City of Birmingham
A Walkable Community

MEMORANDUM

Planning Division

DATE: **April 12, 2017**

TO: **Joseph A. Valentine, City Manager**

FROM: **Jana L. Ecker, Planning Director**

SUBJECT: **Pedestrian Scale Street Lights in the Rail District**

On April 13, 2017 the City Commission will meet on site at 2125 E. Lincoln (Armstrong White) to compare two versions of street lights installed on this site. The fixtures lining the street in front of and to the west of Armstrong White are Hadco gooseneck street lights as previously approved by the City Commission for use in the Rail District. These fixtures match those that were originally approved and installed with the Crosswinds Development. A specification sheet for this fixture is attached for your review. It should be noted that the approved fixtures were 100 watt fixtures, however the fixtures installed by DTE were actually 150 watts.

Since the Armstrong White property was redeveloped, DTE is no longer using Hadco fixtures as Hadco is no longer an approved supplier. As a result, DTE selected a fixture they determined to be comparable and began installing these fixtures on future developments in the Rail District. Numerous complaints have been received by residents since DTE changed suppliers and switched fixtures. As a result of these complaints, City staff has met with DTE to research additional options to match more closely the originally approved Hadco street light. The fixture selected as the best match is a GlasWerks Flat LED2 Hallbrook fixture by Holophane. A specification sheet on this proposed fixture is attached for your review. The same posts will be used, and the proposed fixture also has a gooseneck style. However, while the exterior design of the previous and proposed street lights are very similar, the proposed fixtures are LED and have different light qualities as noted in the chart below.

	Existing Hadco Fixture	**Proposed Holophane Fixture**
Cut off fixture	Yes	Yes
Type of Bulb	Metal Halide	LED
Wattage	150 watts	112 watts
Lumens	12,900 lumens	11,810 lumens
Color Temperature	4200K	4000K
Light Distribution	L3*	L3*
		*see attached specification sheet on light distribution

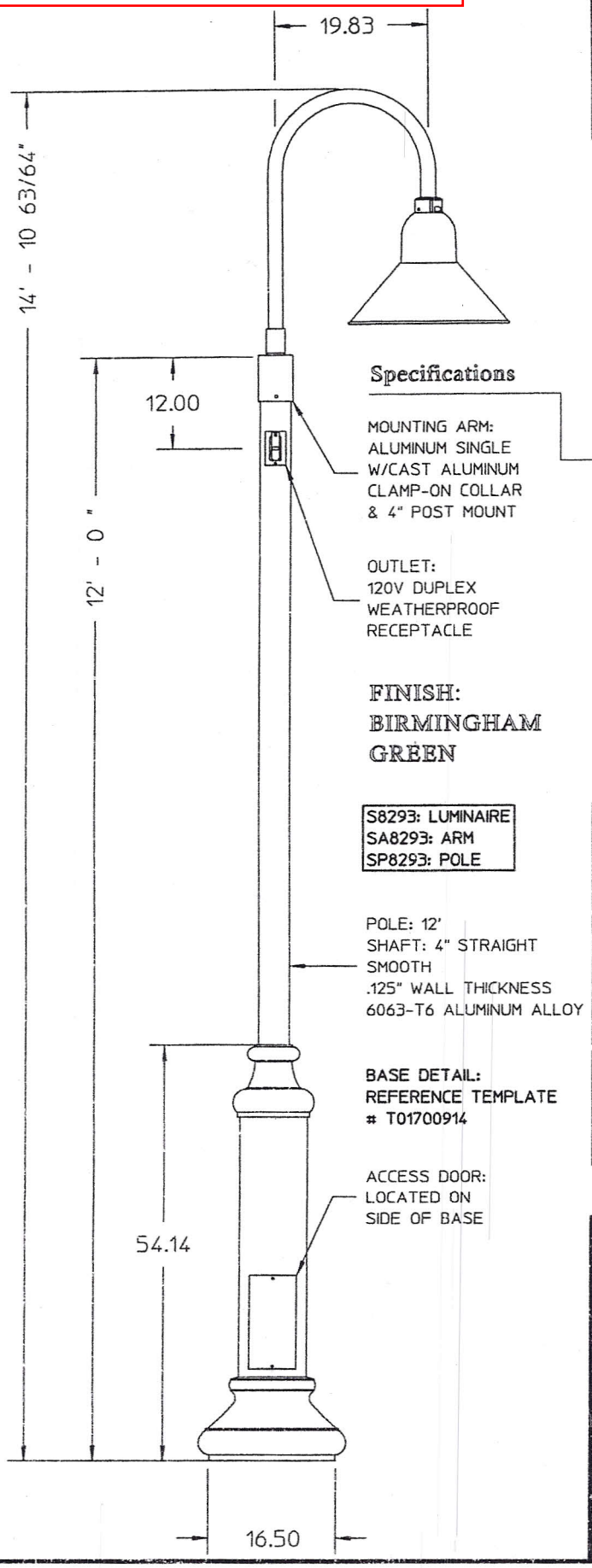
DTE recently installed one of the proposed new Holophane street lights at the far east side of the Armstrong White property so that the City Commission and residents may compare the design and light quality of the previously approved Hadco fixtures to the proposed new Holophane fixtures.

After observing both fixtures after dark on April 13, 2017, the City Commission may wish to select the GlasWerks Flat LED2 Hallbrook fixture by Holophane as the new street light standard to be used in the Rail District.

Suggested Action:

To approve the use of the GlasWerks Flat LED2 Hallbrook fixture by Holophane as the new street light standard in the Rail District.

Previously Approved Hadco Fixture for Rail District



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PRODUCT APPROVALS	
SALES	
ENG.	
CUST.	

NOTICE:
THIS DRAWING IS FOR REFERENCE ONLY. CHECK FOR LATEST REVISION PRIOR TO ORDERING

Specifications

MOUNTING ARM:
ALUMINUM SINGLE W/CAST ALUMINUM CLAMP-ON COLLAR & 4" POST MOUNT

OUTLET:
120V DUPLEX WEATHERPROOF RECEPTACLE

FINISH: BIRMINGHAM GREEN

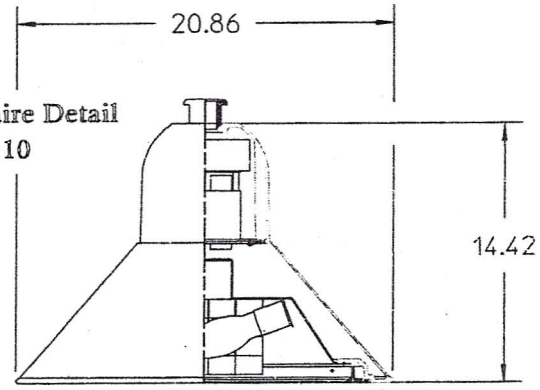
S8293: LUMINAIRE
SA8293: ARM
SP8293: POLE

POLE: 12'
SHAFT: 4" STRAIGHT SMOOTH
.125" WALL THICKNESS
6063-T6 ALUMINUM ALLOY

BASE DETAIL:
REFERENCE TEMPLATE
T01700914

ACCESS DOOR:
LOCATED ON SIDE OF BASE

Luminaire Detail
Scale 1:10



CUSTOM FINISH:
BIRMINGHAM GREEN

Options

LENS: (SPECIFY)	
(T) DROP POLY.	___
(GF) GLASS, FLAT	X

WATTAGE: (SPECIFY)	
70W HPS, MEDIUM	___
100W HPS, MEDIUM	X
150W HPS, MEDIUM	___
70W MH, MEDIUM	___
100W MH, MEDIUM	___
175W MH, MEDIUM	___

FINISH: (SPECIFY)	
(A) BLACK	___
(B) WHITE	___
(H) BRONZE	___
(J) GREEN	___

OPTICS: (SPECIFY)	
(3) TYPE III	X
(5) TYPE V	___
(0) SYM.	___
*	

VOLTAGES: (SPECIFY)	
(E) 120V	X
(F) 208V	___
(G) 240V	___
(H) 277V	___
(K) 347V	___

PHOTO CONTROL:	
(N) NO	X

MOUNTING: (SPECIFY)	
(A) SIDE ARM	___
(T) TOP ARM	X
(W) WALL MOUNT	___
*	

REVISIONS:

HADCO®
GENLYTE THOMAS

100 Craftway P.O. Box 128
Littlestown, Pennsylvania 17340-0128
Phone 717-359-7131
Fax 717-359-9515
www.hadcolighting.com

JOB NAME: *Crosswinds Birmingham*

SCALE:	DATE:	DRAWN BY:	DRAWING NUMBER:
1:20	05/14/02	TAG	S8293

REP:	QUOTE #:	DIST.:
Laidlaw & Morgan		

Visual - Template Tool

AcuityBrands.

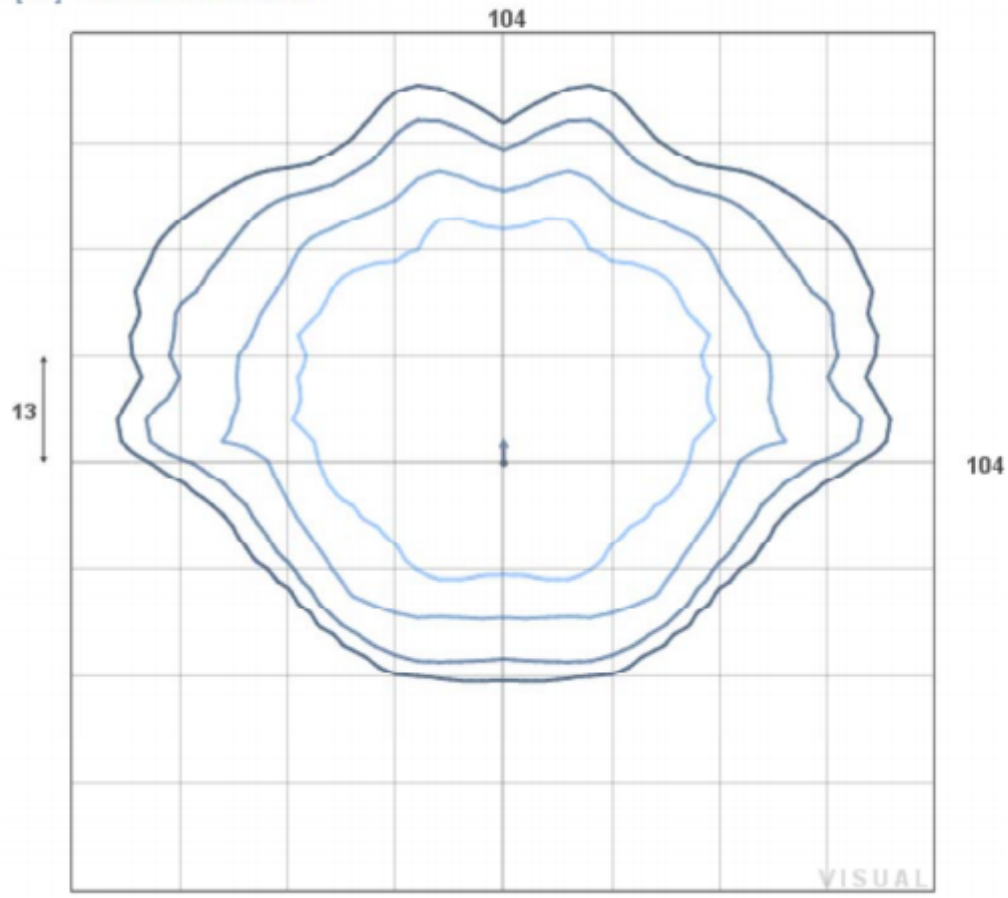
Friday, September 16, 2016

Design Information

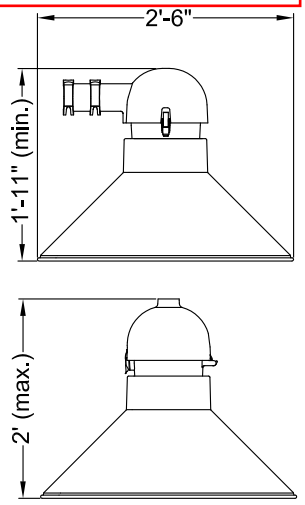
Project
Description

Name
Company
Phone
Email

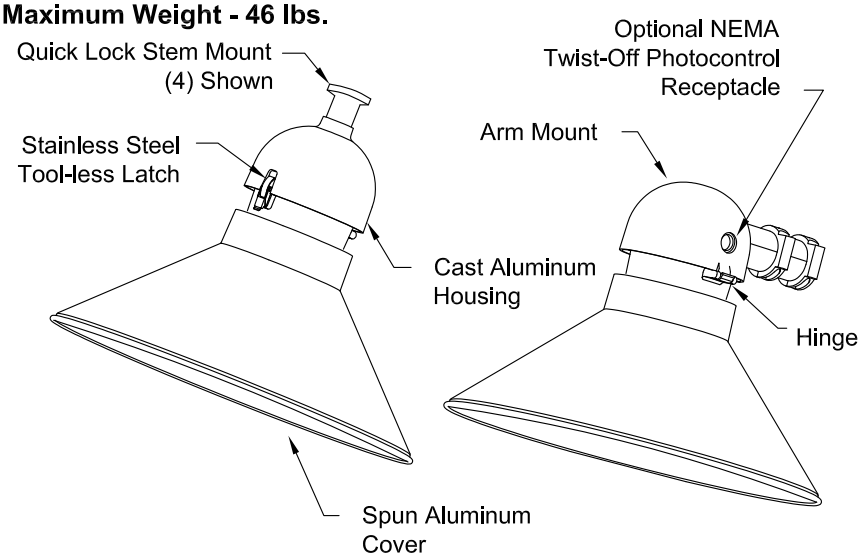
[A] - GE17DMH000XSHA



Proposed Holophane Fixture for the Rail District



Maximum Effective Projected Area - 1.2 ft²
Maximum Weight - 46 lbs.



GlasWerks® Flat LED 2
Hallbrook® Ext

DESIGNER
OUTDOOR

EXAMPLE: GELF2 P30 40K AS 4 B L3

GELF2 | P50 | 40K | AS | 4 | 6012 | L3

COVER TYPE
GELF2 = HALLBROOK EXTENDED

COLOR TEMP.
AM = TRUE AMBER[1]
30K = 3000K
40K = 4000K
50K = 5000K

VOLTAGE
AS = AUTO-SENSING 120-277V
AH = AUTO-SENSING 347-480V

MOUNTING STYLE
1 = ARM
2 = PENDAND 1.5 NPT
3 = PENDAND 1.25 NPT
4 = QUICK LOCK STEM MOUNT[2]

COLOR
A = AS SPECIFIED
B = BLACK
D = DARK BLUE
G = GRAY
H = GRAPHITE
N = GREEN
P = PRIME PAINT
W - WHITE
Z = BRONZE
TDC = TIGER DRYLAC COLOR 6012
CMC = CUSTOM MATCH COLOR

LED PERFORMANCE PACKAGE *(SEE PRODUCT COMPATIBILITY TABLE FOR OPTIONS)*
P10 = TRUE AMBER LED PACKAGE[1]
P20 = STD CCT LED PACKAGE
P30 = STD CCT LED PACKAGE
P40 = STD CCT LED PACKAGE
P50 = STD CCT LED PACKAGE
P60 = STD CCT LED PACKAGE

ORDERING INFORMATION:

OPTIONS H PSC

CONTROL OPTIONS
AO[3] = FIELD ADJUSTABLE OUTPUT
B[4] = BI-LEVEL 0-10V DIMMING CONTROL
D[5] = ROAM HARDWARE
FPDxx[6] = FACTORY PROGRAMMED DRIVER (xx = % OF LUMENS OR WATTS)
H[7] = NEMA TWISTLOCK PHOTOCONTROL RECEPTACLE ONLY
PCLL[8] = DTL LONG LIFE TWISTLOCK PHOTOCONTROL FOR SOLID-STATE LIGHTING, 120-277V
PCS[8] = DTL TWISTLOCK PHOTOCONTROL, 120-277 VOLT
PND[9] = 0-10V PART-NIGHT DIMMING, INCLUDES BLC2 & 120-277V BUTTON PHOTOCONTROL
PSC[10] = SHORTING CAP
P34[11] = DTL TWISTLOCK PHOTOCONTROL 347V
P48[11] = DTL TWISTLOCK PHOTOCONTROL 480 VOLT
P5[12] = DIMMING PHOTOCONTROL RECEPTACLE - 5 PIN
P7[13] = DIMMING PHOTOCONTROL RECEPTACLE - 7 PIN

OPTICS
L2 = TYPE 2 DISTRIBUTION
L3 = TYPE 3 DISTRIBUTION
L4 = TYPE 4 DISTRIBUTION
L5 = TYPE 5 DISTRIBUTION

PREWIRE LEAD OPTIONS
L03 = 3 FEET OF PREWIRED LEADS
L10 = 10 FEET OF PREWIRED LEADS
L20 = 20 FEET OF PREWIRED LEADS
L25 = 25 FEET OF PREWIRED LEADS
L30 = 30 FEET OF PREWIRED LEADS

ACCESSORIES

DECORATIVE BAND OPTIONS
SPDPLUGIN = REPLACEMENT SURGE PROTECTOR 120-277V
SPDPLUGIN-48 = REPLACEMENT SURGE PROTECTOR 347-480V
SPDPLUGIN-MOV12 = REPLACEMENT SURGE PROTECTOR, MOV 120-277V
SPDPLUGIN-MOV48 = REPLACEMENT SURGE PROTECTOR, MOV 347/480V

NOTES ARE LOCATED ON PAGE 3

HOLOPHANE® LEADER IN LIGHTING SOLUTIONS
An AcuityBrandsCompany

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ORDER #:
TYPE:
DRAWN: RAF
DATE: 10-07-2016
DWG #: LUM_GELF2

Performance Data

Lumen and Wattage Data

LED Package	Distribution	System Watts	AM (True Amber, 70 CRI) Lumens	LPW	B	U	G	System Watts	30K (3000K, 70 CRI) Lumens	LPW	B	U	G	40K (4000K, 70 CRI) Lumens	LPW	B	U	G	50K (5000K, 70 CRI) Lumens	LPW	B	U	G
P10	L3	56	1,955	35	1	0	0																
	L5	56	2,067	37	2	0	0																
P20	L2							58	6,493	112	1	0	1	6,958	120	1	0	1	7,421	128	2	0	2
	L3							58	6,479	112	1	0	2	6,943	120	1	0	2	7,405	128	1	0	2
	L4							58	6,334	109	1	0	1	6,787	117	1	0	1	7,239	125	1	0	2
	L5							58	6,720	116	3	0	1	7,200	124	3	0	2	7,680	132	3	0	2
P30	L2							77	8,078	105	2	0	2	8,655	112	2	0	2	9,232	120	2	0	2
	L3							77	7,520	98	1	0	2	8,637	112	2	0	2	9,212	120	2	0	2
	L4							77	7,879	102	2	0	2	8,442	110	2	0	2	9,005	117	2	0	2
	L5							77	8,359	109	3	0	2	8,957	116	3	0	2	9,554	124	3	0	2
P40	L2							91	8,456	93	2	0	2	10,190	112	2	0	2	10,493	115	2	0	2
	L3							91	8,366	92	2	0	2	10,082	111	2	0	2	10,383	114	2	0	2
	L4							91	8,347	92	2	0	2	10,059	111	2	0	2	10,358	114	2	0	2
	L5							91	8,738	96	3	0	2	10,531	116	3	0	2	10,845	119	3	0	2
P50	L2							112	9,905	88	2	0	2	11,936	107	2	0	2	12,292	110	2	0	2
	L3							112	9,800	88	2	0	2	11,810	105	2	0	2	12,162	109	2	0	2
	L4							112	9,777	87	2	0	2	11,783	105	2	0	2	12,134	108	2	0	2
	L5							112	10,236	91	3	0	2	12,336	110	4	0	2	12,703	113	4	0	2
P60	L2							145	12,387	85	2	0	2	14,928	103	2	0	2	15,372	106	2	0	2
	L3							145	12,154	84	2	0	2	14,963	103	2	0	2	15,408	106	2	0	2
	L4							145	12,387	85	2	0	2	14,928	103	2	0	2	15,372	106	2	0	2
	L5							145	12,968	89	4	0	2	15,628	108	4	0	2	16,094	111	4	0	2

FPDxx Data Table (Only Available With 30K, 40K And 50K Options

FPDxx setting	P20 30K L2	L3	L4	L5	Watts	P20 40K L2	L3	L4	L5	Watts	P20 50K L2	L3	L4	L5	Watts
Standard	6,493	6,479	6,334	6,720	58	6,958	6,943	6,787	7,200	58	7,421	7,405	7,239	7,680	58
FPD95	6,222	6,209	6,070	6,440	55	6,668	6,654	6,504	6,900	55	7,112	7,096	6,937	7,360	55
FPD90	5,938	5,925	5,792	6,145	52	6,363	6,349	6,206	6,584	52	6,786	6,771	6,620	7,023	52
FPD85	5,659	5,647	5,521	5,857	49	6,065	6,052	5,916	6,276	49	6,468	6,454	6,310	6,694	49

FPDxx setting	P30 30K L2	L3	L4	L5	Watts	P30 40K L2	L3	L4	L5	Watts	P30 50K L2	L3	L4	L5	Watts
Standard	8,078	7,520	7,879	8,359	77	8,655	8,637	8,442	8,957	77	9,232	9,212	9,005	9,554	77
FPD95	7,750	7,214	7,559	8,019	73	8,303	8,286	8,099	8,593	73	8,857	8,837	8,639	9,166	73
FPD90	7,414	6,902	7,232	7,672	69	7,944	7,928	7,749	8,221	69	8,474	8,455	8,265	8,769	69
FPD85	7,073	6,584	6,898	7,319	65	7,578	7,562	7,391	7,842	65	8,083	8,066	7,884	8,365	65
FPD80	6,724	6,260	6,559	6,958	62	7,204	7,189	7,027	7,456	62	7,685	7,668	7,496	7,953	62

FPDxx setting	P40 30K L2	L3	L4	L5	Watts	P40 40K L2	L3	L4	L5	Watts	P40 50K L2	L3	L4	L5	Watts
Standard	8,456	8,456	8,456	8,456	91	10,190	10,082	10,059	10,531	91	10,493	10,383	10,358	10,845	91
FPD95	8,112	8,112	8,112	8,112	86	9,776	9,672	9,650	10,103	86	10,066	9,961	9,937	10,404	86
FPD90	7,761	7,761	7,761	7,761	82	9,353	9,254	9,233	9,666	82	9,631	9,530	9,507	9,954	82
FPD85	7,404	7,404	7,404	7,404	77	8,922	8,827	8,807	9,220	77	9,187	9,091	9,069	9,495	77
FPD80	7,039	7,039	7,039	7,039	73	8,482	8,392	8,373	8,766	73	8,734	8,643	8,622	9,027	73

FPDxx setting	P50 30K L2	L3	L4	L5	Watts	P50 40K L2	L3	L4	L5	Watts	P50 50K L2	L3	L4	L5	Watts
Standard	9,905	9,800	9,777	10,236	112	11,936	11,810	11,783	12,336	112	12,292	12,162	12,134	12,703	112
FPD95	9,502	9,402	9,380	9,820	106	11,451	11,330	11,304	11,834	106	11,792	11,668	11,641	12,187	106
FPD90	9,091	8,995	8,974	9,395	101	10,956	10,840	10,815	11,323	101	11,282	11,163	11,137	11,660	101
FPD85	8,672	8,580	8,560	8,962	95	10,451	10,340	10,317	10,801	95	10,762	10,648	10,624	11,122	95
FPD80	8,245	8,158	8,138	8,520	90	9,936	9,831	9,808	10,269	90	10,232	10,124	10,100	10,574	90

FPDxx setting	P60 30K L2	L3	L4	L5	Watts	P60 40K L2	L3	L4	L5	Watts	P60 50K L2	L3	L4	L5	Watts
Standard	12,387	12,154	12,387	12,968	145	14,928	14,963	14,928	15,628	145	15,372	15,408	15,372	16,094	145
FPD95	11,945	11,721	11,945	12,506	138	14,396	14,430	14,396	15,071	138	14,824	14,859	14,824	15,520	138
FPD90	11,479	11,263	11,479	12,017	131	13,833	13,866	13,833	14,482	131	14,245	14,278	14,245	14,914	131
FPD85	11,004	10,797	11,004	11,520	123	13,262	13,293	13,262	13,883	123	13,656	13,688	13,656	14,297	123
FPD80	10,504	10,306	10,504	10,996	116	12,658	12,688	12,658	13,252	116	13,035	13,065	13,035	13,647	116
FPD75	9,996	9,808	9,996	10,465	109	12,047	12,075	12,047	12,611	109	12,405	12,434	12,405	12,987	109

GlasWerks® Flat LED 2
Hallbrook® Ext

DESIGNER OUTDOOR

HOLOPHANE®
LEADER IN LIGHTING SOLUTIONS
An AcuityBrandsCompany

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ORDER #:
TYPE:
DRAWN: RAF
DATE: 10-07-2016
DWG #: LUM_GELF2

NOTES

1. True Amber is only available in the "P10" LED Performance Package. Not available with "FPDXX".
2. Must use with BHDF13, WLDF13 or GWDF13 fitter.
3. Factory sets device for 100% output. Not available with option "B", "D", "PND", "P5" or "P7". Refer to instructions on website for details.
4. "AS" only and must be used with option "H". Not available with the following options: "AO", "AH", "D", "PCLL", "PND", "PSC", "P5" or "P7".
5. "AS" only and must be used with option "H". Not available with the following options: "AO", "AH", "B", "PCLL", "PCS", "PND", "PSC", "P34", "P48", "P5" or "P7". Not CSA listed for US or Canada.
6. Not available with "P10" LED Performance Package or "AM" Color Temperature Options.
7. 3-pin NEMA receptacle, photocell not included. Not available with the "P5" or "P7" options.
8. "AS" option only. Must be used with one of the following option: "H", "P5" or "P7". "PSC" option not required.
9. Factory set device for 100% output. Not available with the following options: 'B", "D", "P5", or "P7".
10. Must be used with option "H", "P5", or" P7". Not available with options "PCLL", "PCS", "P34" or "P48".
11. "AH" option only. Must be used with one of the following option: "H", "P5" or "P7". "PSC" option not required.
12. 5-pin NEMA receptacle, photocell not included. Not available with the "AO", "B", "D", "H", or "P7" options.
13. 7-pin NEMA receptacle, photocell not included. Not available with the "AO", "B", "D", "H", or "P5" options.

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Average Lumen Ambient Temperature (LAT) Multipliers

°C	°F	LED Packages	Lumen Multiplier	LED Packages	Lumen Multiplier
0	32	P20, P30	1.04	P40, P50, P60	1.06
5	41		1.03		1.05
10	50		1.03		1.03
15	59		1.02		1.02
20	68		1.01		1.01
25	**77**		**1.00**		**1.00**
30	86		0.99		0.99
35	95		0.98		0.98
40	104		0.97		0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Lumen Maintenance

Hours	0	25,000	36,000	50,000	60,000	*75,000*	*100,000*
Factor	P20, P30	0.97	0.97	0.96	0.96	*0.95*	*0.94*
	P40, P50, P60	0.98	0.97	0.96	0.95	*0.94*	*0.92*

The italicized data is extrapolated beyond the TM-21 standard.

E = (LM) x (CU) x (LAT) x (LLD)
LM and CU are obtained from published photometry.

GlasWerks® Flat LED 2
Hallbrook® Ext

DESIGNER OUTDOOR

HOLOPHANE®
LEADER IN LIGHTING SOLUTIONS
An AcuityBrandsCompany

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ORDER #:
TYPE:
DRAWN: RAF
DATE: 10-07-2016
DWG #: LUM_GELF2

Specifications

GENERAL DESCRIPTION
The Euro styled luminaire consists of a LED flat glass optical assembly shielded by a decorative formed reflector and a top mounted cast aluminum electrical assembly with a circumferential 1.50 inch reveal.

OPTICAL ASSEMBLY
The optical assembly consists of a thermal resistant flat glass panel mechanically held in a formed aluminum door frame. The door frame is attached to the spun cover with studs and lock nuts. Light from the LED module is distributed by precisely molded optical lens to maximize utilization, uniformity and luminaire spacing. Two LED boards are available for symmetrical or asymmetric distribution.

MOUNTING STYLE (LEVELING FITTER OPTIONS)
The Quick Lock Stem Mounting style is compatible with the following leveling fitters:
- Boston Harbor Decorative Arm Fitter (BHDF13)
- GlasWerks Decorative Arm Fitter (GWDF13)
- West Liberty Decorative Arm Fitter (WLDF13)

ELECTRICAL ASSEMBLY
The cast aluminum electrical housing has a smooth domed contour. A (3) station terminal block is provided that accepts #14 through #2 size wire and has a quick disconnect receptacle. The electrical housing is hinged with a tool-less latch to provide easy access to the gear assembly. The unitized electrical assembly, containing the electronic driver and other electrical components, plugs into the quick disconnect receptacle. The pendant mount version has a welded stem (Quick Lock Stem Mounting), which aides in installation speed. The arm mount version is provided with two U-bolts with washers and nuts and two leveling set screws that lock the housing to a 2 inch nominal (2-3/8" O.D.) horizontal arm and allow a +/- 5 degree adjustment from horizontal to the cover.

ELECTRICAL DRIVER
LED programmable dimmable driver.

FINISH
The luminaire is finished with polyester powder paint to insure maximum durability.

LISTING
The luminaire is CSA listed as suitable for wet locations up to 40° C ambient temperature. IP55 rated electrical chamber, IP66 rated LED optic chamber.

WARRANTY
Limited warranty located at
www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Specification subject to change without notice.

GlasWerks® Flat LED 2
Hallbrook® Ext

DESIGNER
OUTDOOR

HOLOPHANE®
LEADER IN LIGHTING SOLUTIONS
An AcuityBrandsCompany

THIS DRAWING, WHEN APPROVED, SHALL BECOME THE COMPLETE SPECIFICATION FOR THE MATERIAL TO BE FURNISHED BY HOLOPHANE ON THE ORDER NOTED ABOVE. A UNIT OF SIMILAR DESIGN MAY BE SUPPLIED, BUT ONLY AFTER APPROVAL BY THE CUSTOMER IN WRITING. ON POLE ORDERS AN ANCHOR BOLT TEMPLATE PRINT WILL BE SUPPLIED WITH EACH ANCHOR BOLT ORDER TO MATCH THE POLE PROVIDED. THIS PRINT IS THE PROPERTY OF HOLOPHANE AND IS LOANED SUBJECT TO RETURN UPON DEMAND AND UPON EXPRESS CONDITION THAT IT WILL NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO OUR INTERESTS, AND ONLY IN CONNECTION WITH MATERIAL FURNISHED BY HOLOPHANE.

ORDER #:
TYPE:
DRAWN: RAF
DATE: 10-07-2016
DWG #: LUM_GELF2

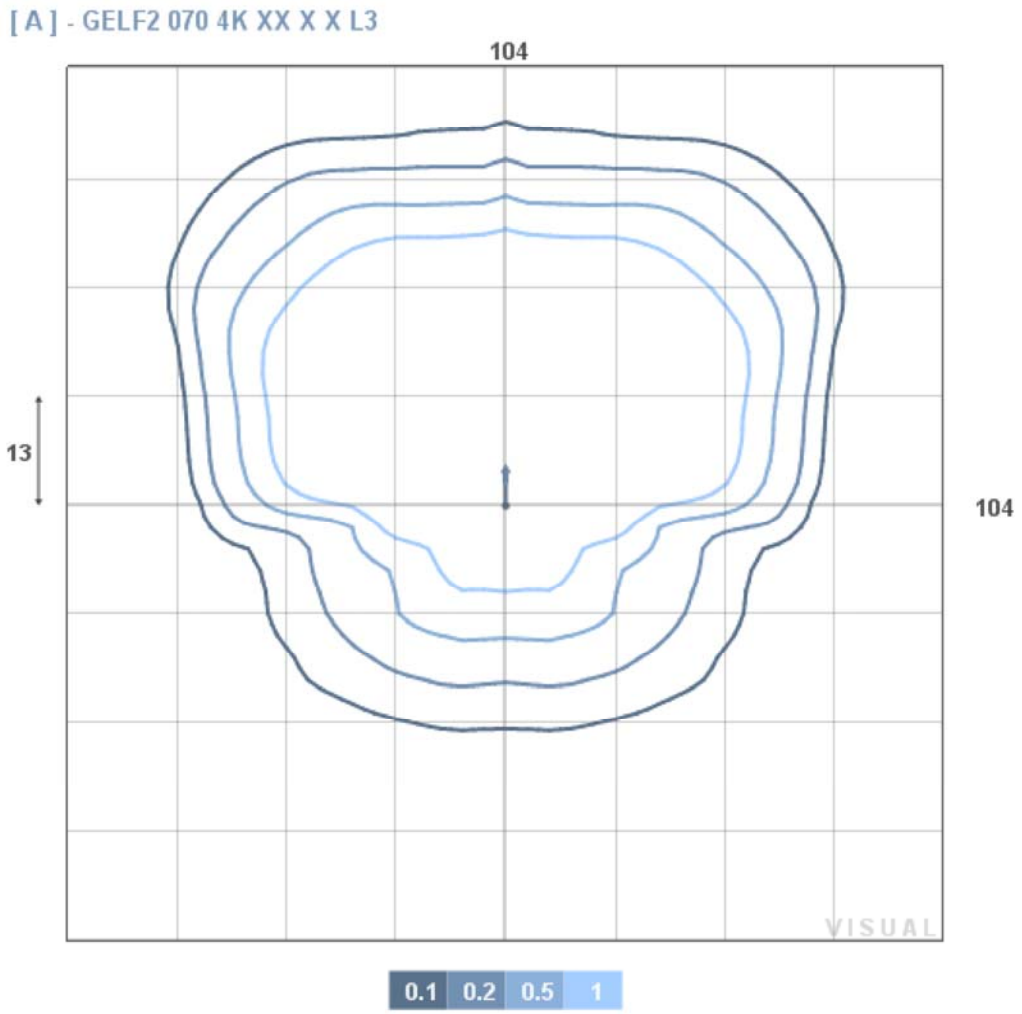
Visual - Template Tool

Design Information

Friday, September 16, 2016

Project
Description

Name
Company
Phone
Email



[A] - GELF2 070 4K XX X X L3

Manufacturer	Holophane	Configuration	Single
Lamp Lumens	8492	Orientation	Single
Lamp Quantity	1	Mounting Height	13
Light Loss Factor	.75	Arm Length	2.5
Input Power	99	Tilt	0
Max Illuminance	7	Area > 0.5fc	2643

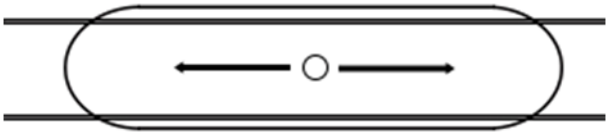
These lighting calculation results are for general informational purposes only and are provided without warranty as to accuracy, completeness, reliability or otherwise. Results are based on user provided data and data provided from publicly available sources; actual field conditions may affect calculated output. Visit www.Visual-3D.com .

Background Information on
Type III Light Distribution

LED Lighting Distribution Types

Quick Reference Guide

Type I

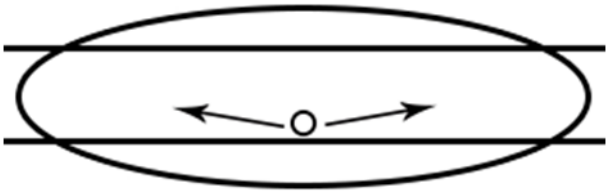


The Type I distribution is great for lighting walkways, paths and sidewalks. This type of lighting is meant to be placed near the center of the pathway. This provides adequate lighting for smaller pathways.

Type I is a two-way lateral distribution having a preferred lateral width of 15 degrees in the cone of maximum candlepower. The two principal light concentrations are in opposite directions along a roadway. This type is generally applicable to a luminaire location near the center of a roadway where the mounting height is approximately equal to the roadway width.

Type II

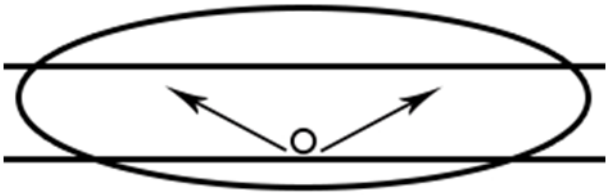
The Type II distribution is used for wide walkways, on ramps and entrance roadways, as well as other long, narrow lighting. This type is meant for lighting larger areas and usually is located near the roadside. You'll find this type of lighting mostly on smaller side streets or jogging paths.



Type II light distributions have a preferred lateral width of 25 degrees. They are generally applicable to luminaires located at or near the side of relatively narrow roadways, where the width of the roadway does not exceed 1.75 times the designed mounting height.

Type III

The Type III distribution is meant for roadway lighting, general parking areas and other areas where a larger area of lighting is required. Type III lighting needs to be placed to the side of the area, allowing the light to project outward and fill the area. This produces a filling light flow.



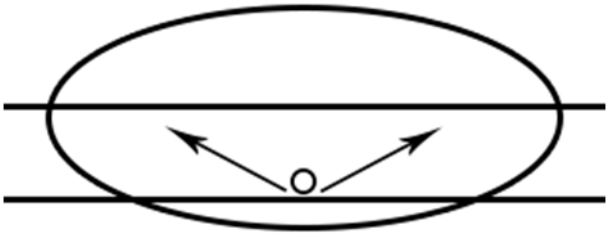
Type III light distributions have a preferred lateral width of 40 degrees. This distribution is intended for luminaires mounted at or near the side of medium width roadways or areas, where the width of the roadway or area does not exceed 2.75 times the mounting height.

Prepared by EYE Lighting International

EYE LIGHTING INTERNATIONAL

Type IV

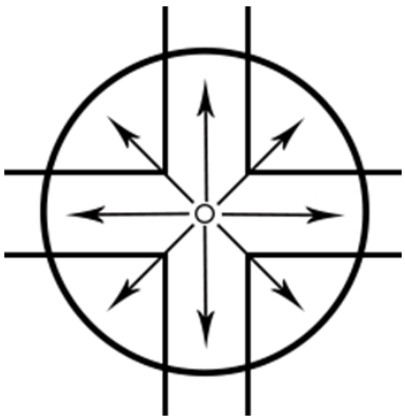
The Type IV distribution produces a semicircular light meant for mounting on the sides of buildings and walls. It's best for illuminating the perimeter of parking areas and businesses. The intensity of the Type IV lighting has the same intensity at angles from 90 degrees to 270 degrees.

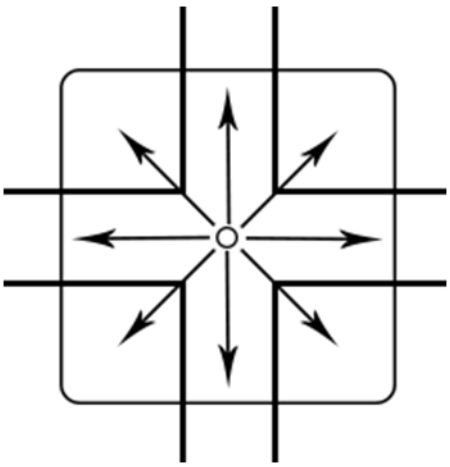


Type IV light distributions have a preferred lateral width of 60 degrees. This distribution is intended for side-of-road mounting and is generally used on wide roadways where the roadway width does not exceed 3.7 times the mounting height.

Type V

Type V produces a circular distribution that has the same intensity at all angles. This distribution has a circular symmetry of candlepower that is essentially the same at all lateral angles. It is intended for luminaire mounting at or near center of roadways, center islands of parkway, and intersections. It is also meant for large, commercial parking lot lighting as well as areas where sufficient, evenly distributed light is necessary



Type VS (square)

Type VS produces a square distribution that has the same intensity at all angles. This distribution has a square symmetry of candlepower that is essentially the same at all lateral angles. It is intended for luminaire mounting at or near center of roadways, center islands of parkway, and intersections. It is also meant for large, commercial parking lot lighting as well as areas where sufficient, evenly distributed light is necessary. Type VS is used where the light pattern needs a more defined edge.