The background of the brochure is a black and white photograph of a bridge's underside. A prominent, dark, wavy line runs across the frame, representing a structural element. Several circular lights are embedded in the surface, creating a rhythmic pattern of light and shadow. The overall aesthetic is industrial and modern.

LongSpan Bridge and Culvert

CONSTRUCTION SYSTEMS BROCHURE

ABOUT LANE

As a full-line manufacturer of corrugated metal and plastic drainage products, Lane Enterprises, Inc. operates plants throughout the Northeastern, Mid-Atlantic, and South-Central states producing various types of buried structures for the construction industry.

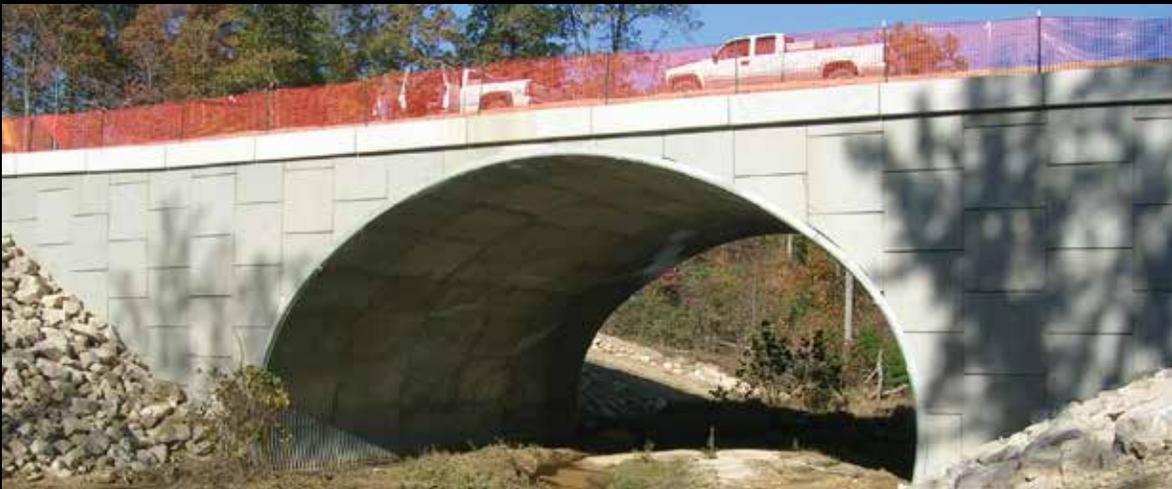
For nearly 90 years, Lane has partnered with contractors, engineers, and municipalities to supply reliable products that provide the highest levels of service life, strength, versatility, and economy. Our focus on quality products, responsive customer service, and technical expertise has established a long, proven history of successful partnerships within the industries we serve.



LONG SPAN BRIDGE & CULVERT

Lane's Long Span Bridge & Culvert (LSBC) Division provides the nation's civil engineers and land developers with the most economical and versatile bridge and culvert construction systems in the industry, including the complete design, supply, assembly and installation of structural plate bridge and culvert structures.

By combining a design-build service with our plate products, LSBC is uniquely equipped to deliver a final product with all the expertise, efficiency, and assurance characterized by Lane. From consultation to planning, design to manufacture, delivery to assembly and shape monitoring to required cover depth, LSBC can provide you with the highest level of engineering support and assistance in the industry.



LONG SPAN BRIDGE & CULVERT SERVICES

LONG SPAN Bridge & Culvert (LSBC) provides developers, contractors and engineers with the industry's most comprehensive design, supply and assembly package featuring long span structural plate bridge systems. Our experienced sales staff together with our design team proudly offers the following services to complement our bridge systems.

INITIAL PROJECT CONSULTATION AND TECHNICAL SUPPORT

One call to 1-888-949-LSBC connects you with our staff of experienced engineers. LSBC helps owners, consultants and contractors evaluate long span solutions for specific projects. Fast and accurate construction estimates will help you select the most practical and economical structure for your project.

FULL ENGINEERING DESIGN CAPABILITY

LSBC can provide engineering designs to support all aspects of our bridge systems including:

- Footing and foundation design
- Poured in place concrete, MSE or segmental block headwalls
- Step-beveled ends
- Structural and hydraulic designs
- Scour analysis

MANUFACTURE AND DELIVERY

LSBC will manufacture your bridge to the project specifications and deliver it to the jobsite.

ASSEMBLY

Long span bridges are assembled in place with lightweight equipment. Because no heavy equipment is needed to pick and place our sections overall costs and impact to the jobsite environment can be minimized.



LOW PROFILE ARCH



Steel

Structure No.	Span (ft-in)	Rise (ft-in)	Area (ft ²)
LSLPA-S-1	19-5	6-9	105
LSLPA-S-2	20-1	7-6	120
LSLPA-S-3	21-6	7-9	133
LSLPA-S-4	22-3	7-11	140
LSLPA-S-5	23-0	8-0	147
LSLPA-S-6	23-9	8-2	154
LSLPA-S-7	24-6	8-3	161
LSLPA-S-8	25-2	8-5	168
LSLPA-S-9	25-11	8-7	176
LSLPA-S-10	27-3	10-0	217
LSLPA-S-11	28-1	9-6	212
LSLPA-S-12	28-9	10-3	234
LSLPA-S-13	28-10	9-8	220
LSLPA-S-14	30-3	9-11	237

Structure No.	Span (ft-in)	Rise (ft-in)	Area (ft ²)
LSLPA-S-15	30-11	10-8	261
LSLPA-S-16	31-7	12-1	309
LSLPA-S-17	31-0	10-1	246
LSLPA-S-18	32-4	12-3	319
LSLPA-S-19	31-9	10-2	255
LSLPA-S-20	33-1	12-5	330
LSLPA-S-21	33-2	11-1	289
LSLPA-S-22	34-5	13-3	367
LSLPA-S-23	34-7	11-4	308
LSLPA-S-24	37-11	15-7	477
LSLPA-S-25	35-4	11-5	318
LSLPA-S-26	38-8	15-9	490
LSLPA-S-27	40-1	12-9	398
LSLPA-S-28	40-4	18-2	597

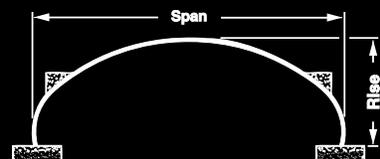
Structure No.	Span (ft-in)	Rise (ft-in)	Area (ft ²)
LSLPA-S-29	40-6	11-7	359
LSLPA-S-30	41-4	11-9	369
LSLPA-S-31	42-7	12-7	411
LSLPA-S-32	43-0	13-10	464
LSLPA-S-33	43-2	19-5	689
LSLPA-S-34	44-0	15-4	530
LSLPA-S-35	45-3	16-5	592
LSLPA-S-36	46-1	18-5	685
LSLPA-S-37	47-0	20-1	772
LSLPA-S-38	49-0	18-2	709
LSLPA-S-39	50-7	19-7	786
LSLPA-S-40	50-8	22-6	927
LSLPA-S-41	51-7	24-2	1024

Aluminum

Structure No.	Span (ft-in)	Rise (ft-in)	Area (ft ²)
LSHPA-A-1	20-1	9-1	152
LSHPA-A-2	20-9	12-1	214
LSHPA-A-3	21-6	11-8	215
LSHPA-A-4	22-10	14-6	285
LSHPA-A-5	22-3	11-10	225
LSHPA-A-6	22-11	14-0	275
LSHPA-A-7	23-0	11-11	235
LSHPA-A-8	24-4	14-10	309
LSHPA-A-9	23-9	12-1	245
LSHPA-A-10	24-6	13-9	289
LSHPA-A-11	25-10	15-1	335
LSHPA-A-12	25-3	13-1	283

Structure No.	Span (ft-in)	Rise (ft-in)	Area (ft ²)
LSHPA-A-13	26-7	15-3	347
LSHPA-A-14	26-0	13-3	294
LSHPA-A-15	27-3	15-5	360
LSHPA-A-16	27-5	13-7	317
LSHPA-A-17	29-5	16-5	412
LSHPA-A-18	28-2	14-5	348
LSHPA-A-19	30-2	18-0	466
LSHPA-A-20	30-4	15-5	400
LSHPA-A-21	31-8	18-4	497
LSHPA-A-22	31-1	15-7	413
LSHPA-A-23	31-9	17-9	484
LSHPA-A-24	32-4	19-11	555

Structure No.	Span (ft-in)	Rise (ft-in)	Area (ft ²)
LSHPA-A-25	31-10	17-3	470
LSHPA-A-26	33-1	20-1	572
LSHPA-A-27	32-6	17-4	485
LSHPA-A-28	33-10	20-3	589
LSHPA-A-29	34-0	17-8	514
LSHPA-A-30	34-8	19-10	591
LSHPA-A-31	34-9	17-9	529
LSHPA-A-32	35-5	20-0	608



HIGH PROFILE ARCH



Steel

Structure No.	Span (ft-in)	Rise (ft-in)	Area (ft ²)
LSHPA-S-1	20-1	9-1	152
LSHPA-S-2	20-8	12-1	214
LSHPA-S-3	21-6	11-8	215
LSHPA-S-4	22-10	14-6	284
LSHPA-S-5	22-3	11-10	224
LSHPA-S-6	22-11	14-0	275
LSHPA-S-7	23-0	11-11	234
LSHPA-S-8	24-4	14-10	309
LSHPA-S-9	23-9	12-1	244
LSHPA-S-10	24-6	13-9	288
LSHPA-S-11	25-9	15-1	334
LSHPA-S-12	25-2	13-1	283

Structure No.	Span (ft-in)	Rise (ft-in)	Area (ft ²)
LSHPA-S-13	26-6	15-3	347
LSHPA-S-14	25-11	13-3	294
LSHPA-S-15	27-3	15-5	360
LSHPA-S-16	27-5	13-6	317
LSHPA-S-17	29-5	16-5	412
LSHPA-S-18	28-2	14-5	348
LSHPA-S-19	30-1	18-0	466
LSHPA-S-20	30-3	15-5	399
LSHPA-S-21	31-7	18-4	496
LSHPA-S-22	31-0	15-7	412
LSHPA-S-23	31-8	17-9	483
LSHPA-S-24	32-4	19-11	553

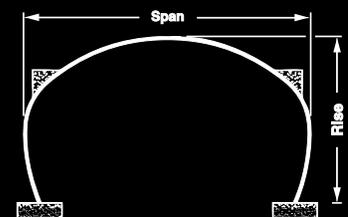
Structure No.	Span (ft-in)	Rise (ft-in)	Area (ft ²)
LSHPA-S-25	31-9	17-2	469
LSHPA-S-26	33-1	20-1	570
LSHPA-S-27	32-6	17-4	484
LSHPA-S-28	33-10	20-3	587
LSHPA-S-29	34-0	17-8	513
LSHPA-S-30	34-7	19-10	590
LSHPA-S-31	34-8	17-10	529
LSHPA-S-32	35-3	21-3	645
LSHPA-S-33	35-4	20-0	608
LSHPA-S-34	36-0	21-5	663
LSHPA-S-35	37-3	23-5	747
LSHPA-S-36	38-0	23-6	767

Aluminum

Structure No.	Span (ft-in)	Rise (ft-in)	Area (ft ²)
LSHPA-A-1	20-1	9-1	152
LSHPA-A-2	20-9	12-1	214
LSHPA-A-3	21-6	11-8	215
LSHPA-A-4	22-10	14-6	285
LSHPA-A-5	22-3	11-10	225
LSHPA-A-6	22-11	14-0	275
LSHPA-A-7	23-0	11-11	235
LSHPA-A-8	24-4	14-10	309
LSHPA-A-9	23-9	12-1	245
LSHPA-A-10	24-6	13-9	289
LSHPA-A-11	25-10	15-1	335
LSHPA-A-12	25-3	13-1	283

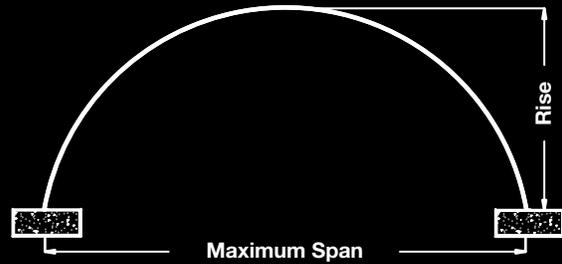
Structure No.	Span (ft-in)	Rise (ft-in)	Area (ft ²)
LSHPA-A-13	26-7	15-3	347
LSHPA-A-14	26-0	13-3	294
LSHPA-A-15	27-3	15-5	360
LSHPA-A-16	27-5	13-7	317
LSHPA-A-17	29-5	16-5	412
LSHPA-A-18	28-2	14-5	348
LSHPA-A-19	30-2	18-0	466
LSHPA-A-20	30-4	15-5	400
LSHPA-A-21	31-8	18-4	497
LSHPA-A-22	31-1	15-7	413
LSHPA-A-23	31-9	17-9	484
LSHPA-A-24	32-4	19-11	555

Structure No.	Span (ft-in)	Rise (ft-in)	Area (ft ²)
LSHPA-A-25	31-10	17-3	470
LSHPA-A-26	33-1	20-1	572
LSHPA-A-27	32-6	17-4	485
LSHPA-A-28	33-10	20-3	589
LSHPA-A-29	34-0	17-8	514
LSHPA-A-30	34-8	19-10	591
LSHPA-A-31	34-9	17-9	529
LSHPA-A-32	35-5	20-0	608



STRUCTURAL PLATE ARCH

With spans that range from 5'-0" to 26'-0" bottomless structural plate arches offer the most economical way to span a stream or wetlands area. Foundation options for this shape include concrete footings, structural plate footings and fullsteel inverts. Details for these foundation types can be found within in the Design & Detail Installation Manual, page 6, Figure 11.



A table of typically sizes are listed on page 6.



LONG SPAN STRUCTURAL PLATE ARCH TYPICAL SIZES AND LAYOUT DIMENSIONS

Span (ft-in)	Rise (ft-in)	End Area (ft ²)	Arc (N)
5-0	1'- 9.5"	6.5	8
	2'- 2.5"	8.5	9
	2'- 7.5"	10.5	10
6-0	1'- 10"	7.5	9
	2'- 4"	10.0	10
	2'- 9"	12.5	11
7-0	3'- 1.5"	15.0	12
	2'- 4.5"	12.0	11
	2'- 10"	15.0	12
8-0	3'- 3"	17.5	13
	3'- 8"	20.0	14
	2'- 5"	13.5	12
9-0	2'-11"	17.0	13
	3'- 4"	20.0	14
	3'- 9"	23.5	15
10-0	4'- 2"	26.5	16
	2'-11.5"	19.0	14
	3'- 5"	23.0	15
11-0	3'- 10.5"	26.5	16
	4'- 3.5"	30.0	17
	4'- 8"	33.5	18
12-0	2'-11.5"	21.0	15
	3'- 5.5"	25.5	16
	3'- 11.5"	29.5	17
13-0	4'- 4.5"	33.5	18
	4'- 9.5"	37.0	19
	5'- 2.5"	41.0	20
14-0	3'- 6"	27.5	17
	4'- 0"	32.5	18
	4'- 5.5"	37.0	19
15-0	4'- 11"	41.0	20
	5'- 3.5"	45.5	21
	5'- 8.5"	49.5	22
16-0	4'- 0.5"	59.0	19
	4'- 6.5"	54.5	20
	5'- 0"	49.5	21
17-0	5'- 5"	45.0	22
	5'- 10"	40.0	23
	6'- 2.5"	35.0	24
18-0	4'- 1"	38.0	20
	4'- 7"	43.5	21
	5'- 0.5"	49.0	22
19-0	5'- 6"	54.0	23
	5'- 11"	59.0	24
	6'- 4"	64.5	25
20-0	6'- 9"	69.5	26
	4'- 7.5"	46.5	22
	5'- 1.5"	52.5	23
21-0	5'- 7"	58.0	24
	6'- 0"	64.0	25
	6'- 5.5"	69.5	26
22-0	6'- 10"	75.0	27
	7'- 3"	80.5	28
	4'- 7.5"	50.0	23
23-0	5'- 2"	56.0	24
	5'- 8"	62.5	25
	6'- 1.5"	68.5	26
24-0	6'- 6.5"	74.5	27
	6'- 11.5"	80.5	28
	7'- 4.5"	86.5	29
25-0	7'- 9"	92.5	30

Span (ft-in)	Rise (ft-in)	End Area (ft ²)	Arc (N)
16-0	5'- 2.5"	60.0	25
	5'- 8.5"	66.5	26
	6'- 2"	73.0	27
17-0	6'- 7.5"	79.5	28
	7'- 0.5"	86.0	29
	7'- 5.5"	92.0	30
18-0	7'- 10.5"	98.5	31
	8'- 3"	104.5	32
	5'- 2.5"	63.0	26
19-0	5'- 9"	70.5	27
	6'- 2.5"	77.5	28
	6'- 8.5"	84.5	29
20-0	7'- 1.5"	91.5	30
	7'- 7"	91.5	30
	8'- 0"	98.0	31
21-0	8'- 4.5"	111.5	33
	8'- 9.5"	118.5	34
	5'- 9"	74.0	28
22-0	6'- 3.5"	82.0	29
	6'- 9"	89.5	30
	7'- 2.5"	97.0	31
23-0	7'- 8"	104.0	32
	8'- 1"	111.5	33
	8'- 6"	118.5	34
24-0	8'- 11"	125.5	35
	9'- 3.5"	132.5	36
	5'- 9.5"	78.5	29
25-0	6'- 3.5"	86.5	30
	6'- 9.5"	94.5	31
	7'- 3.5"	102.5	32
26-0	7'- 9"	110.0	33
	8'- 2"	117.5	34
	8'- 7.5"	125.0	35
27-0	9'- 0"	133.0	36
	9'- 5"	140.0	37
	9'- 9.5"	148.0	38
28-0	6'- 4"	91.0	31
	6'- 10"	99.5	32
	7'- 4"	107.5	33
29-0	7'- 9.5"	116.0	34
	8'- 3"	124.0	35
	8'- 8.5"	132.0	36
30-0	9'- 1.5"	140.0	37
	9'- 6.5"	148.0	38
	9'- 11"	156.0	39
31-0	10'- 4"	164.0	40
	6'- 4"	95.0	32
	6'- 10.5"	104.0	33
32-0	7'- 4.5"	113.0	34
	7'- 10.5"	121.5	35
	8'- 4"	130.0	36
33-0	8'- 9.5"	139.0	37
	9'- 2.5"	147.0	38
	9'- 7.5"	155.5	39
34-0	10'- 0.5"	164.0	40
	10'- 5.5"	172.0	41
	10'- 10"	180.5	42

Span (ft-in)	Rise (ft-in)	End Area (ft ²)	Arc (N)
22-0	6'- 11"	108.5	34
	7'- 5"	118.0	35
	7'- 11"	127.5	36
23-0	8'- 5"	136.5	37
	8'- 10.5"	145.5	38
	9'- 3.5"	154.5	39
24-0	9'- 9"	163.0	40
	10'- 2"	172.0	41
	10'- 7"	180.5	42
25-0	10'- 11.5"	189.0	43
	11'- 4.5"	198.0	44
	6'- 11"	113.0	35
26-0	7'- 5.5"	123.0	36
	7'- 11.5"	133.0	37
	8'- 5.5"	142.5	38
27-0	8'- 11"	152.0	39
	9'- 4.5"	161.5	40
	9'- 10"	170.5	41
28-0	10'- 3"	180.0	42
	10'- 8"	189.0	43
	11'- 1"	198.0	44
29-0	11'- 6"	207.0	45
	7'- 5.5"	128.0	37
	8'- 0"	138.5	38
30-0	8'- 6"	149.0	39
	9'- 0"	158.5	40
	9'- 5.5"	168.5	41
31-0	9'- 11"	178.0	42
	10'- 4"	188.0	43
	10'- 9"	197.5	44
32-0	11'- 2"	207.0	45
	11'- 7"	216.5	46
	12'- 0"	226.0	47
33-0	7'- 6"	133.0	38
	8'- 0"	144.0	39
	8'- 6.5"	155.0	40
34-0	9'- 0.5"	165.0	41
	9'- 6"	175.0	42
	10'- 0"	186.0	43
35-0	10'- 5"	196.0	44
	10'- 10"	206.0	45
	11'- 3.5"	216.0	46
36-0	11'- 8.5"	226.0	47
	12'- 1.5"	236.0	48
	12'- 6"	245.0	49
37-0	8'- 0.5"	149.0	40
	8'- 7"	161.0	41
	9'- 1"	172.0	42
38-0	9'- 7"	183.0	43
	10'- 0.5"	193.0	44
	10'- 6"	204.0	45
39-0	10'- 11"	214.0	46
	11'- 4.5"	225.0	47
	11'- 9.5"	235.0	48
40-0	12'- 2.5"	245.0	49
	12'- 7.5"	256.0	50
	13'- 0"	266.0	51

Notes:

- 1) All dimensions are to inside crests.
- 2) Minimum cover for HS-20 and HS-25 Live Loads is as follows:
 Spans from 5-8 feet = 12"; Spans from 17-23 feet = 36"
 Spans from 9-16 feet = 24"; Spans from 24-26 feet = 48"

HORIZONTAL ELLIPSE



Steel

Structure No.	Span (ft-in)	Rise (ft-in)	Area (ft ²)
LSHE-S-1	19-4	12-9	191
LSHE-S-2	20-1	13-0	202
LSHE-S-3	20-2	11-11	183
LSHE-S-4	20-10	12-2	194
LSHE-S-5	21-0	15-2	248
LSHE-S-6	21-11	13-1	221
LSHE-S-7	22-6	15-8	274
LSHE-S-8	23-0	14-1	249
LSHE-S-9	23-3	15-11	288
LSHE-S-10	24-4	16-11	320
LSHE-S-11	24-6	14-8	274
LSHE-S-12	25-2	14-11	287
LSHE-S-13	25-5	16-9	330
LSHE-S-14	26-1	18-2	369

Structure No.	Span (ft-in)	Rise (ft-in)	Area (ft ²)
LSHE-S-15	26-3	15-10	320
LSHE-S-16	27-0	16-2	334
LSHE-S-17	27-2	19-1	405
LSHE-S-18	27-11	19-5	421
LSHE-S-19	28-1	17-1	369
LSHE-S-20	28-10	17-5	384
LSHE-S-21	29-5	19-11	455
LSHE-S-22	30-1	20-2	472
LSHE-S-23	30-3	17-11	415
LSHE-S-24	31-2	21-2	513
LSHE-S-25	31-4	18-11	454
LSHE-S-26	32-1	19-2	471
LSHE-S-27	32-3	22-2	555
LSHE-S-28	33-0	22-5	574

Structure No.	Span (ft-in)	Rise (ft-in)	Area (ft ²)
LSHE-S-29	33-2	20-1	512
LSHE-S-30	34-1	23-4	619
LSHE-S-31	34-7	20-8	548
LSHE-S-32	34-11	21-4	574
LSHE-S-33	35-1	24-4	665
LSHE-S-34	35-9	25-9	718
LSHE-S-35	36-0	22-4	619
LSHE-S-36	36-11	25-7	735
LSHE-S-37	37-2	22-2	631
LSHE-S-38	38-0	26-7	785
LSHE-S-39	38-8	27-11	843
LSHE-S-40	40-0	29-7	927

Aluminum

Structure No.	Span (ft-in)	Rise (ft-in)	Area (ft ²)
LSHE-A-1	19-4	12-9	191
LSHE-A-2	20-1	13-0	202
LSHE-A-3	20-2	11-11	183
LSHE-A-4	20-10	12-2	194
LSHE-A-5	21-0	15-2	248
LSHE-A-6	21-11	13-1	221
LSHE-A-7	22-6	15-8	275
LSHE-A-8	23-0	14-1	249
LSHE-A-9	23-3	15-11	288
LSHE-A-10	24-4	16-11	320
LSHE-A-11	24-6	14-8	275
LSHE-A-12	25-3	14-11	288
LSHE-A-13	25-6	16-9	330
LSHE-A-14	26-2	18-2	369

Structure No.	Span (ft-in)	Rise (ft-in)	Area (ft ²)
LSHE-A-15	26-4	15-10	320
LSHE-A-16	27-0	16-2	334
LSHE-A-17	27-2	19-1	405
LSHE-A-18	27-11	19-5	422
LSHE-A-19	28-1	17-1	369
LSHE-A-20	28-10	17-5	385
LSHE-A-21	29-5	19-11	455
LSHE-A-22	30-2	20-2	473
LSHE-A-23	30-4	17-11	416
LSHE-A-24	31-3	21-2	513
LSHE-A-25	31-5	18-11	455
LSHE-A-26	32-1	19-2	472
LSHE-A-27	32-3	22-2	556
LSHE-A-28	33-0	22-5	575

Structure No.	Span (ft-in)	Rise (ft-in)	Area (ft ²)
LSHE-A-29	32-5	19-10	495
LSHE-A-30	34-1	23-5	620
LSHE-A-31	34-8	20-8	549
LSHE-A-32	35-0	21-4	575
LSHE-A-33	35-2	24-4	667
LSHE-A-34	36-1	22-4	620
LSHE-A-35	37-3	22-2	632

