

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: LUMARK

Report Number: P197256

Luminaire Tested: **NAV-AF-06-D-UNV-T2R-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197256
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24459)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-06-D-UNV-T2R-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 33791 lumens
Efficiency: N/A
Efficacy: 88.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 382
Input Voltage (V): NR
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

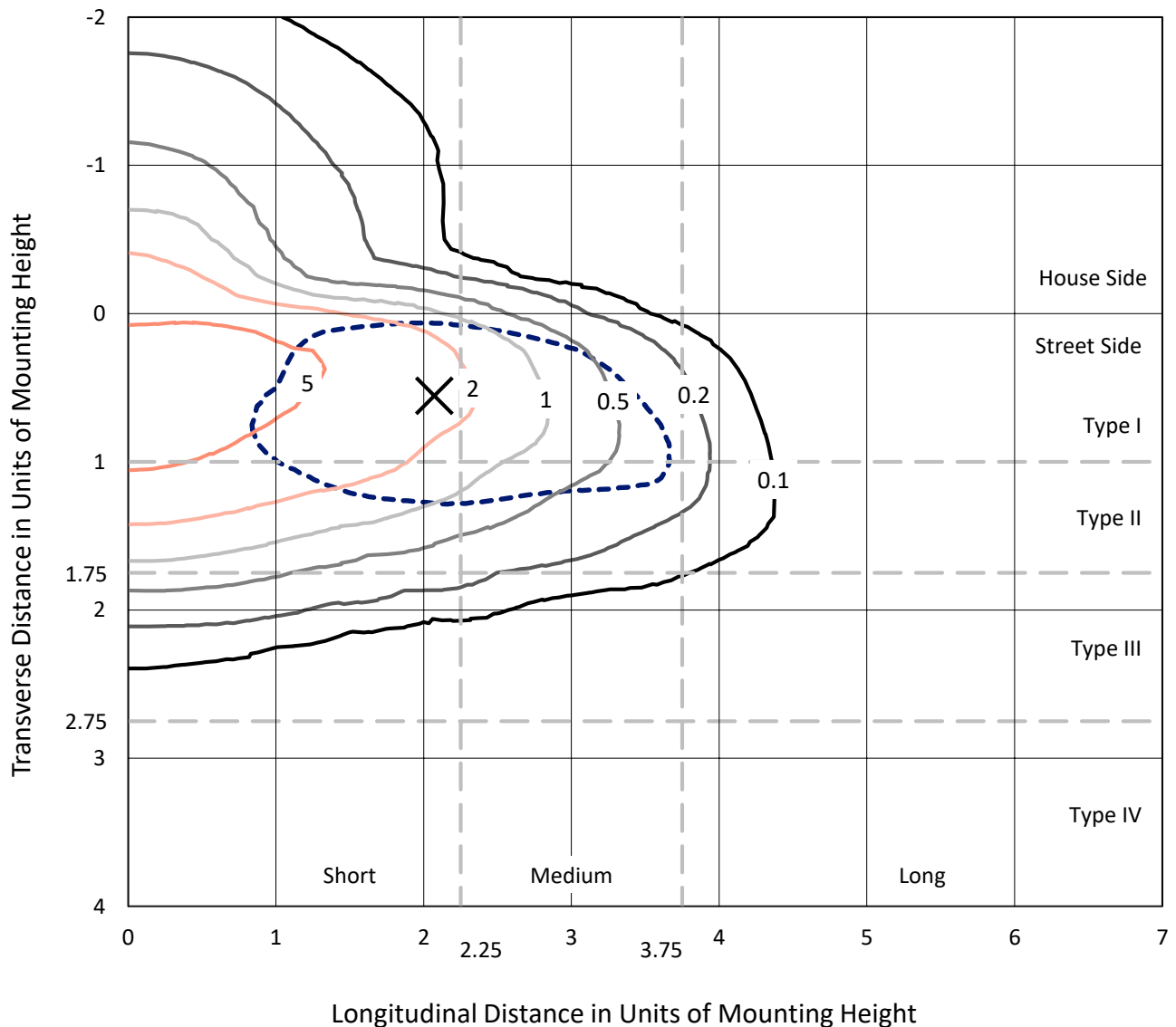


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Iso-Footcandle Lines of Horizontal Illumination

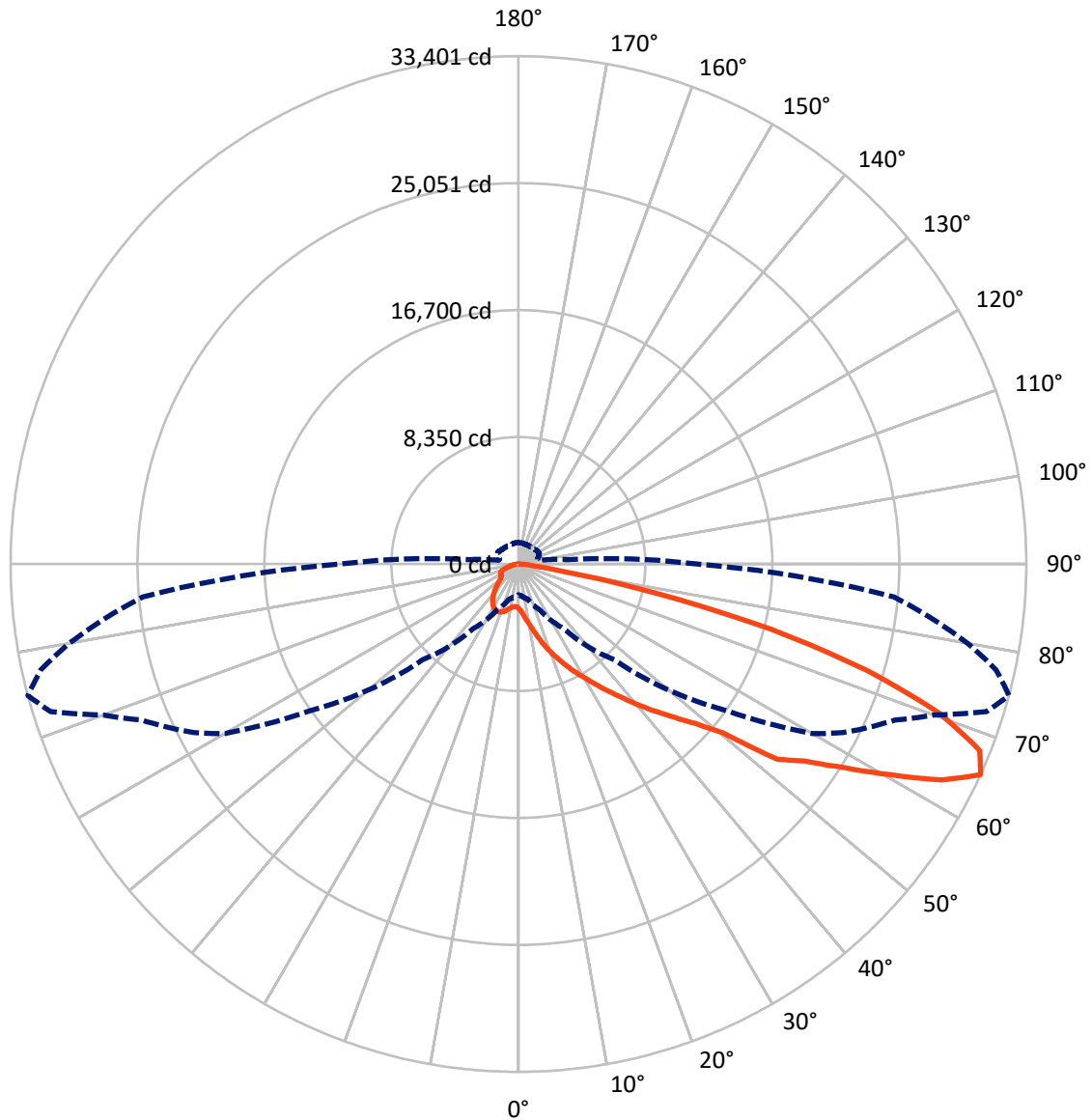
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 9.3 fc
 Type II - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5077.6	0.0	5077.6
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	28713.4	0.0	28713.4
	% Fixture	85.0	0.0	85.0
Total	Lumens	33791.0	0.0	33791.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	345.6	1.0
10°-20°	1320.2	3.9
20°-30°	2664.3	7.9
30°-40°	4524.7	13.4
40°-50°	6310.9	18.7
50°-60°	7734.7	22.9
60°-70°	7277.3	21.5
70°-80°	3191.0	9.4
80°-90°	422.2	1.2
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°	33791.0	100.0
0°-180°	33791.0	100.0



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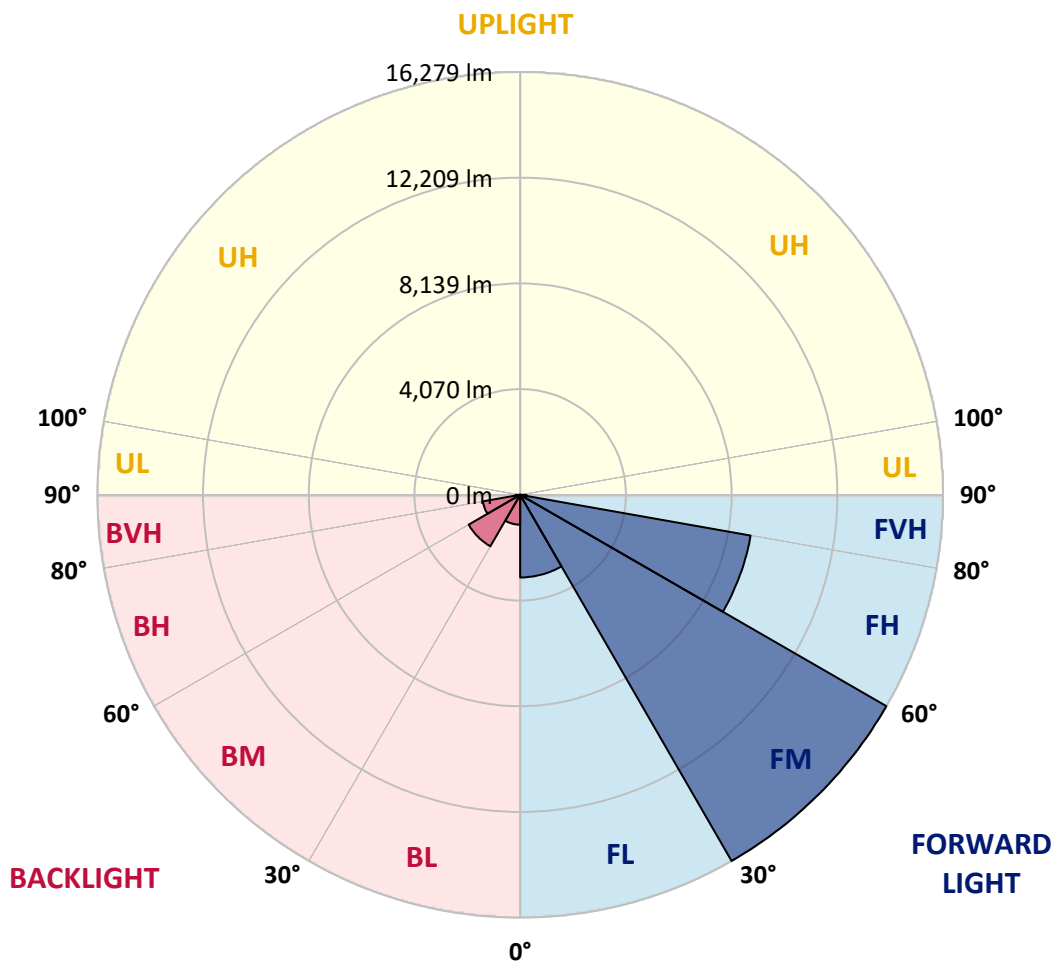
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	3180.7	9.4			
FM (30°-60°)	16279.0	48.2			
FH (60°-80°)	9009.0	26.7			G4/12000
FVH (80°-90°)	244.8	0.7			G3/500
BL (0°-30°)	1149.5	3.4	B3/2500		
BM (30°-60°)	2291.3	6.8	B2/2500		
BH (60°-80°)	1459.4	4.3	B3/2500		G3/2500
BVH (80°-90°)	177.5	0.5			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	2927.8	2927.8	2927.8	2927.8	2927.8	2927.8	2927.8	2927.8	2927.8	2927.8	2927.8
2.5°	3686.6	3643.6	3647.9	3587.7	3499.6	3402.8	3323.3	3280.3	3243.8	3233.0	3172.8
5°	4821.6	4767.9	4748.5	4610.9	4404.6	4159.5	3916.6	3822.0	3744.6	3697.3	3581.3
7.5°	5750.2	5722.3	5696.5	5569.7	5365.5	5051.6	4660.4	4520.7	4391.7	4249.8	4110.1
10°	6382.2	6371.5	6360.7	6272.6	6102.8	5829.8	5408.4	5255.8	5094.6	4914.0	4731.3
12.5°	6859.4	6859.4	6868.0	6795.0	6691.8	6481.1	6098.5	5956.6	5793.2	5604.1	5395.5
15°	7179.7	7188.3	7233.5	7255.0	7201.2	7065.8	6730.5	6605.8	6451.0	6264.0	6057.6
17.5°	7392.5	7409.7	7476.4	7547.3	7616.1	7568.8	7319.5	7203.4	7063.7	6891.7	6698.2
20°	7887.0	7865.5	7867.6	7846.1	7947.1	7983.7	7846.1	7749.4	7637.6	7480.7	7304.4
22.5°	8925.2	8884.4	8779.1	8510.3	8387.8	8374.9	8293.2	8241.6	8155.7	8056.8	7880.5
25°	10279.5	10232.2	10023.7	9580.9	9215.4	8877.9	8727.5	8695.2	8639.3	8572.7	8445.9
27.5°	11678.9	11627.3	11358.6	10799.7	10322.5	9641.0	9172.4	9129.4	9077.8	9049.9	8989.7
30°	12910.6	12854.7	12590.3	12022.8	11446.7	10634.2	9772.2	9621.7	9533.6	9542.2	9507.8
32.5°	13991.9	13942.4	13645.8	13067.5	12482.8	11693.9	10550.3	10316.0	10118.3	10045.2	10071.0
35°	14899.0	14853.9	14529.3	13946.7	13357.7	12702.1	11552.1	11199.5	10877.1	10675.0	10651.4
37.5°	15432.1	15406.3	15178.5	14684.1	14099.4	13617.8	12674.2	12282.9	11807.9	11513.4	11384.4
40°	15402.0	15430.0	15391.3	15167.7	14714.2	14363.8	13843.6	13456.6	12992.3	12553.8	12291.5
42.5°	14963.5	15002.2	15176.3	15292.4	15169.9	14957.1	14864.6	14576.6	14159.6	13695.2	13331.9
45°	14361.6	14396.0	14621.7	15040.9	15391.3	15451.5	15758.9	15614.8	15262.3	14866.8	14466.9
47.5°	13439.4	13506.1	13768.3	14434.7	15268.8	15849.2	16509.1	16575.7	16371.5	16044.8	15670.7
50°	12104.5	12192.6	12560.2	13508.2	14804.4	16257.6	17624.7	17878.4	17796.7	17465.7	17087.3
52.5°	10737.4	10825.5	11315.6	12323.8	14056.4	16425.3	18723.2	19372.4	19841.0	20182.8	20249.4
55°	9314.3	9413.2	9950.6	11111.4	13058.9	16212.4	19507.8	20245.1	20720.2	21077.0	21221.1
57.5°	7708.5	7820.3	8340.5	9514.2	11648.8	15356.9	20380.6	21425.3	22132.5	22682.8	22992.3
60°	5866.3	6006.0	6545.6	7727.9	9795.8	13718.9	20769.6	22315.2	23439.5	24264.9	24755.0
62.5°	3718.8	3860.7	4421.8	5649.2	7687.0	11481.1	19669.0	21924.0	23841.4	25062.4	25961.0
65°	2029.2	2091.6	2403.3	3327.6	5182.7	8908.0	16878.8	19537.9	22300.2	24030.6	25410.7
67.5°	1521.9	1530.5	1562.8	1788.5	2760.1	6014.6	13196.5	15632.0	18699.6	20926.6	22575.3
70°	1332.8	1332.8	1337.1	1339.2	1498.3	3258.8	8940.3	11182.3	13994.0	16246.8	18295.4
72.5°	1195.2	1182.3	1178.0	1152.2	1173.7	1670.3	4866.7	6880.9	9252.0	11779.9	13690.9
75°	1031.8	1029.7	1029.7	1003.9	1016.8	1175.8	2110.9	3301.8	5139.7	7493.6	9374.5
77.5°	892.1	877.0	879.2	864.1	905.0	900.7	1001.7	1360.7	2237.8	3936.0	5496.6
80°	735.2	724.4	730.9	722.3	786.8	666.4	675.0	831.9	1111.4	1726.1	2433.4
82.5°	543.9	548.2	589.0	584.7	662.1	449.3	494.4	621.2	748.1	859.8	935.1
85°	318.1	324.6	423.5	445.0	485.8	236.5	303.1	369.7	417.0	462.2	481.5
87.5°	34.4	45.1	236.5	242.9	217.1	70.9	122.5	154.8	165.5	176.3	154.8
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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CANDELA DISTRIBUTION (continued):

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	2927.8	2927.8	2927.8	2927.8	2927.8	2927.8	2927.8	2927.8	2927.8	2927.8	2927.8
2.5°	3153.5	3125.5	3095.5	3078.3	3048.2	3022.4	2975.1	2936.4	2893.4	2863.3	2850.4
5°	3523.2	3456.6	3385.7	3334.1	3269.6	3213.7	3106.2	2977.2	2936.4	2850.4	2828.9
7.5°	4004.7	3884.4	3764.0	3665.1	3553.3	3460.9	3280.3	3048.2	3018.1	2880.5	2850.4
10°	4570.1	4393.8	4215.4	4062.8	3899.4	3757.5	3491.0	3164.2	3132.0	2955.7	2925.6
12.5°	5202.1	4987.1	4757.1	4529.3	4335.8	4135.9	3772.6	3344.8	3293.2	3084.7	3043.9
15°	5853.4	5621.3	5354.7	5079.6	4840.9	4576.5	4118.7	3581.3	3486.7	3241.6	3185.7
17.5°	6496.2	6244.6	5965.2	5657.8	5378.4	5062.4	4492.7	3845.7	3682.3	3396.4	3325.5
20°	7117.4	6861.6	6567.1	6266.1	5917.9	5556.8	4875.3	4105.8	3856.4	3525.4	3432.9
22.5°	7682.7	7463.5	7169.0	6822.9	6470.4	6064.1	5264.4	4365.9	4009.0	3624.3	3506.0
25°	8278.2	8078.3	7785.9	7452.7	7042.2	6590.7	5666.4	4613.1	4131.6	3678.0	3531.8
27.5°	8880.1	8708.1	8433.0	8082.6	7641.9	7141.0	6074.8	4840.9	4230.5	3695.2	3518.9
30°	9522.8	9389.5	9135.9	8744.7	8299.7	7745.1	6519.8	5064.5	4292.8	3671.6	3460.9
32.5°	10131.2	10126.9	9901.2	9494.9	9015.5	8405.0	6988.4	5290.2	4325.0	3604.9	3359.9
35°	10763.2	10851.3	10681.5	10294.5	9789.4	9112.2	7506.5	5531.0	4327.2	3486.7	3228.7
37.5°	11481.1	11638.0	11562.8	11195.2	10664.3	9918.4	8114.8	5801.8	4314.3	3323.3	3037.4
40°	12298.0	12512.9	12510.8	12201.2	11633.7	10821.2	8822.0	6104.9	4284.2	3119.1	2811.7
42.5°	13233.1	13488.9	13559.8	13254.6	12680.6	11807.9	9632.5	6438.1	4236.9	2917.0	2573.1
45°	14303.6	14529.3	14662.6	14378.8	13802.7	12882.7	10563.2	6816.4	4178.9	2656.9	2300.1
47.5°	15449.3	15711.6	15911.5	15668.6	15053.8	14108.0	11666.0	7304.4	4157.4	2360.3	2005.6
50°	16870.2	17141.1	17573.1	17463.5	17126.0	16365.1	13998.3	8456.6	4166.0	2078.7	1758.4
52.5°	20395.6	21016.8	21562.8	21319.9	20518.1	19213.3	15894.3	9097.2	3985.4	1848.7	1586.4
55°	21459.7	22164.7	22970.8	22869.8	22100.3	20784.7	17392.6	9632.5	3811.3	1681.0	1474.6
57.5°	23321.2	24153.1	25279.5	25258.0	24314.4	22833.3	19320.8	10273.0	3736.0	1584.3	1418.7
60°	25292.4	26352.2	27908.5	28151.4	27126.1	25584.8	21599.4	11059.8	3746.8	1530.5	1386.5
62.5°	26732.7	28286.9	30550.4	31277.0	30068.9	28370.7	23964.0	11846.6	3682.3	1468.2	1347.8
65°	26820.8	29058.6	32270.1	33400.8	32177.7	29995.8	24798.0	11691.8	3295.4	1384.4	1285.5
67.5°	24671.2	27586.1	31487.6	32728.0	31476.9	28994.1	23336.3	10221.4	2678.4	1238.2	1178.0
70°	20548.2	23931.7	27981.6	29363.8	28329.9	25816.9	20309.6	8164.3	2001.3	1044.7	1016.8
72.5°	15879.2	19034.9	22712.9	23991.9	23200.9	20991.0	16019.0	5950.2	1429.5	847.0	825.5
75°	11352.1	14039.2	16709.0	17197.0	16416.7	14387.4	10393.4	3716.7	1001.7	694.3	664.2
77.5°	7029.3	8776.9	9735.6	9107.9	8112.7	6743.4	4230.5	1835.8	666.4	565.4	535.3
80°	3119.1	3660.8	3417.9	3046.0	2405.4	1977.7	1291.9	814.7	429.9	436.4	419.2
82.5°	1049.0	1109.2	1079.1	1072.7	967.3	847.0	548.2	352.5	240.8	279.5	273.0
85°	511.6	535.3	537.4	556.8	483.7	376.2	148.3	139.7	103.2	150.5	156.9
87.5°	154.8	156.9	141.9	154.8	124.7	86.0	27.9	38.7	19.3	36.5	36.5
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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CANDELA DISTRIBUTION (continued):

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	2927.8	2927.8	2927.8	2927.8	2927.8	2927.8	2927.8	2927.8	2927.8	2927.8	2927.8
2.5°	2826.8	2818.2	2803.1	2785.9	2781.6	2760.1	2753.7	2742.9	2736.5	2725.7	2717.1
5°	2801.0	2785.9	2768.7	2749.4	2749.4	2719.3	2706.4	2693.5	2693.5	2674.1	2665.5
7.5°	2826.8	2807.4	2788.1	2770.9	2777.3	2742.9	2730.0	2717.1	2715.0	2695.6	2687.0
10°	2899.8	2880.5	2856.8	2839.6	2833.2	2805.3	2790.2	2770.9	2758.0	2745.1	2732.2
12.5°	3011.6	2985.8	2955.7	2919.2	2904.1	2880.5	2856.8	2831.1	2801.0	2788.1	2768.7
15°	3144.9	3101.9	3061.1	3015.9	2975.1	2951.4	2919.2	2878.3	2837.5	2820.3	2794.5
17.5°	3254.5	3209.4	3151.3	3097.6	3024.5	3005.2	2960.0	2910.6	2843.9	2837.5	2798.8
20°	3347.0	3278.2	3207.2	3142.7	3031.0	3020.2	2964.3	2906.3	2811.7	2811.7	2764.4
22.5°	3398.6	3304.0	3220.1	3134.1	2994.4	2985.8	2921.3	2852.5	2736.5	2740.8	2682.7
25°	3407.1	3293.2	3187.9	3084.7	2923.5	2908.4	2826.8	2751.5	2624.7	2616.1	2555.9
27.5°	3372.8	3239.5	3117.0	2992.3	2818.2	2785.9	2695.6	2605.3	2480.7	2459.2	2394.7
30°	3293.2	3136.3	2998.7	2854.7	2672.0	2620.4	2525.8	2433.4	2306.5	2278.6	2218.4
32.5°	3166.4	2988.0	2835.3	2691.3	2489.3	2424.8	2330.2	2237.8	2115.2	2093.7	2037.8
35°	2998.7	2798.8	2637.6	2485.0	2282.9	2216.3	2126.0	2044.3	1932.5	1923.9	1885.2
37.5°	2788.1	2579.5	2407.6	2261.4	2070.1	2035.7	1943.3	1883.1	1790.6	1799.2	1779.9
40°	2549.5	2336.6	2173.3	2044.3	1878.8	1848.7	1792.8	1747.6	1668.1	1691.8	1693.9
42.5°	2308.7	2095.9	1947.6	1831.5	1689.6	1670.3	1631.6	1605.8	1545.6	1592.9	1612.2
45°	2035.7	1837.9	1711.1	1623.0	1517.6	1517.6	1498.3	1496.1	1455.3	1521.9	1541.3
47.5°	1771.3	1616.5	1528.4	1474.6	1401.6	1435.9	1429.5	1446.7	1416.6	1485.4	1502.6
50°	1571.4	1463.9	1410.2	1384.4	1332.8	1386.5	1399.4	1423.0	1397.3	1457.4	1470.3
52.5°	1444.5	1373.6	1343.5	1337.1	1300.5	1367.2	1388.7	1410.2	1380.1	1435.9	1433.8
55°	1373.6	1326.3	1315.6	1328.5	1300.5	1365.0	1386.5	1401.6	1375.8	1414.5	1412.3
57.5°	1347.8	1322.0	1328.5	1347.8	1328.5	1382.2	1393.0	1410.2	1384.4	1401.6	1410.2
60°	1345.7	1345.7	1371.5	1397.3	1384.4	1423.0	1429.5	1427.3	1403.7	1405.9	1410.2
62.5°	1332.8	1365.0	1408.0	1448.8	1444.5	1491.8	1496.1	1468.2	1448.8	1427.3	1420.9
65°	1291.9	1345.7	1408.0	1463.9	1472.5	1545.6	1554.2	1526.2	1513.3	1476.8	1448.8
67.5°	1201.6	1270.4	1343.5	1412.3	1427.3	1526.2	1545.6	1556.3	1562.8	1539.1	1502.6
70°	1049.0	1120.0	1195.2	1274.7	1296.2	1405.9	1446.7	1496.1	1534.8	1569.2	1556.3
72.5°	853.4	917.9	982.4	1055.5	1087.7	1201.6	1255.4	1341.4	1401.6	1489.7	1526.2
75°	677.1	715.8	754.5	799.7	825.5	937.2	1003.9	1107.1	1188.7	1311.3	1393.0
77.5°	533.1	552.5	571.8	591.1	601.9	664.2	718.0	821.2	915.7	1070.5	1190.9
80°	410.6	421.3	423.5	429.9	425.6	455.7	475.1	537.4	619.1	771.7	913.6
82.5°	264.4	273.0	277.3	288.0	266.6	305.2	318.1	324.6	367.6	479.4	580.4
85°	148.3	150.5	152.6	156.9	126.8	165.5	167.7	156.9	152.6	197.8	223.6
87.5°	36.5	34.4	36.5	36.5	15.0	34.4	34.4	23.6	17.2	32.2	25.8
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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CANDELA DISTRIBUTION (continued):

	135°	145°	155°	165°	175°	180°
0°	2927.8	2927.8	2927.8	2927.8	2927.8	2927.8
2.5°	2697.8	2693.5	2695.6	2684.9	2680.6	2682.7
5°	2654.8	2646.2	2646.2	2639.7	2631.1	2631.1
7.5°	2674.1	2656.9	2650.5	2637.6	2624.7	2626.8
10°	2704.2	2674.1	2652.6	2633.3	2618.2	2618.2
12.5°	2723.6	2669.8	2637.6	2611.8	2594.6	2594.6
15°	2727.9	2646.2	2598.9	2570.9	2553.7	2553.7
17.5°	2702.1	2598.9	2538.7	2502.2	2482.8	2487.1
20°	2637.6	2510.8	2439.8	2401.1	2381.8	2383.9
22.5°	2536.6	2390.4	2308.7	2263.6	2244.2	2244.2
25°	2399.0	2239.9	2151.8	2115.2	2098.0	2098.0
27.5°	2242.1	2078.7	2001.3	1973.4	1962.6	1962.6
30°	2065.8	1930.4	1874.5	1855.1	1837.9	1837.9
32.5°	1917.5	1820.7	1801.4	1775.6	1730.4	1728.3
35°	1799.2	1788.5	1773.4	1696.1	1631.6	1623.0
37.5°	1734.7	1799.2	1704.6	1571.4	1519.8	1517.6
40°	1700.3	1760.5	1597.2	1532.7	1526.2	1526.2
42.5°	1618.7	1661.7	1590.7	1554.2	1554.2	1556.3
45°	1532.7	1569.2	1605.8	1573.5	1584.3	1586.4
47.5°	1472.5	1545.6	1605.8	1577.8	1599.3	1612.2
50°	1416.6	1524.1	1573.5	1573.5	1597.2	1599.3
52.5°	1403.7	1494.0	1543.4	1567.1	1569.2	1558.5
55°	1405.9	1470.3	1519.8	1549.9	1537.0	1537.0
57.5°	1403.7	1457.4	1500.4	1511.2	1517.6	1517.6
60°	1405.9	1440.2	1474.6	1470.3	1491.8	1491.8
62.5°	1412.3	1416.6	1433.8	1429.5	1461.7	1461.7
65°	1427.3	1386.5	1375.8	1380.1	1418.7	1416.6
67.5°	1455.3	1345.7	1311.3	1313.4	1369.3	1360.7
70°	1496.1	1289.8	1238.2	1225.3	1319.9	1304.8
72.5°	1509.0	1225.3	1143.6	1130.7	1186.6	1143.6
75°	1448.8	1173.7	1042.6	999.6	975.9	963.0
77.5°	1291.9	1141.4	937.2	847.0	810.4	801.8
80°	1070.5	1074.8	799.7	692.2	804.0	801.8
82.5°	808.3	928.6	640.6	599.7	582.5	485.8
85°	391.2	698.6	492.3	412.7	247.2	234.3
87.5°	34.4	292.3	283.7	184.9	83.8	79.5
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)