



HCB16-T1-44-BS35-ND-R-F1-SN

Luminaire Description: White rectangular metal housing with diffuse plastic lens
Lamp: White LED array
Mounting: Recessed
Ballast/Driver: One (1) Philips Advance XI040C110V054BST1

Luminaire



Luminaire Characteristics

Luminous Length: 44.00 in.
Luminous Width: 3.000 in.

Summary of Results

Integrating Sphere

Luminous Flux: 2465 Lumens
Efficacy: 68.55 lm/w
CCT: 3372 K
CRI (Ra): 85.6

Distribution

Total Luminaire Output: 2352 Lumens
Luminaire Efficacy: 65.5 lm/w
Maximum Candela: 878 Candela

Electrical Data at 120 VAC

Test Temperature: 24.4 °C
Voltage: 120.1 VAC
Current: 0.3004 A
Power: 35.96 W
Power Factor: 0.997
Frequency: 60 Hz
Current THD: 6.62 %



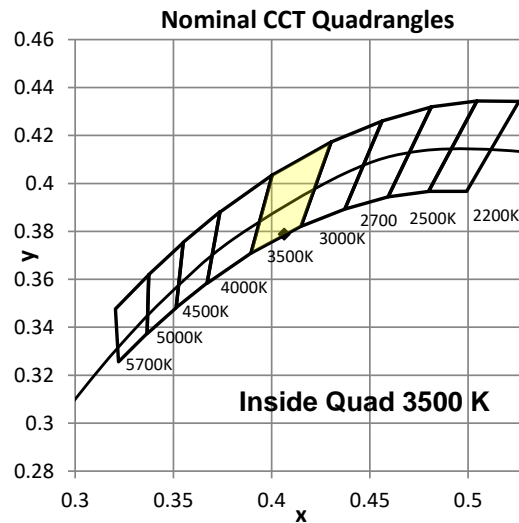
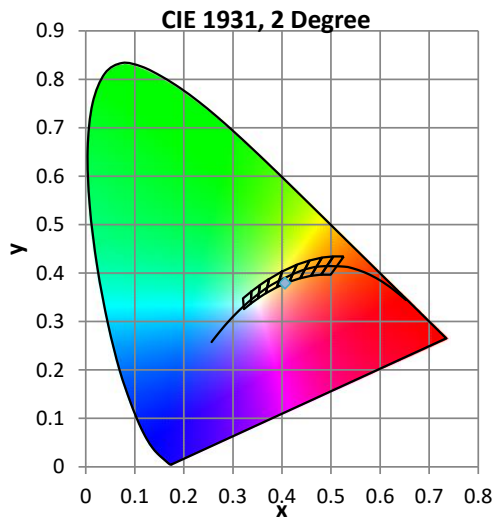
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

| Temperature | Voltage | Current | Power | Power Factor | Frequency | Current THD |
|-------------|-----------|----------|---------|--------------|-----------|-------------|
| 24.4 °C | 120.1 VAC | 0.3004 A | 35.96 W | 0.997 | 60 Hz | 6.62 % |

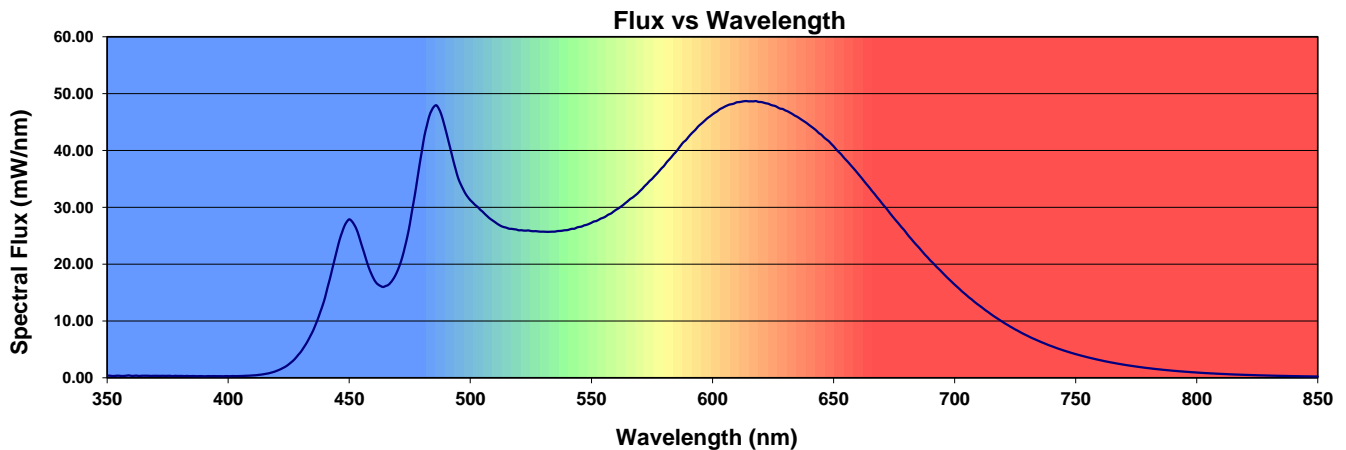
Summary of Results

| | | | |
|-----------------------------|-------------|---------------------------|---------|
| Total Output: | 2465 Lumens | Chromaticity (x): | 0.4064 |
| Efficacy: | 68.6 lm/w | Chromaticity (y): | 0.3789 |
| CCT: | 3372 K | Chromaticity (u'): | 0.2414 |
| CRI (Ra): | 85.6 | Chromaticity (v'): | 0.5064 |
| CRI (R9): | 90.8 | TM-30 Rf: | 85.1 |
| Peak Wavelength: | 617 nm | TM-30 Rg: | 95 |
| Dominant Wavelength: | 584 nm | Duv: | -0.0060 |
| S/P Ratio: | 1.87 | | |



Color Rendering Index Detail

| Ra (CRI) | R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 | R11 | R12 | R13 | R14 | R15 |
|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 85.6 | 91.4 | 85.5 | 79.4 | 91.3 | 87.7 | 76.2 | 85.1 | 88.3 | 90.8 | 65.9 | 89.3 | 61.0 | 88.3 | 88.7 | 95.1 |





Distribution - Goniophotometer

Distribution Test Conditions

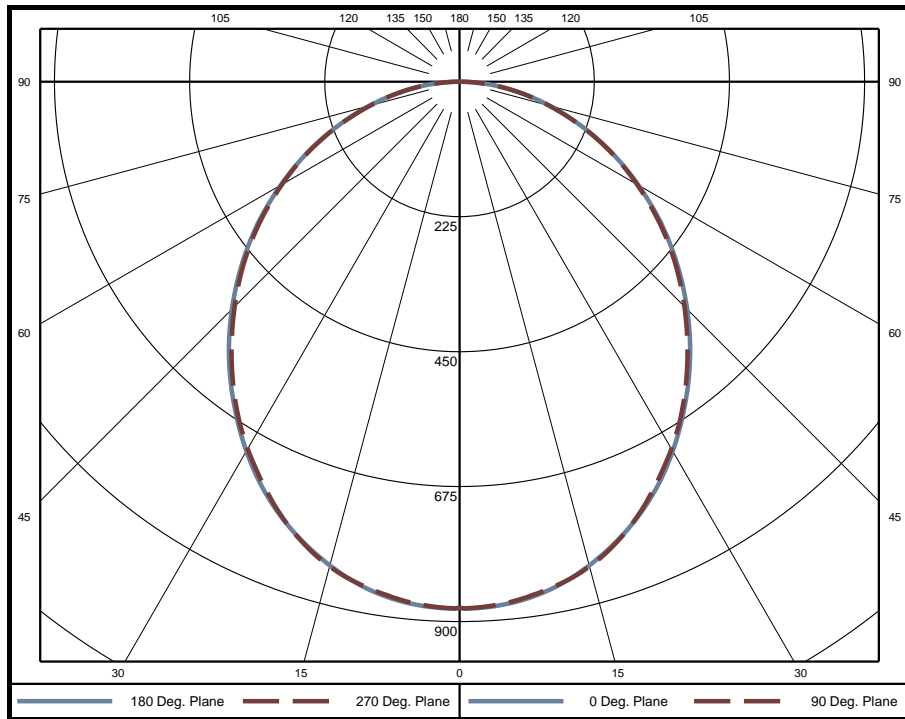
| Temperature | Voltage | Current | Power | Power Factor | Frequency | Current THD |
|-------------|-----------|----------|---------|--------------|-----------|-------------|
| 24.4 °C | 120.1 VAC | 0.2999 A | 35.89 W | 0.997 | 60 Hz | 6.63 % |

Summary of Results

Spacing Criteria
 0-180: 1.21
 90-270: 1.20

Total Lumen Output: 2352 Lumens
Luminaire Efficacy: 65.5 lm/w
Maximum Candela: 878 Candela

Polar Plot



Zonal Lumen Summary

| Zone | Lumens | % of Luminaire | Zone | Lumens | % of Luminaire | Zone | Lumens | % of Luminaire |
|-------|--------|----------------|---------|--------|----------------|---------|--------|----------------|
| 0-5 | 20.9 | 0.9% | 60-65 | 151.9 | 6.5% | 120-125 | 0 | 0.0% |
| 5-10 | 61.9 | 2.6% | 65-70 | 125.9 | 5.4% | 125-130 | 0 | 0.0% |
| 10-15 | 100.4 | 4.3% | 70-75 | 97.4 | 4.1% | 130-135 | 0 | 0.0% |
| 15-20 | 134.9 | 5.7% | 75-80 | 68.2 | 2.9% | 135-140 | 0 | 0.0% |
| 20-25 | 163.7 | 7.0% | 80-85 | 39.8 | 1.7% | 140-145 | 0 | 0.0% |
| 25-30 | 185.7 | 7.9% | 85-90 | 13.3 | 0.6% | 145-150 | 0 | 0.0% |
| 30-35 | 200.7 | 8.5% | 90-95 | 0 | 0.0% | 150-155 | 0 | 0.0% |
| 35-40 | 208.5 | 8.9% | 95-100 | 0 | 0.0% | 155-160 | 0 | 0.0% |
| 40-45 | 209.2 | 8.9% | 100-105 | 0 | 0.0% | 160-165 | 0 | 0.0% |
| 45-50 | 203.6 | 8.7% | 105-110 | 0 | 0.0% | 165-170 | 0 | 0.0% |
| 50-55 | 191.8 | 8.2% | 110-115 | 0 | 0.0% | 170-175 | 0 | 0.0% |
| 55-60 | 174.2 | 7.4% | 115-120 | 0 | 0.0% | 175-180 | 0 | 0.0% |

| Zone | Lumens | % of Luminaire |
|--------|--------|----------------|
| 0-40 | 1077 | 45.8% |
| 0-60 | 1856 | 78.9% |
| 0-90 | 2352 | 100.0% |
| 90-180 | 0 | 0.0% |



Candela Tabulation
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 | 876.8 | 876.8 | 876.8 | 876.8 | 876.8 | 876.8 | 876.8 | 876.8 | 876.8 | 876.8 | 876.8 | 876.8 | 876.8 | 876.8 | 876.8 | 876.8 |
| 5 | 874.3 | 870.0 | 872.1 | 872.2 | 872.7 | 872.2 | 872.1 | 870.0 | 874.3 | 870.0 | 872.1 | 872.2 | 872.7 | 872.2 | 872.1 | 870.0 |
| 10 | 860.2 | 856.0 | 858.2 | 858.5 | 858.3 | 858.5 | 858.2 | 856.0 | 860.2 | 856.0 | 858.2 | 858.5 | 858.3 | 858.5 | 858.2 | 856.0 |
| 15 | 834.9 | 832.2 | 836.1 | 836.3 | 836.7 | 836.3 | 836.1 | 832.2 | 834.9 | 832.2 | 836.1 | 836.3 | 836.7 | 836.3 | 836.1 | 832.2 |
| 20 | 801.4 | 799.8 | 803.2 | 802.4 | 802.1 | 802.4 | 803.2 | 799.8 | 801.4 | 799.8 | 803.2 | 802.4 | 802.1 | 802.4 | 803.2 | 799.8 |
| 25 | 760.3 | 759.6 | 759.8 | 757.2 | 756.6 | 757.2 | 759.8 | 759.6 | 760.3 | 759.6 | 759.8 | 757.2 | 756.6 | 757.2 | 759.8 | 759.6 |
| 30 | 710.6 | 710.8 | 709.6 | 707.1 | 706.5 | 707.1 | 709.6 | 710.8 | 710.6 | 710.8 | 709.6 | 707.1 | 706.5 | 707.1 | 709.6 | 710.8 |
| 35 | 655.3 | 656.4 | 655.3 | 652.2 | 651.3 | 652.2 | 655.3 | 656.4 | 655.3 | 656.4 | 655.3 | 652.2 | 651.3 | 652.2 | 655.3 | 656.4 |
| 40 | 597.5 | 599.1 | 596.8 | 592.7 | 591.3 | 592.7 | 596.8 | 599.1 | 597.5 | 599.1 | 596.8 | 592.7 | 591.3 | 592.7 | 596.8 | 599.1 |
| 45 | 536.2 | 538.6 | 536.5 | 531.8 | 530.3 | 531.8 | 536.5 | 538.6 | 536.2 | 538.6 | 536.5 | 531.8 | 530.3 | 531.8 | 536.5 | 538.6 |
| 50 | 473.2 | 476.3 | 474.5 | 470.5 | 468.8 | 470.5 | 474.5 | 476.3 | 473.2 | 476.3 | 474.5 | 470.5 | 468.8 | 470.5 | 474.5 | 476.3 |
| 55 | 409.5 | 412.8 | 410.8 | 407.0 | 405.4 | 407.0 | 410.8 | 412.8 | 409.5 | 412.8 | 410.8 | 407.0 | 405.4 | 407.0 | 410.8 | 412.8 |
| 60 | 343.2 | 347.5 | 346.6 | 342.6 | 341.3 | 342.6 | 346.6 | 347.5 | 343.2 | 347.5 | 346.6 | 342.6 | 341.3 | 342.6 | 346.6 | 347.5 |
| 65 | 279.7 | 282.5 | 281.8 | 279.2 | 278.5 | 279.2 | 281.8 | 282.5 | 279.7 | 282.5 | 281.8 | 279.2 | 278.5 | 279.2 | 281.8 | 282.5 |
| 70 | 216.0 | 218.6 | 218.0 | 216.3 | 215.3 | 216.3 | 218.0 | 218.6 | 216.0 | 218.6 | 218.0 | 216.3 | 215.3 | 216.3 | 218.0 | 218.6 |
| 75 | 155.7 | 157.3 | 156.4 | 155.8 | 154.8 | 155.8 | 156.4 | 157.3 | 155.7 | 157.3 | 156.4 | 155.8 | 154.8 | 155.8 | 156.4 | 157.3 |
| 80 | 100.1 | 100.5 | 99.5 | 99.7 | 98.8 | 99.7 | 99.5 | 100.5 | 100.1 | 100.5 | 99.5 | 99.7 | 98.8 | 99.7 | 99.5 | 100.5 |
| 85 | 48.1 | 47.8 | 47.4 | 47.2 | 46.7 | 47.2 | 47.4 | 47.8 | 48.1 | 47.8 | 47.4 | 47.2 | 46.7 | 47.2 | 47.4 | 47.8 |
| 90 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 95 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 105 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 115 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 125 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 135 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 145 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 155 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 165 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 175 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Average Luminance (cd/m²)
Horizontal Angle (Degrees)

| | 0 | 45 | 90 |
|----|-------|-------|-------|
| 0 | 10300 | 10300 | 10300 |
| 45 | 8904 | 8909 | 8807 |
| 55 | 8384 | 8411 | 8299 |
| 65 | 7771 | 7831 | 7738 |
| 75 | 7063 | 7097 | 7023 |
| 85 | 6475 | 6379 | 6287 |

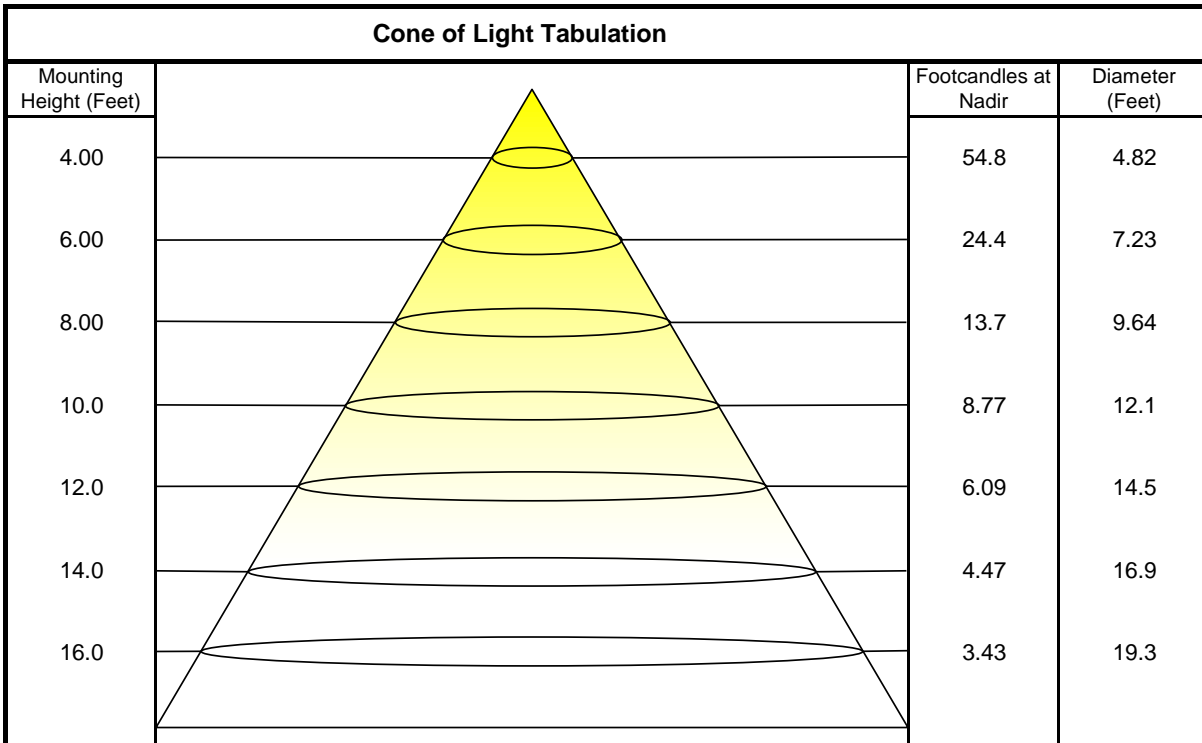


Coefficients of Utilization - Zonal Cavity Method

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 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 109 | 104 | 99 | 96 | 106 | 102 | 98 | 94 | 97 | 94 | 91 | 93 | 91 | 88 | 90 | 88 | 86 | 84 |
| 2 | 99 | 91 | 84 | 78 | 96 | 89 | 82 | 77 | 85 | 80 | 75 | 82 | 77 | 73 | 79 | 75 | 72 | 70 |
| 3 | 90 | 80 | 71 | 65 | 88 | 78 | 70 | 64 | 75 | 69 | 63 | 72 | 67 | 62 | 70 | 65 | 61 | 59 |
| 4 | 83 | 71 | 62 | 55 | 80 | 69 | 61 | 55 | 67 | 60 | 54 | 64 | 58 | 53 | 62 | 57 | 52 | 50 |
| 5 | 76 | 63 | 54 | 48 | 74 | 62 | 54 | 47 | 60 | 52 | 47 | 58 | 51 | 46 | 56 | 50 | 46 | 44 |
| 6 | 70 | 57 | 48 | 42 | 68 | 56 | 48 | 41 | 54 | 47 | 41 | 52 | 46 | 41 | 51 | 45 | 40 | 38 |
| 7 | 65 | 52 | 43 | 37 | 63 | 51 | 43 | 37 | 49 | 42 | 36 | 48 | 41 | 36 | 47 | 40 | 36 | 34 |
| 8 | 61 | 47 | 39 | 33 | 59 | 47 | 38 | 33 | 45 | 38 | 33 | 44 | 37 | 32 | 43 | 37 | 32 | 30 |
| 9 | 57 | 43 | 35 | 30 | 55 | 43 | 35 | 30 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 34 | 29 | 27 |
| 10 | 53 | 40 | 32 | 27 | 52 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 31 | 27 | 37 | 31 | 26 | 25 |

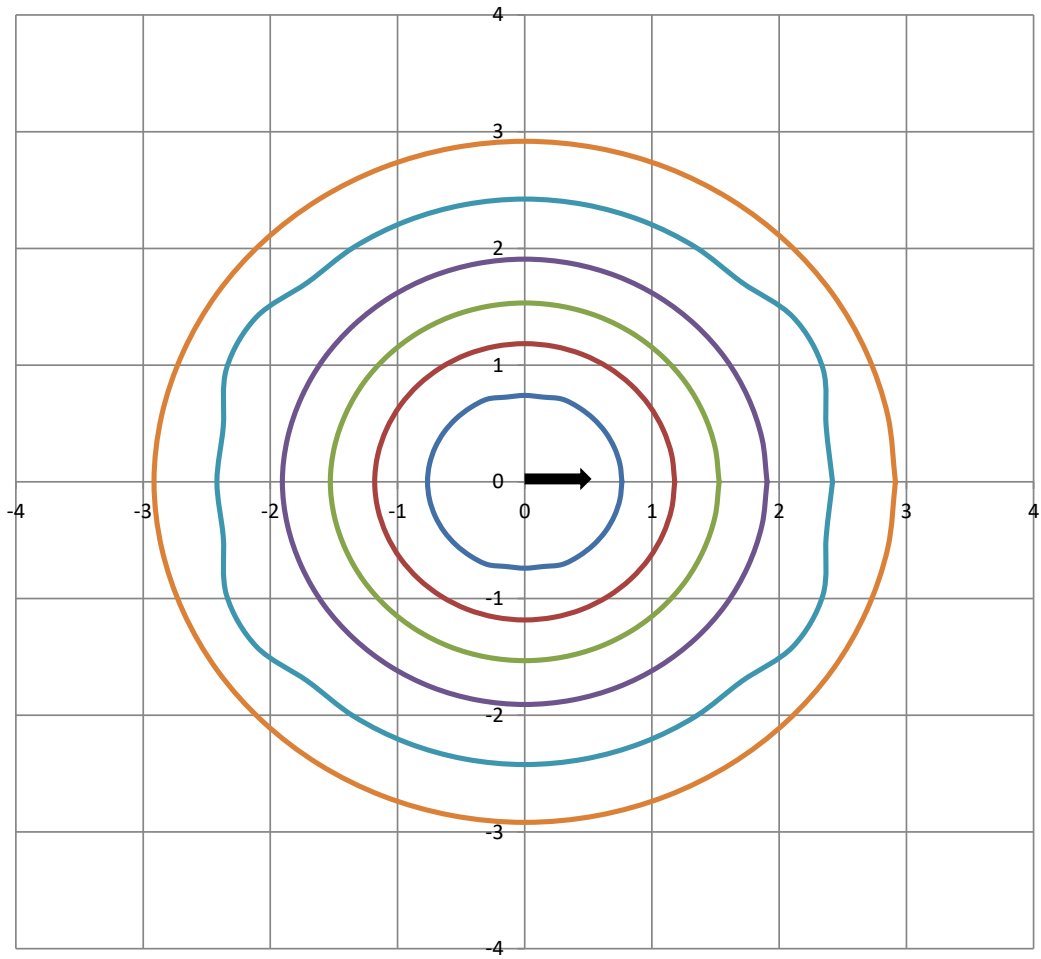
| Beam and Field Information | |
|----------------------------|---------------|
| CIE Type: | Direct |
| Center Beam Intensity: | 876.8 Candela |
| Central Cone Intensity: | 875 Candela |
| Beam Flux: | 1596.3 Lumens |
| Beam Angle (0-180): | 105.4 Degrees |
| Beam Angle (90-270): | 104.9 Degrees |
| Field Angle (0-180): | 162.3 Degrees |
| Field Angle (90-270): | 162.1 Degrees |





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

