

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : SGE9LEDOS-45L35KEX-AR9223OSSGSO.IES****DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
[TEST] 102560753CRT-007\_M-45L  
[TESTLAB] Intertek  
[ISSUE DATE] 09/19/2016  
[UPDATE] 1/4/2017  
[LAB-REF LUMCAT] CRT1609071034-004\_M-45L  
[MANUFAC] Spectrum Lighting  
[LUMCAT] SGE9LEDOS-45L-35K-EX-AR9223OS-SG-SO  
[LUMINAIRE] 9" DIAM. LED DOWNLIGHT SEMI-DIFFUSE CLEAR ANODIZED CONE  
[OTHER] REGRESSED, INTEGRAL SOLITE GLASS LENS  
[OTHER] 81.3 DEGREE BEAM ANGLE  
[LAMP] N/A  
[LAMP CAT] N/A  
[OTHER] TOTAL LUMINAIRE WATTS IS APPROXIMATE  
[OTHER] PHOTOMETRIC MEASUREMENTS TAKEN AT 120VAC  
[OTHER] CCT OUTPUT MULTIPLIERS: 40K x 1.0, 30K x 1.0, 27K x 0.945  
[OTHER] THIS REPORT UPDATED BY SPECTRUM LIGHTING, SCALED FROM 30L

**CHARACTERISTICS**

|                                 |                    |
|---------------------------------|--------------------|
| Lumens Per Lamp                 | N.A. (absolute)    |
| Total Lamp Lumens               | N.A. (absolute)    |
| Luminaire Lumens                | 3714               |
| Total Luminaire Efficiency      | N.A.               |
| Luminaire Efficacy Rating (LER) | 90                 |
| Total Luminaire Watts           | 41.1               |
| Ballast Factor                  | 1.00               |
| CIE Type                        | Direct             |
| Spacing Criterion (0-180)       | 1.18               |
| Spacing Criterion (90-270)      | 1.18               |
| Spacing Criterion (Diagonal)    | 1.16               |
| Basic Luminous Shape            | Circular           |
| Luminous Length (0-180)         | 0.71 ft (Diameter) |
| Luminous Width (90-270)         | 0.71 ft (Diameter) |
| Luminous Height                 | 0.00 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                  | 33059            | 32922             | 32962             |
| 55                  | 6896             | 6966              | 7121              |
| 65                  | 1646             | 1712              | 1817              |
| 75                  | 0                | 0                 | 0                 |
| 85                  | 0                | 0                 | 0                 |

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**CANDELA TABULATION**

|             | <u>0.0</u> | <u>22.5</u> | <u>45.0</u> | <u>67.5</u> | <u>90.0</u> | <u>112.5</u> | <u>135.0</u> | <u>157.5</u> | <u>180.0</u> | <u>202.5</u> |
|-------------|------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|
| <b>0.0</b>  | 2463.904   | 2463.904    | 2463.904    | 2463.904    | 2463.904    | 2463.904     | 2463.904     | 2463.904     | 2463.904     | 2463.904     |
| <b>2.5</b>  | 2451.472   | 2455.912    | 2457.688    | 2457.836    | 2459.612    | 2457.836     | 2457.688     | 2455.912     | 2451.472     | 2455.912     |
| <b>5.0</b>  | 2444.368   | 2444.072    | 2445.552    | 2446.440    | 2450.584    | 2446.440     | 2445.552     | 2444.072     | 2444.368     | 2444.072     |
| <b>7.5</b>  | 2421.576   | 2424.536    | 2425.572    | 2430.752    | 2430.308    | 2430.752     | 2425.572     | 2424.536     | 2421.576     | 2424.536     |
| <b>10.0</b> | 2398.340   | 2403.668    | 2397.156    | 2406.776    | 2403.372    | 2406.776     | 2397.156     | 2403.668     | 2398.340     | 2403.668     |
| <b>12.5</b> | 2373.624   | 2370.220    | 2374.068    | 2376.436    | 2375.400    | 2376.436     | 2374.068     | 2370.220     | 2373.624     | 2370.220     |
| <b>15.0</b> | 2342.396   | 2338.696    | 2333.812    | 2335.736    | 2337.808    | 2335.736     | 2333.812     | 2338.696     | 2342.396     | 2338.696     |
| <b>17.5</b> | 2288.672   | 2286.304    | 2286.600    | 2289.856    | 2291.780    | 2289.856     | 2286.600     | 2286.304     | 2288.672     | 2286.304     |
| <b>20.0</b> | 2232.284   | 2229.916    | 2230.656    | 2227.104    | 2233.764    | 2227.104     | 2230.656     | 2229.916     | 2232.284     | 2229.916     |
| <b>22.5</b> | 2172.492   | 2169.384    | 2170.568    | 2172.788    | 2169.384    | 2172.788     | 2170.568     | 2169.384     | 2172.492     | 2169.384     |
| <b>25.0</b> | 2106.928   | 2109.444    | 2109.888    | 2102.488    | 2098.788    | 2102.488     | 2109.888     | 2109.444     | 2106.928     | 2109.444     |
| <b>27.5</b> | 2026.712   | 2034.112    | 2031.300    | 2029.820    | 2031.448    | 2029.820     | 2031.300     | 2034.112     | 2026.712     | 2034.112     |
| <b>30.0</b> | 1927.404   | 1925.628    | 1921.040    | 1915.120    | 1917.784    | 1915.120     | 1921.040     | 1925.628     | 1927.404     | 1925.628     |
| <b>32.5</b> | 1810.780   | 1806.340    | 1795.980    | 1789.764    | 1798.200    | 1789.764     | 1795.980     | 1806.340     | 1810.780     | 1806.340     |
| <b>35.0</b> | 1675.952   | 1658.636    | 1640.432    | 1644.576    | 1654.196    | 1644.576     | 1640.432     | 1658.636     | 1675.952     | 1658.636     |
| <b>37.5</b> | 1499.092   | 1486.068    | 1469.788    | 1467.272    | 1475.560    | 1467.272     | 1469.788     | 1486.068     | 1499.092     | 1486.068     |
| <b>40.0</b> | 1296.924   | 1286.120    | 1272.060    | 1270.284    | 1283.604    | 1270.284     | 1272.060     | 1286.120     | 1296.924     | 1286.120     |
| <b>42.5</b> | 1077.884   | 1076.996    | 1068.856    | 1062.640    | 1071.816    | 1062.640     | 1068.856     | 1076.996     | 1077.884     | 1076.996     |
| <b>45.0</b> | 860.620    | 859.732     | 857.068     | 854.552     | 858.104     | 854.552      | 857.068      | 859.732      | 860.620      | 859.732      |
| <b>47.5</b> | 651.792    | 659.340     | 664.520     | 659.044     | 651.644     | 659.044      | 664.520      | 659.340      | 651.792      | 659.340      |
| <b>50.0</b> | 402.116    | 400.044     | 404.188     | 407.000     | 410.996     | 407.000      | 404.188      | 400.044      | 402.116      | 400.044      |
| <b>52.5</b> | 233.692    | 234.136     | 236.060     | 238.576     | 242.720     | 238.576      | 236.060      | 234.136      | 233.692      | 234.136      |
| <b>55.0</b> | 145.632    | 146.668     | 147.112     | 147.260     | 150.368     | 147.260      | 147.112      | 146.668      | 145.632      | 146.668      |
| <b>57.5</b> | 94.868     | 95.756      | 96.052      | 96.348      | 97.384      | 96.348       | 96.052       | 95.756       | 94.868       | 95.756       |
| <b>60.0</b> | 65.416     | 65.712      | 66.008      | 66.156      | 66.748      | 66.156       | 66.008       | 65.712       | 65.416       | 65.712       |
| <b>62.5</b> | 44.992     | 45.880      | 46.176      | 46.028      | 46.620      | 46.028       | 46.176       | 45.880       | 44.992       | 45.880       |
| <b>65.0</b> | 25.604     | 26.048      | 26.640      | 26.936      | 28.268      | 26.936       | 26.640       | 26.048       | 25.604       | 26.048       |
| <b>67.5</b> | 6.364      | 8.732       | 10.064      | 10.656      | 10.360      | 10.656       | 10.064       | 8.732        | 6.364        | 8.732        |
| <b>70.0</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       | 0.000        | 0.000        | 0.000        | 0.000        | 0.000        |
| <b>72.5</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       | 0.000        | 0.000        | 0.000        | 0.000        | 0.000        |
| <b>75.0</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       | 0.000        | 0.000        | 0.000        | 0.000        | 0.000        |
| <b>77.5</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       | 0.000        | 0.000        | 0.000        | 0.000        | 0.000        |
| <b>80.0</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       | 0.000        | 0.000        | 0.000        | 0.000        | 0.000        |
| <b>82.5</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       | 0.000        | 0.000        | 0.000        | 0.000        | 0.000        |
| <b>85.0</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       | 0.000        | 0.000        | 0.000        | 0.000        | 0.000        |
| <b>87.5</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       | 0.000        | 0.000        | 0.000        | 0.000        | 0.000        |
| <b>90.0</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       | 0.000        | 0.000        | 0.000        | 0.000        | 0.000        |

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

|             | <u>225.0</u> | <u>247.5</u> | <u>270.0</u> | <u>292.5</u> | <u>315.0</u> | <u>337.5</u> | <u>360.0</u> |
|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>0.0</b>  | 2463.904     | 2463.904     | 2463.904     | 2463.904     | 2463.904     | 2463.904     | 2463.904     |
| <b>2.5</b>  | 2457.688     | 2457.836     | 2459.612     | 2457.836     | 2457.688     | 2455.912     | 2451.472     |
| <b>5.0</b>  | 2445.552     | 2446.440     | 2450.584     | 2446.440     | 2445.552     | 2444.072     | 2444.368     |
| <b>7.5</b>  | 2425.572     | 2430.752     | 2430.308     | 2430.752     | 2425.572     | 2424.536     | 2421.576     |
| <b>10.0</b> | 2397.156     | 2406.776     | 2403.372     | 2406.776     | 2397.156     | 2403.668     | 2398.340     |
| <b>12.5</b> | 2374.068     | 2376.436     | 2375.400     | 2376.436     | 2374.068     | 2370.220     | 2373.624     |
| <b>15.0</b> | 2333.812     | 2335.736     | 2337.808     | 2335.736     | 2333.812     | 2338.696     | 2342.396     |
| <b>17.5</b> | 2286.600     | 2289.856     | 2291.780     | 2289.856     | 2286.600     | 2286.304     | 2288.672     |
| <b>20.0</b> | 2230.656     | 2227.104     | 2233.764     | 2227.104     | 2230.656     | 2229.916     | 2232.284     |
| <b>22.5</b> | 2170.568     | 2172.788     | 2169.384     | 2172.788     | 2170.568     | 2169.384     | 2172.492     |
| <b>25.0</b> | 2109.888     | 2102.488     | 2098.788     | 2102.488     | 2109.888     | 2109.444     | 2106.928     |
| <b>27.5</b> | 2031.300     | 2029.820     | 2031.448     | 2029.820     | 2031.300     | 2034.112     | 2026.712     |
| <b>30.0</b> | 1921.040     | 1915.120     | 1917.784     | 1915.120     | 1921.040     | 1925.628     | 1927.404     |

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**CANDELA TABULATION - (Cont.)**

|             |          |          |          |          |          |          |          |
|-------------|----------|----------|----------|----------|----------|----------|----------|
| <b>32.5</b> | 1795.980 | 1789.764 | 1798.200 | 1789.764 | 1795.980 | 1806.340 | 1810.780 |
| <b>35.0</b> | 1640.432 | 1644.576 | 1654.196 | 1644.576 | 1640.432 | 1658.636 | 1675.952 |
| <b>37.5</b> | 1469.788 | 1467.272 | 1475.560 | 1467.272 | 1469.788 | 1486.068 | 1499.092 |
| <b>40.0</b> | 1272.060 | 1270.284 | 1283.604 | 1270.284 | 1272.060 | 1286.120 | 1296.924 |
| <b>42.5</b> | 1068.856 | 1062.640 | 1071.816 | 1062.640 | 1068.856 | 1076.996 | 1077.884 |
| <b>45.0</b> | 857.068  | 854.552  | 858.104  | 854.552  | 857.068  | 859.732  | 860.620  |
| <b>47.5</b> | 664.520  | 659.044  | 651.644  | 659.044  | 664.520  | 659.340  | 651.792  |
| <b>50.0</b> | 404.188  | 407.000  | 410.996  | 407.000  | 404.188  | 400.044  | 402.116  |
| <b>52.5</b> | 236.060  | 238.576  | 242.720  | 238.576  | 236.060  | 234.136  | 233.692  |
| <b>55.0</b> | 147.112  | 147.260  | 150.368  | 147.260  | 147.112  | 146.668  | 145.632  |
| <b>57.5</b> | 96.052   | 96.348   | 97.384   | 96.348   | 96.052   | 95.756   | 94.868   |
| <b>60.0</b> | 66.008   | 66.156   | 66.748   | 66.156   | 66.008   | 65.712   | 65.416   |
| <b>62.5</b> | 46.176   | 46.028   | 46.620   | 46.028   | 46.176   | 45.880   | 44.992   |
| <b>65.0</b> | 26.640   | 26.936   | 28.268   | 26.936   | 26.640   | 26.048   | 25.604   |
| <b>67.5</b> | 10.064   | 10.656   | 10.360   | 10.656   | 10.064   | 8.732    | 6.364    |
| <b>70.0</b> | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    |
| <b>72.5</b> | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    |
| <b>75.0</b> | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    |
| <b>77.5</b> | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    |
| <b>80.0</b> | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    |
| <b>82.5</b> | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    |
| <b>85.0</b> | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    |
| <b>87.5</b> | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    |
| <b>90.0</b> | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    | 0.000    |

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**ZONAL LUMEN SUMMARY**

| Zone    | Lumens  | %Lamp | %Fixt  |
|---------|---------|-------|--------|
| 0-20    | 889.73  | N.A.  | 24.00  |
| 0-30    | 1855.85 | N.A.  | 50.00  |
| 0-40    | 2873.42 | N.A.  | 77.40  |
| 0-60    | 3686.04 | N.A.  | 99.20  |
| 0-80    | 3714.16 | N.A.  | 100.00 |
| 0-90    | 3714.16 | N.A.  | 100.00 |
| 10-90   | 3482.1  | N.A.  | 93.80  |
| 20-40   | 1983.7  | N.A.  | 53.40  |
| 20-50   | 2638.61 | N.A.  | 71.00  |
| 40-70   | 840.74  | N.A.  | 22.60  |
| 60-80   | 28.12   | N.A.  | 0.80   |
| 70-80   | 0.00    | N.A.  | 0.00   |
| 80-90   | 0.00    | N.A.  | 0.00   |
| 90-110  | 0.00    | N.A.  | 0.00   |
| 90-120  | 0.00    | N.A.  | 0.00   |
| 90-130  | 0.00    | N.A.  | 0.00   |
| 90-150  | 0.00    | N.A.  | 0.00   |
| 90-180  | 0.00    | N.A.  | 0.00   |
| 110-180 | 0.00    | N.A.  | 0.00   |
| 0-180   | 3714.16 | N.A.  | 100.00 |

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

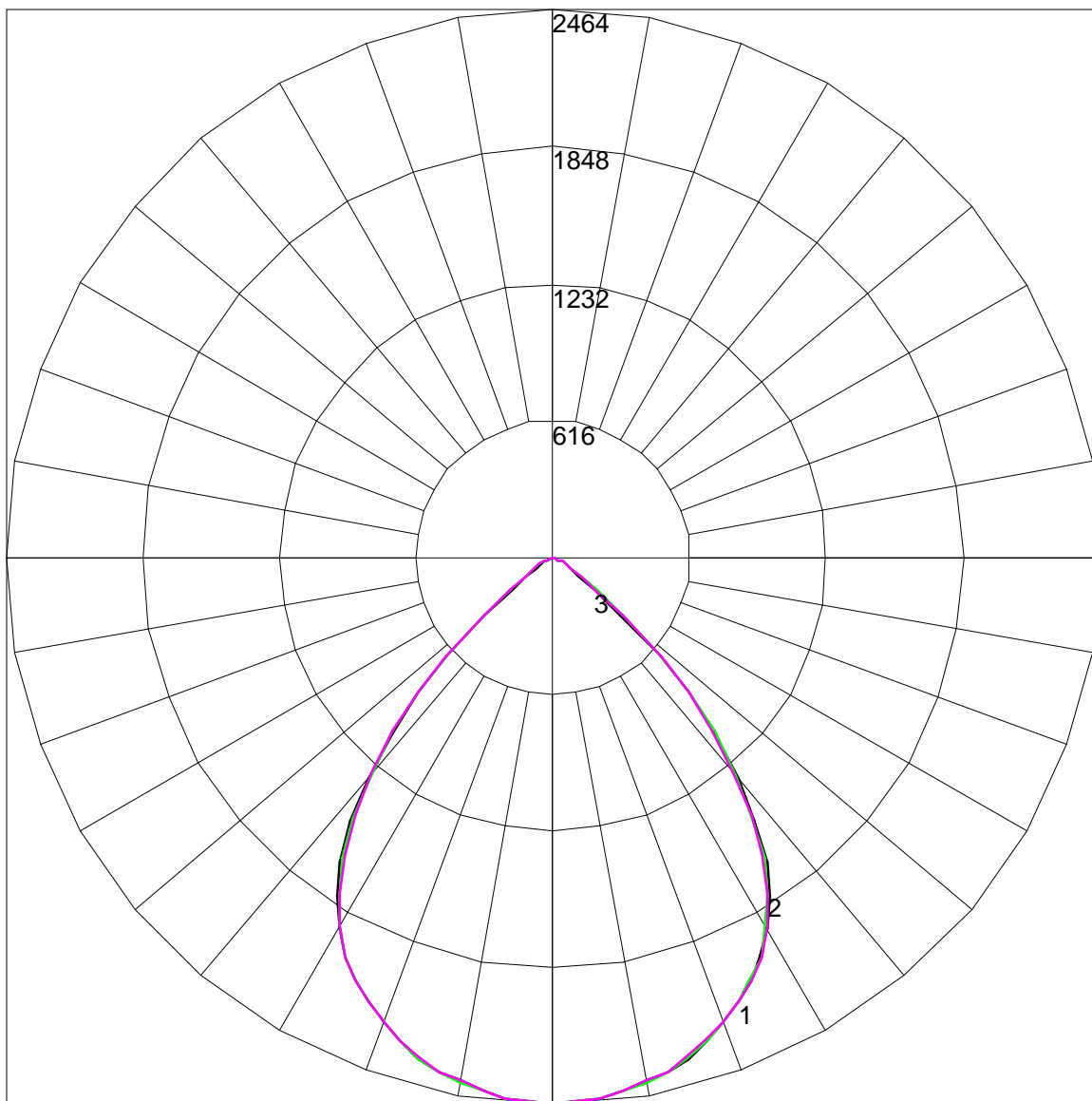
| Zone    | Lumens  |
|---------|---------|
| 0-10    | 232.06  |
| 10-20   | 657.67  |
| 20-30   | 966.12  |
| 30-40   | 1017.58 |
| 40-50   | 654.91  |
| 50-60   | 157.71  |
| 60-70   | 28.12   |
| 70-80   | 0.00    |
| 80-90   | 0.00    |
| 90-100  | 0.00    |
| 100-110 | 0.00    |
| 110-120 | 0.00    |
| 120-130 | 0.00    |
| 130-140 | 0.00    |
| 140-150 | 0.00    |
| 150-160 | 0.00    |
| 160-170 | 0.00    |
| 170-180 | 0.00    |

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  | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1  | 113 | 110 | 107 | 104 | 110 | 107 | 105 | 103 | 103 | 101 | 99  | 100 | 98  | 96  | 96  | 95  | 94  | 92  |
| 2  | 106 | 100 | 96  | 92  | 104 | 99  | 94  | 91  | 95  | 92  | 89  | 92  | 89  | 87  | 89  | 87  | 85  | 83  |
| 3  | 99  | 92  | 86  | 82  | 97  | 90  | 85  | 81  | 88  | 83  | 80  | 85  | 81  | 78  | 83  | 80  | 77  | 75  |
| 4  | 93  | 84  | 78  | 73  | 91  | 83  | 77  | 73  | 81  | 76  | 72  | 79  | 74  | 71  | 77  | 73  | 70  | 68  |
| 5  | 87  | 78  | 71  | 66  | 86  | 77  | 70  | 65  | 75  | 69  | 65  | 73  | 68  | 64  | 71  | 67  | 64  | 62  |
| 6  | 82  | 71  | 65  | 60  | 80  | 71  | 64  | 59  | 69  | 63  | 59  | 68  | 62  | 58  | 66  | 62  | 58  | 56  |
| 7  | 77  | 66  | 59  | 54  | 75  | 65  | 59  | 54  | 64  | 58  | 54  | 63  | 57  | 53  | 61  | 57  | 53  | 51  |
| 8  | 72  | 61  | 54  | 50  | 71  | 61  | 54  | 49  | 59  | 53  | 49  | 58  | 53  | 49  | 57  | 52  | 49  | 47  |
| 9  | 68  | 57  | 50  | 46  | 67  | 56  | 50  | 45  | 55  | 49  | 45  | 54  | 49  | 45  | 54  | 49  | 45  | 43  |
| 10 | 64  | 53  | 46  | 42  | 63  | 53  | 46  | 42  | 52  | 46  | 42  | 51  | 45  | 42  | 50  | 45  | 42  | 40  |

POLAR GRAPH



Maximum Candela = 2463.904 Located At Horizontal Angle = 0, Vertical Angle = 0

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

# 2 - Vertical Plane Through Horizontal Angles (90 - 270)

# 3 - Vertical Plane Through Horizontal Angles (45 - 225)