



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-L21-9TC-DIM-UNV-ON-OF-CS.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN from 12316380.05
 [TESTLAB] UL Verification Services Inc.
 [ISSUE DATE] 6/7/2018
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4DR-L21-9TC-DIM-UNV-O-N-OF-CS
 [LUMINAIRE] Black formed aluminum housing, specular reflector, no lens
 [MORE] enclosure
 [LAMP] One white LED
 [BALLAST] Philips XI025C070V054DSM5
 [OTHER] 25.5 C, 119.971 V, 0.166115 A, 19.8214 W, 0.9946 PF, 59.9699 H
 [OTHER] This test was performed using the calibrated photodetector met
 [MORE] hod of absolute photometry.

CHARACTERISTICS

| | |
|---------------------------------|--------------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 2078 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 52 |
| Total Luminaire Watts | 40.1 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 0.18 |
| Spacing Criterion (90-270) | 0.18 |
| Spacing Criterion (Diagonal) | 0.20 |
| Basic Luminous Shape | Circular |
| Luminous Length (0-180) | 0.38 ft (Diameter) |
| Luminous Width (90-270) | 0.38 ft (Diameter) |
| Luminous Height | 0.00 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 1428 | 1428 | 1428 |
| 55 | 352 | 352 | 352 |
| 65 | 239 | 239 | 239 |
| 75 | 0 | 0 | 0 |
| 85 | 0 | 0 | 0 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4DR-L21-9TC-DIM-UNV-ON-OF-CS.IES

CANDELA TABULATION

| | <u>0</u> |
|------|-----------|
| 0.0 | 22098.469 |
| 0.5 | 21942.919 |
| 1.0 | 21362.199 |
| 1.5 | 20522.229 |
| 2.0 | 19340.049 |
| 2.5 | 17960.839 |
| 3.0 | 16602.369 |
| 3.5 | 15243.899 |
| 4.0 | 13916.539 |
| 4.5 | 12578.809 |
| 5.0 | 11085.529 |
| 5.5 | 9546.621 |
| 6.0 | 8231.706 |
| 6.5 | 7272.481 |
| 7.0 | 6504.064 |
| 7.5 | 5883.938 |
| 8.0 | 5362.327 |
| 8.5 | 4917.454 |
| 9.0 | 4538.949 |
| 9.5 | 4205.035 |
| 10.0 | 3918.823 |
| 10.5 | 3668.906 |
| 11.0 | 3455.284 |
| 11.5 | 3267.587 |
| 12.0 | 3103.741 |
| 12.5 | 2961.672 |
| 13.0 | 2839.306 |
| 13.5 | 2730.421 |
| 14.0 | 2633.980 |
| 14.5 | 2543.761 |
| 15.0 | 2459.764 |
| 15.5 | 2377.841 |
| 16.0 | 2293.844 |
| 16.5 | 2210.884 |
| 17.0 | 2126.887 |
| 17.5 | 2043.927 |
| 18.0 | 1960.967 |
| 18.5 | 1874.896 |
| 19.0 | 1787.788 |
| 19.5 | 1700.680 |
| 20.0 | 1612.535 |
| 20.5 | 1524.390 |
| 21.0 | 1436.245 |
| 21.5 | 1350.174 |
| 22.0 | 1274.473 |
| 22.5 | 1204.994 |
| 23.0 | 1141.737 |
| 23.5 | 1084.702 |
| 24.0 | 1032.852 |
| 24.5 | 985.150 |
| 25.0 | 945.744 |
| 25.5 | 914.634 |
| 26.0 | 892.857 |
| 26.5 | 876.265 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4DR-L21-9TC-DIM-UNV-ON-OF-CS.IES

CANDELA TABULATION - (Cont.)

| | |
|------|---------|
| 27.0 | 860.710 |
| 27.5 | 841.007 |
| 28.0 | 811.971 |
| 28.5 | 776.713 |
| 29.0 | 736.270 |
| 29.5 | 691.679 |
| 30.0 | 642.940 |
| 30.5 | 591.090 |
| 31.0 | 528.870 |
| 31.5 | 461.465 |
| 32.0 | 391.986 |
| 32.5 | 324.581 |
| 33.0 | 263.398 |
| 33.5 | 213.622 |
| 34.0 | 167.994 |
| 34.5 | 128.588 |
| 35.0 | 92.293 |
| 35.5 | 63.257 |
| 36.0 | 41.480 |
| 36.5 | 27.999 |
| 37.0 | 23.851 |
| 37.5 | 22.814 |
| 38.0 | 21.777 |
| 38.5 | 20.740 |
| 39.0 | 19.703 |
| 39.5 | 18.666 |
| 40.0 | 17.629 |
| 40.5 | 16.592 |
| 41.0 | 16.592 |
| 41.5 | 15.555 |
| 42.0 | 14.518 |
| 42.5 | 14.518 |
| 43.0 | 13.481 |
| 43.5 | 12.444 |
| 44.0 | 11.407 |
| 44.5 | 11.407 |
| 45.0 | 10.370 |
| 45.5 | 10.370 |
| 46.0 | 9.333 |
| 46.5 | 8.296 |
| 47.0 | 8.296 |
| 47.5 | 7.259 |
| 48.0 | 7.259 |
| 48.5 | 6.222 |
| 49.0 | 6.222 |
| 49.5 | 6.222 |
| 50.0 | 5.185 |
| 50.5 | 5.185 |
| 51.0 | 4.148 |
| 51.5 | 4.148 |
| 52.0 | 4.148 |
| 52.5 | 3.111 |
| 53.0 | 3.111 |
| 53.5 | 3.111 |
| 54.0 | 3.111 |
| 54.5 | 3.111 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4DR-L21-9TC-DIM-UNV-ON-OF-CS.IES

CANDELA TABULATION - (Cont.)

| | |
|------|-------|
| 55.0 | 2.074 |
| 55.5 | 2.074 |
| 56.0 | 2.074 |
| 56.5 | 2.074 |
| 57.0 | 2.074 |
| 57.5 | 2.074 |
| 58.0 | 2.074 |
| 58.5 | 2.074 |
| 59.0 | 1.037 |
| 59.5 | 1.037 |
| 60.0 | 1.037 |
| 60.5 | 1.037 |
| 61.0 | 1.037 |
| 61.5 | 1.037 |
| 62.0 | 1.037 |
| 62.5 | 1.037 |
| 63.0 | 1.037 |
| 63.5 | 1.037 |
| 64.0 | 1.037 |
| 64.5 | 1.037 |
| 65.0 | 1.037 |
| 65.5 | 1.037 |
| 66.0 | 1.037 |
| 66.5 | 1.037 |
| 67.0 | 1.037 |
| 67.5 | 1.037 |
| 68.0 | 0.000 |
| 68.5 | 1.037 |
| 69.0 | 0.000 |
| 69.5 | 0.000 |
| 70.0 | 0.000 |
| 70.5 | 0.000 |
| 71.0 | 0.000 |
| 71.5 | 0.000 |
| 72.0 | 0.000 |
| 72.5 | 0.000 |
| 73.0 | 0.000 |
| 73.5 | 0.000 |
| 74.0 | 0.000 |
| 74.5 | 0.000 |
| 75.0 | 0.000 |
| 75.5 | 0.000 |
| 76.0 | 0.000 |
| 76.5 | 0.000 |
| 77.0 | 0.000 |
| 77.5 | 0.000 |
| 78.0 | 0.000 |
| 78.5 | 0.000 |
| 79.0 | 0.000 |
| 79.5 | 0.000 |
| 80.0 | 0.000 |
| 80.5 | 0.000 |
| 81.0 | 0.000 |
| 81.5 | 0.000 |
| 82.0 | 0.000 |
| 82.5 | 0.000 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4DR-L21-9TC-DIM-UNV-ON-OF-CS.IES

CANDELA TABULATION - (Cont.)

| | |
|-------|-------|
| 83.0 | 0.000 |
| 83.5 | 0.000 |
| 84.0 | 0.000 |
| 84.5 | 0.000 |
| 85.0 | 0.000 |
| 85.5 | 0.000 |
| 86.0 | 0.000 |
| 86.5 | 0.000 |
| 87.0 | 0.000 |
| 87.5 | 0.000 |
| 88.0 | 0.000 |
| 88.5 | 0.000 |
| 89.0 | 0.000 |
| 89.5 | 0.000 |
| 90.0 | 0.000 |
| 90.5 | 0.000 |
| 91.0 | 0.000 |
| 91.5 | 0.000 |
| 92.0 | 0.000 |
| 92.5 | 0.000 |
| 93.0 | 0.000 |
| 93.5 | 0.000 |
| 94.0 | 0.000 |
| 94.5 | 0.000 |
| 95.0 | 0.000 |
| 95.5 | 0.000 |
| 96.0 | 0.000 |
| 96.5 | 0.000 |
| 97.0 | 0.000 |
| 97.5 | 0.000 |
| 98.0 | 0.000 |
| 98.5 | 0.000 |
| 99.0 | 0.000 |
| 99.5 | 0.000 |
| 100.0 | 0.000 |
| 100.5 | 0.000 |
| 101.0 | 0.000 |
| 101.5 | 0.000 |
| 102.0 | 0.000 |
| 102.5 | 0.000 |
| 103.0 | 0.000 |
| 103.5 | 0.000 |
| 104.0 | 0.000 |
| 104.5 | 0.000 |
| 105.0 | 0.000 |
| 105.5 | 0.000 |
| 106.0 | 0.000 |
| 106.5 | 0.000 |
| 107.0 | 0.000 |
| 107.5 | 0.000 |
| 108.0 | 0.000 |
| 108.5 | 0.000 |
| 109.0 | 0.000 |
| 109.5 | 0.000 |
| 110.0 | 0.000 |
| 110.5 | 0.000 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4DR-L21-9TC-DIM-UNV-ON-OF-CS.IES

CANDELA TABULATION - (Cont.)

| | |
|-------|-------|
| 111.0 | 0.000 |
| 111.5 | 0.000 |
| 112.0 | 0.000 |
| 112.5 | 0.000 |
| 113.0 | 0.000 |
| 113.5 | 0.000 |
| 114.0 | 0.000 |
| 114.5 | 0.000 |
| 115.0 | 0.000 |
| 115.5 | 0.000 |
| 116.0 | 0.000 |
| 116.5 | 0.000 |
| 117.0 | 0.000 |
| 117.5 | 0.000 |
| 118.0 | 0.000 |
| 118.5 | 0.000 |
| 119.0 | 0.000 |
| 119.5 | 0.000 |
| 120.0 | 0.000 |
| 120.5 | 0.000 |
| 121.0 | 0.000 |
| 121.5 | 0.000 |
| 122.0 | 0.000 |
| 122.5 | 0.000 |
| 123.0 | 0.000 |
| 123.5 | 0.000 |
| 124.0 | 0.000 |
| 124.5 | 0.000 |
| 125.0 | 0.000 |
| 125.5 | 0.000 |
| 126.0 | 0.000 |
| 126.5 | 0.000 |
| 127.0 | 0.000 |
| 127.5 | 0.000 |
| 128.0 | 0.000 |
| 128.5 | 0.000 |
| 129.0 | 0.000 |
| 129.5 | 0.000 |
| 130.0 | 0.000 |
| 130.5 | 0.000 |
| 131.0 | 0.000 |
| 131.5 | 0.000 |
| 132.0 | 0.000 |
| 132.5 | 0.000 |
| 133.0 | 0.000 |
| 133.5 | 0.000 |
| 134.0 | 0.000 |
| 134.5 | 0.000 |
| 135.0 | 0.000 |
| 135.5 | 0.000 |
| 136.0 | 0.000 |
| 136.5 | 0.000 |
| 137.0 | 0.000 |
| 137.5 | 0.000 |
| 138.0 | 0.000 |
| 138.5 | 0.000 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4DR-L21-9TC-DIM-UNV-ON-OF-CS.IES

CANDELA TABULATION - (Cont.)

| | |
|-------|-------|
| 139.0 | 0.000 |
| 139.5 | 0.000 |
| 140.0 | 0.000 |
| 140.5 | 0.000 |
| 141.0 | 0.000 |
| 141.5 | 0.000 |
| 142.0 | 0.000 |
| 142.5 | 0.000 |
| 143.0 | 0.000 |
| 143.5 | 0.000 |
| 144.0 | 0.000 |
| 144.5 | 0.000 |
| 145.0 | 0.000 |
| 145.5 | 0.000 |
| 146.0 | 0.000 |
| 146.5 | 0.000 |
| 147.0 | 0.000 |
| 147.5 | 0.000 |
| 148.0 | 0.000 |
| 148.5 | 0.000 |
| 149.0 | 0.000 |
| 149.5 | 0.000 |
| 150.0 | 0.000 |
| 150.5 | 0.000 |
| 151.0 | 0.000 |
| 151.5 | 0.000 |
| 152.0 | 0.000 |
| 152.5 | 0.000 |
| 153.0 | 0.000 |
| 153.5 | 0.000 |
| 154.0 | 0.000 |
| 154.5 | 0.000 |
| 155.0 | 0.000 |
| 155.5 | 0.000 |
| 156.0 | 0.000 |
| 156.5 | 0.000 |
| 157.0 | 0.000 |
| 157.5 | 0.000 |
| 158.0 | 0.000 |
| 158.5 | 0.000 |
| 159.0 | 0.000 |
| 159.5 | 0.000 |
| 160.0 | 0.000 |
| 160.5 | 0.000 |
| 161.0 | 0.000 |
| 161.5 | 0.000 |
| 162.0 | 0.000 |
| 162.5 | 0.000 |
| 163.0 | 0.000 |
| 163.5 | 0.000 |
| 164.0 | 0.000 |
| 164.5 | 0.000 |
| 165.0 | 0.000 |
| 165.5 | 0.000 |
| 166.0 | 0.000 |
| 166.5 | 0.000 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4DR-L21-9TC-DIM-UNV-ON-OF-CS.IES

CANDELA TABULATION - (Cont.)

| | |
|-------|-------|
| 167.0 | 0.000 |
| 167.5 | 0.000 |
| 168.0 | 0.000 |
| 168.5 | 0.000 |
| 169.0 | 0.000 |
| 169.5 | 0.000 |
| 170.0 | 0.000 |
| 170.5 | 0.000 |
| 171.0 | 0.000 |
| 171.5 | 0.000 |
| 172.0 | 0.000 |
| 172.5 | 0.000 |
| 173.0 | 0.000 |
| 173.5 | 0.000 |
| 174.0 | 0.000 |
| 174.5 | 0.000 |
| 175.0 | 0.000 |
| 175.5 | 0.000 |
| 176.0 | 0.000 |
| 176.5 | 0.000 |
| 177.0 | 0.000 |
| 177.5 | 0.000 |
| 178.0 | 0.000 |
| 178.5 | 0.000 |
| 179.0 | 0.000 |
| 179.5 | 0.000 |
| 180.0 | 0.000 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4DR-L21-9TC-DIM-UNV-ON-OF-CS.IES

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 1494.48 | N.A. | 71.90 |
| 0-30 | 1956.81 | N.A. | 94.20 |
| 0-40 | 2066.52 | N.A. | 99.40 |
| 0-60 | 2077.24 | N.A. | 100.00 |
| 0-80 | 2078.09 | N.A. | 100.00 |
| 0-90 | 2078.09 | N.A. | 100.00 |
| 10-90 | 1272.08 | N.A. | 61.20 |
| 20-40 | 572.05 | N.A. | 27.50 |
| 20-50 | 580.34 | N.A. | 27.90 |
| 40-70 | 11.57 | N.A. | 0.60 |
| 60-80 | 0.84 | N.A. | 0.00 |
| 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 | 2078.09 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 806.00 |
| 10-20 | 688.47 |
| 20-30 | 462.34 |
| 30-40 | 109.71 |
| 40-50 | 8.29 |
| 50-60 | 2.43 |
| 60-70 | 0.84 |
| 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 |

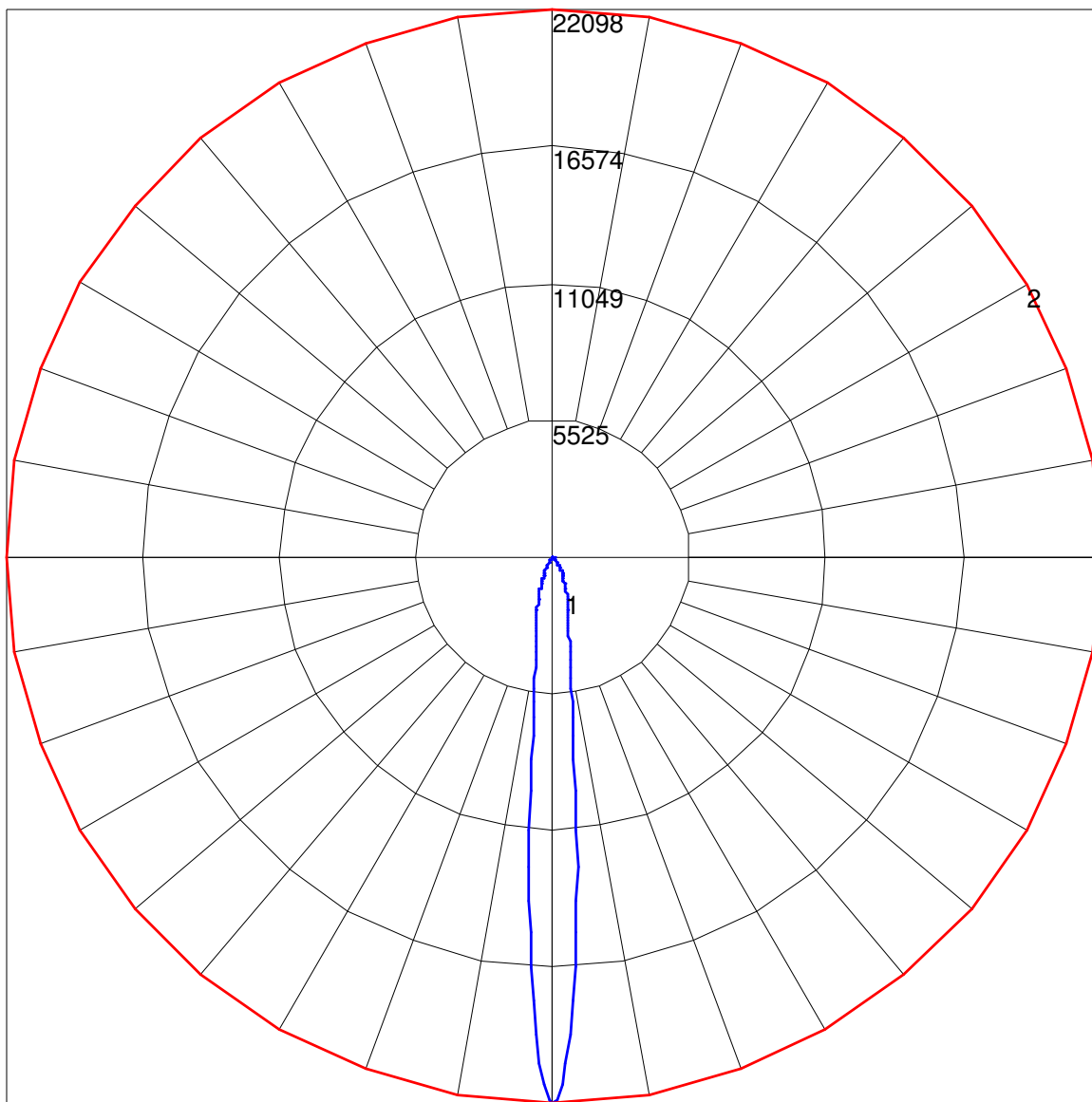
IES INDOOR REPORT
PHOTOMETRIC FILENAME : 4DR-L21-9TC-DIM-UNV-ON-OF-CS.IES

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 | 123 | 123 | 123 | 123 | 121 | 121 | 121 | 121 | 115 | 115 | 115 | 110 | 110 | 110 | 106 | 106 | 106 | 104 |
| 1 | 119 | 117 | 115 | 113 | 117 | 115 | 113 | 112 | 111 | 109 | 108 | 107 | 106 | 105 | 103 | 103 | 102 | 100 |
| 2 | 115 | 112 | 108 | 106 | 113 | 110 | 107 | 105 | 107 | 104 | 102 | 104 | 102 | 100 | 101 | 99 | 98 | 97 |
| 3 | 112 | 107 | 103 | 100 | 110 | 105 | 102 | 99 | 103 | 100 | 98 | 100 | 98 | 96 | 98 | 96 | 95 | 93 |
| 4 | 108 | 102 | 98 | 95 | 106 | 101 | 98 | 95 | 99 | 96 | 94 | 97 | 95 | 93 | 96 | 93 | 92 | 90 |
| 5 | 105 | 99 | 94 | 91 | 103 | 98 | 94 | 91 | 96 | 93 | 90 | 95 | 92 | 89 | 93 | 91 | 89 | 87 |
| 6 | 102 | 95 | 91 | 88 | 100 | 94 | 90 | 87 | 93 | 89 | 87 | 92 | 89 | 86 | 91 | 88 | 86 | 85 |
| 7 | 99 | 92 | 88 | 85 | 98 | 91 | 87 | 84 | 90 | 87 | 84 | 89 | 86 | 84 | 88 | 85 | 83 | 82 |
| 8 | 96 | 89 | 85 | 82 | 95 | 89 | 85 | 82 | 88 | 84 | 81 | 87 | 83 | 81 | 86 | 83 | 81 | 80 |
| 9 | 93 | 86 | 82 | 79 | 93 | 86 | 82 | 79 | 85 | 82 | 79 | 84 | 81 | 79 | 84 | 81 | 79 | 78 |
| 10 | 91 | 84 | 80 | 77 | 90 | 84 | 80 | 77 | 83 | 79 | 77 | 82 | 79 | 77 | 82 | 79 | 76 | 75 |

POLAR GRAPH



Maximum Candela = 22098.469 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)