



INBOX 2 X 2 NB1-22

Specification Data



Luminaire	INBOX 2 X 2   4-Sided Optics (NB1-22)	Type
Project		
Product		
Notes		

Performance Summary	Inbox 2 x 2   4 - Sided			
	A	B	C	D
Light (lm)	2700	3300	4300	5100
Energy (W)	23	29	38	47
Efficacy (lm/W)	119	117	115	111
Color Rendering (CRI)	80+	80+	80+	80+
Color Accuracy (SDCM)	< 2	< 2	< 2	< 2
L70 Estimate (h)	200,000	200,000	200,000	200,000
Lumen Maintenance per TM21 (@ 60,000 h)	L90	L90	L90	L90

DLC qualified for each lumen output (A, B, C, D) in 3000K, 3500K & 4000K. Summary values are nominal and based on 4000K CCT.



SPECIFICATION

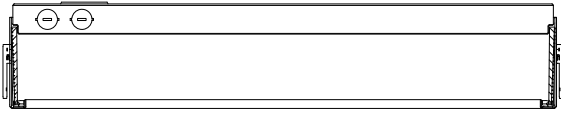
NB1		22												OPTIONS		CONTROLS	
1	2	3	4	5	6												
1. FAMILY	2. SIZE	3. ENERGY <sup>1</sup>	4. CCT	5. DRIVER	6. VOLTAGE	OPTIONS		OPTIONS		OPTIONS		OPTIONS		OPTIONS		OPTIONS	
<b>NB1</b> Inbox	<b>22</b> 2 x 2 (4-sided optics)	<b>A</b> 23 W <b>B</b> 29 W	<b>30</b> 3000 K <b>35</b> 3500 K	<b>E1</b> eldoLED ECO 0-10V Dim 1% <b>E2</b> eldoLED SOLO 0-10V Dim 0.1%	<b>M</b> 120 - 277 V <b>3</b> 347 V <sup>4</sup>	<b>B</b> Battery Pack <sup>5</sup> <b>C</b> Chicago Plenum <b>F</b> 6' Flex Whip <b>K</b> Drywall Flange Kit											
<b>NB2</b> Inbox	<b>12</b> 1 x 2 (2-sided) <b>14</b> 1 x 4 (2-sided) <b>22</b> 2 x 2 (2-sided) <b>24</b> 2 x 4 (2-sided)	<b>C</b> 38 W <b>D</b> 47 W <sup>2</sup>	<b>40</b> 4000 K <b>W2</b> 2700-6500 K	<b>E3</b> eldoLED ECO DALI 1% <b>E4</b> eldoLED SOLO DALI Dim 0.1% <b>F1</b> Factory Non- Dim <b>F2</b> Factory 0-10V Dim 3% <b>L1</b> Lutron Hi-Lume 1%-H EcoSystem <b>W1</b> eldoLED DUAL DALI Dynamic White 0.1% <sup>3,6</sup>													

DYNAMIC WHITE CONTROLS<sup>3,6</sup>

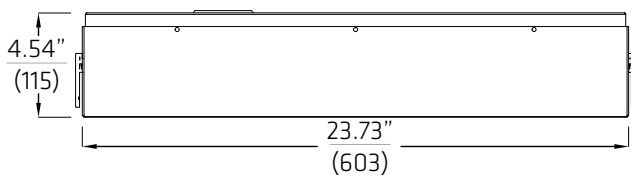
- WF1** Fluxwerx Wall Control
- WN1** Acuity nLight
- WC1** 0-10V Linear Dim
- WC2** 0-10V Log Dim
- WD1** DALI Linear Dim
- WD2** DALI Inverse Log Dim

NOTES					
<sup>1</sup> Add 4W to above for 347V with E1-4/L1	<sup>2</sup> 1 x 4   2 x 4   2 x 2 (4 sided) only	<sup>3</sup> Available in 2x2 (4-sided) only	<sup>4</sup> 347 V Driver for F1/F2 347 V Transformer & Driver for E1-4/L1/W1	<sup>5</sup> Available for 120 - 277V	<sup>6</sup> Refer to Dynamic White control options on page 2.

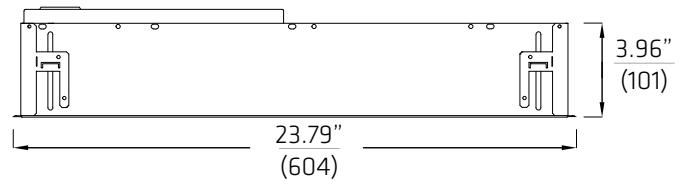
### CROSS SECTION



### DIMENSIONS inches (mm)



FRONT VIEW

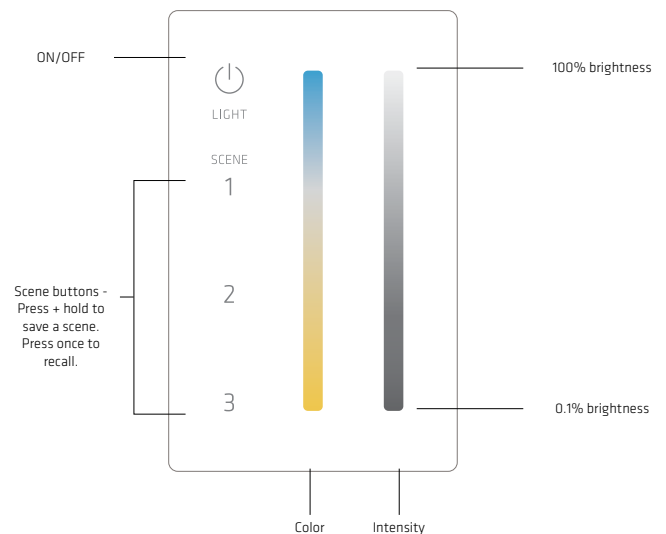


SIDE VIEW

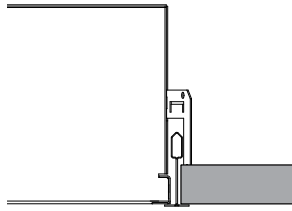
DYNAMIC WHITE CONTROL OPTIONS				
Controls Protocol	Control Curve	Controls Brand	Dynamic White Luminaire Code	Controller Components * (ordered separately)
DALI	Linear	<b>FLUXWERX</b> e.g. Lutron, Crestron	<b>WF1</b> WD1	<b>Fluxwerx Wall Controller</b>  Controller supplied by others
	Inverse Log	e.g. Distech, Helvar	WD2	
nLight	Linear	Acuity	WN1	Factory installed nLight converter
0-10V	Linear	e.g. Leviton, Watt Stopper, Crestron, Pass & Seymour	WC1	Controller Supplied by others  Fluxwerx 0-10V converter per zone
	Log	e.g. Lutron, Cooper Controls	WC2	

\* See Dynamic White controller data sheet

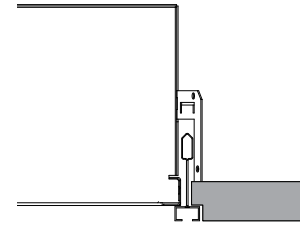
### FLUXWERX WALL CONTROLLER



### CEILING INTEGRATION GRID

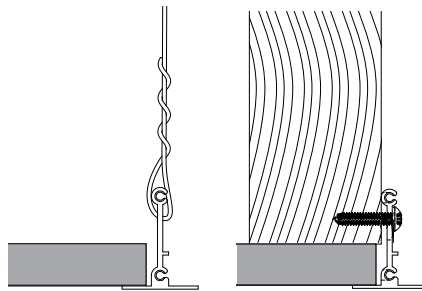


FLAT GRID

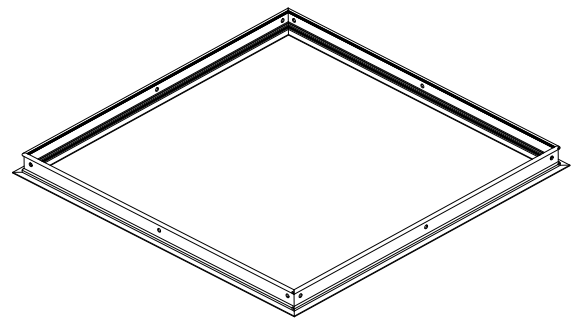


SLOT GRID

### CEILING INTEGRATION DRYWALL



DRYWALL FLANGE KIT



Required Aperture: 24.63" x 24.63"  
(625 x 625)

#### CONSTRUCTION

- Die formed 22 ga. steel housing
- Quick wire access plate and integral seismic restraint tabs/tie-offs
- Option for (K) drywall flange kit
- High reflectance diffuse white textured powdercoat

#### OPTICAL

- Anidolic optical structures with linear light extraction elements
- Precision extruded high transmittance clear acrylic lenses
- Long life LED system designed for typical TM21 lumen maintenance  $\geq$  L90 @ 60,000 h
- Available in CCTs 3000 K, 3500 K, 4000 K or 2700-6500 K with CRI  $\geq$  80 and R9  $\geq$  0, all with color accurate binning  $\leq$  2 SDCM

#### ELECTRICAL

- Integral high efficiency drivers 120 - 277 V or 347 V; 50 - 60 Hz
- Power Factor  $>$  0.90
- Total Harmonic Distortion  $<$  20%
- F2:0 - 10 V Dim Range: 3 - 100%
- Optional Battery Pack
- Optional Lutron: Hi-lume H-Series EcoSystem LED drivers for 100 - 1% (PWM) dim range
- Optional flex whip: 6' prewired
- Surge Protection: Meets ANSI C82.11 spec and ANSI/IEEE C62.41
- Inrush Current: Meets NEMA 410

#### WEIGHT

- Maximum 17 lb (7.6 kg)
- Maximum 21 lb (9.5 kg) with battery pack

#### WARRANTY

- 5 year limited warranty on all components and workmanship

#### ENVIRONMENTAL

- Designed for use in damp or dry indoor environments with room side operating temperatures of 0 - 30° C (32 - 86° F)

#### INDEPENDENT TESTING

- IESNA LM79
- IESNA LM80 (LED@ 10,000 h)

#### APPROVALS

- UL Listed (USA + Canada)
- CCEA Chicago Plenum
- DesignLights Consortium<sup>®</sup>
- Lighting Facts<sup>®</sup>
- IC Rated

Product	Inbox 2x2   4-sided	Description	Performance Summary		Light (lm)	Energy (W)	Efficacy (lm/W)	Color Accuracy		
Version	NB1-22A40	2x2 - 4 sided LED A Lumens CCT 4000 K	CCT Color Temperature	4000 K	2745	23	119.2	82	1.8	< 2
Report	11660485.02			3500 K	2655	23	115	83	4.5	< 2
				3000 K	2565	23	113	82	4.3	< 2

### CANDLEPOWER DISTRIBUTION

Vertical Angle	Horizontal Angle				Zonal Lumens
	0°	22.5°	45°	67.5°	90°
0°	517	517	517	517	517
5°	528	522	518	527	529
15°	638	644	667	640	631
25°	682	739	782	734	674
35°	637	736	804	736	629
45°	551	673	739	673	546
55°	427	565	610	564	422
65°	290	400	455	400	287
75°	191	266	251	265	188
85°	63	93	78	85	57
90°	3	4	4	5	5
95°					
105°					
115°					
125°					
135°					
145°					
155°					
165°					
175°					
180°					

### LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixture
0-30°	575	N.A.	21
0-60°	2017	N.A.	74
0-90°	2745	N.A.	100
90-180°	0	N.A.	0
<b>Total Luminaire</b>	<b>0-180°</b>	<b>2745</b>	<b>N.A.</b>

### LUMINANCE DATA (CD/M<sup>2</sup>)

Vertical Angle	0°	45°	90°
45°	2411	3229	2386
55°	2303	3286	2273
65°	2122	3329	2097
75°	2276	3000	2246
85°	2224	2771	2026

### CO-EFFICIENTS OF UTILIZATION

Floor Ceiling	80				70				20					
	70	50	30	10	70	50	30	10	50	30	10	0		
0	119	119	119	119	116	116	116	111	111	106	106	102	102	100
1	107	102	97	93	105	100	91	95	88	91	86	88	83	81
2	97	88	80	74	94	86	73	82	71	79	69	76	68	66
3	87	76	67	60	85	74	59	71	58	68	57	66	56	54
4	80	67	57	50	77	65	49	63	49	60	48	58	47	45
5	73	59	49	42	70	58	42	56	41	53	41	52	40	38
6	67	53	43	36	65	52	36	50	36	48	35	46	35	33
7	62	47	38	31	60	46	31	45	31	43	31	42	31	28
8	57	43	34	28	55	42	28	41	27	39	27	38	27	25
9	53	39	30	25	52	38	24	37	24	36	24	35	24	22
10	50	36	27	22	48	35	22	34	22	33	22	32	22	20

Integrating Sphere and Photometric results at 4000K by an independent accredited testing laboratory per IES LM-79-2008 and ANSI C78.377-2011. Results for 3000K, 3500K scaled based on integrating sphere results at 47W (D). Candlepower Distribution scaled per total lumens of Integrating Sphere results.

Product	Inbox 2x2   4-sided	Description	Performance Summary		Light (lm)	Energy (W)	Efficacy (lm/W)	Color Accuracy		
Version	NB1-22B40	2x2 - 4 sided LED B Lumens CCT 4000 K	CCT Color Temperature	4000 K	3334	28.4	117.4	82	2	< 2
Report	11660485.03			3500 K	3281	28	115	83	4.5	< 2
				3000 K	3227	28	114	82	4.3	< 2

### CANDLEPOWER DISTRIBUTION

Vertical Angle	Horizontal Angle				Zonal Lumens
	0°	22.5°	45°	67.5°	90°
0°	628	628	628	628	628
5°	641	634	629	640	643
15°	775	782	810	777	766
25°	829	897	949	892	818
35°	774	894	976	894	764
45°	670	817	897	817	663
55°	519	686	741	685	512
65°	352	486	553	486	348
75°	231	323	305	322	228
85°	76	112	95	103	69
90°	3	4	5	6	6
95°					
105°					
115°					
125°					
135°					
145°					
155°					
165°					
175°					
180°					

### LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixture
0-30°	698	N.A.	21
0-60°	2450	N.A.	74
0-90°	3334	N.A.	100
90-180°	0	N.A.	0
<b>Total Luminaire</b>	<b>0-180°</b>	<b>3334</b>	<b>N.A.</b>

### LUMINANCE DATA (CD/M<sup>2</sup>)

Vertical Angle	0°	45°	90°
45°	2929	3922	2898
55°	2798	3992	2760
65°	2578	4043	2546
75°	2764	3642	2727
85°	2703	3366	2462

### CO-EFFICIENTS OF UTILIZATION

Floor Ceiling	80				70				20					
	70	50	30	10	70	50	30	10	50	30	10	0		
0	119	119	119	119	116	116	116	111	111	106	106	102	102	100
1	107	102	97	93	105	100	91	95	88	91	86	88	83	81
2	97	88	80	74	94	86	73	82	71	79	69	76	68	66
3	87	76	67	60	85	74	59	71	58	68	57	66	56	54
4	80	67	57	50	77	65	49	63	49	60	48	58	47	45
5	73	59	49	42	70	58	42	56	41	53	41	52	40	38
6	67	53	43	36	65	52	36	50	36	48	35	46	35	33
7	62	47	38	31	60	46	31	45	31	43	31	42	31	28
8	57	43	34	28	55	42	28	41	27	39	27	38	27	25
9	53	39	30	25	52	38	24	37	24	36	24	35	24	22
10	50	36	27	22	48	35	22	34	22	33	22	32	22	20

Product	Inbox 2x2   4-sided	Description	Performance Summary		Light (lm)	Energy (W)	Efficacy (lm/W)	Color Accuracy		
Version	NB2-22C40	2x2 - 4 sided LED C Lumens CCT 4000 K	CCT Color Temperature	4000 K	4290	37.4	114.6	82	2	< 2
Report	11660485.04			3500 K	4221	37	113	83	4.5	< 2
				3000 K	4153	37	111	82	4.3	< 2

100% Dn

### CANDLEPOWER DISTRIBUTION

Vertical Angle	Horizontal Angle				Zonal Lumens
	0°	22.5°	45°	67.5°	90°
0°	808	808	808	808	808
5°	825	815	810	823	827
15°	998	1006	1042	1000	986
25°	1066	1154	1222	1147	1053
35°	996	1150	1256	1150	983
45°	862	1051	1154	1051	853
55°	668	883	953	881	659
65°	453	625	711	625	448
75°	298	416	392	414	294
85°	98	145	122	132	89
90°	4	5	7	8	7
95°					
105°					
115°					
125°					
135°					
145°					
155°					
165°					
175°					
180°					

### LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixture
0-30°	898	N.A.	21
0-60°	3153	N.A.	74
0-90°	4290	N.A.	100
90-180°	0	N.A.	0
Total Luminaire	4291	N.A.	100

### LUMINANCE DATA (CD/M<sup>2</sup>)

Vertical Angle	0°	45°	90°
45°	3768	5046	3730
55°	3600	5136	3552
65°	3317	5202	3276
75°	3557	4687	3510
85°	3476	4331	3164

### CO-EFFICIENTS OF UTILIZATION

Floor Ceiling Wall	80				70				20				50				30				10				0			
	70	50	30	10	70	50	30	10	50	10	50	10	50	10	50	10	50	10	50	10	50	10	50	10	50	10	50	10
0	119	119	119	119	116	116	116	111	111	106	106	102	102	100														
1	107	102	97	93	105	100	91	95	88	91	86	88	83	81														
2	97	88	80	74	94	86	73	82	71	79	69	76	68	66														
3	87	76	67	60	85	74	59	71	58	68	57	66	56	54														
4	79	67	57	50	77	65	49	63	49	60	48	58	47	45														
5	73	59	49	42	70	58	42	56	41	53	41	52	40	38														
6	67	53	43	36	65	52	36	50	36	48	35	46	35	33														
7	62	47	38	31	60	46	31	45	31	43	31	42	31	28														
8	57	43	34	28	55	42	28	41	27	39	27	38	27	25														
9	53	39	30	25	52	38	24	37	24	36	24	35	24	22														
10	50	36	27	22	48	35	22	34	22	33	22	32	22	20														

Integration Sphere and Photometric results at 4000K by an independent accredited testing laboratory per IES LM-79-2008 and ANSI C78.377-2011. Results for 3000K, 3500K scaled based on integrating sphere results at 47W (D). Candlepower Distribution scaled per total lumens of Integrating Sphere results.

Product	Inbox 2x2   4-sided	Description	Performance Summary		Light (lm)	Energy (W)	Efficacy (lm/W)	Color Accuracy		
Version	NB1-22D40	2x2 - 4 sided LED D Lumens CCT 4000 K	CCT Color Temperature	4000 K	5130	46.3	110.8	82	2	< 2
Report	11660485.07			3500 K	5048	46	109	83	4.5	< 2
				3000 K	4966	46	103	82	4.3	< 2

100% Dn

### CANDLEPOWER DISTRIBUTION

Vertical Angle	Horizontal Angle				Zonal Lumens
	0°	22.5°	45°	67.5°	90°
0°	966	966	966	966	966
5°	986	975	968	984	989
15°	1193	1204	1246	1196	1179
25°	1275	1380	1461	1372	1259
35°	1191	1375	1502	1375	1176
45°	1031	1257	1380	1257	1020
55°	799	1056	1139	1054	788
65°	542	748	850	747	536
75°	356	497	469	495	351
85°	117	173	146	158	107
90°	5	7	8	9	9
95°					
105°					
115°					
125°					
135°					
145°					
155°					
165°					
175°					
180°					

### LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixture
0-30°	1074	N.A.	21
0-60°	3770	N.A.	74
0-90°	5130	N.A.	100
90-180°	0	N.A.	0
Total Luminaire	5131	N.A.	100

### LUMINANCE DATA (CD/M<sup>2</sup>)

Vertical Angle	0°	45°	90°
45°	4506	6034	4460
55°	4304	6142	4247
65°	3967	6221	3918
75°	4254	5605	4197
85°	4158	5179	3785

### CO-EFFICIENTS OF UTILIZATION

Floor Ceiling Wall	80				70				20				50				30				10				0			
	70	50	30	10	70	50	30	10	50	10	50	10	50	10	50	10	50	10	50	10	50	10	50	10	50	10	50	10
0	119	119	119	119	116	116	116	111	111	106	106	102	102	100														
1	107	102	97	93	105	100	91	95	88	91	86	88	83	81														
2	97	88	80	74	94	86	73	82	71	79	69	76	68	66														
3	87	76	67	60	85	74	59	71	58	68	57	66	56	54														
4	79	67	57	50	77	65	49	63	49	60	48	58	47	45														
5	73	59	49	42	70	58	42	56	41	53	41	52	40	38														
6	67	53	43	36	65	52	36	50	36	48	35	46	35	33														
7	62	47	38	31	60	46	31	45	31	43	31	42	31	28														
8	57	43	34	28	55	42	28	41	27	39	27	38	27	25														
9	53	39	30	25	52	38	24	37	24	36	24	35	24	22														
10	50	36	27	22	48	35	22	34	22	33	22	32	22	20														

Integration Sphere and Photometric results at 4000K by an independent accredited testing laboratory per IES LM-79-2008 and ANSI C78.377-2011. Results for 3000K, 3500K scaled based on integrating sphere results at 47W (D). Candlepower Distribution scaled per total lumens of Integrating Sphere results.

Product	Inbox 2x2   4-sided	Description
Version	NB1-22AW2	2x2 - 4 sided LED A lumens CCT 2700-6500 K
Report	FLUXWERX	

Performance Summary		Light (lm)	Energy (W)	Efficacy (lm/W)	Color Accuracy (CRI) (R9)	
CCT Color Temperature	2700 K	2500	23.75	105	82.4	4.5
	3000 K	2520	22.91	110	83.9	10.7
	3500 K	2580	22.13	117	85.9	19.2
	4000 K	2620	21.76	120	86.7	22.9
	5000 K	2630	21.86	120	86	17.9
	6500 K	2680	23.45	114	83.7	4.7

Product	Inbox 2x2   4-sided	Description
Version	NB1-22BW2	2x2 - 4 sided LED B lumens CCT 2700-6500 K
Report	FLUXWERX	

Performance Summary		Light (lm)	Energy (W)	Efficacy (lm/W)	Color Accuracy (CRI) (R9)	
CCT Color Temperature	2700 K	3010	29.79	101	82.4	4.5
	3000 K	3030	28.53	106	83.9	10.7
	3500 K	3120	27.55	113	85.9	19.2
	4000 K	3160	27.09	117	86.7	22.9
	5000 K	3170	27.22	116	86	17.9
	6500 K	3230	29.41	110	83.7	4.7

Integrating Sphere and Photometric results scaled from NB1-22 and PF1-A Dynamic White results from an independent accredited testing laboratory per IES LM-79-2008 and ANSI C78.377-2011. Candlepower Distribution scaled per total lumens of Integrating Sphere results.

Product	Inbox 2x2   4-sided	Description
Version	NB1-22CW2	2x2 - 4 sided LED C lumens CCT 2700-6500 K
Report	FLUXWERX	

Performance Summary		Light (lm)	Energy (W)	Efficacy (lm/W)	Color Accuracy (CRI) (R9)	
CCT Color Temperature	2700 K	3900	39.51	99	82.4	4.5
	3000 K	3930	38.19	103	83.9	10.7
	3500 K	4030	36.88	109	85.9	19.2
	4000 K	4090	36.27	113	86.7	22.9
	5000 K	4100	36.44	113	86	17.9
	6500 K	4190	39.01	107	83.7	4.7

Product	Inbox 2x2   4-sided	Description
Version	NB1-22DW2	2x2 - 4 sided LED D lumens CCT 2700-6500 K
Report	FLUXWERX	

Performance Summary		Light (lm)	Energy (W)	Efficacy (lm/W)	Color Accuracy (CRI) (R9)	
CCT Color Temperature	2700 K	4710	49.59	95	82.4	4.5
	3000 K	4740	48.16	98	83.9	10.7
	3500 K	4870	46.51	105	85.9	19.2
	4000 K	4940	45.74	108	86.7	22.9
	5000 K	4960	45.95	108	86	17.9
	6500 K	5060	48.96	103	83.7	4.7