

New Decorative Lighting Rate Calculations		
Type		Holophane LED
Watts		<u>66</u>
Lumens		<u>6,689</u>
Annual Cost of Operation:		
Cost of Electric	(Sch. A)	\$ 16.27
Oper. and Maint.	(Sch. B)	208.58
Depreciation	(Sch. B)	144.60
Carrying Costs	(Sch. C)	<u>156.34</u>
Annual Cost Per Fixture		525.79
Divide by: 12 Months		<u>12</u>
Calculated Monthly Rate		<u><u>\$ 43.82</u></u>

Annual Electric Cost	
Type	Holophane LED
Watts	66
Lumens	<u>6,689</u>
Energy Charges:	
Hours of Operation (Note 1)	4,308.1
Times: Watts	<u>66</u>
Annual Wattage	284,334.60
Divide by: 1,000	<u>1,000</u>
Annual kWh's	284.33
Gross-Up for 4% Line Loss	<u>96%</u>
Annual kWh's Required	296.18
Times: Blended On-Peak/ Off-Peak Cost of Energy, (Note 2)	<u>\$ 0.0465365</u>
Annual Energy Charge	<u>\$ 13.78</u>
Demand Charges:	
Watts	66
Divide by: 1,000	<u>1,000</u>
kW Demand	0.066
Times: 6 Months (Note 3)	<u>6</u>
Sub-total	0.396
Gross-Up for 4% Line Loss	<u>96%</u>
kW Subject to Demand Charge	0.412500
Times: Demand Charge	<u>\$ 6.02</u>
Annual Demand Charge	<u>\$ 2.48</u>
Annual Electric Cost	<u><u>\$ 16.27</u></u>
Note 1	
Total Hours in a Year	
Number of Days per Year	365
Hours per Day	<u>24</u>
Total Hours during Year	8,760
Times: Average Percentage of Darkness (See Sch. A, Page 2 of 3)	<u>49.18%</u>
Approximate Hours Outdoor Lighting in Use	<u><u>4,308</u></u>
Note 2	
The energy rates shown below are paid to EKPC pursuant to Rate E, Option 2, effective November 2, 2017, as shown in EKPC's tariff on file with the KPSC. The blended energy rate calculated below assumes that LED lighting is illuminated during periods of on-peak demand and off-peak demand equally. This is the same assumption made in OEC's Tariff Filing No. TFS2018-00368.	
On-Peak kWh	\$ 0.050899
Off-Peak kWh	<u>0.042174</u>
Combined Rate	0.093073
Divide by: 2	<u>2</u>
Blended Rate	<u><u>\$ 0.0465365</u></u>
Note 3	
It was assumed that outdoor lighting contributes to EKPC's coincident peak demand 6 months out of the year. This is the same assumption that was made in OEC's Tariff Filing No. TFS2018-00368.	

Minutes of Daylight for each day of 2017, Derived from Table Created by U.S. Naval Observatory as Shown on Page 4

Date	January	February	March	April	May	June	July	August	September	October	November	December
1	572	617	682	759	830	881	888	848	780	706	633	580
2	573	619	684	762	832	882	888	846	778	704	631	579
3	574	621	687	764	834	883	887	844	775	701	629	578
4	575	623	689	767	836	884	886	842	773	699	626	577
5	576	626	692	769	838	885	886	840	770	696	624	576
6	577	628	694	772	840	886	885	838	768	694	622	575
7	578	630	697	774	842	886	884	836	765	692	620	574
8	579	632	699	776	844	887	883	834	763	689	618	574
9	580	634	702	779	846	888	882	832	761	687	616	573
10	581	637	704	781	848	888	881	830	758	684	614	572
11	582	639	707	784	850	889	880	828	756	682	612	572
12	583	641	709	786	851	890	879	826	753	679	610	571
13	585	643	712	788	853	890	878	824	751	677	608	570
14	586	646	714	791	855	890	876	821	748	674	606	570
15	587	648	717	793	857	891	875	819	746	672	605	570
16	589	650	719	796	859	891	874	817	743	670	603	569
17	590	653	722	798	860	891	873	815	741	667	601	569
18	592	655	724	800	862	891	871	813	738	665	599	569
19	593	657	727	803	864	891	870	810	736	663	598	569
20	595	660	729	805	865	892	868	808	734	660	596	569
21	597	662	732	807	867	892	867	806	731	658	594	569
22	598	665	734	810	868	891	865	803	729	656	593	569
23	600	667	737	812	870	891	864	801	726	653	591	569
24	602	669	739	814	871	891	862	799	724	651	590	569
25	604	672	742	816	873	891	860	797	721	649	588	569
26	606	674	744	819	874	891	859	794	719	646	587	569
27	607	677	747	821	875	890	857	792	716	644	585	570
28	609	679	749	823	876	890	855	789	714	642	584	570
29	611	-	752	825	878	889	853	787	711	640	583	571
30	613	-	754	827	879	889	852	785	709	637	582	571
31	615	-	757	-	880	-	850	782	-	635	-	572
Daylight Minutes	18,309	18,124	22,297	23,821	26,577	26,661	27,038	25,306	22,337	20,772	18,148	17,724
Grand Total Daylight Minutes 2017												267,114
Plus: Minutes of Darkness												258,486
Total Minutes 2017 (365 days x 24 hours per day x 60 minutes per hour = 525,600)												525,600
Percentage of Daylight Minutes												50.82%
Percentage of Minutes of Darkness (approximate percentage of time that outdoor lighting is in operation)												49.18%

Period of Daylight in Owenton, Kentucky during 2017

Location: W084 50, N38 32

OWENTON, KENTUCKY
Eastern Standard Time

Astronomical Applications Dept.
U. S. Naval Observatory
Washington, DC 20392-5420

Duration of Daylight for 2017

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
01	09:32	10:17	11:22	12:39	13:50	14:41	14:48	14:08	13:00	11:46	10:33	09:40
02	09:33	10:19	11:24	12:42	13:52	14:42	14:48	14:06	12:58	11:44	10:31	09:39
03	09:34	10:21	11:27	12:44	13:54	14:43	14:47	14:04	12:55	11:41	10:29	09:38
04	09:35	10:23	11:29	12:47	13:56	14:44	14:46	14:02	12:53	11:39	10:26	09:37
05	09:36	10:26	11:32	12:49	13:58	14:45	14:46	14:00	12:50	11:36	10:24	09:36
06	09:37	10:28	11:34	12:52	14:00	14:46	14:45	13:58	12:48	11:34	10:22	09:35
07	09:38	10:30	11:37	12:54	14:02	14:46	14:44	13:56	12:45	11:32	10:20	09:34
08	09:39	10:32	11:39	12:56	14:04	14:47	14:43	13:54	12:43	11:29	10:18	09:34
09	09:40	10:34	11:42	12:59	14:06	14:48	14:42	13:52	12:41	11:27	10:16	09:33
10	09:41	10:37	11:44	13:01	14:08	14:48	14:41	13:50	12:38	11:24	10:14	09:32
11	09:42	10:39	11:47	13:04	14:10	14:49	14:40	13:48	12:36	11:22	10:12	09:32
12	09:43	10:41	11:49	13:06	14:11	14:50	14:39	13:46	12:33	11:19	10:10	09:31
13	09:45	10:43	11:52	13:08	14:13	14:50	14:38	13:44	12:31	11:17	10:08	09:30
14	09:46	10:46	11:54	13:11	14:15	14:50	14:36	13:41	12:28	11:14	10:06	09:30
15	09:47	10:48	11:57	13:13	14:17	14:51	14:35	13:39	12:26	11:12	10:05	09:30
16	09:49	10:50	11:59	13:16	14:19	14:51	14:34	13:37	12:23	11:10	10:03	09:29
17	09:50	10:53	12:02	13:18	14:20	14:51	14:33	13:35	12:21	11:07	10:01	09:29
18	09:52	10:55	12:04	13:20	14:22	14:51	14:31	13:33	12:18	11:05	09:59	09:29
19	09:53	10:57	12:07	13:23	14:24	14:51	14:30	13:30	12:16	11:03	09:58	09:29
20	09:55	11:00	12:09	13:25	14:25	14:52	14:28	13:28	12:14	11:00	09:56	09:29
21	09:57	11:02	12:12	13:27	14:27	14:52	14:27	13:26	12:11	10:58	09:54	09:29
22	09:58	11:05	12:14	13:30	14:28	14:51	14:25	13:23	12:09	10:56	09:53	09:29
23	10:00	11:07	12:17	13:32	14:30	14:51	14:24	13:21	12:06	10:53	09:51	09:29
24	10:02	11:09	12:19	13:34	14:31	14:51	14:22	13:19	12:04	10:51	09:50	09:29
25	10:04	11:12	12:22	13:36	14:33	14:51	14:20	13:17	12:01	10:49	09:48	09:29
26	10:06	11:14	12:24	13:39	14:34	14:51	14:19	13:14	11:59	10:46	09:47	09:29
27	10:07	11:17	12:27	13:41	14:35	14:50	14:17	13:12	11:56	10:44	09:45	09:30
28	10:09	11:19	12:29	13:43	14:36	14:50	14:15	13:09	11:54	10:42	09:44	09:30
29	10:11		12:32	13:45	14:38	14:49	14:13	13:07	11:51	10:40	09:43	09:31
30	10:13		12:34	13:47	14:39	14:49	14:12	13:05	11:49	10:37	09:42	09:31
31	10:15		12:37		14:40		14:10	13:02		10:35		09:32

Operation and Maintenance Expenses		
Type		Holophane LED
Watts		66
Lumens		6,689
Original Cost	(Sch. B, Page 1)	\$ 2,713.00
Times: Percent	(Sch. B, Page 2)	7.688%
O&M Expense for Fixture		<u>\$ 208.58</u>
<p>Following the method used in OEC's Tariff Filing No. TFS2018-00368, OEC estimated O&M expenses for the new outdoor lighting fixtures included in this tariff by multiplying the original cost of each fixture by the percentage derived by dividing OEC's 2018 total O&M expenses by the average balance of its plant in service during the year.</p>		

Annual Depreciation		
Type		Holophane LED
Watts		66
Lumens		6,689
Original Cost		
Cost of Fixture	(Sch. D)	\$ 2,199.26
Miscellaneous Material		10.00
Direct Labor	(Note 1)	78.18
Indirect Labor	(Note 2)	178.41
Labor Overhead	(Note 3)	192.18
Transportation	(Note 4)	54.96
Total Original Cost		\$ 2,713.00
Times: Depreciation Rate	(Note 5)	5.33%
Annual Depreciation Accrual		<u>\$ 144.60</u>
<u>Note 1</u>		
Average Hourly Labor Rate at 8/1/19 for Union Service Technician		\$ 39.09
Estimated Number of Hours to Install (2 hours is equal to the hours used in TFS2018-00368)		<u>2</u>
Direct Labor Capitalized for Light Fixture		<u>\$ 78.18</u>
<u>Note 2</u>		
Indirect Construction Labor, RUS Account 107.00		\$ 2,423,488
Divide by: Direct Construction Labor, RUS Account 107.2		<u>1,061,953</u>
Ratio of Indirect Labor to Direct Labor		228.21%
Times: Direct Labor Cost to Install Light Fixture		<u>78.18</u>
Indirect Labor Capitalized for Light Fixture		<u>\$ 178.41</u>
<u>Note 3</u>		
Direct Labor Capitalized		\$ 78.18
Indirect Labor Capitalized		<u>178.41</u>
Total Labor		256.59
Times: Labor Overhead Factor (See Below)		<u>74.90%</u>
Labor Overhead Capitalized		<u>192.18</u>
<u>Labor Overhear Factor</u>		
2018 Cost of Employee Benefits		\$ 7,054,990
Divide by: 2018 Regular Employee Wages		<u>9,419,471</u>
Labor Overhead Factor		<u>74.90%</u>
<u>Note 4</u>		
Service Truck Hourly Rate		\$ 27.48
Estimated Number of Hours to Install		<u>2</u>
Transportation Cost Capitalized		<u>\$ 54.96</u>
<u>Note 5</u>		
Depreciation is calculated using the composite depreciation rate currently used for existing outdoor lighting fixtures.		

2018 Fixed Charge Rate				
<u>Average Distribution Investment 2018</u>				
Distribution Plant Investment-EOY				\$ 254,009,288
Distribution Plant Investment-BOY				245,384,501
Average Investment				<u>\$ 249,696,895</u>
<u>Annual Costs as Percent of Average Distribution Plant</u>				
	Annual Cost			Expense As Percent Of Avg Distribution Plant
1. O&M				
Distribution Operations	\$ 4,856,165			
Distribution Maintenance	4,512,826			
	<u>\$ 9,368,991</u>			3.752%
2. Consumer and Admin & General				
Customer Accounts	\$ 3,992,922			
Customer Service & Information	726,562			
Administrative & General	5,108,542			
	<u>\$ 9,828,026</u>			3.936%
3. Total O&M and A&G Costs				<u>7.688%</u>
4. Depreciation				
	\$ 13,094,581			5.244%
<u>Capital Structure</u>				
	<u>2017</u>	<u>2018</u>	<u>Average</u>	
Debt	\$ 79,467,845	\$ 79,559,157	\$ 79,513,501	60.215%
Equity (Excludes GTCCs)	49,509,864	55,560,180	52,535,022	39.785%
Total	<u>\$ 128,977,709</u>	<u>\$ 135,119,337</u>	<u>\$ 132,048,523</u>	<u>100%</u>
<u>Interest and Equity Computations</u>				
Interest on LTD Using Interest Costs for 2018	\$ 3,804,853			4.79%
Margins Would be Equal to Interest for 2.0 TIER		3,804,853		7.24%
	<u>\$ 7,609,706</u>			<u>5.76%</u>
a. Interest				2.881%
b. Margins				2.881%
Total Fixed Revenue Requirements as a Percent of Distribution Costs				<u>18.695%</u>

Carrying Costs		
Type		Holophane LED
Watts		66
Lumens		6,689
Original Cost	(Sch. B, Page 1)	\$ 2,713.00
Times: Cost of Capital	(Note 1)	5.76%
Annual Carrying Costs		<u>\$ 156.34</u>
<u>Note 1</u>		
Cost of Capital		
Interest, See Calculation Sch. B pg. 2		2.88%
Patronage Capital, Cost of Equity to Cost of Debt to produce a 2.0 Operating TIER		2.88%
Total Cost of Capital		<u>5.76%</u>

Installed Costs		
Type		Holophane LED
Watts		<u>66</u>
Lumens		<u>6,689</u>
Cost of fixture	(Schd. E Pg. 1)	\$ 1,097.65
Accessories		
Photocontrol	(Schd. E Pg. 2)	\$ 57.12
Pole and Base	(Schd. E Pg. 3 & 4)	<u>\$ 920.00</u>
Subtotal		\$ 2,074.77
Taxes		\$ 124.49
Total after Taxes		<u><u>\$ 2,199.26</u></u>



WESCO
DISTRIBUTION®

1721 FORTUNE COURT

LEXINGTON KY 40509

Quotation

UNLESS THERE ARE DIFFERENT OR ADDITIONAL TERMS AND CONDITIONS CONTAINED IN A MASTER AGREEMENT THAT MODIFY WESCO'S STANDARD TERMS, BUYER AGREES THAT THIS QUOTE AND ANY RESULTING PURCHASE ORDER WILL BE GOVERNED BY WESCO'S TERMS AND CONDITIONS AVAILABLE AT [HTTP://WWW.WESCO.COM/TERMS_AND_CONDITIONS_OF_SALE.PDF](http://www.wesco.com/terms_and_conditions_of_sale.pdf), WHICH TERMS ARE INCORPORATED HEREIN BY REFERENCE AND MADE PART HEREOF. PLEASE CONTACT THE SELLER IDENTIFIED ON THIS QUOTE IF YOU REQUIRE A PRINTED COPY.

To: OWEN ELECTRIC COOP
8205 HIGHWAY 127 S
8205 HWY 127 N
OWENTON KY 403599378

Date: 07/11/19
Branch:
Project Number: QUOTE
Project Name
Quoted To:
Date of Your Inquiry: 07/11/19

When ordering please refer to Quotation Number:

Item	Quantity	Catalog Number and Description	Unit Price	U/M	Total Price	Rate of Cash Discount	Shipping Time (Weeks)	Customer Delivery Date
	1	A-EL*PUCL2 P30 40K AS BK L3 B P3*EA*UTILITY POSTOP FCO LED (PUCL2): PUCL2, LED PERFORMANCE PACKAGE P	1097.650	E	1097.65	0.00		
		SUB-TOTAL						
		ESTIMATED TAX						
		TOTAL						

F.O.B. Point of Shipment. The prices stated in this offer shall, unless renewed, automatically expire fifteen days (15) from the date of this offer. Prices quoted are subject to adjustment should Duty and Tariff rates change from time of bid/quotation to time of order. WESCO reserves the right to adjust its pricing for Goods affected directly or indirectly by changing duties/tariffs/trade agreements and significant currency fluctuations.
Per:



BLANKET PURCHASE ORDER

2016-2018

2019 update

WESCO

OVERHEAD MATERIAL

	OEC ID#	QTY		Description of Material	Catalog #	Unit Price	SIM#
Luminaries	39102020	2000	ea.	LUMINAIRE, LED REMOTE PHOTO EYE	Aquity DCC127 1.5M50	\$ 57.12	88879130568
	80005003	200	ea.	LUMINAIRE LAMP 100W HPS	Phillips C100S54/ALTO		78667736872
	39102015	1500	ea.	LUMINAIRE, LED OUTDOOR HEAD	CRTK-A-A08-E-120-5-10MSP-V-A-U78911		49102099969
	39102018	500	ea.	LUMINAIRE, LED OUTDOOR PACKAGE	CRTK-A-A08-E-120-5-10MSP-B24-V-A-U78912		49102099968
LED Luminaries	39102026		ea.	LUMINAIRE, LED COBRHEAD 100 EQ	NVN-AF-01EuT3-10K4AP		08008386417
	39102028		ea.	LUMINAIRE, LED COBRHEAD 250 EQ	NVN-AF-02EuT3-10K4AP		49102099965
	39102030		ea.	LUMINAIRE, LED COBRHEAD 400 EQ	NVN-AF-04EuT3-10K4AP		49102099964
	39102044		ea.	LUMINAIRE, LED DEC ACORN	GVD2P20 40KasMbk3NsBKh		78351949326
	39102046		ea.	LUMINAIRE, LED DEC HOLOPHANE	PTUE2P2040KasGL3BKbP3		78351949329
	39102048		ea.	LUMINAIRE, LED DEC TRADITIONAIRE	UTR-080-LED-E-U-55-4	\$	49102099953
	39102032		ea.	LUMINAIRE, LED DIRECTIONL 100 EQ	UFLDsC15eU66Tap410msp		49102099967
	39102033		ea.	LUMINAIRE, LED DIRECTIONL 250 EQ	UFLDC25eU66Tap410K	\$	08008386416
	39102034		ea.	LUMINAIRE, LED DIRECTIONL 400 EQ	UFLD-C40eU66Tap4-10K		49102099966

From: Kent [mailto:kent@brownstown.com]
Sent: Friday, September 20, 2019 2:32 PM
To: Mike Hearne
Subject: Hapco Poles
Attachments: 30393.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

***** Exercise caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email! *****

Hey Mike... The 4" pole and base much more reasonable. Please see pricing below and spec attached and let me know any others. Have a great weekend! Thanks

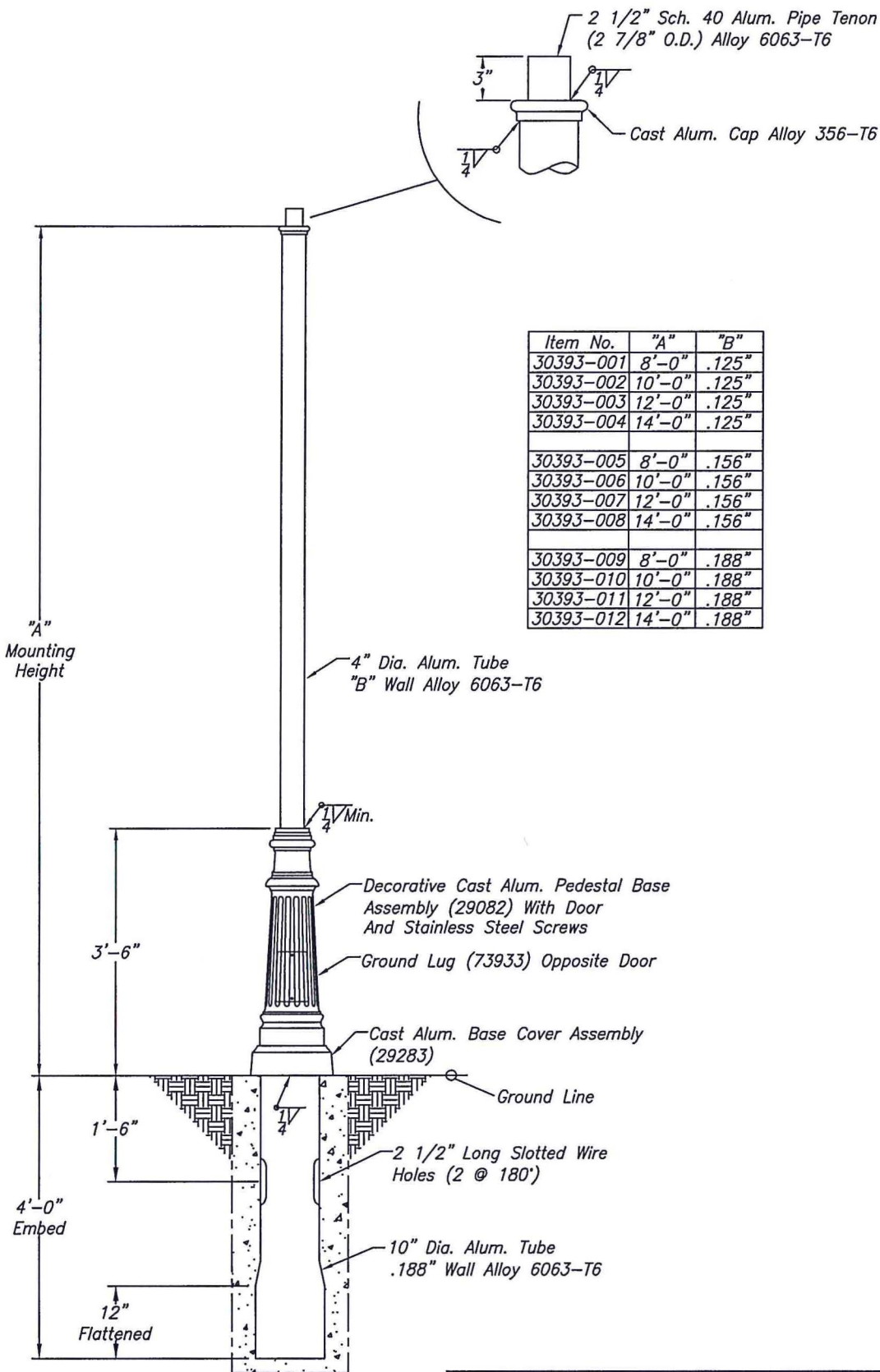
30393-003P** Hapco pole and base \$920.00/e

FREIGHT ALLOWED 14-16 WEEKS ARO

Kent

O# 502-859-5840
kent@brownstown.com

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Item No.	"A"	"B"
30393-001	8'-0"	.125"
30393-002	10'-0"	.125"
30393-003	12'-0"	.125"
30393-004	14'-0"	.125"
30393-005	8'-0"	.156"
30393-006	10'-0"	.156"
30393-007	12'-0"	.156"
30393-008	14'-0"	.156"
30393-009	8'-0"	.188"
30393-010	10'-0"	.188"
30393-011	12'-0"	.188"
30393-012	14'-0"	.188"

B30393

WARNING: DO NOT INSTALL LIGHTING POLES WITHOUT LUMINAIRES

NO.	REVISIONS	DATE

hapco
Abingdon, Va.

TITLE HOMWOOD SERIES LIGHT POLE	
CUSTOMER	
SCALE 16	DATE 02/13/2014
BY TNB	DWG. NO.
CHK'D	B30393