



CITY OF FRAMINGHAM

OFFICE OF THE CHIEF FINANCIAL OFFICER

Jennifer Pratt
Chief Financial Officer

Phone (508) 532-5427
Email jap@framinghamma.gov
www.framinghamma.gov

Memorial Building
150 Concord Street, Room 123
Framingham, MA 01702

To: Mayor Charles J. Sisitsky
Michael A. Tusino, III, Chief Operating Officer
City Council
From: Jennifer A. Pratt, Chief Financial Officer
Date: May 22, 2025
Re: Order #2024-072 CIP Update - Recommend Loring Arena Roof for FY2026
Add Project Downtown Improvements for FY2026
Defer Saxonville Intersection Improvements to FY27

Please be advised that we are requesting the inclusion of the Loring Arena Roof Replacement project in the FY26 Capital Improvement Plan in the amount of \$1,750,000. While this project was previously listed as deferred in the CIP, recent bid results for similar roofing projects suggest that moving forward at this time would be financially advantageous for the City.

We are also requesting to add a project to the FY26 Capital Improvement Plan in the amount of \$200,000 for improvements to the Downtown Area from the intersection of Concord and Union Ave to the intersection of Hollis Street and Boris Way. Downtown lighting and planter beds are areas of concern with regards to safety of downtown merchants and customers. Increased lighting and reconfiguration of planter beds and sidewalks have been identified by Framingham Police and downtown merchants as needed improvements.

Additionally, we are recommending the deferral of the Saxonville Intersection Improvement project from FY26 to FY27. This deferral will provide the necessary time to complete the full design and is anticipated to result in a reduction in overall project costs.



CITY OF FRAMINGHAM

DIVISION OF PARKS, RECREATION AND CULTURAL AFFAIRS

James C. Snyder, CPRP
Director

(508) 532-5960
parks.recreation@framinghamma.gov
www.framinghamma.gov

**BOWDITCH FIELD ATHLETIC &
CULTURAL COMPLEX**
475 Union Avenue
Framingham, MA 01702

MEMORANDUM

DATE: May 13, 2025
TO: Mayor, CFO, COO
FROM: Parks, Recreation & Cultural Affairs
RE: Loring Arena Roof Replacement – FY26 Capital Request

The barrel roof at Loring Arena was installed in 2003, and its 20-year warranty expired in 2023. This type of curved roof is especially effective for large-span buildings like arenas, as it efficiently distributes snow and wind loads while minimizing material use. Its shape also supports better airflow and condensation control—both critical in ice rink environments.

Maintaining the roof is essential to preserving structural integrity, energy efficiency, and overall longevity. While staff can sometimes address minor repairs when they are easily accessible, inspections and interior work at greater heights typically require lifts or scaffolding.

Currently, there are small visible tears in the roofing membrane. While these have not yet led to leaks, they warrant prompt attention to prevent further deterioration.

In light of recent trends, the timing may be favorable for initiating design and replacement of the Loring Arena roof. Several City departments—including Schools and Facilities—have seen a highly competitive bidding environment, with roofing contractors submitting proposals below earlier estimates. These conditions present an opportunity to realize potential cost savings if the project is pursued in the near term.

Given the roof's age, existing wear, and favorable market conditions, it is worth considering moving forward with the Loring Arena roofing project now to address emerging issues proactively and capitalize on current pricing advantages.

Loring Arena Roof Replacement	
Cost Estimate	
Bid Document Preparation & Construction Oversight (Estimate about 10% of construction cost)	\$140,000
Construction Materials & Labor roof system approx 42,000SF	\$1,400,000
Contingency (~15%)	\$210,000
TOTAL	\$1,750,000
Date: September 2024	

City of Framingham 5 Year Capital Improvement Program FY2026-FY2030
Capital Project Request Form for FY2026 Projects

FY2026 Project requests must meet the definition of a Capital Project

A capital project is a major, nonrecurring expenditure that meets one or more of the following criteria:

_____ The capital improvement is a tangible asset or project estimated to cost over \$25,000 and to have or to extend five or more years of useful life.

_____ The community would legally be allowed to borrow for the expense under M.G.L. c. 44, § 7 and M.G.L. c. 44, § 8.

_____ The expenditure is for real property acquisitions, construction, and long-life capital equipment.

_____ The project is for improvements to physical infrastructure (e.g., streets, sidewalks, and stormwater drains) and renovations of existing capital items that extend their useful lifespans.

_____ The purchase or long-term capital lease is for vehicles or heavy equipment that have an expected useful life of 5 or more years.

_____ The expenditure is to pay for the planning, engineering, or design services required for a construction or renewal project that itself qualifies as a capital expenditure.

_____ The purchase is for bulk purchases of similar items, like software, furniture, or radios with an expected useful life of three or more years that, when aggregated, have total costs exceeding \$25,000.

Project Name _____

Project Status _____

Department _____

Project Lead Name _____

Email address _____ Phone _____

Project Fiscal Year _____ Department Priority # _____

Priority - Select the appropriate priority level based on the definitions below:

_____ Urgent - addresses an imminent risk to the safety of the public or municipal personnel, and/or prevents the imminent destruction or collapse of public infrastructure or loss of assets.

_____ High - necessary to ensure consistent, level service for the upcoming fiscal year. This priority type includes systems that a likely to fail, e.g., replacement of old or worn-out equipment, dramatically rehabilitate aging facilities, or facilitate a department's ability to meet increased service demands.

_____ Moderate - either replaces assets that have outlived their useful life, enhances a benefit to the community over and above the existing level of service, results in costs savings or other efficiencies, or directly supports the community's economic base by increasing property values.

_____ Low - provides additions or improvements to services or programs having social, cultural, historic, economic, or aesthetic value, but does not require immediate approval and implementation.

Physical location/address of project/equipment

Project Status - Select the appropriate priority level based on the definitions below:

New - first time submission

Recurring - a routine project that must be completed annually or periodically, such as upgrading a pumping station's infrastructure or rehabilitating athletic fields.

Resubmission - a project was submitted in a previous year but not approved.

Revision/Upgrade to Previous Project - the scope of this project has changed or requires additional resources.

Project Financing

Estimated Project Cost –Enter the estimated cost of the project or asset. You are required to attach any quotes or other documentation to support the cost.

Amount Requested \$ _____

Life Expectancy - provide the number of years the asset is expected to last _____

Estimated timeframe to complete project or to receive asset - in months or years, estimate the duration of the project or the timeframe for delivery of equipment or asset. For example, if a new ambulance requires a build out and delivery time of 1 year, enter 1 year. _____

Estimated date for completion or delivery _____

Timeframe - Additional Explanation

Proposed Funding Sources - Provide (if applicable) any potential grants, donations, or other available funds to supplement the regular financing of capital projects and assets. Attach documentation of possible grant opportunities, along with the community's funding requirements for acceptance. Describe and provide documentation for available discounts or cost reductions, such as trade in value.

Bond General Fund

Bond Enterprise Fund

Free Cash/Retained Earnings

____ CPA

____ Grant

____ Other Type of Loan

____ Other

____ Matching Requirements

Additional explanation/information related to funding source(s)

Project Description

Provide a basic description of the proposed project or equipment purchase, including:

- Location (if a building)
 - Type of building
 - Intended use(s)
 - Whether land acquisition will be necessary (if a building)
 - Discussion of primary cost drivers
 - Stakeholders involved
 - Narrative description of qualification for specific funding source (e.g., grants, CPA)
-
-
-
-
-
-

Project Justification

Provide justification for the project. Highlight the specific benefits that will directly result from completing the project. These details may depend on the chosen priority level and purpose. For instance, if the priority level is “Moderate” and purpose is “Service Enhancement,” describe any and all new benefits the project offers, including any cost savings or efficiencies. Additionally, state how the project will benefit community and administrative stakeholders and explain any negative impacts or potential consequences of not approving the project. This information is particularly important for projects classified as “Urgent/Compliance with Law” and “Ensure Public Safety”.

If project is phased over several years indicate how many phases are complete _____

Which phase of project is requested? _____

Purpose of Project - check all that apply and include detail on what is being replaced or requested as new

____ Replace existing infrastructure _____

____ Replace existing capital asset _____

____ Replace existing vehicle _____

____ Replace existing equipment _____

____ New infrastructure _____

____ New capital asset _____

____ New vehicle _____

____ New equipment _____

____ Strategic/Comprehensive/Master Plan _____

Project Type - check all that apply

____ Land acquisition _____

____ Planning/Feasibility Study _____

____ Design _____

____ Construction _____

____ Equipment _____

____ Vehicle _____

____ Contingency _____

____ Other _____

Asset Type

____ Land

____ Municipal Building

____ School Building

____ Water/Sewer Infrastructure

- ___ Roadway Infrastructure
- ___ Traffic/Streetlight Infrastructure/Equipment
- ___ Waterway/Beach
- ___ Recreation Trail
- ___ Bridge
- ___ Park/Playground/Athletic Field
- ___ Vehicle
- ___ Equipment
- ___ Software/Technology
- ___ Refuge/Recycling Center
- ___ Other _____

Project Community Impact

___ Health & Safety

___ Education

___ Aesthetics/Historic preservation

___ Environmental sustainability

___ Economic development

___ Cultural/Recreational opportunity

___ Service Improvement

___ Level Service Maintenance

Impact to Operating/Enterprise Budgets - explain the project's temporary and/or long-term impact on the operating budget. For example, capital construction projects can result in increased operating costs. Costs may increase during the project's duration (e.g., increased use of one building while another is demolished and reconstructed) or be longer lasting, such as new a building resulting in increased utility costs or the hiring of additional maintenance personnel.

Increase/Decrease to Personnel \$ _____

Explanation _____

Increase/Decrease to Operating \$ _____

Explanation _____

Additional Information

Checklist for completion

____ FY2026 Project Request PDF file includes form, updated vendor memos/quote/pricing, photos.

____ Save each FY2026 project request as separate PDF file (Department name/Project Name) to T Drive/Finance/CIP 26-30/Department Folder

From: Zahid Khan <zkhan@capewayroofing.com>
Sent: Wednesday, September 4, 2024 11:29 AM
To: Richard M. Weston <rmw@framinghamma.gov>
Cc: Kathie Rybicki <krybicki@capewayroofing.com>; Joe Calheta <jcalheta@capewayroofing.com>
Subject: Loring Arena - Framingham

CAUTION: This email originated from outside your organization. Do not click links or open attachments unless you recognize and verify the sender and know the content is safe.

Riche Weston

As requested we put a Budget number for this project as discussed with a tear off and new PVC roof system and installing a 1/2" recovery board below the membrane, since the building is insulated from below.

Based on ~42000 sf the budget number would be \$ **950,000.00**

Please call or e-mail should you have any questions.

Thanks

*Zahid Khan - Project Estimator
Capeway Roofing Systems, Inc.
664 Sanford Road
Westport, MA 02790
Tel: 508-674-0800-Ext 20
Fax: 508-678-2670
Cell: 508-802-8008
zkhan@capewayroofing.com;*

One Framingham - Focused on the Future

Please be advised that the Massachusetts Secretary of State considers e-mail to be a public record, and therefore subject to public access under the Massachusetts Public Records Law, M.G.L. c. 66 § 10.

September 10, 2024

PRJ#13038

Attn: Joe Frappier
Loring Ice Rink

Re: Loring Ice Rink Barrel Roof (Approx. 41,800 SF)
165 Fountain Street
Framingham, MA

We are pleased to quote on the following work at the above referenced location.

1. Provide a building permit for the following work.
2. Provide all safety and hoisting to complete the following scope of work.
3. Properly remove the existing roofing membrane. The existing roofing insulation will be inspected for damage and wetness and will be replaced as needed at a T and M rate of \$145 per hour per man plus materials.
4. Install wood blocking at the roof edge as necessary.
5. Over the existing roof, install 1 layer of ½" high density polyisocyanurate roofing insulation. The insulation will be mechanically attached to the decking.
6. Over the roof insulation furnish and install a .060 White Self Adhered G410 roofing membrane.
7. Install the manufacturers standard base flashing detail where the roof meets the adjacent building.
8. Install a bronze PVC coated 6" drip edge at all edges of the roof.
9. Provide NorthStar's 2-year labor and material warranty for the above work.
10. Provide the manufacturer's 20-year total system warranty.

Budget Price: \$1,353,900.00

Notes:

- Dumpster and crane access will be needed next to the building.
- Prevailing wage rates are included
- Bonds are excluded
- Taxes have been excluded

If you have any questions regarding this proposal, please contact me directly.

Sincerely,

NorthStar Construction Services Corp.

Ryan Dill

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- ___ Equipment
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- ___ Other _____

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___ Health & Safety

___ Education

___ Aesthetics/Historic preservation

___ Environmental sustainability

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___ Service Improvement

___ Level Service Maintenance

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Explanation _____

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MassDOT - Framingham Concord St (Rt. 126)

Lighting Submittal

ITEM 823.93 – QUANTITY 84

STREET LIGHTING TYPE A 100W LED WITH POLE – TWIN LIGHT

- APPROVED
- APPROVED AS CORRECTED
- REVISE AND RESUBMIT
- FOR YOUR INFORMATION AND USE
- INCOMPLETE SUBMITTAL
- NOT APPROVED

POLE SHAFT ASSEMBLY SUPPLIED TO SPRING CITY ELECTRICAL MFG. COMPANY BY MILLERBERND MFG.

Checking is only for performance and for design concept of the Project and compliance with the information given in the Contract Documents. Contractor is responsible for dimensions to be confirmed and correlated at the job site; for information that pertains solely to the fabrication processes or to techniques of construction, and for coordination of the work of all trades.

Power Engineers, LLC

Date 1/20/15 By David Colombo



MassDOT Contract No. 79745

Roadway Reconstruction and Related Work on a Section of Concord Road (Route 126) and Adjacent Streets in Framingham, MA

I hereby certify that the enclosed submittal(s) have been examined and Verified: that all quantities, dimensions, field construction criteria, materials, Catalog numbers, and similar data have been reviewed or coordinated with the Requirements of work and Contract Documents. Exceptions are as follows.
[ENTER NONE IF THERE ARE NO EXCEPTIONS]

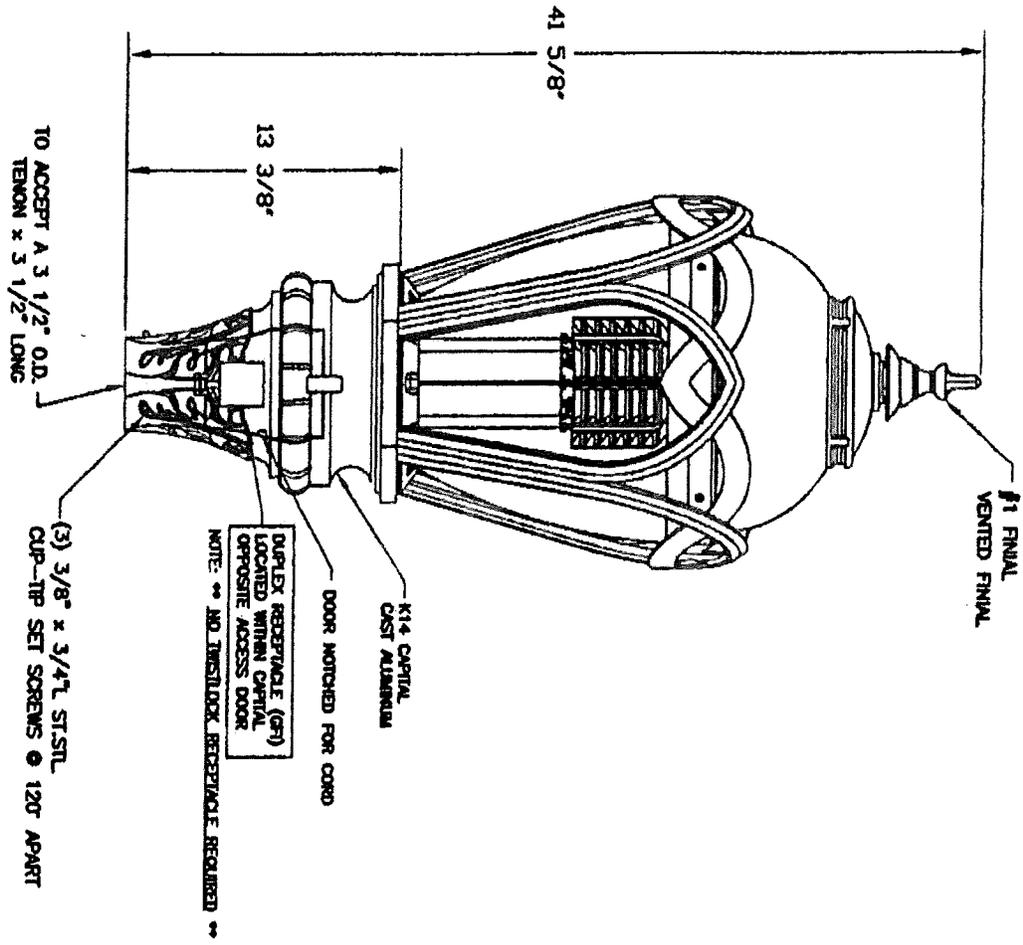
section: 823.93 paragraph:
by: JDL date: 1/20/15

E.H. Perkins, 560 Main Street, Hudson, MA 01749



King Louisa - Stresscrete - Est. 1953
STRESSCRETE GROUP

Quality People - Quality Products



REV.	ALTERATION	DATE	BY
A	SPECIFICATIONS CORRECTED	11/06/14	T.B
B	PREVIOUS CAT. # ADDED	11/14/14	A.A.

LUMINAIRE SPECIFICATIONS
 PREVIOUS CAT. NO.: K136R-BAAR-III-100(SSL)
 -8000-120:277-K14-GFI
 NEW CAT. NO.: K136R-B2AR-III-100(SSL)
 -1063-120:277-K14-GFI

QUANTITY: 10
 GLOBE MOUNTING: ROTOLOCK
 OPTICAL SYSTEM: BAFFLED ARRAY ACRYLIC RIPPLED
 IES CLASS.: TYPE III
 INPUT WATTAGE: 100W
 SOURCE: SOLID STATE LIGHTING
 SERIES: 1063
 LINE VOLTAGE: 120:277V
 POLE ADAPTOR: K14
 CCT: 4500K
 PAINT: TGIC POLYESTER POWDER COAT - SMOOTH SEMI-GLOSS BLACK
 OPTIONS: 15 AMP GFCI RECEPTACLE

OPTIONS
 QUICK DISCONNECT

CUSTOMER APPROVAL & DATE: _____

CUSTOMER ORDER No: 8086676
 KING U.S. ORDER No: A11919

STRESSCRETE GROUP
 Framingham, MA

Manufacturing Locations:
 Framingham, Ontario 1-800-266-7809
 Northport, Alabama 1-800-435-6563
 Mechanics Kansas 1-800-837-1024
 Jefferson, Ohio 1-800-268-7809

DRAWN BY: A. ALVELLA	AI:	CHECKED BY:	DATE: 06/16/14	REVISION: B
DRAWING TYPE: APPROVAL/MFG. DWG			DRAWING NUMBER: 206A7969	



LIGHTING SCIENCES CANADA LTD.

160 Frobisher Drive, Unit 5, Waterloo, Ontario, Canada N2V 2B1
Tel: (519) 746-3140 Fax: (519) 746-3156 lsc@lightingsciences.ca

CERTIFIED TEST REPORT NO. LSC G478

KING LUMINAIRE K136R LUMINAIRE CAT. NO. K136R-BAAR-III-100 (SSL) 8000-120
WITH RIPPLED ACRYLIC GLOBE AND 100W BAAR TYPE 3 LED TOWER
63 CREE XPG2 HE4 WHITE LEDS. LUMEN OUTPUT = 5163 LMS.

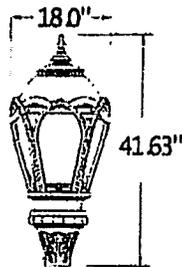
BUG RATING: B 1 U 3 G 2

REPORT PREPARED FOR:

KING LUMINAIRE
BURLINGTON, ONTARIO

CERTIFIED BY:

Charles Sison



DATE: FEB 13, 2013

LABORATORY RESULTS MAY NOT BE REPRESENTATIVE OF FIELD PERFORMANCE.
ABSOLUTE PHOTOMETRY TAKEN.

TESTED IN 30 PLANES LEFT SIDE, 30 PLANES RIGHT SIDE, LEFT AND RIGHT AVERAGED

VERTICAL TEST INCREMENTS ARE 2.5 DEGREES.

TEST DISTANCE EXCEEDS FIVE TIMES THE GREATEST
LUMINOUS OPENING OF LUMINAIRE.

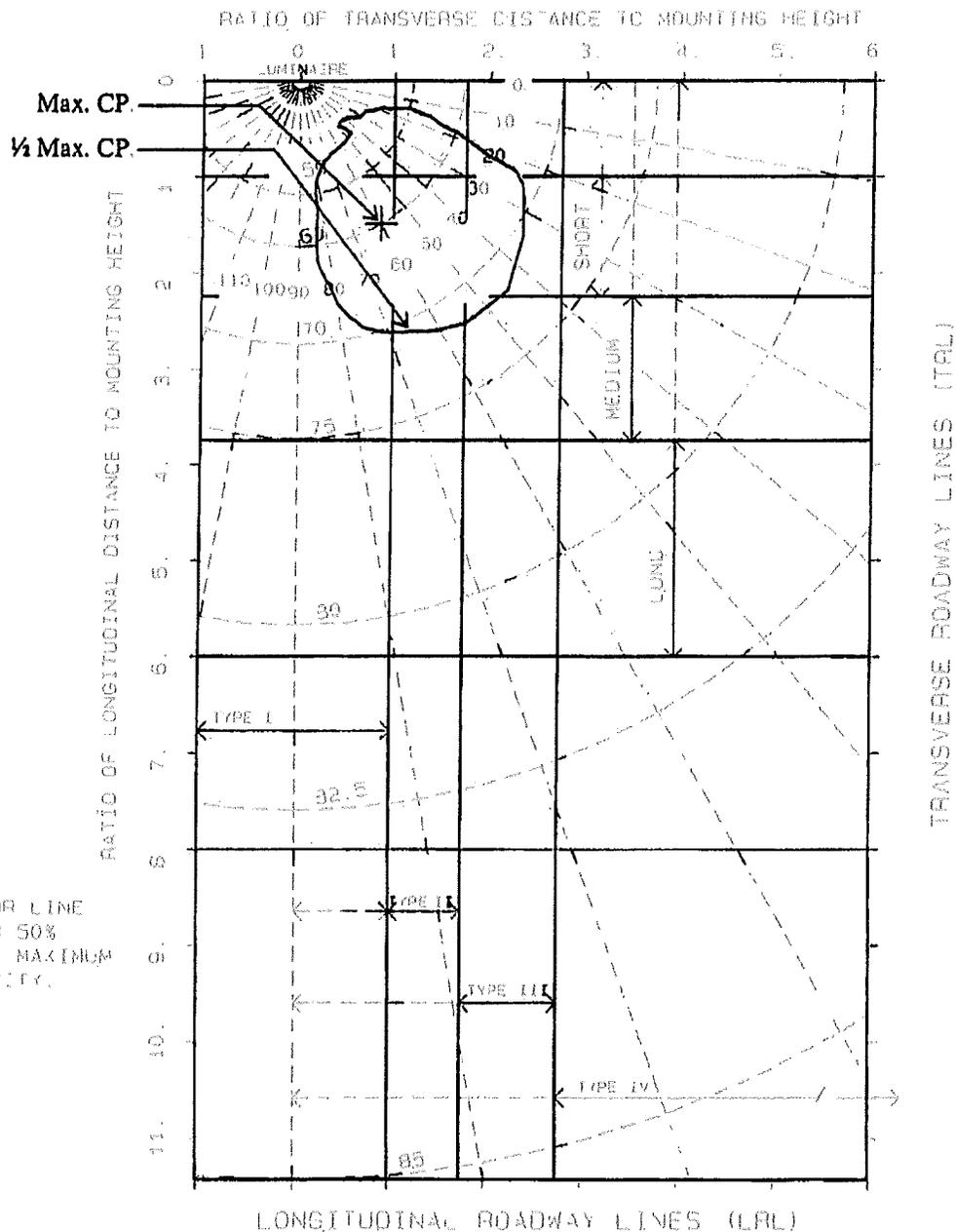
TESTED IN ACCORDANCE WITH IES RECOMMENDED PROCEDURES

LIGHTING SCIENCES CANADA LTD.

160 FROBISHER DRIVE, UNIT 5
WATERLOO, ONTARIO

TEST REPORT NO. G478

KING LUMINAIRE K136R LUMINAIRE CAT. NO. K136R-BAAR-III-100 (SSL) 8000-120
WITH RIPPLED ACRYLIC GLOBE AND 100W BAAR TYPE 3 LED TOWER
63 CREE XP02 HE4 WHITE LEDS. LUMEN OUTPUT = 5163 LMS.



NOTE:
CONTOUR LINE
IS FOR 50%
OF THE MAXIMUM
INTENSITY.

IES CLASSIFICATION: TYPE III, SHORT

LIGHTING SCIENCES CANADA LTD.
160 FROBISHER DRIVE, UNIT 5
WATERLOO, ONTARIO

CERTIFIED TEST REPORT NO. LSC G478

KING LUMINAIRE K136R LUMINAIRE CAT. NO. K136R-BAAR-III-100(SSL)8000-120
WITH RIPPLED ACRYLIC GLOBE AND 100W BAAR TYPE 3 LED TOWER
63 CREE XPG2 HE4 WHITE LEDS. LUMEN OUTPUT = 5163 LMS.

UTILIZATION TABLE

CO-EFFICIENT OF UTILIZATION

RATIO	HOUSE SIDE	STREET SIDE	TOTAL
.5	.067	.178	.245
1.0	.129	.405	.534
1.5	.163	.553	.716
2.0	.181	.631	.812
2.5	.191	.668	.859
3.0	.197	.685	.882
3.5	.202	.698	.900
4.0	.204	.704	.909
5.0	.208	.713	.922
TOTAL:	.222	.730	.952

PERCENTAGE OUTPUTS

DOWNWARD: STREET SIDE = 73.0%
HOUSE SIDE = 22.2%
TOTAL = 95.2%
UPWARD: STREET SIDE = 2.6%
HOUSE SIDE = 2.2%
TOTAL = 4.8%

EFFICACY = 55.0 LMS/WATT

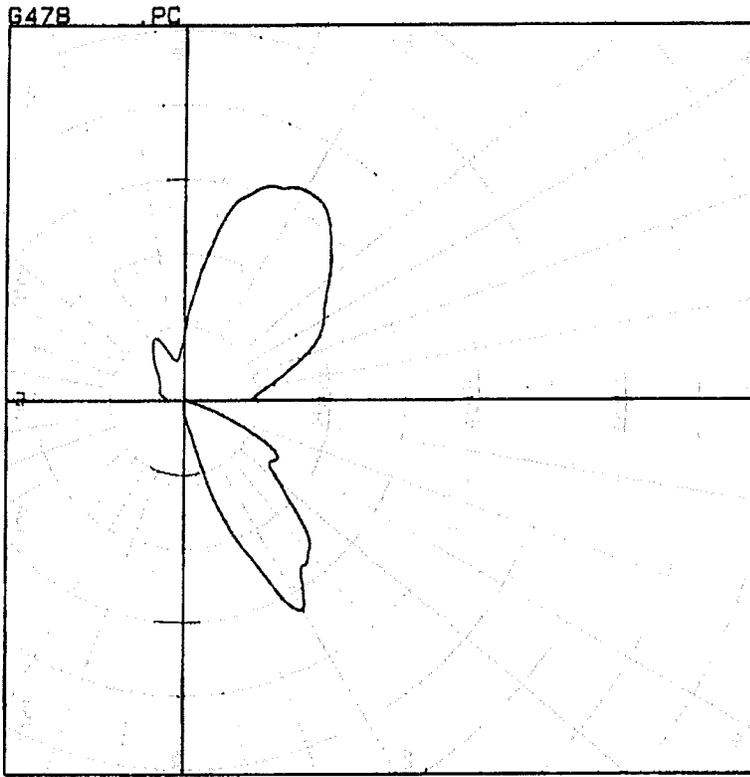
CERTIFIED TEST REPORT NO. LSC G478

CANDLEPOWER
IN MAX. PLANE

ANGLE	CANDLEPOWER
.0	22
5.0	27
10.0	41
15.0	85
20.0	435
25.0	1011
30.0	1473
35.0	1433
40.0	1708
45.0	2230
50.0	2657
52.5	2765
55.0	2788
57.5	3041
60.0	3273
62.5	3102
65.0	2584
67.5	2199
70.0	1877
72.5	1476
75.0	959
77.5	610
80.0	435
82.5	333
85.0	274
87.5	232
90.0	198
95.0	140
105.0	73
115.0	39
125.0	20
135.0	11
145.0	5
155.0	5
165.0	0
175.0	0
180.0	0

CANDLEPOWER
IN MAX. CONE

ANGLE	CANDLEPOWER
.0	914
5.0	1010
15.0	1448
25.0	2033
35.0	2350
45.0	2820
55.0	3256
60.0	3273
62.5	3246
65.0	3165
67.5	3136
70.0	3059
72.5	2915
75.0	2806
77.5	2556
80.0	2146
82.5	1815
85.0	1443
87.5	1181
90.0	911
95.0	656
105.0	584
115.0	922
125.0	740
135.0	526
145.0	414
155.0	373
165.0	350
175.0	256
180.0	251



MAXIMUM CANDLEPOWER: 3273
 PLANE OF MAXIMUM: 60.0
 VERTICAL ANGLE OF MAXIMUM: 60.0

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CANDLEPOWER SUMMARY

VERT. ANGLE	HORIZONTAL ANGLES - STREET SIDE										
	.0	5.0	15.0	25.0	35.0	45.0	55.0	60.0	65.0	75.0	85.0
.0	22	22	22	22	22	22	22	22	22	22	22
5.0	39	39	37	34	32	30	28	27	27	27	26
10.0	57	58	56	53	50	46	43	41	40	38	36
15.0	95	102	112	125	125	111	92	85	78	65	57
20.0	320	327	365	412	448	455	457	435	400	292	190
25.0	433	443	526	648	813	911	987	1011	978	865	603
30.0	586	632	808	1100	1442	1594	1527	1473	1395	1237	942
35.0	704	750	1110	1494	1653	1655	1498	1433	1368	1137	839
40.0	907	1030	1483	1714	1733	1804	1760	1708	1657	1428	924
45.0	1100	1198	1580	1796	2090	2237	2322	2230	2132	1849	1148
50.0	1238	1305	1665	2136	2478	2725	2772	2657	2528	2204	1354
55.0	1159	1185	1612	2183	2497	2776	2851	2788	2593	2316	1328
60.0**	914	1010	1448	2033	2350	2820	3256	3273	3165	2806	1443
65.0	780	883	1259	1811	2377	2608	2687	2584	2457	2211	1237
70.0	648	721	1114	1478	1730	1931	1921	1877	1771	1574	971
75.0	402	449	609	795	913	1046	993	959	851	763	596
80.0	227	255	278	312	393	455	444	435	418	381	319
85.0	143	145	165	189	208	231	262	274	278	248	202
90.0	110	112	125	138	144	159	187	198	203	184	158

VERT. ANGLE	HORIZONTAL ANGLES - HOUSE SIDE										
	90.0	95.0	105.0	115.0	125.0	135.0	145.0	155.0	165.0	175.0	180.0
.0	22	22	22	22	22	22	22	22	22	22	22
5.0	25	24	22	19	16	13	9	9	10	11	11
10.0	35	34	31	28	24	20	17	14	12	13	15
15.0	54	54	53	53	48	46	39	31	24	22	22
20.0	167	153	161	165	165	165	165	151	108	70	67
25.0	472	367	272	249	228	206	192	184	175	152	151
30.0	742	561	385	348	312	293	248	202	203	206	209
35.0	703	558	426	503	440	362	298	252	206	231	235
40.0	718	606	549	707	718	452	355	294	251	254	243
45.0	826	681	610	755	810	590	452	359	270	267	229
50.0	926	716	687	861	817	666	508	404	300	255	239
55.0	889	685	625	898	773	626	479	392	317	249	230
60.0**	911	656	584	922	740	526	414	373	350	256	251
65.0	880	641	566	896	685	470	374	347	315	255	252
70.0	765	579	519	829	631	425	358	305	289	252	255
75.0	500	411	321	456	415	293	272	257	261	238	233
80.0	286	250	209	228	254	215	205	201	207	215	220
85.0	190	180	154	163	171	168	166	168	173	179	179
90.0	149	141	126	132	137	134	133	136	141	144	144

** DENOTES VERTICAL ANGLE OF MAXIMUM CONE

**** DENOTES LATERAL ANGLE OF MAXIMUM PLANE

CANDLEPOWER WAS MEASURED IN 2.5 DEGREE STEPS - TABULATIONS ARE AVAILABLE

CERTIFIED TEST REPORT NO. LSC G478

** FOOTCANDLE TABLE FOR SINGLE LUMINAIRE AT 15.0 FT. **

LATERAL RATIOS	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0
-3.00	.034	.035	.034	.030	.024	.018	.014	.012	.009	.007	.005	.004	.003	.002	.002
-2.50	.057	.062	.057	.050	.041	.029	.023	.018	.012	.009	.006	.004	.003	.002	.002
-2.00	.10	.11	.10	.087	.068	.058	.038	.024	.016	.010	.007	.005	.003	.003	.002
-1.50	.17	.23	.20	.16	.13	.10	.058	.031	.017	.011	.007	.005	.004	.003	.002
-1.00	.36	.51	.53	.38	.25	.13	.059	.029	.017	.011	.008	.006	.004	.003	.003
-.50	.56	.88	1.0	.50	.21	.12	.067	.037	.022	.013	.009	.006	.005	.004	.003
HOUSE	CURB LINE														
STREET	.10	1.8	1.2	.68	.35	.18	.098	.051	.029	.017	.011	.008	.005	.004	.003
.50	1.5	4.0	3.2	1.8	.85	.33	.14	.067	.035	.020	.013	.008	.006	.004	.003
1.00	1.7	2.7	2.3	1.6	.71	.33	.15	.069	.037	.022	.014	.009	.006	.004	.003
1.50	.81	1.1	1.1	.90	.48	.26	.12	.058	.033	.020	.013	.009	.006	.005	.003
2.00	.32	.46	.56	.46	.30	.18	.093	.050	.027	.018	.012	.008	.006	.005	.003
2.50	.16	.22	.26	.22	.16	.10	.063	.037	.023	.015	.010	.008	.006	.004	.003
3.00	.082	.10	.11	.10	.084	.060	.042	.027	.018	.013	.009	.007	.005	.004	.003
3.50	.042	.050	.055	.053	.044	.034	.026	.020	.014	.010	.008	.006	.005	.004	.003
4.00	.023	.026	.029	.028	.024	.020	.017	.014	.011	.008	.006	.005	.004	.003	.003
4.50	.014	.015	.016	.016	.015	.013	.011	.009	.008	.007	.005	.004	.003	.003	.002
5.00	.009	.010	.010	.010	.009	.008	.008	.007	.006	.005	.004	.003	.003	.002	.002
	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0

CORRECTION FACTORS FOR OTHER MOUNTING HEIGHTS: SEE ISOFOOTCANDLE PAGE

LIGHTING SCIENCES CANADA LTD.
160 FROBISHER DRIVE, UNIT 5
WATERLOO, ONTARIO

CERTIFIED TEST REPORT NO. LSC G478

KING LUMINAIRE K136R LUMINAIRE CAT. NO. K136R-BAAR-III-100(SSL)8000-120
WITH RIPPLED ACRYLIC GLOBE AND 100W BAAR TYPE 3 LED TOWER
63 CREE XPG2 HE4 WHITE LEDS. LUMEN OUTPUT = 5163 LMS.

IESNA TM-15-11 LUMINAIRE CLASSIFICATION SYSTEM
EVALUATION

FORWARD LIGHT			
Luminaire Lumens	3769		
% Lamp Lumens	73.0%		
FL (0 - 30)	4.0%	(	205)
FM (30 - 60)	40.0%	(	2065)
FH (60 - 80)	26.6%	(	1375)
FVH (80 - 90)	2.4%	(	123)
BACK LIGHT			
Luminaire Lumens	1146		
% Lamp Lumens	22.2%		
BL (0 - 30)	1.2%	(	64)
BM (30 - 60)	11.0%	(	570)
BH (60 - 80)	8.2%	(	421)
BVH (80 - 90)	1.8%	(	92)
UPLIGHT			
Luminaire Lumens	248		
% Lamp Lumens	4.8%		
UL (90 - 100)	2.4%	(	122)
UH (100 - 180)	2.4%	(	126)
TRAPPED LIGHT			
Luminaire Lumens	0		
% Lamp Lumens	0.0%		
BUG Rating			
B	1		
U	3		
G	2		

LIGHTING SCIENCES CANADA LTD.
160 FROBISHER DRIVE, UNIT 5
WATERLOO, ONTARIO

CERTIFIED TEST REPORT NO. LSC G478

KING LUMINAIRE K136R LUMINAIRE CAT. NO. K136R-BAAR-III-100 (SSL) 8000-120
WITH RIPPLED ACRYLIC GLOBE AND 100W BAAR TYPE 3 LED TOWER
63 CREE XPG2 HE4 WHITE LEDS. LUMEN OUTPUT = 5163 LMS.

SUPPLEMENTARY MEASUREMENTS AS PER IES-LM-79-08

STABILIZATION TIME: 2 HOURS

ELECTRICAL CONSUMPTION

INPUT VOLTAGE: 120.0 VRMS
INPUT CURRENT: 0.788 ARMS
INPUT WATTAGE: 93.91
POWER FACTOR: 0.993

CHROMATICITY MEASUREMENTS

CIE 1931-x: 0.367
CIE 1931-y: 0.374
CORRELATED COLOUR TEMPERATURE: 4363 DEG. K
COLOUR RENDERING INDEX: 73.2%

WARRANTY



King Luminaire • StressCrete • Est. 1953

**STRESSCRETE
GROUP**

Quality People • Quality Products

Seven (7) Year LED Product Warranty

King Luminaire provides a **(7) Seven Full Year Warranty** for its products to be free of defects in materials and workmanship. This warranty is not transferable and is applicable only to the original purchaser. At King Luminaire's option, we will repair or replace, without charge, any properly installed King Luminaire product we deem to be defective if such product has failed under normal conditions, use, service and maintenance.

Any King Luminaire product that has been damaged due to handling, transportation, installation, vehicular impact, abuse or vandalism is not covered under this warranty.

This warranty includes paint or powder coatings, electrical components and acrylic, polycarbonate and glass enclosures. This warranty does not cover instances where the product is used outside of its specifications.

Note that LED emitters are covered under a Seven (7) Year product warranty. All King luminaires utilizing factory installed LED assemblies meet or exceed an operational life expectancy of 50,000 hours. *

*** Expected life for LED's is given as time at which the emitters(s) will operate at 70% of their initial lumen output.**

This warranty constitutes the entire obligation of King Luminaire to the original purchaser and further constitutes the original purchaser's sole remedy. King Luminaire makes no other express or implied warranty of fitness for a particular purpose nor of merchantability nor any other express or implied warranties. King Luminaire's responsibility under this warranty does not include any obligation to reimburse the original purchaser for transportation, installation, removal, repair, or any other incidental expenses incurred by the original purchaser, or others, in relation to any product defect covered by this limited warranty. Furthermore, King Luminaire is not liable for any consequential or resultant damages which may arise from product defects, whether foreseen, or unforeseen.

Effective April 1st, 2013



King Luminaire • StressCrete • Est. 1953

STRESSCRETE GROUP

King Luminaire Specification - Kingcoat Powder Coating

SuperDurable Polyester Powder Coating

Description:

SuperDurable Polyester TGIC Powder Coating offers excellent film appearance as well as superior mechanical and outdoor exposure qualities, in addition to outstanding overbake resistance through a broad range of cure conditions.

Advantages:

- Provides excellent consistent finish
- Superior outdoor exposure qualities
- Offers a wide range of application and film build characteristics
- Available in various gloss and textured finishes
- Reduces loss of gloss due to UV exposure

Performance Tests: (For Smooth Films Only)

Testing performed on Bondrite 1000 panels electrostatically applied and properly cured in an electric convection oven Gloss Hatch Adhesion

ASTM D3359	Excellent Salt Spray Test
ASTM B117	1,000 hours + Humidity
ASTM D2247	100 degrees Fahrenheit, 100% RH
ASTM D1737	To 180 degrees, 1/8" Mandrel Impact Resistance, Direct
ASTM D2794	Up to 160 in lb Pencil Hardness
ASTM D3363	II Plus

Characteristics:

Gloss: 50 to 100 units
King Standard: 50 gloss units

Specific Gravity:
ASTM D792 1.2 to 1.8

Recommended Film Thickness:
Mils 1.5 to 4.0

SPECIFICATIONS

Step 1

Clean – 1-2 minutes at 140F-160F
Applied as a spray to remove dirt, oil and grease

Step 2

Rinse – 30 seconds – 2 minutes at ambient temp.
Rinse of cleaner

Step 3

Phosphate (Iron) – 1-2 minutes at 140F-170F
Conversion coating also sprayed on to prepare surface for paint adhesion

Step 4

Water rinse – 30 seconds – 2 minutes at ambient

Step 5

Seal rinse – 30 seconds – 2 minutes at ambient
Seals conversion coat to maximize salt spray test

Step 6

R.O. Rinse – 30 seconds – 2 minutes at ambient
Rinse off solids.

Step 7

Final R.O. Rinse with virgin water.
Pass through at ambient

Please Note:

Steps 1-6 all use recirculated products and water.
Misting nozzles between each stage to prevent Pre-drying or rust

TOP COAT

Step 8

Dry off 10 minutes at 300 – 325F
Convection dry-off oven (gas fired)

Step 9

Cool down – 11 minutes at ambient

Step 10

Powder coat
Electrostatically applied in temp and humidity controlled environmental room.

Step 11

Oven cure – 20 minutes at 375 – 400F
Conveyorized convection oven (gas)

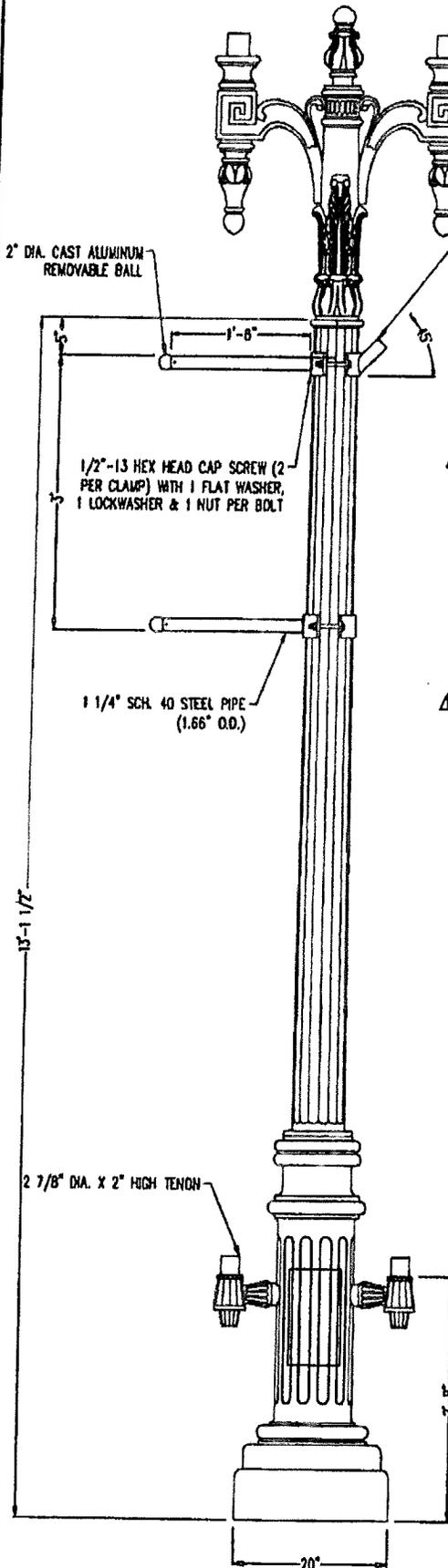
Step 12

Cool down – 2 minutes at ambient

Step 13

Force cool – 5 minutes at ambient

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3" DIA. X 3" HIGH TENON

2" DIA. CAST ALUMINUM REMOVABLE BALL

1'-8"

STEEL FLAG HOLDER CLAMP ON BRACKET (ACCEPTS 1 1/4" DIA. FLAG POST) FLAG HELD APPROX. 45° FROM STREET SURFACE AND FLAG SECURED WITH KNURLED THUMBSCREW (SEE SECTION B-B FOR ORIENTATION)

CROSS ARM SPECIFICATIONS

STYLE: EDMONTON 2-WAY
 HEIGHT: 34 1/4"
 WIDTH: 27 1/2" FROM C OF LUMINAIRE TO C OF LUMINAIRE
 MATERIAL: CAST ALUMINUM
 FINISH: SEMI-GLOSS BLACK, ALIPHATIC ACRYLIC POLYURETHANE
 TENON: 3" DIA. X 3" HIGH (TO ACCEPT LUMINAIRE)

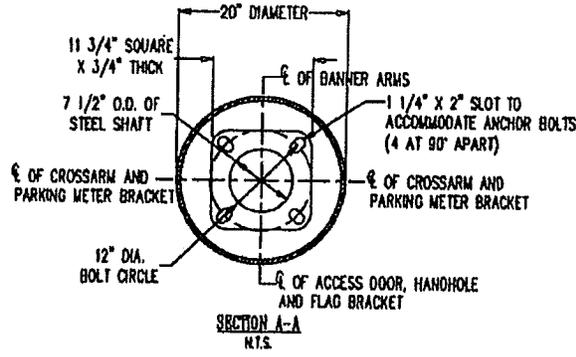
△ CATALOG NO.: AARED-25-27.5-34.25-TN3.00/3.00-CB

LAMP POST SPECIFICATIONS

STYLE: HANCOCK WRAP STEEL WITH MADISON PARKING METER BRACKETS
 HEIGHT: 13'-1 1/2"
 BASE: 20" DIAMETER
 MATERIAL: 18 SHARP FLUTE, 201 STAINLESS STEEL (0.109" WALL)
 2 PIECE, (WRAP AROUND) HEAVY WALL CAST DUCTILE IRON PER A.S.T.M. A536-84 GRADE 65-45-120
 FINISH: SEMI-GLOSS BLACK, ALIPHATIC ACRYLIC POLYURETHANE
 ACCESS DOOR: LOCATED IN BASE SECURED WITH TAMPER PROOF HEX SOCKET SECURITY MACHINE SCREWS
 GROUND STUD PROVISION: 1/4"-20 SQUARE NUT WELDED OPPOSITE HANDHOLE TO CONDUIT WITH ACCESS DOOR TO ACCOMMODATE GROUND STUD (GROUND STUD SUPPLIED BY OTHERS)
 ANCHOR BOLTS: (4) 1" DIA. X 36" LONG + 4" HOOK A.S.T.M. F1554 G55 (A.S.T.M. A36W) (FULLY GALVANIZED WITH 2 GALVANIZED WASHERS AND 2 GALVANIZED NUTS PER BOLT)
 BOLT PROJECTION: 5" REQUIRED
 TENON: 4" DIA. X 12" HIGH TENON (TO ACCEPT CROSSARM)

SHAFT CATALOGUE NO.: NSHG6-T10-07.50-13.12-TM 00/12.00-(2)BN-FB-CB
 BASE CATALOGUE NO.: DWBHC-20-(2)PM-CB

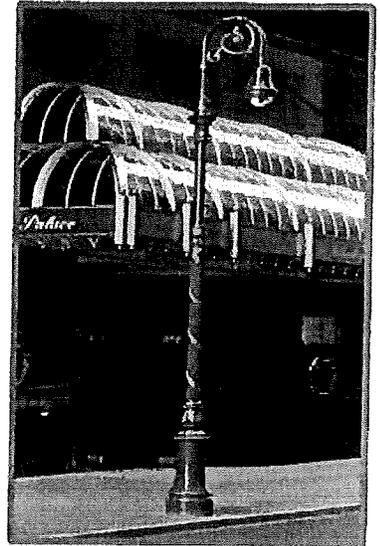
QUANTITY... 84 REQUIRED
 PLUS 86 SPARE PARKING METER BRACKETS
 PER S.O.# 014287



△ REVISED BY: Y.V.		DATE 11-05-2014	
 Spring City Electrical Mfg. Co. HALL AND MAIN STREETS - P.O. BOX 19 - SPRING CITY, PA. 19475 PHONE (610) 948-4100 - FAX (610) 948-5577 - WWW.SPRINGCITY.COM			
DESCRIPTION	THE HANCOCK 13'-1 1/2" STAINLESS STEEL POST TYPE "A"		
CUSTOMER	YALE ELECTRIC - CANTON, MA		
JOB	MASS DOT CONCORD ST. - FRAMINGHAM		
SCALE	DRAWN BY:	DATE	DRAWING NO.
N.T.S.	O.J.C.	05-29-14	LP-28764

A LIFETIME WARRANTY IS NOW AVAILABLE FOR DUCTILE IRON LAMPOSTS AND BASE COVERS

Spring City is confident that our ductile iron lamppost and base covers will last the lifetime of your project and now we can ensure that they do! Our ductile iron products are virtually indestructible and have been known to survive some of the most extreme moments in American history. If you choose to buy Spring City's ductile iron lamppost or base covers for steel shafts, you will be investing your money in a quality product that will look new for many years to come! This comprehensive warranty covers the products mentioned above to be free from defects in material and workmanship under normal use and operation for twenty-five years (AASHTO minimum design life for luminaire support structure less than fifteen meters.) Damage from vehicles is included within the terms of normal use. This warranty is subject to the conditions and limitations listed below.



Bishop's Crook Ductile Iron Installation

Product Warranty Information

Spring City Electrical warrants its ductile iron lamppost to be free from defects in materials and workmanship under normal use and operation for 25 years (AASHTO minimum design life for luminaire support structures less than 15 meters.) The definition of "normal use" includes damage resulting from motor vehicles traveling at posted speed limits colliding with the lamppost.

Upon receipt of proper notification from the owner, Spring City will replace any lamppost found to be defective or damaged within the warranty period. Spring City shall not be liable or responsible for labor charges or other expenses involved in the removal or disposal of the original product or the installation of the replacement product. Spring City's liability hereunder is limited to replacing the defective or damaged iron lamppost.



Coverage

The warranty is intended to cover all owners of Spring City ductile iron lampposts in the United States

Warranty Procedures

Warranty claims must be made in writing and submitted to:

Warranty Claims Department
Spring City Electrical
Hall and Main Streets
Spring City, PA 19475

Claims must include photographs of the damaged post, the exact location where the lamppost was installed and information as to whether an insurance claim has been filed. A warranty claim form is available from Spring City by calling 610-948-4000.

Exclusions-This warranty does not apply to the paint and luminaires, which is covered by a separate warranty. The cross arms, banner arms, anchor bolts and foundations are not covered by this warranty. Since Spring City's products are individually made and each product is unique, small surface variations should be considered normal and are not covered by this warranty. Spring City has the right to refuse products that have been subjected to modification, abuse, improper installation or application, or negligence in storage, maintenance, transportation or handling. While access door theft is not covered by this warranty, Spring City will sell replacement access doors at a reasonable cost. **Limitations and Disclaimers-** The warranty and remedies set forth above are exclusive and in lieu of all other warranties and remedies, expressed or implied, in law or in fact, including (but not limited to) the warranties of merchantability and fitness for a particular purpose. In no event shall Spring City be liable for incidental, special, punitive or consequential damages