



UL LLC
1075 W Lambert Rd Suite B
Brea, CA 92821

Indoor Distribution Test Report

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

Prepared For
Access Lighting

Jason Stone
14410 Myford Rd
Irvine, CA 92606
United States

Catalog Number
62461LEDD-CH/OPL

Order Number
12014271
Test Number
12014271.03

Test Date

2017-11-07

Prepared By

William Escobar, Technician

Approved By

Eric Gaudreau, Senior Engineering Associate

The results contained in this report pertain only to the tested sample.
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NVLAP, NIST, or any agency of the Federal Government.



Luminaire Description: Rectangular metal housing with diffuse glass lens
Lamp: 70 White LED's
Mounting: Surface – Wall

Luminaire



Luminaire Characteristics

Luminous Length: 1.50 in.
Luminous Width: 16.50 in.
Luminous Height: 4.00 in.

Summary of Results

Total Luminaire Output: 1324 Lumens
Luminaire Efficacy: 50.7 lm/w
Maximum Candela: 298 Candela

Test Conditions

Test Temperature: 25.6 °C
Voltage: 120.0 VAC
Current: 0.2193 A
Power: 26.11 W
Power Factor: 0.992
Frequency: 60 Hz
Current THD: 12.2 %

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



Distribution - Goniophotometer

Distribution Test Conditions

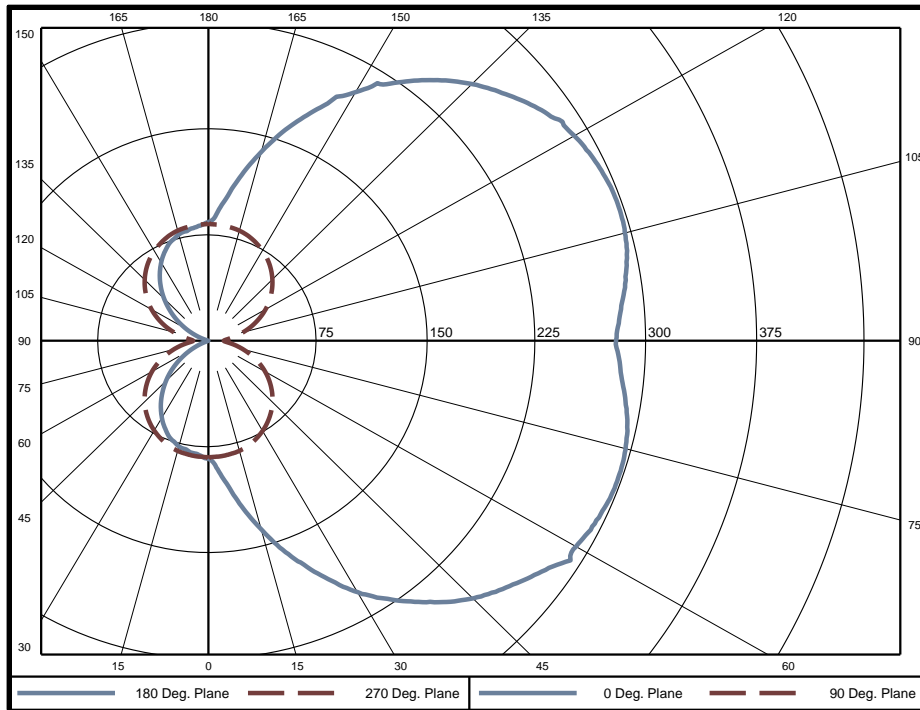
| Temperature | Voltage | Current | Power | Power Factor | Frequency | Current THD |
|-------------|-----------|----------|---------|--------------|-----------|-------------|
| 25.6 °C | 120.0 VAC | 0.2193 A | 26.11 W | 0.992 | 60 Hz | 12.2 % |

Summary of Results

Spacing Criteria
 0-180: 3.26
 90-270: 1.32

Total Lumen Output: 1324 Lumens
Luminaire Efficacy: 50.7 lm/w
Maximum Candela: 298 Candela

Polar Plot



Zonal Lumen Summary

| Zone | Lumens | % of Luminaire | Zone | Lumens | % of Luminaire | Zone | Lumens | % of Luminaire |
|-------|--------|----------------|---------|--------|----------------|---------|--------|----------------|
| 0-5 | 2.02 | 0.2% | 60-65 | 53.85 | 4.1% | 120-125 | 52.59 | 4.0% |
| 5-10 | 6.28 | 0.5% | 65-70 | 54.05 | 4.1% | 125-130 | 50.07 | 3.8% |
| 10-15 | 11.04 | 0.8% | 70-75 | 53.40 | 4.0% | 130-135 | 46.70 | 3.5% |
| 15-20 | 16.27 | 1.2% | 75-80 | 52.43 | 4.0% | 135-140 | 42.65 | 3.2% |
| 20-25 | 21.80 | 1.6% | 80-85 | 51.01 | 3.9% | 140-145 | 37.95 | 2.9% |
| 25-30 | 27.37 | 2.1% | 85-90 | 49.60 | 3.7% | 145-150 | 32.76 | 2.5% |
| 30-35 | 32.86 | 2.5% | 90-95 | 49.70 | 3.8% | 150-155 | 27.26 | 2.1% |
| 35-40 | 38.04 | 2.9% | 95-100 | 51.07 | 3.9% | 155-160 | 21.69 | 1.6% |
| 40-45 | 42.75 | 3.2% | 100-105 | 52.49 | 4.0% | 160-165 | 16.21 | 1.2% |
| 45-50 | 46.75 | 3.5% | 105-110 | 53.69 | 4.1% | 165-170 | 11.02 | 0.8% |
| 50-55 | 50.01 | 3.8% | 110-115 | 54.32 | 4.1% | 170-175 | 6.27 | 0.5% |
| 55-60 | 52.50 | 4.0% | 115-120 | 54.00 | 4.1% | 175-180 | 2.01 | 0.2% |

| Zone | Lumens | % of Luminaire |
|--------|--------|----------------|
| 0-40 | 156 | 11.8% |
| 0-60 | 348 | 26.3% |
| 0-90 | 662 | 50.0% |
| 90-180 | 662 | 50.0% |



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 | 83.3 | 83.3 | 83.3 | 83.3 | 83.3 | 83.3 | 83.3 | 83.3 | 83.3 | 83.3 | 83.3 | 83.3 | 83.3 | 83.3 | 83.3 | 83.3 |
| 5 | 94.7 | 93.9 | 89.6 | 85.1 | 82.3 | 82.4 | 80.9 | 80.8 | 80.9 | 80.8 | 80.9 | 82.4 | 82.3 | 85.1 | 89.6 | 93.9 |
| 10 | 114.7 | 111.8 | 101.2 | 89.7 | 81.7 | 80.3 | 79.4 | 79.7 | 79.5 | 79.7 | 79.4 | 80.3 | 81.7 | 89.7 | 101.2 | 111.8 |
| 15 | 137.3 | 132.6 | 116.2 | 95.2 | 80.9 | 78.6 | 77.5 | 78.0 | 77.8 | 78.0 | 77.5 | 78.6 | 80.9 | 95.2 | 116.2 | 132.6 |
| 20 | 160.7 | 153.9 | 130.9 | 100.2 | 79.3 | 77.2 | 76.2 | 75.2 | 74.8 | 75.2 | 76.2 | 77.2 | 79.3 | 100.2 | 130.9 | 153.9 |
| 25 | 183.2 | 173.9 | 145.4 | 105.9 | 77.0 | 74.7 | 73.2 | 71.7 | 70.4 | 71.7 | 73.2 | 74.7 | 77.0 | 105.9 | 145.4 | 173.9 |
| 30 | 205.6 | 193.6 | 158.9 | 110.9 | 74.1 | 71.3 | 69.8 | 66.6 | 64.9 | 66.6 | 69.8 | 71.3 | 74.1 | 110.9 | 158.9 | 193.6 |
| 35 | 224.3 | 210.9 | 171.6 | 114.8 | 70.8 | 68.2 | 65.0 | 60.6 | 58.4 | 60.6 | 65.0 | 68.2 | 70.8 | 114.8 | 171.6 | 210.9 |
| 40 | 241.7 | 227.3 | 183.4 | 117.9 | 66.9 | 64.2 | 59.7 | 54.0 | 51.2 | 54.0 | 59.7 | 64.2 | 66.9 | 117.9 | 183.4 | 227.3 |
| 45 | 257.8 | 241.3 | 191.7 | 120.5 | 62.4 | 59.1 | 53.5 | 46.7 | 43.4 | 46.7 | 53.5 | 59.1 | 62.4 | 120.5 | 191.7 | 241.3 |
| 50 | 270.2 | 253.1 | 199.5 | 121.8 | 57.4 | 53.7 | 46.8 | 38.9 | 35.4 | 38.9 | 46.8 | 53.7 | 57.4 | 121.8 | 199.5 | 253.1 |
| 55 | 282.9 | 263.6 | 205.5 | 121.5 | 51.9 | 47.8 | 39.6 | 30.7 | 26.8 | 30.7 | 39.6 | 47.8 | 51.9 | 121.5 | 205.5 | 263.6 |
| 60 | 291.6 | 275.1 | 209.6 | 120.3 | 45.8 | 41.2 | 32.0 | 22.5 | 18.2 | 22.5 | 32.0 | 41.2 | 45.8 | 120.3 | 209.6 | 275.1 |
| 65 | 296.1 | 275.8 | 212.1 | 117.9 | 39.4 | 34.2 | 24.3 | 14.2 | 9.8 | 14.2 | 24.3 | 34.2 | 39.4 | 117.9 | 212.1 | 275.8 |
| 70 | 297.9 | 276.8 | 213.1 | 114.1 | 32.6 | 27.1 | 16.7 | 6.7 | 2.1 | 6.7 | 16.7 | 27.1 | 32.6 | 114.1 | 213.1 | 276.8 |
| 75 | 296.8 | 275.0 | 209.0 | 109.3 | 25.7 | 20.1 | 10.1 | 2.6 | 0.0 | 2.6 | 10.1 | 20.1 | 25.7 | 109.3 | 209.0 | 275.0 |
| 80 | 291.8 | 270.2 | 204.1 | 103.9 | 19.3 | 14.1 | 7.9 | 2.7 | 0.0 | 2.7 | 7.9 | 14.1 | 19.3 | 103.9 | 204.1 | 270.2 |
| 85 | 284.8 | 262.8 | 197.0 | 97.6 | 13.4 | 11.5 | 7.9 | 2.8 | 0.0 | 2.8 | 7.9 | 11.5 | 13.4 | 97.6 | 197.0 | 262.8 |
| 90 | 280.1 | 258.2 | 192.6 | 93.7 | 10.6 | 11.3 | 7.9 | 2.8 | 0.0 | 2.8 | 7.9 | 11.3 | 10.6 | 93.7 | 192.6 | 258.2 |
| 95 | 284.8 | 263.6 | 197.5 | 97.8 | 13.4 | 11.4 | 7.9 | 2.8 | 0.0 | 2.8 | 7.9 | 11.4 | 13.4 | 97.8 | 197.5 | 263.6 |
| 100 | 291.6 | 270.1 | 203.7 | 103.6 | 19.2 | 14.5 | 8.0 | 2.7 | 0.0 | 2.7 | 8.0 | 14.5 | 19.2 | 103.6 | 203.7 | 270.1 |
| 105 | 296.2 | 275.0 | 208.9 | 109.4 | 25.9 | 20.7 | 11.3 | 2.7 | 0.0 | 2.7 | 11.3 | 20.7 | 25.9 | 109.4 | 208.9 | 275.0 |
| 110 | 297.4 | 276.6 | 212.3 | 114.1 | 32.8 | 27.7 | 18.2 | 8.6 | 4.8 | 8.6 | 18.2 | 27.7 | 32.8 | 114.1 | 212.3 | 276.6 |
| 115 | 295.1 | 275.1 | 211.5 | 117.7 | 39.5 | 34.9 | 25.6 | 16.1 | 12.6 | 16.1 | 25.6 | 34.9 | 39.5 | 117.7 | 211.5 | 275.1 |
| 120 | 290.3 | 272.0 | 209.3 | 120.1 | 46.0 | 41.9 | 33.1 | 24.1 | 20.8 | 24.1 | 33.1 | 41.9 | 46.0 | 120.1 | 209.3 | 272.0 |
| 125 | 282.2 | 262.2 | 204.8 | 121.2 | 51.9 | 48.4 | 40.5 | 32.2 | 29.1 | 32.2 | 40.5 | 48.4 | 51.9 | 121.2 | 204.8 | 262.2 |
| 130 | 270.0 | 251.5 | 198.1 | 121.4 | 57.3 | 54.3 | 47.6 | 40.0 | 37.2 | 40.0 | 47.6 | 54.3 | 57.3 | 121.4 | 198.1 | 251.5 |
| 135 | 256.9 | 239.4 | 190.3 | 119.6 | 62.3 | 59.5 | 54.2 | 47.7 | 45.2 | 47.7 | 54.2 | 59.5 | 62.3 | 119.6 | 190.3 | 239.4 |
| 140 | 240.8 | 224.9 | 182.6 | 117.1 | 66.8 | 64.6 | 60.3 | 54.8 | 52.7 | 54.8 | 60.3 | 64.6 | 66.8 | 117.1 | 182.6 | 224.9 |
| 145 | 222.9 | 210.0 | 171.6 | 113.9 | 70.8 | 68.8 | 65.4 | 61.2 | 59.6 | 61.2 | 65.4 | 68.8 | 70.8 | 113.9 | 171.6 | 210.0 |
| 150 | 203.4 | 192.4 | 157.1 | 109.8 | 74.1 | 71.8 | 70.2 | 67.1 | 65.8 | 67.1 | 70.2 | 71.8 | 74.1 | 109.8 | 157.1 | 192.4 |
| 155 | 182.2 | 171.1 | 143.8 | 105.0 | 76.9 | 74.8 | 73.5 | 72.0 | 71.1 | 72.0 | 73.5 | 74.8 | 76.9 | 105.0 | 143.8 | 171.1 |
| 160 | 160.5 | 151.2 | 129.5 | 99.2 | 79.3 | 77.4 | 76.6 | 75.6 | 75.4 | 75.6 | 76.6 | 77.4 | 79.3 | 99.2 | 129.5 | 151.2 |
| 165 | 137.5 | 130.5 | 114.8 | 94.6 | 80.9 | 79.1 | 77.9 | 78.5 | 78.3 | 78.5 | 77.9 | 79.1 | 80.9 | 94.6 | 114.8 | 130.5 |
| 170 | 115.0 | 110.1 | 100.2 | 88.8 | 81.8 | 80.7 | 79.8 | 79.7 | 79.7 | 79.7 | 79.8 | 80.7 | 81.8 | 88.8 | 100.2 | 110.1 |
| 175 | 95.0 | 92.5 | 88.4 | 85.0 | 82.4 | 82.3 | 81.2 | 81.2 | 81.5 | 81.2 | 81.2 | 82.3 | 82.4 | 85.0 | 88.4 | 92.5 |
| 180 | 83.7 | 83.7 | 83.7 | 83.7 | 83.7 | 83.7 | 83.7 | 83.7 | 83.7 | 83.7 | 83.7 | 83.7 | 83.7 | 83.7 | 83.7 | 83.7 |

Average Luminance (cd/m²)

Horizontal Angle (Degrees)

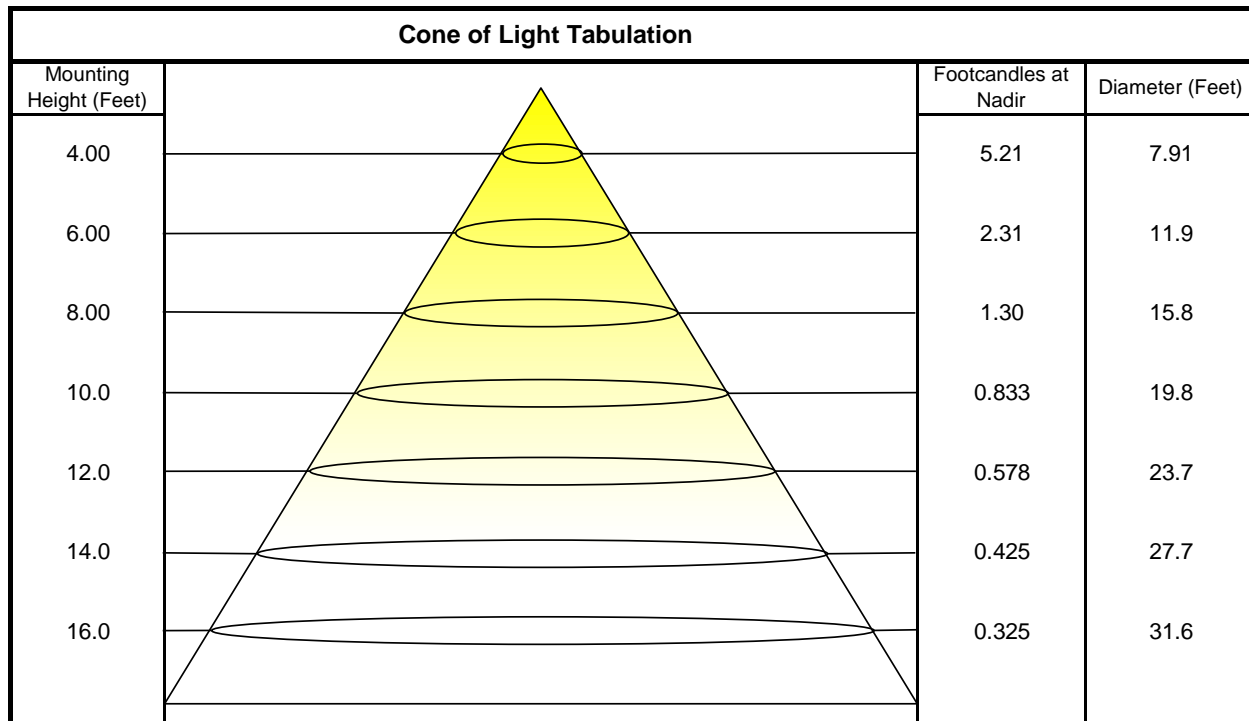
| | 0 | 45 | 90 |
|----|------|------|------|
| 0 | 5216 | 5216 | 5216 |
| 45 | 6227 | 5553 | 4450 |
| 55 | 6423 | 5699 | 4206 |
| 65 | 6531 | 5809 | 3837 |
| 75 | 6557 | 5828 | 3267 |
| 85 | 6501 | 5775 | 2545 |



Utilization of Lumens - 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 Lumens delivered to the task surface ** | | | | | | | | | | | | | | | | | |
| 0 | 1419 | 1419 | 1419 | 1419 | 1309 | 1309 | 1309 | 1309 | 1104 | 1104 | 1104 | 916 | 916 | 916 | 743 | 743 | 743 | 662 |
| 1 | 1245 | 1166 | 1095 | 1032 | 1140 | 1071 | 1009 | 953 | 893 | 845 | 802 | 729 | 693 | 661 | 578 | 552 | 528 | 454 |
| 2 | 1113 | 990 | 888 | 802 | 1015 | 908 | 818 | 742 | 753 | 684 | 625 | 611 | 559 | 513 | 479 | 441 | 406 | 341 |
| 3 | 1003 | 853 | 737 | 645 | 913 | 782 | 679 | 596 | 648 | 568 | 502 | 524 | 463 | 411 | 408 | 363 | 324 | 266 |
| 4 | 910 | 744 | 623 | 530 | 828 | 682 | 574 | 491 | 565 | 481 | 413 | 456 | 391 | 338 | 355 | 306 | 265 | 214 |
| 5 | 830 | 656 | 534 | 444 | 755 | 601 | 493 | 411 | 499 | 413 | 347 | 403 | 336 | 284 | 314 | 263 | 222 | 176 |
| 6 | 761 | 583 | 463 | 377 | 692 | 535 | 428 | 350 | 445 | 359 | 295 | 360 | 293 | 241 | 281 | 229 | 189 | 148 |
| 7 | 701 | 522 | 406 | 325 | 638 | 480 | 375 | 301 | 399 | 316 | 254 | 324 | 258 | 208 | 254 | 202 | 163 | 126 |
| 8 | 648 | 471 | 359 | 282 | 590 | 433 | 332 | 262 | 362 | 280 | 222 | 294 | 229 | 182 | 231 | 180 | 143 | 109 |
| 9 | 602 | 427 | 320 | 248 | 549 | 394 | 296 | 230 | 329 | 250 | 195 | 269 | 206 | 160 | 212 | 162 | 126 | 96 |
| 10 | 561 | 390 | 287 | 219 | 512 | 359 | 266 | 204 | 302 | 225 | 173 | 247 | 186 | 142 | 196 | 147 | 112 | 85 |

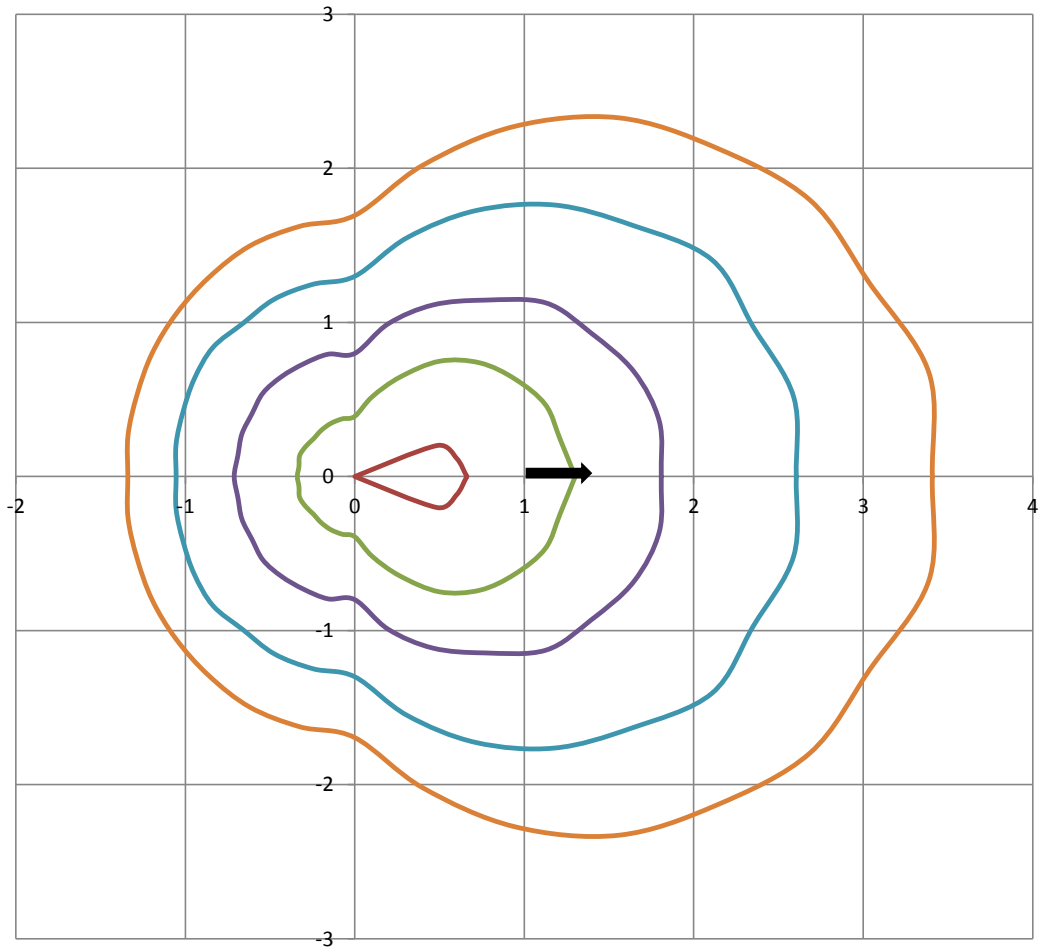
| Beam and Field Information | |
|----------------------------|-----------------|
| CIE Type: | Direct/Indirect |
| Center Beam Intensity: | 83.3 Candela |
| Central Cone Intensity: | 84 Candela |
| Beam Flux: | 1254.4 Lumens |
| Beam Angle (0-180): | #REF! Degrees |
| Beam Angle (90-270): | 126.6 Degrees |
| Field Angle (0-180): | #REF! Degrees |
| Field Angle (90-270): | #REF! Degrees |





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

