



## IES ROAD REPORT

PHOTOMETRIC FILENAME : WPP MD F 12 FP 830 .IES

### DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST]

[TESTLAB]

[TESTDATE] 2018-07-11

[ISSUEDATE] 2018-07-11 14:17:12

[NEARFIELD]

[LAMPPOSITION] 0,40

[OTHER] EVERFINE GO-2000H\_V1 SYSTEM

[MANUFAC] LumenFocus, LLC

[LUMINAIRE] WPP MD F 12 FP 830

[LAMP] 49

### CHARACTERISTICS

|   |                                 |
|---|---------------------------------|
| IES Classification                              | Type IV                         |
| Longitudinal Classification                     | Very Short                      |
| Lumens Per Lamp                                 | N.A. (absolute)                 |
| Total Lamp Lumens                               | N.A. (absolute)                 |
| Luminaire Lumens                                | 958                             |
| Downward Total Efficiency                       | N.A. (absolute)                 |
| Total Luminaire Efficiency                      | N.A. (absolute)                 |
| Luminaire Efficacy Rating (LER)                 | 81                              |
| Total Luminaire Watts                           | 11.7752                         |
| Ballast Factor                                  | 1.00                            |
| Upward Waste Light Ratio                        | 0.28                            |
| Maximum Candela                                 | 300.43                          |
| Maximum Candela Angle                           | 360H 77V                        |
| Maximum Candela (<90 Degrees Vertical)          | 300.43                          |
| Maximum Candela Angle (<90 Degrees Vertical)    | 360H 77V                        |
| Maximum Candela At 90 Degrees Vertical          | 287.92 (30.1% Luminaire Lumens) |
| Maximum Candela from 80 to <90 Degrees Vertical | 299.7 (31.3% Luminaire Lumens)  |
| Cutoff Classification (deprecated)              | N.A. (absolute)                 |

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**LUMINAIRE CLASSIFICATION SYSTEM (LCS)**

|                               | Lumens   | % Lamp | % Luminaire |
|-------------------------------|----------|--------|-------------|
| FL - Front-Low (0-30)         | 50.8     | N.A.   | 5.3         |
| FM - Front-Medium (30-60)     | 207.9    | N.A.   | 21.7        |
| FH - Front-High (60-80)       | 212.0    | N.A.   | 22.1        |
| FVH - Front-Very High (80-90) | 110.1    | N.A.   | 11.5        |
| BL - Back-Low (0-30)          | 24.0     | N.A.   | 2.5         |
| BM - Back-Medium (30-60)      | 44.5     | N.A.   | 4.6         |
| BH - Back-High (60-80)        | 24.9     | N.A.   | 2.6         |
| BVH - Back-Very High (80-90)  | 11.2     | N.A.   | 1.2         |
| UL - Uplight-Low (90-100)     | 107.8    | N.A.   | 11.3        |
| UH - Uplight-High (100-180)   | 164.9    | N.A.   | 17.2        |
| Total                         | 958.1    | N.A.   | 100.0       |
| BUG Rating                    | B0-U3-G2 |        |             |

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**CANDELA TABULATION**

| Vert. Angles | Horizontal Angles |             |             |             |             |              |              |              |              |              |
|--------------|-------------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|
|              | <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> |
| 0            | 72.606            | 72.606      | 72.606      | 72.606      | 72.606      | 72.606       | 72.606       | 72.606       | 72.606       | 72.606       |
| 1            | 74.500            | 74.030      | 73.470      | 72.680      | 73.370      | 72.600       | 71.740       | 71.250       | 70.830       | 70.710       |
| 2            | 76.940            | 76.170      | 75.210      | 73.660      | 73.470      | 72.150       | 70.860       | 69.900       | 69.390       | 69.400       |
| 3            | 79.740            | 78.600      | 77.140      | 74.680      | 73.850      | 71.500       | 69.800       | 68.420       | 67.930       | 67.990       |
| 4            | 82.760            | 81.500      | 79.270      | 75.740      | 74.110      | 71.020       | 68.740       | 67.270       | 66.360       | 66.690       |
| 5            | 86.040            | 84.520      | 81.600      | 77.060      | 74.440      | 70.720       | 67.840       | 65.750       | 64.940       | 65.340       |
| 6            | 89.480            | 87.910      | 84.010      | 78.230      | 74.800      | 70.600       | 66.790       | 64.350       | 63.520       | 63.940       |
| 7            | 93.160            | 91.380      | 86.570      | 79.580      | 75.130      | 70.010       | 65.630       | 63.090       | 62.100       | 62.640       |
| 8            | 97.160            | 94.990      | 89.220      | 81.090      | 75.430      | 69.620       | 64.880       | 61.860       | 60.710       | 61.320       |
| 9            | 101.330           | 98.530      | 92.120      | 82.560      | 75.810      | 69.170       | 63.830       | 60.440       | 59.240       | 59.940       |
| 10           | 105.500           | 102.520     | 94.960      | 84.100      | 76.200      | 68.980       | 62.960       | 59.160       | 57.650       | 58.680       |
| 11           | 109.800           | 106.410     | 97.890      | 85.620      | 76.660      | 68.490       | 62.080       | 57.710       | 56.220       | 57.400       |
| 12           | 114.020           | 110.460     | 100.810     | 87.160      | 77.130      | 68.190       | 60.980       | 56.550       | 54.960       | 56.140       |
| 13           | 118.370           | 114.430     | 103.760     | 88.800      | 77.520      | 67.940       | 60.180       | 55.090       | 53.600       | 54.850       |
| 14           | 123.000           | 118.470     | 106.810     | 90.450      | 77.840      | 67.620       | 59.290       | 53.970       | 52.300       | 53.620       |
| 15           | 127.380           | 122.650     | 109.950     | 91.970      | 78.120      | 67.300       | 58.330       | 52.610       | 51.010       | 52.350       |
| 16           | 131.590           | 126.670     | 113.080     | 93.600      | 78.400      | 66.870       | 57.500       | 51.340       | 49.660       | 51.140       |
| 17           | 135.870           | 130.840     | 116.040     | 95.240      | 78.730      | 66.460       | 56.710       | 50.250       | 48.410       | 49.900       |
| 18           | 140.410           | 134.800     | 119.140     | 96.780      | 78.910      | 65.920       | 55.870       | 49.060       | 47.160       | 48.800       |
| 19           | 145.030           | 138.980     | 122.230     | 98.400      | 79.310      | 65.640       | 55.020       | 47.860       | 45.980       | 47.680       |
| 20           | 149.300           | 143.100     | 125.380     | 99.940      | 79.520      | 65.240       | 54.000       | 46.810       | 44.830       | 46.560       |
| 21           | 153.650           | 147.100     | 128.370     | 101.590     | 79.760      | 64.890       | 53.100       | 45.720       | 43.620       | 45.450       |
| 22           | 158.090           | 151.380     | 131.410     | 103.190     | 79.980      | 64.360       | 52.180       | 44.640       | 42.440       | 44.340       |
| 23           | 162.300           | 155.290     | 134.550     | 104.810     | 80.310      | 63.940       | 51.260       | 43.460       | 41.260       | 43.180       |
| 24           | 166.740           | 159.250     | 137.550     | 106.390     | 80.470      | 63.530       | 50.600       | 42.410       | 40.140       | 42.130       |
| 25           | 171.020           | 163.250     | 140.510     | 107.800     | 80.830      | 63.170       | 49.730       | 41.260       | 38.980       | 41.010       |
| 26           | 175.250           | 167.270     | 143.450     | 109.300     | 81.040      | 62.770       | 48.940       | 40.140       | 37.850       | 39.970       |
| 27           | 179.600           | 171.100     | 146.430     | 110.700     | 80.830      | 62.340       | 48.170       | 39.050       | 36.820       | 38.950       |
| 28           | 183.670           | 175.070     | 149.240     | 112.150     | 81.000      | 61.800       | 47.420       | 37.960       | 35.750       | 37.870       |
| 29           | 187.730           | 178.850     | 152.090     | 113.610     | 81.010      | 61.130       | 46.660       | 36.830       | 34.730       | 36.880       |
| 30           | 191.670           | 182.550     | 154.830     | 114.850     | 81.150      | 61.050       | 45.860       | 36.010       | 33.730       | 35.860       |
| 31           | 195.910           | 186.270     | 157.790     | 116.200     | 81.500      | 60.500       | 45.080       | 34.930       | 32.710       | 34.880       |
| 32           | 199.920           | 189.860     | 160.510     | 117.720     | 81.280      | 60.070       | 44.380       | 33.930       | 31.680       | 33.840       |
| 33           | 203.850           | 193.390     | 163.240     | 119.070     | 81.320      | 59.410       | 43.640       | 32.920       | 30.660       | 32.910       |
| 34           | 207.460           | 197.050     | 165.920     | 120.290     | 81.360      | 59.100       | 42.850       | 31.890       | 29.700       | 31.870       |
| 35           | 210.950           | 200.490     | 168.390     | 121.380     | 81.320      | 58.490       | 42.130       | 30.940       | 28.700       | 30.930       |
| 36           | 214.790           | 203.860     | 170.920     | 122.670     | 81.400      | 58.090       | 41.420       | 30.010       | 27.810       | 30.070       |
| 37           | 218.630           | 207.240     | 173.280     | 123.900     | 81.500      | 57.570       | 40.720       | 28.950       | 26.810       | 29.130       |
| 38           | 222.190           | 210.700     | 175.660     | 125.150     | 81.260      | 57.020       | 39.860       | 28.170       | 25.870       | 28.160       |
| 39           | 225.570           | 213.780     | 177.920     | 126.160     | 81.180      | 56.640       | 39.190       | 27.260       | 24.970       | 27.260       |
| 40           | 229.090           | 217.080     | 180.200     | 127.170     | 81.060      | 56.130       | 38.460       | 26.280       | 24.030       | 26.370       |
| 41           | 231.940           | 220.100     | 182.540     | 128.480     | 81.010      | 55.570       | 37.770       | 25.340       | 22.990       | 25.460       |
| 42           | 235.320           | 223.090     | 184.820     | 129.460     | 81.040      | 55.060       | 37.130       | 24.410       | 21.870       | 24.530       |
| 43           | 238.370           | 226.040     | 186.900     | 130.450     | 80.940      | 54.520       | 36.480       | 23.550       | 20.800       | 23.580       |
| 44           | 241.700           | 228.880     | 188.980     | 131.350     | 80.110      | 54.060       | 35.710       | 22.410       | 19.730       | 22.530       |
| 45           | 244.790           | 231.510     | 191.090     | 132.320     | 80.110      | 53.580       | 35.040       | 21.310       | 18.600       | 21.530       |
| 46           | 247.650           | 234.430     | 193.230     | 133.230     | 80.050      | 53.060       | 34.300       | 20.220       | 17.540       | 20.490       |
| 47           | 250.790           | 237.160     | 195.160     | 134.160     | 79.840      | 52.550       | 33.610       | 19.210       | 16.490       | 19.450       |
| 48           | 253.700           | 239.660     | 197.030     | 135.140     | 79.780      | 52.000       | 32.910       | 18.130       | 15.520       | 18.440       |
| 49           | 256.420           | 242.250     | 198.790     | 136.010     | 79.520      | 51.420       | 32.290       | 17.120       | 14.500       | 17.450       |
| 50           | 259.190           | 244.820     | 200.460     | 136.740     | 79.320      | 50.910       | 31.710       | 16.130       | 13.440       | 16.460       |
| 51           | 261.800           | 247.180     | 202.160     | 137.390     | 79.030      | 50.490       | 30.960       | 15.120       | 12.410       | 15.470       |
| 52           | 264.570           | 249.650     | 203.850     | 138.090     | 78.710      | 49.940       | 30.130       | 14.130       | 11.390       | 14.470       |

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**CANDELA TABULATION - (Cont.)**

|     |         |         |         |         |        |        |        |        |        |        |
|-----|---------|---------|---------|---------|--------|--------|--------|--------|--------|--------|
| 53  | 267.180 | 251.860 | 205.470 | 138.840 | 78.330 | 49.390 | 29.410 | 13.160 | 10.440 | 13.470 |
| 54  | 269.700 | 254.130 | 207.080 | 139.410 | 78.090 | 48.670 | 28.710 | 12.150 | 9.450  | 12.520 |
| 55  | 272.090 | 256.360 | 208.560 | 140.100 | 77.780 | 48.300 | 27.950 | 11.200 | 8.560  | 11.570 |
| 56  | 274.480 | 258.440 | 209.870 | 140.680 | 77.440 | 47.770 | 27.130 | 10.270 | 7.590  | 10.630 |
| 57  | 276.480 | 260.440 | 211.230 | 141.110 | 77.180 | 47.370 | 26.460 | 9.340  | 6.690  | 9.720  |
| 58  | 278.790 | 262.280 | 212.380 | 141.660 | 76.830 | 46.920 | 25.820 | 8.390  | 5.840  | 8.820  |
| 59  | 280.920 | 264.140 | 213.620 | 142.160 | 76.450 | 46.240 | 25.010 | 7.510  | 5.000  | 7.920  |
| 60  | 283.200 | 265.940 | 214.700 | 142.570 | 76.020 | 45.690 | 24.320 | 6.690  | 4.210  | 7.110  |
| 61  | 284.960 | 267.880 | 215.770 | 143.000 | 75.640 | 45.140 | 23.570 | 5.900  | 3.440  | 6.290  |
| 62  | 286.810 | 269.450 | 216.810 | 143.280 | 75.190 | 44.680 | 22.830 | 5.060  | 2.750  | 5.460  |
| 63  | 288.680 | 270.830 | 217.600 | 143.540 | 74.570 | 44.150 | 22.120 | 4.290  | 2.050  | 4.640  |
| 64  | 290.120 | 272.290 | 218.380 | 143.860 | 74.060 | 43.630 | 21.430 | 3.520  | 1.440  | 3.880  |
| 65  | 291.550 | 273.680 | 219.080 | 143.910 | 73.530 | 43.170 | 20.760 | 2.790  | 0.930  | 3.130  |
| 66  | 292.530 | 274.970 | 219.790 | 143.920 | 72.990 | 42.720 | 20.090 | 2.140  | 0.890  | 2.460  |
| 67  | 294.430 | 276.040 | 220.250 | 143.990 | 72.590 | 42.080 | 19.420 | 1.700  | 0.970  | 1.880  |
| 68  | 295.840 | 277.020 | 220.780 | 144.070 | 72.030 | 41.440 | 18.820 | 1.640  | 0.990  | 1.720  |
| 69  | 297.070 | 277.710 | 221.200 | 143.950 | 71.180 | 40.920 | 18.190 | 1.520  | 1.010  | 1.600  |
| 70  | 297.640 | 278.560 | 221.420 | 143.950 | 70.720 | 40.310 | 17.600 | 1.400  | 0.930  | 1.500  |
| 71  | 298.230 | 279.350 | 221.690 | 143.870 | 70.180 | 39.760 | 17.140 | 1.310  | 0.950  | 1.390  |
| 72  | 299.050 | 279.860 | 221.750 | 143.770 | 69.550 | 39.160 | 16.790 | 1.230  | 1.090  | 1.310  |
| 73  | 299.570 | 280.280 | 221.850 | 143.520 | 68.750 | 38.680 | 16.670 | 1.190  | 1.110  | 1.250  |
| 74  | 300.340 | 280.830 | 221.800 | 143.160 | 68.270 | 38.170 | 16.470 | 1.190  | 1.010  | 1.210  |
| 75  | 300.390 | 280.670 | 221.680 | 142.880 | 67.670 | 37.640 | 16.390 | 1.230  | 1.070  | 1.190  |
| 76  | 300.350 | 280.770 | 221.400 | 142.410 | 66.920 | 37.100 | 16.260 | 1.270  | 1.210  | 1.210  |
| 77  | 300.430 | 280.670 | 221.080 | 141.820 | 66.370 | 36.830 | 16.210 | 1.310  | 1.230  | 1.300  |
| 78  | 300.350 | 280.660 | 220.810 | 141.020 | 65.650 | 36.390 | 16.080 | 1.320  | 1.250  | 1.330  |
| 79  | 299.930 | 280.270 | 220.290 | 140.310 | 65.040 | 36.020 | 15.940 | 1.340  | 1.270  | 1.360  |
| 80  | 299.700 | 279.710 | 219.590 | 139.690 | 64.410 | 35.660 | 15.880 | 1.360  | 1.250  | 1.360  |
| 81  | 298.920 | 278.920 | 218.910 | 138.870 | 63.700 | 35.400 | 15.740 | 1.360  | 1.290  | 1.340  |
| 82  | 298.320 | 278.270 | 218.200 | 137.930 | 62.630 | 35.200 | 15.680 | 1.350  | 1.330  | 1.360  |
| 83  | 297.840 | 277.570 | 217.370 | 137.030 | 62.070 | 35.010 | 15.540 | 1.340  | 1.330  | 1.360  |
| 84  | 297.130 | 276.610 | 216.420 | 136.100 | 61.580 | 34.710 | 15.470 | 1.340  | 1.340  | 1.350  |
| 85  | 295.630 | 275.250 | 215.440 | 135.210 | 60.890 | 34.570 | 15.350 | 1.340  | 1.380  | 1.310  |
| 86  | 294.330 | 274.110 | 214.470 | 134.260 | 60.380 | 34.350 | 15.330 | 1.290  | 1.360  | 1.320  |
| 87  | 292.810 | 273.050 | 213.540 | 133.210 | 59.880 | 34.250 | 15.250 | 1.270  | 1.350  | 1.290  |
| 88  | 291.270 | 271.650 | 212.400 | 132.250 | 59.290 | 33.980 | 15.090 | 1.270  | 1.400  | 1.290  |
| 89  | 289.630 | 270.200 | 211.130 | 131.310 | 58.850 | 33.660 | 15.010 | 1.230  | 1.400  | 1.250  |
| 90  | 287.920 | 268.420 | 209.880 | 130.510 | 58.400 | 33.410 | 15.010 | 1.170  | 1.280  | 1.170  |
| 91  | 286.470 | 266.560 | 208.740 | 129.590 | 58.040 | 33.280 | 14.950 | 1.170  | 1.210  | 1.190  |
| 92  | 284.810 | 265.390 | 207.540 | 128.710 | 58.000 | 33.190 | 14.850 | 1.210  | 1.230  | 1.270  |
| 93  | 283.160 | 262.900 | 202.730 | 127.850 | 57.770 | 32.950 | 14.810 | 1.270  | 1.360  | 1.310  |
| 94  | 275.800 | 255.390 | 196.800 | 127.130 | 57.670 | 32.890 | 14.710 | 1.340  | 1.380  | 1.320  |
| 95  | 267.440 | 247.150 | 191.290 | 126.170 | 56.790 | 32.400 | 14.630 | 1.380  | 1.420  | 1.360  |
| 96  | 258.420 | 238.590 | 185.960 | 124.260 | 55.820 | 31.770 | 14.540 | 1.440  | 1.380  | 1.440  |
| 97  | 252.280 | 234.530 | 179.950 | 121.620 | 54.850 | 30.990 | 14.440 | 1.520  | 1.400  | 1.500  |
| 98  | 247.110 | 230.510 | 172.240 | 118.320 | 53.700 | 30.110 | 14.240 | 1.560  | 1.440  | 1.560  |
| 99  | 241.850 | 226.800 | 163.290 | 114.490 | 52.620 | 29.090 | 13.940 | 1.600  | 1.420  | 1.620  |
| 100 | 236.720 | 222.310 | 153.790 | 110.700 | 51.330 | 28.140 | 13.610 | 1.640  | 1.440  | 1.640  |
| 101 | 230.290 | 212.660 | 146.410 | 106.940 | 49.880 | 27.120 | 13.150 | 1.740  | 1.460  | 1.720  |
| 102 | 219.570 | 201.500 | 140.030 | 102.880 | 48.330 | 26.120 | 12.690 | 1.920  | 1.500  | 1.860  |
| 103 | 208.190 | 190.000 | 133.640 | 98.730  | 46.770 | 24.940 | 12.320 | 2.000  | 1.620  | 1.980  |
| 104 | 196.760 | 181.780 | 127.170 | 94.700  | 45.060 | 23.790 | 11.780 | 2.020  | 1.760  | 2.000  |
| 105 | 187.710 | 175.980 | 120.910 | 90.460  | 43.020 | 22.640 | 11.310 | 2.060  | 1.660  | 2.020  |
| 106 | 181.790 | 169.940 | 114.850 | 86.420  | 41.010 | 21.430 | 10.830 | 2.040  | 1.680  | 2.040  |
| 107 | 176.180 | 163.790 | 109.060 | 82.360  | 39.140 | 20.120 | 10.440 | 2.120  | 1.580  | 2.120  |
| 108 | 170.020 | 157.410 | 103.740 | 78.490  | 37.250 | 18.940 | 10.080 | 2.310  | 1.570  | 2.210  |

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**CANDELA TABULATION - (Cont.)**

|     |         |         |        |        |        |        |       |       |       |       |
|-----|---------|---------|--------|--------|--------|--------|-------|-------|-------|-------|
| 109 | 163.800 | 151.540 | 98.820 | 74.620 | 35.570 | 17.720 | 9.690 | 2.390 | 1.740 | 2.250 |
| 110 | 157.670 | 145.830 | 94.250 | 70.630 | 33.800 | 16.650 | 9.350 | 2.470 | 1.700 | 2.370 |
| 111 | 151.980 | 140.700 | 90.020 | 66.920 | 32.260 | 15.390 | 8.990 | 2.610 | 1.760 | 2.510 |
| 112 | 146.430 | 135.730 | 86.540 | 63.290 | 30.830 | 14.070 | 8.620 | 2.650 | 1.960 | 2.550 |
| 113 | 141.130 | 131.300 | 85.130 | 59.300 | 29.160 | 12.850 | 8.190 | 2.630 | 2.080 | 2.570 |
| 114 | 136.380 | 127.150 | 84.590 | 55.680 | 27.440 | 11.800 | 7.810 | 2.610 | 2.120 | 2.590 |
| 115 | 132.100 | 123.760 | 82.430 | 52.220 | 25.940 | 10.830 | 7.360 | 2.690 | 2.240 | 2.610 |
| 116 | 128.350 | 121.010 | 79.520 | 49.040 | 24.460 | 9.900  | 6.900 | 2.690 | 2.270 | 2.630 |
| 117 | 125.030 | 118.700 | 75.930 | 46.060 | 23.310 | 9.020  | 6.520 | 2.610 | 2.290 | 2.590 |
| 118 | 122.130 | 117.270 | 72.250 | 43.110 | 22.010 | 8.220  | 6.150 | 2.650 | 2.290 | 2.590 |
| 119 | 119.780 | 116.960 | 67.200 | 40.180 | 21.090 | 7.440  | 5.750 | 2.590 | 2.200 | 2.510 |
| 120 | 118.290 | 120.810 | 61.240 | 37.340 | 20.050 | 6.700  | 5.310 | 2.470 | 2.210 | 2.410 |
| 121 | 117.610 | 124.910 | 53.320 | 34.650 | 19.070 | 6.120  | 4.720 | 2.290 | 2.190 | 2.250 |
| 122 | 121.170 | 127.010 | 44.870 | 32.070 | 18.310 | 5.660  | 4.290 | 2.080 | 2.130 | 2.100 |
| 123 | 124.920 | 127.650 | 37.620 | 29.270 | 17.500 | 5.340  | 3.890 | 1.920 | 2.040 | 1.980 |
| 124 | 126.780 | 124.920 | 31.650 | 26.660 | 17.060 | 5.260  | 3.550 | 1.780 | 1.980 | 1.840 |
| 125 | 125.860 | 121.260 | 26.930 | 23.970 | 16.650 | 5.480  | 3.080 | 1.700 | 1.920 | 1.700 |
| 126 | 122.990 | 112.750 | 23.840 | 21.280 | 16.530 | 5.790  | 2.530 | 1.560 | 1.820 | 1.600 |
| 127 | 120.480 | 103.280 | 23.230 | 18.910 | 16.470 | 6.150  | 1.930 | 1.480 | 1.800 | 1.500 |
| 128 | 112.920 | 92.760  | 23.610 | 16.700 | 16.630 | 6.500  | 1.390 | 1.330 | 1.500 | 1.420 |
| 129 | 103.850 | 79.370  | 24.250 | 14.720 | 16.810 | 6.680  | 1.620 | 1.310 | 1.380 | 1.330 |
| 130 | 93.880  | 71.580  | 25.770 | 13.080 | 17.010 | 6.310  | 2.000 | 1.270 | 1.230 | 1.290 |
| 131 | 81.440  | 64.430  | 25.100 | 11.510 | 17.050 | 5.800  | 2.210 | 1.210 | 1.210 | 1.310 |
| 132 | 71.840  | 58.000  | 23.520 | 10.000 | 16.710 | 5.280  | 2.210 | 1.170 | 1.190 | 1.250 |
| 133 | 63.750  | 52.580  | 21.480 | 8.550  | 15.820 | 4.730  | 1.900 | 1.150 | 1.250 | 1.250 |
| 134 | 55.200  | 48.390  | 18.330 | 7.220  | 15.100 | 4.200  | 1.380 | 1.130 | 1.310 | 1.210 |
| 135 | 47.270  | 45.880  | 15.240 | 6.010  | 14.170 | 3.660  | 1.050 | 1.130 | 1.300 | 1.190 |
| 136 | 40.950  | 44.230  | 14.090 | 4.960  | 13.170 | 3.190  | 1.250 | 1.070 | 1.290 | 1.170 |
| 137 | 37.160  | 46.010  | 13.810 | 4.040  | 12.080 | 2.660  | 1.640 | 1.050 | 1.210 | 1.190 |
| 138 | 34.050  | 47.560  | 13.740 | 3.170  | 10.690 | 2.200  | 2.060 | 1.070 | 1.150 | 1.130 |
| 139 | 32.310  | 44.270  | 14.000 | 2.270  | 9.130  | 1.800  | 2.400 | 1.050 | 1.090 | 1.110 |
| 140 | 34.060  | 36.950  | 16.560 | 1.480  | 7.510  | 1.410  | 2.630 | 1.010 | 1.070 | 1.050 |
| 141 | 33.800  | 29.140  | 19.220 | 0.810  | 6.110  | 1.030  | 2.830 | 0.950 | 1.030 | 0.950 |
| 142 | 29.900  | 22.060  | 21.340 | 0.570  | 4.630  | 0.790  | 2.970 | 0.910 | 0.970 | 0.930 |
| 143 | 23.590  | 16.720  | 21.690 | 0.560  | 3.250  | 0.970  | 3.130 | 0.910 | 0.910 | 0.930 |
| 144 | 17.550  | 15.060  | 20.550 | 0.900  | 1.950  | 1.740  | 3.320 | 0.870 | 0.830 | 0.930 |
| 145 | 12.890  | 14.100  | 19.070 | 1.770  | 1.230  | 2.920  | 3.380 | 0.810 | 0.810 | 0.890 |
| 146 | 11.600  | 13.690  | 15.900 | 2.820  | 1.800  | 4.110  | 3.500 | 0.790 | 0.770 | 0.870 |
| 147 | 10.600  | 14.310  | 10.420 | 3.880  | 3.250  | 5.230  | 3.570 | 0.770 | 0.770 | 0.850 |
| 148 | 9.990   | 16.330  | 6.020  | 4.890  | 4.930  | 6.210  | 3.240 | 0.730 | 0.730 | 0.810 |
| 149 | 9.550   | 17.600  | 4.680  | 5.740  | 6.630  | 7.210  | 2.350 | 0.710 | 0.750 | 0.750 |
| 150 | 10.850  | 17.790  | 2.720  | 6.490  | 8.150  | 8.150  | 1.470 | 0.690 | 0.730 | 0.750 |
| 151 | 12.290  | 16.650  | 1.220  | 7.200  | 9.660  | 8.970  | 0.910 | 0.670 | 0.710 | 0.730 |
| 152 | 13.160  | 15.800  | 0.580  | 7.780  | 11.140 | 9.610  | 0.670 | 0.650 | 0.690 | 0.730 |
| 153 | 12.820  | 12.300  | 0.500  | 8.290  | 12.410 | 9.980  | 0.650 | 0.630 | 0.690 | 0.670 |
| 154 | 13.350  | 4.410   | 0.460  | 8.500  | 13.510 | 9.440  | 0.570 | 0.610 | 0.650 | 0.670 |
| 155 | 10.190  | 0.650   | 0.440  | 7.530  | 13.930 | 7.610  | 0.550 | 0.610 | 0.630 | 0.670 |
| 156 | 3.230   | 0.630   | 0.400  | 5.440  | 12.890 | 5.170  | 0.530 | 0.630 | 0.690 | 0.650 |
| 157 | 0.670   | 0.550   | 0.380  | 3.270  | 9.830  | 2.740  | 0.530 | 0.650 | 0.650 | 0.650 |
| 158 | 0.540   | 0.510   | 0.360  | 1.380  | 6.150  | 0.820  | 0.490 | 0.610 | 0.650 | 0.650 |
| 159 | 0.480   | 0.510   | 0.340  | 0.410  | 2.760  | 0.400  | 0.470 | 0.630 | 0.650 | 0.630 |
| 160 | 0.420   | 0.340   | 0.340  | 0.380  | 0.430  | 0.380  | 0.470 | 0.630 | 0.630 | 0.690 |
| 161 | 0.380   | 0.380   | 0.400  | 0.400  | 0.260  | 0.360  | 0.490 | 0.570 | 0.630 | 0.670 |
| 162 | 0.320   | 0.610   | 0.400  | 0.420  | 0.280  | 0.340  | 0.490 | 0.530 | 0.570 | 0.630 |
| 163 | 0.320   | 1.010   | 0.380  | 0.390  | 0.280  | 0.380  | 0.450 | 0.510 | 0.510 | 0.590 |
| 164 | 0.300   | 0.970   | 0.380  | 0.320  | 0.320  | 0.530  | 0.460 | 0.470 | 0.490 | 0.610 |

**IES ROAD REPORT**  
**PHOTOMETRIC FILENAME : WPP MD F 12 FP 830 .IES**

**CANDELA TABULATION - (Cont.)**

|     |       |       |       |       |       |       |       |       |       |       |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 165 | 0.320 | 0.930 | 0.360 | 0.360 | 0.580 | 0.890 | 0.500 | 0.470 | 0.470 | 0.610 |
| 166 | 0.320 | 0.870 | 0.420 | 0.420 | 2.680 | 1.400 | 0.570 | 0.450 | 0.450 | 0.610 |
| 167 | 0.410 | 0.790 | 0.420 | 0.530 | 4.640 | 1.830 | 0.590 | 0.440 | 0.440 | 0.590 |
| 168 | 0.490 | 0.730 | 0.450 | 0.810 | 4.370 | 2.000 | 0.510 | 0.440 | 0.430 | 0.520 |
| 169 | 0.550 | 0.670 | 0.440 | 1.090 | 3.730 | 2.000 | 0.490 | 0.420 | 0.400 | 0.490 |
| 170 | 0.300 | 0.530 | 0.400 | 1.150 | 3.120 | 1.880 | 0.450 | 0.420 | 0.400 | 0.420 |
| 171 | 0.240 | 0.450 | 0.320 | 1.050 | 2.540 | 1.550 | 0.400 | 0.380 | 0.380 | 0.430 |
| 172 | 0.240 | 0.390 | 0.300 | 0.810 | 1.860 | 1.210 | 0.380 | 0.380 | 0.380 | 0.380 |
| 173 | 0.240 | 0.280 | 0.260 | 0.590 | 1.340 | 0.930 | 0.380 | 0.360 | 0.360 | 0.380 |
| 174 | 0.260 | 0.260 | 0.280 | 0.410 | 0.890 | 0.530 | 0.360 | 0.380 | 0.360 | 0.400 |
| 175 | 0.240 | 0.280 | 0.300 | 0.340 | 0.420 | 0.380 | 0.320 | 0.380 | 0.400 | 0.360 |
| 176 | 0.240 | 0.300 | 0.300 | 0.360 | 0.380 | 0.360 | 0.300 | 0.360 | 0.360 | 0.360 |
| 177 | 0.260 | 0.280 | 0.340 | 0.340 | 0.340 | 0.340 | 0.340 | 0.320 | 0.340 | 0.400 |
| 178 | 0.320 | 0.300 | 0.340 | 0.360 | 0.340 | 0.340 | 0.360 | 0.340 | 0.340 | 0.360 |
| 179 | 0.320 | 0.340 | 0.340 | 0.360 | 0.340 | 0.320 | 0.320 | 0.320 | 0.340 | 0.340 |
| 180 | 0.340 | 0.340 | 0.340 | 0.340 | 0.340 | 0.340 | 0.340 | 0.340 | 0.340 | 0.340 |

**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> |
|----|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 0  | 72.606       | 72.606       | 72.606       | 72.606       | 72.606       | 72.606       | 72.606       |
| 1  | 71.030       | 71.320       | 73.550       | 73.620       | 74.300       | 74.430       | 74.500       |
| 2  | 69.960       | 70.840       | 73.470       | 74.630       | 75.850       | 76.620       | 76.940       |
| 3  | 68.960       | 70.310       | 73.570       | 75.570       | 77.810       | 78.880       | 79.740       |
| 4  | 67.990       | 69.880       | 73.730       | 76.780       | 79.660       | 81.700       | 82.760       |
| 5  | 66.940       | 69.400       | 74.040       | 77.930       | 82.220       | 84.940       | 86.040       |
| 6  | 65.870       | 68.980       | 74.300       | 79.070       | 84.560       | 88.140       | 89.480       |
| 7  | 64.960       | 68.530       | 74.610       | 80.560       | 87.290       | 91.710       | 93.160       |
| 8  | 64.050       | 68.170       | 74.870       | 82.330       | 89.910       | 95.400       | 97.160       |
| 9  | 63.050       | 67.760       | 75.330       | 83.580       | 92.650       | 99.080       | 101.330      |
| 10 | 62.120       | 67.440       | 75.760       | 85.280       | 95.570       | 102.820      | 105.500      |
| 11 | 61.260       | 67.080       | 76.100       | 86.870       | 98.610       | 107.030      | 109.800      |
| 12 | 60.340       | 66.730       | 76.550       | 88.460       | 101.720      | 110.980      | 114.020      |
| 13 | 59.400       | 66.430       | 76.870       | 90.060       | 104.810      | 114.800      | 118.370      |
| 14 | 58.400       | 66.050       | 77.140       | 91.690       | 108.030      | 118.900      | 123.000      |
| 15 | 57.540       | 65.680       | 77.560       | 93.440       | 111.210      | 123.210      | 127.380      |
| 16 | 56.580       | 65.320       | 77.850       | 95.090       | 114.050      | 127.180      | 131.590      |
| 17 | 55.780       | 64.930       | 78.310       | 96.830       | 117.260      | 131.160      | 135.870      |
| 18 | 54.920       | 64.570       | 78.630       | 98.650       | 120.440      | 135.480      | 140.410      |
| 19 | 54.030       | 64.260       | 78.650       | 100.310      | 123.760      | 139.630      | 145.030      |
| 20 | 53.160       | 63.750       | 78.910       | 101.870      | 126.800      | 143.840      | 149.300      |
| 21 | 52.380       | 63.500       | 79.220       | 103.590      | 129.840      | 148.000      | 153.650      |
| 22 | 51.520       | 63.110       | 79.520       | 105.080      | 132.920      | 152.020      | 158.090      |
| 23 | 50.730       | 62.700       | 79.640       | 106.710      | 136.030      | 155.770      | 162.300      |
| 24 | 49.890       | 62.300       | 79.990       | 108.370      | 139.260      | 160.080      | 166.740      |
| 25 | 49.080       | 61.890       | 80.190       | 109.980      | 142.150      | 164.030      | 171.020      |
| 26 | 48.310       | 61.430       | 80.370       | 111.510      | 145.210      | 167.820      | 175.250      |
| 27 | 47.540       | 61.010       | 80.250       | 113.110      | 148.390      | 171.770      | 179.600      |
| 28 | 46.800       | 60.620       | 80.590       | 114.680      | 151.220      | 175.750      | 183.670      |
| 29 | 46.010       | 60.160       | 80.650       | 115.720      | 154.280      | 179.570      | 187.730      |
| 30 | 45.260       | 59.730       | 80.690       | 117.420      | 156.980      | 183.390      | 191.670      |
| 31 | 44.540       | 59.260       | 80.920       | 118.730      | 159.850      | 187.090      | 195.910      |
| 32 | 43.800       | 58.880       | 81.040       | 120.390      | 162.700      | 190.750      | 199.920      |
| 33 | 43.070       | 58.410       | 81.140       | 121.860      | 165.170      | 194.110      | 203.850      |
| 34 | 42.280       | 58.010       | 80.990       | 122.990      | 167.770      | 197.690      | 207.460      |
| 35 | 41.590       | 57.540       | 80.970       | 124.350      | 170.240      | 201.400      | 210.950      |

**IES ROAD REPORT**  
**PHOTOMETRIC FILENAME : WPP MD F 12 FP 830 .IES**

**CANDELA TABULATION - (Cont.)**

|    |        |        |        |         |         |         |         |
|----|--------|--------|--------|---------|---------|---------|---------|
| 36 | 40.910 | 57.060 | 81.060 | 125.530 | 172.760 | 205.050 | 214.790 |
| 37 | 40.140 | 56.620 | 80.730 | 126.920 | 175.440 | 208.400 | 218.630 |
| 38 | 39.450 | 56.150 | 80.770 | 128.080 | 177.920 | 211.630 | 222.190 |
| 39 | 38.750 | 55.710 | 80.890 | 129.240 | 180.520 | 214.870 | 225.570 |
| 40 | 38.080 | 55.200 | 80.790 | 130.530 | 182.610 | 218.050 | 229.090 |
| 41 | 37.390 | 54.690 | 80.490 | 131.500 | 184.910 | 221.040 | 231.940 |
| 42 | 36.720 | 54.180 | 80.510 | 132.570 | 187.220 | 223.720 | 235.320 |
| 43 | 36.050 | 53.700 | 80.450 | 133.770 | 189.300 | 226.840 | 238.370 |
| 44 | 35.380 | 53.200 | 80.060 | 134.950 | 191.340 | 229.540 | 241.700 |
| 45 | 34.720 | 52.690 | 79.820 | 135.700 | 193.190 | 232.370 | 244.790 |
| 46 | 34.090 | 52.200 | 79.720 | 136.620 | 195.500 | 235.380 | 247.650 |
| 47 | 33.440 | 51.740 | 79.660 | 137.620 | 197.580 | 238.290 | 250.790 |
| 48 | 32.780 | 51.270 | 79.370 | 138.620 | 199.320 | 240.660 | 253.700 |
| 49 | 32.190 | 50.750 | 79.130 | 139.450 | 201.270 | 243.570 | 256.420 |
| 50 | 31.570 | 50.310 | 79.170 | 140.170 | 202.920 | 246.090 | 259.190 |
| 51 | 30.920 | 49.710 | 78.950 | 140.950 | 204.810 | 248.220 | 261.800 |
| 52 | 30.220 | 49.230 | 78.690 | 141.730 | 206.300 | 250.410 | 264.570 |
| 53 | 29.480 | 48.790 | 78.380 | 142.340 | 207.900 | 252.880 | 267.180 |
| 54 | 28.810 | 48.270 | 78.080 | 143.190 | 209.550 | 255.250 | 269.700 |
| 55 | 28.060 | 47.870 | 78.000 | 143.920 | 211.120 | 257.440 | 272.090 |
| 56 | 27.360 | 47.290 | 77.630 | 144.650 | 212.360 | 259.580 | 274.480 |
| 57 | 26.650 | 46.840 | 77.150 | 144.870 | 213.770 | 261.410 | 276.480 |
| 58 | 25.980 | 46.310 | 76.740 | 145.660 | 215.000 | 263.270 | 278.790 |
| 59 | 25.250 | 45.910 | 76.340 | 146.070 | 216.260 | 265.270 | 280.920 |
| 60 | 24.580 | 45.450 | 76.140 | 146.370 | 217.220 | 267.370 | 283.200 |
| 61 | 23.880 | 44.940 | 75.670 | 146.620 | 218.090 | 268.990 | 284.960 |
| 62 | 23.210 | 44.480 | 75.410 | 147.020 | 219.450 | 270.470 | 286.810 |
| 63 | 22.520 | 43.970 | 74.820 | 147.260 | 220.520 | 271.870 | 288.680 |
| 64 | 21.850 | 43.450 | 74.230 | 147.610 | 221.330 | 273.440 | 290.120 |
| 65 | 21.170 | 42.920 | 73.850 | 147.690 | 222.040 | 274.860 | 291.550 |
| 66 | 20.540 | 42.500 | 73.480 | 147.990 | 222.820 | 276.210 | 292.530 |
| 67 | 19.870 | 41.990 | 72.960 | 147.990 | 223.350 | 277.060 | 294.430 |
| 68 | 19.300 | 41.430 | 72.430 | 147.990 | 223.830 | 278.440 | 295.840 |
| 69 | 18.680 | 40.900 | 71.950 | 148.160 | 224.040 | 279.420 | 297.070 |
| 70 | 18.130 | 40.290 | 71.280 | 147.710 | 224.400 | 280.170 | 297.640 |
| 71 | 17.600 | 39.770 | 70.710 | 147.770 | 224.790 | 280.930 | 298.230 |
| 72 | 17.120 | 39.280 | 70.020 | 147.670 | 224.800 | 281.160 | 299.050 |
| 73 | 16.890 | 38.770 | 69.260 | 147.550 | 225.050 | 281.820 | 299.570 |
| 74 | 16.730 | 38.250 | 68.790 | 146.840 | 224.800 | 281.860 | 300.340 |
| 75 | 16.610 | 37.780 | 68.180 | 146.400 | 224.940 | 282.190 | 300.390 |
| 76 | 16.510 | 37.280 | 67.520 | 145.890 | 224.700 | 282.290 | 300.350 |
| 77 | 16.410 | 36.890 | 66.850 | 145.320 | 224.430 | 282.490 | 300.430 |
| 78 | 16.330 | 36.420 | 66.040 | 144.820 | 223.740 | 281.990 | 300.350 |
| 79 | 16.240 | 36.020 | 65.230 | 144.260 | 223.140 | 281.360 | 299.930 |
| 80 | 16.160 | 35.680 | 64.500 | 143.380 | 222.510 | 280.970 | 299.700 |
| 81 | 16.060 | 35.420 | 63.880 | 142.370 | 221.510 | 280.680 | 298.920 |
| 82 | 15.980 | 35.170 | 62.910 | 141.760 | 221.010 | 279.680 | 298.320 |
| 83 | 15.880 | 34.910 | 62.130 | 140.970 | 220.300 | 278.810 | 297.840 |
| 84 | 15.800 | 34.670 | 61.330 | 139.850 | 219.050 | 277.930 | 297.130 |
| 85 | 15.700 | 34.410 | 60.620 | 138.950 | 218.060 | 276.840 | 295.630 |
| 86 | 15.620 | 34.120 | 59.770 | 137.950 | 217.160 | 275.750 | 294.330 |
| 87 | 15.540 | 33.880 | 59.160 | 136.720 | 216.280 | 274.280 | 292.810 |
| 88 | 15.520 | 33.600 | 58.490 | 135.430 | 215.220 | 273.150 | 291.270 |
| 89 | 15.460 | 33.350 | 57.970 | 134.510 | 212.470 | 271.240 | 289.630 |
| 90 | 15.370 | 33.210 | 57.310 | 133.960 | 207.980 | 269.900 | 287.920 |
| 91 | 15.330 | 33.110 | 57.060 | 132.670 | 203.900 | 268.040 | 286.470 |

**IES ROAD REPORT**  
**PHOTOMETRIC FILENAME : WPP MD F 12 FP 830 .IES**

**CANDELA TABULATION - (Cont.)**

|     |        |        |        |         |         |         |         |
|-----|--------|--------|--------|---------|---------|---------|---------|
| 92  | 15.270 | 32.950 | 57.210 | 131.940 | 201.380 | 267.000 | 284.810 |
| 93  | 15.190 | 32.750 | 56.650 | 131.080 | 194.380 | 263.990 | 283.160 |
| 94  | 15.090 | 32.180 | 55.770 | 129.850 | 185.890 | 256.680 | 275.800 |
| 95  | 14.890 | 31.370 | 54.750 | 127.380 | 177.240 | 248.930 | 267.440 |
| 96  | 14.470 | 30.490 | 53.320 | 123.520 | 169.810 | 240.820 | 258.420 |
| 97  | 13.970 | 29.470 | 51.990 | 118.750 | 161.870 | 236.460 | 252.280 |
| 98  | 13.370 | 28.440 | 50.330 | 113.610 | 153.790 | 232.870 | 247.110 |
| 99  | 12.850 | 27.350 | 48.580 | 108.760 | 142.990 | 228.210 | 241.850 |
| 100 | 12.220 | 26.210 | 46.730 | 103.670 | 131.650 | 223.460 | 236.720 |
| 101 | 11.640 | 25.000 | 44.780 | 98.500  | 121.480 | 214.270 | 230.290 |
| 102 | 10.910 | 23.720 | 42.710 | 93.390  | 114.010 | 203.450 | 219.570 |
| 103 | 10.260 | 22.480 | 40.580 | 88.250  | 107.220 | 192.060 | 208.190 |
| 104 | 9.590  | 21.160 | 38.420 | 82.980  | 100.300 | 183.130 | 196.760 |
| 105 | 8.880  | 19.720 | 36.040 | 77.700  | 93.630  | 176.960 | 187.710 |
| 106 | 8.300  | 18.350 | 33.810 | 72.730  | 88.150  | 170.740 | 181.790 |
| 107 | 7.890  | 16.990 | 31.590 | 67.580  | 83.990  | 164.880 | 176.180 |
| 108 | 7.450  | 15.530 | 29.240 | 62.980  | 80.470  | 158.690 | 170.020 |
| 109 | 7.100  | 14.130 | 27.340 | 58.380  | 77.430  | 152.980 | 163.800 |
| 110 | 6.740  | 12.760 | 25.310 | 54.540  | 74.370  | 147.350 | 157.670 |
| 111 | 6.360  | 11.430 | 23.240 | 51.490  | 71.460  | 142.010 | 151.980 |
| 112 | 5.970  | 10.160 | 21.450 | 48.620  | 69.350  | 136.800 | 146.430 |
| 113 | 5.590  | 8.890  | 19.530 | 46.130  | 68.900  | 132.070 | 141.130 |
| 114 | 5.280  | 7.820  | 17.520 | 44.020  | 72.030  | 128.070 | 136.380 |
| 115 | 5.040  | 6.910  | 15.850 | 42.100  | 75.100  | 124.470 | 132.100 |
| 116 | 5.020  | 6.130  | 14.450 | 40.550  | 75.810  | 121.230 | 128.350 |
| 117 | 5.260  | 5.440  | 13.140 | 38.990  | 75.120  | 118.950 | 125.030 |
| 118 | 5.460  | 4.950  | 12.140 | 37.680  | 73.000  | 116.970 | 122.130 |
| 119 | 5.560  | 4.650  | 11.300 | 36.160  | 70.410  | 115.860 | 119.780 |
| 120 | 5.400  | 4.630  | 10.800 | 34.730  | 65.360  | 118.260 | 118.290 |
| 121 | 5.040  | 4.690  | 10.450 | 33.350  | 59.250  | 122.530 | 117.610 |
| 122 | 4.670  | 4.860  | 10.240 | 32.110  | 50.830  | 125.820 | 121.170 |
| 123 | 4.350  | 5.260  | 10.150 | 31.180  | 42.710  | 126.520 | 124.920 |
| 124 | 4.210  | 5.750  | 10.240 | 29.880  | 36.460  | 124.990 | 126.780 |
| 125 | 4.030  | 6.240  | 10.750 | 28.040  | 31.060  | 122.290 | 125.860 |
| 126 | 3.840  | 6.700  | 11.410 | 25.780  | 27.200  | 114.850 | 122.990 |
| 127 | 3.580  | 7.160  | 11.960 | 22.930  | 25.200  | 105.930 | 120.480 |
| 128 | 3.280  | 7.450  | 12.580 | 20.080  | 25.510  | 95.980  | 112.920 |
| 129 | 2.920  | 7.360  | 13.110 | 17.550  | 27.210  | 84.090  | 103.850 |
| 130 | 2.710  | 6.950  | 13.330 | 15.520  | 29.760  | 73.610  | 93.880  |
| 131 | 2.570  | 6.430  | 13.090 | 13.720  | 32.890  | 66.080  | 81.440  |
| 132 | 2.410  | 5.940  | 12.510 | 12.160  | 32.510  | 59.140  | 71.840  |
| 133 | 2.120  | 5.380  | 11.890 | 10.650  | 29.980  | 53.100  | 63.750  |
| 134 | 1.680  | 4.810  | 11.270 | 9.210   | 26.340  | 47.600  | 55.200  |
| 135 | 1.320  | 4.300  | 10.440 | 7.900   | 22.350  | 44.710  | 47.270  |
| 136 | 1.230  | 3.750  | 9.580  | 6.770   | 18.950  | 43.250  | 40.950  |
| 137 | 1.680  | 3.220  | 8.680  | 5.710   | 18.060  | 43.420  | 37.160  |
| 138 | 2.160  | 2.710  | 7.600  | 4.580   | 17.020  | 45.490  | 34.050  |
| 139 | 2.610  | 2.260  | 6.490  | 3.530   | 16.180  | 44.180  | 32.310  |
| 140 | 3.010  | 1.810  | 5.340  | 2.590   | 15.670  | 39.070  | 34.060  |
| 141 | 3.320  | 1.390  | 4.350  | 1.790   | 17.820  | 31.340  | 33.800  |
| 142 | 3.560  | 1.130  | 3.280  | 1.350   | 20.600  | 24.170  | 29.900  |
| 143 | 3.760  | 1.460  | 2.300  | 1.390   | 22.740  | 17.710  | 23.590  |
| 144 | 3.940  | 2.350  | 1.610  | 1.830   | 23.040  | 15.230  | 17.550  |
| 145 | 4.110  | 3.520  | 1.620  | 2.570   | 21.190  | 14.060  | 12.890  |
| 146 | 4.230  | 4.800  | 2.900  | 3.470   | 18.790  | 13.570  | 11.600  |
| 147 | 4.370  | 6.040  | 4.350  | 4.270   | 14.220  | 13.690  | 10.600  |

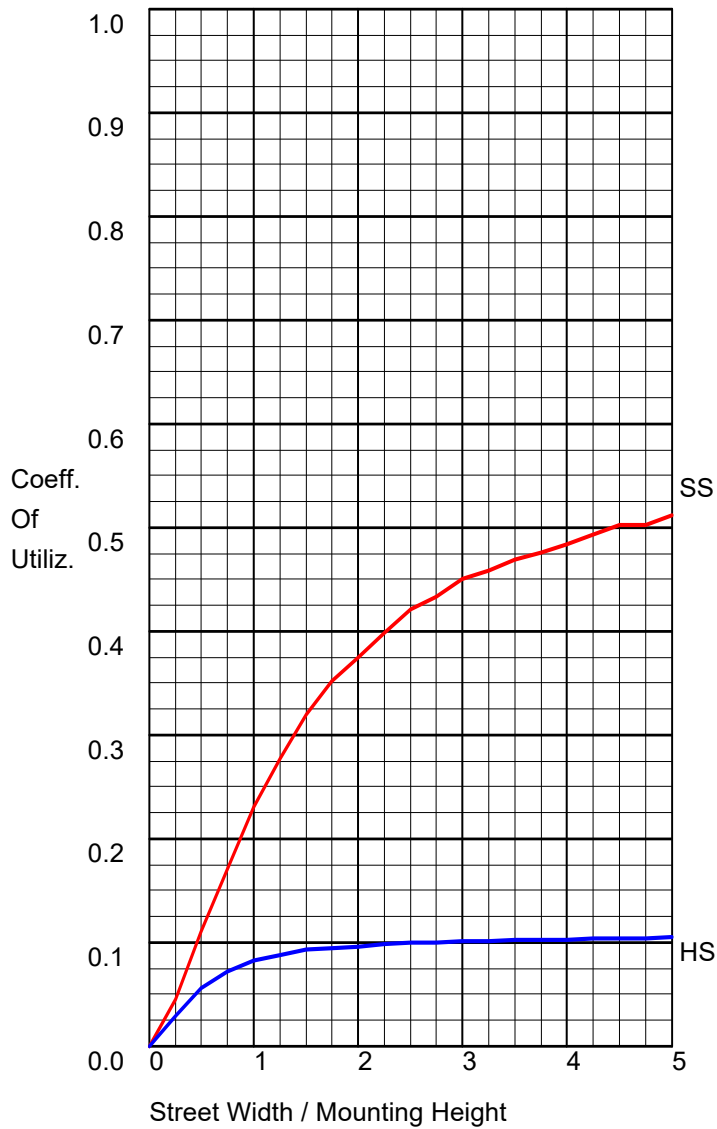


**IES ROAD REPORT  
 PHOTOMETRIC FILENAME : WPP MD F 12 FP 830 .IES**

**CANDELA TABULATION - (Cont.)**

|     |       |        |        |       |       |        |        |
|-----|-------|--------|--------|-------|-------|--------|--------|
| 148 | 4.420 | 6.970  | 5.990  | 4.990 | 7.610 | 15.360 | 9.990  |
| 149 | 3.680 | 7.980  | 7.440  | 5.680 | 2.640 | 17.030 | 9.550  |
| 150 | 2.660 | 8.970  | 8.690  | 6.190 | 1.390 | 17.850 | 10.850 |
| 151 | 1.710 | 9.870  | 10.070 | 6.670 | 0.680 | 17.040 | 12.290 |
| 152 | 1.010 | 10.590 | 11.270 | 7.020 | 0.520 | 16.320 | 13.160 |
| 153 | 0.690 | 10.870 | 12.240 | 7.260 | 0.480 | 15.060 | 12.820 |
| 154 | 0.630 | 10.130 | 13.060 | 6.850 | 0.470 | 6.730  | 13.350 |
| 155 | 0.590 | 8.110  | 13.110 | 5.180 | 0.420 | 0.850  | 10.190 |
| 156 | 0.590 | 5.620  | 11.120 | 3.380 | 0.420 | 0.630  | 3.230  |
| 157 | 0.590 | 3.130  | 7.940  | 1.780 | 0.360 | 0.570  | 0.670  |
| 158 | 0.550 | 1.140  | 4.600  | 0.650 | 0.360 | 0.430  | 0.540  |
| 159 | 0.530 | 0.560  | 1.710  | 0.520 | 0.340 | 0.380  | 0.480  |
| 160 | 0.510 | 0.490  | 0.330  | 0.610 | 0.360 | 0.320  | 0.420  |
| 161 | 0.510 | 0.420  | 0.300  | 0.690 | 0.400 | 0.460  | 0.380  |
| 162 | 0.550 | 0.440  | 0.320  | 0.830 | 0.380 | 0.750  | 0.320  |
| 163 | 0.550 | 0.550  | 0.340  | 0.910 | 0.380 | 0.990  | 0.320  |
| 164 | 0.510 | 0.970  | 0.360  | 0.910 | 0.340 | 0.990  | 0.300  |
| 165 | 0.630 | 1.600  | 1.420  | 0.870 | 0.320 | 1.070  | 0.320  |
| 166 | 0.650 | 2.110  | 3.400  | 0.650 | 0.380 | 1.090  | 0.320  |
| 167 | 0.610 | 2.250  | 4.960  | 0.550 | 0.510 | 1.030  | 0.410  |
| 168 | 0.590 | 2.290  | 4.770  | 0.760 | 0.570 | 0.890  | 0.490  |
| 169 | 0.530 | 2.530  | 4.160  | 1.030 | 0.570 | 0.790  | 0.550  |
| 170 | 0.510 | 2.670  | 3.550  | 1.130 | 0.480 | 0.670  | 0.300  |
| 171 | 0.450 | 2.290  | 2.850  | 0.990 | 0.300 | 0.550  | 0.240  |
| 172 | 0.440 | 1.920  | 2.140  | 0.770 | 0.260 | 0.390  | 0.240  |
| 173 | 0.450 | 1.490  | 1.500  | 0.570 | 0.260 | 0.240  | 0.240  |
| 174 | 0.420 | 0.640  | 0.900  | 0.380 | 0.280 | 0.260  | 0.260  |
| 175 | 0.400 | 0.420  | 0.400  | 0.360 | 0.300 | 0.280  | 0.240  |
| 176 | 0.420 | 0.400  | 0.400  | 0.380 | 0.320 | 0.260  | 0.240  |
| 177 | 0.420 | 0.420  | 0.380  | 0.360 | 0.320 | 0.280  | 0.260  |
| 178 | 0.400 | 0.380  | 0.400  | 0.400 | 0.340 | 0.300  | 0.320  |
| 179 | 0.360 | 0.320  | 0.340  | 0.340 | 0.300 | 0.320  | 0.320  |
| 180 | 0.340 | 0.340  | 0.340  | 0.340 | 0.340 | 0.340  | 0.340  |

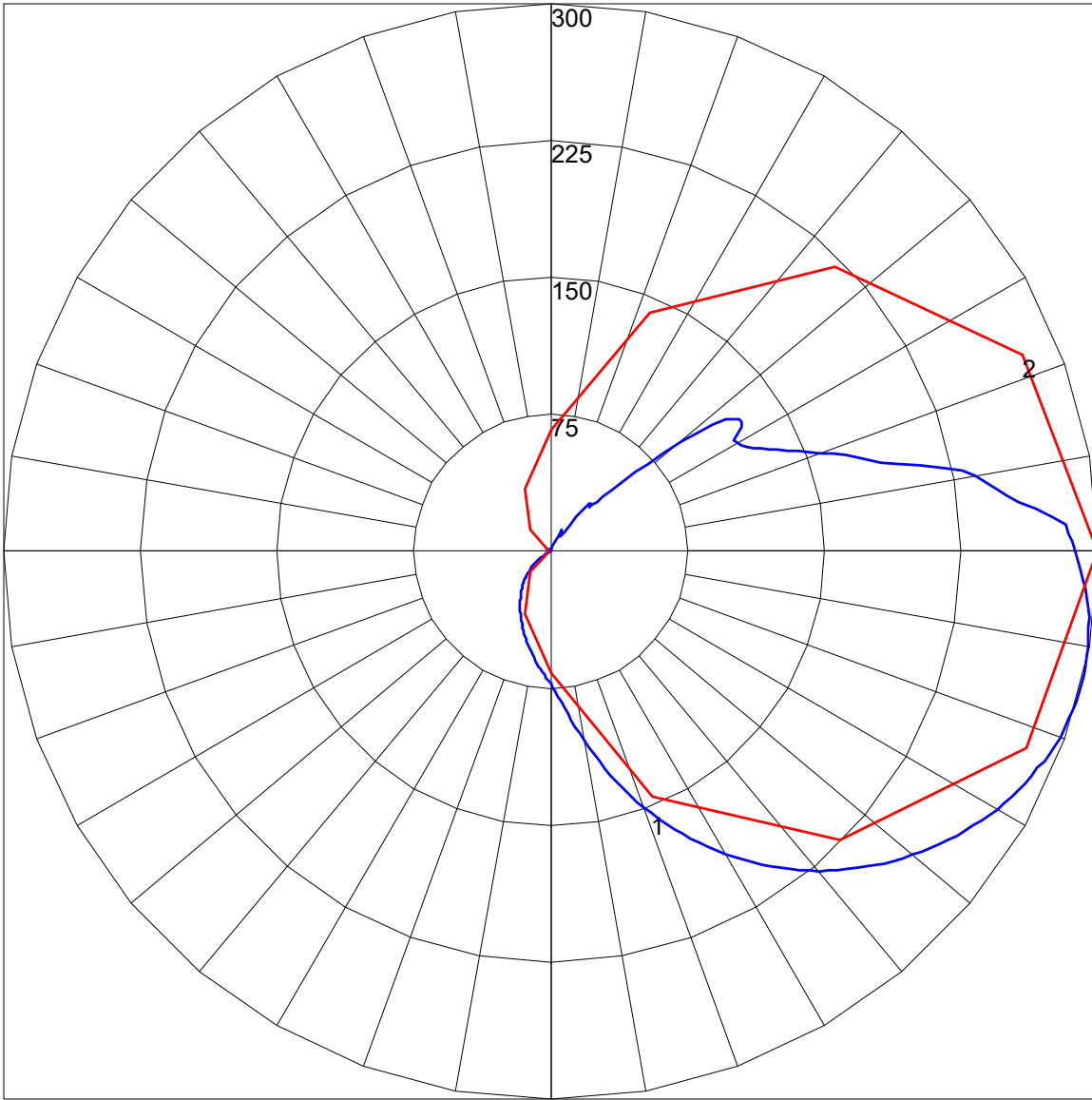
**COEFFICIENTS OF UTILIZATION**



**FLUX DISTRIBUTION**

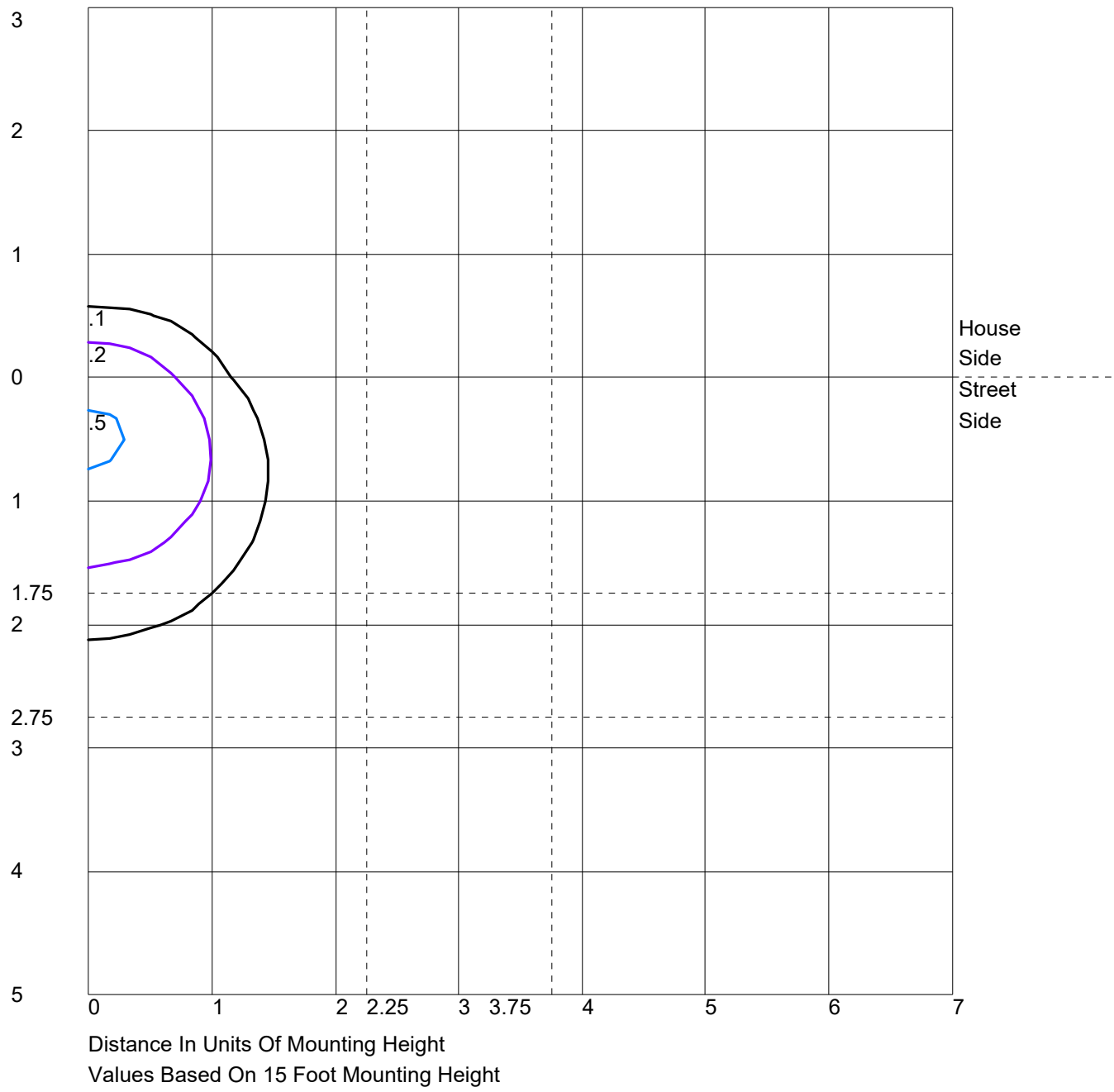
|                      | Lumens | Percent Of Luminaire |
|----------------------|--------|----------------------|
| Downward Street Side | 580.9  | 60.6                 |
| Downward House Side  | 104.7  | 10.9                 |
| Downward Total       | 685.6  | 71.6                 |
| Upward Street Side   | 246.3  | 25.7                 |
| Upward House Side    | 26.4   | 2.8                  |
| Upward Total         | 272.7  | 28.5                 |
| Total Flux           | 958.3  | 100.0                |

POLAR GRAPH

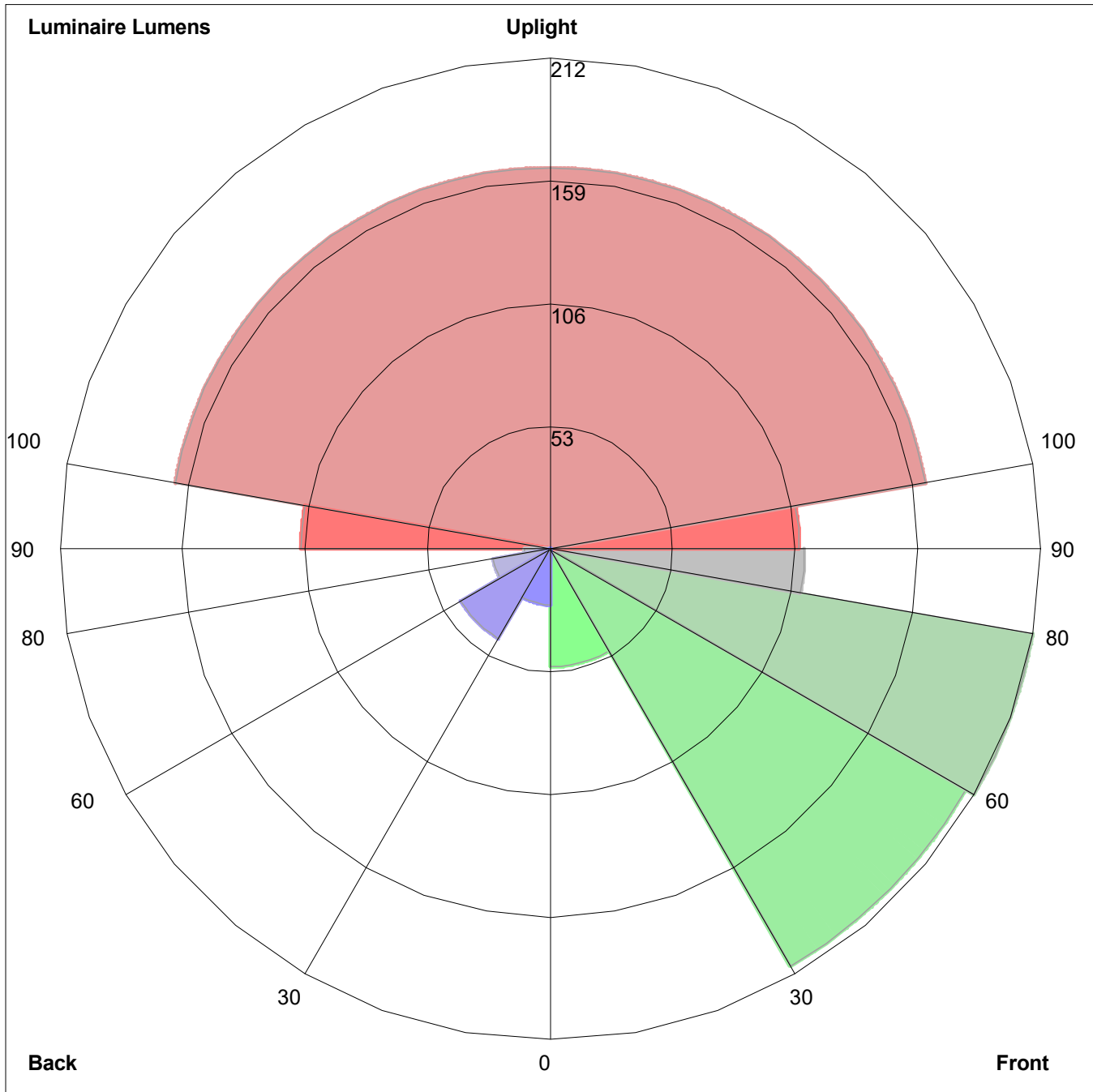


Maximum Candela = 300.43 Located At Horizontal Angle = 360, Vertical Angle = 77  
# 1 - Vertical Plane Through Horizontal Angles (360 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (77) (Through Max. Cd.)

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:  
 Front: Low=50.8, Medium=207.9, High=212.0, Very High=110.1  
 Back: Low=24.0, Medium=44.5, High=24.9, Very High=11.2  
 Uplight: Low=107.8, High=164.9

BUG Rating : B0-U3-G2