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Indoor Distribution Test Report

Relevant Standards
IES LM-79-2008, ANSI C82.77-2002

Prepared For
TechBrite LLC
1000 Kieley Pl
Cincinnati, OH 45217
United States

Catalog Number
LT424SS1B40BC000,RT424SS1B40BC000
Order Number
11748594
Test Number
11748594.08

Test Date

2017-05-08

Prepared By

Dane Hernandez-Adams, Technician

Approved By

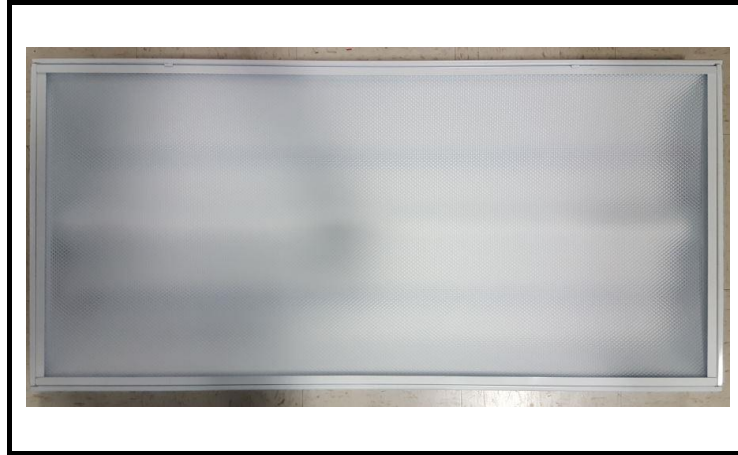
Tiffany Hamm, Project Handler

The results contained in this report pertain only to the tested sample.
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Luminaire Description: White steel housing, prismatic lens enclosure. Tested in an A.L.P EL 2x4 housing.
Lamp: 224 white LEDs
Mounting: Surface – Ceiling
Ballast/Driver: Everline D10CC55UNVTZ-C

Luminaire



Luminaire Characteristics

Luminous Length: 45.00 in.
Luminous Width: 21.00 in.

Summary of Results

| | |
|-------------------------|--------------|
| Total Luminaire Output: | 4240 Lumens |
| Luminaire Efficacy: | 120.8 lm/w |
| Maximum Candela: | 1743 Candela |

Test Conditions

| | |
|-------------------|-----------|
| Test Temperature: | 25.5 °C |
| Voltage: | 120.0 VAC |
| Current: | 0.2935 A |
| Power: | 35.11 W |
| Power Factor: | 0.997 |
| Frequency: | 60 Hz |
| Current THD: | 6.61 % |

Laboratory results may not be representative of field performance
Ballast factors have not been applied



Distribution - Goniophotometer

Distribution Test Conditions

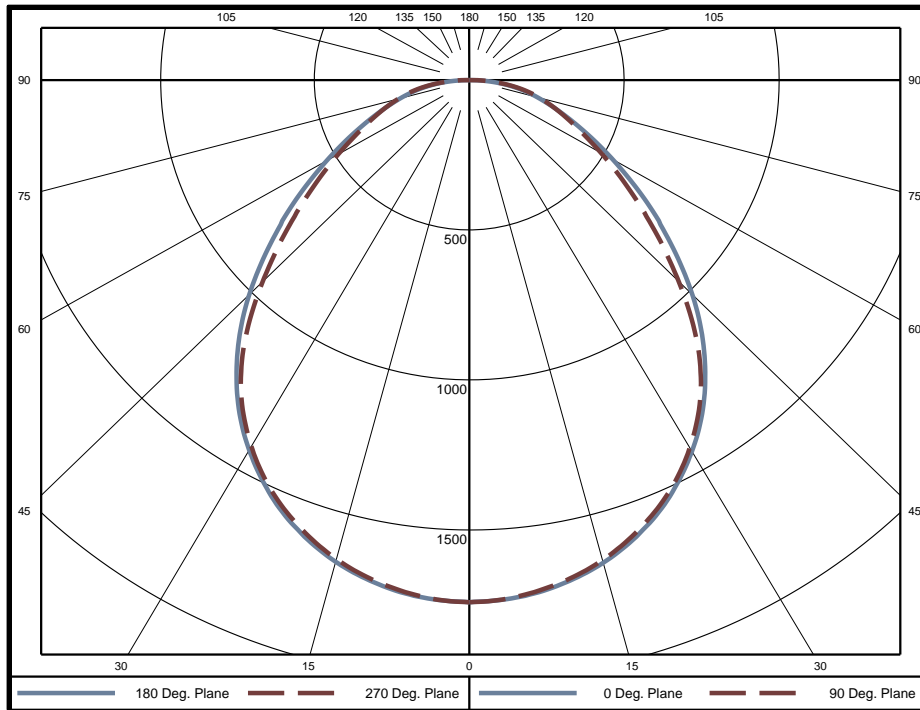
| Temperature | Voltage | Current | Power | Power Factor | Frequency | Current THD |
|-------------|-----------|----------|---------|--------------|-----------|-------------|
| 25.5 °C | 120.0 VAC | 0.2935 A | 35.11 W | 0.997 | 60 Hz | 6.61 % |

Summary of Results

Spacing Criteria
 0-180: 1.22
 90-270: 1.22

Total Lumen Output: 4240 Lumens
Luminaire Efficacy: 120.8 lm/w
Maximum Candela: 1743 Candela

Polar Plot



Zonal Lumen Summary

| Zone | Lumens | % of Luminaire | Zone | Lumens | % of Luminaire | Zone | Lumens | % of Luminaire |
|-------|--------|----------------|---------|--------|----------------|---------|--------|----------------|
| 0-5 | 41.5 | 1.0% | 60-65 | 220.3 | 5.2% | 120-125 | 0 | 0.0% |
| 5-10 | 122.9 | 2.9% | 65-70 | 177.1 | 4.2% | 125-130 | 0 | 0.0% |
| 10-15 | 199.7 | 4.7% | 70-75 | 140.6 | 3.3% | 130-135 | 0 | 0.0% |
| 15-20 | 268.9 | 6.3% | 75-80 | 106.4 | 2.5% | 135-140 | 0 | 0.0% |
| 20-25 | 327.7 | 7.7% | 80-85 | 68.2 | 1.6% | 140-145 | 0 | 0.0% |
| 25-30 | 373.1 | 8.8% | 85-90 | 26.6 | 0.6% | 145-150 | 0 | 0.0% |
| 30-35 | 402.1 | 9.5% | 90-95 | 0 | 0.0% | 150-155 | 0 | 0.0% |
| 35-40 | 411.1 | 9.7% | 95-100 | 0 | 0.0% | 155-160 | 0 | 0.0% |
| 40-45 | 398.4 | 9.4% | 100-105 | 0 | 0.0% | 160-165 | 0 | 0.0% |
| 45-50 | 365.6 | 8.6% | 105-110 | 0 | 0.0% | 165-170 | 0 | 0.0% |
| 50-55 | 320.4 | 7.6% | 110-115 | 0 | 0.0% | 170-175 | 0 | 0.0% |
| 55-60 | 269.7 | 6.4% | 115-120 | 0 | 0.0% | 175-180 | 0 | 0.0% |

| Zone | Lumens | % of Luminaire |
|--------|--------|----------------|
| 0-40 | 2147 | 50.6% |
| 0-60 | 3501 | 82.6% |
| 0-90 | 4240 | 100.0% |
| 90-180 | 0 | 0.0% |



Candela Tabulation
Horizontal Angle (Degrees)

| Vertical Angle (Degrees) | Horizontal Angle (Degrees) | | | | | | | | | | | | | | | |
|--------------------------|----------------------------|------|------|------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
| | 0 | 22.5 | 45 | 67.5 | 90 | 112.5 | 135 | 157.5 | 180 | 202.5 | 225 | 247.5 | 270 | 292.5 | 315 | 337.5 |
| 0 | 1741 | 1741 | 1741 | 1741 | 1741 | 1741 | 1741 | 1741 | 1741 | 1741 | 1741 | 1741 | 1741 | 1741 | 1741 | 1741 |
| 5 | 1732 | 1733 | 1733 | 1731 | 1730 | 1731 | 1733 | 1733 | 1732 | 1733 | 1733 | 1731 | 1730 | 1731 | 1733 | 1733 |
| 10 | 1707 | 1707 | 1705 | 1703 | 1701 | 1703 | 1705 | 1707 | 1707 | 1707 | 1705 | 1703 | 1701 | 1703 | 1705 | 1707 |
| 15 | 1667 | 1664 | 1661 | 1659 | 1658 | 1659 | 1661 | 1664 | 1667 | 1664 | 1661 | 1659 | 1658 | 1659 | 1661 | 1664 |
| 20 | 1608 | 1603 | 1601 | 1598 | 1596 | 1598 | 1601 | 1603 | 1608 | 1603 | 1601 | 1598 | 1596 | 1598 | 1601 | 1603 |
| 25 | 1531 | 1525 | 1522 | 1520 | 1520 | 1520 | 1522 | 1525 | 1531 | 1525 | 1522 | 1520 | 1520 | 1520 | 1522 | 1525 |
| 30 | 1434 | 1428 | 1423 | 1420 | 1420 | 1420 | 1423 | 1428 | 1434 | 1428 | 1423 | 1420 | 1420 | 1420 | 1423 | 1428 |
| 35 | 1318 | 1309 | 1302 | 1298 | 1299 | 1298 | 1302 | 1309 | 1318 | 1309 | 1302 | 1298 | 1299 | 1298 | 1302 | 1309 |
| 40 | 1178 | 1169 | 1158 | 1145 | 1145 | 1145 | 1158 | 1169 | 1178 | 1169 | 1158 | 1145 | 1145 | 1145 | 1158 | 1169 |
| 45 | 1020 | 1012 | 998 | 971 | 960 | 971 | 998 | 1012 | 1020 | 1012 | 998 | 971 | 960 | 971 | 998 | 1012 |
| 50 | 848 | 849 | 825 | 790 | 781 | 790 | 825 | 849 | 848 | 849 | 825 | 790 | 781 | 790 | 825 | 849 |
| 55 | 689 | 684 | 658 | 632 | 625 | 632 | 658 | 684 | 689 | 684 | 658 | 632 | 625 | 632 | 658 | 684 |
| 60 | 540 | 531 | 510 | 498 | 496 | 498 | 510 | 531 | 540 | 531 | 510 | 498 | 496 | 498 | 510 | 531 |
| 65 | 414 | 407 | 391 | 391 | 390 | 391 | 391 | 407 | 414 | 407 | 391 | 391 | 390 | 391 | 391 | 407 |
| 70 | 313 | 308 | 298 | 307 | 310 | 307 | 298 | 308 | 313 | 308 | 298 | 307 | 310 | 307 | 298 | 308 |
| 75 | 232 | 232 | 228 | 238 | 241 | 238 | 228 | 232 | 232 | 232 | 228 | 238 | 241 | 238 | 228 | 232 |
| 80 | 161 | 160 | 162 | 167 | 170 | 167 | 162 | 160 | 161 | 160 | 162 | 167 | 170 | 167 | 162 | 160 |
| 85 | 83 | 82 | 86 | 90 | 90 | 90 | 86 | 82 | 83 | 82 | 86 | 90 | 90 | 90 | 86 | 82 |
| 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 110 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 115 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 125 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 140 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 155 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 160 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 165 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 170 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Average Luminance (cd/m²)
Horizontal Angle (Degrees)

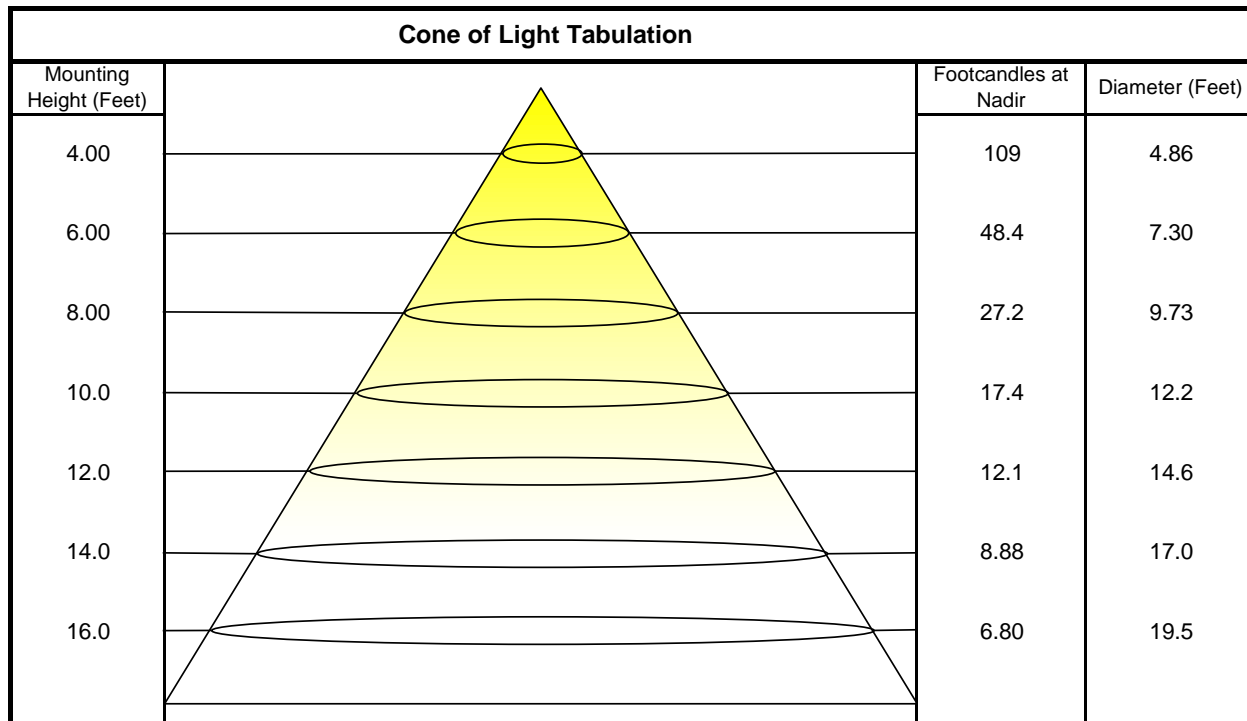
| Vertical Angle (Degrees) | Horizontal Angle (Degrees) | | |
|--------------------------|----------------------------|------|------|
| | 0 | 45 | 90 |
| 0 | 2856 | 2856 | 2856 |
| 45 | 2366 | 2315 | 2226 |
| 55 | 1971 | 1882 | 1788 |
| 65 | 1607 | 1517 | 1515 |
| 75 | 1473 | 1447 | 1525 |
| 85 | 1561 | 1617 | 1690 |



Utilization of Lumens - Zonal Cavity Method

| Effective Floor Cavity Reflectance 20% | | | | | | | | | | | | | | | | | | |
|--|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Ceiling Cavity Reflectance | 80 | | | | 70 | | | | 50 | | | 30 | | | 10 | | | 0 |
| Wall Reflectance | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| Room Cavity Ratio (RCR) | ** Values are expressed as Lumens delivered to the task surface ** | | | | | | | | | | | | | | | | | |
| 0 | 5048 | 5048 | 5048 | 5048 | 4931 | 4931 | 4931 | 4931 | 4711 | 4711 | 4711 | 4511 | 4511 | 4511 | 4327 | 4327 | 4327 | 4240 |
| 1 | 4631 | 4436 | 4261 | 4104 | 4516 | 4340 | 4181 | 4037 | 4160 | 4030 | 3910 | 3995 | 3889 | 3790 | 3843 | 3758 | 3678 | 3590 |
| 2 | 4237 | 3903 | 3626 | 3394 | 4127 | 3823 | 3569 | 3353 | 3674 | 3460 | 3276 | 3536 | 3358 | 3201 | 3409 | 3262 | 3130 | 3041 |
| 3 | 3884 | 3457 | 3126 | 2862 | 3781 | 3390 | 3084 | 2837 | 3265 | 3003 | 2787 | 3150 | 2926 | 2739 | 3043 | 2854 | 2692 | 2602 |
| 4 | 3573 | 3085 | 2728 | 2456 | 3478 | 3030 | 2697 | 2439 | 2925 | 2635 | 2405 | 2827 | 2576 | 2373 | 2737 | 2521 | 2342 | 2253 |
| 5 | 3299 | 2774 | 2408 | 2137 | 3212 | 2727 | 2383 | 2126 | 2639 | 2335 | 2103 | 2556 | 2290 | 2080 | 2479 | 2246 | 2058 | 1971 |
| 6 | 3056 | 2511 | 2145 | 1882 | 2977 | 2471 | 2125 | 1874 | 2396 | 2088 | 1858 | 2325 | 2051 | 1842 | 2260 | 2016 | 1826 | 1741 |
| 7 | 2841 | 2286 | 1927 | 1675 | 2769 | 2252 | 1911 | 1669 | 2188 | 1881 | 1657 | 2128 | 1851 | 1645 | 2071 | 1823 | 1633 | 1552 |
| 8 | 2650 | 2094 | 1744 | 1503 | 2585 | 2065 | 1731 | 1499 | 2009 | 1706 | 1490 | 1957 | 1682 | 1481 | 1908 | 1659 | 1472 | 1393 |
| 9 | 2480 | 1927 | 1588 | 1360 | 2421 | 1902 | 1578 | 1356 | 1854 | 1557 | 1349 | 1809 | 1537 | 1342 | 1767 | 1518 | 1336 | 1260 |
| 10 | 2329 | 1783 | 1456 | 1238 | 2275 | 1761 | 1447 | 1235 | 1719 | 1430 | 1230 | 1680 | 1413 | 1225 | 1643 | 1397 | 1219 | 1147 |

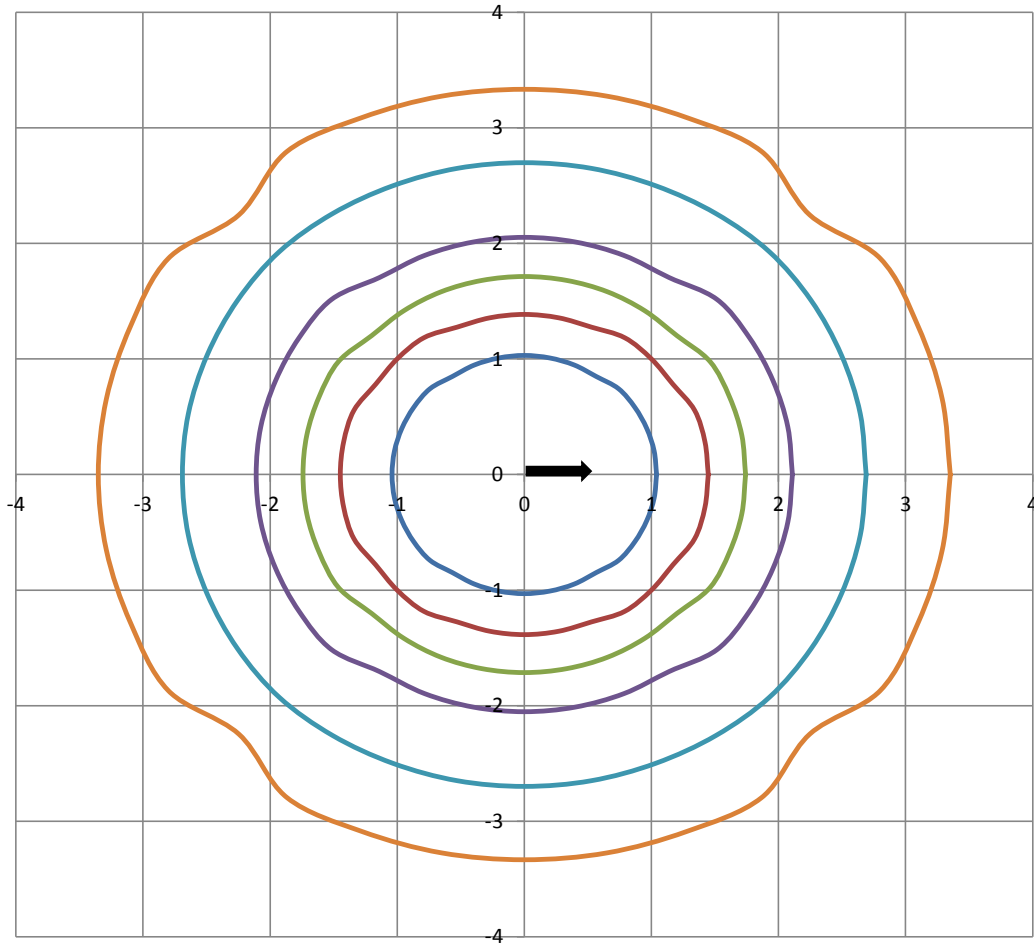
| Beam and Field Information | |
|----------------------------|---------------|
| CIE Type: | Direct |
| Center Beam Intensity: | 1741 Candela |
| Central Cone Intensity: | 1738 Candela |
| Beam Flux: | 2806.6 Lumens |
| Beam Angle (0-180): | 98.7 Degrees |
| Beam Angle (90-270): | 94.8 Degrees |
| Field Angle (0-180): | 158.2 Degrees |
| Field Angle (90-270): | 159.5 Degrees |





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

