

Client: [REDACTED]  
 Contact: [REDACTED]  
 Senior Vice President & General Manager  
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 Location: [REDACTED]  
 New York, NY 10019

Project: Replacement of Fluorescent and Incandescent Light Fixtures in Loading Dock, Security Room and Storage Areas

Overview

There are presently several types of fluorescent and incandescent fixtures in the Loading Dock and Storage Areas. The fluorescent fixtures are a combination of hanging double T-8's, in-ceiling double and quadruple T-8's and double T-5's. The incandescent fixtures are hanging single bulb fixtures. The existing light fixtures operate on a 24/7 basis.

The intention is maintain the existing fluorescent fixtures while removing the fluorescent tubes and then affixing custom Beimini Edge® LED Edge Lit Panels in substitution. It is anticipated that the use of the Beimini Edge® LED Edge Lit Panels will allow the complete de-lamp of the incandescent fixtures in the loading dock; the de-lamp of 50% plus of the fluorescent fixtures in the security room and 40% of the fixtures of the storage room area. All substituted fixtures will also be reduced by 30-40% of the existing wattages. This is all achievable due to the custom size/wattage/color combined with the wider Beam Angle referenced below.

It is agreed that the loading dock and storage room light replacement should be at 5500k and 48 watts per panel; and 4000k and 30 watts per panel for the security room. Electricity cost is estimated at \$0.13 per kWh.

Beam Angle References

BEAM WIDTH = ANGLE x .018 x DISTANCE

	5ft Ceiling	8ft Ceiling	10ft Ceiling	12ft Ceiling	15ft Ceiling
<b>Light on floor at 15° beam angle</b>	1.35ft Diameter Light Spread	2.16ft Diameter Light Spread	2.7ft Diameter Light Spread	3.24ft Diameter Light Spread	4.05ft Diameter Light Spread
<b>25°</b>	2.25'	3.6'	4.5'	5.4'	6.75'
<b>40°</b>	3.6'	5.76'	7.2'	8.64'	10.8'
<b>120°</b>	10.8'	17.28'	21.6'	25.92'	32.4'

Wattage Reduction

<u>Fixtures</u>	<u>QTY</u>	<u>Unit Wattage</u>	<u>Annual kWh</u>	<u>5 Year kWh</u>
Loading Dock Fluorescent T8	19	64		
Hallway Fluorescent T8	6	64		
Loading Dock Incandescent	42	23		
Wet Room Fluorescent T8	10	64		
Security Room Fluorescent T8	2	96		
Total Existing			215,224	1,076,122
BSR-446-48 Beimini Edge®	22	48		
BSR-1048-48	5	48		
BSR-242-30	1	30		
Total Replacement			32,009	160,045
Energy Savings kWh			183,215	916,077
Energy Savings %			85%	85%

Dollar Reduction

	<u>Annual Dollars</u>	<u>5 Year Dollars</u>
Existing Fixtures	\$27,979	\$139,896
Beimini Edge® LED Lit Panels	\$4,161	\$20,806
Dollar Savings \$	\$23,818	\$119,090
Dollar Savings %	85%	85%

Light Energy Savings Charts

Existing Lighting – Fixtures Fluorescent and Incandescent

**kWh Data**

Energy Use	Day	Week	Month	Year	Five Years
<b>Normal</b>	590	4,128	17,690	215,224	1,076,122
<b>Standby</b>	0	0	0	0	0
<b>Total</b>	590	4,128	17,690	215,224	1,076,122

**Cost Data**

Energy Use	Day	Week	Month	Year	Five Years
<b>Normal</b>	\$77	\$537	\$2,300	\$27,979	\$139,896
<b>Standby</b>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total</b>	\$77	\$537	\$2,300	\$27,979	\$139,896

Retrofit Lighting - Beimini Edge® LED Lit Panels

**kWh Data**

Energy Use	Day	Week	Month	Year	Five Years
<b>Normal</b>	88	614	2,631	32,009	160,045
<b>Standby</b>	0	0	0	0	0
<b>Total</b>	88	614	2,631	32,009	160,045

**Cost Data**

Energy Use	Day	Week	Month	Year	Five Years
<b>Normal</b>	\$11	\$80	\$342	\$4,161	\$20,806
<b>Standby</b>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total</b>	\$11	\$80	\$342	\$4,161	\$20,806