

## IES Report

# RaceRail® | 107 | Diffuse, round | 90 CRI | HO

107-RR-XX-4-48-XX-XX-XX-XX-X-X-Z-HO-359-2-X-XX-X

|                                          | 2700K | 3000K | 3500K | 4000K |
|------------------------------------------|-------|-------|-------|-------|
| Efficacy - Lumens per Watt               | 116   | 120   | 122   | 123   |
| Total Lumens, 4' rail length (1219mm)    | 5666  | 5845  | 5964  | 6024  |
| Lumens per foot (305mm)                  | 1416  | 1461  | 1491  | 1506  |
| Input Power (W), 4' rail length (1219mm) | 49.1  | 49.1  | 49.1  | 49.1  |
| Watts per foot (305mm)                   | 12.3  | 12.3  | 12.3  | 12.3  |
| CRI                                      | 94    | 94    | 94    | 94    |

Due to the large number of options in Vode's product offering, most Vode IES reports are factored reports prepared from source reports. Source reports are the IES test reports prepared for Vode by an NVLAP accredited photometric test laboratory. Factored reports are based on data from the Vode source reports.

If the data above is in black, it is directly from a Vode source report. If it is in grey, it is factored from Vode source reports. Reference details on Vode source reports can be found on the [IES File Finder](#) page on [vode.com](#).



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : VODE\_107\_RR\_HO\_359\_2.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] L121911517 (SOURCE REPORT FOR REFERENCE)

[TESTLAB] REPORT BASED ON DATA FROM NVLAP ACCREDITED LAB

[ISSUE DATE] 12/23/2019

[MANUFAC] Vode Lighting

[LUMCAT] 107-RR-48-Z-HO-359-2-AL

[LUMINAIRE] RaceRail LED, 48", 3500K, 90 CRI, zipper board, round diffuse lens,

[MORE] high output, clear anodized finish

[TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

|                                 |                     |
|---------------------------------|---------------------|
| Lumens Per Lamp                 | N.A. (absolute)     |
| Total Lamp Lumens               | N.A. (absolute)     |
| Luminaire Lumens                | 5965                |
| Total Luminaire Efficiency      | N.A.                |
| Luminaire Efficacy Rating (LER) | 122                 |
| Total Luminaire Watts           | 49.06               |
| Ballast Factor                  | 1.00                |
| CIE Type                        | Direct              |
| Spacing Criterion (0-180)       | 1.26                |
| Spacing Criterion (90-270)      | 1.22                |
| Spacing Criterion (Diagonal)    | 1.36                |
| Basic Luminous Shape            | Rectangular w/Sides |
| Luminous Length (0-180)         | 0.07 ft             |
| Luminous Width (90-270)         | 3.84 ft             |
| Luminous Height                 | 0.02 ft             |

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

| Angle In<br>Degrees | Average<br>0-Deg | Average<br>45-Deg | Average<br>90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45                  | 59781            | 64372             | 72079             |
| 55                  | 47813            | 53879             | 61958             |
| 65                  | 34908            | 42808             | 50517             |
| 75                  | 25300            | 32730             | 38604             |
| 85                  | 20446            | 27325             | 28810             |

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : VODE\_107\_RR\_HO\_359\_2.IES**

**CANDELA TABULATION**

|            | <u>0</u> | <u>5</u> | <u>10</u> | <u>15</u> | <u>20</u> | <u>25</u> | <u>30</u> | <u>35</u> | <u>40</u> | <u>45</u> |
|------------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>0</b>   | 2177.4   | 2177.4   | 2177.4    | 2177.4    | 2177.4    | 2177.4    | 2177.4    | 2177.4    | 2177.4    | 2177.4    |
| <b>5</b>   | 2171.7   | 2171.7   | 2171.7    | 2171.7    | 2171.7    | 2171.7    | 2171.7    | 2171.7    | 2171.7    | 2171.7    |
| <b>10</b>  | 2145.1   | 2145.1   | 2145.1    | 2145.1    | 2145.1    | 2145.1    | 2143.2    | 2143.2    | 2143.2    | 2143.2    |
| <b>15</b>  | 2097.6   | 2099.5   | 2097.6    | 2097.6    | 2097.6    | 2095.7    | 2095.7    | 2095.7    | 2095.7    | 2093.8    |
| <b>20</b>  | 2033.0   | 2033.0   | 2033.0    | 2033.0    | 2031.1    | 2029.2    | 2027.3    | 2027.3    | 2025.4    | 2023.5    |
| <b>25</b>  | 1947.5   | 1947.5   | 1947.5    | 1945.6    | 1943.7    | 1941.8    | 1939.9    | 1938.0    | 1936.1    | 1932.3    |
| <b>30</b>  | 1841.1   | 1841.1   | 1841.1    | 1839.2    | 1837.3    | 1835.4    | 1831.6    | 1827.8    | 1824.0    | 1820.2    |
| <b>35</b>  | 1710.0   | 1710.0   | 1710.0    | 1710.0    | 1708.1    | 1708.1    | 1704.3    | 1700.5    | 1694.8    | 1689.1    |
| <b>40</b>  | 1546.6   | 1546.6   | 1548.5    | 1550.4    | 1550.4    | 1552.3    | 1552.3    | 1550.4    | 1546.6    | 1540.9    |
| <b>45</b>  | 1358.5   | 1360.4   | 1362.3    | 1364.2    | 1368.0    | 1371.8    | 1375.6    | 1377.5    | 1375.6    | 1371.8    |
| <b>50</b>  | 1164.7   | 1164.7   | 1166.6    | 1170.4    | 1176.1    | 1179.9    | 1185.6    | 1187.5    | 1189.4    | 1187.5    |
| <b>55</b>  | 965.2    | 965.2    | 969.0     | 974.7     | 980.4     | 988.0     | 995.6     | 999.4     | 1001.3    | 999.4     |
| <b>60</b>  | 769.5    | 771.4    | 775.2     | 782.8     | 790.4     | 799.9     | 809.4     | 817.0     | 820.8     | 820.8     |
| <b>65</b>  | 594.7    | 596.6    | 600.4     | 606.1     | 615.6     | 625.1     | 634.6     | 644.1     | 649.8     | 651.7     |
| <b>70</b>  | 452.2    | 452.2    | 456.0     | 461.7     | 469.3     | 476.9     | 486.4     | 494.0     | 497.8     | 499.7     |
| <b>75</b>  | 338.2    | 338.2    | 342.0     | 345.8     | 351.5     | 359.1     | 364.8     | 370.5     | 374.3     | 374.3     |
| <b>80</b>  | 254.6    | 254.6    | 256.5     | 260.3     | 264.1     | 269.8     | 273.6     | 277.4     | 279.3     | 277.4     |
| <b>85</b>  | 190.0    | 190.0    | 191.9     | 193.8     | 197.6     | 199.5     | 203.3     | 203.3     | 203.3     | 199.5     |
| <b>90</b>  | 144.4    | 144.4    | 144.4     | 146.3     | 148.2     | 148.2     | 150.1     | 150.1     | 148.2     | 142.5     |
| <b>95</b>  | 110.2    | 110.2    | 110.2     | 110.2     | 110.2     | 112.1     | 110.2     | 110.2     | 106.4     | 100.7     |
| <b>100</b> | 83.6     | 83.6     | 83.6      | 83.6      | 83.6      | 83.6      | 81.7      | 79.8      | 76.0      | 70.3      |
| <b>105</b> | 64.6     | 64.6     | 64.6      | 64.6      | 62.7      | 62.7      | 60.8      | 58.9      | 55.1      | 49.4      |
| <b>110</b> | 49.4     | 49.4     | 49.4      | 49.4      | 47.5      | 47.5      | 45.6      | 41.8      | 38.0      | 34.2      |
| <b>115</b> | 38.0     | 38.0     | 38.0      | 38.0      | 36.1      | 34.2      | 32.3      | 30.4      | 26.6      | 22.8      |
| <b>120</b> | 28.5     | 28.5     | 28.5      | 28.5      | 26.6      | 24.7      | 24.7      | 20.9      | 19.0      | 17.1      |
| <b>125</b> | 20.9     | 20.9     | 20.9      | 20.9      | 19.0      | 19.0      | 17.1      | 15.2      | 13.3      | 11.4      |
| <b>130</b> | 15.2     | 15.2     | 15.2      | 15.2      | 15.2      | 15.2      | 13.3      | 13.3      | 11.4      | 9.5       |
| <b>135</b> | 13.3     | 13.3     | 13.3      | 13.3      | 11.4      | 11.4      | 11.4      | 9.5       | 9.5       | 7.6       |
| <b>140</b> | 11.4     | 11.4     | 11.4      | 11.4      | 9.5       | 9.5       | 9.5       | 7.6       | 7.6       | 7.6       |
| <b>145</b> | 9.5      | 9.5      | 9.5       | 9.5       | 9.5       | 7.6       | 7.6       | 0.0       | 0.0       | 0.0       |
| <b>150</b> | 7.6      | 7.6      | 7.6       | 7.6       | 7.6       | 7.6       | 0.0       | 0.0       | 0.0       | 0.0       |
| <b>155</b> | 0.0      | 0.0      | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       |
| <b>160</b> | 0.0      | 0.0      | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       |
| <b>165</b> | 0.0      | 0.0      | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       |
| <b>170</b> | 0.0      | 0.0      | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       |
| <b>175</b> | 0.0      | 0.0      | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       | 0.0       |
| <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>50</u> | <u>55</u> | <u>60</u> | <u>65</u> | <u>70</u> | <u>75</u> | <u>80</u> | <u>85</u> | <u>90</u> |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>0</b>  | 2177.4    | 2177.4    | 2177.4    | 2177.4    | 2177.4    | 2177.4    | 2177.4    | 2177.4    | 2177.4    |
| <b>5</b>  | 2171.7    | 2171.7    | 2171.7    | 2171.7    | 2171.7    | 2171.7    | 2171.7    | 2171.7    | 2173.6    |
| <b>10</b> | 2143.2    | 2143.2    | 2143.2    | 2143.2    | 2143.2    | 2143.2    | 2143.2    | 2143.2    | 2143.2    |
| <b>15</b> | 2091.9    | 2091.9    | 2090.0    | 2090.0    | 2088.1    | 2090.0    | 2088.1    | 2088.1    | 2090.0    |
| <b>20</b> | 2021.6    | 2019.7    | 2015.9    | 2015.9    | 2014.0    | 2012.1    | 2012.1    | 2010.2    | 2012.1    |
| <b>25</b> | 1928.5    | 1924.7    | 1920.9    | 1917.1    | 1915.2    | 1911.4    | 1911.4    | 1911.4    | 1911.4    |
| <b>30</b> | 1814.5    | 1808.8    | 1803.1    | 1797.4    | 1793.6    | 1787.9    | 1786.0    | 1784.1    | 1784.1    |
| <b>35</b> | 1683.4    | 1673.9    | 1666.3    | 1656.8    | 1649.2    | 1643.5    | 1637.8    | 1635.9    | 1635.9    |
| <b>40</b> | 1531.4    | 1520.0    | 1508.6    | 1497.2    | 1485.8    | 1478.2    | 1470.6    | 1466.8    | 1464.9    |
| <b>45</b> | 1362.3    | 1350.9    | 1335.7    | 1322.4    | 1309.1    | 1295.8    | 1286.3    | 1280.6    | 1280.6    |
| <b>50</b> | 1179.9    | 1170.4    | 1155.2    | 1138.1    | 1121.0    | 1105.8    | 1094.4    | 1086.8    | 1086.8    |
| <b>55</b> | 993.7     | 984.2     | 970.9     | 951.9     | 934.8     | 917.7     | 904.4     | 896.8     | 894.9     |
| <b>60</b> | 815.1     | 803.7     | 788.5     | 773.3     | 754.3     | 735.3     | 720.1     | 712.5     | 708.7     |

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**CANDELA TABULATION - (Cont.)**

|            |       |       |       |       |       |       |       |       |       |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>65</b>  | 647.9 | 636.5 | 623.2 | 604.2 | 585.2 | 566.2 | 551.0 | 541.5 | 539.6 |
| <b>70</b>  | 497.8 | 488.3 | 475.0 | 456.0 | 435.1 | 416.1 | 399.0 | 389.5 | 385.7 |
| <b>75</b>  | 370.5 | 361.0 | 347.7 | 330.6 | 309.7 | 288.8 | 271.7 | 260.3 | 254.6 |
| <b>80</b>  | 271.7 | 262.2 | 247.0 | 228.0 | 207.1 | 186.2 | 167.2 | 153.9 | 150.1 |
| <b>85</b>  | 193.8 | 182.4 | 167.2 | 150.1 | 129.2 | 106.4 | 87.4  | 72.2  | 66.5  |
| <b>90</b>  | 134.9 | 125.4 | 110.2 | 93.1  | 74.1  | 55.1  | 36.1  | 19.0  | 7.6   |
| <b>95</b>  | 93.1  | 83.6  | 70.3  | 55.1  | 39.9  | 24.7  | 11.4  | 3.8   | 1.9   |
| <b>100</b> | 62.7  | 55.1  | 43.7  | 32.3  | 22.8  | 11.4  | 3.8   | 1.9   | 0.0   |
| <b>105</b> | 43.7  | 36.1  | 28.5  | 19.0  | 11.4  | 5.7   | 1.9   | 0.0   | 0.0   |
| <b>110</b> | 28.5  | 22.8  | 17.1  | 11.4  | 7.6   | 3.8   | 0.0   | 0.0   | 0.0   |
| <b>115</b> | 19.0  | 15.2  | 11.4  | 7.6   | 5.7   | 0.0   | 0.0   | 0.0   | 0.0   |
| <b>120</b> | 13.3  | 11.4  | 7.6   | 5.7   | 3.8   | 0.0   | 0.0   | 0.0   | 0.0   |
| <b>125</b> | 11.4  | 9.5   | 7.6   | 5.7   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| <b>130</b> | 7.6   | 7.6   | 5.7   | 5.7   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| <b>135</b> | 7.6   | 5.7   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| <b>140</b> | 5.7   | 5.7   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| <b>145</b> | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| <b>150</b> | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| <b>155</b> | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| <b>160</b> | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| <b>165</b> | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| <b>170</b> | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| <b>175</b> | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| <b>180</b> | 0.0   | 0.0   | 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    | 796.93  | N.A.  | 13.40  |
| 0-30    | 1685.56 | N.A.  | 28.30  |
| 0-40    | 2734.9  | N.A.  | 45.90  |
| 0-60    | 4634.3  | N.A.  | 77.70  |
| 0-80    | 5604.52 | N.A.  | 94.00  |
| 0-90    | 5792.04 | N.A.  | 97.10  |
| 10-90   | 5585.67 | N.A.  | 93.60  |
| 20-40   | 1937.97 | N.A.  | 32.50  |
| 20-50   | 2973.56 | N.A.  | 49.90  |
| 40-70   | 2507.04 | N.A.  | 42.00  |
| 60-80   | 970.23  | N.A.  | 16.30  |
| 70-80   | 362.58  | N.A.  | 6.10   |
| 80-90   | 187.52  | N.A.  | 3.10   |
| 90-110  | 132.86  | N.A.  | 2.20   |
| 90-120  | 154.19  | N.A.  | 2.60   |
| 90-130  | 164.66  | N.A.  | 2.80   |
| 90-150  | 172.39  | N.A.  | 2.90   |
| 90-180  | 172.68  | N.A.  | 2.90   |
| 110-180 | 39.82   | N.A.  | 0.70   |
| 0-180   | 5964.72 | N.A.  | 100.00 |

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

| Zone    | Lumens  |
|---------|---------|
| 0-10    | 206.37  |
| 10-20   | 590.56  |
| 20-30   | 888.63  |
| 30-40   | 1049.34 |
| 40-50   | 1035.59 |
| 50-60   | 863.80  |
| 60-70   | 607.64  |
| 70-80   | 362.58  |
| 80-90   | 187.52  |
| 90-100  | 89.23   |
| 100-110 | 43.63   |
| 110-120 | 21.33   |
| 120-130 | 10.47   |
| 130-140 | 5.42    |
| 140-150 | 2.30    |
| 150-160 | 0.29    |
| 160-170 | 0.00    |
| 170-180 | 0.00    |

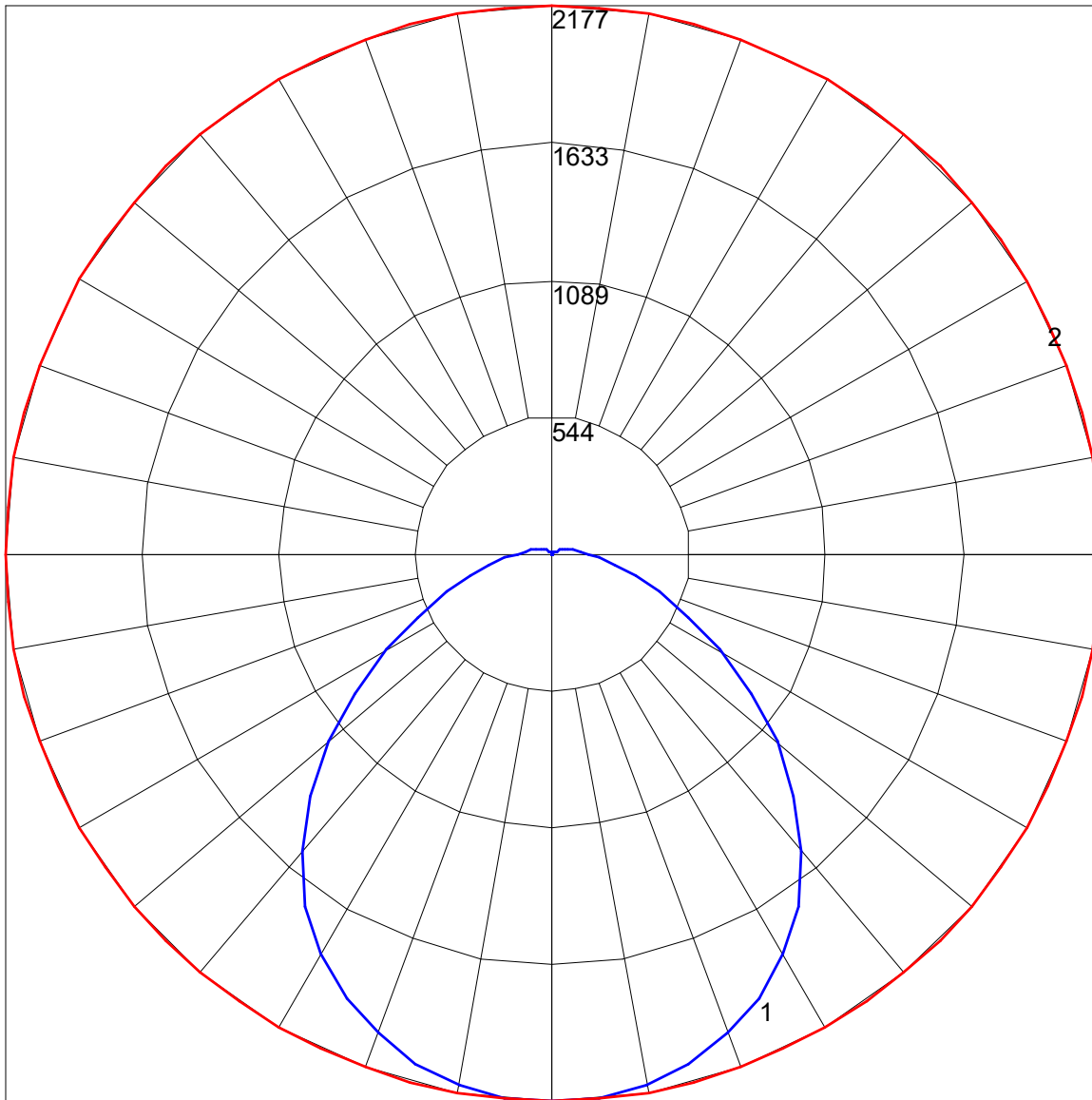
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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 | 104 | 104 | 104 | 99 | 99 | 99 | 97 |
| 1  | 108 | 103 | 99  | 95  | 105 | 101 | 97  | 93  | 96  | 92  | 90  | 91  | 89  | 86  | 87 | 85 | 83 | 81 |
| 2  | 98  | 90  | 83  | 78  | 95  | 88  | 82  | 77  | 84  | 79  | 74  | 80  | 76  | 72  | 77 | 73 | 70 | 68 |
| 3  | 90  | 80  | 71  | 65  | 87  | 78  | 70  | 64  | 74  | 68  | 63  | 71  | 66  | 61  | 68 | 64 | 60 | 58 |
| 4  | 83  | 71  | 62  | 55  | 80  | 69  | 61  | 55  | 66  | 59  | 54  | 64  | 58  | 53  | 61 | 56 | 52 | 50 |
| 5  | 76  | 63  | 54  | 48  | 74  | 62  | 54  | 48  | 60  | 52  | 47  | 57  | 51  | 46  | 55 | 50 | 45 | 43 |
| 6  | 70  | 57  | 48  | 42  | 68  | 56  | 48  | 42  | 54  | 47  | 41  | 52  | 46  | 41  | 50 | 44 | 40 | 38 |
| 7  | 65  | 52  | 43  | 37  | 63  | 51  | 43  | 37  | 49  | 42  | 37  | 47  | 41  | 36  | 46 | 40 | 36 | 34 |
| 8  | 61  | 47  | 39  | 33  | 59  | 47  | 39  | 33  | 45  | 38  | 33  | 44  | 37  | 32  | 42 | 36 | 32 | 30 |
| 9  | 57  | 44  | 35  | 30  | 55  | 43  | 35  | 30  | 42  | 34  | 30  | 40  | 34  | 29  | 39 | 33 | 29 | 27 |
| 10 | 53  | 40  | 32  | 27  | 52  | 40  | 32  | 27  | 38  | 32  | 27  | 37  | 31  | 27  | 36 | 31 | 26 | 25 |

POLAR GRAPH



Maximum Candela = 2177.4 Located At Horizontal Angle = 0, Vertical Angle = 0

# 1 - Vertical Plane Through Horizontal Angles (0 - 180)

# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)