

The **SCALA 4DR-BU** Panel Series is the next generation of the long-proven 4DR design, offering full 470–608 MHz broadband capability with Horizontal, Elliptical, or Circular polarization options. Engineered for ATSC 1.0 and 3.0 applications, the 4DR-BU provides stable patterns, low VSWR, and consistent performance across the entire band.

Panels can be combined to create standard or custom radiation patterns, and each array includes matched power dividers, coax feeders, and mounting hardware. Constructed from corrosion-resistant aluminum and stainless steel and protected by a rugged fiberglass radome, the 4DR-BU is built for long-term reliability in severe weather environments.

The 4DR-BU extends SCALA’s proven reliability with full broadband capability and the optional addition of a vertical component to enhance indoor penetration and mobile reception for ATSC 3.0.



Specifications

Frequency	470-608 MHz
VSWR	<1.2:1
Polarization	Horizontal / Elliptical / Circular
Maximum input power	1kW (Higher Power available up to 5kW)
Connector	7/16 Din (7/8" or 1-5/8" EIA for Higher Power versions)
Wind load @100MPH (161 kph) Front / Side / Rear	186 lbf / 84 lbf / 247 lbf (827 N) / (374 N) / (1099 N)
Wind survival rating	120 mph (193 kph)
Mounting	2-4" OD pipe

*Mechanical design is based on environmental conditions as stipulated in TIA-222-G-2 (December 2009) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. Contact KBU for further details.



4DR-BU series Gain Table

SCALA	4DR-BU		4DR-BUE		4DR-BUC	
Array	H-pol		E-pol		C-pol	
1x1	10.75	dBd	9.2	dBd	7.74	dBd
1x2	7.68	dBd	6.13	dBd	4.67	dBd
1x3	5.833	dBd	4.283	dBd	2.823	dBd
2x1	13.74	dBd	12.19	dBd	10.73	dBd
2x2	10.67	dBd	9.12	dBd	7.66	dBd
2x3	8.823	dBd	7.273	dBd	5.813	dBd
3x1	15.49	dBd	13.94	dBd	12.48	dBd
3x2	12.42	dBd	10.87	dBd	9.41	dBd
3x3	10.573	dBd	9.023	dBd	7.563	dBd
4x1	16.748	dBd	15.198	dBd	13.738	dBd
4x2	13.678	dBd	12.128	dBd	10.668	dBd
4x3	11.831	dBd	10.281	dBd	8.821	dBd

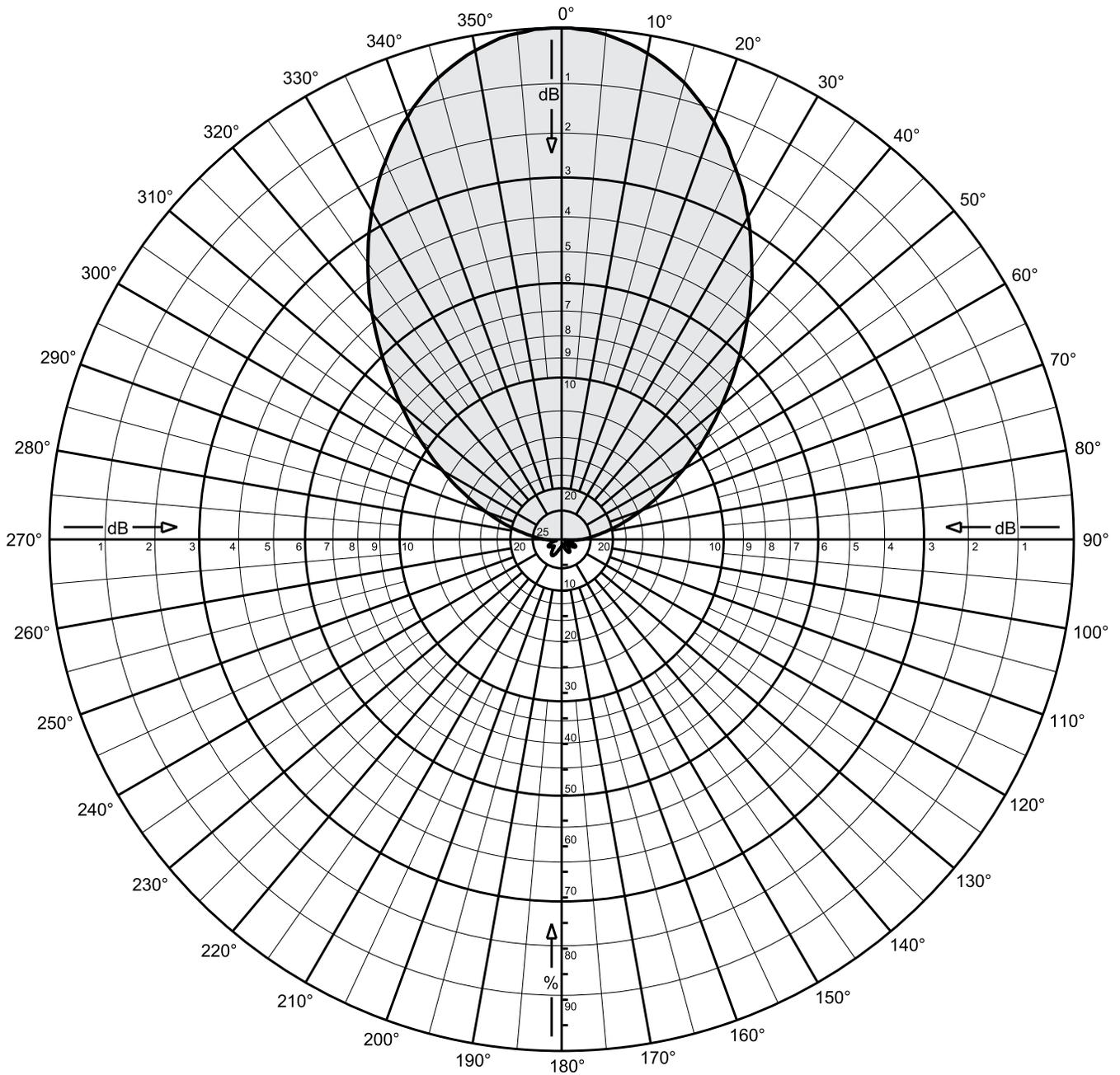
* Referenced to input of main power divider

** Gain Adjusted for harness loss and Polarization



Standard Azimuth Patterns
(Custom Azimuth patterns available
on request)

All specifications are subject to change without notice.
The latest specifications are available at www.kathreinscala.com



SCALA Xx1 4DR-BU Broadband UHF-TV Panel Array

One Panel per bay skewed 0°

Max Gain 1x1 (One bay): 10.75 dBd

Max Gain 2x1 (Two bay): 13.74 dBd

Max Gain 3x1 (Three bay): 15.49 dBd

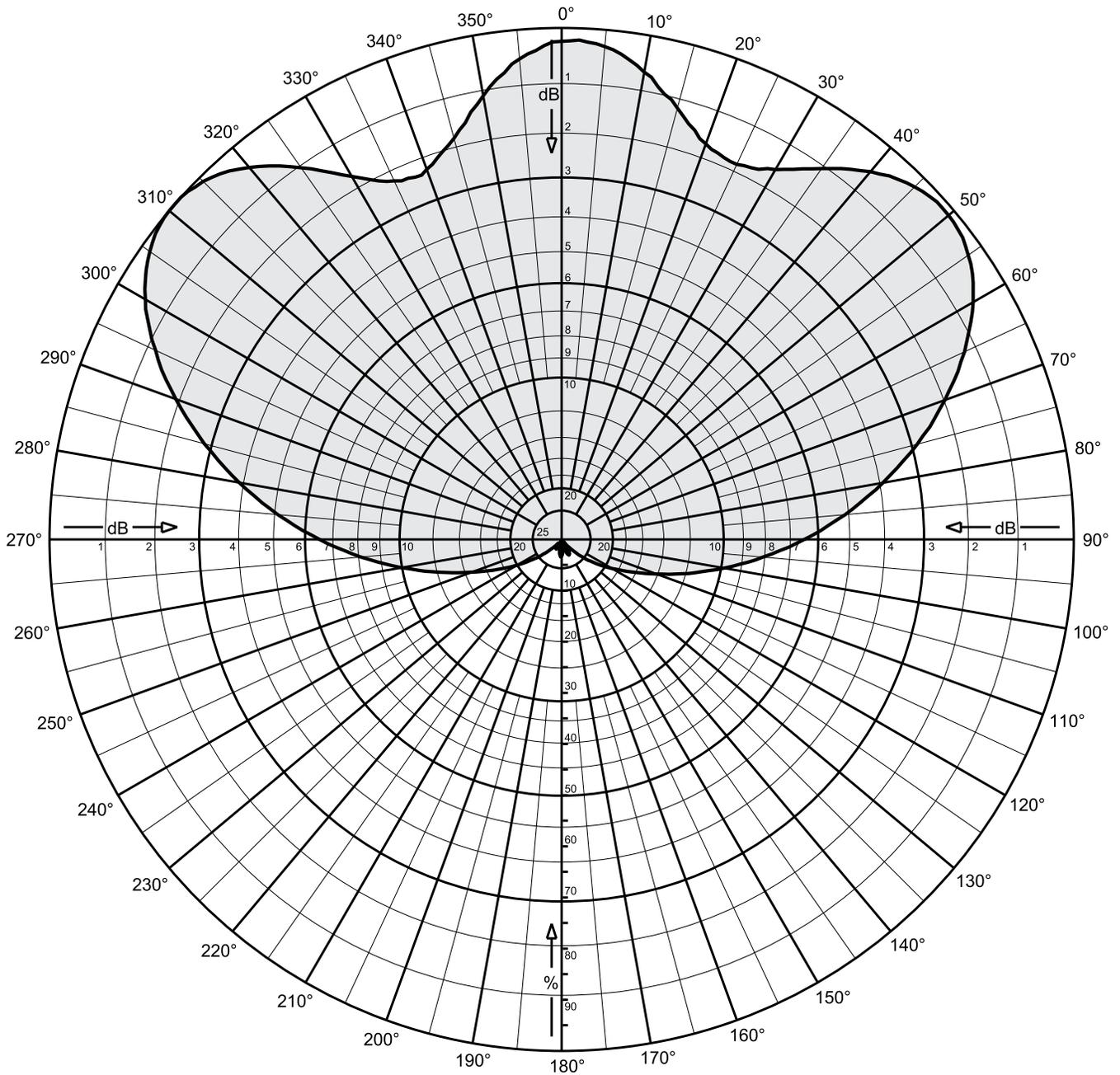
Max Gain 4x1 (Four bay): 16.75 dBd

Horizontal Polarization

Horizontal Plane Pattern

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SCALA Xx2 4DR-BU Broadband UHF-TV Panel Array

Two Panels per bay skewed 315° and 45°

Max Gain 1x2 (One bay): 7.68 dBd

Max Gain 2x2 (Two bay): 10.67 dBd

Max Gain 3x2 (Three bay): 12.42 dBd

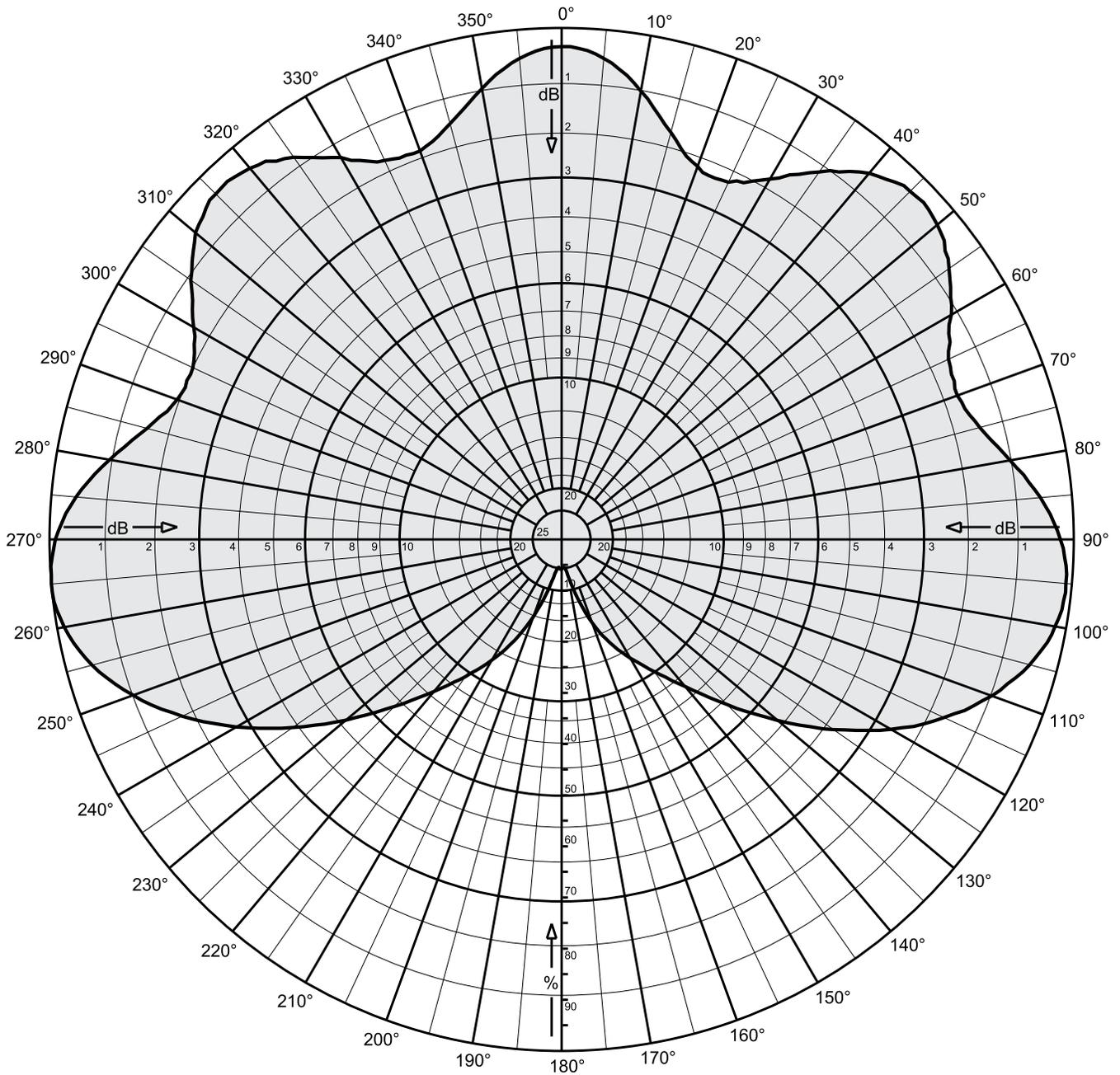
Max Gain 4x2 (Four bay): 13.68 dBd

Horizontal Polarization

Horizontal Plane Pattern

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SCALA Xx3 4DR-BU Broadband UHF-TV Panel Array

Three Panels per bay skewed 270°, 0°, 90°

Max Gain 1x3 (One bay): 5.83 dBd

Max Gain 2x3 (Two bay): 8.82 dBd

Max Gain 3x3 (Three bay): 10.57 dBd

Max Gain 4x3 (Four bay): 11.83 dBd

Horizontal Polarization

Horizontal Plane Pattern

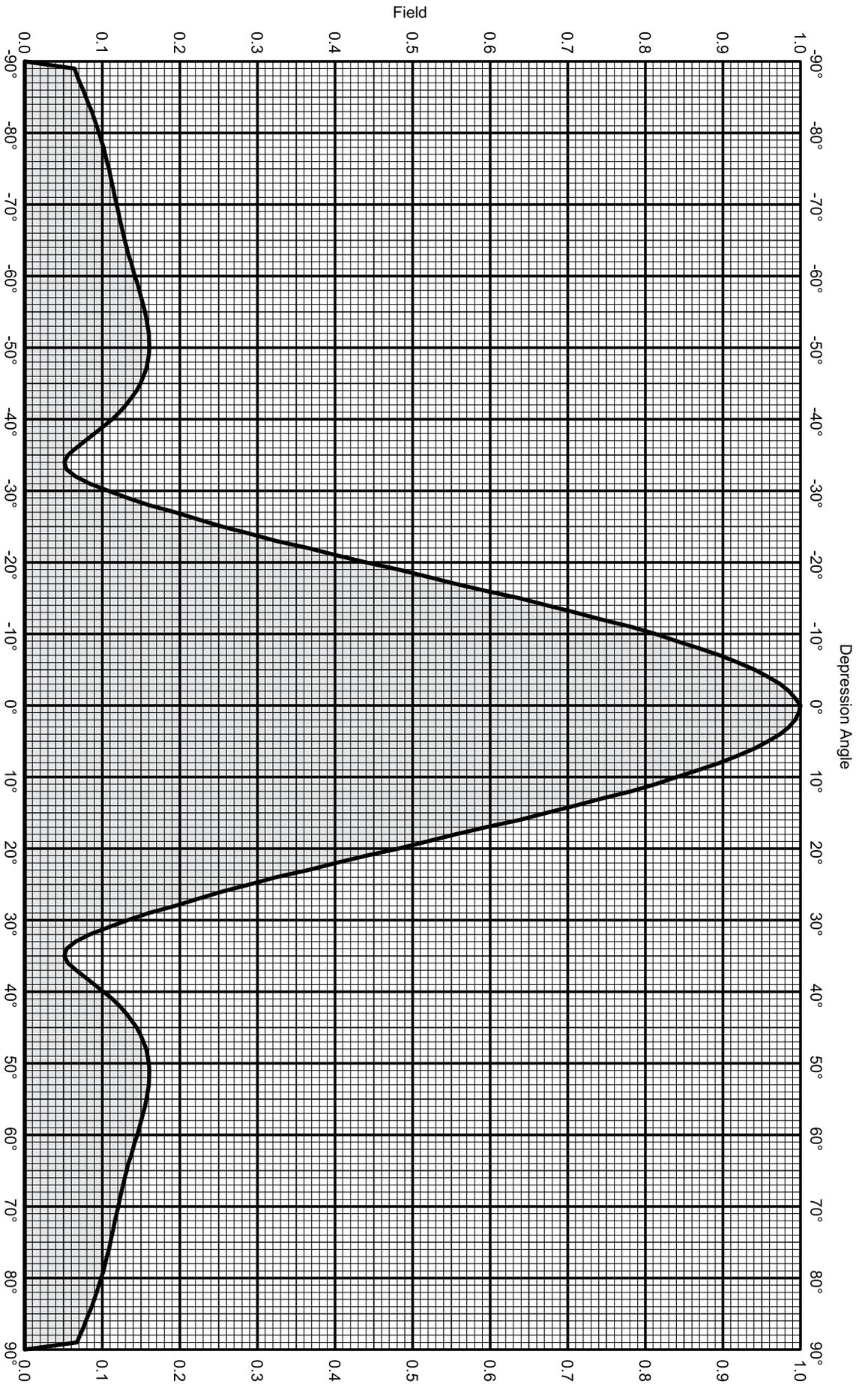
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Standard Elevation Patterns

(Electrical Beam Tilt and additional
Null-Fill available on request)



SCALA 1xX 4DR-BU Broadband UHF-TV Panel Array

Vertical Plane Pattern

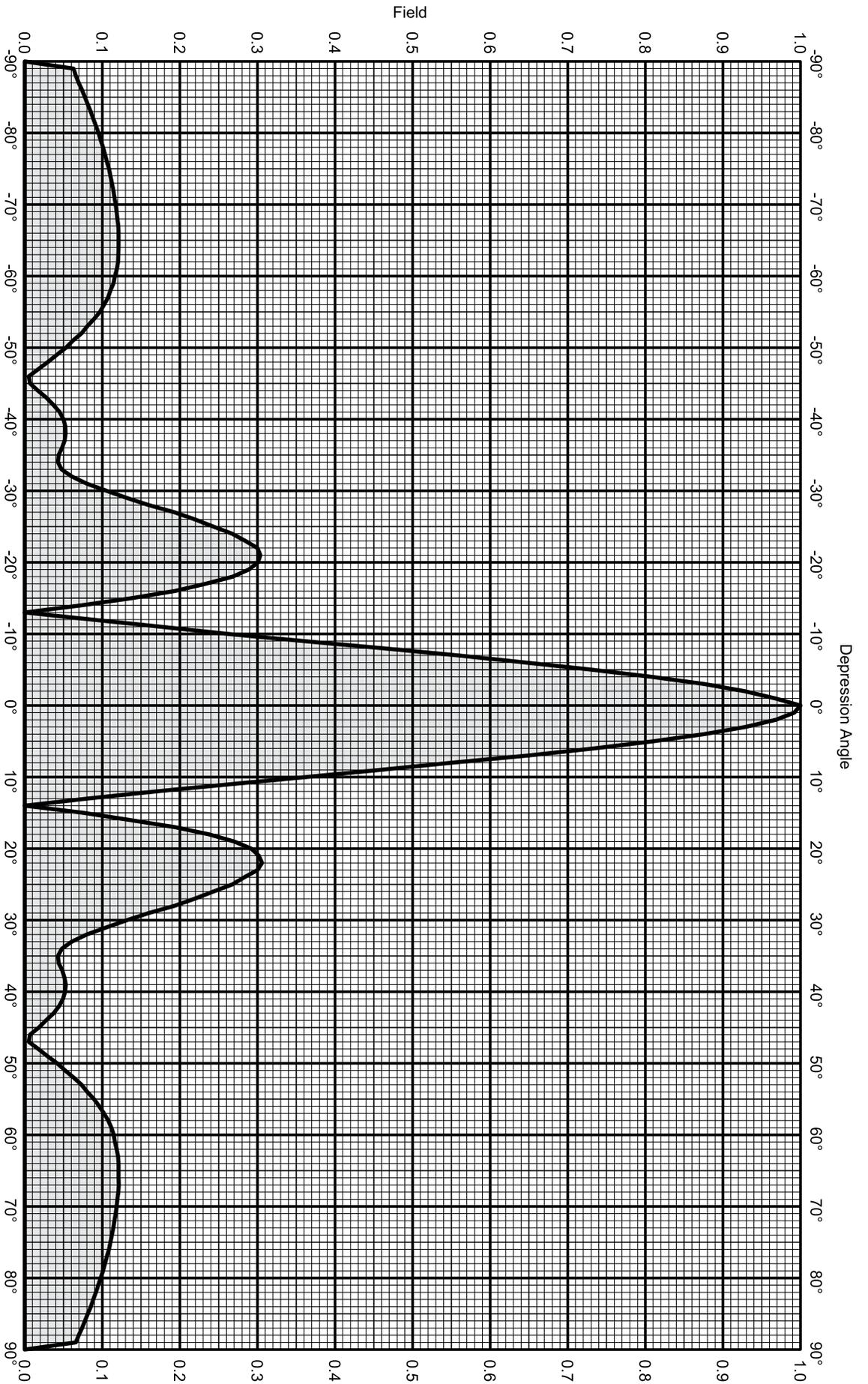
Standard Elevation Pattern for 1-bay

Elevation Gain: 3.76

Horizontal Polarization



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SCALA 2xX 4DR-BU Broadband UHF-TV Panel Array Vertical Plane Pattern

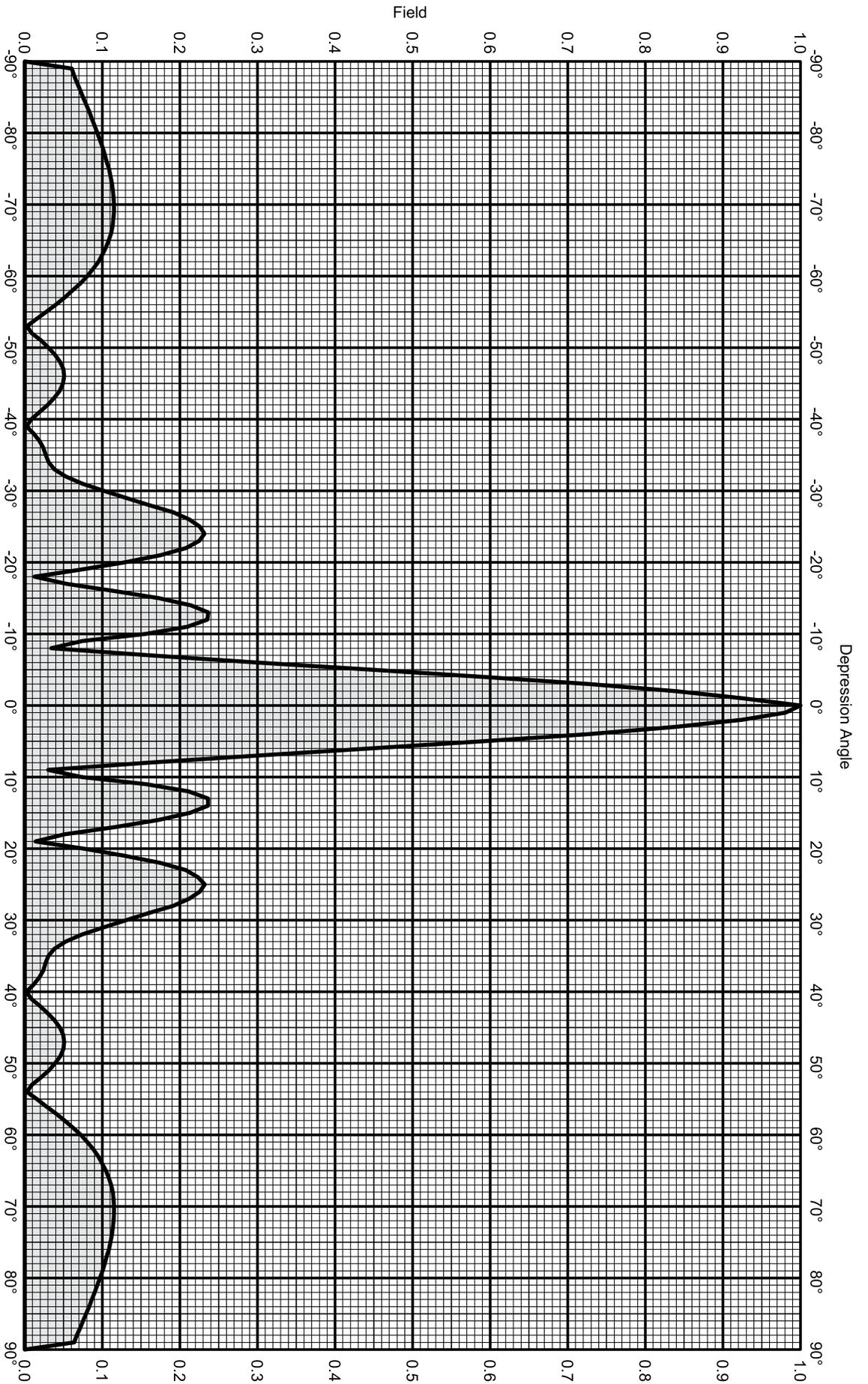
Standard Elevation Pattern for 2-bay

Elevation Gain: 6.75

Horizontal Polarization



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SCALA 3xX 4DR-BU Broadband UHF-TV Panel Array Vertical Plane Pattern

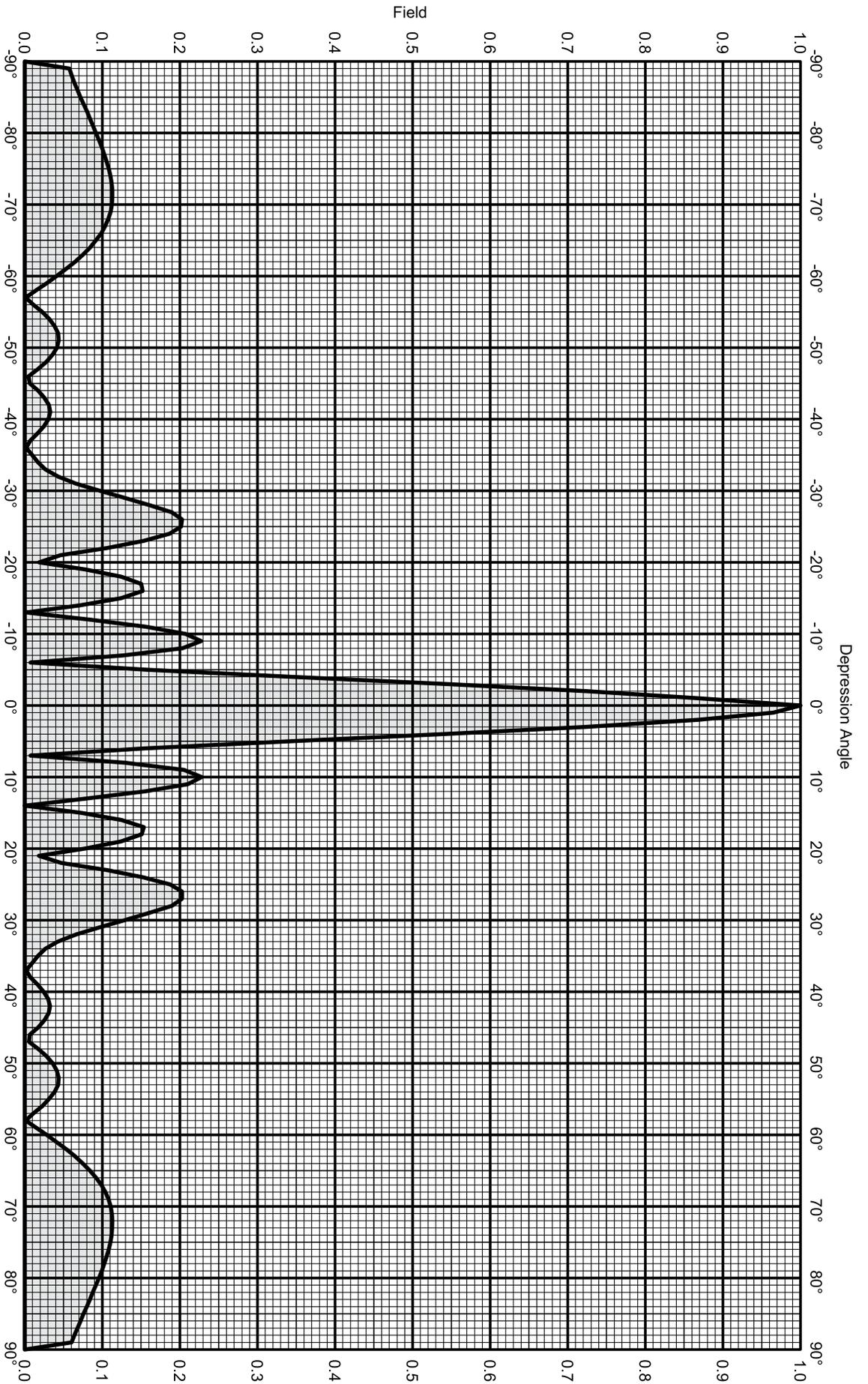
Standard Elevation Pattern for 3-bay

Elevation Gain: 8.5 dB

Horizontal Polarization



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SCALA 4x4 4DR-BU Broadband UHF-TV Panel Array Vertical Plane Pattern

Standard Elevation Pattern for 4-bay

Elevation Gain: 9.76 dB

Horizontal Polarization



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