



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : VTLED64-4A-40K.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] RKS190326014-10  
[ISSUEDATE] 2019-3-31 11:15  
[MANUFAC] Lamar LED  
[LUMCAT] Direct Linear Ambient Luminaires  
[LUMINAIRE] VTLED-4A-75PS-8CSA (64W/4000K)  
[LAMPCAT]  
[LAMP]  
[ \_VOLTAGE] 120.0 V  
[ \_CURRENT] 0.530 A  
[ \_POWERFACTOR] 0.995  
[TESTLAB] Baci  
[ \_TESTINST] GPM-3000  
[ \_TESTDIST] 14.073 m  
[ \_TESTTEMPERATURE] 24.9 °C  
[ \_TESTHUMIDITY] 48  
[ \_TESTOPERATOR] KOBE  
[BALLAST]  
[BALLASTCAT]

### CHARACTERISTICS

|                                 |                     |
|---------------------------------|---------------------|
| Lumens Per Lamp                 | 8433 (1 lamp)       |
| Total Lamp Lumens               | 8433                |
| Luminaire Lumens                | 8433                |
| Total Luminaire Efficiency      | 100 %               |
| Luminaire Efficacy Rating (LER) | 132                 |
| Total Luminaire Watts           | 63.8                |
| Ballast Factor                  | 1.00                |
| CIE Type                        | Direct              |
| Spacing Criterion (0-180)       | 1.22                |
| Spacing Criterion (90-270)      | 1.24                |
| Spacing Criterion (Diagonal)    | 1.32                |
| Basic Luminous Shape            | Rectangular w/Sides |
| Luminous Length (0-180)         | 3.93 ft             |
| Luminous Width (90-270)         | 0.29 ft             |
| Luminous Height                 | 0.25 ft             |

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**LUMINANCE DATA (cd/sq.m)**

| Angle In<br>Degrees | Average<br>0-Deg | Average<br>45-Deg | Average<br>90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45                  | 21446            | 14300             | 13362             |
| 55                  | 19130            | 11670             | 11164             |
| 65                  | 16407            | 9178              | 9122              |
| 75                  | 12569            | 6765              | 7076              |
| 85                  | 6043             | 4425              | 5130              |

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**CANDELA TABULATION**

|            | <u><b>0.0</b></u> | <u><b>22.5</b></u> | <u><b>45.0</b></u> | <u><b>67.5</b></u> | <u><b>90.0</b></u> | <u><b>112.5</b></u> | <u><b>135.0</b></u> | <u><b>157.5</b></u> | <u><b>180.0</b></u> | <u><b>202.5</b></u> |
|------------|-------------------|--------------------|--------------------|--------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| <b>0</b>   | 2863.7            | 2863.7             | 2863.7             | 2863.7             | 2863.7             | 2863.7              | 2863.7              | 2863.7              | 2863.7              | 2863.7              |
| <b>5</b>   | 2850.8            | 2853.0             | 2852.4             | 2853.5             | 2853.4             | 2853.3              | 2853.5              | 2848.6              | 2843.3              | 2842.8              |
| <b>10</b>  | 2805.1            | 2810.2             | 2808.9             | 2812.5             | 2813.3             | 2813.1              | 2802.7              | 2802.4              | 2788.1              | 2789.7              |
| <b>15</b>  | 2726.1            | 2734.3             | 2735.5             | 2740.5             | 2744.0             | 2738.9              | 2727.8              | 2720.9              | 2701.6              | 2704.7              |
| <b>20</b>  | 2616.7            | 2628.3             | 2631.7             | 2638.6             | 2649.8             | 2638.5              | 2621.0              | 2611.1              | 2584.4              | 2590.6              |
| <b>25</b>  | 2479.9            | 2493.2             | 2499.9             | 2511.0             | 2521.5             | 2510.0              | 2484.8              | 2468.6              | 2440.6              | 2447.9              |
| <b>30</b>  | 2313.8            | 2327.2             | 2344.1             | 2354.4             | 2372.4             | 2356.1              | 2332.3              | 2305.7              | 2271.5              | 2279.6              |
| <b>35</b>  | 2125.3            | 2143.2             | 2164.9             | 2183.1             | 2210.4             | 2188.5              | 2152.0              | 2121.3              | 2082.5              | 2088.4              |
| <b>40</b>  | 1923.5            | 1946.1             | 1974.3             | 2005.7             | 2036.7             | 2015.4              | 1964.3              | 1914.8              | 1877.3              | 1886.7              |
| <b>45</b>  | 1709.4            | 1737.6             | 1773.1             | 1821.5             | 1864.6             | 1831.1              | 1767.8              | 1711.2              | 1658.9              | 1679.8              |
| <b>50</b>  | 1487.1            | 1526.1             | 1572.5             | 1640.9             | 1691.8             | 1650.3              | 1569.0              | 1498.0              | 1441.3              | 1469.0              |
| <b>55</b>  | 1268.5            | 1309.2             | 1372.6             | 1460.0             | 1514.2             | 1469.2              | 1373.7              | 1286.3              | 1223.2              | 1256.3              |
| <b>60</b>  | 1048.5            | 1095.9             | 1177.4             | 1279.9             | 1337.9             | 1290.3              | 1185.1              | 1078.3              | 1008.0              | 1043.3              |
| <b>65</b>  | 835.1             | 890.7              | 988.1              | 1104.4             | 1163.9             | 1111.6              | 1002.2              | 876.6               | 797.2               | 843.1               |
| <b>70</b>  | 624.6             | 693.6              | 809.7              | 927.3              | 989.7              | 939.4               | 824.0               | 684.2               | 589.8               | 644.9               |
| <b>75</b>  | 426.6             | 506.1              | 638.9              | 758.2              | 818.6              | 769.6               | 652.0               | 506.5               | 394.4               | 463.2               |
| <b>80</b>  | 244.6             | 338.3              | 483.3              | 600.3              | 658.6              | 610.9               | 497.5               | 343.1               | 218.0               | 298.2               |
| <b>85</b>  | 96.4              | 195.6              | 346.7              | 459.7              | 514.3              | 467.2               | 360.2               | 204.5               | 79.8                | 166.2               |
| <b>90</b>  | 23.5              | 104.3              | 242.9              | 346.8              | 396.5              | 353.8               | 254.1               | 114.9               | 19.8                | 85.7                |
| <b>95</b>  | 17.9              | 64.5               | 177.9              | 269.4              | 309.6              | 273.3               | 188.1               | 73.0                | 15.1                | 52.8                |
| <b>100</b> | 13.2              | 38.5               | 130.7              | 208.0              | 242.0              | 212.0               | 139.3               | 44.9                | 11.3                | 31.4                |
| <b>105</b> | 10.3              | 22.0               | 92.0               | 157.9              | 186.1              | 160.9               | 100.4               | 25.6                | 8.0                 | 16.9                |
| <b>110</b> | 7.1               | 11.4               | 62.4               | 117.4              | 139.8              | 120.6               | 69.2                | 12.7                | 6.2                 | 8.8                 |
| <b>115</b> | 5.8               | 8.3                | 39.5               | 83.8               | 103.3              | 86.8                | 44.0                | 6.8                 | 4.0                 | 6.7                 |
| <b>120</b> | 4.5               | 6.6                | 22.3               | 57.3               | 72.9               | 59.3                | 25.8                | 5.9                 | 3.6                 | 5.2                 |
| <b>125</b> | 4.4               | 5.5                | 11.1               | 36.0               | 48.3               | 37.6                | 13.6                | 6.0                 | 3.1                 | 4.3                 |
| <b>130</b> | 4.5               | 5.4                | 8.7                | 20.0               | 29.3               | 21.4                | 8.6                 | 5.7                 | 3.3                 | 4.0                 |
| <b>135</b> | 4.2               | 5.6                | 8.6                | 11.3               | 15.6               | 11.5                | 8.9                 | 6.2                 | 3.9                 | 4.4                 |
| <b>140</b> | 5.9               | 6.1                | 8.7                | 11.1               | 11.9               | 11.1                | 9.1                 | 6.8                 | 4.6                 | 5.3                 |
| <b>145</b> | 7.3               | 8.2                | 9.8                | 11.7               | 12.1               | 11.0                | 9.8                 | 8.0                 | 5.7                 | 6.0                 |
| <b>150</b> | 8.1               | 9.0                | 10.4               | 12.2               | 12.3               | 10.8                | 10.3                | 9.2                 | 7.5                 | 7.3                 |
| <b>155</b> | 9.3               | 10.0               | 11.2               | 12.2               | 12.7               | 11.9                | 10.2                | 9.7                 | 8.8                 | 8.9                 |
| <b>160</b> | 10.6              | 10.9               | 11.6               | 12.4               | 13.0               | 11.3                | 10.6                | 10.7                | 10.1                | 10.5                |
| <b>165</b> | 10.8              | 11.8               | 11.6               | 11.8               | 12.6               | 11.7                | 11.6                | 11.4                | 10.9                | 11.0                |
| <b>170</b> | 11.9              | 12.2               | 12.1               | 11.9               | 13.1               | 12.2                | 12.5                | 12.3                | 11.7                | 12.4                |
| <b>175</b> | 12.9              | 12.6               | 13.0               | 13.1               | 13.9               | 13.1                | 13.6                | 13.4                | 12.7                | 12.9                |
| <b>180</b> | 0.0               | 0.0                | 0.0                | 0.0                | 0.0                | 0.0                 | 0.0                 | 0.0                 | 0.0                 | 0.0                 |

**Vert. Angles**      **Horizontal Angles**

|           | <u><b>225.0</b></u> | <u><b>247.5</b></u> | <u><b>270.0</b></u> | <u><b>292.5</b></u> | <u><b>315.0</b></u> | <u><b>337.5</b></u> | <u><b>360.0</b></u> |
|-----------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| <b>0</b>  | 2863.7              | 2863.7              | 2863.7              | 2863.7              | 2863.7              | 2863.7              | 2863.7              |
| <b>5</b>  | 2843.8              | 2842.1              | 2842.9              | 2841.8              | 2846.7              | 2846.5              | 2850.8              |
| <b>10</b> | 2791.6              | 2790.1              | 2793.2              | 2795.0              | 2797.2              | 2795.9              | 2805.1              |
| <b>15</b> | 2709.2              | 2706.4              | 2713.4              | 2711.4              | 2718.9              | 2714.2              | 2726.1              |
| <b>20</b> | 2595.1              | 2596.1              | 2608.6              | 2607.3              | 2607.0              | 2603.3              | 2616.7              |
| <b>25</b> | 2452.2              | 2461.7              | 2478.7              | 2471.7              | 2466.4              | 2463.6              | 2479.9              |
| <b>30</b> | 2287.9              | 2304.7              | 2326.1              | 2318.7              | 2301.3              | 2295.9              | 2313.8              |
| <b>35</b> | 2107.4              | 2134.7              | 2161.8              | 2147.9              | 2125.7              | 2109.8              | 2125.3              |
| <b>40</b> | 1915.9              | 1954.7              | 1987.6              | 1969.7              | 1935.6              | 1910.1              | 1923.5              |
| <b>45</b> | 1717.4              | 1766.2              | 1811.6              | 1785.1              | 1740.5              | 1698.3              | 1709.4              |
| <b>50</b> | 1517.4              | 1582.2              | 1635.5              | 1604.0              | 1538.2              | 1483.9              | 1487.1              |
| <b>55</b> | 1315.9              | 1400.4              | 1458.0              | 1424.7              | 1345.1              | 1272.5              | 1268.5              |
| <b>60</b> | 1124.2              | 1220.6              | 1284.5              | 1242.1              | 1154.2              | 1067.0              | 1048.5              |

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**CANDELA TABULATION - (Cont.)**

|            |       |        |        |        |       |       |       |
|------------|-------|--------|--------|--------|-------|-------|-------|
| <b>65</b>  | 937.2 | 1042.1 | 1109.8 | 1065.6 | 970.7 | 864.4 | 835.1 |
| <b>70</b>  | 759.0 | 867.5  | 935.8  | 889.6  | 792.1 | 667.5 | 624.6 |
| <b>75</b>  | 590.3 | 703.1  | 770.2  | 721.5  | 622.2 | 489.2 | 426.6 |
| <b>80</b>  | 434.4 | 548.7  | 615.7  | 563.1  | 468.6 | 326.5 | 244.6 |
| <b>85</b>  | 302.6 | 415.9  | 477.0  | 432.9  | 332.5 | 192.2 | 96.4  |
| <b>90</b>  | 212.6 | 314.9  | 365.7  | 328.1  | 237.4 | 108.8 | 23.5  |
| <b>95</b>  | 156.2 | 242.7  | 285.3  | 254.7  | 176.6 | 70.8  | 17.9  |
| <b>100</b> | 114.4 | 187.3  | 222.3  | 197.2  | 131.6 | 44.9  | 13.2  |
| <b>105</b> | 79.9  | 143.6  | 171.5  | 151.0  | 93.8  | 26.5  | 10.3  |
| <b>110</b> | 53.0  | 105.4  | 129.2  | 112.4  | 64.6  | 14.0  | 7.1   |
| <b>115</b> | 32.3  | 74.9   | 94.1   | 80.7   | 41.4  | 8.5   | 5.8   |
| <b>120</b> | 17.2  | 49.5   | 65.9   | 54.5   | 23.8  | 6.9   | 4.5   |
| <b>125</b> | 8.7   | 30.6   | 41.9   | 34.6   | 13.0  | 6.0   | 4.4   |
| <b>130</b> | 6.5   | 16.2   | 25.1   | 19.7   | 8.3   | 5.5   | 4.5   |
| <b>135</b> | 7.2   | 10.1   | 12.9   | 11.2   | 8.6   | 5.6   | 4.2   |
| <b>140</b> | 7.3   | 10.1   | 10.7   | 10.6   | 8.7   | 6.2   | 5.9   |
| <b>145</b> | 7.8   | 10.2   | 11.0   | 10.7   | 8.9   | 7.3   | 7.3   |
| <b>150</b> | 9.0   | 10.5   | 11.4   | 10.8   | 9.8   | 8.0   | 8.1   |
| <b>155</b> | 9.6   | 10.7   | 11.5   | 11.7   | 10.8  | 9.9   | 9.3   |
| <b>160</b> | 10.5  | 11.1   | 12.4   | 12.1   | 11.3  | 11.1  | 10.6  |
| <b>165</b> | 11.6  | 11.8   | 12.7   | 12.7   | 12.5  | 12.2  | 10.8  |
| <b>170</b> | 12.5  | 12.8   | 13.1   | 13.6   | 13.6  | 12.9  | 11.9  |
| <b>175</b> | 13.2  | 13.7   | 14.3   | 14.3   | 14.0  | 13.0  | 12.9  |
| <b>180</b> | 0.0   | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   | 0.0   |

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**ZONAL LUMEN SUMMARY**

| Zone    | Lumens  | %Lamp  | %Fixt  |
|---------|---------|--------|--------|
| 0-20    | 1037.69 | 12.30  | 12.30  |
| 0-30    | 2178.79 | 25.80  | 25.80  |
| 0-40    | 3518.01 | 41.70  | 41.70  |
| 0-60    | 6090.78 | 72.20  | 72.20  |
| 0-80    | 7710.66 | 91.40  | 91.40  |
| 0-90    | 8065.81 | 95.60  | 95.60  |
| 10-90   | 7795.46 | 92.40  | 92.40  |
| 20-40   | 2480.32 | 29.40  | 29.40  |
| 20-50   | 3835.58 | 45.50  | 45.50  |
| 40-70   | 3539.93 | 42.00  | 42.00  |
| 60-80   | 1619.88 | 19.20  | 19.20  |
| 70-80   | 652.71  | 7.70   | 7.70   |
| 80-90   | 355.15  | 4.20   | 4.20   |
| 90-110  | 280.74  | 3.30   | 3.30   |
| 90-120  | 326.78  | 3.90   | 3.90   |
| 90-130  | 344.89  | 4.10   | 4.10   |
| 90-150  | 357.85  | 4.20   | 4.20   |
| 90-180  | 367.15  | 4.40   | 4.40   |
| 110-180 | 86.41   | 1.00   | 1.00   |
| 0-180   | 8432.96 | 100.00 | 100.00 |

Total Luminaire Efficiency = 100.00%

**ZONAL LUMEN SUMMARY**

| Zone    | Lumens  |
|---------|---------|
| 0-10    | 270.35  |
| 10-20   | 767.34  |
| 20-30   | 1141.1  |
| 30-40   | 1339.22 |
| 40-50   | 1355.26 |
| 50-60   | 1217.51 |
| 60-70   | 967.17  |
| 70-80   | 652.71  |
| 80-90   | 355.15  |
| 90-100  | 183.10  |
| 100-110 | 97.64   |
| 110-120 | 46.04   |
| 120-130 | 18.11   |
| 130-140 | 7.27    |
| 140-150 | 5.70    |
| 150-160 | 4.87    |
| 160-170 | 3.34    |
| 170-180 | 1.09    |

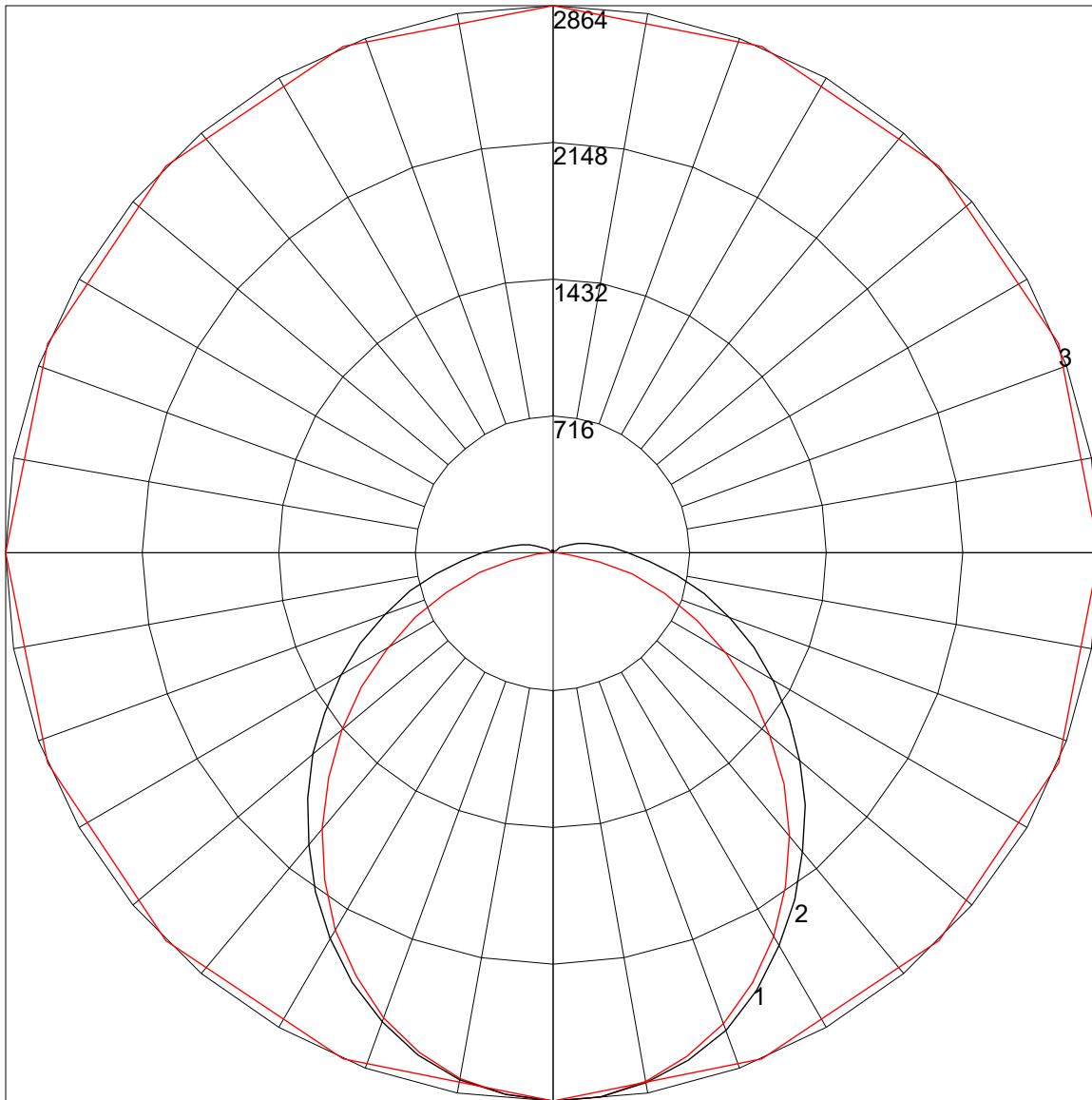
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

Effective Floor Cavity Reflectance 0.20

| RC | 80  |     |     |     | 70  |     |     |     | 50  |     |     | 30  |     |     | 10 |    |    | 0  |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|
| RW | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50 | 30 | 10 | 0  |
| 0  | 118 | 118 | 118 | 118 | 115 | 115 | 115 | 115 | 109 | 109 | 109 | 103 | 103 | 103 | 98 | 98 | 98 | 96 |
| 1  | 107 | 101 | 97  | 93  | 103 | 99  | 95  | 91  | 94  | 90  | 87  | 89  | 86  | 84  | 85 | 82 | 80 | 78 |
| 2  | 97  | 88  | 81  | 75  | 94  | 86  | 79  | 74  | 82  | 76  | 71  | 78  | 73  | 69  | 74 | 70 | 67 | 64 |
| 3  | 88  | 77  | 69  | 62  | 85  | 75  | 68  | 61  | 72  | 65  | 60  | 68  | 63  | 58  | 65 | 61 | 56 | 54 |
| 4  | 81  | 68  | 59  | 53  | 78  | 67  | 58  | 52  | 64  | 56  | 51  | 61  | 55  | 50  | 58 | 53 | 48 | 46 |
| 5  | 74  | 61  | 52  | 45  | 72  | 60  | 51  | 45  | 57  | 50  | 44  | 55  | 48  | 43  | 52 | 47 | 42 | 40 |
| 6  | 69  | 55  | 46  | 40  | 66  | 54  | 45  | 39  | 52  | 44  | 38  | 50  | 43  | 38  | 48 | 42 | 37 | 35 |
| 7  | 64  | 50  | 41  | 35  | 62  | 49  | 41  | 35  | 47  | 40  | 34  | 45  | 38  | 34  | 43 | 38 | 33 | 31 |
| 8  | 59  | 46  | 37  | 31  | 57  | 45  | 37  | 31  | 43  | 36  | 30  | 41  | 35  | 30  | 40 | 34 | 30 | 28 |
| 9  | 55  | 42  | 34  | 28  | 54  | 41  | 33  | 28  | 40  | 32  | 27  | 38  | 32  | 27  | 37 | 31 | 27 | 25 |
| 10 | 52  | 39  | 31  | 25  | 50  | 38  | 30  | 25  | 37  | 30  | 25  | 35  | 29  | 25  | 34 | 29 | 24 | 23 |

POLAR GRAPH



Maximum Candela = 2863.7 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 3 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)