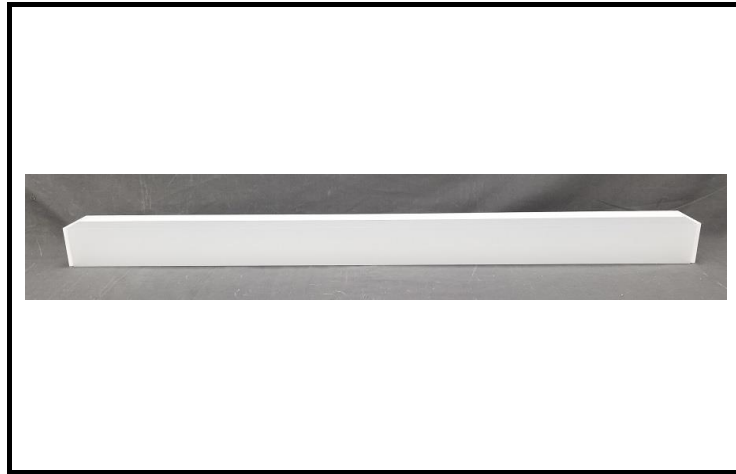




## BSW215-4-35-ID-R-SM-SN-AW

**Luminaire Description:** White rectangular metal housing with diffuse rectangular plastic lens  
**Lamp:** 192 White LEDs  
**Mounting:** Surface – Ceiling  
**Ballast/Driver:** One (1) Amperor ANP101-24P1-277-2500L-VD-1

Luminaire



### Luminaire Characteristics

Luminous Length: 48.00 in.  
Luminous Width: 3.000 in.  
Luminous Height: 2.00 in.

### Summary of Results

#### Integrating Sphere

Luminous Flux: 4765 Lumens  
Efficacy: 119.41 lm/w  
CCT: 3659 K  
CRI (Ra): 84.2

#### Distribution

Total Luminaire Output: 4709 Lumens  
Luminaire Efficacy: 119.1 lm/w  
Maximum Candela: 1359 Candela

#### Electrical Data at 120 VAC

Test Temperature: 25.6 °C  
Voltage: 120.0 VAC  
Current: 0.3364 A  
Power: 39.90 W  
Power Factor: 0.989  
Frequency: 60 Hz  
Current THD: 7.78 %



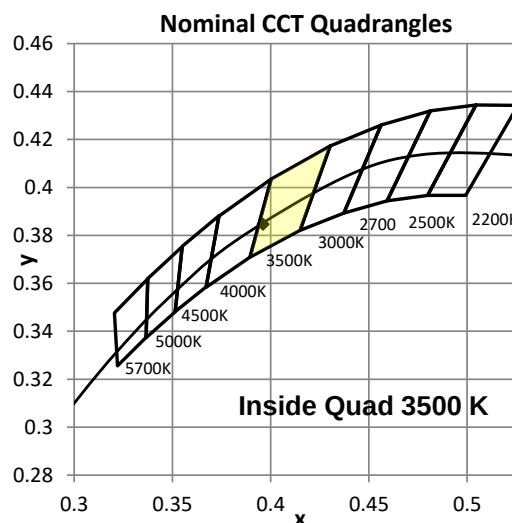
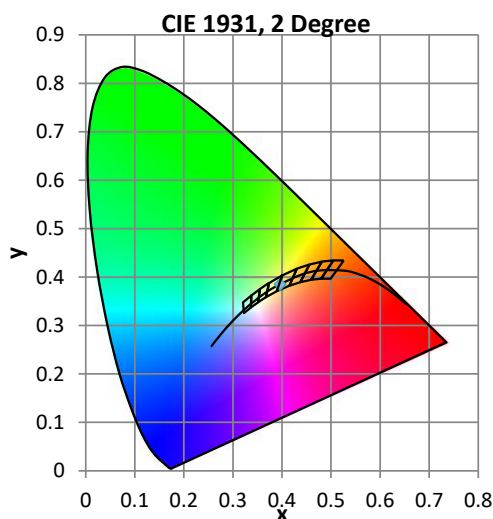
## Color Quality - Integrating Sphere

### Integrating Sphere Test Conditions

| Temperature | Voltage   | Current  | Power   | Power Factor | Frequency | Current THD |
|-------------|-----------|----------|---------|--------------|-----------|-------------|
| 25.6 °C     | 120.0 VAC | 0.3364 A | 39.90 W | 0.989        | 60 Hz     | 7.78 %      |

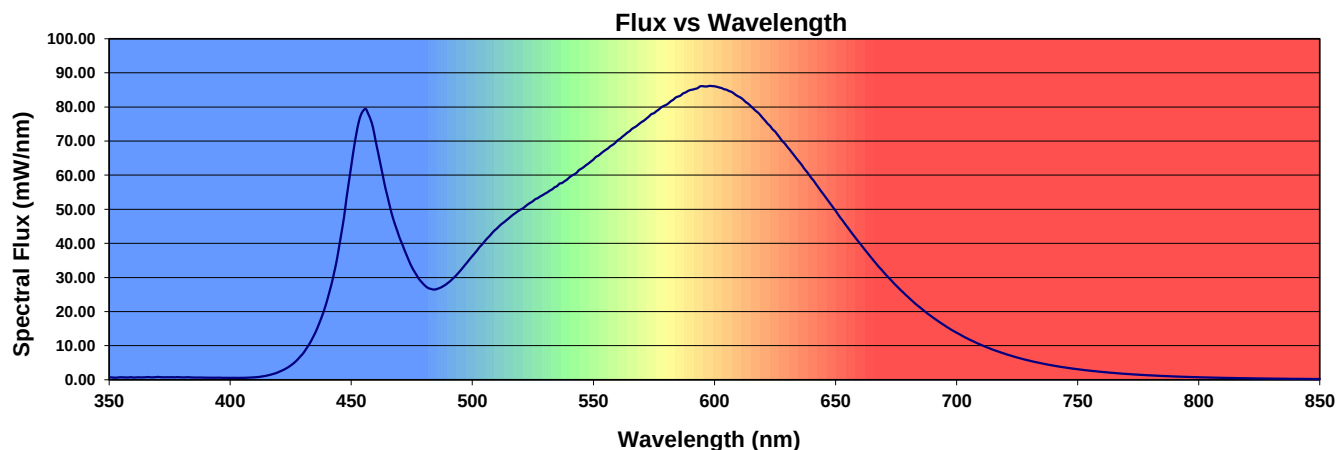
### Summary of Results

|                             |             |                           |        |
|-----------------------------|-------------|---------------------------|--------|
| <b>Total Output:</b>        | 4765 Lumens | <b>Chromaticity (x):</b>  | 0.3961 |
| <b>Efficacy:</b>            | 119.4 lm/w  | <b>Chromaticity (y):</b>  | 0.3846 |
| <b>CCT:</b>                 | 3659 K      | <b>Chromaticity (u'):</b> | 0.2322 |
| <b>CRI (Ra):</b>            | 84.2        | <b>Chromaticity (v'):</b> | 0.5073 |
| <b>CRI (R9):</b>            | 16.4        | <b>TM-30 Rf:</b>          | 84.2   |
| <b>Peak Wavelength:</b>     | 598 nm      | <b>TM-30 Rg:</b>          | 94     |
| <b>Dominant Wavelength:</b> | 581 nm      | <b>Duv:</b>               | 0.0012 |
| <b>S/P Ratio:</b>           | 1.62        |                           |        |



### Color Rendering Index Detail

| Ra (CRI) | R1   | R2   | R3   | R4   | R5   | R6   | R7   | R8   | R9   | R10  | R11  | R12  | R13  | R14  | R15  |
|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 84.2     | 83.0 | 92.4 | 96.0 | 80.8 | 82.6 | 88.7 | 85.0 | 65.0 | 16.4 | 81.0 | 79.2 | 64.9 | 85.7 | 98.5 | 77.5 |





## Distribution - Goniophotometer

### Distribution Test Conditions

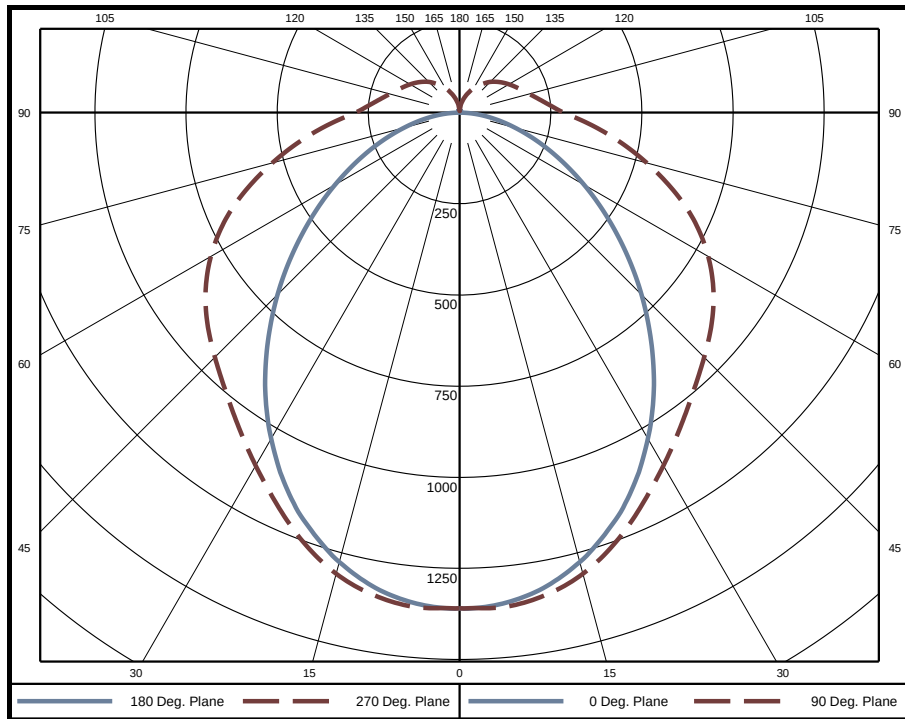
| Temperature | Voltage   | Current  | Power   | Power Factor | Frequency | Current THD |
|-------------|-----------|----------|---------|--------------|-----------|-------------|
| 25.0 °C     | 120.1 VAC | 0.3330 A | 39.54 W | 0.989        | 60 Hz     | 7.69 %      |

### Summary of Results

Spacing Criteria  
 0-180: 1.14  
 90-270: 1.23

Total Lumen Output: 4709 Lumens  
 Luminaire Efficacy: 119.1 lm/w  
 Maximum Candela: 1359 Candela

### Polar Plot



### Zonal Lumen Summary

| Zone  | Lumens | % of Luminaire | Zone    | Lumens | % of Luminaire | Zone    | Lumens | % of Luminaire |
|-------|--------|----------------|---------|--------|----------------|---------|--------|----------------|
| 0-5   | 32.4   | 0.7%           | 60-65   | 276.2  | 5.9%           | 120-125 | 44.0   | 0.9%           |
| 5-10  | 96.1   | 2.0%           | 65-70   | 248.3  | 5.3%           | 125-130 | 37.2   | 0.8%           |
| 10-15 | 155.9  | 3.3%           | 70-75   | 215.6  | 4.6%           | 130-135 | 30.7   | 0.7%           |
| 15-20 | 208.5  | 4.4%           | 75-80   | 181.2  | 3.8%           | 135-140 | 24.6   | 0.5%           |
| 20-25 | 251.6  | 5.3%           | 80-85   | 147.0  | 3.1%           | 140-145 | 19.1   | 0.4%           |
| 25-30 | 284.0  | 6.0%           | 85-90   | 114.4  | 2.4%           | 145-150 | 14.1   | 0.3%           |
| 30-35 | 306.2  | 6.5%           | 90-95   | 93.5   | 2.0%           | 150-155 | 9.9    | 0.2%           |
| 35-40 | 319.0  | 6.8%           | 95-100  | 82.7   | 1.8%           | 155-160 | 6.5    | 0.1%           |
| 40-45 | 323.8  | 6.9%           | 100-105 | 73.4   | 1.6%           | 160-165 | 3.9    | 0.1%           |
| 45-50 | 321.6  | 6.8%           | 105-110 | 65.2   | 1.4%           | 165-170 | 2.0    | 0.0%           |
| 50-55 | 313.0  | 6.6%           | 110-115 | 57.8   | 1.2%           | 170-175 | 0.7    | 0.0%           |
| 55-60 | 297.8  | 6.3%           | 115-120 | 50.7   | 1.1%           | 175-180 | 0.1    | 0.0%           |

| Zone   | Lumens | % of Luminaire |
|--------|--------|----------------|
| 0-40   | 1654   | 35.1%          |
| 0-60   | 2910   | 61.8%          |
| 0-90   | 4093   | 86.9%          |
| 90-180 | 616    | 13.1%          |



### Candela Tabulation

Horizontal Angle (Degrees)

| Vertical Angle (Degrees) | Horizontal Angle (Degrees) |      |      |      |      |       |      |       |      |       |      |       |      |       |      |       |
|--------------------------|----------------------------|------|------|------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
|                          | 0                          | 22.5 | 45   | 67.5 | 90   | 112.5 | 135  | 157.5 | 180  | 202.5 | 225  | 247.5 | 270  | 292.5 | 315  | 337.5 |
| 0                        | 1356                       | 1356 | 1356 | 1356 | 1356 | 1356  | 1356 | 1356  | 1356 | 1356  | 1356 | 1356  | 1356 | 1356  | 1356 | 1356  |
| 5                        | 1348                       | 1346 | 1354 | 1357 | 1358 | 1357  | 1354 | 1346  | 1348 | 1346  | 1354 | 1357  | 1358 | 1357  | 1354 | 1346  |
| 10                       | 1321                       | 1325 | 1336 | 1340 | 1341 | 1340  | 1336 | 1325  | 1321 | 1325  | 1336 | 1340  | 1341 | 1340  | 1336 | 1325  |
| 15                       | 1272                       | 1283 | 1300 | 1303 | 1306 | 1303  | 1300 | 1283  | 1272 | 1283  | 1300 | 1303  | 1306 | 1303  | 1300 | 1283  |
| 20                       | 1206                       | 1225 | 1242 | 1248 | 1250 | 1248  | 1242 | 1225  | 1206 | 1225  | 1242 | 1248  | 1250 | 1248  | 1242 | 1225  |
| 25                       | 1126                       | 1151 | 1170 | 1179 | 1182 | 1179  | 1170 | 1151  | 1126 | 1151  | 1170 | 1179  | 1182 | 1179  | 1170 | 1151  |
| 30                       | 1030                       | 1062 | 1089 | 1106 | 1115 | 1106  | 1089 | 1062  | 1030 | 1062  | 1089 | 1106  | 1115 | 1106  | 1089 | 1062  |
| 35                       | 926                        | 966  | 1004 | 1036 | 1051 | 1036  | 1004 | 966   | 926  | 966   | 1004 | 1036  | 1051 | 1036  | 1004 | 966   |
| 40                       | 814                        | 866  | 921  | 970  | 994  | 970   | 921  | 866   | 814  | 866   | 921  | 970   | 994  | 970   | 921  | 866   |
| 45                       | 703                        | 766  | 840  | 911  | 945  | 911   | 840  | 766   | 703  | 766   | 840  | 911   | 945  | 911   | 840  | 766   |
| 50                       | 593                        | 668  | 762  | 857  | 899  | 857   | 762  | 668   | 593  | 668   | 762  | 857   | 899  | 857   | 762  | 668   |
| 55                       | 488                        | 575  | 688  | 800  | 847  | 800   | 688  | 575   | 488  | 575   | 688  | 800   | 847  | 800   | 688  | 575   |
| 60                       | 390                        | 487  | 616  | 737  | 784  | 737   | 616  | 487   | 390  | 487   | 616  | 737   | 784  | 737   | 616  | 487   |
| 65                       | 302                        | 404  | 543  | 666  | 710  | 666   | 543  | 404   | 302  | 404   | 543  | 666   | 710  | 666   | 543  | 404   |
| 70                       | 222                        | 329  | 469  | 585  | 621  | 585   | 469  | 329   | 222  | 329   | 469  | 585   | 621  | 585   | 469  | 329   |
| 75                       | 152                        | 261  | 398  | 500  | 528  | 500   | 398  | 261   | 152  | 261   | 398  | 500   | 528  | 500   | 398  | 261   |
| 80                       | 93                         | 200  | 331  | 418  | 438  | 418   | 331  | 200   | 93   | 200   | 331  | 418   | 438  | 418   | 331  | 200   |
| 85                       | 43                         | 147  | 269  | 341  | 354  | 341   | 269  | 147   | 43   | 147   | 269  | 341   | 354  | 341   | 269  | 147   |
| 90                       | 2                          | 102  | 214  | 273  | 283  | 273   | 214  | 102   | 2    | 102   | 214  | 273   | 283  | 273   | 214  | 102   |
| 95                       | 2                          | 93   | 190  | 237  | 244  | 237   | 190  | 93    | 2    | 93    | 190  | 237   | 244  | 237   | 190  | 93    |
| 100                      | 2                          | 86   | 171  | 211  | 216  | 211   | 171  | 86    | 2    | 86    | 171  | 211   | 216  | 211   | 171  | 86    |
| 105                      | 2                          | 79   | 155  | 190  | 195  | 190   | 155  | 79    | 2    | 79    | 155  | 190   | 195  | 190   | 155  | 79    |
| 110                      | 2                          | 72   | 141  | 173  | 179  | 173   | 141  | 72    | 2    | 72    | 141  | 173   | 179  | 173   | 141  | 72    |
| 115                      | 2                          | 65   | 128  | 159  | 165  | 159   | 128  | 65    | 2    | 65    | 128  | 159   | 165  | 159   | 128  | 65    |
| 120                      | 2                          | 59   | 117  | 146  | 153  | 146   | 117  | 59    | 2    | 59    | 117  | 146   | 153  | 146   | 117  | 59    |
| 125                      | 2                          | 52   | 105  | 134  | 141  | 134   | 105  | 52    | 2    | 52    | 105  | 134   | 141  | 134   | 105  | 52    |
| 130                      | 2                          | 44   | 92   | 121  | 129  | 121   | 92   | 44    | 2    | 44    | 92   | 121   | 129  | 121   | 92   | 44    |
| 135                      | 2                          | 39   | 78   | 108  | 116  | 108   | 78   | 39    | 2    | 39    | 78   | 108   | 116  | 108   | 78   | 39    |
| 140                      | 2                          | 33   | 66   | 96   | 102  | 96    | 66   | 33    | 2    | 33    | 66   | 96    | 102  | 96    | 66   | 33    |
| 145                      | 3                          | 29   | 55   | 80   | 88   | 80    | 55   | 29    | 3    | 29    | 55   | 80    | 88   | 80    | 55   | 29    |
| 150                      | 3                          | 25   | 46   | 64   | 75   | 64    | 46   | 25    | 3    | 25    | 46   | 64    | 75   | 64    | 46   | 25    |
| 155                      | 3                          | 21   | 38   | 49   | 60   | 49    | 38   | 21    | 3    | 21    | 38   | 49    | 60   | 49    | 38   | 21    |
| 160                      | 3                          | 16   | 30   | 37   | 46   | 37    | 30   | 16    | 3    | 16    | 30   | 37    | 46   | 37    | 30   | 16    |
| 165                      | 4                          | 13   | 22   | 26   | 33   | 26    | 22   | 13    | 4    | 13    | 22   | 26    | 33   | 26    | 22   | 13    |
| 170                      | 4                          | 9    | 15   | 16   | 22   | 16    | 15   | 9     | 4    | 9     | 15   | 16    | 22   | 16    | 15   | 9     |
| 175                      | 4                          | 6    | 8    | 8    | 4    | 8     | 8    | 6     | 4    | 6     | 8    | 8     | 4    | 8     | 8    | 6     |
| 180                      | 4                          | 4    | 4    | 4    | 4    | 4     | 4    | 4     | 4    | 4     | 4    | 4     | 4    | 4     | 4    | 4     |

### Average Luminance (cd/m<sup>2</sup>)

Horizontal Angle (Degrees)

| Vertical Angle (Degrees) | Horizontal Angle (Degrees) |       |       |
|--------------------------|----------------------------|-------|-------|
|                          | 0                          | 45    | 90    |
| 0                        | 14600                      | 14600 | 14600 |
| 45                       | 10270                      | 8515  | 8632  |
| 55                       | 8638                       | 7529  | 8137  |
| 65                       | 7049                       | 6666  | 7438  |
| 75                       | 5480                       | 5765  | 6293  |
| 85                       | 3595                       | 4933  | 5073  |



### Coefficients of Utilization - Zonal Cavity Method

| Effective Floor Cavity Reflectance 20% |                                                                                           |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |
|----------------------------------------|-------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|
| Ceiling Cavity Reflectance             | 80                                                                                        |     |     |     | 70  |     |     |     | 50  |     |     | 30 |    |    | 10 |    |    | 0  |
| Wall Reflectance                       | 70                                                                                        | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50 | 30 | 10 | 50 | 30 | 10 | 0  |
| Room Cavity Ratio (RCR)                | ** Values are expressed as percent of total lumen output delivered to the task surface ** |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |
| 0                                      | 116                                                                                       | 116 | 116 | 116 | 112 | 112 | 112 | 112 | 104 | 104 | 104 | 97 | 97 | 97 | 90 | 90 | 90 | 87 |
| 1                                      | 104                                                                                       | 98  | 93  | 89  | 100 | 95  | 90  | 86  | 88  | 84  | 81  | 82 | 79 | 76 | 76 | 74 | 72 | 69 |
| 2                                      | 94                                                                                        | 85  | 77  | 71  | 90  | 82  | 75  | 69  | 76  | 71  | 66  | 71 | 66 | 62 | 66 | 62 | 59 | 56 |
| 3                                      | 85                                                                                        | 74  | 65  | 59  | 82  | 71  | 64  | 57  | 67  | 60  | 55  | 62 | 57 | 52 | 58 | 53 | 49 | 47 |
| 4                                      | 78                                                                                        | 65  | 56  | 49  | 75  | 63  | 55  | 48  | 59  | 52  | 46  | 55 | 49 | 44 | 51 | 46 | 42 | 40 |
| 5                                      | 72                                                                                        | 58  | 49  | 42  | 68  | 56  | 48  | 41  | 53  | 45  | 40  | 49 | 43 | 38 | 46 | 41 | 37 | 34 |
| 6                                      | 66                                                                                        | 52  | 43  | 37  | 63  | 51  | 42  | 36  | 48  | 40  | 35  | 45 | 38 | 33 | 42 | 36 | 32 | 30 |
| 7                                      | 61                                                                                        | 47  | 39  | 32  | 59  | 46  | 38  | 32  | 43  | 36  | 31  | 41 | 34 | 30 | 38 | 33 | 28 | 26 |
| 8                                      | 57                                                                                        | 43  | 35  | 29  | 55  | 42  | 34  | 28  | 40  | 32  | 27  | 37 | 31 | 26 | 35 | 30 | 26 | 23 |
| 9                                      | 53                                                                                        | 40  | 31  | 26  | 51  | 39  | 31  | 25  | 36  | 29  | 25  | 34 | 28 | 24 | 33 | 27 | 23 | 21 |
| 10                                     | 50                                                                                        | 37  | 29  | 23  | 48  | 36  | 28  | 23  | 34  | 27  | 22  | 32 | 26 | 22 | 30 | 25 | 21 | 19 |

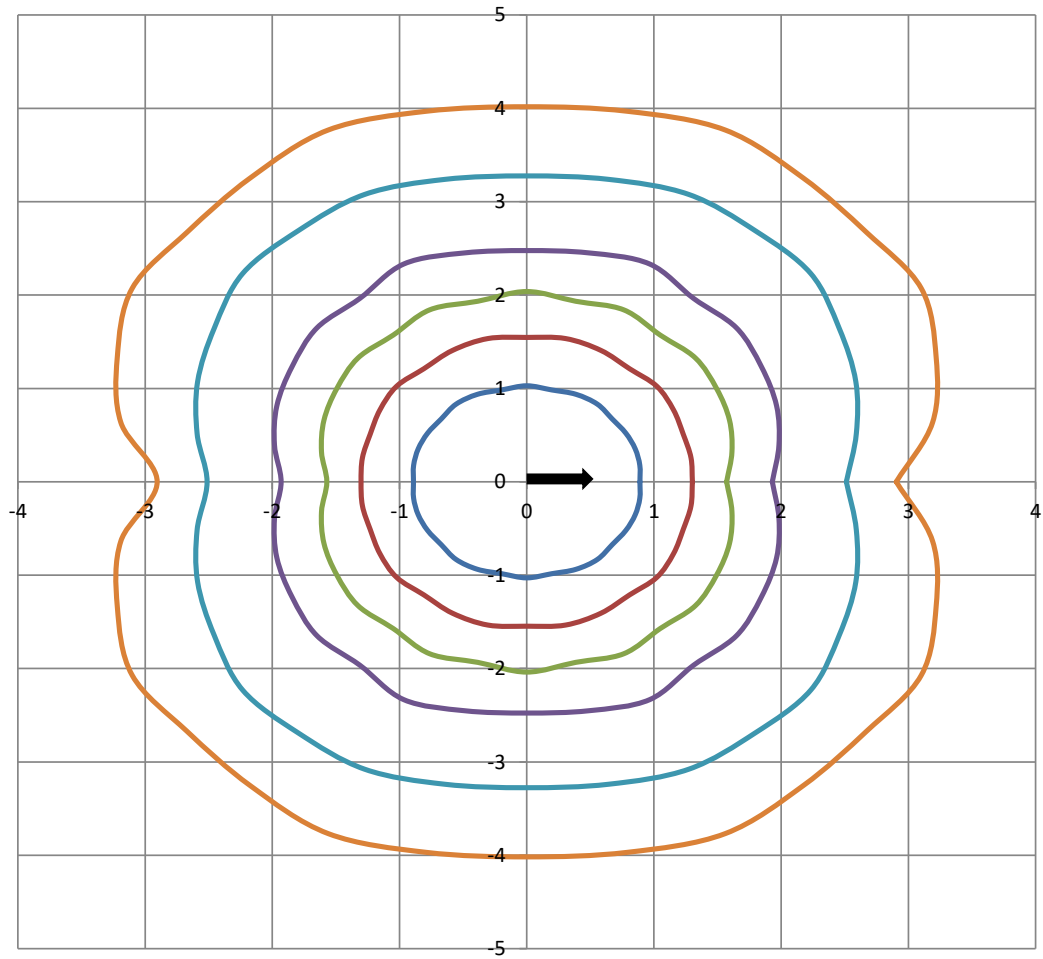
| Beam and Field Information |               |
|----------------------------|---------------|
| CIE Type:                  | Semi-Direct   |
| Center Beam Intensity:     | 1356 Candela  |
| Central Cone Intensity:    | 1355 Candela  |
| Beam Flux:                 | 2763.0 Lumens |
| Beam Angle (0-180):        | 92.3 Degrees  |
| Beam Angle (90-270):       | 133.7 Degrees |
| Field Angle (0-180):       | 152.7 Degrees |
| Field Angle (90-270):      | 254.3 Degrees |

| Cone of Light Tabulation |  |                      |                 |
|--------------------------|--|----------------------|-----------------|
| Mounting Height (Feet)   |  | Footcandles at Nadir | Diameter (Feet) |
| 4.00                     |  | 84.8                 | 4.77            |
| 6.00                     |  | 37.7                 | 7.15            |
| 8.00                     |  | 21.2                 | 9.53            |
| 10.0                     |  | 13.6                 | 11.9            |
| 12.0                     |  | 9.42                 | 14.3            |
| 14.0                     |  | 6.92                 | 16.7            |
| 16.0                     |  | 5.30                 | 19.1            |



## ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

5 fc    2 fc    1 fc    0.5 fc    0.2 fc    0.1 fc