but during their time, the company began to deteriorate quite rapidly. And before you knew it — in 1991–92 — it reached the stage where our stock was way down, and insiders were frightened that the company might go out of business."

Avi focuses on revenues and settles the sales force. His efforts succeed, and Genlyte resumes its growth. In 1994, Avi returns to Canlyte as planned, and the board appoints Larry Powers as president.

"To head up a lighting company, you not only have to be an entrepreneur, you have to have a feeling for the lighting industry and really understand it," says Fred Heller, in summing up the experience. "Even with excellent credentials and references, we had people who could not grasp the business and move it."

Lyte Jacks, 1990

. . . AND MISSED STEPS

A small light source appears in the late 1970s. Adapted from use in slide projectors, the MR16 lamp is not a totally new lamp. Operating at low voltage, it uses a miniature halogen capsule inside a mirror-finished reflector to produce a beam of crisp, white light. A dichroic coating, developed to preserve heat-sensitive slides, filters infrared light out the back of the lamp. Early MR16s are troublesome, but they radically change the appearance of stores, restaurants, and homes.

In 1980, low-voltage lighting is no longer a novelty. Low-voltage PAR lamps have been used in museums for some time. Lightolier introduces its first low-voltage track and downlights in the mid-1960s. The precise beams of low-voltage sources create dramatic contrasts, especially in environments with low ambient illumination, and the sources all but disappear when shielded.

This high-contrast lighting design is favored by fashionable lighting designers, such as Fran Kellogg Smith of Luminae Lighting Consultants in San Francisco. The style catches on. Capri Lighting spots the MR16 trend and uses it to upgrade its low-end business. Lightolier, however, is not persuaded. Its 1982 Lytespan catalog ignores the MR16 entirely in favor of more established and reliable PAR36 lamps — a costly mistake. The company loses a big step on its competitors and struggles with low-voltage lighting as it tries to catch up over the next few years.

Low-voltage track lighting quickly takes two forms: conventional track fixtures with integral transformers and low-voltage track with plain MR16 lampholders and a large, remote transformer. While Lightolier pursues the conventional approach, other companies develop ever-smaller low-voltage track. Some of these ideas merge with display-case lighting to serve a growing market for cove lighting and cabinet-mounted task and display lighting.

In 1984, the German designer Ingo Mauer introduces Yo Yo Ho, the first low-voltage "cable" lighting fixture. The fancifully named design uses two parallel wires, suspended from walls or columns to conduct electricity at twelve volts. Simple lighting elements perch on the conductors and sparkle ethereally — or glaringly, depending on one's view. The low-voltage conductor does not need insulation, so the bare wires can support elements at any point. The fixture is built on the job and easily customized. Mauer's idea stimulates designers, and variations of low-voltage cable systems soon appear in trend-setting boutiques and restaurants.

Lightolier dismisses the cable idea as a fad. The company takes off in a different direction by licensing the "jack" design from Lumiance, a division of Concord Lighting. "LyteJacks," as Lightolier names its 1989 product, connects lighting elements with a plug (the jack) to a receptacle in a low-voltage transformer (recessed, track-mounted, or monopoint). The product line comprises miniature decorative pendants (Style Jacks) and spot lights (Focal Jacks) that are elegant, flexible, and robust. Although successful, they do not capture the playfulness or the design possibilities of exposed conductor systems. Lightolier will wait another decade before it acquires that capability.

PAR36 track lighting

Burned-out tank, Israel, 1973

ENERGY AND NEW LIGHTING TECHNOLOGIES

In the early morning of October 6, 1973, tanks and infantry bridge the water and thrust deep into the enemy positions. Radios squawk harshly in Arabic, as Egyptian commanders direct their troops. It takes days for the desperate Israeli defenders, facing a Syrian strike to the north and reeling from the surprise, to stabilize both fronts. The combatants rapidly expend vast amounts of munitions and seek new supplies — Egypt and Syria from the Soviet Union, and Israel from the United States. On October 17, OPEC, the Organization of Petroleum Exporting Countries, led by Saudi Arabia, embargoes oil to the U.S. and Western Europe. Gasoline lines form and rationing begins. Much of the lighting community, accustomed to selling ever-higher levels of illumination, wakes up to a new era of energy consciousness.

While the embargo ends the following March, and oil flows without serious interruption for the next 30 years, the impact ripples through the lighting world. The immediate response is modest. Lighting guidelines stress energy-efficient design, and Lightolier promotes its most energy-efficient products. Nevertheless, by the end of the 1970s, technology starts to transform the lighting industry.

New T8 fluorescent lamps, just 1 inch in diameter, arrive from Europe, where energy is much more costly than in the U.S. Not only are T8s more efficient, they also boast better color. They are just the first wave of new light sources to cross the Atlantic. PL lamps, the first compact fluorescents, follow shortly thereafter. Three-to-four times as efficient as the typical incandescent bulb, the 13W compact fluorescent produces the same output as a 60W "A" lamp. New compact lamps, offering more light in a smaller envelope, continue to appear over the next 15 years.

Reflecting this thirst for smaller, brighter sources, halogen technology — spurred by the MR16 — gradually takes over incandescent display lighting. Introduced in 1959, halogen is not a new technology, but the MR16's diminutive size spawns a trend that culminates with the introduction of compact halogen PAR lamps in the late 1980s.

At first, the lighting industry simply modifies existing fixtures for the new light sources. Over time, however, new product ideas — smaller designs, new shapes and styles, even new lighting effects — arise. More than 40 years after the introduction of the fluorescent lamp, technology again becomes a primary driver in lighting innovation and nowhere more powerfully than at Lightolier. Within 20 years, virtually the entire range of light sources used in commercial interiors will be replaced by advanced, energy-efficient models.

In residential construction, the chief impact of the new energy era is in the growing use of thermal insulation to reduce heating and cooling costs, but it too will have an important influence on lighting.

Gasoline line, 1974

Compact fluorescent lamp

130 MR16 lamp

7.11 release, 1980

DOWNLIGHTING HEATS UP

"No matter how you roll the dice, you're a winner," proclaims the 1980 filmstrip announcing Lightolier's new industry standard for downlighting: the 1102 frame-in kit. The 1102 sports a host of "go-fast" installation features, such as integral nailers on its mounting bars, pry-outs in the junction box, and built-in Romex clamps. The innovative frame accepts seven new, low-cost reflector trims in the 1100 series, hence the name of the program: "7·11." Incidentally, the dice given liberally to Lightolier and distributor salespeople always come up seven or eleven.

With 7·11, Lightolier aims ambitiously to make believers out of the thousands of contractors who seem wedded to competitors' "white-can" downlights. Lightolier salespeople fan out all over the country meeting distributors and contractors. With plenty of showmanship, the sales team demonstrates how the new 1102 cuts installation time by a third in new construction and by half in existing ceilings.

Stu Thompson recounts the campaign: "We pushed and pushed and pushed. First, we had meetings with a hundred contractors. We had parking lot parties where we would give out a frame-in kit to every contractor who pulled in. If you stopped at a red light next to a contractor, you rolled down the window and handed him a catalog."

The combination of razzle-dazzle and a superior product succeeds spectacularly in territories where Lightolier has established distribution. In others, Lightolier finds itself still blocked by established habits and distributors' ties to competition. It is the first salvo in a two-decade-long campaign to break Lytecaster out of its mid-market niche and to penetrate the growing contractor-dominated market for residential downlighting.

The campaign fizzles out within two years when UL® institutes new requirements for thermal protection. Downlights embedded in thermal ceiling insulation must pass stringent heat tests and carry an IC label. Others must shut off when buried in insulation or using a bulb of excessive wattage. The new rules force wide-spread changes in the design and construction of all downlights.

Lightolier has been working on the problem, struggling to preserve the high-wattage lamping options that are crucial product features. While the ultimate IC solution appears straightforward — creating heat-controlling barriers around the downlight — the process is anything but simple.

Bob Wedekind, newly hired into the design team in 1982, remembers the challenge: "The difficulty with insulated ceilings is that the product must not exceed a specific temperature. You want to get maximum light output and still control glare, keeping the lamp recessed above the ceiling. The way we solved the problem was through understanding the materials — aluminum, steel, even air — and how they dissipate or retain heat. In the end, it was a combination of art and science."

Downlight buried in insulation

To solve the thermal protection problem, Lightolier teams up with Sylvania and develops a device that cuts out when the ambient temperature shoots up. The device is so effective, it is adopted by the entire industry for commercial-grade downlights.

THE SPREAD OF COMPACT FLUORESCENT LIGHTING

In a quirk typical of the Divisionalized experience, Lightolier's first compact fluorescent downlights appear in the 1983 Lytecaster catalog. Lightolier salespeople do the best they can, but the market wants specification-grade products. Lightolier responds in 1985 with the first appropriately scaled compact fluorescent downlights and wall-washers. The apertures of these new Calculites are barely half the size of competing products, and the market embraces them eagerly.

Lightolier steadily expands its compact fluorescent offerings. No longer required to handle incandescent heat, decorative fixtures grow thinner and more appealing. Lightolier develops Lumiquad for both indoor and outdoor applications. It molds the housing out of translucent polycarbonate and masks and paints the sides, producing an integral diffuser that does not need a gasket. The 2-inch-deep construction is only possible with the low heat of compact fluorescent. From Italy, the company imports the idea of marine-style bulkhead lights, which are paired with compact fluorescent sources and named, "Bristol." Bristol enjoys more than 20 years in the market, a remarkable feat for a decorative fixture, but appeals more to architects than to showroom customers — a growing issue for Lightolier's marketing strategy.

In 1989, Bill Blitzer, now part of the Genlyte staff, proposes a high-powered compact fluorescent floodlight for mounting on Lytespan track. Although a few fluorescent track lights are on the market — mostly in Europe — and Lightolier also offers one, the low-wattage designs are still a curiosity in the U.S. The concept fails to excite sales management: With the market abuzz with cute halogen spotlights, who would want bulky fluorescent?

Bill perseveres, builds a prototype, and converts the track design and marketing group to the idea. One of Bill's Lyteflood track fixtures aimed at a retail display wall replaces three high-wattage halogen spotlights. In the typical mall store, one Lyteflood saves $80 in annual electricity costs, cuts heating bills, slashes maintenance cost, and lights wall displays more evenly. Lyteflood is launched and with it, a new approach to lighting stores.

Lightolier also takes the idea of compact fluorescent into recessed wall washers. The 2-foot-long Wal-Lyter does the same job as Lyteflood, but is recessed above the ceiling. The combination of these two energy-saving ideas propels Lightolier sales to national accounts for the next several years.

Bristol wall bracket, c. 1984

Calculite compact fluorescent

Lyteflood, 1990

Alabaster pendants, c. 1990

LIGHTSTYLES

Lightolier's 1976 Style Book is named *New Directions*. And, compared with the 1970 edition, it truly is. Chandeliers and pendants, the centerpiece of the catalog, represent less than 30 percent of all the items in *New Directions*, down from over 40 percent. In a significant turnaround, modern designs outnumber traditional designs by a considerable margin. The shift from chandeliers and pendants in general, and traditional style in particular, accelerates during the 1980s.

In 1981, Lightolier renames the catalog, *The Light Book*. While the item count grows by nearly 25 percent, the number of chandeliers continues to fall. Downlighting, track, and functional "surface utility" fixtures make up the difference. In the midst of difficult business conditions, it is hard to tell what effect the new marketing posture has on the success of the book.

It is the 1985 catalog that really shakes up the company. Hanging fixtures now represent less than 10 percent of the total, and a new architectural influence appears with small-scale dimensioned drawings, an expanded assortment of fluorescent fixtures, and many clean, contemporary designs. Titled, *Lightstyles*, and fitted with a drab, purplish cover, the book strikes customers and Lightolier salespeople as anything but style. Despite a memorable customer meeting under the whale at the Museum of Natural History in New York City, the introduction fails in the field, the first such defeat for a major style book release.

The 1985 *Lightstyles* catalog signals a dramatic shift in Lightolier marketing: away from residential showroom business and towards small architectural projects of all types. The change has been brewing for more than a decade. Lightolier's track and downlighting product lines are now its most profitable. Decorative is draining the company's profitability. Production runs are too short; market acceptance is uncertain; the costs of inventory and discontinuance are high.

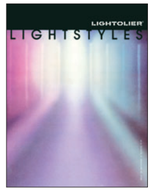
Furthermore, the company's Master Merchant Program, which emphasizes larger customers with commercial business, is limiting the number of smaller showrooms that can display Lightolier decorative lighting.

In 1989, Lightolier gives *Lightstyles* one last chance. It features new decorative styles — the first alabaster pendants and Scalini, a clever interpretation of plate glass. For the new catalog, the company beefs up the assortment of chandeliers, including more traditional models, and provides broad display and training programs, oriented to showrooms. It invites customers to a newly renovated, style-oriented showroom in Secaucus, New Jersey, for a gala occasion, punctuated by hard selling.

Customers react favorably. Lightolier's alabaster and Scalini glass designs stand out, but the company is not ready. Delivery of numerous products drags on: some are beset by quality problems, while others are too pricey to move or too costly to turn a profit for the company. It is a tough lesson in the difficulties of the decorative business, especially for a company that must divide its attention between the commercial and residential markets. The company turns its attention to the energy opportunity.

1976

1981



1985

1989

Lyteflood, 1994

ENERGY SMART LIGHTING

The construction recession of the late 1980s and energy concerns stimulate interest in replacing older, inefficient lighting. In 1991, the U.S. Environmental Protection Agency creates Green Lights to promote the voluntary adoption of energy-efficient technology. Its goal is a reduction in the greenhouse gases that contribute to global warming. Green Lights tells corporate and institutional real estate managers that simply using the new lighting and controls where the savings in electricity costs make it profitable to do so will reduce the energy consumed by lighting by 50 percent.

In 1992, Lightolier wraps its energy-oriented lighting equipment into a new catalog titled, "Energy Smart Lighting." While competitors are publishing buyers guides to their energy-efficient compact fluorescent products, Lightolier distinguishes itself with a complete offering of compact and linear fluorescent and HID fixtures — and a message of energy *effectiveness*, not merely efficiency. Decorative lighting, including decorative downlights, introduced by Lightolier in 1989, enjoy a prominent position.

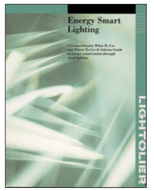
"Energy Smart Lighting," states the catalog, "meets your lighting needs with the least energy consumption." It is good lighting first and foremost. Energy Smart Lighting follows three basic steps: (1) Use a layered task/ambient design to put light where you need it and avoid waste. (2) Use the most efficient light sources — fluorescent and HID. (3) Use the most efficient lighting fixtures, with precise optics to control glare. The catalog is filled with eye-catching graphics, excellent reference information on new light sources, and examples of cost savings; it educates as well as sells.

The Energy Smart sales and marketing campaign includes educational seminars across the country, and carries Lightolier to new influences — electric utilities. In an effort to conserve energy and avoid the need for costly new generation capacity, regulators permit utilities to recover the cost of "Demand-Side Management" (DSM), which subsidize the use of new efficient equipment. DSM training guides note that lighting is the "low hanging fruit" in this effort.

Demand-Side Management rages throughout the high energy-cost regions of the country. Energy Service Companies — ESCOs — survey, purchase, install, and finance retrofits of commercial and institutional lighting. Some of this effort produces well thought-out renovations, such as the PEPCO headquarters. "PEPCO wanted a showcase installation but would not replace their fixtures because they were connected to the air conditioning ducts," recalls Mary Tatum, who had by then moved from Texas to Washington, DC. "They asked for our help as a partner. We surveyed the entire building, and Bill Fabbri developed a special retrofit kit with a new louver that cut energy costs to nearly a third and improved the lighting quality as well. It was my only million-dollar order."

Most retrofits focus on fluorescent troffers. They simply remove old T12 lamps and magnetic ballasts, replacing them with fewer T8s and electronic ballasts, and often a mirror-finished reflector. In downlights, screw-in compact fluorescent take the place of incandescent bulbs, but most protrude beyond the fixture, producing glare and an unsightly appearance. Sometimes, the new lighting improves upon, or is equal to, what was originally there, but many people say otherwise.

Committed to better lighting (and new fixtures), Lightolier does not participate in the basic retrofit business. The company does, however, burnish its reputation for promoting high-quality lighting and energy effectiveness.



DIMMING BURNS BRIGHTLY

When Bill Blitzer renovates his home in the 1970s, he installs Lutron dimmers to control Lightolier's Calculite downlights. The two companies enjoy a symbiotic relationship: Lightolier is the premier source for dimmable lighting; Lutron is the source for dimmers. However, Lutron does not serve Lightolier's core showroom distributors well, and by the mid-1980s, Lightolier has been evaluating the controls opportunity for some time.

After several discouraging efforts fail to produce results, Lightolier hires Steve Carson to focus on the controls opportunity. Steve, an outspoken, motorcycle-riding, entrepreneurial engineer catalyzes Lightolier's program. Working with outside consultants, he prepares an audacious new enterprise:

Steve Carson, 2004

For more than 20 years, lighting controls have used electronic components to dim lights, basically by switching them on and off for a fraction of a second. Lightolier's innovations, borrowed from theatrical controls, bring electronics to the "front end" — the human interface — of the control. Here, digital memory adds convenience and new operating features to basic dimmers. In 1986, Lightolier introduces three innovative product ideas that advance the dimming business and carves out a piece of the controls market for itself and its customers.

EasySet, the first digital dimmer, fades smoothly to a preset level, to full brightness, or to off — all by tapping the rocker. Glowing LEDs indicate dimmer status and locate the device in the dark.

Scenist, another first, combines four dimmers and a multi-scene preset control, all in a four-gang wall box. Just by touching the keypad, one can adjust all four dimmers to any of five different settings (scenes) without fumbling with different switches or dimmers. Scenist is a theatrical dimming system in an all-in-one box in the wall. It is simple, convenient, and economical and revolutionizes dimming in homes and small commercial spaces.

Lytemode systems replaces custom-engineered dimming cabinets with a system of standard component dimmers, cabinets, and front-end control panels. EasySet, Scenist, and Lytemode all exploit the increasing power — and decreasing cost — of semi-conductor chips. Together, they inaugurate an era of ever more sophisticated controls at ever more affordable prices.

Lightolier follows up with an improved Compli Scenist and Lytemode in 1990 and MultiSet, another breakthrough in 1994. More importantly, electronics become a crucial source of innovation within the lighting industry and a strategic driver for Lightolier.

Compli Scenist, 1990

Multi Set, 1994

As the 20th century wound down, a succession of trends swept through America and the world. Television fought the invasion of personal computers into American homes with 24-hour news, 24-hour music, pay-per-view movies and shopping channels. A proliferation of new products included audiocassettes, CDs, video games, the VCR, laptop, and the disposable camera.

It was an era marked by political and pop-culture milestones: the fall of the Berlin Wall and the dissolution of the Soviet Union, the first Gulf War and concerns about toxic waste. Ergonomics had become a byword, Feng Shui a new vogue, and the HIV virus a new threat. As the licensing of interior designers brought new respect to the profession, the Americans for Disabilities Act began to change the way buildings were built and equipped.

"Cocooning" labeled the impulse to spend more time at home, cushioned in overstuffed upholstery and nibbling on home-delivered pizza or microwaved popcorn. Maintaining the status quo was part of this picture — as preservation, restoration, and adaptive reuse of existing structures became a new impulse in architecture that merged the best of the past with the boons of the present.

Designers like Michael Graves and Philippe Starck, in pricey objects for Alessi and budget-price housewares for Target, proved that high style could mean bestseller. Fashion labels entered the home, as Ralph Lauren, Calvin Klein, and Martha Stewart made brand-name furnishings as acceptable as brand-name sneakers. Design became a subject of popular interest — and debate — making the cover of Time magazine, Business Week, and any number of "best" lists. Companies like Apple, Nokia, Absolut, and many others used design as corporate image-builders. Similarly, museums found that spectacular buildings by high-profile architects, though sometimes upstaging the art they contained, were a guarantee of press clippings and crowds.

The period launched with Sottsass and his Memphis colleagues wrapped up with a multiplicity of trends. Deconstructivism, minimalism and expressionism were new labels applied to architecture and interiors. Such ethical considerations as environmental safety, sustainability, and universal design became important issues. The issue was not only how something looked, but how it could benefit humanity — or, failing that, at least do no harm.

INTO THE NEW MILLENNIUM

1992

>

VII

Nasdaq wall in Times Square

PARADIGMS SHIFT

The year 1992 marks the introduction of Microsoft's Windows 3.1, which sells a million copies in two months and distributes a Graphical User Interface to the nation's PCs. The same year, AOL goes public, and the phrase "Surfing the Internet" appears. Only a handful of people worldwide know what the phrase means. Fewer still understand what it implies.

A dozen years later, however, businesses are marketing and taking orders electronically. Online, grandmothers and grade schoolers, alike, email, shop, and "Google" for the information they want. Over a decade that seems to flash by, the United States and much of the world exchange their "dumb" terminals for computers they can independently manipulate or network.

In 1992, cell phones still travel mostly in cars. By 2004, a pocket-sized phone plays games, transmits text messages, and takes and shares photographs. Increasingly, when people answer the phone, you know they are "there" — but you don't know where.

With electronic support distributed across the country and around the world, business begins to operate 24/7. Expectations for service increase, while lead times shrink.

Business — and the real estate industry — steadily rebound from the recession of the early 1990s. The leading sectors — the "new economy" of communications — boom, driving the stock market to all-time highs. As the decade closes, the promise of IPO riches seems to eclipse the fundamentals of profit-making enterprise.

The dynamic growth of the U.S. economy contrasts sharply with the decaying rubble of communism. The free enterprise model attains the respect it has not seen for two centuries. Even the inevitable bust of the dot.com bubble and a tidal wave of accounting fraud do not undermine confidence in the workings of the free market.

Businesses worry about retaining their young and nomadic talent, ready to leave secure employment for the next start-up. Office design favors knowledge workers with amenities for the 24/7 environment and open spaces for spontaneous and creative interaction.

As the world changes around it, Lightolier fights its way out of perilous conditions, relocates its headquarters, rebuilds its key product lines, and becomes an electronically driven enterprise.

CMT Lobby

Foxwoods Casino, Connecticut

Hotel, San Francisco

AT THE BRINK

When Avi Drazin takes the presidency of Genlyte in early 1992, Lightolier faces its most serious difficulties in 20 years. Key construction markets have plunged into recession. At the same time, competitors both large and small, are challenging for product leadership, squeezing Lightolier's best businesses, and eroding prices. These pressures, combined with ongoing management turnover, create turmoil in the sales organization.

Once the company's top marketing weapon, the direct sales force has lost its edge. It no longer even reports to Lightolier. Most troublesome are the loss of selling expertise and the tempting distraction of converting to independent agencies. A procession of sales managers and mixed strategies compounds the problem. The result is a severe drop in sales, threatening the company's very profitability.

With Lightolier heading to a losing year, Avi settles the company. He starts the rebuilding process by appointing Zia Eftekhar as president of Lightolier. Zia has a clear mission: bring the company back to profitability by growing sales and cutting costs. Zia persuades Genlyte to return control of the salesforce to Lightolier; it is a crucial first step.

Zia names Bill Schoettler to run the Lightolier sales organization. Handpicked by the recently deposed president of Genlyte, and newly arrived from the U.S. operations of Siemens, Bill is perhaps an unexpected choice. On the other hand, his experience with a direct sales organization and specification selling equips him for the job ahead. He goes to work reconstituting the direct salesforce and strengthening morale.

Bill is well organized, with a sardonic sense of humor and a down-to-business style. Aided by energetic new sales managers, he manages to revive core Lightolier territories without losing prized independent reps. Sales slowly rebound. High-profile projects, such as Foxwoods Casino and the Los Angeles Convention Center, key the recovery.

By the end of the 1990s, Lightolier has rebalanced its sales strategies. The company remains the only diversified manufacturer using its own sales organization. The direct sales teams once again handle most major metropolitan markets. Solid independent sales reps, many with more than a decade of experience selling Lightolier's broad product line, cover the balance. Nevertheless, Bill and his team remain flexible with respect to coverage of weak territories. In some, they return to direct teams; in others they take advantage of continuing industry consolidation to upgrade agency representation.

To cut its cost base, Lightolier begins a multi-year effort to rationalize and consolidate manufacturing operations across the country. Marketing efforts — and expenditures — are channeled into the company's most important product areas. As 1992 closes, Lightolier shows a modest profit. It is the beginning of a turnaround.

Los Angeles Convention Center

Avi Drazin, 2003

Zia Eftekhar, 2004

Bill Schoettler, 2004

HEADQUARTERS MOVES TO FALL RIVER

Tom Daily, 2004

Mete Kantar, 2004

Bob Reid, 2004

Lightolier quits its Jersey City headquarters in 1986, moving to a new office building in nearby Secaucus. Factory operations shift to new facilities in Edison, New Jersey, and Norwich, Connecticut.

Not only was the old eight-story building woefully inefficient, it also made a less-than-appealing first impression on potential hires. Mete Kantar, vice president of Total Customer Service, remembers his initial reaction: "When I arrived, the parking lot was surrounded by barbed wire and there was an armed security guard. I was not sure this was the company for me." Mete takes a chance and goes on to overhaul Lightolier's Quality Control program.

The Secaucus building — shared with Genlyte — proves to be expensive and remote from key factories. So, Lightolier decides to relocate again when the lease expires, this time moving to its largest manufacturing site in Fall River, Massachusetts, an hour south of Boston. The objectives are two-fold: streamline the product development and operations and reduce overhead cost.

Lightolier commissions an addition to the 250,000 square-foot factory to house the incoming office staff. By late 1993, the first staffers begin to arrive. Relocation extends through the following year.

"My greatest personal challenge," says Bob Reid, head of finance and a 35-year veteran, "was that only two of our staff moved, and we had to train and rebuild the entire department."

In the new facility, Lightolier creates Total Customer Service by integrating the traditional order entry, logistics, pricing, and collections functions. Streamlining these operations and simplifying the customer's interaction with the company significantly enhance Lightolier's previously rocky service interface. Starting with only a few veterans, Mete Kantar steadily builds up TCS. He recalls, "Those first years we worked at least six days a week. If you could take a Sunday off, that was a luxury."

The Design and Marketing groups find the move easier — and operating close to the factory a major advantage. While a handful of staffers elect not to move, most departments arrive intact.

The Fall River facility is not only Lightolier's largest, it is also a major enterprise in southeastern Massachusetts. Decades of community outreach, led by long-time Fall River staffer Loretta George, have built up tremendous good will. Moreover,

Retail vignette, Fall River

Lightolier has an outstanding environmental record, despite the effluvia of extensive buffing and finishing operations. Continuous investment in technology has cleaned up exhaust air and water from these processes, satisfying the stringent standards of the state of Massachusetts. Compliance is so good that the company has virtually "deregulated" itself, in the words of Ron Westgate, Senior Project Manager.

Investment in U.S.-based manufacturing runs counter to the trend to Far Eastern sources of supply. Tom Daily, Lightolier's Vice President of Operations champions the effort. He focuses on cellular manufacturing concepts and automated production techniques to maintain Fall River's competitive position, both in cost and quality.

In 1996, Lightolier completes the planned Fall River renovation with the opening of its new TechCenter. Physically constrained by the building site, the TechCenter encompasses just 5,000 square feet. It is a rich environment, with spaces dedicated to lighting fundamentals, application techniques, and product technology. The entry plaque proclaims, in Bill Blitzer's words, "Light is a creative medium, perhaps the most powerful of all." Upon entering, visitors experience firsthand the color, intensity, distribution, and dynamics of light. They then see how light reveals form and texture before sampling hospitality, and residential vignettes. Push-button controls present alternative lighting treatments in each space. A tour of the offices — lighted in different ways — labs, and the factory floor completes the TechCenter experience.

Lightolier TechCenter, Fall River

PAR-TECH AND BEYOND

Alex Mier-Langner, 2003

Alex Mier-Langner always seems to be fidgeting with camera parts. They produce a satisfying sound when the bayonet mounting clicks in place. Alex, born in Mexico, has relocated to New York City for a master's degree at the Pratt School of Design.

In 1990, Alex is working on a new generation of Lytespots to exploit the compact size of the recently introduced halogen PAR lamps. The lamps emit the crisp white light of low-voltage MR16 lamps, but cost less. At first the project moves slowly and without direction — or perhaps in too many directions. Then the essential idea emerges: the new product should be as compact as possible, stay close to the track, and assume the miniature appearance of low-voltage — but without a transformer.

Inspired by the interchangeability of SLR camera bodies and lenses, Alex and Tony Donato create a simple adapter with twist-on shades, using die-cast components to build in detail without compromising size. The basic adapter extends just a few inches from the track, less than an MR16. With an assortment of shades, "Par-Tech," as the new line is called, offers many style options for stores, restaurants, and homes. In your hand, the new product feels different than other track lights — substantial, enduring, higher in quality. And just like a camera, the adapter and shade click together.

As Alex tells it, "One of the challenges for me was the scale was a big feature . . . bringing everything we had and wrapping around that lamp like a sock, something that is wrapped so tight."

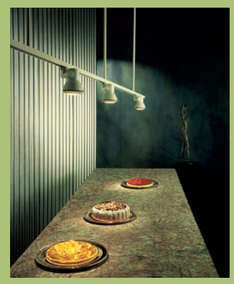
Par-Tech, 1990

The Par-Tech design involves more than die-castings, which are just beginning to find use in track lighting. Other innovative elements include a bezel molded from the performance plastic Ultem®, which snaps over the shade to enclose all but the face of the lamp. A heat-resistant handle of polycarbonate enables the Lytespot to be aimed while it is on — and otherwise too hot to touch. In another model, a rubber ring that is held by a thick chrome steel wire grips the face of the PAR lamp, eliminating the typical clips. The fresh appearance of Par-Tech captures the market.

To promote the entire line, which now includes energy-efficient Lyteflood and an HID Lytespot, Lightolier rethinks the Lytespan catalog. The book introduces each family as precious objects in colorful, but idealized vignettes. Individual fixtures, mostly painted black or white, are photographed in full color, and printed in half-tone to bring out their sculptured forms.

Lytespan, a mature product line struggling in the era of low voltage, needed revitalizing. Par-Tech is the right tonic and makes style once again a key aspect of track lighting. Lightolier follows in 1995 with Sof-Tech and later, with Metallics, both creative explorations of form and materials, the eye-pleasing offspring of Par-Tech's originality.

By the time Lytespan passes age 40, Energy Smart fluorescent and metal halide fixtures have become the fastest-growing category in the product line.



Par-Tech, 1990

Metallics, 1999

Sof-Tech, c. 2000

Decorative Downlights, c. 1995

DOWNLIGHTING GOES ELECTRONIC

Compact fluorescent technology advances through the 1980s, producing an array of new, higher-powered sources. By 1990, a nominal 7-inch-diameter downlight holds two 26W quad-tube lamps, with a lumen "package" exceeding that of a 150W A lamp. As more fixture manufacturers adopt the technology, the downlighting business grows ever more competitive. Lightolier, which enjoyed the dominant position in downlighting a decade before, watches its market share erode.

Proponents of energy-efficient lighting — and most of the industry — are keeping a little secret, however. The equipment really does not perform all that well. Compact lamps flicker when they start; fixtures do not produce the predicted amount of light; and downlights reveal an unsightly iridescence — a rainbow of color — in the reflectors. Research at the Lawrence Berkeley National Laboratory in California documents that most compact lamps in downlights operate in ambient temperatures above that which is optimal. Fixture manufacturers scramble to tweak their designs.

Lightolier sees an opportunity to reassert superiority. In 1991, Steve Carson, head of Lightolier Controls, suggests developing an electronic ballast for compact lamps. Until now, all compact fluorescent fixtures have used magnetic ballasts. Electronic ballasts are well accepted for linear fluorescent lamps, but the established ballast manufacturers have not pursued compact fluorescent lamps, which they view as a specialized niche market.

Carson and his electronics engineers do not shy away, developing the circuits over the course of a year. In 1993, Lightolier launches Calculite with its new PowerSpec electronic compact fluorescent ballast. Offering 25-30-percent higher efficiency, flicker- and noise-free operation, cold-weather starting, and excellent power quality, PowerSpec is a major advance in technology. The release, published in Lightolier's first Calculite compact fluorescent catalog, also includes an Iridescence-Free finish, improved thermal engineering to raise output, and a much-expanded line of fixtures.

Lightolier introduces Calculite PowerSpec with a series of traveling seminars that educate specifiers about the problems of compact fluorescent downlighting — and the company's new solutions. PowerSpec takes off, and the Lightolier sales organization again has a leadership concept.

Lightolier's advantage does not endure, though. Electronic ballasts become widely available to competing manufacturers, while Lightolier struggles with technical problems in its own design. By 1998, Lightolier abandons its proprietary ballasts.

Was the effort worthwhile? On the one hand, the ups and downs of electronic technology — "the bleeding edge," as lighting designer Jim Benya puts it — stress Lightolier's customer relationships. On the other hand, the innovations make a lasting impact on product design and lead specifiers to demand a higher standard of performance.

The introduction of triple-tube lamps further complicates the downlighting business, and it takes the company more time to refine its optics and finishes. With Matrix, a line of rectilinear fixtures introduced in 2002, Calculite compact fluorescent regains top form.

Matrix, 2000

Triple-Tube Calculite, c. 1997

iGEN system with Agili-T pendants, 2002

ADVANCED LIGHTING SYSTEMS AND iGEN

The scramble for DSM-subsidized lighting retrofits leads to numerous unsatisfactory installations and much confusion. Many in the electric utility industry grow concerned that negative reaction will impede the adoption of efficient lighting technology. They want a reliable "off-the-shelf" solution. Lightolier's Energy Smart program — and its strong reputation for lighting quality — make the company an ideal partner. In 1992, Lightolier strikes two deals for the development of new energy-efficient lighting fixtures.

Lightolier meets the Niagara Mohawk Power Company through the Lighting Research Center, where both are supporting partners. The utility is interested in an affordable and energy-efficient fluorescent troffer that it can market for use with VDTs. Existing products either use too much energy or lack appropriate glare control. Lightolier contracts to develop the product and creates a unique two-light parabolic 2x4 for VDTs.

At the same time, the Electric Power Research Institute wants to develop an advanced lighting system that integrates efficient, high-quality fixtures and controls, including both occupancy sensors and photocell-based dimming. Bill Blitzer takes the lead for Lightolier and succeeds in combining the two efforts.

It is a massive development program, requiring tooling for a complete line of fluorescent fixtures and the design of advanced daylighting controls. The project takes more than two years before all the pieces are in place.

Lightolier rolls out the Advanced Lighting System in early 1995, promoting it as both energy smart and vision-smart. Lightolier retains David Munson of the HOK lighting group to create the computer renderings that explain the system. Lighting performance is tied to the newly published ANSI/IES RP-1, *The Recommended Practice for Office Lighting.* A supporting "pattern book," created by daylighting expert Steve Stannard, projects savings from daylight dimming. The program garners six separate citations in the 1995 IES Progress Report.

Sadly, the timing could hardly be worse. The economic recession and nascent utility deregulation have diminished interest in DSM programs. Electricity prices remain low throughout much of the nation, limiting interest in costly daylight dimming.

Reaching corporate decision makers — critical for selling more costly lighting — continues to elude Lightolier, whose influence ends with the lighting specifier. Steelcase, the office furniture giant, offers a way into the executive suite. Despite a huge volume of task lighting, Steelcase has failed in several attempts to sell ambient systems and sees Lightolier as a useful ally. In 2001, a strategic alliance is formed linking Lightolier, Steelcase, and select Steelcase dealerships.

In 2003, Lightolier revisits advanced lighting systems, this time using "smart" electronic ballasts. Based on the open DALI protocol (for Digital Addressable Lighting Interface), the new ballasts significantly lower the design and installation costs of controllable lighting systems. DALI also lets Lightolier pair its lighting equipment with the wide range of controls produced by other companies. Lightolier calls its new systems iGEN, the next generation of intelligent lighting.

In addition to daylight-linked dimming, iGEN permits separate control of individual fixtures. Emerging research demonstrates that individual control — the ability to set the lights the way you want — leads to quantifiable gains in productivity.

Where the Advanced Lighting System relied on proprietary technology, iGEN enjoys an open protocol, developed and promoted across the industry. With iGEN Lightolier leads a movement that is bigger than its own efforts can produce. The company also learns from the challenges of selling complex systems and establishes a dedicated sales support group to galvanize the marketing campaign.

iGEN™

THE DOWNLIGHT WARS

Since its very beginnings, Lytecaster, an open frame-in kit with fully enclosed reflectors, has contended with the "white-can" system of a fully enclosed housing and simple trims. Lytecaster offers the best-looking installation, with neat trim flanges and no light leaks. The lamp is precisely focused in the reflector, and the system offers the widest choice of style and wattage.

Conceptually, the two systems are similar, as both are two-piece downlights. In practice, however, they differ in such details as how the two parts attach to each other and how the rough-in relates to the ceiling. Electrical contractors accustomed to one way of installing downlights find the other unfamiliar, and their preferences become entrenched.

In the fight against the white can, Lytecaster faces a significant disadvantage. Despite a few imitators, Lytecaster is essentially a proprietary design, while the white can is available from a dozen companies, large and small. As a result, more contractors by far have grown up with a can than with a frame-in kit. Where Lightolier lacks strong distribution, the problem is most acute. Conversely, the difficulty in selling Lytecaster to local contractors limits Lightolier's ability to attract new distribution. Increasingly, Lightolier marketers speak of the strategic imperative to break the "white can habit."

By the mid-1980s, the problem is more than habit. The requirements for installation in insulated ceilings favor the can, which provides a better heat-dissipating barrier. Lightolier tries several designs before solving the problem effectively with a steel box. Lightolier's successful 1100IC, introduced in 1986, provides the best IC *downlighting*, but its bulk and cost put off many contractors. High-volume residential construction begins to swing more toward the can.

In 1990, the strategic issue boils up: should Lightolier supplement its Lytecaster business with a white-can product line? Although some say, "If you can't beat 'em, join 'em," many at Lightolier resist the idea. They contend, "Why should a latecomer to a commodity business like the white can be successful in any way?"

Kingsley Chan recognizes both the intrinsic need for a can and the superiority of the Lytecaster reflector concept — as well as the demand for a low-cost product. His 1992 Lytecan is an innovative resolution: a 5-inch-diameter, rolled-steel housing is combined with reflectors secured by friction clips to the inside wall of the housing. Installation is simpler and faster than anything available. And to achieve the cost target, the housing eliminates both the mounting plate and socket cup required by a conventional Lytecaster.

In fact, the new product is virtually Lytecaster in a can — but not quite. As all of the components are unique, none is compatible with existing products. Furthermore, the 5-inch size, while perfect for typical 8-foot-high ceilings, does not offer the full range of choices that the market needs.

Lytecan downlight, 1992

Lytecaster downlights, c. 1993 >

Kingsley Chan, 2003

Lytecaster downlights, c. 1992

LYTENING STRIKES!

Lightolier believes that it can sell Lytecan to the few, large contractors in each territory — perhaps 300 nationwide — whose downlighting business represents the bulk of the residential market. With the contractor's leverage, Lightolier will open new distribution, and the local inventory will convert the "pick-up" business. The campaign takes off in some markets, but stalls in others. It is slow going and absorbs a great deal of time in the sales organization Contractor habits prove hard to break. Meanwhile, competitors are sharpening their products, raising the bar all the time.

By 1995, Lightolier recognizes that a new effort is required. Despite the investment in Lytecan, the development team led by Bob Wedekind and Ken Mackenzie, pushes for a new approach, which they name Lytening.

The essential genius of Lytening is the marriage between the full range of existing Lytecaster reflectors and a new, rough-in can. Contractors who value the performance and appearance of Lytecaster can continue to use their favorite reflectors. Contractors who prefer to use a can have the new Lytening housing, which looks familiar and installs . . . quick as lightning.

Simple in concept, the program is anything but simple in execution. To assure contractor acceptance, the design team creates focus groups, lives the installation process firsthand, and assembles a fresh understanding of the features and benefits most valued by the target market. Although the product life cycle for residential downlights is well into its fourth decade, the Lightolier team finds fertile ground for innovation, constantly looking to improve the ease of installation.

Formed of bright aluminum and wrapped in a bold, red bolt of "lytening," the new housing is lightweight and easy to handle. The most talked about feature is the swing-down mounting bar, whose function Mark Jones describes,: "You nail one end of each bar to the ceiling joist, and the housing hangs conveniently below the ceiling where there is plenty of room to splice the supply wires." But there are other little features, such as self-locking and releasing integrated cable clamps, fingernail pry-outs, and numerous others adapted from Lytecan.

As the housing itself moves through engineering, Lightolier mounts the broadest thermal testing program in its history, ultimately conducting over 1,000 separate test runs. Since the Lytening housing will serve in both insulated and non-insulated ceilings, with different wattage limitations, every Lytening/reflector combination is measured numerous times: in an open test box and embedded in insulation; for operation within thermal limits; and for electrical shut-off when the fixture is improperly lamped or installed. Excluding the few reflectors too tall for 8-inch joists, the engineering team succeeds in passing the entire line — a remarkable accomplishment.

Lightolier unveils Lytening in 1997, inviting the sales organization and key distributors to the Providence Convention Center to see the product. Thunder peals, and a giant replica of the housing descends to the stage. A videotape documents the contractor focus group evaluating and endorsing the product. Customers, themselves veterans of the downlight wars, register their approval in Lightolier's most successful product rollout ever.

Bob Wedekind, 2004

Ken MacKenzie, 2004

Installing Lytening

Downlighting, c. 1998

Downlights, 1999

Downlights, 1999

THE EVOLUTION OF CALCULITE

When Ken Czech arrives at Lightolier to head up the Calculite product line in 1998, he finds the most pressing problem to be its accent lights. A good idea has gone astray.

In 1994, after more than two years of development, Lightolier replaced its 25-year-old Calculite accent lights with a groundbreaking system called, "ProSpec." The system consists of several common housings that accept the wide variety of high-performance light sources and optics now required for the most demanding accent lighting applications. ProSpec introduces an "offset" pivot that permits more of the light beam to exit the fixture and gives designers unmatched, hands-on control over the equipment.

ProSpec permits a lighting designer to change the type of light source, add lenses and color filters, and lock the aiming of the fixture — all after the product has been installed in the ceiling. The hardware itself, much of it die-cast, is impressive. Although individual accent lights have offered some interchangeability before, ProSpec is the first product to systemize this feature for high-performance applications.

ProSpec makes Calculite more complex, however, replacing six discrete fixtures with dozens of components. While ProSpec creates hundreds of end-fixture combinations not previously available, this flexibility initially confuses some salespeople and lighting designers. The development effort consumes so much time that Lightolier does not extend the family to the smaller — and newer — units that are also used in residential applications.

This proves to be a mistake. The strong residential real estate market of the 1990s has stimulated demand for a better grade of recessed downlights. Lavish and expansive, the custom homes that represent the top of the market increasingly enjoy the services of lighting designers. Some designers work for sophisticated showrooms — a traditional arrangement — but more and more operate independently. Their experience in commercial design leaves them dissatisfied with most residentially oriented lighting equipment.

Competition gets to the market first with a line of high-performance downlights developed specifically for residential application. Ken, who developed the product before joining Lightolier, knows it all too well and now, at Lightolier, directs his new design team to better his previous effort.

The result — appropriately named Evolution — advances the state of the art. Evolution expands Prospec's "platform" to include small housings for both insulated and non-insulated ceilings, overcoming the engineering challenges of small enclosures and high temperatures. Clever improvements to the mechanics of aiming and relamping gain the support of lighting designers. An appealing new aperture of frosted glass serves aesthetically as a gently glowing element or functionally as a shower light. Evolution is immediately successful.

Evolution not only sets a new standard in the market, it initiates the next generation of Calculites — more sophisticated optically and mechanically, they are true instruments of lighting performance.

Evolution adjustable, 1999

Ken Czech, 2004

STORE LIGHTING AND NATIONAL ACCOUNTS

During the 1970s and 1980s, the retail industry expands dramatically. Local department and specialty stores grow into national chains. Names like Nordstrom, Footlocker, The Gap, The Limited, Ann Taylor, and Zales become national brands.

Department store, c. 2000

The national explosion of retail brands proceeds hand-in-hand with an expansion of new retail real estate. The synthesis of the two forces finds a perfect venue in the shopping mall. Retail malls, which originate in the early 1950s, spread across the country, growing larger and more elaborate with each new location.

By the early 1980s, malls enter the inner sanctum of the nation's largest cities: Some, such as San Francisco's Ghirardelli Square, Boston's Faneuil Hall, and Baltimore's Harbor Place, take a festival approach, providing a rich mix of entertainment, impulse, and conventional retail. Others, such as Houston's Galleria, simply plant the suburban model into a more compact urban setting.

Retailers know — and care — more about lighting than other commercial users. Lighting affects how consumers view the merchandise through focus, color, texture, and form. Equally important, lighting influences how consumers appreciate the store itself; the retail brand experience is crucial to building buying patterns and corporate equity.

With a product mix rich in profitable track and downlighting, lighting for stores becomes one of Lightolier's best businesses — and the focus of the National Accounts selling effort. Sometimes, a distinctive Lightolier product — Lyteflood, for example — clinches the sale. Other times, well-cultivated contacts deliver the result. Either way, it is the repeat business that really drops to the bottom line.

Meeting the needs of a new store rollout demands careful planning and tenacious follow through. Although the initial order depends on the salesperson, the continuing success of National Accounts rests with a dedicated service team. Its members stay on top of each store's schedule and the changes that inevitably arise at the last minute.

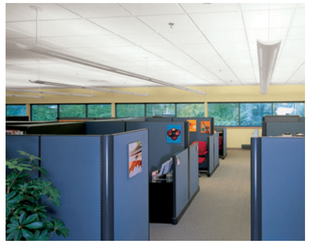
Lightolier's National Accounts service — like its customer relations everywhere — is not always smooth. A failure in communications, technical product difficulties, production overloads or breakdowns can all create problems. But, over its 30-year history, Lightolier National Accounts earns a hard-won reputation for quality and reliability.

Early National Account projects are often sold as direct orders, bypassing distributors and stirring up market conflicts. By 1990, Lightolier largely ends the practice and works with selected distributor partners to develop business.

The profusion of stores eventually runs up against market reality. By the mid-1990s, there is simply too much space committed to retailing. Stores first scale back their expansion plans, then vacate under-performing locations. The once-lucrative market for store lighting becomes fiercely competitive. Fortunately, changing energy codes and the perpetual need to refresh the look of the store bolster demand for new lighting.

Specialty store, c. 2000

Lytespread LSB, 2003



Lytespread LSC, 2001

< Lytespread LSC, 2002

INDIRECT LIGHTING

The use of suspended indirect lighting starts to build in the 1980s; by the 1990s, it has become a very important business. The trend is driven both by the need for better lighting for computer users and by the desire for fresh-looking interiors. Diffuse light, reflected off the ceiling, improves the visibility of both paper and computer tasks. Indirect lighting brightens the space, and people generally prefer the effect to the direct lighting from recessed fixtures.

Lightolier West is home to the company's Systems business, whose 4' and 8' modular products can be assembled into linear configurations for indirect lighting. Lightolier's first contribution is the 1986 introduction of Lytespread, one of the industry's first products dedicated to the 1"-diameter T8 fluorescent lamp. Lytespread brings to market four features that will define effective indirect lighting: a compact form, a clean optical cavity for widespread light distribution, a patented draw-tight joining detail, and a suspension module perfect for grid ceilings.

Totally indirect lighting can create the flat, dull ambiance of an overcast day. So lighting designers begin to favor systems that provide both direct and indirect effects or that reveal a little brightness at the surface of the fixture. The higher cost of a suspended lighting system, often more than double that of recessed lighting, remains a concern for many users. Competition and cost reduction soon reduce the gap and fuel the market.

As the indirect business grows, however, Lightolier, fully engaged in other product and marketing activities, fails to keep pace with market trends and more focused competitors. A decade after Lytespread, the company is trailing badly.

To reverse its decline, Lightolier names Ken Parivar head of the operation, now relocated to Fontana, California. Ken beefs up the staff and focuses its Systems products on the indirect lighting opportunity. In 1997, the company launches Multi-Lyte, the first in a series of distinctive introductions that rebuild the Systems business.

Multi-Lyte provides a continuous wiring channel that accepts diverse fluorescent and track lighting elements at any point. With multiple circuiting and flexible suspension points, Multi-Lyte can adapt to virtually any application and spatial configuration. Lightolier begins to regain credibility with the lighting community.

Silhouette, 2001

Lightolier follows with Silhouette in 1999. Designed around the new and ultra-compact T5 lamp, the new product provides fluorescent lighting with sex appeal. Silhouette is small and elegantly proportioned, with a choice of sculptured profiles and luminous textures. The distinctive styling captures the spirit of the youth-oriented dot.com offices, and the line sells briskly.

As Lightolier enters the 21st century, it continues to expand the Systems assortment. New versions of Lytespread use T5 lamps to achieve outstanding optical performance. Agili-T, developed by Canlyte, is the first suspended system designed to be easily relocated or reconfigured as office layouts change. It is also the first to be pre-wired for use with DALI ballasts in an iGEN system.

Ken Parivar, 2004

ParaPlus, 2003

Soli, 2003

LIGHTING TO LOOK AT . . . LIGHTING TO SEE BY

Lighting, like other architectural fashion, plays out in cycles. Decorative fixtures, the standard for the first half of the 20th century, give way to recessed systems as the International Style of modern design gains ascendancy. But, as the century wanes, ornament and expressive design return to favor. Viewed a little differently: after two decades of using sharp-cutoff optics, leading designers tire of the effect; they turn to more visibly luminous fixtures. The architectural mainstream follows suit, and commercial spaces take on a brighter aspect.

As lighting becomes more decorative, architectural products take new forms. Decorative downlights first emerge as custom fixtures in the 1980s. But, after Lightolier introduces Lytegems, a standard line of attachments for Lytecaster, the concept becomes a staple across the industry. Style assumes more importance in track lighting, as well, as the success of Par-Tech indicates.

Even recessed fluorescent fixtures lose their purely functional character. Luminous coffers like Lightolier's Alter (pronounced Al-tair) offer a wide range of soft lighting effects. Although the fixtures are relatively inefficient, designers specify the line eagerly. Later variations, such as ParaPlus, offer better output without sacrificing comfort or style. Lightolier's slogan from 1968 sounds remarkably current: Lighting to Look At . . . Lighting to See By.

Lightolier's conventional decorative business languishes, however. The company has lost its hold on the residential market, and its products lack the scale and features to compete architecturally. Lightolier responds by segmenting the business. In 1992, it acquires Forecast Lighting, once a successful residential brand, and focuses it on the showroom market. In 2000, it acquires Translite Sonoma, whose low-voltage systems and elegant glass designs have built a following among designers.

Lightolier drives its own brand toward architectural applications. In 1999, it introduces Pendalytes, whose rugged appearance creates a successful style. Nevertheless, the decorative business demands a steady flow of fresh ideas, and it remains a work in progress for the company.

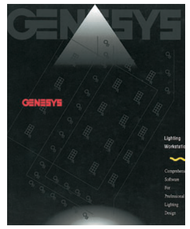
The resurgence of decorative lighting coincides with the establishment of Lightfair International in 1989. The annual trade show targets the commercial market and provides a convenient venue for sampling new designs. Although the show supports good lighting practice with educational seminars and provides financial support to the professional lighting community, it is perhaps a mixed blessing for large and well-known companies. They have to shoulder the high cost of exhibiting each year; many question the return on their investment. The show, however, is a boon for small start-up companies, particularly importers, who secure easy and economical access to the market.

A decade of investment in new products and marketing gradually pays off for Lightolier. In 2002 and 2003, the company earns the top ACE awards from the readers of *Architectural Lighting* and *Architecture* magazines. The Architects Choice for Excellence recognizes commitment to product excellence in all areas, including durability, customer service, value, and design. The awards reconfirm the leadership position identified by *Architectural Record* surveys a quarter century before. So, in another way, the lighting cycle turns.

Pendalytes, 2001

THE COMMUNICATION REVOLUTION

Decades before laptops, cell phones, and the World Wide Web, Lightolier buys several portable facsimile machines to market its custom products. Zia Eftekhar recalls visiting specifiers offices with the machine. "We could fax a concept to the factory and receive a response before the sales call ended. The speedy turnaround impressed designers and enabled us to provide custom solutions to distant markets." Perhaps it is a sign of things to come.



GENESYS, 1993

Around 1990, Lightolier develops a broader plan for electronic marketing. It begins with GENESYS, an electronic lighting design workstation. To implement the concept, Lightolier licenses proprietary software and retains lighting engineer Steve Stannard to develop a user-friendly graphical interface.

GENESYS, launched in 1992, can perform a wide range of lighting calculations and present the results in a rendering. While computational programs have been available for some time, GENESYS streamlines the process by including a library of more than 10,000 fixture and lamp combinations. GENESYS can search the library by attribute and document the lighting design with a graphic plan, energy analysis, and a fixture schedule.

Lightolier focuses next on improving how it communicates technical data, promising "The information you want when you want it." An early fax-on-demand system sends out specification sheets in response to telephone prompts; complete sets of specifications are published on CD to permit regular updates to a broad distribution. Changes in communication accelerate as the company enters the 21st century.

For specifiers, Lightolier jumps to a web-based Comprehensive Lighting Selector in 2001. The Selector provides 24/7 access to the entire catalog of Lightolier fixtures, supported by four-color images, drawings, specification data, installation instructions, and photometry. Users can search for fixtures by type, key-word attribute, or catalog number. They can then print any of the information or create customized submittals. Although maintaining the massive database taxes product managers and engineers, specifiers and salespeople applaud the results and quickly come to depend on them.

For customer transactions, Lightolier Express, introduced in 2003, offers the speed and convenience of direct access. Using the Lightolier website at any time, customers can view Lightolier inventory and production schedules, enter an order, track an open order, and confirm shipping information.

For its own salespeople, Lightolier looks to electronic automation to improve architectural sales productivity. Information from external construction surveys open opportunity files that organize sales activity to the various project influences and facilitate communications within and across sales territories. As a project progresses, the system provides "configurators" that translate a takeoff into an accurate bill of material, which, in turn, generates a quotation.

Lightolier salespeople have come a long way since the days of overnight trains and carboned order pads. The technical complexity of modern architectural lighting demands both in-depth product knowledge and a firm grasp on the construction market supply process. Lightolier training, long regarded as the industry standard, has never been more important. Today's salespeople, often recruited out of college, participate in a highly structured, months-long program of online and classroom education, rotating internships, sales instruction, and on-the-job training.

In one key respect, however, salespeople remain the same: shrewd and hardworking, they are always looking up.

Powerwash and Par-Tech, 2002 >

At the crucial turning points in Lightolier's history, key individuals have the vision and drive to reach for business success.]

Even more than its remarkable record of product innovation, Lightolier's history recognizes the consistent empowerment of new generations of Lightolier people. They are driven entrepreneurs, aggressive salespeople, creative marketers, innovative designers and manufacturers, and capable craftsmen.

Lightolier begins with its founder's family but quickly expands. As a good place to work and learn, the company attracts talented newcomers from North America and beyond. Their energy and imagination fire up the company. They will help carry Lightolier through its next generation of leadership, and transform the company into a professionally-managed business.

At the crucial turning points in Lightolier's history, key individuals have the vision and drive to reach for business success. They also have the confidence to take risks in its pursuit. The company enters manufacturing against the counsel of its founder. It attacks commercial and architectural markets when it has little reputation or base in those areas. Lightolier invests in the development of its own sales organization, despite the high cost this strategy entails. It perseveres through a decade of industry and management turmoil, and emerges with a stronger team than before. Throughout, the company pursues leading-edge ideas, some of which fail. Others, of course, succeed brilliantly.

Bill Blitzer, the person most associated with Lightolier's product leadership, sees his role as that of a theater producer. "We assembled, in one way or another, a group of talented people that could realize some of the ideas that I — and others — had, and we fed them resources. But, in the final development, the products were largely their results, not mine. Keeping that momentum going against the inertia that faces any new idea — that is what I would like to be remembered for."

What kinds of people prosper over the history of the company? In typically American fashion, it is those who work hard, take an aggressive path, and grow from collaborating with others. They invest their time and talent. They receive in return financial rewards and the opportunity to see their efforts produce results. They make the difference in a company committed to lighting that makes a difference.

Lightolier begins when electric lighting itself is just starting to overtake the existing gas lighting technology. During the company's first 50 years, it grows from a fledgling enterprise into the country's leading brand of lighting. It moves from distribution, to designing its own products, to manufacturing them. Surviving financial panic, economic depression, and two world wars, it establishes its own sales organization and develops a nationwide network of distributors, committed to selling lighting. And, it pioneers marketing techniques that become standard industry practice.

During the next 50 years, Lightolier first enters, and then rises to the top of the architectural lighting business. It introduces a remarkable series of innovative products, many as firsts in the industry and many more as simply better iterations. They are modern, flexible decorative lighting; attractive, fluorescent office lighting; track lighting systems; residential and commercial downlighting; and electronic controls. These products change how we see and use both residential and commercial spaces. On the strength of its architectural products, the company expands its manufacturing operations, enters the Canadian market, and goes public. By its 75th birthday, Lightolier has introduced a selective distribution policy and created a National Accounts operation to address repetitive business across the country.

As Lightolier approaches its 90th anniversary, it is part of Genlyte, the largest independent lighting company in North America. Lightolier devotes itself fully to architectural lighting, leaving the decorative residential business of its youth. It focuses on Energy-Smart lighting and rapidly adopts new light source and electronic technologies, transforming virtually its entire product line. Fluorescent, HID, and halogen sources now predominate; only a few downlights and decorative fixtures still use the simple incandescent lamps that were once so prevalent. Lightolier celebrates its 90th year in its new home in Fall River, Massachusetts.

Lightolier's Centennial sees the company newly organized into focused product businesses, selling through a common field organization. Sales people — professionally trained in lighting — are connected and supported electronically. Specifiers can find complete product information and documentation online at any time. Customers can view inventory, enter orders, and follow up directly, around the clock. Printed literature remains important, and the 2004 edition of Lightolier's Comprehensive Lighting Handbook now exceeds 600 pages.

A Lightolier fixture from 2004 would not startle workers at The New York Gas Appliance Company, just as one from 100 years ago would look familiar, albeit quaint, to us today. The workers of 1904 might marvel at the brightness and industrial precision, and possibly wonder about the health effects of so much light. Mostly, they would be impressed by the success of the enterprise itself and the accomplishments of five generations of Lightolier people.

What is most certain about Lightolier's next century is that it will not mirror the first. "For its first hundred years, Lightolier — and the lighting industry — addressed the visual environment," observes Zia Eftekhar. "Looking ahead, non-visual issues, such as health and wellness, will become increasingly important."

The impact of lighting on circadian rhythms, alertness, and the treatment of Alzheimer's is already the subject of intense study. Other scientists are investigating the use of ultraviolet lighting to decontaminate air and water. Today, researchers focus on questions of light intensity, spectral distribution, and timing, as they affect our non-visual systems. Tomorrow, the questions will turn to how, where, and with what equipment can lighting best be deployed. These are questions that Lightolier would like to answer.

"Lightolier has always been good at finding new opportunities and new avenues in areas that were not evident in our business before," says Zia, perhaps thinking of the company's product innovations, perhaps of its creation of National Accounts or of its entry into architectural lighting altogether.

America's aging population links the visual and non-visual issues in lighting. Older eyes need substantially more light for common visual tasks. And they are more sensitive to glare. Older hands find small lighting controls difficult to manipulate. As energy concerns spread in the 1970s and 80s, some felt that America was "over lighted". In many cases, this proved true, especially as more visual tasks included computers. With older eyes, we need to reconsider the quality of the entire visual environment, including the adequacy of illumination.

Technology and architectural fashion remain important drivers for the lighting business. Light sources will continue to gain in efficiency and useful life. These are imperatives of sustainable development, as are clean manufacturing processes and the recycling of materials. In many cases, the technology for a better environment is already available.

Lighting equipment will become smaller — and larger. Some fixtures will become more thoroughly integrated into structure and furnishings. Much of today's static lighting will become dynamic, with electronic intelligence changing intensity, color, and aim. Personal control of lighting will be expected, no longer a luxury.

More than new technology, style, or even new applications of light, Lightolier's future will reflect the spirit of its people. An unbroken thread runs from the courage of the founders to the creativity of succeeding generations. To close with Zia Eftekhar's words, "Lightolier has always given people a platform to perform, to pursue an opportunity with passion and drive. This is how we will succeed going forward."

PEOPLE WHO MAKE A DIFFERENCE

No list of Lightolier contributors can be complete. Nor can it adequately represent the interactive quality of work at Lightolier. Where careers span decades of organizational change, the categories of design, marketing, operations, and management oversimplify people's roles in the company. Nevertheless, here is a roster of Lightolier people, past and present employees, whose contributions stand out over the company's first hundred years.

PAST

DESIGN AND ENGINEERING

Bernhardt, Horst
Donato, Tony
Capostagno, Joe
Chan, Kingsley
Eckholm, Jack
Florence, Noel
Kolakowsky, Steve
Lalli, Orf
Moser, Carl
Muller, Henry
Neumann, Manny
Russo, Neil
Schnaper, Murray
Selsing, Chris
Soloman, Dan
Thurston, Gerald
Wolkin, Sid
Woloski, Leonard

MARKETING AND SALES

Baldauf, Harold
Berk, Ted
Black, Sam
Blandino, Jerry
Blitzer, Daniel
Blumberg, Nat
Blumenthal, George
Bull, Gary
Carter, George
Cherner, Marshall
Chernoff, Burt
Cohen, Pierson
Collins, Dale
Cooper, Mickey
Feltman, Sidney
Fish, Robert
Fisher, Bruce
Hartson, Ronald
Intindola, Al
Kelley, Pat
Klein, William
Klein, George
Leland, Gerald
Loebelson, Michael
Mark, Jack
Peck, Gerry
Peyser, Norman
Raskin, Paul
Richman, Leon
Robert, Gaston
Schatz, Herbert
Schlosser, Fred
Strauss, Stuart
Tatum, Mary
Thompson, Stu
Zekowski, Gerry
Zitter, Sam

OPERATIONS AND SERVICE

Buchner, Rupert
Clappi, Joseph
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– DANIEL BLITZER

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Daniel Blitzer held a variety of sales and marketing positions with Lightolier from 1979 to 1992. Since that time he has operated his own firm, Contract Marketing, and has continued to work with Lightolier. In addition, Dan serves as a Director of Continuing Education for the American Lighting Association and serves on the faculty at the Philips Lighting Center. He is the current president of the Designers Lighting Forum of New York and a board member of the Nuckolls Fund for Lighting Education. Dan is the son of Bill Blitzer.

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