

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P228746

Luminaire Tested: **ISS-AF-450-LED-E1-RW-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P228746
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29765)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: ISS-AF-450-LED-E1-RW-8030
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE
LIGHT SQUARE WITH ACCULED OPTICS-RECTANGULAR WIDE TYPE I
Light Source: (16) 3000K CCT, 80 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2438 lumens
Efficiency: N/A
Efficacy: 96.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B1 - U0 - G1

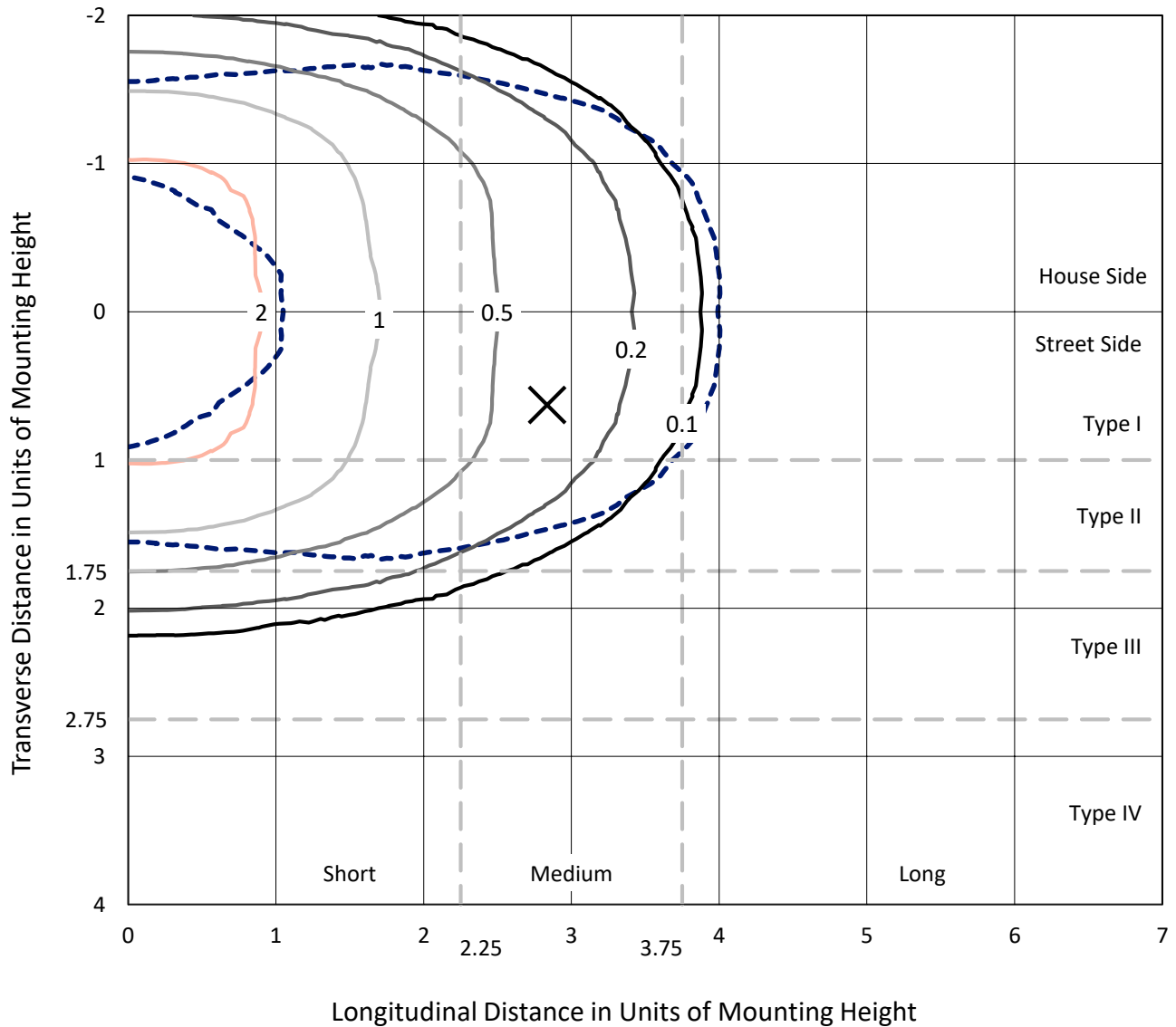
Input Watts (W): 25.31
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

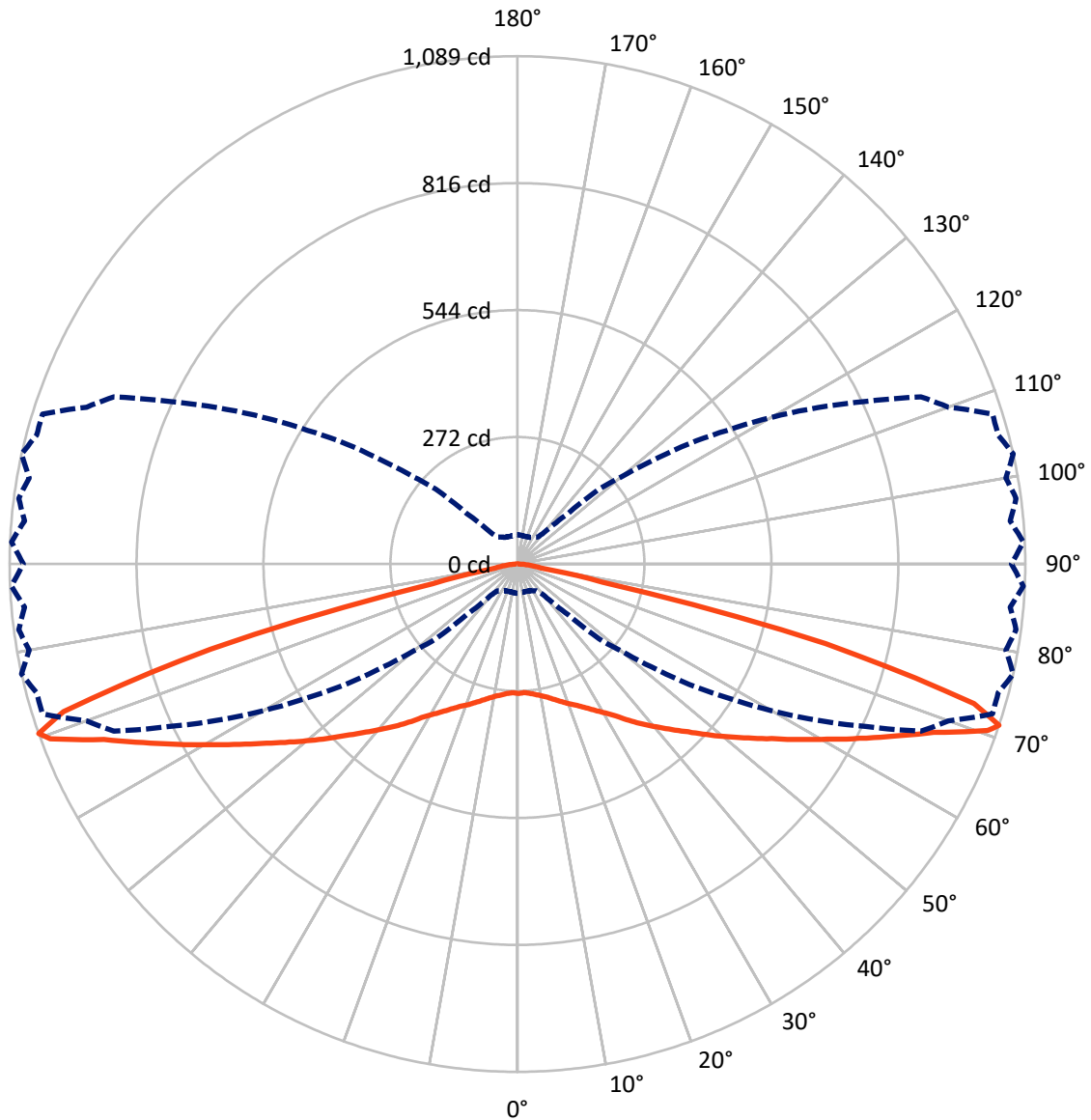
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 2.8 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1219.0 | 0.0 | 1219.0 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 1219.0 | 0.0 | 1219.0 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 2438.0 | 0.0 | 2438.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 26.8 | 1.1 |
| 10°-20° | 83.8 | 3.4 |
| 20°-30° | 156.8 | 6.4 |
| 30°-40° | 273.0 | 11.2 |
| 40°-50° | 445.4 | 18.3 |
| 50°-60° | 614.6 | 25.2 |
| 60°-70° | 583.0 | 23.9 |
| 70°-80° | 240.0 | 9.8 |
| 80°-90° | 14.5 | 0.6 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-90° | 2438.0 | 100.0 |
| 0°-180° | 2438.0 | 100.0 |



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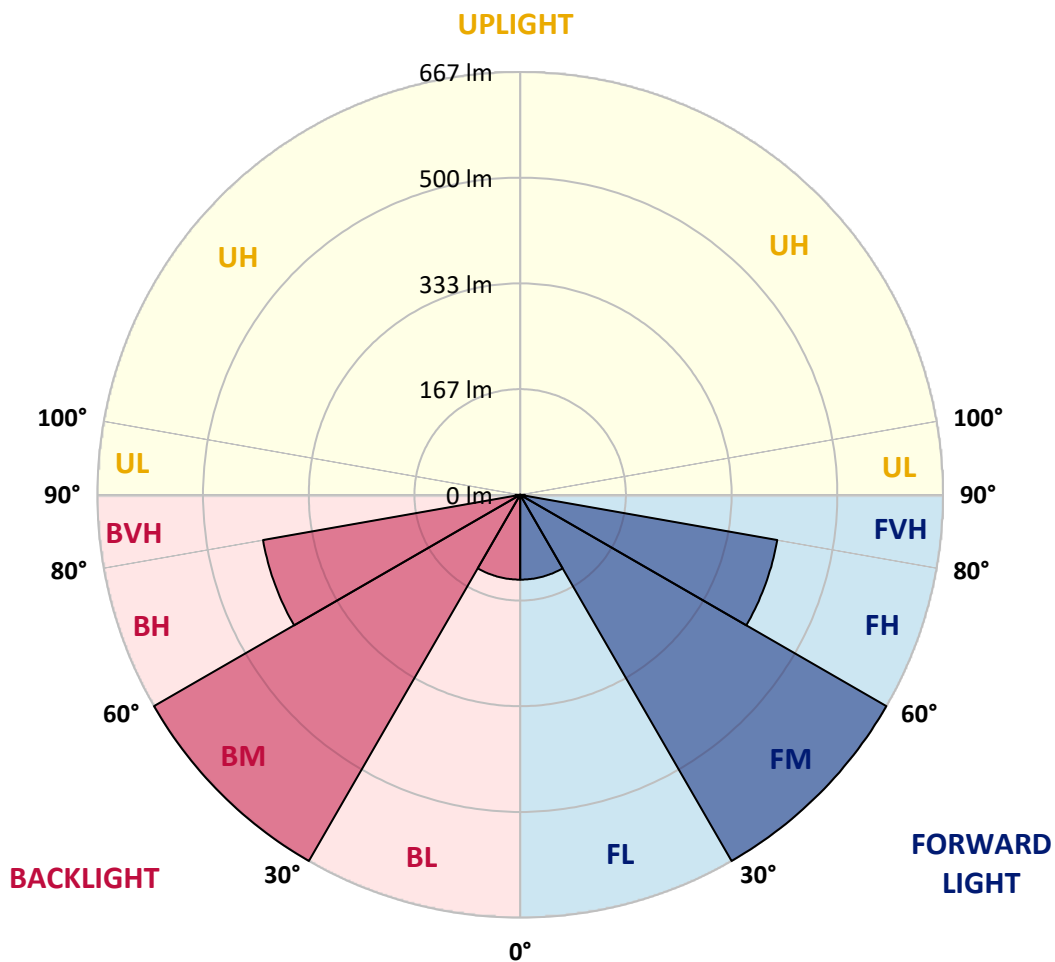
CATALOG NUMBER: ISS-AF-450-LED-E1-RW-8030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|--------|
| | | | B | U | G |
| FL (0°-30°) | 133.7 | 5.5 | | | |
| FM (30°-60°) | 666.5 | 27.3 | | | |
| FH (60°-80°) | 411.5 | 16.9 | | | G0/660 |
| FVH (80°-90°) | 7.3 | 0.3 | | | G0/10 |
| BL (0°-30°) | 133.7 | 5.5 | B1/500 | | |
| BM (30°-60°) | 666.5 | 27.3 | B1/1000 | | |
| BH (60°-80°) | 411.5 | 16.9 | B1/500 | | G1/500 |
| BVH (80°-90°) | 7.3 | 0.3 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G1

Type II Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 37.5° | 40° | 42.5° | 45° | 47.5° | 50° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 277.6 | 277.6 | 277.6 | 277.6 | 277.6 | 277.6 | 277.6 | 277.6 | 277.6 | 277.6 | 277.6 |
| 2.5° | 276.8 | 276.0 | 276.8 | 276.8 | 277.6 | 277.6 | 277.6 | 277.6 | 276.8 | 278.4 | 278.4 |
| 5° | 276.8 | 276.8 | 277.6 | 277.6 | 279.2 | 280.8 | 278.4 | 279.2 | 280.0 | 279.2 | 280.8 |
| 7.5° | 276.8 | 276.8 | 276.8 | 278.4 | 280.8 | 282.5 | 280.8 | 281.6 | 283.3 | 283.3 | 284.9 |
| 10° | 274.4 | 273.6 | 275.2 | 278.4 | 282.5 | 284.9 | 284.1 | 287.3 | 286.5 | 287.3 | 288.9 |
| 12.5° | 270.3 | 270.3 | 273.6 | 278.4 | 285.7 | 287.3 | 288.1 | 289.7 | 292.1 | 291.3 | 293.7 |
| 15° | 271.2 | 272.0 | 275.2 | 281.6 | 290.5 | 292.1 | 292.9 | 292.9 | 297.0 | 295.4 | 300.2 |
| 17.5° | 276.8 | 277.6 | 280.8 | 287.3 | 297.8 | 297.8 | 298.6 | 300.2 | 305.9 | 302.6 | 309.1 |
| 20° | 285.7 | 286.5 | 289.7 | 297.0 | 306.7 | 305.9 | 307.5 | 309.1 | 316.3 | 313.1 | 319.6 |
| 22.5° | 296.2 | 297.8 | 301.8 | 309.9 | 320.4 | 315.5 | 318.8 | 322.0 | 329.3 | 323.6 | 332.5 |
| 25° | 310.7 | 313.1 | 317.2 | 326.0 | 337.3 | 331.7 | 334.9 | 337.3 | 345.4 | 337.3 | 346.2 |
| 27.5° | 331.7 | 333.3 | 336.5 | 346.2 | 355.9 | 351.9 | 353.5 | 355.1 | 364.8 | 355.9 | 365.6 |
| 30° | 356.7 | 359.1 | 362.3 | 371.2 | 380.9 | 374.4 | 377.7 | 379.3 | 387.4 | 378.5 | 386.6 |
| 32.5° | 388.2 | 390.6 | 394.6 | 402.7 | 410.8 | 401.1 | 401.9 | 404.3 | 412.4 | 403.5 | 412.4 |
| 35° | 425.3 | 426.9 | 432.6 | 442.2 | 447.9 | 432.6 | 433.4 | 433.4 | 443.9 | 431.7 | 441.4 |
| 37.5° | 464.0 | 465.6 | 472.1 | 481.8 | 488.2 | 471.3 | 471.3 | 472.1 | 481.8 | 468.1 | 476.9 |
| 40° | 504.4 | 509.2 | 516.5 | 526.2 | 531.0 | 511.6 | 513.3 | 512.4 | 523.7 | 507.6 | 516.5 |
| 42.5° | 544.7 | 548.8 | 559.3 | 570.6 | 576.2 | 556.8 | 557.6 | 555.2 | 566.5 | 549.6 | 556.8 |
| 45° | 579.4 | 582.7 | 595.6 | 611.7 | 620.6 | 600.4 | 600.4 | 600.4 | 611.7 | 590.7 | 599.6 |
| 47.5° | 607.7 | 610.1 | 623.8 | 647.2 | 661.7 | 641.6 | 643.2 | 640.0 | 656.9 | 631.1 | 643.2 |
| 50° | 627.8 | 628.7 | 646.4 | 673.0 | 698.1 | 679.5 | 681.9 | 683.5 | 699.7 | 677.1 | 687.6 |
| 52.5° | 634.3 | 635.9 | 656.1 | 688.4 | 724.7 | 712.6 | 721.5 | 724.7 | 739.2 | 715.0 | 729.5 |
| 55° | 611.7 | 615.7 | 646.4 | 694.0 | 743.3 | 739.2 | 749.7 | 756.2 | 774.7 | 754.5 | 769.9 |
| 57.5° | 535.9 | 540.7 | 583.5 | 661.7 | 747.3 | 753.7 | 768.3 | 778.8 | 805.4 | 793.3 | 810.2 |
| 60° | 427.7 | 431.7 | 475.3 | 569.7 | 696.4 | 736.0 | 769.1 | 798.9 | 826.4 | 828.8 | 850.6 |
| 62.5° | 293.7 | 299.4 | 341.4 | 431.7 | 585.9 | 638.3 | 686.0 | 735.2 | 781.2 | 836.9 | 865.1 |
| 65° | 143.6 | 146.9 | 182.4 | 269.5 | 430.1 | 497.1 | 552.8 | 622.2 | 665.0 | 744.9 | 790.9 |
| 67.5° | 79.1 | 79.1 | 84.7 | 112.2 | 230.0 | 296.2 | 355.9 | 443.0 | 486.6 | 585.1 | 644.0 |
| 70° | 66.2 | 66.2 | 64.6 | 68.6 | 87.2 | 103.3 | 134.0 | 184.0 | 244.5 | 343.8 | 397.0 |
| 71° | 62.9 | 62.1 | 61.3 | 62.9 | 70.2 | 73.4 | 86.3 | 113.0 | 153.3 | 237.3 | 289.7 |
| 72.5° | 58.9 | 57.3 | 54.9 | 55.7 | 59.7 | 59.7 | 62.1 | 66.2 | 81.5 | 111.4 | 149.3 |
| 75° | 50.8 | 49.2 | 46.8 | 46.8 | 47.6 | 48.4 | 49.2 | 50.8 | 51.6 | 53.3 | 59.7 |
| 77.5° | 42.0 | 40.4 | 37.9 | 37.9 | 37.1 | 37.9 | 39.5 | 40.4 | 38.7 | 42.0 | 42.8 |
| 80° | 32.3 | 29.9 | 29.1 | 29.1 | 28.2 | 27.4 | 27.4 | 27.4 | 28.2 | 29.9 | 30.7 |
| 82.5° | 20.2 | 18.6 | 19.4 | 18.6 | 17.8 | 17.8 | 17.8 | 17.8 | 18.6 | 18.6 | 20.2 |
| 85° | 9.7 | 9.7 | 10.5 | 9.7 | 8.1 | 8.1 | 7.3 | 6.5 | 7.3 | 6.5 | 8.1 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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CATALOG NUMBER: ISS-AF-450-LED-E1-RW-8030

CANDELA DISTRIBUTION (continued):

| | 52.5° | 55° | 57.5° | 60° | 62.5° | 65° | 67.5° | 70° | 72.5° | 75° | 77.5° |
|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|
| 0° | 277.6 | 277.6 | 277.6 | 277.6 | 277.6 | 277.6 | 277.6 | 277.6 | 277.6 | 277.6 | 277.6 |
| 2.5° | 276.0 | 277.6 | 276.8 | 277.6 | 276.0 | 277.6 | 275.2 | 277.6 | 276.8 | 277.6 | 276.0 |
| 5° | 278.4 | 280.8 | 278.4 | 281.6 | 278.4 | 281.6 | 278.4 | 281.6 | 279.2 | 281.6 | 278.4 |
| 7.5° | 280.8 | 285.7 | 282.5 | 286.5 | 282.5 | 287.3 | 282.5 | 287.3 | 284.1 | 288.1 | 282.5 |
| 10° | 285.7 | 291.3 | 286.5 | 291.3 | 286.5 | 292.1 | 286.5 | 292.9 | 288.1 | 294.6 | 287.3 |
| 12.5° | 289.7 | 296.2 | 291.3 | 297.8 | 290.5 | 299.4 | 292.1 | 301.8 | 293.7 | 303.4 | 293.7 |
| 15° | 295.4 | 303.4 | 298.6 | 305.9 | 298.6 | 308.3 | 299.4 | 310.7 | 301.8 | 312.3 | 301.8 |
| 17.5° | 303.4 | 312.3 | 305.9 | 314.7 | 306.7 | 317.2 | 307.5 | 319.6 | 310.7 | 321.2 | 310.7 |
| 20° | 314.7 | 322.0 | 315.5 | 325.2 | 316.3 | 326.0 | 318.0 | 327.6 | 320.4 | 330.1 | 320.4 |
| 22.5° | 327.6 | 334.1 | 329.3 | 334.9 | 326.8 | 334.9 | 326.8 | 334.9 | 329.3 | 337.3 | 329.3 |
| 25° | 342.2 | 347.0 | 341.4 | 347.0 | 339.7 | 346.2 | 338.9 | 345.4 | 339.7 | 347.0 | 341.4 |
| 27.5° | 361.5 | 364.0 | 357.5 | 362.3 | 353.5 | 359.9 | 351.9 | 358.3 | 352.7 | 359.1 | 355.1 |
| 30° | 382.5 | 384.9 | 378.5 | 381.7 | 372.0 | 376.1 | 367.2 | 372.8 | 368.0 | 372.8 | 370.4 |
| 32.5° | 405.9 | 409.2 | 401.9 | 403.5 | 395.4 | 396.2 | 389.0 | 391.4 | 387.4 | 389.0 | 388.2 |
| 35° | 432.6 | 436.6 | 428.5 | 430.9 | 422.1 | 422.1 | 415.6 | 414.8 | 413.2 | 411.6 | 411.6 |
| 37.5° | 466.4 | 468.1 | 461.6 | 461.6 | 451.1 | 451.1 | 443.0 | 443.0 | 439.8 | 436.6 | 435.0 |
| 40° | 503.6 | 504.4 | 493.9 | 493.1 | 482.6 | 482.6 | 473.7 | 471.3 | 465.6 | 461.6 | 459.2 |
| 42.5° | 543.1 | 542.3 | 527.0 | 528.6 | 513.3 | 514.1 | 502.8 | 500.3 | 494.7 | 489.9 | 485.0 |
| 45° | 583.5 | 580.2 | 564.9 | 564.1 | 546.3 | 547.1 | 533.4 | 531.8 | 523.7 | 518.9 | 513.3 |
| 47.5° | 624.6 | 623.0 | 606.1 | 602.0 | 583.5 | 582.7 | 564.9 | 564.9 | 556.8 | 552.0 | 546.3 |
| 50° | 667.4 | 666.6 | 647.2 | 644.8 | 625.4 | 622.2 | 601.2 | 601.2 | 591.5 | 589.9 | 581.9 |
| 52.5° | 714.2 | 711.0 | 690.0 | 689.2 | 670.6 | 668.2 | 645.6 | 644.0 | 629.5 | 628.7 | 619.8 |
| 55° | 760.2 | 754.5 | 740.8 | 734.4 | 715.8 | 715.0 | 694.8 | 690.8 | 672.2 | 672.2 | 660.9 |
| 57.5° | 802.2 | 797.3 | 786.0 | 780.4 | 762.6 | 760.2 | 738.4 | 738.4 | 722.3 | 721.5 | 709.4 |
| 60° | 845.7 | 847.4 | 835.2 | 832.8 | 815.9 | 815.1 | 793.3 | 793.3 | 777.1 | 776.3 | 762.6 |
| 62.5° | 882.9 | 899.0 | 894.2 | 895.8 | 881.2 | 878.8 | 857.0 | 855.4 | 836.9 | 834.4 | 823.1 |
| 65° | 846.5 | 903.0 | 939.4 | 963.6 | 961.9 | 961.1 | 940.2 | 936.9 | 913.5 | 907.1 | 888.5 |
| 67.5° | 711.0 | 784.4 | 850.6 | 923.2 | 976.5 | 1016.8 | 1028.9 | 1024.1 | 1003.9 | 985.4 | 962.8 |
| 70° | 476.1 | 560.9 | 644.8 | 735.2 | 826.4 | 915.1 | 1006.3 | 1045.9 | 1087.8 | 1073.3 | 1069.3 |
| 71° | 362.3 | 449.5 | 533.4 | 628.7 | 725.5 | 824.0 | 936.1 | 982.9 | 1067.7 | 1066.9 | 1088.6 |
| 72.5° | 204.2 | 281.6 | 371.2 | 454.3 | 545.5 | 647.2 | 762.6 | 814.3 | 936.1 | 960.3 | 1023.3 |
| 75° | 65.4 | 89.6 | 118.6 | 187.2 | 243.7 | 336.5 | 422.1 | 473.7 | 554.4 | 594.8 | 682.7 |
| 77.5° | 43.6 | 48.4 | 50.0 | 58.1 | 65.4 | 92.8 | 125.9 | 154.1 | 169.5 | 177.5 | 186.4 |
| 80° | 31.5 | 33.9 | 35.5 | 39.5 | 40.4 | 45.2 | 45.2 | 50.0 | 49.2 | 52.5 | 50.0 |
| 82.5° | 20.2 | 22.6 | 23.4 | 25.0 | 25.8 | 29.1 | 30.7 | 33.9 | 33.9 | 35.5 | 34.7 |
| 85° | 9.7 | 11.3 | 11.3 | 12.9 | 12.9 | 15.3 | 15.3 | 17.8 | 17.8 | 20.2 | 19.4 |
| 87.5° | 0.8 | 0.8 | 0.8 | 1.6 | 1.6 | 1.6 | 2.4 | 3.2 | 3.2 | 3.2 | 3.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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CATALOG NUMBER: ISS-AF-450-LED-E1-RW-8030

CANDELA DISTRIBUTION (continued):

| | 80° | 82.5° | 85° | 87.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 277.6 | 277.6 | 277.6 | 277.6 | 277.6 |
| 2.5° | 278.4 | 277.6 | 278.4 | 276.8 | 278.4 |
| 5° | 282.5 | 279.2 | 283.3 | 279.2 | 283.3 |
| 7.5° | 288.9 | 284.9 | 289.7 | 283.3 | 288.9 |
| 10° | 294.6 | 288.9 | 295.4 | 288.9 | 294.6 |
| 12.5° | 304.2 | 295.4 | 305.9 | 295.4 | 305.9 |
| 15° | 313.9 | 303.4 | 316.3 | 305.0 | 315.5 |
| 17.5° | 322.8 | 313.1 | 325.2 | 313.9 | 324.4 |
| 20° | 330.9 | 322.0 | 332.5 | 321.2 | 332.5 |
| 22.5° | 338.9 | 333.3 | 341.4 | 333.3 | 341.4 |
| 25° | 349.4 | 345.4 | 351.0 | 345.4 | 351.0 |
| 27.5° | 361.5 | 359.9 | 363.2 | 359.1 | 364.0 |
| 30° | 375.3 | 376.1 | 376.9 | 376.1 | 377.7 |
| 32.5° | 392.2 | 396.2 | 394.6 | 394.6 | 394.6 |
| 35° | 415.6 | 422.9 | 418.0 | 419.6 | 418.8 |
| 37.5° | 437.4 | 447.9 | 441.4 | 443.9 | 442.2 |
| 40° | 461.6 | 468.9 | 467.3 | 467.3 | 465.6 |
| 42.5° | 488.2 | 497.1 | 494.7 | 495.5 | 493.9 |
| 45° | 517.3 | 525.4 | 522.1 | 521.3 | 522.1 |
| 47.5° | 550.4 | 559.3 | 555.2 | 554.4 | 555.2 |
| 50° | 585.1 | 595.6 | 592.3 | 590.7 | 592.3 |
| 52.5° | 623.0 | 635.9 | 634.3 | 632.7 | 635.1 |
| 55° | 667.4 | 679.5 | 677.9 | 679.5 | 680.3 |
| 57.5° | 711.8 | 725.5 | 722.3 | 726.3 | 727.9 |
| 60° | 767.5 | 775.5 | 776.3 | 777.1 | 778.0 |
| 62.5° | 824.0 | 827.2 | 829.6 | 832.0 | 832.8 |
| 65° | 889.3 | 890.1 | 891.7 | 889.3 | 891.7 |
| 67.5° | 952.3 | 946.6 | 945.8 | 948.2 | 949.8 |
| 70° | 1049.9 | 1049.9 | 1041.8 | 1053.1 | 1043.5 |
| 71° | 1062.8 | 1078.2 | 1060.4 | 1085.4 | 1058.8 |
| 72.5° | 999.9 | 1028.1 | 1007.9 | 1030.5 | 1003.9 |
| 75° | 695.6 | 761.0 | 760.2 | 792.5 | 766.7 |
| 77.5° | 192.9 | 180.8 | 192.9 | 166.2 | 159.0 |
| 80° | 52.5 | 47.6 | 51.6 | 43.6 | 49.2 |
| 82.5° | 34.7 | 29.9 | 29.1 | 23.4 | 25.0 |
| 85° | 20.2 | 15.3 | 15.3 | 12.1 | 12.9 |
| 87.5° | 3.2 | 0.8 | 3.2 | 1.6 | 2.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)