

### **3.0 AIRPLANE PERFORMANCE**

#### **3.1 General Information**

#### **3.2 Payload/Range for 0.84 Mach Cruise**

#### **3.3 F.A.R. Takeoff Runway Length Requirements**

#### **3.4 F.A.R. Landing Runway Length Requirements**

### 3.0 AIRPLANE PERFORMANCE

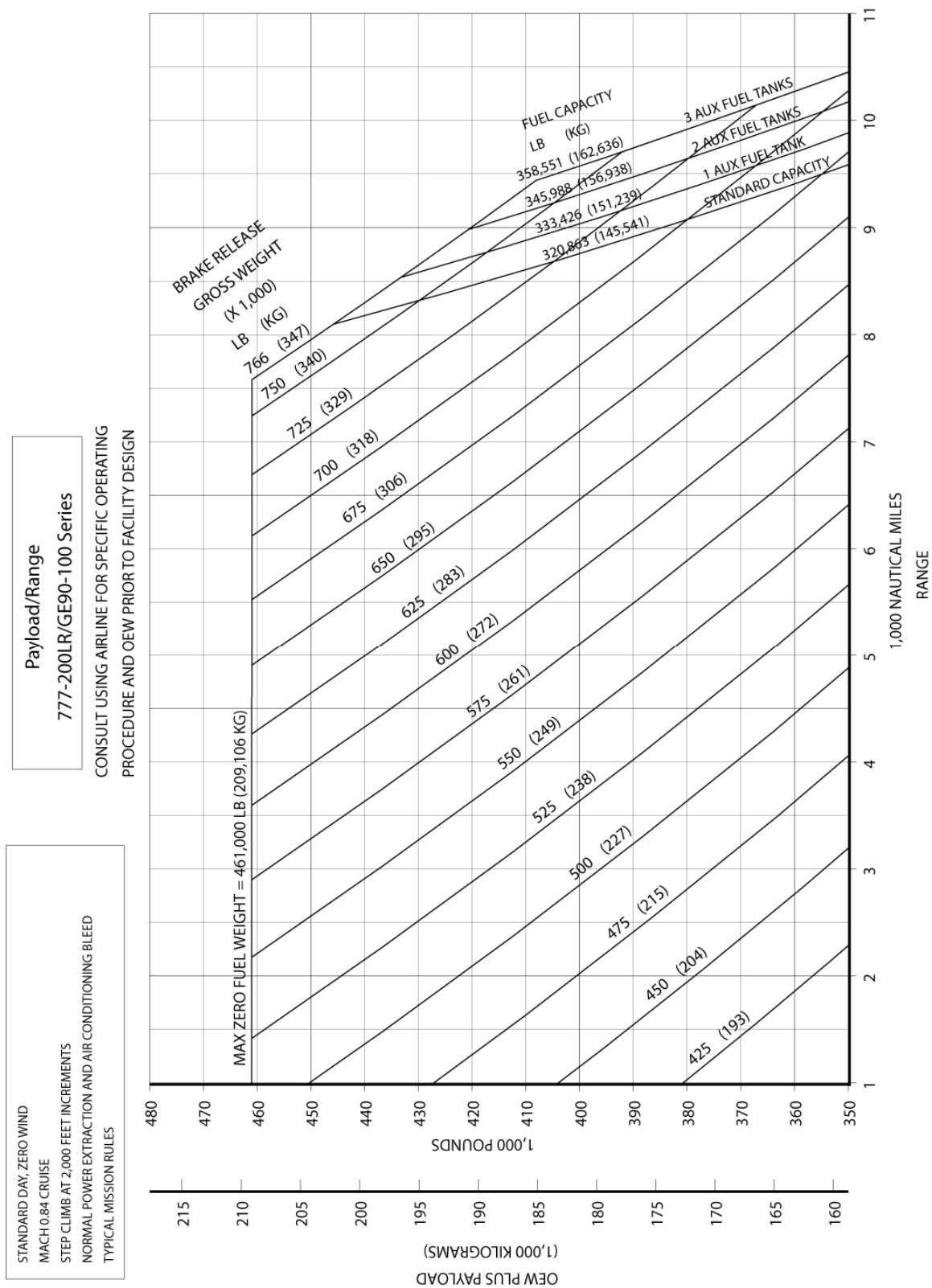
#### 3.1 General Information

The graphs in Section 3.2 provide information on operational empty weight (OEW) and payload, trip range, brake release gross weight, and fuel limits for airplane models with the different engine options. To use these graphs, if the trip range and zero fuel weight (OEW + payload) are known, the approximate brake release weight can be found.

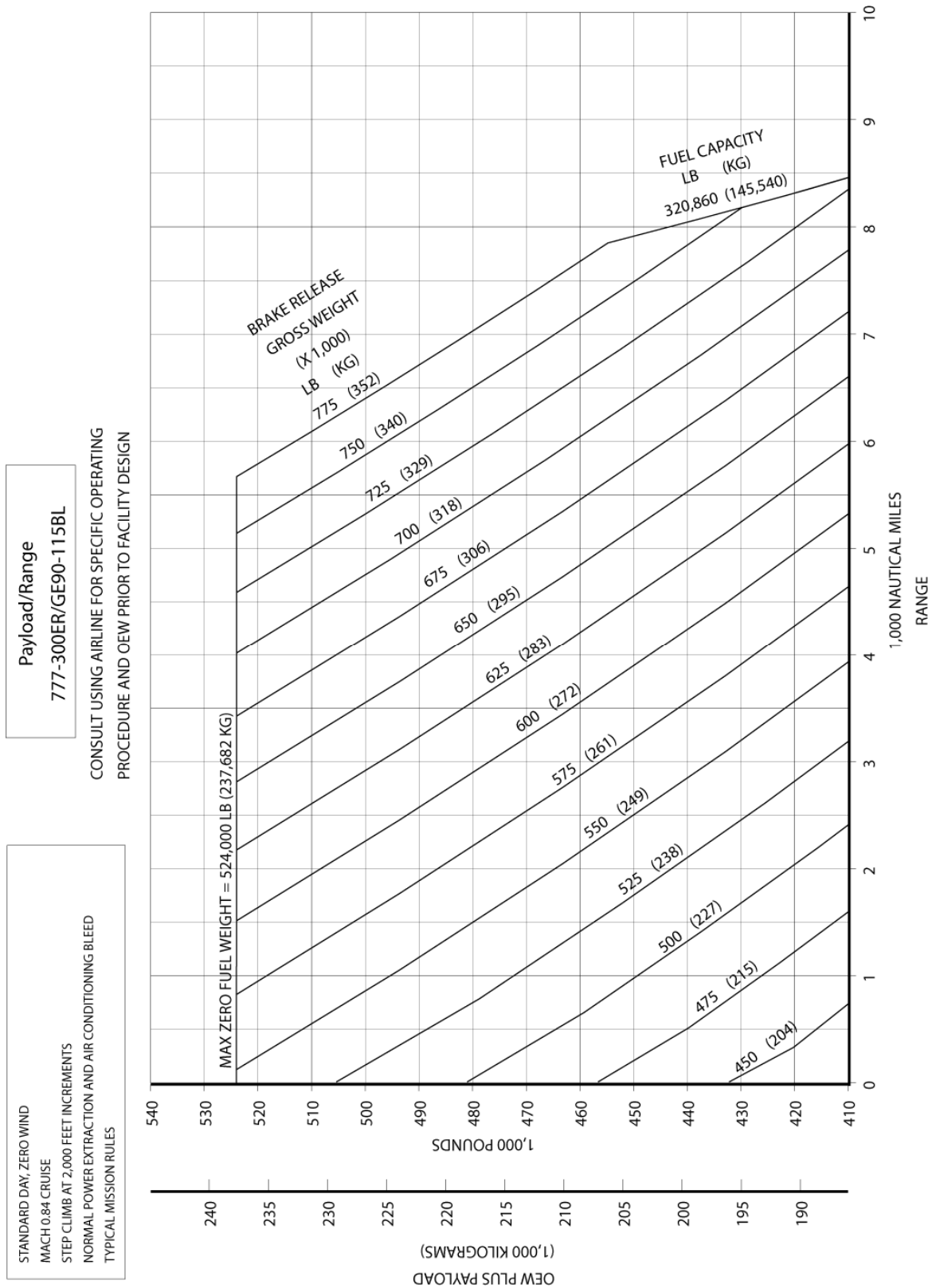
The graphs in Section 3.3 provide information on F.A.R. takeoff runway length requirements with the different engines at different pressure altitudes. Maximum takeoff weights shown on the graphs are the heaviest for the particular airplane models with the corresponding engines. Standard day temperatures for pressure altitudes shown on the F.A.R. takeoff graphs are given below:

| PRESSURE ALTITUDE |        | STANDARD DAY TEMP |       |
|-------------------|--------|-------------------|-------|
| FEET              | METERS | ° F               | ° C   |
| 0                 | 0      | 59.0              | 15.00 |
| 2,000             | 610    | 51.9              | 11.04 |
| 4,000             | 1,219  | 44.7              | 7.06  |
| 6,000             | 1,829  | 37.6              | 3.11  |
| 8,000             | 2,438  | 30.5              | -0.85 |
| 8,800             | 2,682  | 31.2              | -1.00 |
| 10,000            | 3,048  | 23.3              | -4.81 |

The graphs in Section 3.4 provide information on landing runway length requirements for different airplane weights and airport altitudes. The maximum landing weights shown are the heaviest for the particular airplane model.

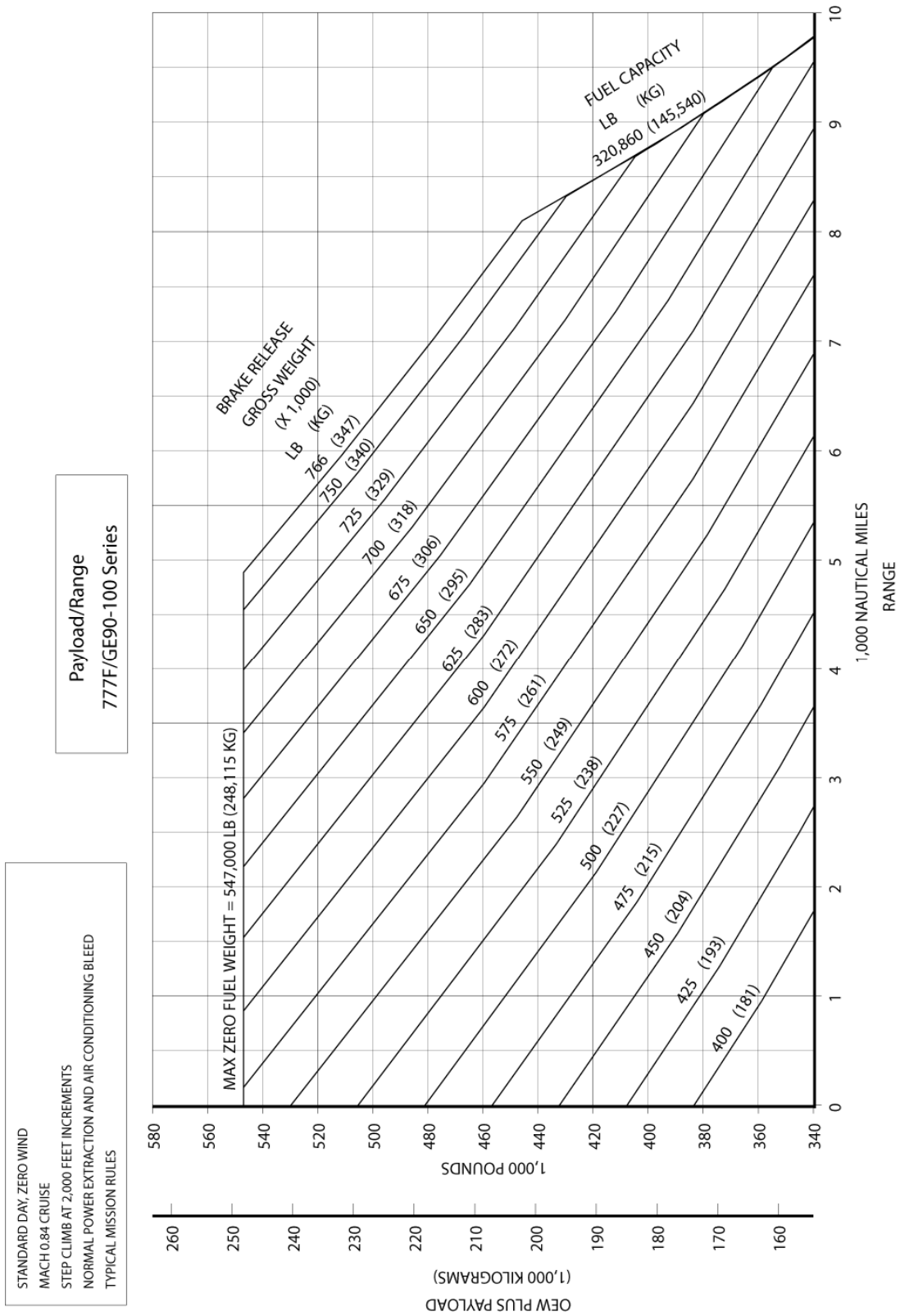


### 3.2.1 PAYLOAD/RANGE FOR 0.84 MACH CRUISE MODEL 777-200LR (GE90-100 SERIES ENGINES)



### 3.2.2 PAYLOAD/RANGE FOR 0.84 MACH CRUISE

MODEL 777-300ER (GE90-115BL ENGINES)



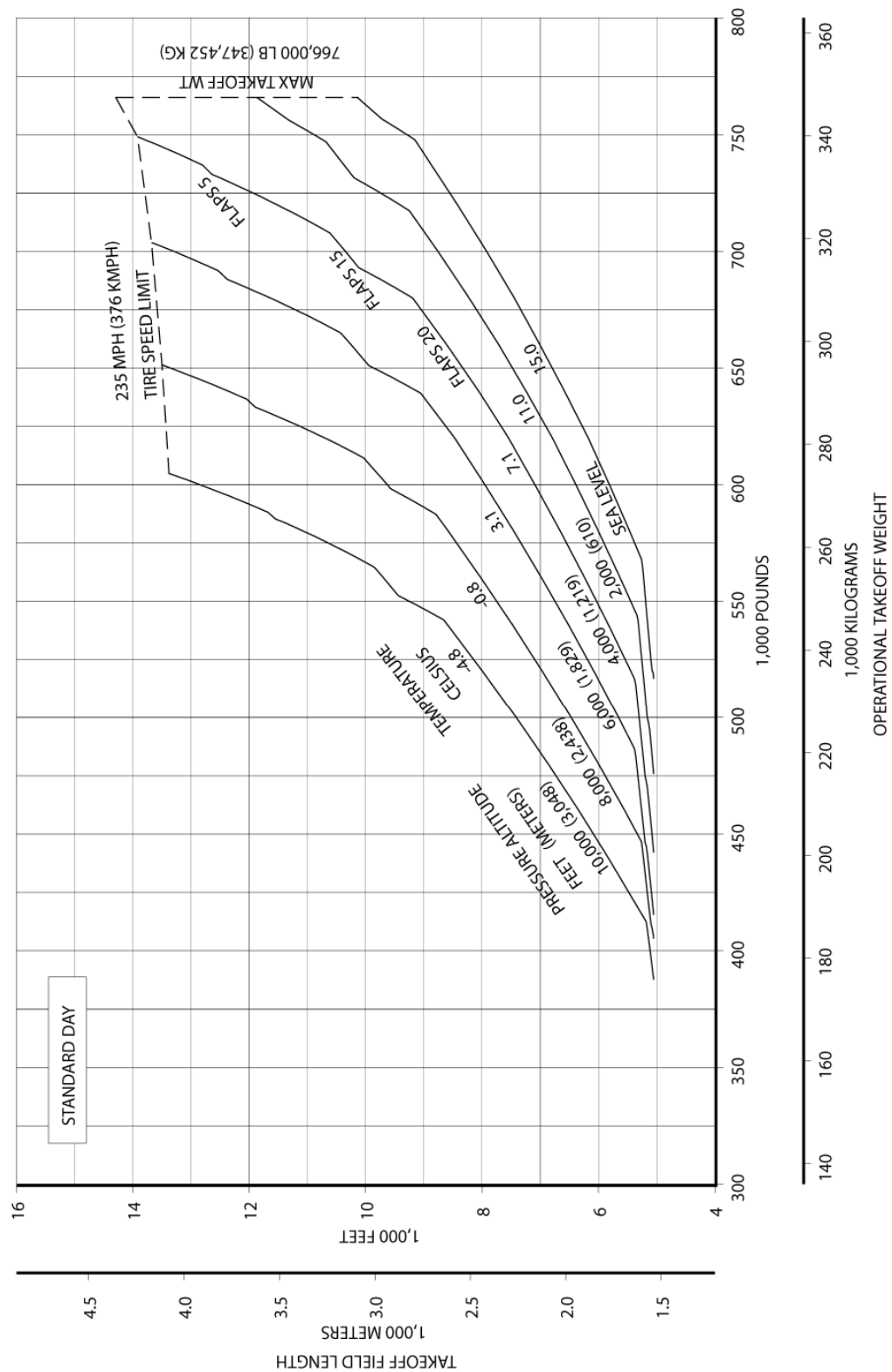
### 3.2.3 PAYLOAD/RANGE FOR 0.84 MACH CRUISE

MODEL 777F (GE90-100 SERIES ENGINES)

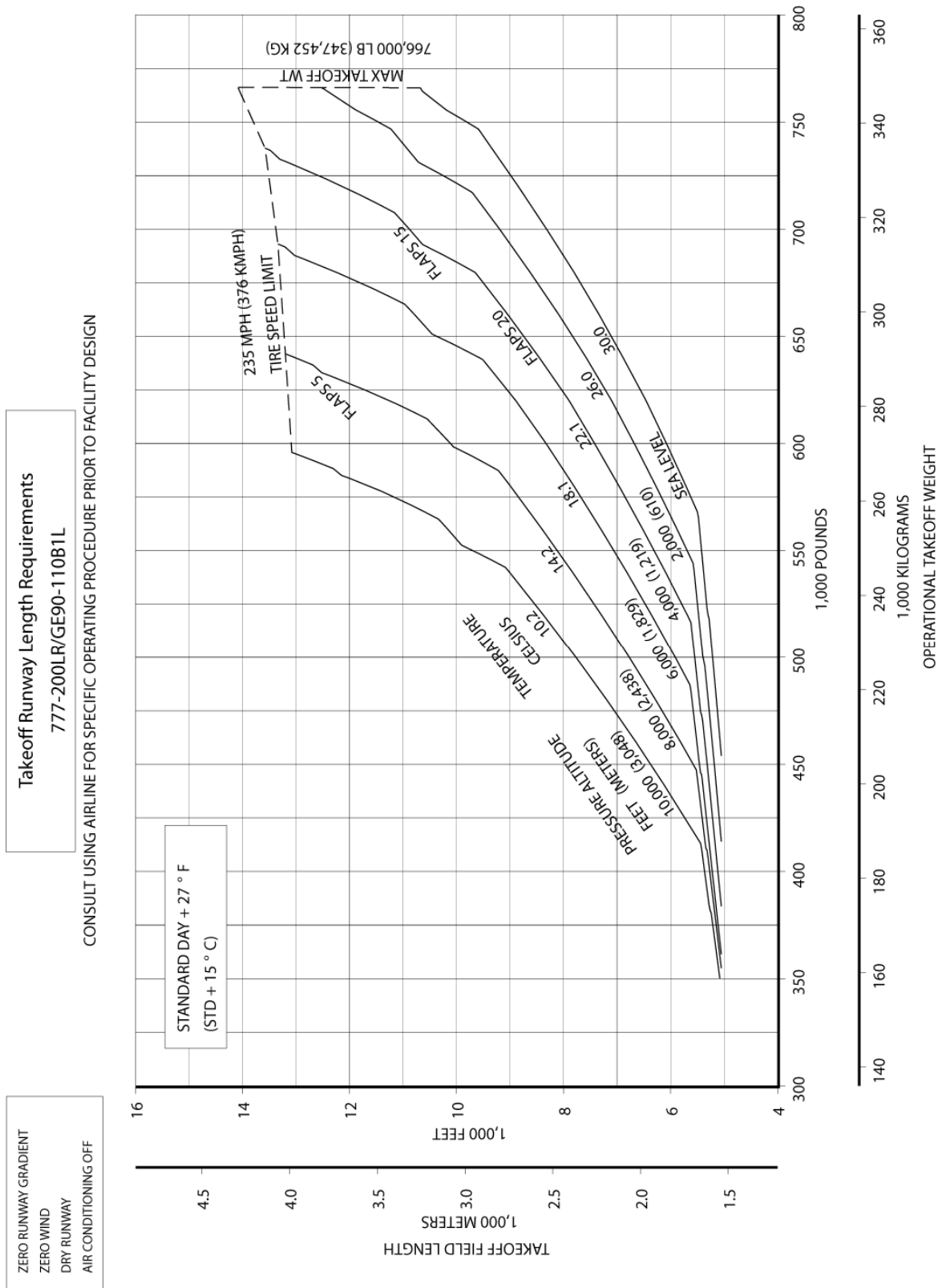
ZERO RUNWAY GRADIENT  
 ZERO WIND  
 DRY RUNWAY  
 AIR CONDITIONING OFF

Takeoff Runway Length Requirements  
 777-200LR/GE90-110B1L

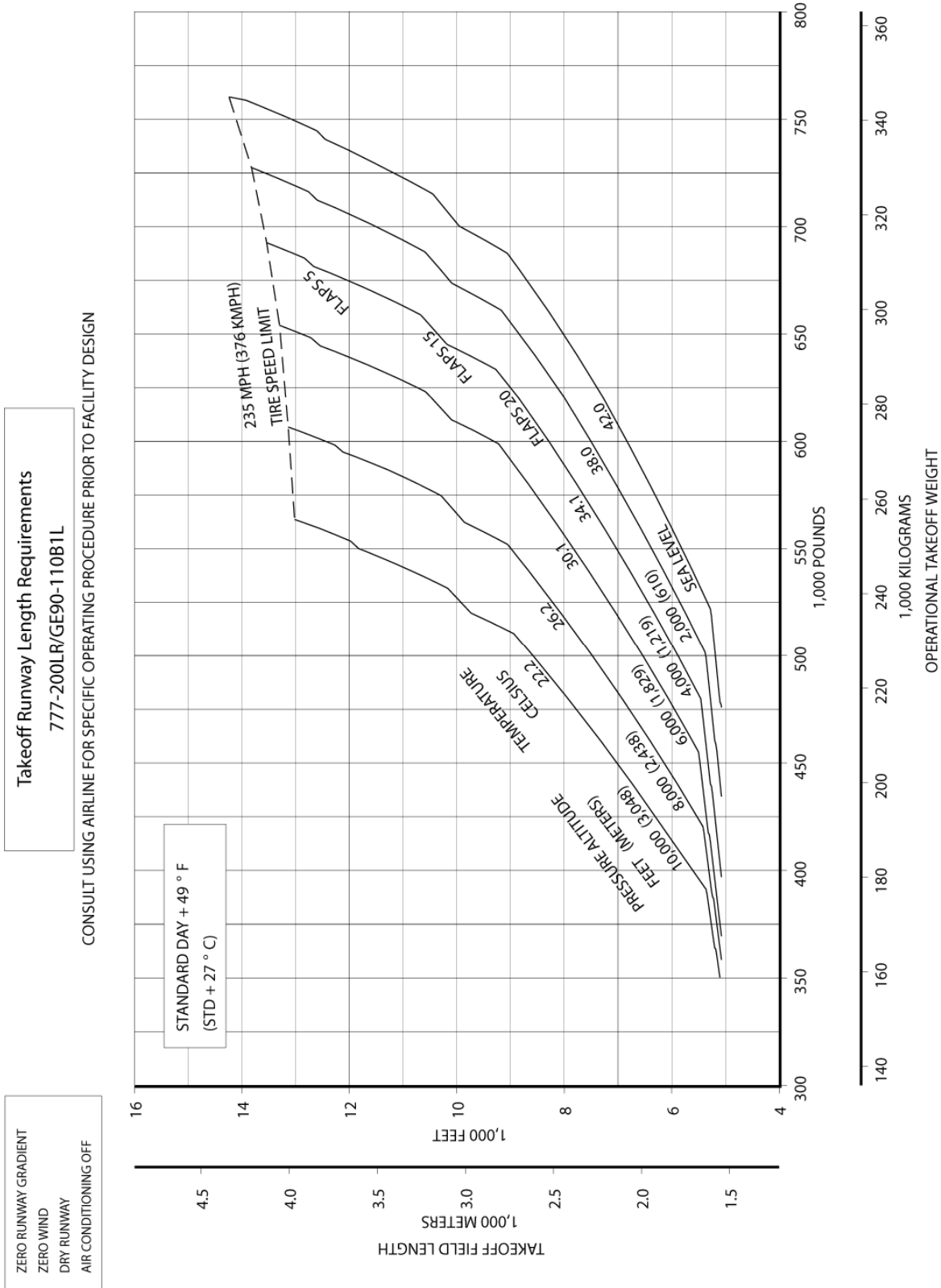
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**3.3.1 F.A.R. TAKEOFF RUNWAY LENGTH REQUIREMENTS - STANDARD DAY**  
 MODEL 777-200LR (GE90-110B1L ENGINES)

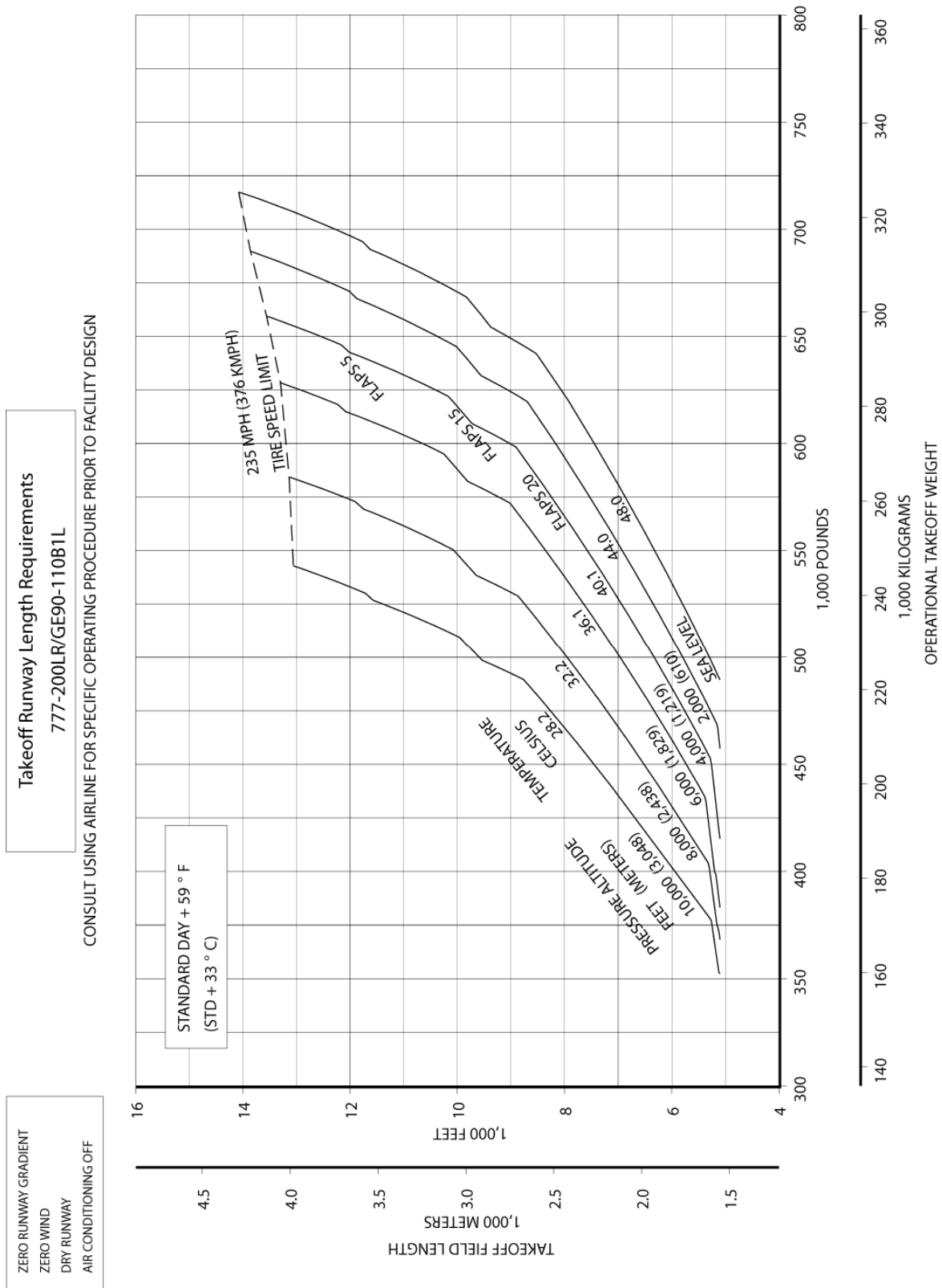


### 3.3.2 F.A.R. TAKEOFF RUNWAY LENGTH REQUIREMENTS STANDARD DAY +27°F (STD + 15°C) MODEL 777-200LR (GE90-110B1L ENGINES)



### 3.3.3 TAKEOFF RUNWAY LENGTH REQUIREMENTS STANDARD DAY +49°F (STD + 27°C) MODEL 777-200LR (GE90-110B1L ENGINES)





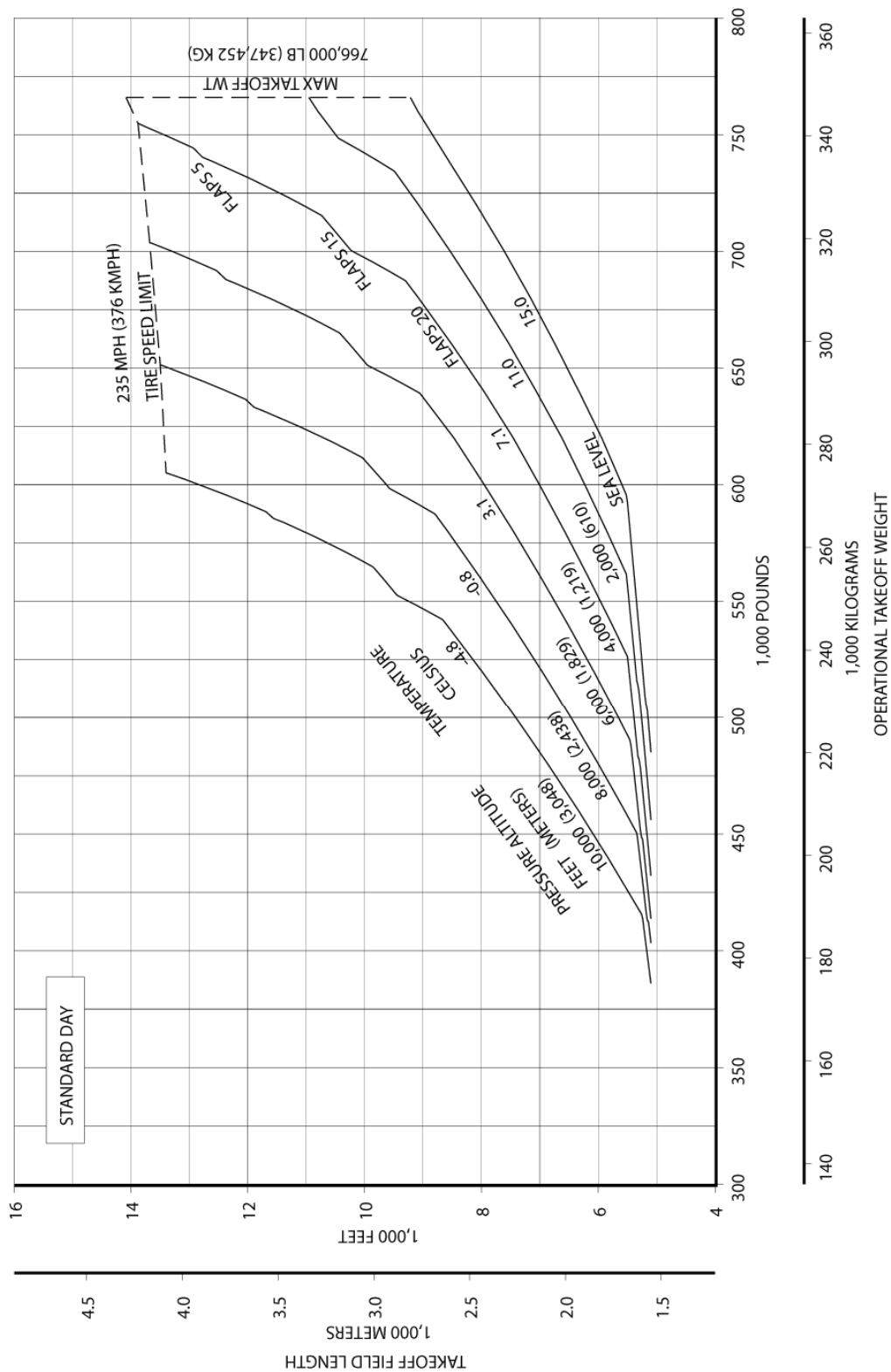
### 3.3.4 F.A.R. TAKEOFF RUNWAY LENGTH REQUIREMENTS STANDARD DAY +59°F (STD + 33°C) MODEL 777-200LR (GE90-110B1L ENGINES)

ZERO RUNWAY GRADIENT  
 ZERO WIND  
 DRY RUNWAY  
 AIR CONDITIONING OFF

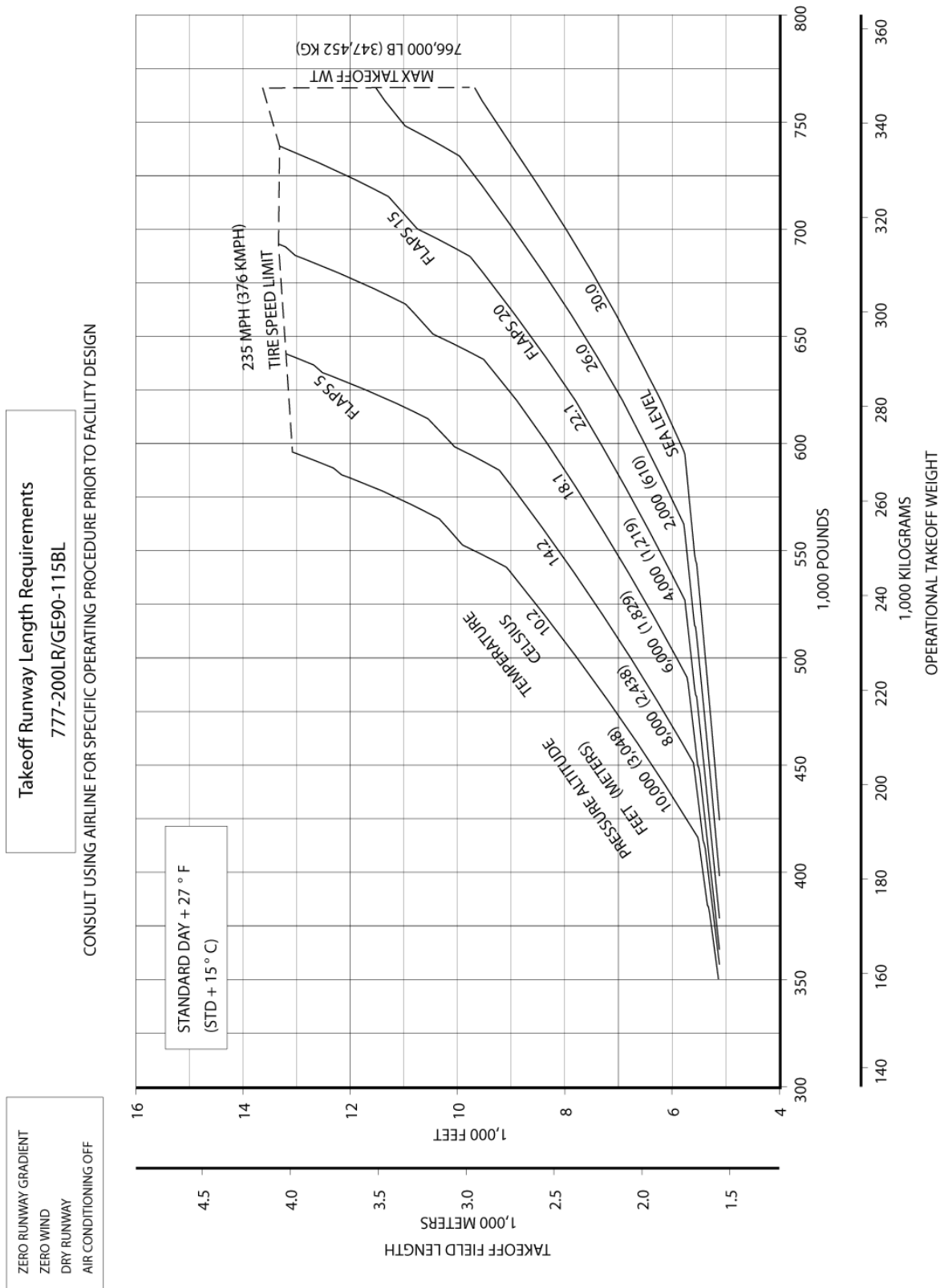
### Takeoff Runway Length Requirements

777-200LR/GE90-115BL

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### 3.3.5 F.A.R. TAKEOFF RUNWAY LENGTH REQUIREMENTS - STANDARD DAY MODEL 777-200LR (GE90-115BL ENGINES)

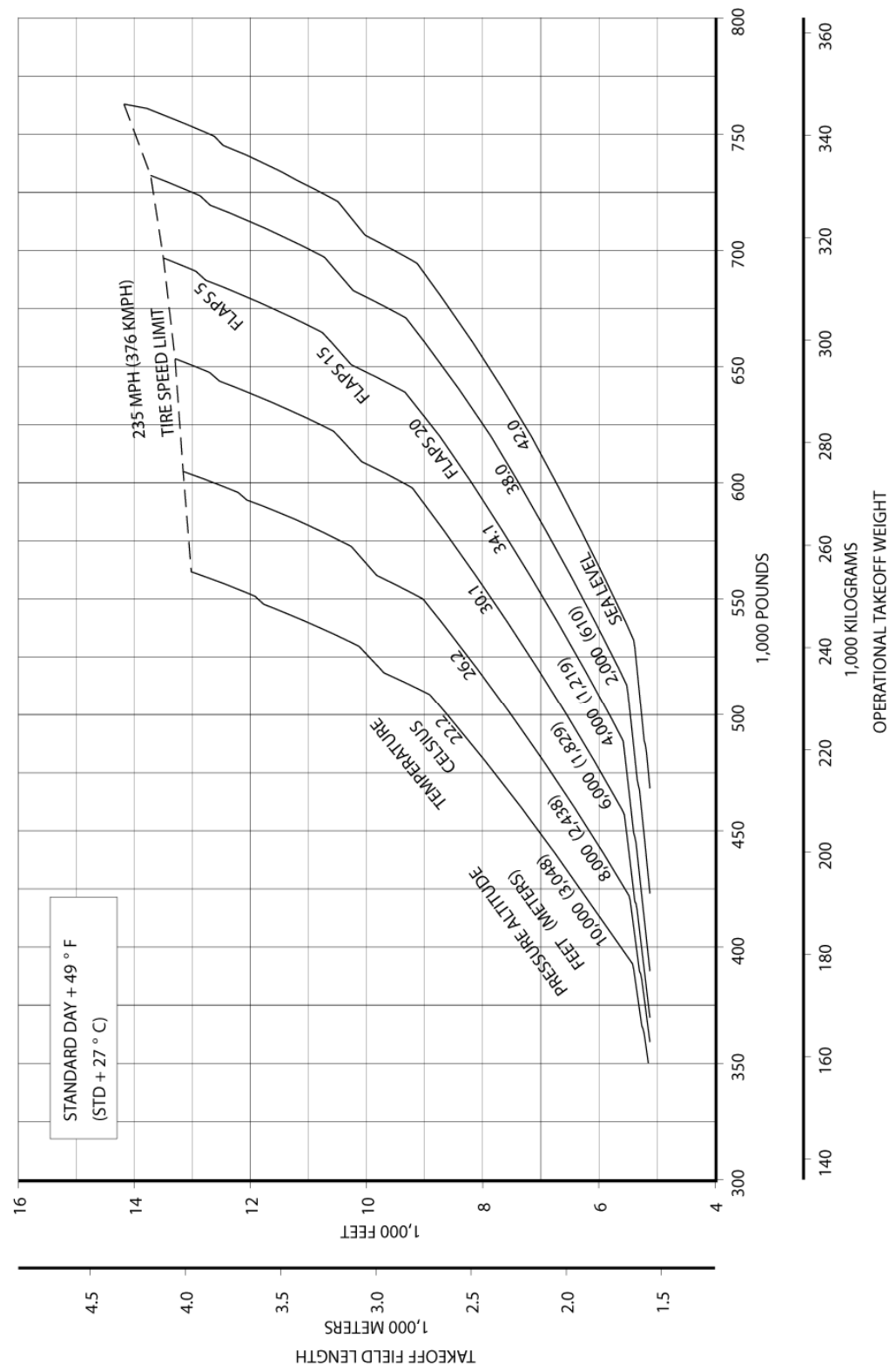


**3.3.6 F.A.R. TAKEOFF RUNWAY LENGTH REQUIREMENTS STANDARD DAY +27°F (STD + 15°C)**  
*MODEL 777-200LR (GE90-115BL ENGINES)*

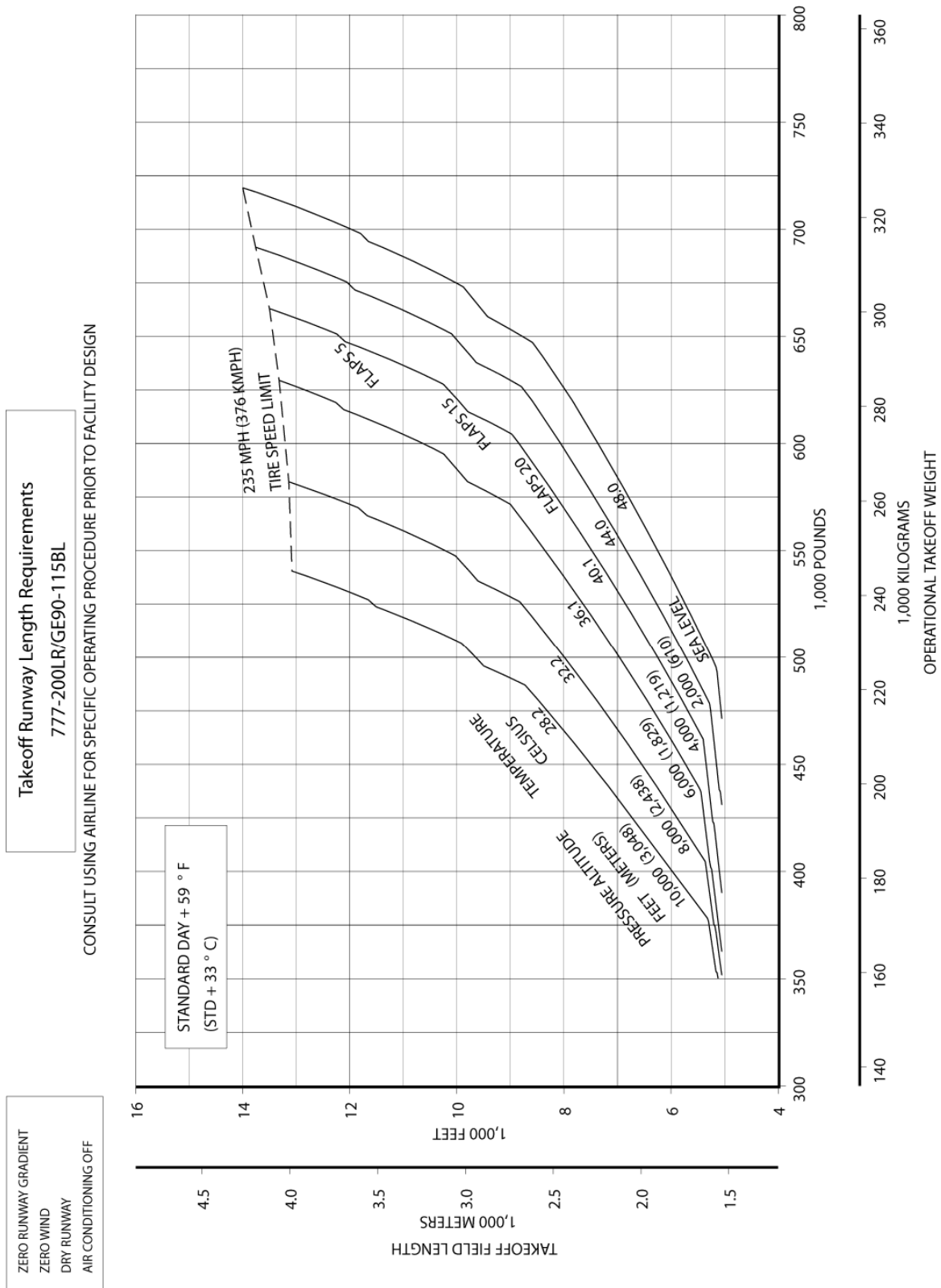
ZERO RUNWAY GRADIENT  
 ZERO WIND  
 DRY RUNWAY  
 AIR CONDITIONING OFF

Takeoff Runway Length Requirements  
 777-200LR/GE90-115BL

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### 3.3.7 F.A.R. TAKEOFF RUNWAY LENGTH REQUIREMENTS - STANDARD DAY+49°F (STD + 27°C) MODEL 777-200LR (GE90-115BL ENGINES)

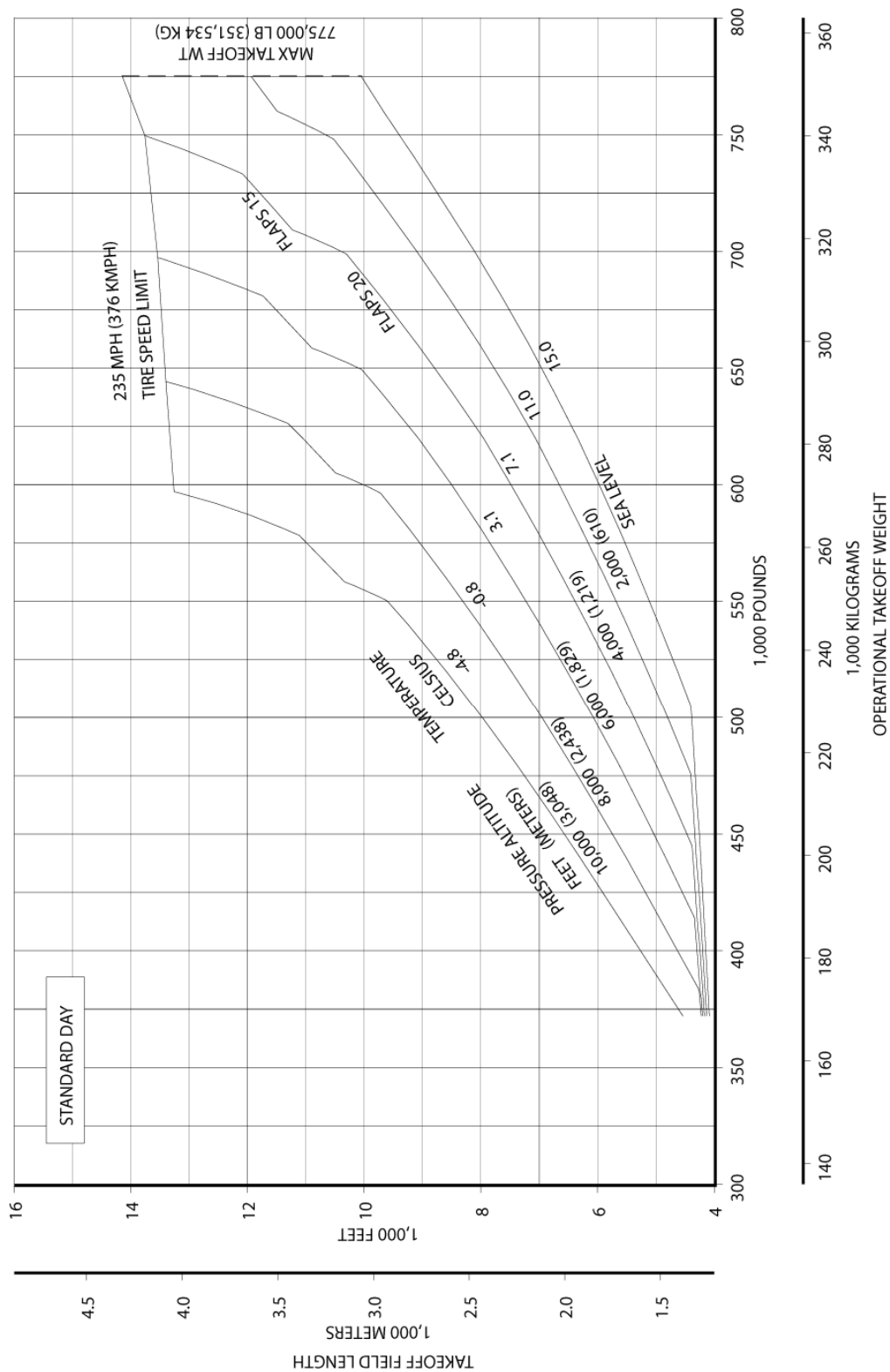


### 3.3.8 F.A.R. TAKEOFF RUNWAY LENGTH REQUIREMENTS STANDARD DAY +59°F (STD + 33°C) MODEL 777-200LR (GE90-115BL ENGINES)

ZERO RUNWAY GRADIENT  
ZERO WIND  
DRY RUNWAY  
AIR CONDITIONING OFF

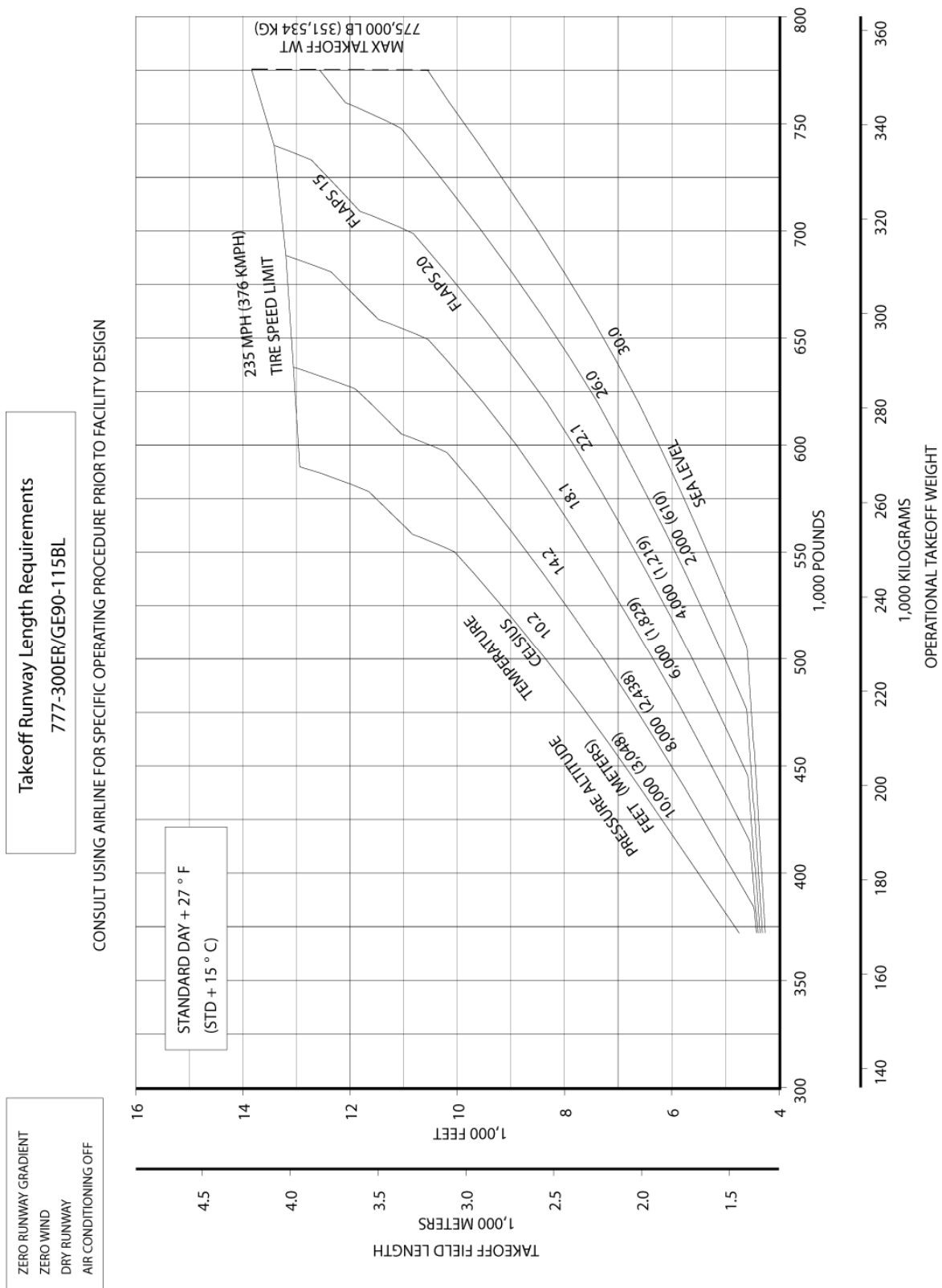
Takeoff Runway Length Requirements  
777-300ER/GE90-115BL

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### 3.3.9 F.A.R. TAKEOFF RUNWAY LENGTH REQUIREMENTS - STANDARD DAY

MODEL 777-300ER (GE90-115BL ENGINES)



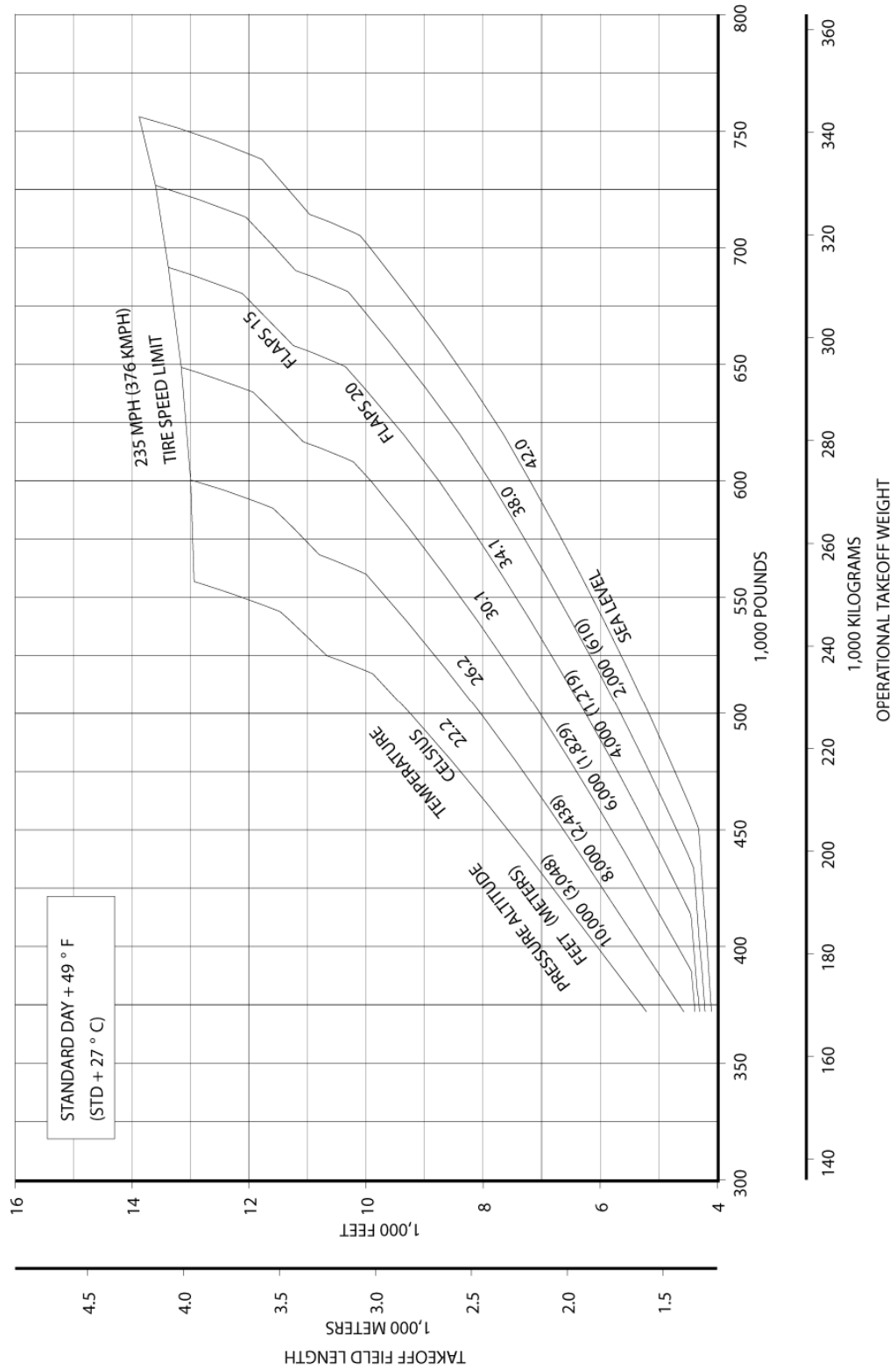
### 3.3.10 F.A.R. TAKEOFF RUNWAY LENGTH REQUIREMENTS STANDARD DAY +27°F (STD + 15°C) MODEL 777-300ER (GE90-115BL ENGINES)

ZERO RUNWAY GRADIENT  
ZERO WIND  
DRY RUNWAY  
AIR CONDITIONING OFF

### Takeoff Runway Length Requirements

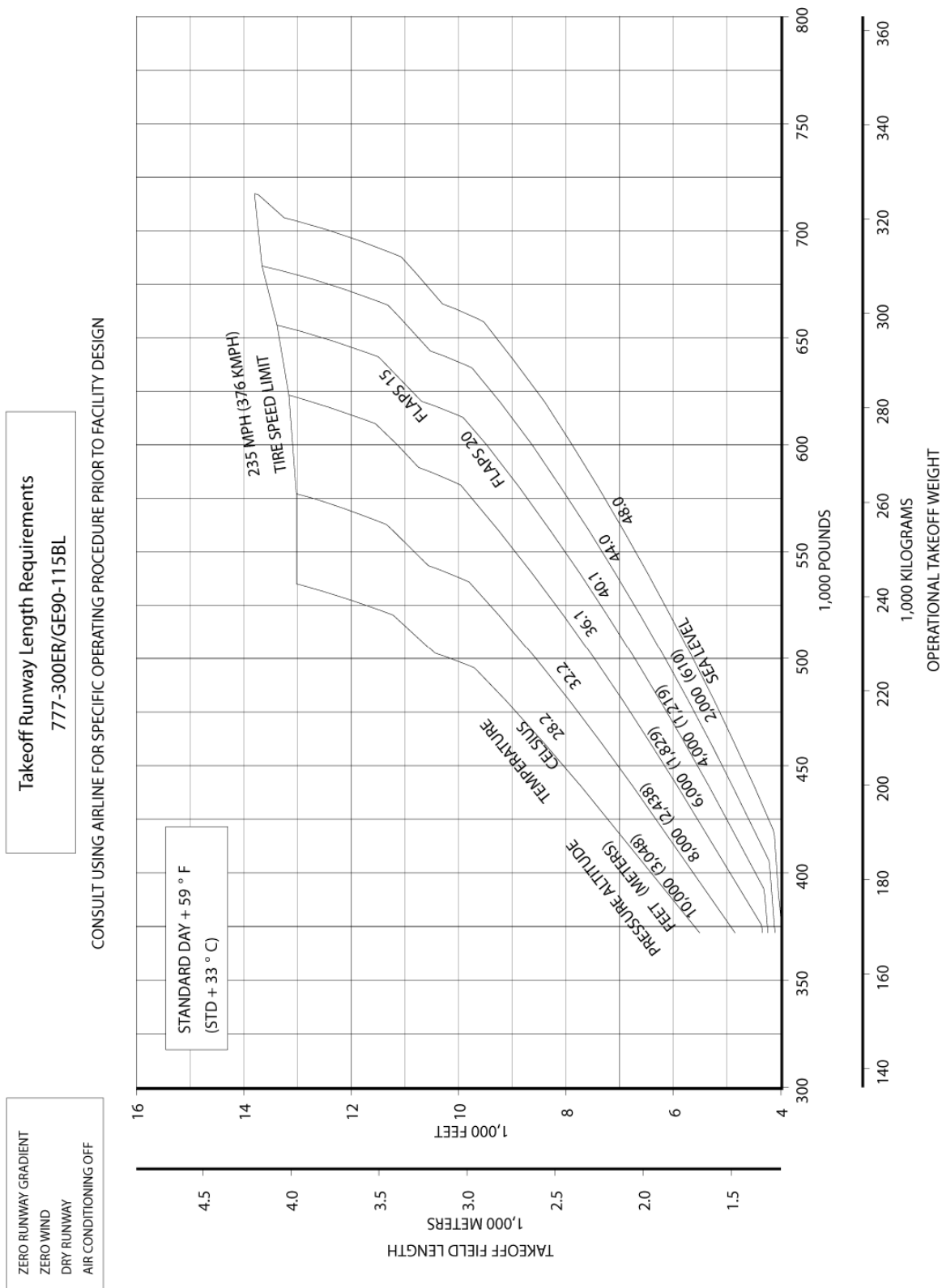
777-300ER/GE90-115BL

CONSULT USING AIRLINE FOR SPECIFIC OPERATING PROCEDURE PRIOR TO FACILITY DESIGN



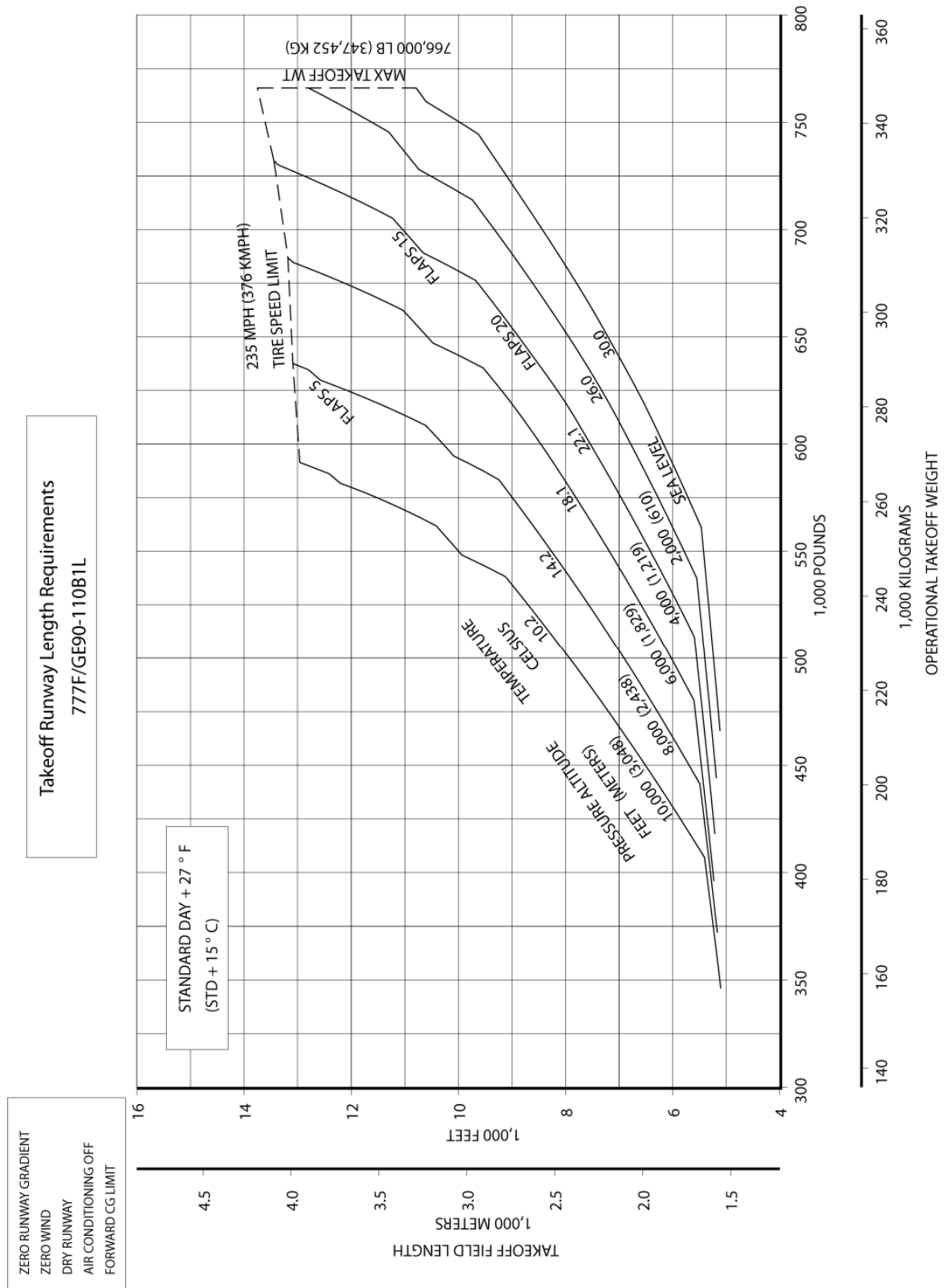
### 3.3.11 F.A.R. TAKEOFF RUNWAY LENGTH REQUIREMENTS STANDARD DAY +49°F (STD + 27°C) MODEL 777-300ER (GE90-115BL ENGINES)



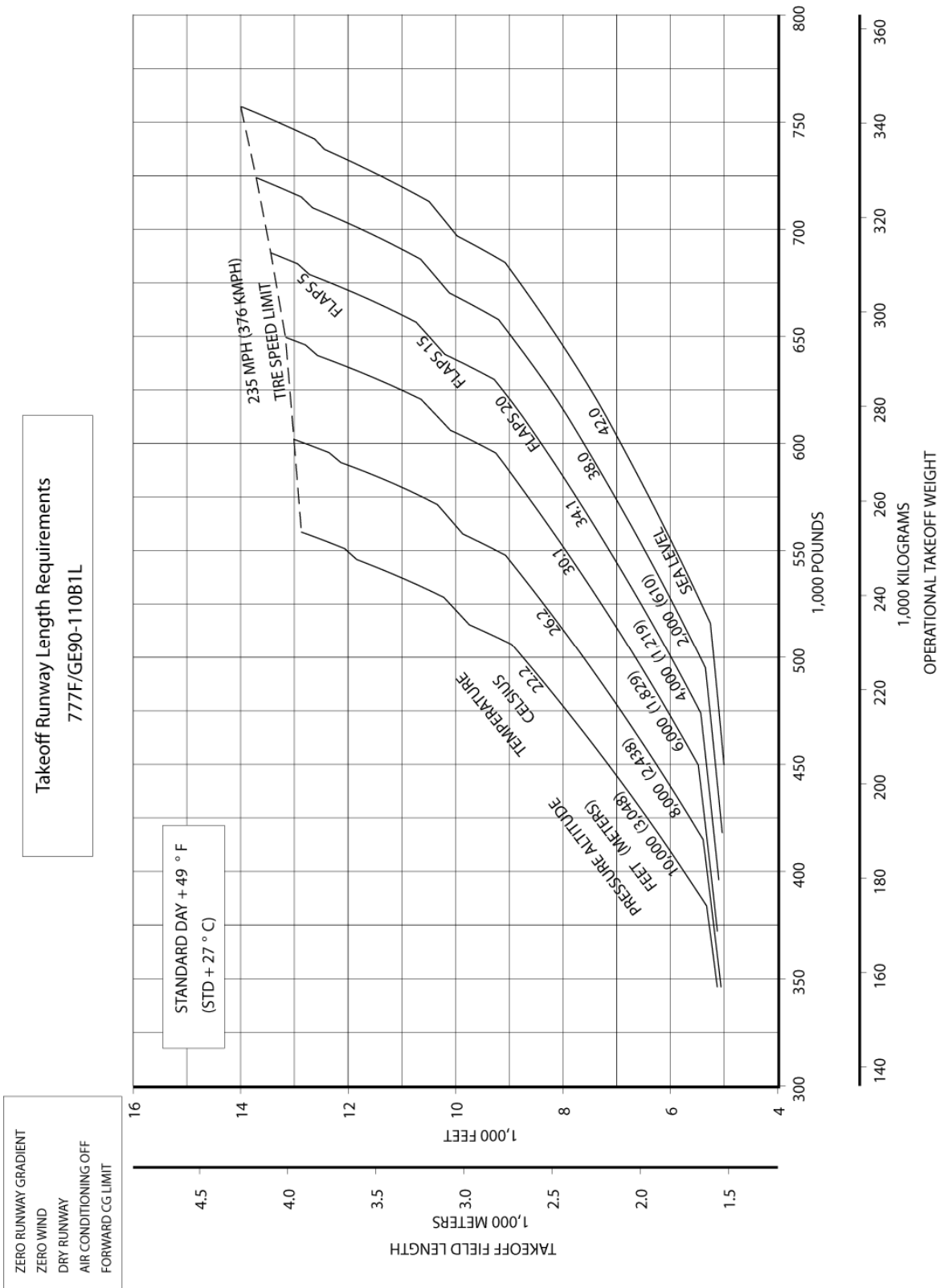


### 3.3.12 F.A.R. TAKEOFF RUNWAY LENGTH REQUIREMENTS STANDARD DAY +59°F (STD + 33°C) MODEL 777-300ER (GE90-115BL ENGINES)

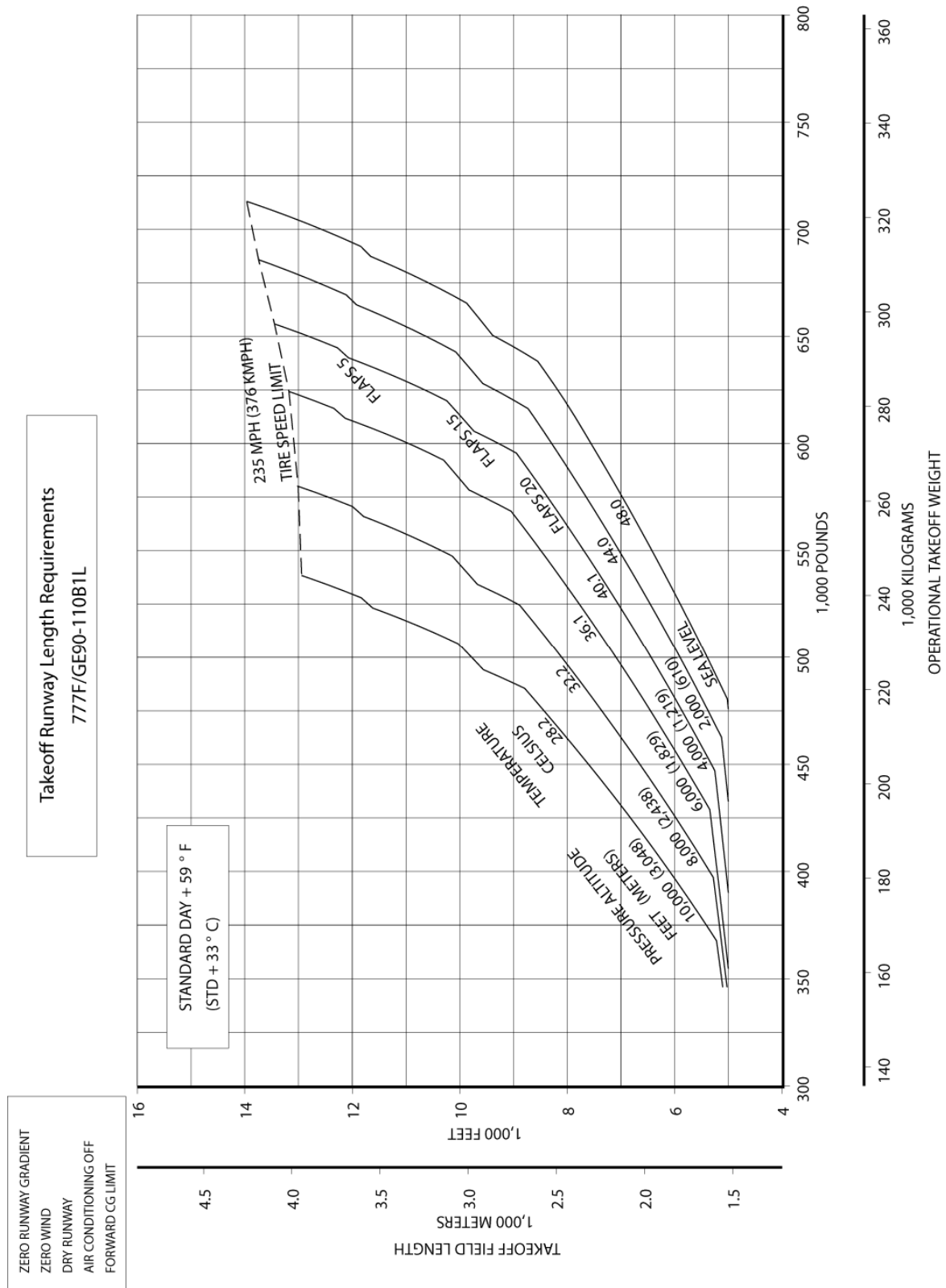




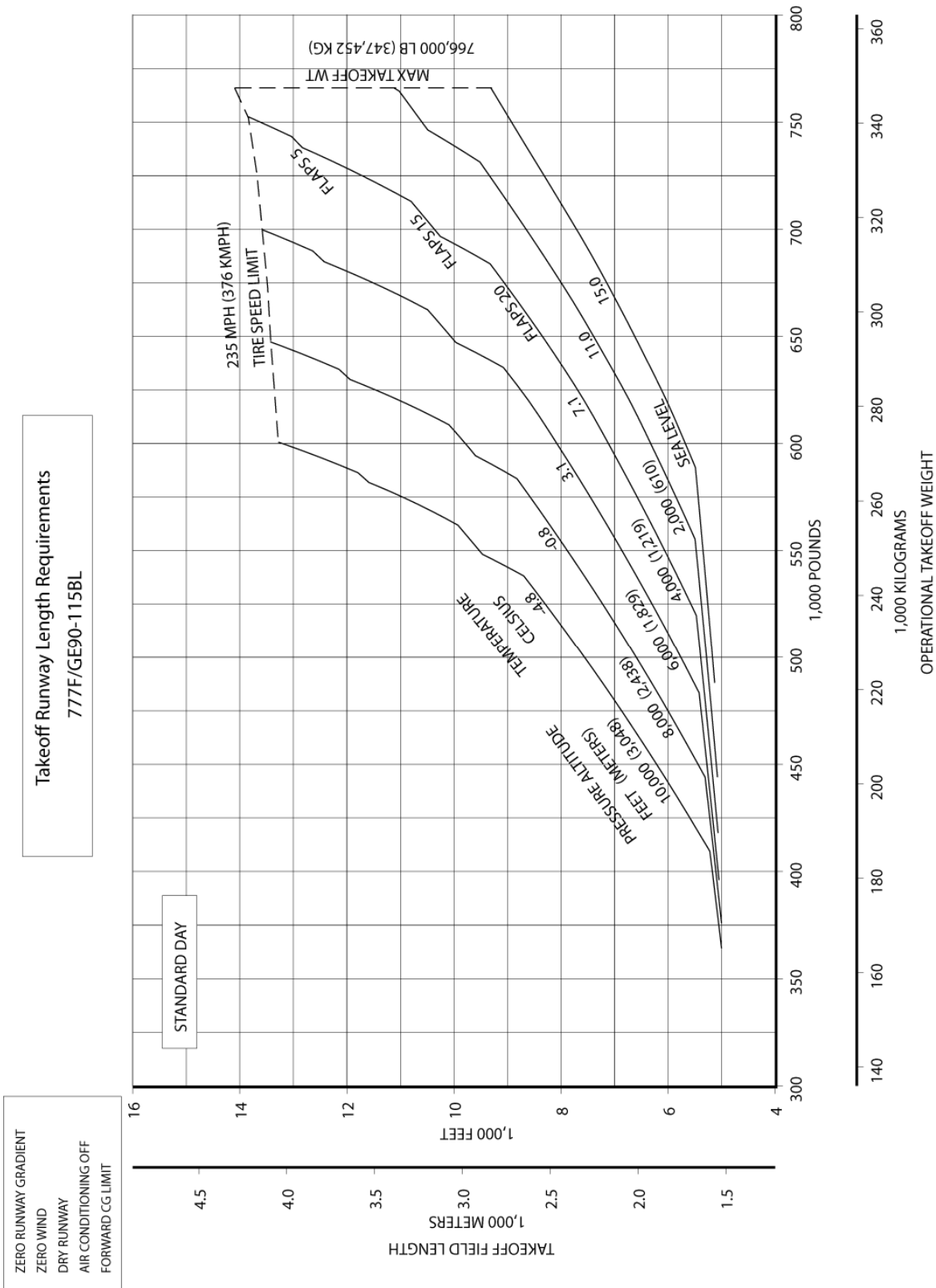
### 3.3.14 F.A.R. TAKEOFF RUNWAY LENGTH REQUIREMENTS - STANDARD DAY + 27°F (STD + 15°C) MODEL 777F (GE90-110B1L ENGINES)



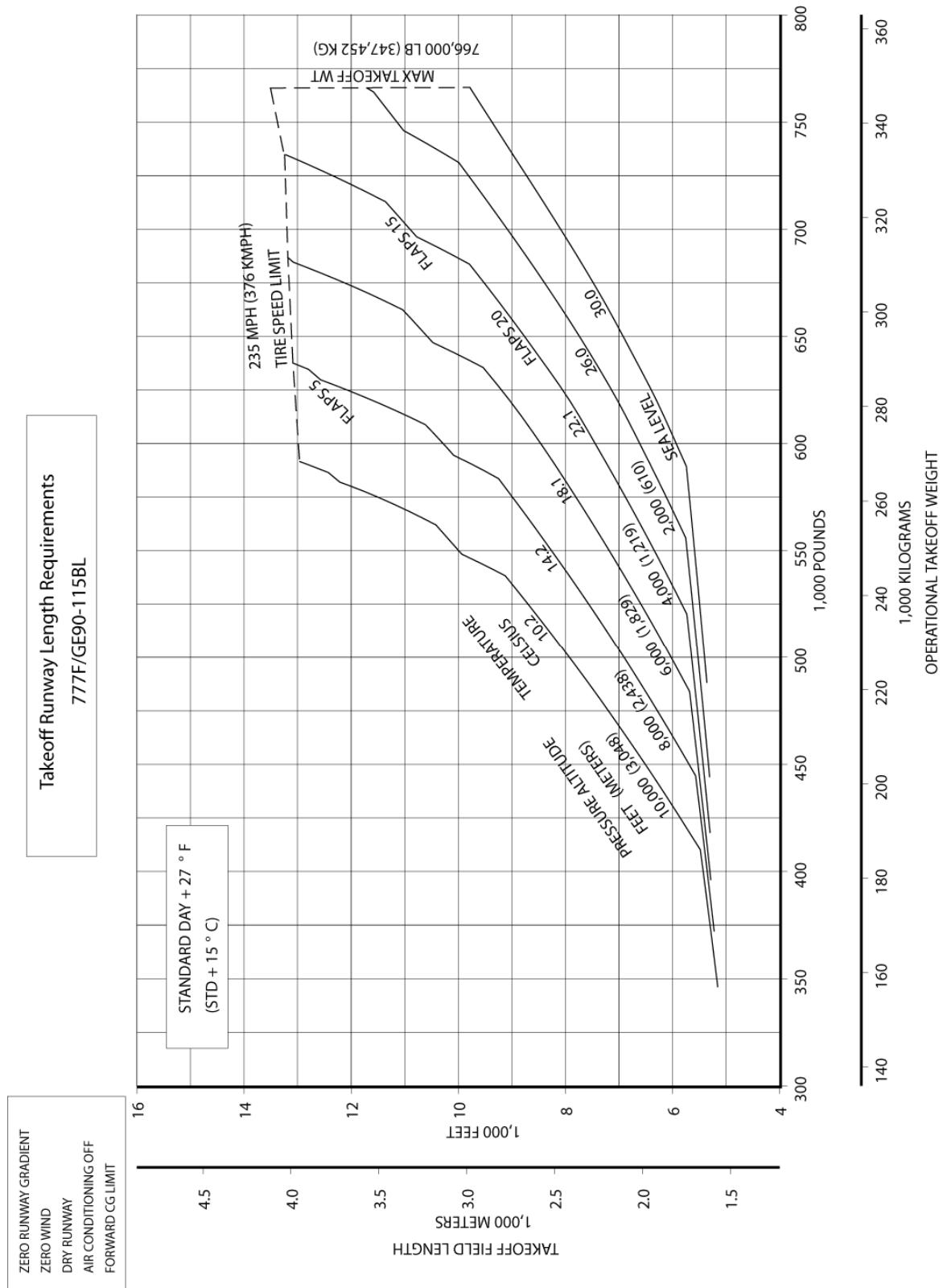
### 3.3.15 F.A.R. TAKEOFF RUNWAY LENGTH REQUIREMENTS STANDARD DAY +49°F (STD + 27°C) MODEL 777F (GE90-110B1L ENGINES)



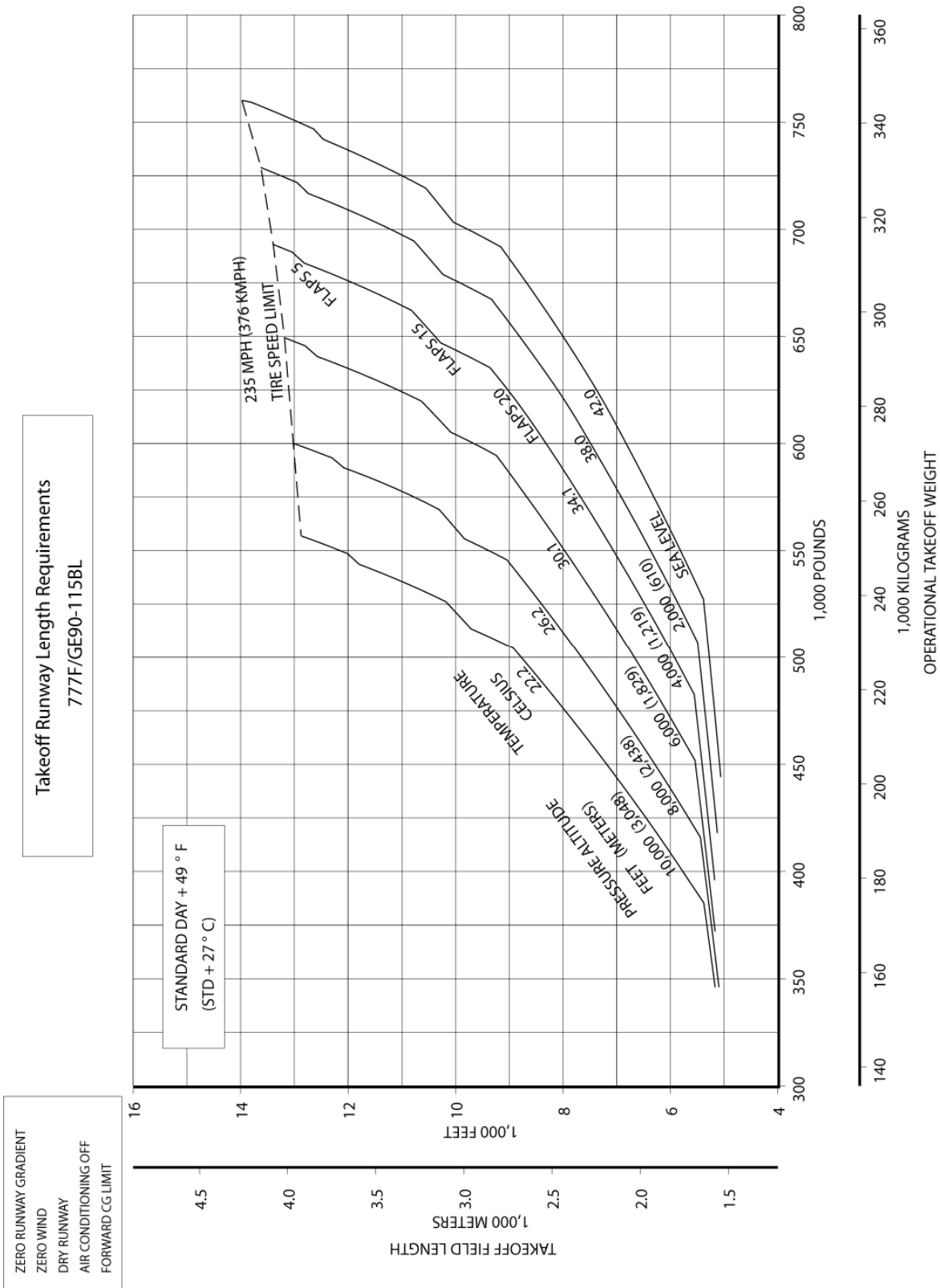
**3.3.16 F.A.R. TAKEOFF RUNWAY LENGTH REQUIREMENTS STANDARD DAY +59°F (STD + 33°C)**  
*MODEL 777F (GE90-110B1L ENGINES)*



### 3.3.17 F.A.R. TAKEOFF RUNWAY LENGTH REQUIREMENTS STANDARD DAY MODEL 777F (GE90-115BL ENGINES)

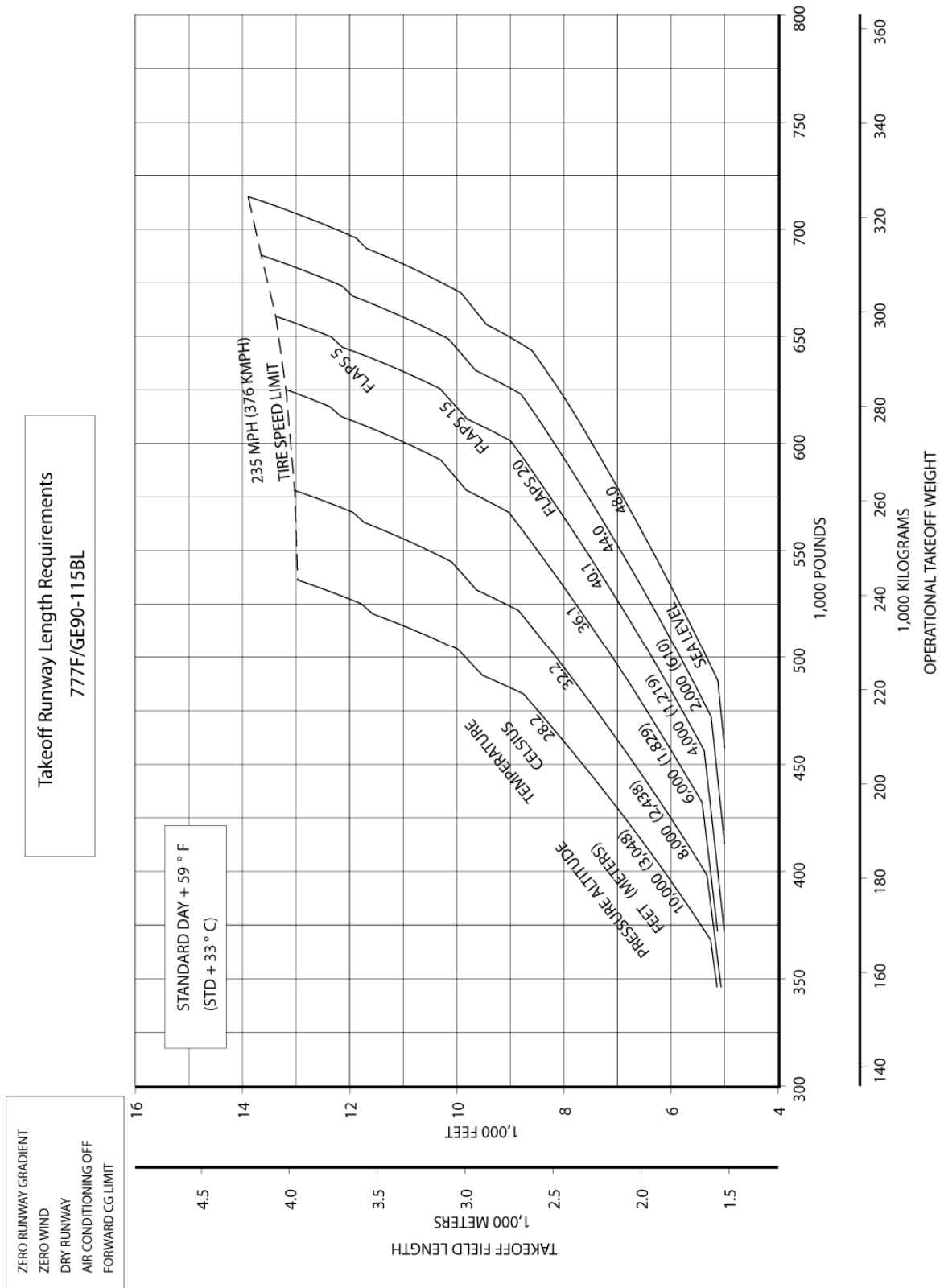


**3.3.18 F.A.R. TAKEOFF RUNWAY LENGTH REQUIREMENTS STANDARD DAY + 27°F (STD + 15° C)**  
*MODEL 777F (GE90-115BL ENGINES)*



**3.3.19 F.A.R. TAKEOFF RUNWAY LENGTH REQUIREMENTS STANDARD DAY + 49°F (STD + 27° C)**  
*MODEL 777F (GE90-115BL ENGINES)*



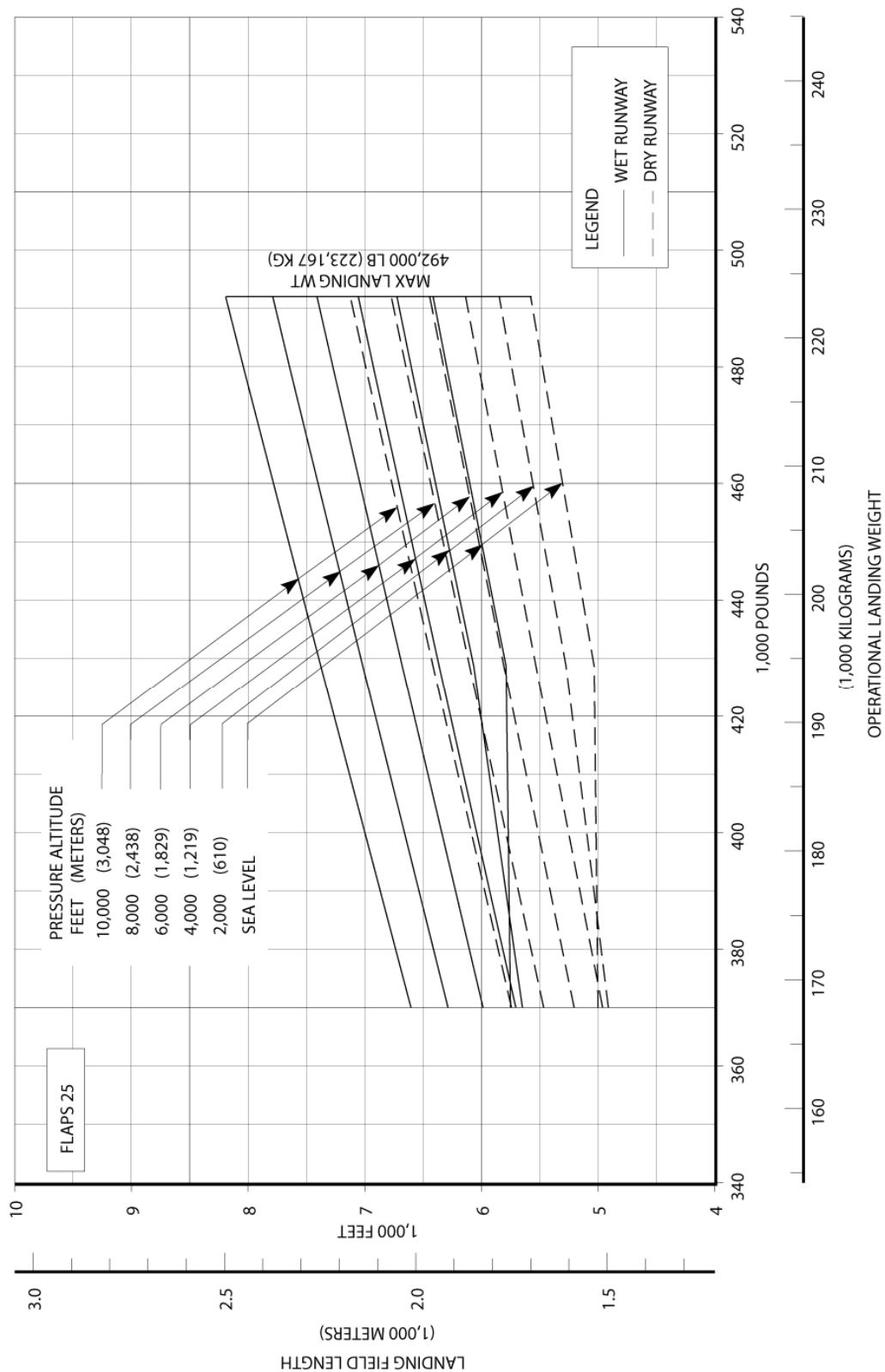


### 3.3.20 F.A.R. TAKEOFF RUNWAY LENGTH REQUIREMENTS STANDARD DAY + 59°F (STD + 33° C) MODEL 777F (GE90-115BL ENGINES)

STANDARD DAY, ZERO WIND  
 AUTO SPOILERS OPERATIVE  
 ANTI-SKID OPERATIVE  
 ZERO RUNWAY GRADIENT

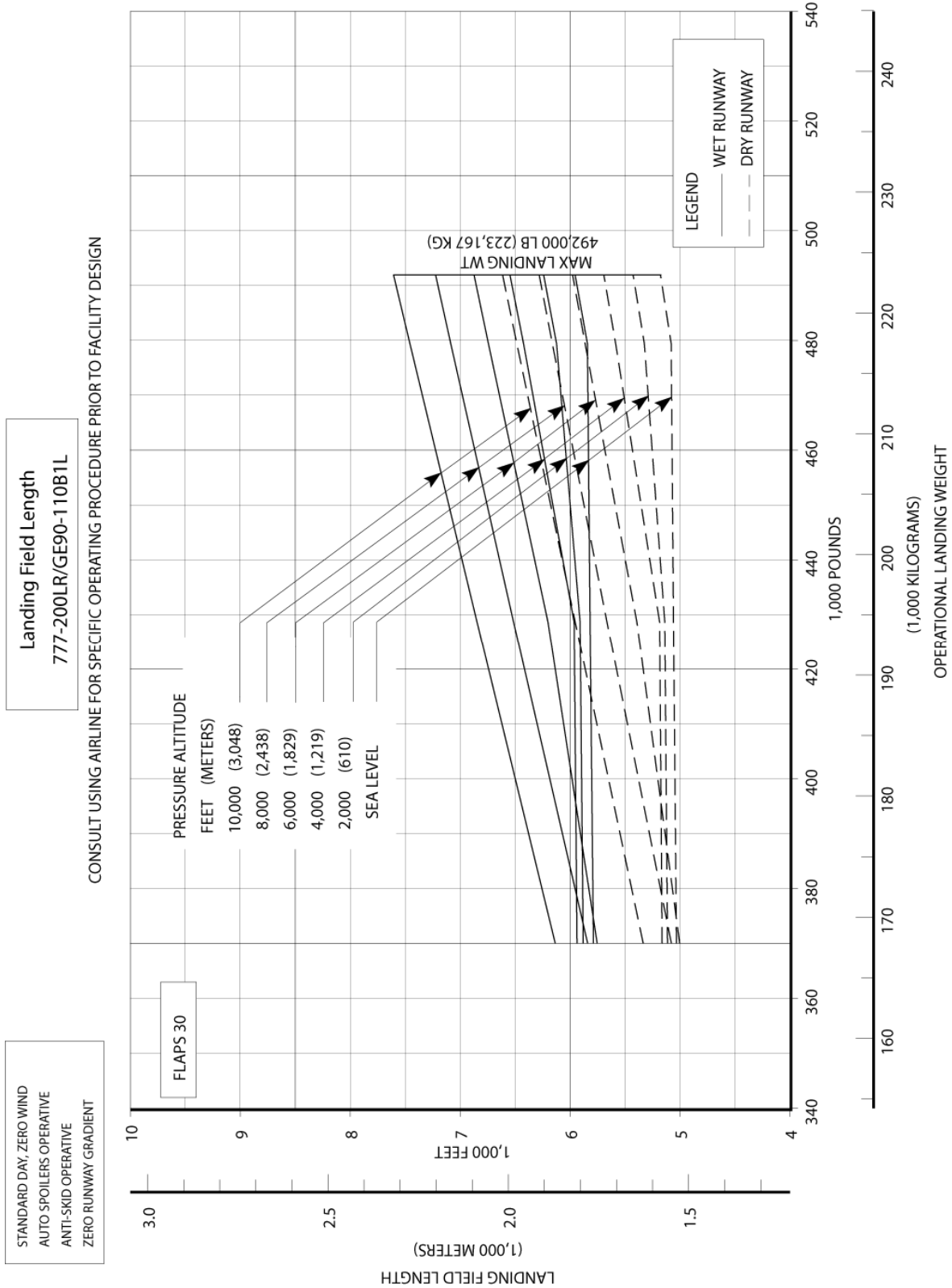
Landing Field Length  
 777-200LR/GE90-110B1L

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### 3.4.1 F.A.R. LANDING RUNWAY LENGTH REQUIREMENTS – FLAPS 25

MODEL 777-200LR (GE90-110B1L ENGINES)



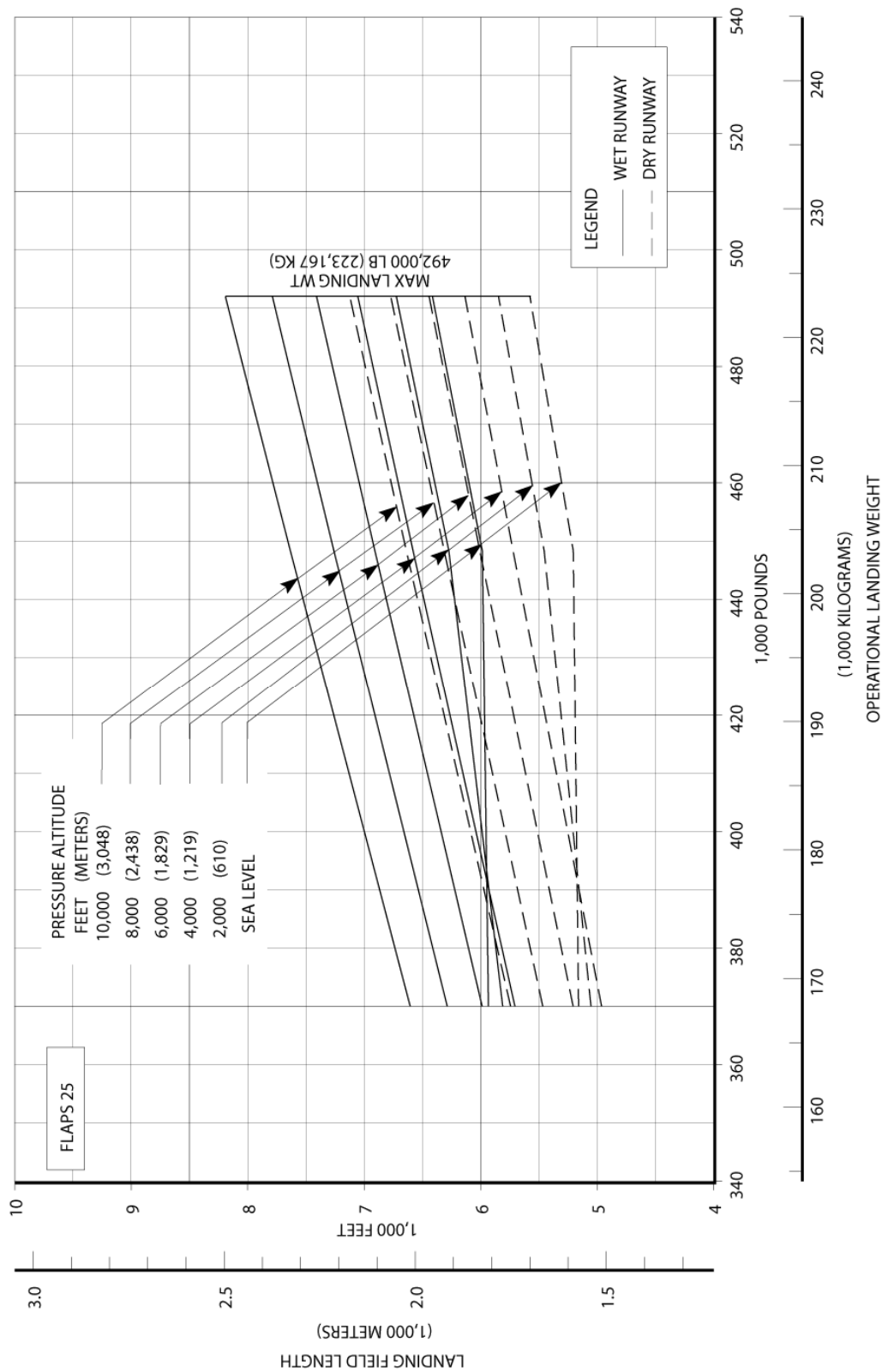
### 3.4.2 F.A.R. LANDING RUNWAY LENGTH REQUIREMENTS – FLAPS 30

MODEL 777-200LR (GE90-110B1L ENGINES)

STANDARD DAY, ZERO WIND  
 AUTO SPOILERS OPERATIVE  
 ANTI-SKID OPERATIVE  
 ZERO RUNWAY GRADIENT

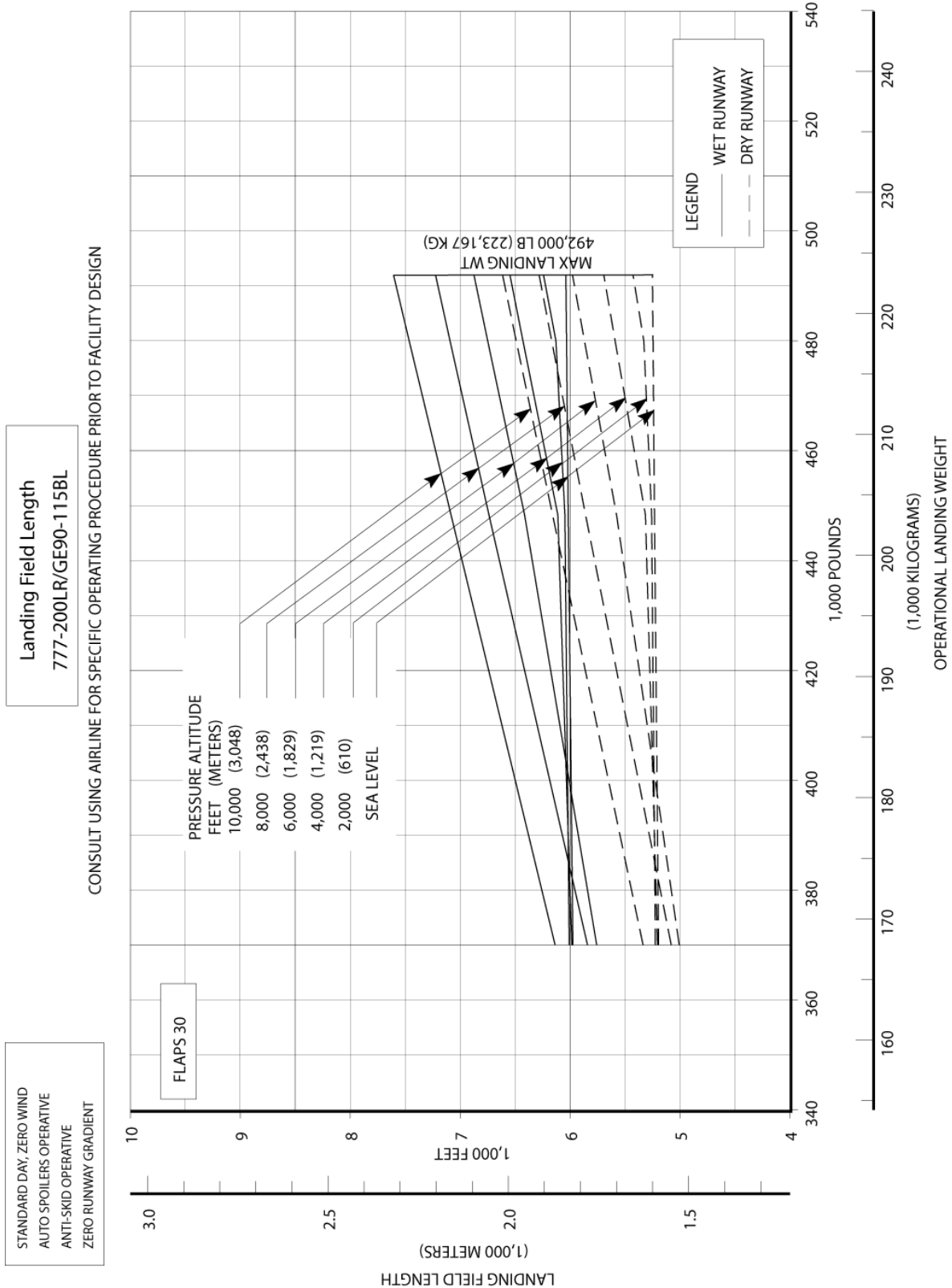
Landing Field Length  
 777-200LR/GE90-115BL

CONSULT USING AIRLINE FOR SPECIFIC OPERATING PROCEDURE PRIOR TO FACILITY DESIGN



### 3.4.3 F.A.R. LANDING RUNWAY LENGTH REQUIREMENTS – FLAPS 25

MODEL 777-200LR (GE90-115BL ENGINES)



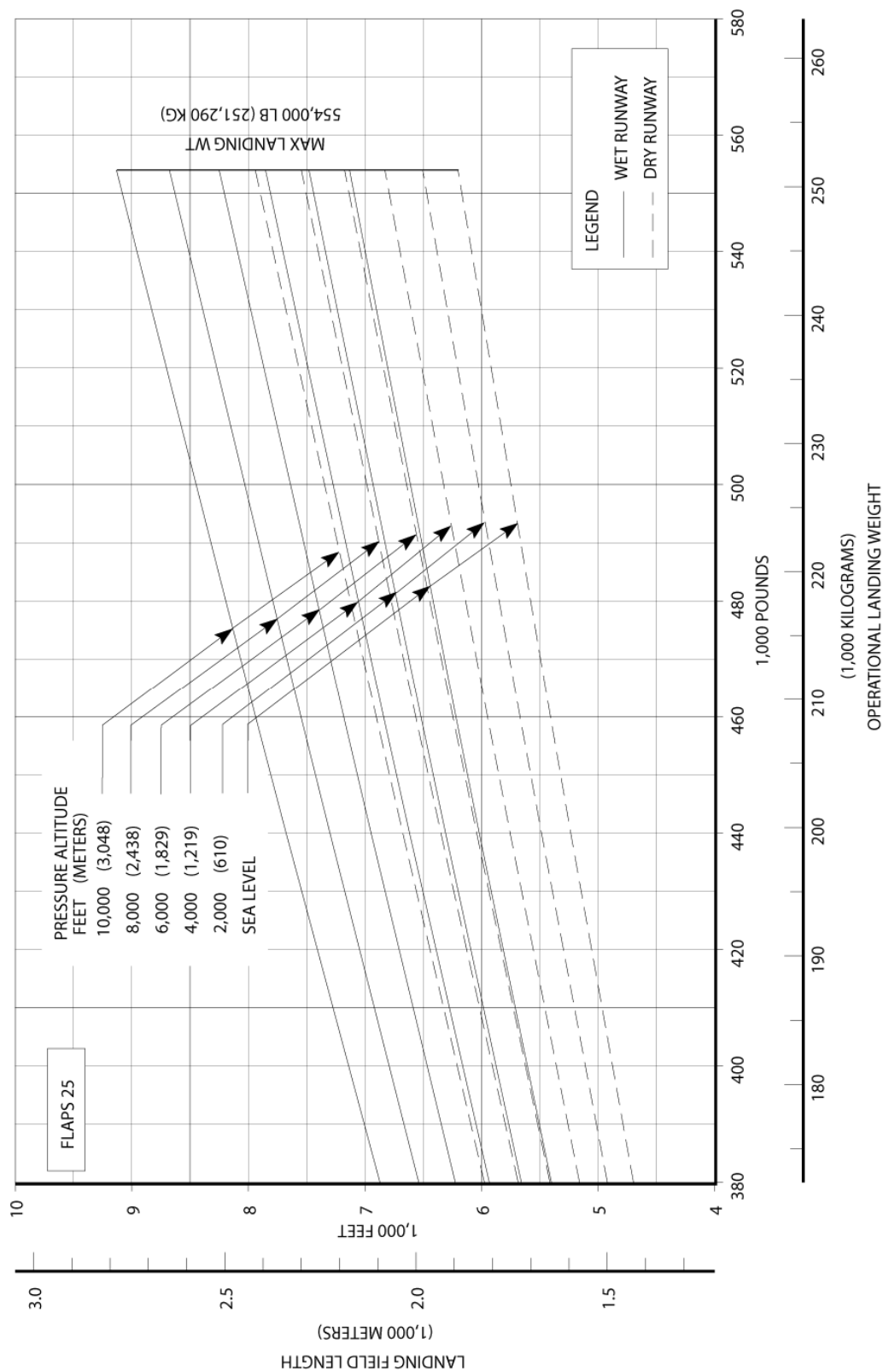
### 3.4.4 F.A.R. LANDING RUNWAY LENGTH REQUIREMENTS – FLAPS 30

MODEL 777-200LR (GE90-115BL ENGINES)

**Landing Field Length**  
777-300ER/GE90-115BL

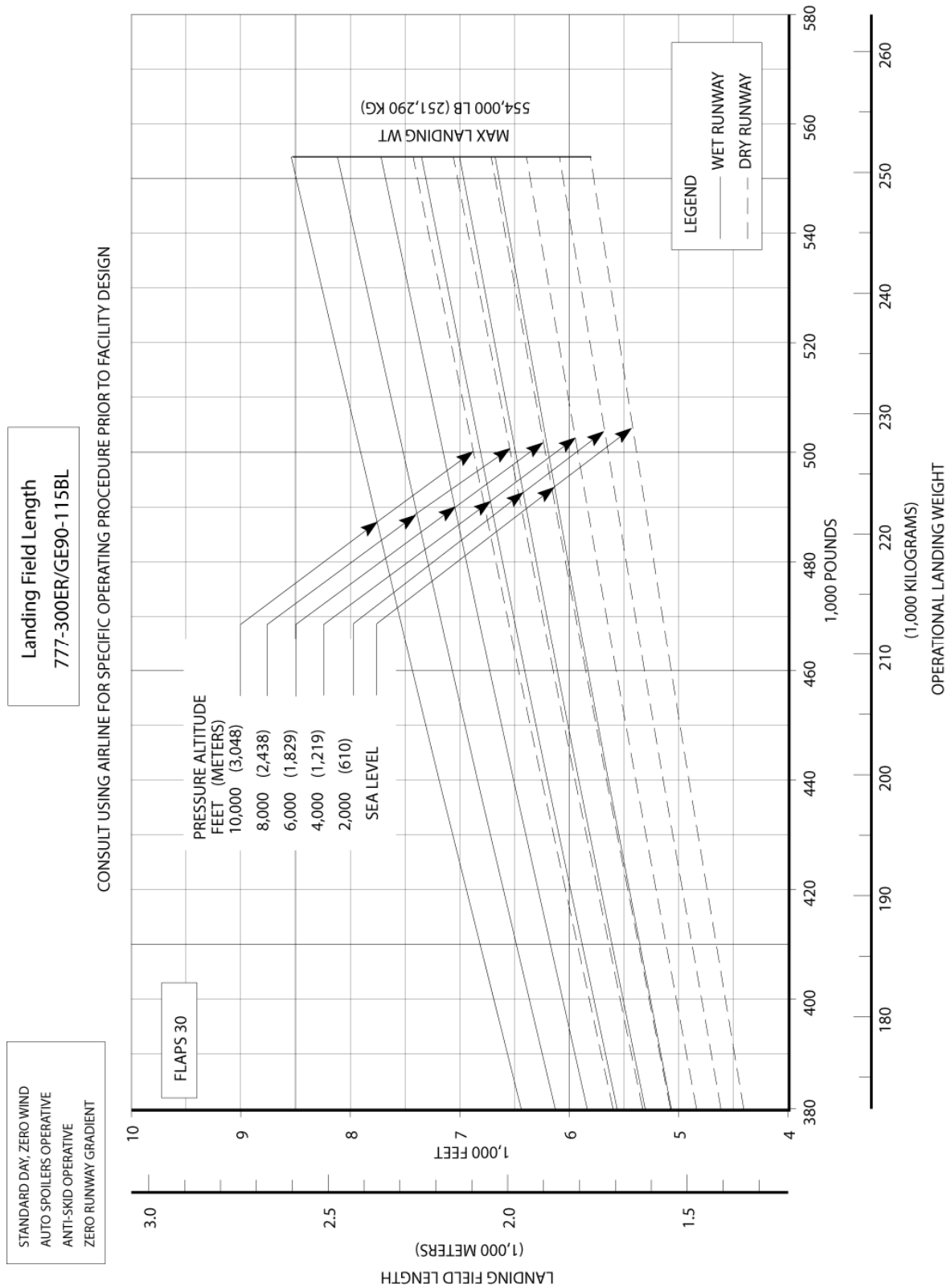
STANDARD DAY, ZERO WIND  
AUTO SPOILERS OPERATIVE  
ANTI-SKID OPERATIVE  
ZERO RUNWAY GRADIENT

CONSULT USING AIRLINE FOR SPECIFIC OPERATING PROCEDURE PRIOR TO FACILITY DESIGN



### 3.4.5 F.A.R. LANDING RUNWAY LENGTH REQUIREMENTS – FLAPS 25

MODEL 777-300ER (GE90-115BL ENGINES)

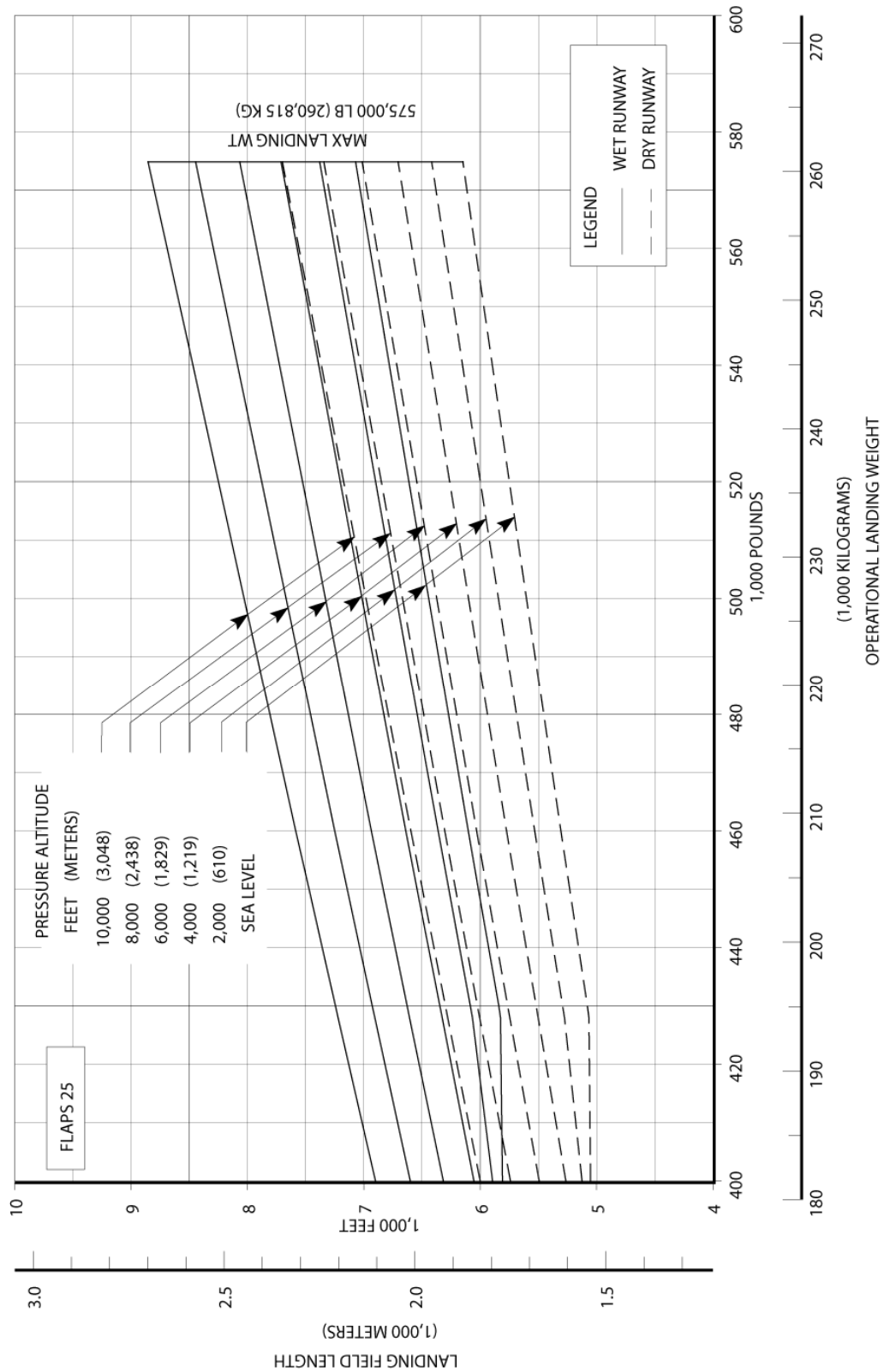


### 3.4.6 F.A.R. LANDING RUNWAY LENGTH REQUIREMENTS – FLAPS 30

MODEL 777-300ER (GE90-115BL ENGINES)

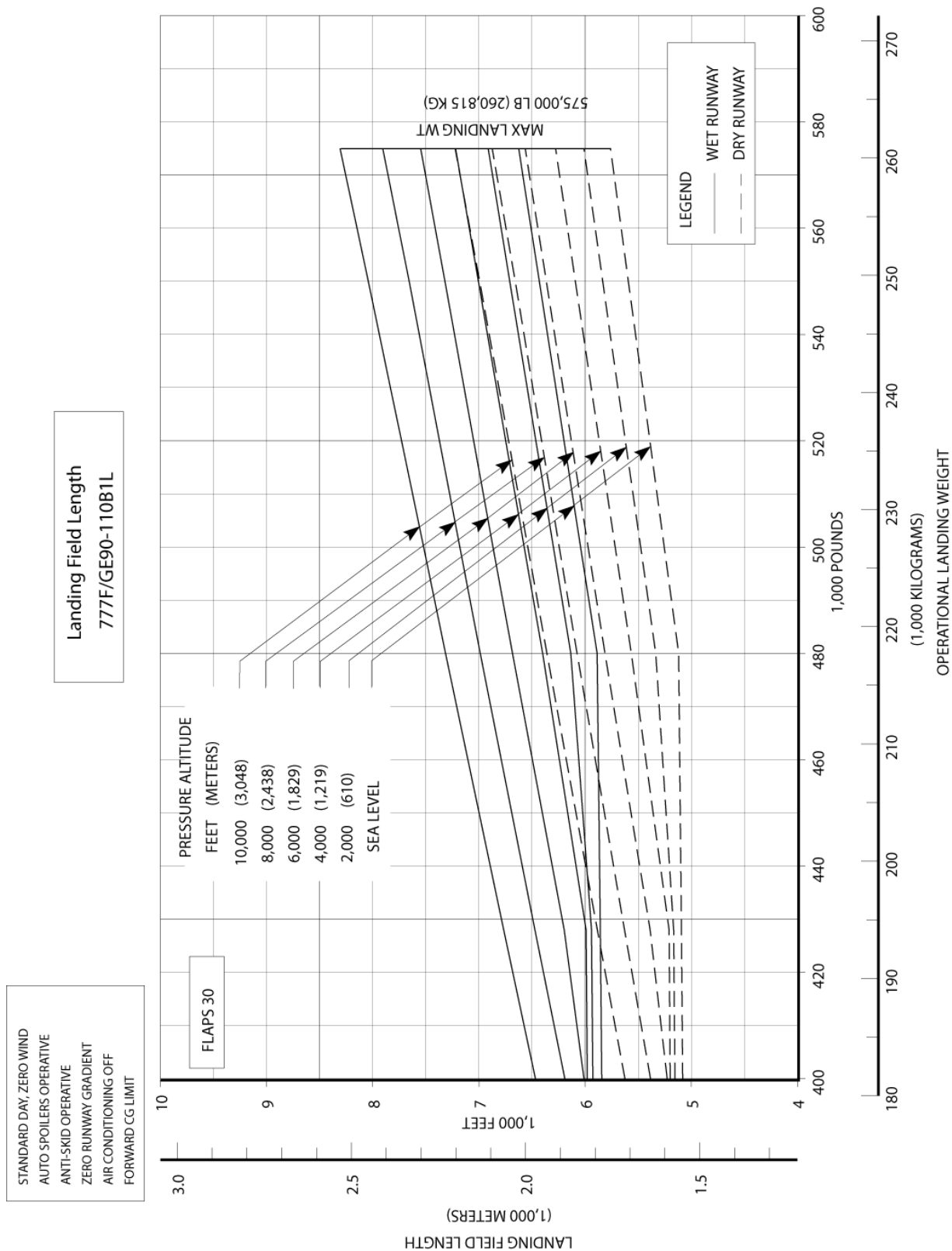
STANDARD DAY, ZERO WIND  
 AUTO SPOILERS OPERATIVE  
 ANTI-SKID OPERATIVE  
 ZERO RUNWAY GRADIENT  
 AIR CONDITIONING OFF  
 FORWARD CG LIMIT

Landing Field Length  
 777F/GE90-110B1L



### 3.4.7 F.A.R. LANDING RUNWAY LENGTH REQUIREMENTS – FLAPS 25 MODEL 777F (GE90-110B1L ENGINES)

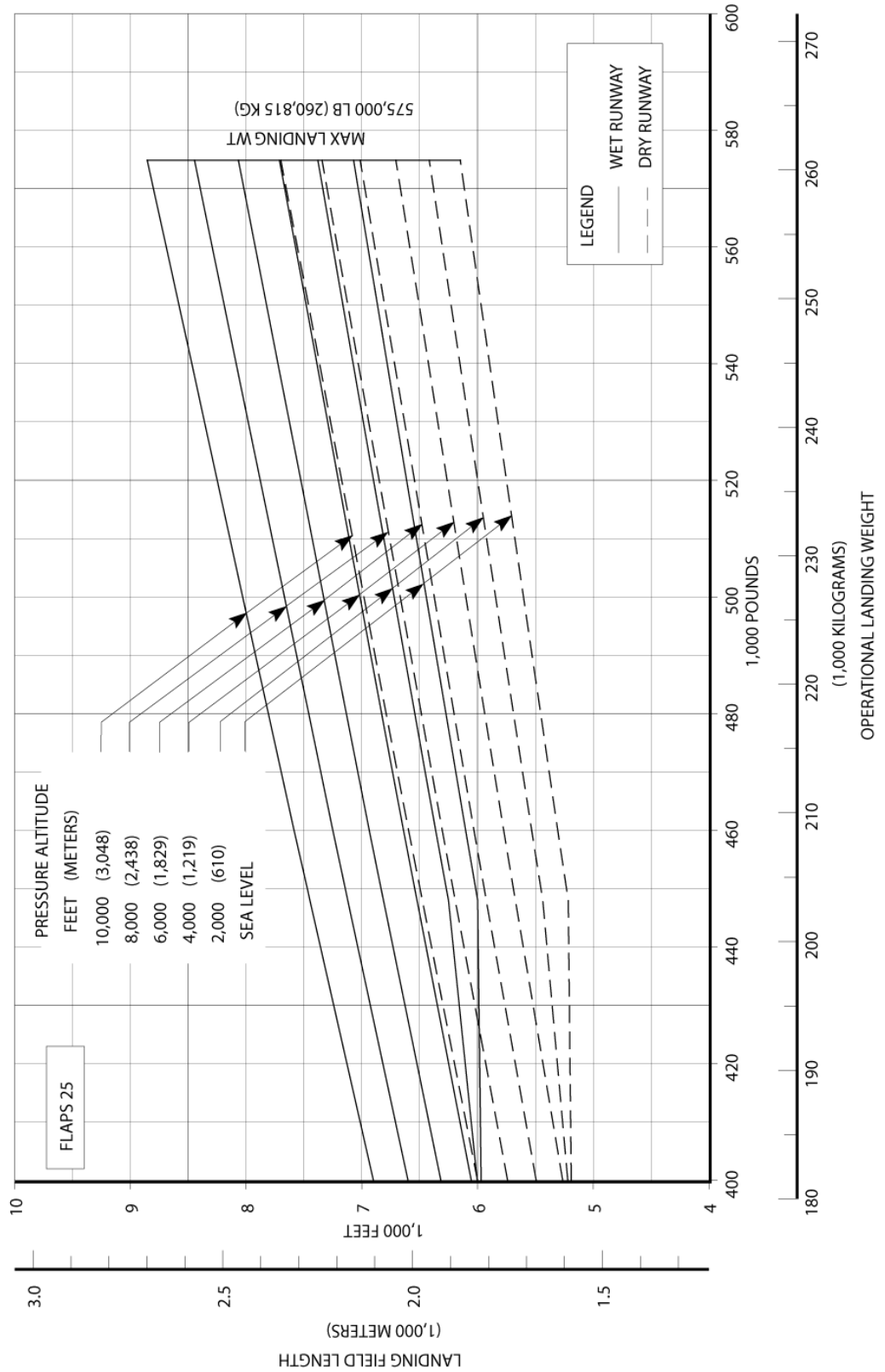




### 3.4.8 F.A.R. LANDING RUNWAY LENGTH REQUIREMENTS – FLAPS 30 MODEL 777F (GE90-110B1L ENGINES)

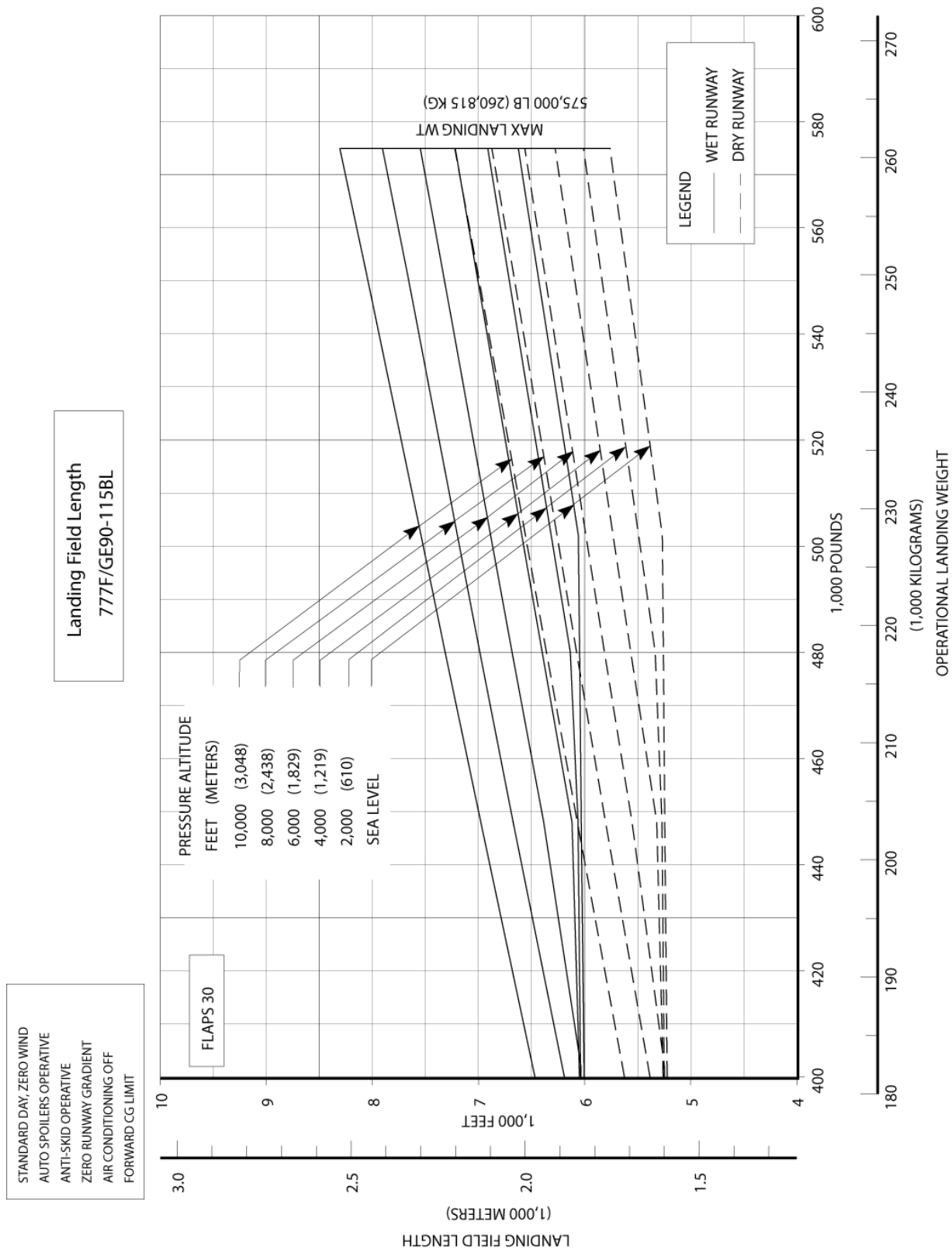
STANDARD DAY, ZERO WIND  
 AUTO SPOILERS OPERATIVE  
 ANTI-SKID OPERATIVE  
 ZERO RUNWAY GRADIENT  
 AIR CONDITIONING OFF  
 FORWARD CG LIMIT

Landing Field Length  
 777F/GE90-115BL



### 3.4.9 F.A.R. LANDING RUNWAY LENGTH REQUIREMENTS – FLAPS 25

MODEL 777F (GE90-115BL ENGINES)



### 3.4.10 F.A.R. LANDING RUNWAY LENGTH REQUIREMENTS – FLAPS 30

MODEL 777F (GE90-115BL ENGINES)

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