



UL Verification Services Inc.
7036 Snowdrift Road
Allentown, PA 18106
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Indoor Distribution Test Report

Relevant Standards
IES LM-79-2008, ANSI C82.77-2002

Prepared For
Mercury Lighting
20 Audrey PL
Fairfield, NJ 07004-3416
United States

Catalog Number
MLS2-RD-48-1900 (475 LMFT)-835K-ASO-A5-U-18/2
Order Number
12584341
Test Number
12584341.01B

Revision of Test #12584341.01A on:

2018-11-08
Test Date

2018-11-01

Prepared By

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Approved By

Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.
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Luminaire Description: White aluminum housing, frosted lens enclosure
Lamp: 96 LED's, two boards with 48 LED's each
Mounting: Surface – Ceiling
Ballast/Driver: Philips Xitanium XI040C110V054BST1

Luminaire



Luminaire Characteristics

Luminous Length: 48.00 in.
Luminous Width: 1.500 in.

Summary of Results

| | |
|-------------------------|-------------|
| Total Luminaire Output: | 1930 Lumens |
| Luminaire Efficacy: | 81.2 lm/w |
| Maximum Candela: | 698 Candela |

Test Conditions

| | |
|-------------------|-----------|
| Test Temperature: | 25.3 °C |
| Voltage: | 120.0 VAC |
| Current: | 0.1999 A |
| Power: | 23.78 W |
| Power Factor: | 0.991 |
| Frequency: | 60 Hz |
| Current THD: | 11.4 % |

Laboratory results may not be representative of field performance
Ballast factors have not been applied



Distribution - Goniophotometer

Distribution Test Conditions

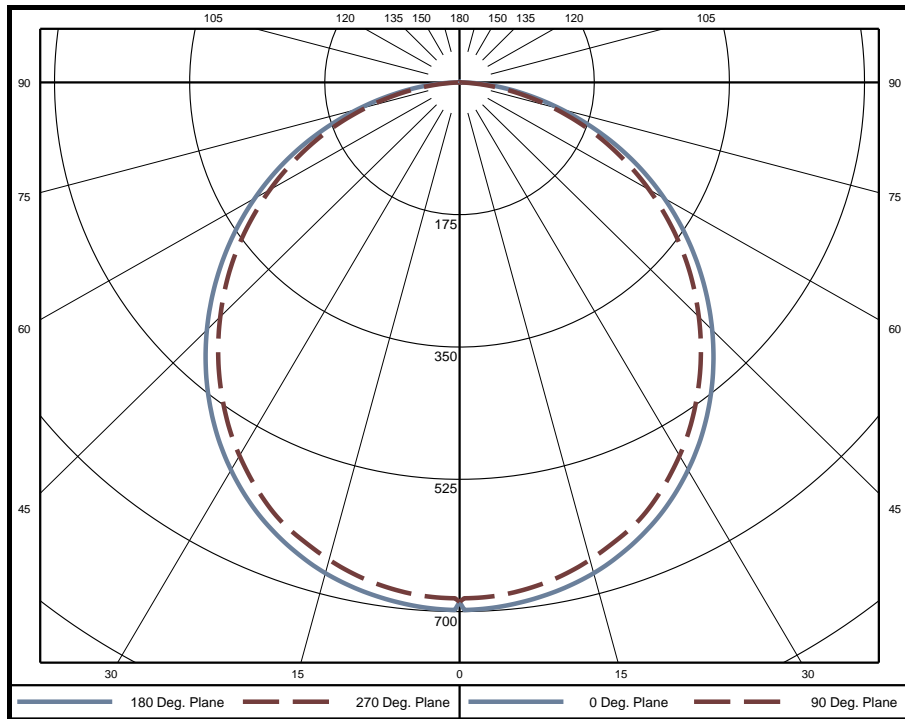
| Temperature | Voltage | Current | Power | Power Factor | Frequency | Current THD |
|-------------|-----------|----------|---------|--------------|-----------|-------------|
| 25.3 °C | 120.0 VAC | 0.1999 A | 23.78 W | 0.991 | 60 Hz | 11.4 % |

Summary of Results

Spacing Criteria
 0-180: 1.28
 90-270: 1.23

Total Lumen Output: 1930 Lumens
Luminaire Efficacy: 81.2 lm/w
Maximum Candela: 698 Candela

Polar Plot



Zonal Lumen Summary

| Zone | Lumens | % of Luminaire | Zone | Lumens | % of Luminaire | Zone | Lumens | % of Luminaire |
|-------|--------|----------------|---------|--------|----------------|---------|--------|----------------|
| 0-5 | 16.4 | 0.8% | 60-65 | 128.5 | 6.7% | 120-125 | 0 | 0.0% |
| 5-10 | 48.6 | 2.5% | 65-70 | 106.2 | 5.5% | 125-130 | 0 | 0.0% |
| 10-15 | 79.1 | 4.1% | 70-75 | 80.7 | 4.2% | 130-135 | 0 | 0.0% |
| 15-20 | 107.0 | 5.5% | 75-80 | 54.3 | 2.8% | 135-140 | 0 | 0.0% |
| 20-25 | 131.2 | 6.8% | 80-85 | 29.2 | 1.5% | 140-145 | 0 | 0.0% |
| 25-30 | 150.6 | 7.8% | 85-90 | 7.4 | 0.4% | 145-150 | 0 | 0.0% |
| 30-35 | 164.5 | 8.5% | 90-95 | 0 | 0.0% | 150-155 | 0 | 0.0% |
| 35-40 | 172.5 | 8.9% | 95-100 | 0 | 0.0% | 155-160 | 0 | 0.0% |
| 40-45 | 174.5 | 9.0% | 100-105 | 0 | 0.0% | 160-165 | 0 | 0.0% |
| 45-50 | 170.8 | 8.8% | 105-110 | 0 | 0.0% | 165-170 | 0 | 0.0% |
| 50-55 | 161.5 | 8.4% | 110-115 | 0 | 0.0% | 170-175 | 0 | 0.0% |
| 55-60 | 147.3 | 7.6% | 115-120 | 0 | 0.0% | 175-180 | 0 | 0.0% |

| Zone | Lumens | % of Luminaire |
|--------|--------|----------------|
| 0-40 | 870 | 45.1% |
| 0-60 | 1524 | 79.0% |
| 0-90 | 1930 | 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 | 687.0 | 687.0 | 687.0 | 687.0 | 687.0 | 687.0 | 687.0 | 687.0 | 687.0 | 687.0 | 687.0 | 687.0 | 687.0 | 687.0 | 687.0 | 687.0 |
| 5 | 694.6 | 684.2 | 681.2 | 683.5 | 679.6 | 683.5 | 681.2 | 684.2 | 694.6 | 684.2 | 681.2 | 683.5 | 679.6 | 683.5 | 681.2 | 684.2 |
| 10 | 685.9 | 675.0 | 671.7 | 673.8 | 669.8 | 673.8 | 671.7 | 675.0 | 685.9 | 675.0 | 671.7 | 673.8 | 669.8 | 673.8 | 671.7 | 675.0 |
| 15 | 672.0 | 660.5 | 656.4 | 657.3 | 653.6 | 657.3 | 656.4 | 660.5 | 672.0 | 660.5 | 656.4 | 657.3 | 653.6 | 657.3 | 656.4 | 660.5 |
| 20 | 651.4 | 640.0 | 635.7 | 637.0 | 632.9 | 637.0 | 635.7 | 640.0 | 651.4 | 640.0 | 635.7 | 637.0 | 632.9 | 637.0 | 635.7 | 640.0 |
| 25 | 625.0 | 613.6 | 608.8 | 609.2 | 605.2 | 609.2 | 608.8 | 613.6 | 625.0 | 613.6 | 608.8 | 609.2 | 605.2 | 609.2 | 608.8 | 613.6 |
| 30 | 592.1 | 581.0 | 575.5 | 574.5 | 570.2 | 574.5 | 575.5 | 581.0 | 592.1 | 581.0 | 575.5 | 574.5 | 570.2 | 574.5 | 575.5 | 581.0 |
| 35 | 553.8 | 542.5 | 536.5 | 534.3 | 530.3 | 534.3 | 536.5 | 542.5 | 553.8 | 542.5 | 536.5 | 534.3 | 530.3 | 534.3 | 536.5 | 542.5 |
| 40 | 510.4 | 499.0 | 492.9 | 489.8 | 486.0 | 489.8 | 492.9 | 499.0 | 510.4 | 499.0 | 492.9 | 489.8 | 486.0 | 489.8 | 492.9 | 499.0 |
| 45 | 463.1 | 452.0 | 446.0 | 441.9 | 438.5 | 441.9 | 446.0 | 452.0 | 463.1 | 452.0 | 446.0 | 441.9 | 438.5 | 441.9 | 446.0 | 452.0 |
| 50 | 412.9 | 401.7 | 395.8 | 392.0 | 389.2 | 392.0 | 395.8 | 401.7 | 412.9 | 401.7 | 395.8 | 392.0 | 389.2 | 392.0 | 395.8 | 401.7 |
| 55 | 360.6 | 349.5 | 344.0 | 339.9 | 337.0 | 339.9 | 344.0 | 349.5 | 360.6 | 349.5 | 344.0 | 339.9 | 337.0 | 339.9 | 344.0 | 349.5 |
| 60 | 306.3 | 296.0 | 290.1 | 286.4 | 283.6 | 286.4 | 290.1 | 296.0 | 306.3 | 296.0 | 290.1 | 286.4 | 283.6 | 286.4 | 290.1 | 296.0 |
| 65 | 250.8 | 241.6 | 235.9 | 231.8 | 229.3 | 231.8 | 235.9 | 241.6 | 250.8 | 241.6 | 235.9 | 231.8 | 229.3 | 231.8 | 235.9 | 241.6 |
| 70 | 193.1 | 186.0 | 181.2 | 177.3 | 175.1 | 177.3 | 181.2 | 186.0 | 193.1 | 186.0 | 181.2 | 177.3 | 175.1 | 177.3 | 181.2 | 186.0 |
| 75 | 136.0 | 131.1 | 126.7 | 122.7 | 121.1 | 122.7 | 126.7 | 131.1 | 136.0 | 131.1 | 126.7 | 122.7 | 121.1 | 122.7 | 126.7 | 131.1 |
| 80 | 83.4 | 80.3 | 76.5 | 72.7 | 71.1 | 72.7 | 76.5 | 80.3 | 83.4 | 80.3 | 76.5 | 72.7 | 71.1 | 72.7 | 76.5 | 80.3 |
| 85 | 38.6 | 35.6 | 31.0 | 27.8 | 26.8 | 27.8 | 31.0 | 35.6 | 38.6 | 35.6 | 31.0 | 27.8 | 26.8 | 27.8 | 31.0 | 35.6 |
| 90 | 0.5 | 0.9 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.9 | 0.5 | 0.9 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.9 |
| 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 |

Vertical Angle (Degrees)

Average Luminance (cd/m²)

Horizontal Angle (Degrees)

| | 0 | 45 | 90 |
|----|-------|-------|-------|
| 0 | 14790 | 14790 | 14790 |
| 45 | 14100 | 13580 | 13350 |
| 55 | 13530 | 12910 | 12650 |
| 65 | 12770 | 12020 | 11680 |
| 75 | 11320 | 10540 | 10070 |
| 85 | 9545 | 7661 | 6610 |

Vertical Angle (Degrees)

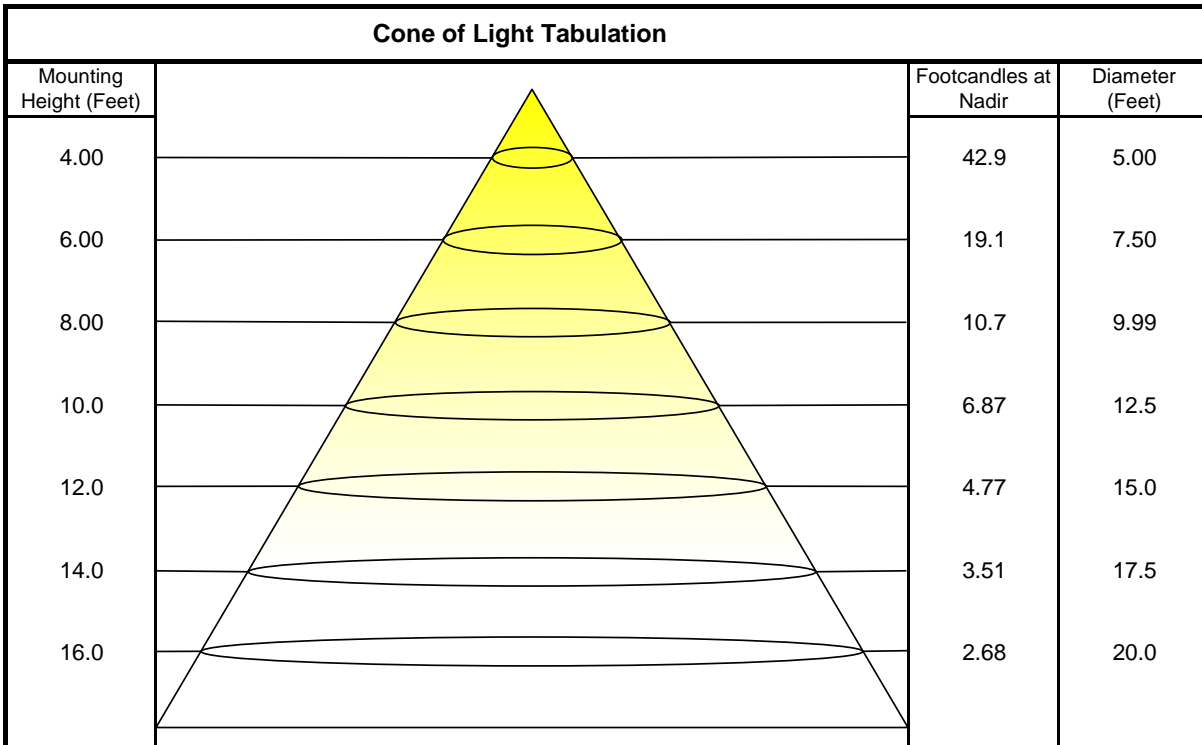


Coefficients of Utilization - Zonal Cavity Method

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 | 100 | 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 | 79 | 71 | 65 | 88 | 78 | 70 | 64 | 75 | 68 | 63 | 72 | 67 | 62 | 70 | 65 | 61 | 59 |
| 4 | 82 | 70 | 62 | 55 | 80 | 69 | 61 | 54 | 67 | 59 | 54 | 64 | 58 | 53 | 62 | 57 | 52 | 50 |
| 5 | 76 | 63 | 54 | 47 | 74 | 62 | 53 | 47 | 60 | 52 | 46 | 58 | 51 | 46 | 56 | 50 | 45 | 43 |
| 6 | 70 | 57 | 48 | 41 | 68 | 56 | 47 | 41 | 54 | 46 | 41 | 52 | 45 | 40 | 51 | 45 | 40 | 38 |
| 7 | 65 | 51 | 43 | 36 | 63 | 51 | 42 | 36 | 49 | 41 | 36 | 48 | 41 | 36 | 46 | 40 | 35 | 33 |
| 8 | 60 | 47 | 38 | 32 | 59 | 46 | 38 | 32 | 45 | 37 | 32 | 44 | 37 | 32 | 42 | 36 | 32 | 30 |
| 9 | 56 | 43 | 35 | 29 | 55 | 42 | 35 | 29 | 41 | 34 | 29 | 40 | 34 | 29 | 39 | 33 | 29 | 27 |
| 10 | 53 | 40 | 32 | 26 | 52 | 39 | 32 | 26 | 38 | 31 | 26 | 37 | 31 | 26 | 36 | 30 | 26 | 24 |

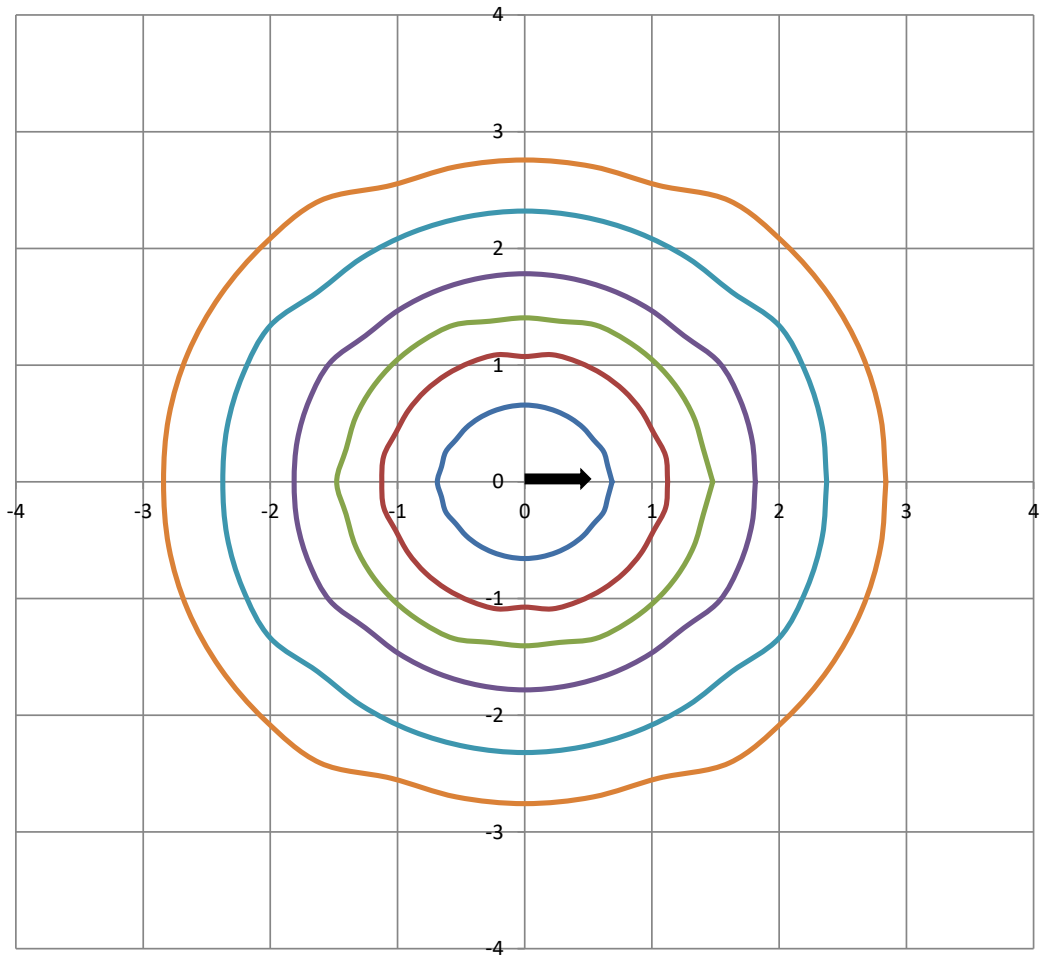
| Beam and Field Information | |
|----------------------------|---------------|
| CIE Type: | Direct |
| Center Beam Intensity: | 687.0 Candela |
| Central Cone Intensity: | 686 Candela |
| Beam Flux: | 1382.2 Lumens |
| Beam Angle (0-180): | 113.2 Degrees |
| Beam Angle (90-270): | 108.8 Degrees |
| Field Angle (0-180): | 163.2 Degrees |
| Field Angle (90-270): | 160.5 Degrees |





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

