

application

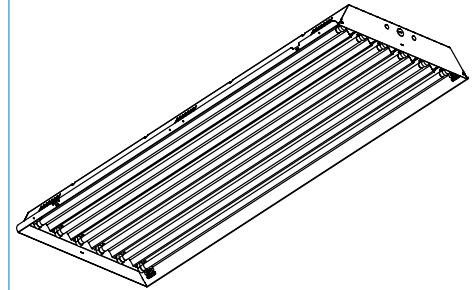
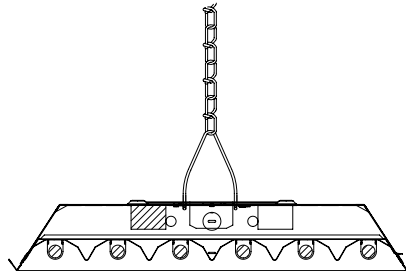
- An efficient alternative in industrial lighting applications.

construction & features

- Heavy duty mounting chains or cables with hangers (order separately).
- 95% reflective specular aluminum reflectors maximize luminaire efficiency and control light distribution.
- Steel housing with white polyester powder finish.
- Electronic ballast(s).
- Rotating ring, locking type lampholders for T5HO lamps, locking type for T8 lamps.
- Quarter turn fasteners allow reflector to swing down for easy access to ballasts.

electrical

- cULus listed suitable for damp location.
- Open 4 and 6 lamp units are rated for use in 55°C ambient. Open 8 lamp units are rated for use in 50°C ambient. Enclosed units are rated for use in 40°C ambient.

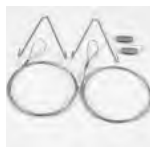


Specifier's Reference

Project
Type
Model No.
Comments



FBF/FBE Chain Kits



FBF/FBE-Grip5



Center Mount with 3/4" Conduit ("CMP" option)



Center Mount with Hook ("CMH" option)



MD360

Green Choice: FBD654HO-UNV-1/42-EB

FBD			
Family	Lamp Type/Wattage	Options	
FBD	32 – 32WT8 (48") 54HO – 54WT5HO (46")	GLR# – Fusing, Fast Blow (# = number of ballasts) WC3 – Wired 3' Cord WP3 – Wired 3' Cord and Plug Assembly (Specify Voltage) CMP – Center Mount for 3/4" Conduit CMH – Center Mount with Hook WT – Optional White Reflector E7LP – DEB-7LP emerg. ballast, T5/T5HO/T8 lamps, 430-700 lumens E6LP – DEB-6LP emerg. ballast, US or Canada market, T5/T5HO/T8 lamps, 750–1325 lumens, 120/277V E5LP – DEB-5LP emerg. ballast, T8 lamps, 1375-1400 lumens LPT841 – Installed T8/T5/T5HO lamps, 80+CRI 4100K	
	Lamp Quantity	Voltage	
	4 6 8	UNV (108-305V) 120 277 HRV (347-480V) 54HO: 1/4-EB, 2/2-EB, 3/2-EB and 1/42-EB only.	
Accessories (Order Separately)		Ballast	
WG-FBD4 – 4 Lamp Wire Guard WG-FBD6 – 6 Lamp Wire Guard TSMTG – Mounting Plate with Chains & Hooks MD360 – Motion Detector (120V and 277V) MD480 – Motion Detector (480V) FBD-4E-1W – Single Gasketed Door with Clear Acrylic Lens – 4 lamp unit FBD-6E-1W – Single Gasketed Door with Clear Acrylic Lens – 6 lamp unit FBF/FBE CHAIN KIT – 54" chains & V brackets FBF/FBE-GRIP5 – 5' cables & V brackets FBD4-GL-DB21 – Single Gasketed Door Frame with Prismatic Lens, with Wire Guard and Safety Tether FBD4-GL – Single Gasketed Door Frame with Clear Lens, with Wire Guard and Safety Tether FBD6-GL-DB21 – Single Gasketed Door Frame with Prismatic Lens, with Wire Guard and Safety Tether FBD6-GL – Single Gasketed Door Frame with Clear Lens, with Wire Guard and Safety Tether		1/4-EB-2LS – One 4 Lamp Electronic Ballast with 2 Level Switching (54W T5HO only) 1/4-EBH – One 4 Lamp Electronic Ballast, High Ballast Factor (32W T8 only) 2/2-EB – Two 2 Lamp Electronic Ballasts (54W T5HO only) 2/2-EBH – Two 2 Lamp Electronic Ballasts, High Ballast Factor (32W T8 only) 2/3-EBH – Two 3 Lamp Electronic Ballasts, High Ballast Factor (32W T8 only) 3/2-EB – Three 2 Lamp Electronic Ballasts, (54W T5HO only) 3/2-EBH – Three 2 Lamp Electronic Ballasts, High Ballast Factor (32W T8 only) 1/42-EBH – One 4 Lamp and one 2 Lamp Electronic Ballasts, High Ballast Factor (32W T8 only) 1/42-EB – One 4 Lamp and one 2 lamp Electronic Ballasts (54W T5HO only) 2/4-EB – Two 4 Lamp Electronic Ballasts, (54W T5HO only) 2/4-EBH – Two 4 Lamp Electronic Ballasts, High Ballast Factor (32W T8 only)	

energy data

Lamp Watts	Ballast Type	Input Watts
32	1/4-EBH	146
	2/2-EBH	148
	2/3-EBH	222
	3/2-EBH	222
	1/42-EBH	222
54	1/4-EB	240
	2/2-EB	240
	1/42-EB	360
	3/2-EB	360

General Notes

All options factory installed. All accessories are field installed. "EBH" for T8 lamps is 1.15-1.2 BF. "EB" for T5HO lamps is 1.0 BF. Order "FBD4-GL" or "FBD6-GL" if wire guard and door are both required.

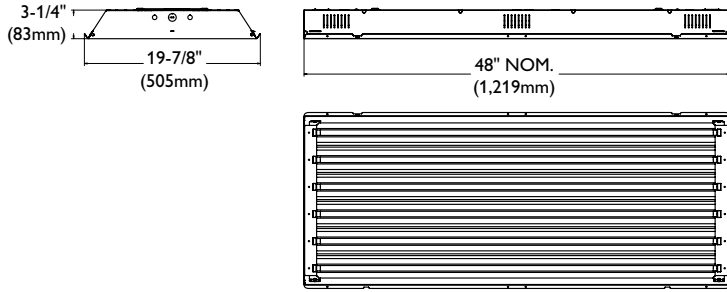


HB-10032

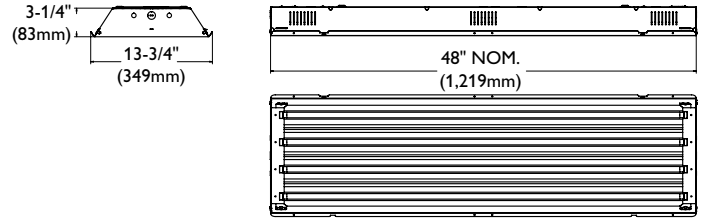
dimensions

FBD Fluorescent, T8 or T5/HO Fluorescent

6 Lamp (shown) and 8 lamp



4 Lamp



photometry

6 Lamp F54T5HO

Efficiency – 91.2%

LER – 73

TER – 37

Catalog No.	FBD654HO-UNV-1/42-EB
Test No.	29065
Medium Spread S/MH	1.3
Lamp Type	F54T5HO
Lumens/Lamp	4400
Ballast Factor	1.0
Input Watts	331

Comparative yearly lighting energy cost per 1000 lumens – **\$3.38** based on 3000 hrs. and \$.08 pwr KWH.

The photometric results were obtained in the Philips Day-Brite laboratory which is NVLAP accredited by the National Institute of Standards and Technology.

Candlepower

Angle	End	45	Cross
0	10428	10428	10428
5	10522	10309	10283
10	10372	10157	10156
15	10119	9895	9869
20	9785	9534	9242
25	9356	8947	8208
30	8835	8090	7240
35	8240	7090	6452
40	7574	6153	5673
45	6833	5368	4653
50	6049	4541	3680
55	5210	3574	3139
60	4341	2648	2902
65	3446	2213	2408
70	2538	1864	1664
75	1664	1203	995
80	875	603	426
85	270	136	107

Light Distribution

Degrees	Lumens	% Lamp	% Luminaire
0-30	7812	29.6	32.4
0-40	12346	46.8	51.3
0-60	20068	76.0	83.3
0-90	24084	91.2	100.0

Average Brightness

Zone	End	45	Cross
45	16867	13251	11486
55	15855	10876	9553
65	14233	9140	9946
75	11222	8113	6710
85	5407	2724	2143

Coefficients of Utilization

EFFECTIVE FLOOR CAVITY REFLECTANCE 20 PER (pfc=0.20)

Ceil	80				70				50				10				
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
0	109	109	109	109	106	106	106	106	101	101	101	97	97	97	93	93	93
1	100	96	93	89	98	94	91	88	90	88	85	87	84	82	83	82	80
2	92	85	79	74	89	83	78	73	80	75	71	77	73	70	74	71	68
3	84	75	68	62	82	74	67	62	71	65	61	68	64	60	66	62	59
4	77	67	59	54	75	66	59	53	63	57	52	61	56	52	59	55	51
5	71	60	52	47	69	59	52	46	57	51	46	56	50	45	54	49	45
6	66	54	47	41	64	54	46	41	52	45	41	51	45	40	49	44	40
7	61	50	42	37	60	49	42	36	48	41	36	46	40	36	45	40	36
8	57	45	38	33	56	45	38	33	44	37	33	43	37	32	42	36	32
9	54	42	35	30	52	41	34	30	40	34	30	39	34	29	38	33	29
10	50	39	32	27	49	38	32	27	37	31	27	37	31	27	36	31	27

4 Lamp F54T5HO

Efficiency – 92.9%

LER – 71

TER – 37

Catalog No.	FBD454HO-UNV-1/4-EB
Test No.	29068
Medium Spread S/MH	1.3
Lamp Type	F54T5HO
Lumens/Lamp	4400
Ballast Factor	1.0
Input Watts	230

Comparative yearly lighting energy cost per 1000 lumens – **\$3.20** based on 3000 hrs. and \$.08 pwr KWH.

The photometric results were obtained in the Philips Day-Brite laboratory which is NVLAP accredited by the National Institute of Standards and Technology.

Candlepower

Angle	End	45	Cross
0	6971	6971	6971
5	7153	6819	7106
10	7054	6813	7043
15	6893	6701	6865
20	6653	6411	6340
25	6369	6013	5630
30	6020	5421	4947
35	5612	4789	4395
40	5148	4136	3918
45	4651	3566	3321
50	4110	3070	2614
55	3529	2563	2224
60	2942	1885	2030
65	2329	1494	1616
70	1730	1241	1059
75	1134	780	613
80	609	362	251
85	179	75	69

Light Distribution

Degrees	Lumens	% Lamp	% Luminaire
0-30	5298	30.1	32.4
0-40	8375	47.6	51.2
0-60	13681	77.7	83.6
0-90	16359	93.0	100.0

Average Brightness

Zone	End	45	Cross
45	16992	13028	12133
55	15894	11544	10017
65	14236	9132	9878
75	11319	7785	6119
85	5306	2223	2045

Coefficients of Utilization

EFFECTIVE FLOOR CAVITY REFLECTANCE 20 PER (pfc=0.20)

Ceil	80				70				50				10				
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
0	111	111	111	111	108	108	108	108	103	103	103	99	99	99	95	95	95
1	102	98	94	91	100	96	93	90	92	89	87	88	86	84	85	83	82
2	93	86	80	75	91	85	79	75	81	77	73	78	75	71	76	72	70
3	86	76	69	64	83	75	68	63	72	67	62	70	65	61	67	63	60
4	79	68	61	55	77	67	60	54	65	58	54	63	57	53	61	56	52
5	73	61	53	48	71	60	53	47	58	52	47	57	51	46	55	50	46
6	67	56	48	42	66	55	47	42	53	46	41	51	46	41	50	45	41
7	63	51	43	37	61	50	42	37	48	42	37	47	41	37	46	40	36
8	58	46	39	33	57	46	38	33	45	38	33	43	37	33	42	37	33
9	55	43	35	30	53	42	35	30	41	35	30	40	34	30	39	34	30
10	51	39	32	28	50	39	32	28	38	32	27	37	31	27	36	31	27



Some luminaires use fluorescent or high intensity discharge (HID) lamps that contain small amounts of mercury. Such lamps are labeled, "Contain Mercury" and/or the symbol "HG". Lamps that contain mercury must be disposed of in accordance with local requirements. Information regarding lamp recycling and disposal can be found at www.lamprecycle.org



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