

CITY of NOVI CITY COUNCIL

Agenda Item L July 31, 2017

SUBJECT: Approval to make the award for the Fuerst Sisters Wing upgrades to Great Lakes Power and Lighting INC, the City's contracted Electrical contractor, in the amount of \$38,738.51 for lighting upgrades and Continental Flooring Company, based on 1GPA cooperative purchasing contract, in the amount of \$34,330 for flooring upgrades.

SUBMITTING DEPARTMENT: Integrated Solutions Team-Facilities Management

CITY MANAGER APPROVAL:

EXPENDITURE REQUIRED	\$ 73,068.51
AMOUNT BUDGETED	\$ 136,630 FY 2016-17 Budget Rollover
APPROPRIATION REQUIRED	None
LINE ITEM NUMBER	208-691.00-976.039

BACKGROUND INFORMATION:

PRCS, Facilities Management and Finance have worked collaboratively on a plan for improvements in the newly named Fuerst Sisters Wing, including renovation of existing floor, walls, hallways and related lighting in the Community Center area of the building; as well as program supplies (message board, signage and fitness equipment) for use in that area, using the funds as the Fuerst sisters intended. This request is proposing both the lighting and flooring upgrades.

The lighting component will consist of replacing all current florescent lighting with new 2x2 LED fixtures with dimming capabilities in each quarter. This will present a huge cost savings in electric consumption and allow more lighting level options. Great Lakes Power and Lighting, the City's current contracted electrical firm, will be providing all electrical services on this project.

The flooring will be replaced with a new Vinyl Composite Tile (VCT) to add much needed visual enhancement to the programmed space. The proposed flooring is manufactured by Armstrong providing durability with functionality and will provide a clean modern look allowing a state of the art environment for our Citizens and staff. The flooring work will be completed by Continental Flooring Company and their pricing is based on the 1GPA Contract cooperative purchasing contract. Contract and product information are attached.

The Facilities Management Division will be providing in-house Construction Management project services and estimate that this project will be completed by late September 2017.

RECOMMENDED ACTION: Approval to make the award for the Fuerst Sisters Wing upgrades to Great Lakes Power and Lighting INC, the City's contracted Electrical contractor, in the amount of \$38,738.51 for lighting upgrades and Continental Flooring Company, based on 1GPA cooperative purchasing contract, in the amount of \$34,330 for flooring upgrades.



9319 North 94th Way • Suite 1000 Scottsdale, AZ 85258 (480) 949-8509 • (800) 825-1221 FAX (480) 945-2603 www.continentalflooring.com

March 20, 2017, 2017

sent via e-mail bmccullough@cityofnovi.org

Mr. Brandon McCullough Facilities Manager City of Novi 45715 W. Ten Mile Road Novi, MI 48375

Re:

Price quote for VCT and Installation in Four Quarters Center under our 1GPA Contract #16-01S-01.

Dear Brandon,

Pursuant to your Request and plans provided, Continental Flooring Company is pleased to submit the following 1GPA Contract Quotation.

City of Novi

Install VCT in Four Quarters Center (per attached drawing)
Novi, MI

In Four Quarters Center, remove and dispose of existing non asbestos VCT (per attached drawing). Prepare concrete subfloor Armstrong "Standard Excelon" Vinyl Composition Tile – Color to be determined (8,640 SF). Cut tight to existing wall base and caulk (350 LF) at all new LVT Areas. Provide and Install Vinyl Transition Strips (72 LF) required for a complete installation.

1GPA Contract Quote Total:......\$ 34,330.00

The following items were not included in the above price quote:

- Removal of any asbestos containing material
- ➤ Waxing or Sealing of VCT
- > Furniture Moving
- Excessive floor preparation (exceeding 50 lb per 1,000 SF)
- ▶ Bond Costs (if required)
- > Pricing based completion with one site mobilization

Should you have any questions or require additional information, please feel free to contact me at stevew@continentalflooring.com or (800) 825-1221 ext. 235.

Sincerely,

Steven R Witkowski Director of Brieding & Pricing

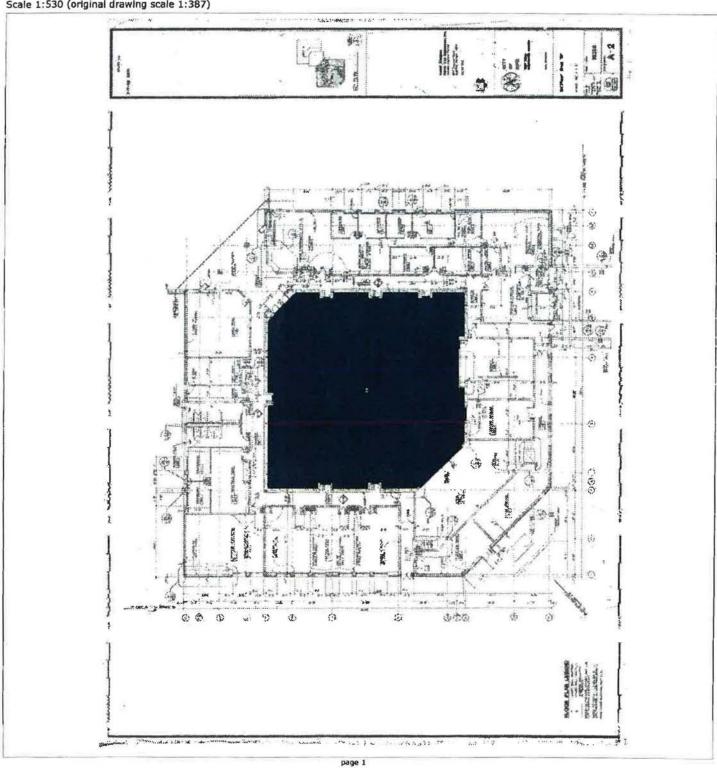
City of Novi Install VCT in Four Quarters Center 20 March 2017: City of Novi_Install VCT in Four Quarters Center.est Novi, MX

Summary Report



Transition CPT/VCT Base 1 Only VCT 1 Std

Scale 1:530 (original drawing scale 1:387)





December 17, 2015,

Continental Flooring Company Christopher Coleman 9319 N. 94th Way, Suite 1000 Scottsdale, AZ. 85250

Dear Christopher Coleman,

1GPA is pleased to announce that Continental Flooring Company has been awarded a contract for the following services based on the proposal submitted to 1GPA for IFB # 16-01S:

Commodity/Contract Title:

Flooring Products and Services

Contractor/Vendor:

Continental Flooring Company

Contract Number:

16-01S-01

The contract #16-01S-01 is effective immediately and will expire on December 17, 2016. The contract may be renewed annually for up to an additional four years, if mutually agreed to by IGPA and your firm.

The 1GPA partnership can be of great help to participating agencies. Please feel free to provide copies of this letter to your sales representative to assist in their work. Please review the Vendor Welcome Guide that is included in the Award Notification Email.

If you have any questions or concerns, please feel free to contact Christy Knorr at the 1GPA office at 480/399-6366 or via email; cknorr@1GPA.org. We look forward to working with you and your team!

Sincerely,

Ken Carter

Ken Carter 1GPA, Executive Director

BID AND CONTRACT ACCEPTANCE

The Undersigned hereby certifles understanding and compliance with the requirements in the General Terms and Conditions. Bidder further agrees to furnish the material and/or service in compliance with all terms, conditions, specifications, and amendments in the solicitation and any written exceptions in the Bid (If Applicable) State Transaction (Sales) Privilege Tax License No.: 07-218995-J
Federal Employer Identification Number 85-0369902
Company Name CONTINENTAL FLOORING COMPANY
Address 9319 N. 94TH WAY, SUITE 1000 City SCOTTSDALE State AZ Zip 85250
Telephone Number (480) 949-8509 Fax (480) 945-2603
Printed Name CHRISTOPHER L. COLEMAN Title PRESIDENT
Primary Email ccoleman@continentalfloorlag.com Company Email info@continentalflooring.com Authorized Signature
The Contractor shall not to commence any billable work or to provide any material or service under this contract until Contractor receives purchase order from a 1GPA member.
1GPA BID AND CONTRACT ACCEPTANCE
The Bid is hereby accepted: The Contractor is now bound to self-the materials and/or services offered to and accepted by 1GPA in accordance with the solicitation, including all terms, conditions, specifications, amendments, etc.
This contract shall henceforth be referred to as Contract Number 16-01S Flooring Products and Services
Awarded this 1772 day of December 2015
This contract shall be effective this 1713 day of December 2015
1GPA V
Signature: 12/17/15
Title: Executive Director
Printed Name: Ken Carter
Approved By: Scottsdale Unified School District
Signature: M. Romorpold Date: 12/17/15
Tile Director Turchesing
Printed Name: Mike Romanorf



Determination for Multiple Award Flooring Products & Services RFP 16-01S

In accordance with the requirements of A.A.C. R7-2-1031, 1GPA may make a multiple award if the invitation for bids included notification that multiple contracts may be awarded, the basis for determining whether to award multiple contracts, and the criteria for selecting vendors for the multiple contracts. A multiple award shall only be made if 1GPA determines in writing that a multiple award is necessary and is advantageous to 1GPA and its Members and establishes procedures for the use of the multiple awarded contracts to ensure that purchases are made from the contracts determined by 1GPA to offer the lowest cost in satisfying the school district's requirements. A multiple award shall be limited to the least number of suppliers necessary to satisfy the requirements of 1GPA and its Members.

The basis for determining whether to award a multiple contract, as stated in the IFB, is based on the large number and variety of potential using districts and agencies eligible to participate in the resultant contract. In order to assure that any ensuing contracts will allow 1GPA to fulfill current and future requirements; 1GPA reserves the right to award contracts to multiple vendors.

- The decision is based upon consideration of the complex scope of work for the various products and installation/
 miscellaneous services and bidder(s)' ability to fulfill the needs of members in its entirety. The scope of work
 ranges from resilient flooring, ceramic and tile, playground surfacing, wood, vinyl, in addition to complex
 installation and services for the broad range of products covered under the contract.
- Contractor's ability to provide for a large diverse Membership and geographic areas served will be considered
 when determining the need for a multiple award. Regional Pricing was requested in the invitation for bids for the
 purpose of evaluating and awarding by regions. For members outside of the Greater Phoenix region, 3 bidders
 service the entire State of Arizona. For Members outside of Arizona, 2 bidders are able to provide flooring
 products and services, however, only 1 bidder is able to provide products and services Nationally to all 50 States.
- Contracts may be awarded by individual line item or groups of line items. Each bidder recommended for award
 provides products or services at the lowest cost under the contract for specific products and services. In reviewing
 pricing submitted by all bidders line by line, there is not a single bidder that provides the lowest cost for all
 products and services across the board.
- A multiple award is in the best interests of 1GPA and its Members in order to meet the variety of needs for Flooring Products and Services. The needs under this contract vary depending on the requirements and of each end-user such as the type of products, brands offered, and services needed.

Based upon these factors, 1GPA has determined the necessity of a multiple award for **Flooring Products and Services**. The contract award recommendation is to the least number of suppliers necessary to meet the needs of 1GPA members. A single award is not advantageous to 1GPA members for the reasons listed above.

IFB 16-01S	Flooring Products and Services
Solicitation No. Name of Solicitation	
January OMuñoz	December 14, 2015
Jennifer Muñoz-Director of Procurement & Compliance	Date

CITY OF NOVI					
FOUR CORNERS CENTER FL	OORING.		İ		
			H	Unit	Total
Description	Quantity	Unit		Cost	Cost
1GPA ITEMS					
Remove existing VCT	8640	SF	\$	0.81	\$ 6,998.40
Scrape existing adhesive	8640	SF	\$	0.37	\$ 3,196.80
Floor Preparation	8640	SF	\$	0.34	\$ 2,937.60
Provide Armstrong Stonetex VCT	192	CTN	\$	49.50	\$ 9,504.00
Provide Armstrong S-515 Adhesive	8	PAILS	\$	39.01	\$ 312.08
Install VCT	8640	SF	\$	1.15	\$ 9,936.00
OPEN MARKET ITEMS					
Provide and Install Transitions	72	LF	\$	3.50	\$ 252.00
Moisture Tests	10	EA	\$	40.00	\$ 400.00
Cut Tight to Existing Base and Caulk	360	LF	\$	0.60	\$ 216.00
Storage Container	1	EA	\$	300.00	\$ 250.00
Material Freight	1	LS	\$	350.00	\$ 327.12
QUOTE TOTAL					\$ 34,330.00

Inspiring Great Spaces



PRODUCT SPEC PAGE

STANDARD EXCELON® Imperial® Texture | MultiColor™ Vinyl Composition Tile (VCT)

Product Information

Construction	Product Line	International Product Specifications	Overall Thickness Wear Layer Thickness	Factory Finish	Installation	Maintenance Options
Vinyl Composition Tile	Imperial Texture MultiColor	ASTM F1066 - Class 2 Through Pattern ISO 10595 Type II	1/8 in. (3.2 mm)	Fast Start	Full Stream Adhesives S-515, S-525, S-700, S-750 & S-240, Filio Stray Adhesive	Polish

Packaging			Product Structure	
Tile Size	Tile per Carton/Coverage	Shipping Weight per Carton		
12 in. x 12 in.	45 - 45 ft-	Approx 63 lbs /garton		0
(305 mm x 305 mm)	(4.18 m)	(28 6 kg)	Exclusive Fast Starf Factory Finish	
			Through-Color/Pattern Wear Layer	0
				- A STATE OF THE S

Testing

	Performance	Test Method	Requirement	Performance vs. Requirement
	Trickness	ASTM F 386	Nominal ± 0 005 in	Meets
	Size	ASTM F 2055	± 0.016 in lost finear toot	Meets
	Squareness	ASTM F 2055	0.010 m, max	Meets
45 I M F 1066	Indentation - One Minute	ASTM F 1914	> 0.006 in to = 0.015 in	Meets
	Indentation @ 115° F	ASTM F 1914	< 9.032 (1)	Meets
20	tream	ASTM F 1265	No pracks beyong limit	Maets
	Jones (8)	ASTALF 1304	1.0 in improgram	Meats
	Olinensional Stability	ASTM F 2199	< 0.024 in, per librar toot	Meats
	Chemical Resistance	ASTM F 925	No more than slight change in surface dulling, attack or staining	Meels
	Resistance to Heat	ASTM F 1514	.XE not greater than 3.it	Meets
70	Static Load Resistance	ASTM F 970	≤ 9.805 in	125.0sl
Additional	Fire Test Data - Flame Sorean	ASTM E 648	0.45 W/cm² or more Class I	Meafs
	Fire Test Data - Smoke Evolution	ASTM E 662	450 or less	Meets
id,	Fire Test Data - Canada	CANALIC S102-2	tise dependent	Flame Spream - 0 - Smoke Developed -

Inspiring Great Spaces



PRODUCT SPEC PAGE

STANDARD EXCELON® Imperial® Texture | MultiColor™ Vinyl Composition Tile (VCT)

Maritime Usage

IMO Resolution A633 (15)
Surface Flammanility IMO NISC 61(67) Annex 1 Part 5 and Annex 2
Smoke and Toxicity IMO MISC 61(67) Annex 1 Part 2 and Annex 2

Safety Of Life at Sea (SGLAS)

United States Coast Guard

Approved

Sustainability

Certification Attribute	Standard	3rd party Certification/Certifier	
Low-Emitting Material	COPH v1.1 (2017) a K a CHPS 01350	FloorScore/SCS	
Environmental Product Declaration (EPD)	ISO 14025	Yes/ASTM International	
Plant Quality	ISO 9001	Yes/SAI Slooal	
Performance	Standard	Requirement	Performance vs. Requirements
TVOC Range	CDPH v1 1/2017) a x a CHPS 01350	<0.5 mg/m³	Meets
Low Emitting Advestions S-515 S-525 S-750 S-240 File: Stray Advestion	SCAQMD Rule #1168	Less than 50 tyl.	S-515 Expeds - 0 g/L 5-525 Expeds - 16 g/L 5-700 Expeds - 0 g/t 5-750 Expeds - 5 g/t 5-240 Expeds - 10 g/L Fig. Excests - 0 g/t.
Material logischents (Cotino 1)	LEED v4	Content displayure to 1990 dom	Meets (Sea Armstrong Product Declaration)
Recycled Content	ISO 14021	Contains recycled content	Meets - 1835 Pre-Consumer

^{*} Flip : Spray Admissive is Gradle to Crable Silver certified.

Limited Warranty

5-year Commercial Warranty when installed in accordance with Armstrong's Guaranteed Installation Systems manual, F-5061

Links

Installation Instructions	wow. Activities gifts may a multi-comp. I marking
Maintenance Information	A new Administrações may como le gran y-onovinhado.
View the Full Line	way Amstrong for Journalise ngradustrations will
Product Transparency	www.ArmstrongFlooring.com/Transparency
Email Techline	which Assessment his only mentioning description
Visit Floor Expert	visit/ortho-story



Quotation

Date: February 22, 2017

To: Novi

Attn Brandon

Project: install new lights in the 4 meeting halls

In accordance with your request we are pleased to quote the electrical installation required for the above referenced project as follows:

2 new dimmers included 113 new 2x2 led fixtures with dimming All associated wire and fittings included

Total Price \$38,738.51.

Thank you for the opportunity. If you require additional information please do not hesitate to contact me.

Sincerely,
Alan Thueme
Purchasing agent
Great Lakes Power & Lighting, Inc.
E-mail: athueme@greatlakespwr.com
Cell Ph: 586-855-0960

DESCRIPTION

The FR series is a premium recessed commercial luminaire which offers a high quality lighting solution dedicated with the latest solid state lighting and electronic driver technology for optimal performance and energy efficiency. The FR series is compatible with all of today's popular ceiling systems and is available with a number of shielding options and accessories for application versatility.

The FR series features efficiency, quality and performance. The series is an excellent choice for commercial office spaces, schools, hospitals or retail merchandising areas.

Catalog #	Туре
Project	
Comments	Date
Prepared by	

SPECIFICATION FEATURES

Construction

Rigid housing is die formed of code gauge prime cold rolled steel and features full length die-formed stiffeners and unibody endplate for added strength. Side flanges are hemmed. Innovative design provides superior lens brightness uniformity and visual comfort. Unibody endplates are securely attached with interlocking tabs and screws. Four auxiliary fixture end suspension points provided. Gridlock feature for safety and convenience.

Controls

The FR series is equipped standard with a 0-10V continuous dimming driver that works with any standard 0-10V control/dimmer. Combine with energy-saving products like occupancy sensors, daylighting controls, and lighting relay panels from Cooper Controls (www. coopercontrol.com) to maximize energy savings. Or, specify the Digital Addressable Lighting Interface (DALI) drivers, dimmable down to 1% with the HD option, for use with Fifth Light controls. Consult factory for integrated sensor options.

Electrical

Long-Life LED system coupled with electrical driver to deliver optimal performance. LED's available in 2700, 3000K, 3500K, 4000K or 5000K with typical CRI 85. Projected life is 60,000 hours at 70% lumen output. cULus listed. Electronic drivers are available for 120-277V applications. A 0-10V dimming driver is standard.

Emergency Battery Pack Option
Optional 120v-277v integral
emergency battery pack is
available in 7-watts or 14-watts
to meet critical life-safety lighting
requirements. The 90-minute
batteries provide constant power
to the LED system, ensuring codecompliance. A test switch/indicator
button can be tested safely from
the ground using a laser pointer,
while the patented EZ Key prevents
accidental discharge of the battery
during construction. See ordering
information for details.

Finish

Multistage, iron phosphate pretreatment ensures maximum bonding and rust inhibition. Housing and driver cover finished with new 90% reflective white enamel for superior performance.

Hinging / Latching

Cam steel latches with baked white enamel finish. Safety-lock T-hinges allow hinging and latching either side.

Frame/Optical Shielding Curved, Frost lens within steel hinged door frame. Lens offers a balance of aesthetics and light stability.

Compliance

Modules are UL recognized components and indoor luminaires are cULus listed for 25°C ambient environments, RoHS compliant, and LED modules comply with IESNA LM-79 and LM-80 standards. DesignLights Consortium^{rM} Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.



Metalux

22FR LED

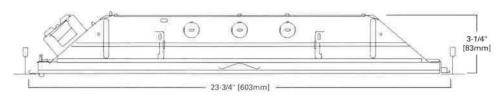
2' X 2' LED LUMINAIRE

Premium Recessed Commercial LED Luminaire

> For Use in Insulated Ceilings







G

23-3/4 [603mm]

- 23-3/4" [603mm]

CEILING COMPATIBILITY

Grid/Lay-in Standard	Concealed T
_9 /	•/
_1L17	

G Slot Grid
Slot Grid
/
9 /
A. Farmer

Ceiling	Trim
Type	Type
Exposed Grid	G
Concealed T	G
Slot Grid	G

factory.)

LINEAR DISCONNECT
Safe and convenient means of



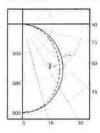


WATTAGE

Catalog Number	Performance Type	Product Description	Nominal Lumens	Wattage	Efficacy (Im/W)
22FR-LD4-24-UNV-L835-CD1-U	Standard	2' x 2', Premium Commercial Troffer, 2200 lm, 3500K, UNV	2345	21.2	110.6
22FR-LD4-24-UNV-L840-CD1-U	Standard	2' x 2', Premium Commercial Troffer, 2200 lm, 4000K, UNV	2383	21.2	112.3
22FR-LD4-24-UNV-L850-CD1-U	Standard	2' x 2', Premium Commercial Troffer, 2200 lm, 5000K, UNV	2601	21.2	122 6
22FR-LD4-24-HP-UNV-L835-CD1-U	High Performance	2' x 2', Premium Commercial Troffer, 2200 lm, 3500K, UNV	2356	19.9	118.4
22FR-LD4-24-HP-UNV-L840-CD1-U	High Performance	2' x 2', Premium Commercial Troffer, 2200 lm, 4000K, UNV	2394	19.9	120.3
22FR-LD4-24-HP-UNV-L850-CD1-U	High Performance	2' x 2', Premium Commercial Troffer, 2200 lm, 5000K, UNV	2613	19.9	131.3
22FR-LD4-32-UNV-L835-CD1-U	Standard	2' x 2', Premium Commercial Troffer, 3200 lm, 3500K, UNV	3313	34.6	95.8
22FR-LD4-32-UNV-L840-CD1-U	Standard	2' x 2', Premium Commercial Troffer, 3200 lm, 4000K, UNV	3366	34.6	97.3
22FR-LD4-32-UNV-L850-CD1-U	Standard	2' x 2', Premium Commercial Troffer, 3200 lm, 5000K, UNV	3674	34.6	106.2
22FR-LD4-32-HP-UNV-L835-CD1-U	High Performance	2' x 2', Premium Commercial Troffer, 3200 lm, 3500K, UNV	3238	28.7	112.8
22FR-LD4-32-HP-UNV-L840-CD1-U	High Performance	2' x 2', Premium Commercial Troffer, 3200 lm, 4000K, UNV	3290	28.7	114.6
22FR-LD4-32-HP-UNV-L850-CD1-U	High Performance	2' x 2', Premium Commercial Troffer, 3200 lm, 5000K, UNV	3591	28.7	125.1

Notes: Bold=stocked SKUs (STK), available for immediate shipment. Non-bold=MTO SKUs, available in less than two weeks. All models also available in 2700K and 3000K.

PHOTOMETRICS



22FR-24-UNV-L835-CD1-U
Electronic Driver
Linear LED 3500K
Spacing criterion:
(II) 1.2 x mounting
height, (⊥) 1.2 x
mounting height
Lumens: 2345
Input Watts: 21.2W
Efficacy: 110.6 Im/W
Test Report:
22FR-24-UNV-L835-CD1-U.IES

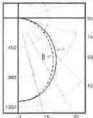
Angle	Along II	45°	Across I		
0	890	890	890		
5	883	882	883		
10	868	869	872		
15	B39	B43	850		
20	801	807	818		
25	751	762	777		
30	696	710	731		
35	636	655	681		
40	575	595	625		
45	509	533	565		
50	444	469	503		
55	379	403	436		
60	318	339	369		
65	255	275	302		
70	195	214	236		
75	139	155	170		
80	86	97	106		
85	38	44	46		
on on	0	- 0	0		

Coefficients of Utilization

	Effe	ectiv	e floo	or cav	ity ref	lecta	nce	20	%									
rc		8	10%		771	7	0%			50			309			105		0%
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR		Trees.			- 142	111/11	37577				7/20			2000			**//	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	30	88	85	B4
2	99	91	84	78	96	89	83	77	85	80	75	82	78	74	79	75	72	70
3	90	80	72	65	88	78	71	65	75	69	63	72	67	62	70	65	61	59
4	83	71	62	55	80	69	61	55	67	60	54	65	58	53	62	57	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	ô1	47	39	33	59	47	39	33	45	38	33	44	38	33	43	37	32	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	29	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

Zonal Lumen Summary

Zone	Lumens	% Fixture	
0-30	673	287	
0-40	1084	46.2	
0-60	1859	79.3	
0-90	2435	100.0	
0-180	2435	100,0	



| 22FR-32-UNV-L835-| CD1-U | Angle | Along II | | Electronic Driver | 0 | 1259 | | Spacing criterion: | 15 | 1187 | | (II) 1.2 x mounting height, (1) 1.2 x mounting height | 25 | 1062 | | mounting height | 35 | 839 | | Lumens: 3313 | 40 | 811 |

Lumens: 3313
Input Watts: 34.6W
Efficacy: 95.8 Im/W
Test Report:
22FR-32-UNV-L835CD1-U.IES

Angle	Along II	45°	Across 1
0	1259	1259	1259
5	1249	1247	1248
10	1227	1228	1233
15	1187	1192	1203
20	1131	1141	1155
25	1062	1077	1099
30	984	1004	1034
35	899	925	961
40	811	841	881
45	719	753	797
50	626	662	708
55	534	570	615
60	447	478	522
65	359	389	430
70	274	302	336
75	195	217	241
80	120	137	151
85	53	52	66
90	0	0	- 0

Coefficients of Utilization

	Effe	ectiv	e floo	or cav	ity ref	lects	nce	20	%									
rc			10%			7	0%			501	5		301			105		0%
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR		2411770	Service.			27/3/117	5.5.111	- 200			50000	18752	100		1217	/ - / -		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	84
2	99	91	B4	78	96	89	83	77	85	60	75	82	78	74	79	75	72	70
3	90	80	72	65	88	78	71	65	75	69	63	72	67	62	70	65	61	59
4	83	71	62	55	80	69	61	55	67	60	54	65	58	53	62	57	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	38	33	43	37	32	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	29	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

Zonal Lumen Summary

Lumens	% Fixture	
951	28.7	
1531	46.2	
2625	79.2	
3313	100.0	
3313	100.0	
	951 1531 2625 3313	951 28.7 1531 46.2 2625 79.2 3313 100.0



ORDERING INFORMATION

SAMPLE NUMBER: 22FR-LD4-32-UNV-L835-CD1-U

Rating [Blank]= Standard ATW-SW4= Chicago Rated

Width / Length 22=2' x 2

Series 181

FR=Premium Commercial Luminaire

Door Frame Standard=Flat White Steel Door (Leave Blank)

LED Type LD4=LED 4.0

LED Lumens Output (4) Stock 32=3200

MTO 24=2400 Shielding

[Blank]=Curved Frosted Acrylic Lens (standard) HP=High Performance, Curved Frosted Acrylic Lens Voltage (3) 347=347V UNV=Universal Voltage 120-277

Options

Emergency EL7W=7-watt, 120V-277V emergency battery pack installed ^m
EL14W=14-watt 120V-277V emergency

battery pack installed in GTD2=Bodine Generator Transfer Device (7) ETS2=IOTA Emergency Transfer Switch (7)

1827-2700K L830=3000K L835=3500K

L840=4000K L850=5000K

Multiple Configurations Available

Driver Type

CD=0-10V Dimming Driver (10% - 100% Dimming) HCD=0-10V Dimming Driver (1% - 100% Dimming) SD=Step-dim Driver 5LTD=Fifth Light DALI Driver (10% - 100% Dimming) ISI (8)

5LTHD=Fifth Light DALI Driver (1% - 100% Dimming) (5), (6)

Number of Drivers

1=1 Driver

Options PMW=Paint Matte White

Packaging U=Unit Pack

ACCESSORIES

EQ-CLIP-U=T-BAR Safety Earthquake Clips (1)

DF-22-W=2' x 2' Drywall Frame Kit SK-22-WS=2' x 2' Shallow Surface Mount Kit SK-22-WT=2' x 2' Tall Surface Mount Kit DF10P-C =Decorator Dimmer, 0-10V SF10P-_=Decorator Slide Dimmer, 0-10V

ISHH-01=Programming Remote for Integrated Sensor ISHH-02=Personal Control Remote for Integrated Sensor

NOTES: ^{IN}An EQ Grid Clip is recommended for all 9/16" ceiling systems. Four required per fixture, ^[1] Products also available in non-US voltages and frequencies for international markets. ^[3] External test switch / indicator / laser test. For approximate delivered lumens multiply the lumens per wait of the desired fixture by the watage of the emergency battery pack (100 fmW x 7=700 lumens). IES-format photometry for luminaire under emergency operation available. ^[3] Nominal lumen output. ^[3] Step-Dim (Bi-Level) and Fifth Light (DALI) only available for 3,200 lumens. ^[4]Must be used in conjunction with a DALI control systems. For complete DALI solutions by Fifth Light, visit www.eaton.com/lightingsystems. ^[4]Used to transfer fixture to secondary power source for life-safety operation, When used with a dimming fixture, two devices are required to ensure control is disabled while operating under emergency power. ^[6] DesignLights Consortium ^[9] Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.

Specifications & dimensions subject to change without notice, Consult your Eaton Representative for availability and ordering information.

SHIPPING DATA

Catalog No. 22FR-I D4

Wt. Pallet 10 lbs. 48

