

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: P270463

Luminaire Tested: **NAV-AF-03-D-UNV-T2R-7027-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270463
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-03-D-UNV-T2R-7027-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13324.6 lumens
Efficiency: N/A
Efficacy: 107.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G2

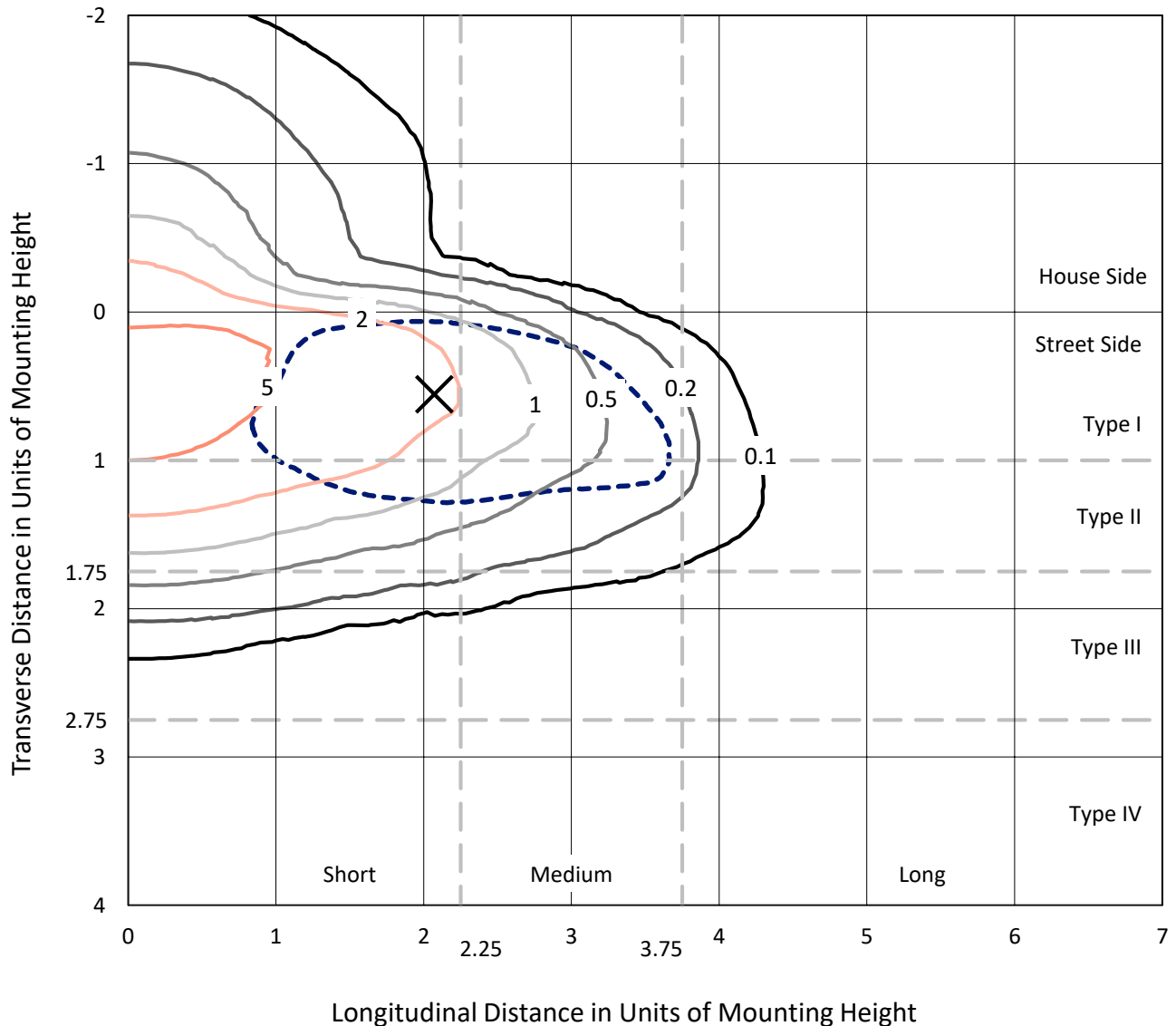
Input Watts (W): 124
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

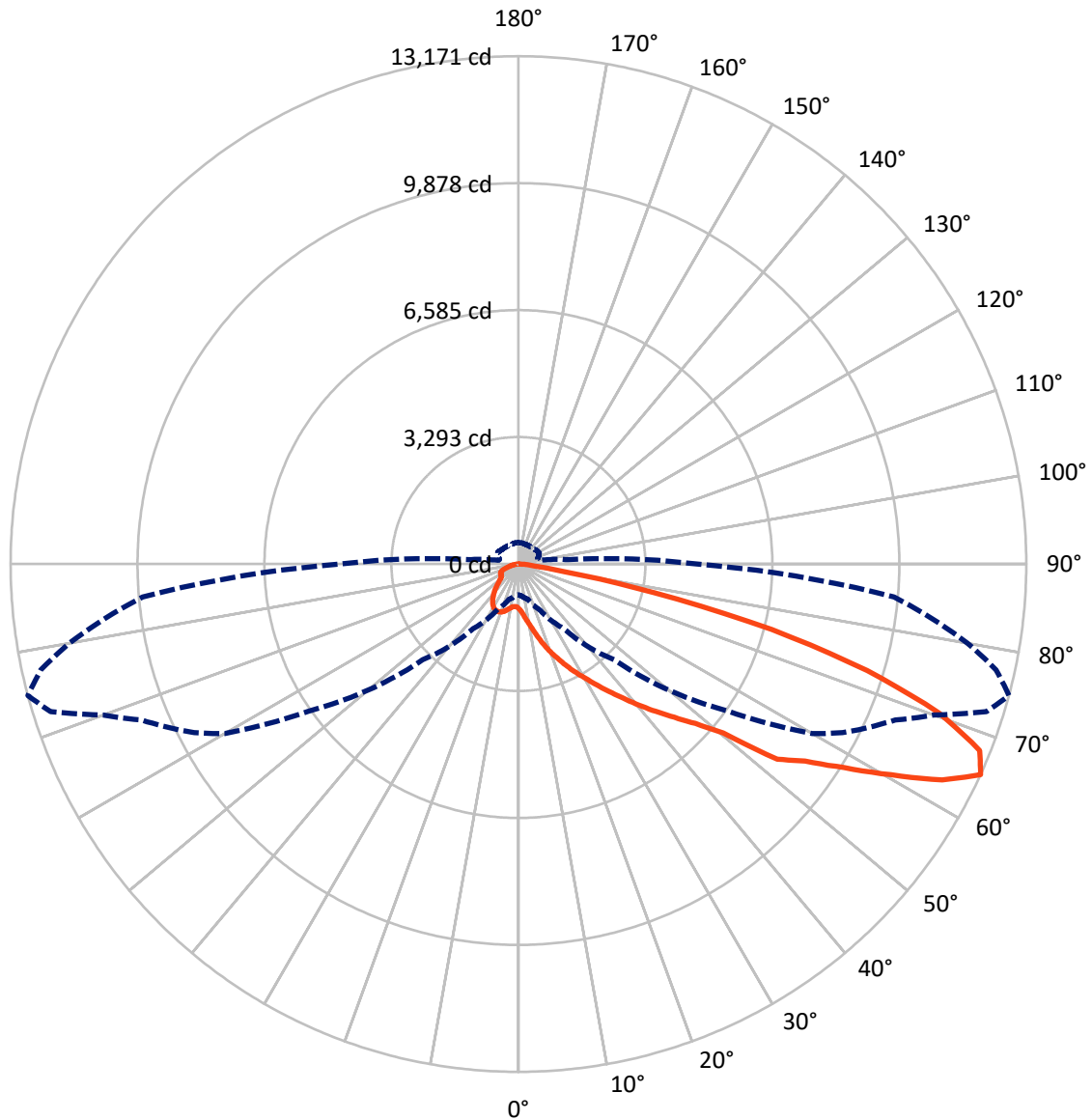
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8.3 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	2002.2	0.0	2002.2
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	11322.3	0.0	11322.3
	% Fixture	85.0	0.0	85.0
Total	Lumens	13324.6	0.0	13324.6
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.3	1.0
10°-20°	520.6	3.9
20°-30°	1050.6	7.9
30°-40°	1784.2	13.4
40°-50°	2488.5	18.7
50°-60°	3050.0	22.9
60°-70°	2869.6	21.5
70°-80°	1258.3	9.4
80°-90°	166.5	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°	13324.6	100.0
0°-180°	13324.6	100.0

Coefficient of Utilization



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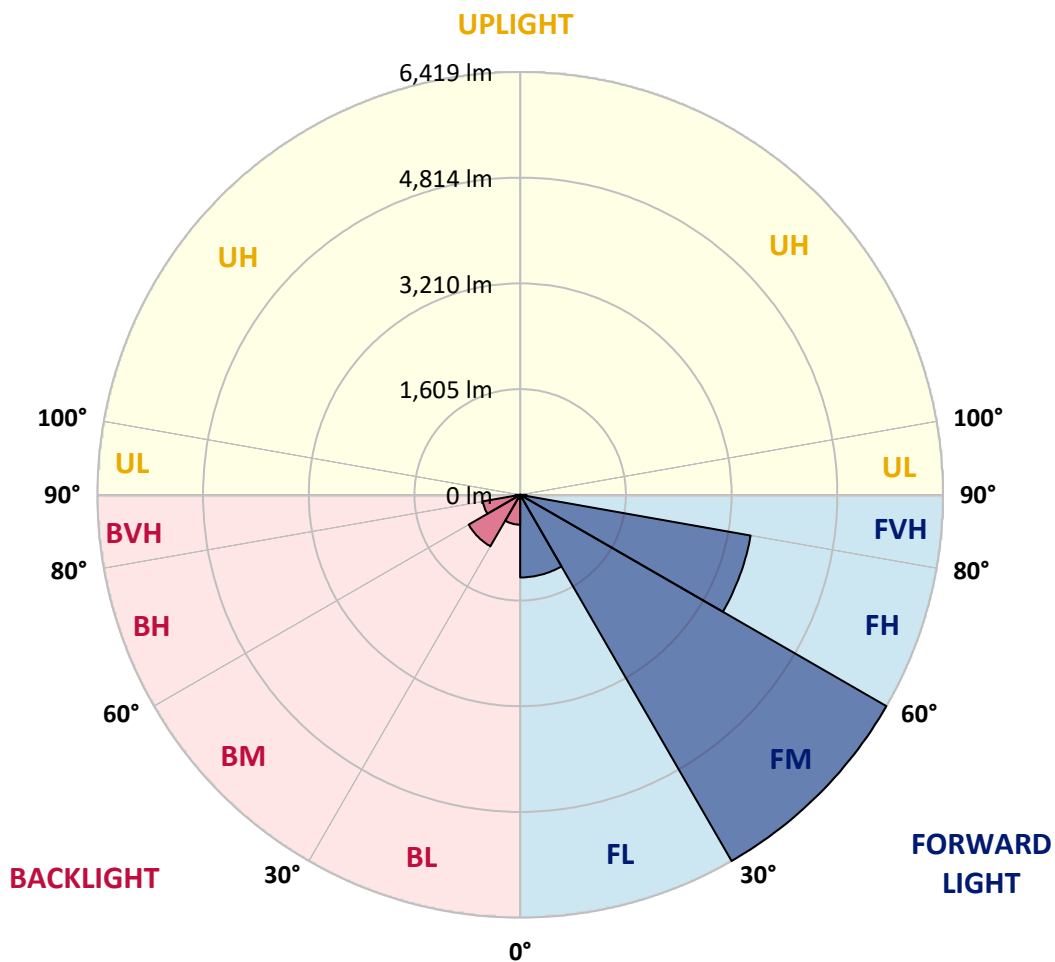
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1254.2	9.4			
FM (30°-60°)	6419.2	48.2			
FH (60°-80°)	3552.4	26.7			G2/5000
FVH (80°-90°)	96.5	0.7			G1/100
BL (0°-30°)	453.3	3.4	B1/500		
BM (30°-60°)	903.5	6.8	B1/1000		
BH (60°-80°)	575.5	4.3	B2/1000		G2/1000
BVH (80°-90°)	70.0	0.5			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	1154.5	1154.5	1154.5	1154.5	1154.5	1154.5	1154.5	1154.5	1154.5	1154.5	1154.5
2.5°	1453.6	1436.7	1438.5	1414.7	1379.9	1341.8	1310.4	1293.5	1279.0	1274.9	1251.1
5°	1901.3	1880.2	1872.4	1818.2	1736.9	1640.1	1544.5	1507.1	1476.6	1457.9	1412.1
7.5°	2267.4	2256.5	2246.2	2196.3	2115.7	1992.0	1837.8	1782.5	1731.8	1675.8	1620.7
10°	2516.6	2512.4	2508.2	2473.5	2406.5	2298.9	2132.7	2072.5	2008.9	1937.7	1865.7
12.5°	2704.8	2704.8	2708.2	2679.5	2638.7	2555.7	2404.8	2348.8	2284.4	2209.8	2127.5
15°	2831.2	2834.5	2852.3	2860.8	2839.6	2786.3	2654.0	2604.8	2543.8	2470.0	2388.7
17.5°	2915.1	2921.8	2948.1	2976.1	3003.3	2984.6	2886.3	2840.5	2785.4	2717.6	2641.2
20°	3110.0	3101.6	3102.3	3093.9	3133.7	3148.2	3093.9	3055.8	3011.7	2949.9	2880.2
22.5°	3519.4	3503.3	3461.8	3355.8	3307.5	3302.3	3270.2	3249.9	3215.9	3176.9	3107.4
25°	4053.4	4034.7	3952.6	3777.9	3633.9	3500.8	3441.4	3428.7	3406.7	3380.4	3330.3
27.5°	4605.3	4584.9	4478.9	4258.5	4070.4	3801.6	3616.9	3600.0	3579.7	3568.5	3544.8
30°	5091.0	5069.0	4964.7	4740.9	4513.8	4193.3	3853.4	3794.1	3759.2	3762.7	3749.2
32.5°	5517.3	5497.8	5380.8	5152.9	4922.4	4611.2	4160.2	4067.9	3989.9	3961.0	3971.2
35°	5875.1	5857.3	5729.2	5499.6	5267.3	5008.7	4555.2	4416.2	4289.0	4209.4	4200.0
37.5°	6085.3	6075.1	5985.2	5790.2	5559.7	5369.9	4997.7	4843.4	4656.2	4540.0	4489.1
40°	6073.4	6084.4	6069.2	5980.9	5802.2	5664.0	5458.8	5306.3	5123.2	4950.3	4846.9
42.5°	5900.4	5915.7	5984.4	6030.1	5981.9	5897.9	5861.5	5747.9	5583.4	5400.3	5257.2
45°	5663.2	5676.7	5765.7	5931.0	6069.2	6092.8	6214.0	6157.3	6018.3	5862.2	5704.6
47.5°	5299.6	5325.7	5429.1	5691.9	6020.8	6249.7	6509.9	6536.2	6455.7	6326.9	6179.4
50°	4773.1	4807.9	4952.7	5326.6	5837.7	6410.8	6949.8	7049.9	7017.6	6887.1	6737.9
52.5°	4234.0	4268.7	4462.1	4859.6	5542.7	6476.9	7383.0	7638.9	7823.8	7958.5	7984.9
55°	3672.9	3711.8	3923.7	4381.6	5149.4	6393.0	7692.4	7983.1	8170.4	8311.2	8368.0
57.5°	3039.7	3083.7	3288.9	3751.7	4593.5	6055.6	8036.5	8448.5	8727.4	8944.3	9066.5
60°	2313.2	2368.3	2581.1	3047.3	3862.7	5409.7	8189.9	8799.3	9242.8	9568.2	9761.5
62.5°	1466.5	1522.4	1743.6	2227.5	3031.2	4527.3	7756.0	8645.2	9401.2	9882.8	10237.1
65°	800.2	824.7	947.6	1312.2	2043.6	3512.6	6655.7	7704.3	8793.5	9475.9	10020.1
67.5°	600.2	603.5	616.2	705.2	1088.3	2371.7	5203.7	6164.1	7373.6	8251.8	8901.9
70°	525.6	525.6	527.2	528.1	590.8	1285.0	3525.4	4409.5	5518.2	6406.5	7214.3
72.5°	471.3	466.2	464.6	454.4	462.7	658.5	1919.0	2713.3	3648.2	4645.0	5398.6
75°	406.8	406.0	406.0	395.9	401.0	463.6	832.4	1302.1	2026.8	2954.9	3696.5
77.5°	351.7	345.8	346.7	340.7	356.8	355.2	395.1	536.6	882.3	1552.0	2167.4
80°	290.0	285.7	288.1	284.9	310.3	262.8	266.2	328.1	438.3	680.6	959.5
82.5°	214.4	216.1	232.2	230.5	261.0	177.1	194.9	245.0	295.0	339.1	368.8
85°	125.5	128.0	166.9	175.4	191.6	93.2	119.6	145.7	164.4	182.3	189.9
87.5°	13.6	17.7	93.2	95.8	85.6	27.9	48.2	61.1	65.2	69.4	61.1
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°	1154.5	1154.5	1154.5	1154.5	1154.5	1154.5	1154.5	1154.5	1154.5	1154.5	1154.5
2.5°	1243.6	1232.5	1220.5	1213.8	1201.9	1191.8	1173.1	1157.8	1140.9	1129.1	1124.0
5°	1389.3	1363.0	1335.1	1314.7	1289.2	1267.1	1224.8	1173.9	1157.8	1124.0	1115.4
7.5°	1579.2	1531.7	1484.2	1445.3	1401.1	1364.7	1293.5	1201.9	1190.2	1135.8	1124.0
10°	1802.1	1732.7	1662.3	1602.0	1537.5	1481.7	1376.7	1247.7	1235.0	1165.6	1153.7
12.5°	2051.3	1966.5	1875.8	1786.0	1709.7	1630.9	1487.7	1318.9	1298.6	1216.3	1200.2
15°	2308.1	2216.6	2111.5	2003.0	1908.9	1804.7	1624.0	1412.1	1374.9	1278.3	1256.2
17.5°	2561.5	2462.4	2352.2	2231.0	2120.8	1996.3	1771.5	1516.5	1452.0	1339.4	1311.3
20°	2806.6	2705.7	2589.5	2470.9	2333.5	2191.1	1922.5	1619.0	1520.7	1390.1	1353.7
22.5°	3029.4	2943.0	2826.8	2690.5	2551.5	2391.2	2076.0	1721.6	1580.8	1429.2	1382.5
25°	3264.4	3185.5	3070.1	2938.7	2776.9	2598.8	2234.4	1819.1	1629.2	1450.4	1392.7
27.5°	3501.7	3433.9	3325.3	3187.1	3013.4	2815.8	2395.4	1908.9	1668.2	1457.1	1387.6
30°	3755.1	3702.5	3602.6	3448.2	3272.7	3054.1	2570.9	1997.0	1692.8	1447.8	1364.7
32.5°	3994.9	3993.2	3904.3	3744.0	3555.0	3314.2	2755.7	2086.0	1705.4	1421.5	1324.9
35°	4244.1	4278.9	4212.0	4059.4	3860.1	3593.2	2959.9	2180.9	1706.3	1374.9	1273.2
37.5°	4527.3	4589.1	4559.4	4414.5	4205.1	3911.0	3199.9	2287.9	1701.2	1310.4	1197.7
40°	4849.4	4934.1	4933.3	4811.2	4587.5	4267.0	3478.7	2407.3	1689.4	1229.9	1108.7
42.5°	5218.2	5319.0	5346.9	5226.6	5000.2	4656.2	3798.4	2538.7	1670.7	1150.3	1014.6
45°	5640.3	5729.2	5781.9	5669.9	5442.7	5079.9	4165.4	2687.9	1647.9	1047.8	907.0
47.5°	6092.0	6195.4	6274.3	6178.5	5936.1	5563.2	4600.2	2880.2	1639.3	930.7	790.9
50°	6652.3	6759.1	6929.5	6886.2	6753.2	6453.2	5519.8	3334.7	1642.7	819.7	693.4
52.5°	8042.4	8287.5	8502.7	8407.0	8090.8	7576.2	6267.6	3587.2	1571.6	729.0	625.6
55°	8462.0	8740.1	9058.0	9018.2	8714.6	8195.9	6858.3	3798.4	1502.9	662.9	581.6
57.5°	9196.0	9524.2	9968.3	9959.9	9587.7	9003.7	7618.6	4050.8	1473.2	624.7	559.5
60°	9973.4	10391.4	11005.0	11100.7	10696.5	10088.7	8517.2	4361.1	1477.4	603.5	546.7
62.5°	10541.3	11154.2	12046.7	12333.3	11856.9	11187.2	9449.6	4671.4	1452.0	579.0	531.4
65°	10576.0	11458.5	12724.9	13170.7	12688.4	11828.1	9778.4	4610.3	1299.5	545.9	507.0
67.5°	9728.5	10877.8	12416.4	12905.4	12412.2	11433.1	9202.1	4030.5	1056.1	488.3	464.6
70°	8102.6	9436.9	11033.8	11578.9	11171.1	10180.2	8008.6	3219.3	789.2	412.0	401.0
72.5°	6261.5	7505.9	8956.2	9460.6	9148.7	8277.3	6316.6	2346.4	563.6	334.0	325.5
75°	4476.4	5536.0	6588.8	6781.1	6473.5	5673.2	4098.3	1465.6	395.1	273.9	261.9
77.5°	2771.8	3460.9	3838.9	3591.5	3199.0	2659.1	1668.2	723.9	262.8	222.9	211.0
80°	1229.9	1443.5	1347.7	1201.2	948.5	779.8	509.3	321.2	169.5	172.0	165.3
82.5°	413.7	437.4	425.4	423.0	381.4	334.0	216.1	139.0	95.0	110.2	107.6
85°	201.7	211.0	211.9	219.5	190.7	148.3	58.5	55.1	40.8	59.4	61.9
87.5°	61.1	61.9	56.0	61.1	49.1	33.9	11.0	15.2	7.6	14.5	14.5
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°	1154.5	1154.5	1154.5	1154.5	1154.5	1154.5	1154.5	1154.5	1154.5	1154.5	1154.5
2.5°	1114.6	1111.3	1105.4	1098.5	1096.8	1088.3	1085.8	1081.6	1079.0	1074.8	1071.4
5°	1104.5	1098.5	1091.8	1084.2	1084.2	1072.2	1067.1	1062.1	1062.1	1054.5	1051.0
7.5°	1114.6	1107.0	1099.3	1092.6	1095.2	1081.6	1076.4	1071.4	1070.6	1063.0	1059.6
10°	1143.5	1135.8	1126.6	1119.7	1117.2	1106.2	1100.2	1092.6	1087.5	1082.5	1077.3
12.5°	1187.6	1177.4	1165.6	1151.1	1145.2	1135.8	1126.6	1116.4	1104.5	1099.3	1091.8
15°	1240.1	1223.1	1207.1	1189.3	1173.1	1163.8	1151.1	1135.0	1118.8	1112.1	1102.0
17.5°	1283.4	1265.5	1242.6	1221.4	1192.6	1185.0	1167.2	1147.8	1121.4	1118.8	1103.7
20°	1319.8	1292.8	1264.8	1239.2	1195.1	1191.0	1169.0	1146.0	1108.7	1108.7	1090.1
22.5°	1340.1	1302.8	1269.8	1235.9	1180.8	1177.4	1151.9	1124.8	1079.0	1080.8	1057.8
25°	1343.5	1298.6	1257.1	1216.3	1152.9	1146.9	1114.6	1085.1	1034.9	1031.6	1007.9
27.5°	1330.0	1277.4	1229.2	1180.0	1111.3	1098.5	1063.0	1027.3	978.2	969.7	944.3
30°	1298.6	1236.7	1182.4	1125.7	1053.6	1033.3	996.0	959.5	909.5	898.6	874.8
32.5°	1248.6	1178.2	1118.0	1061.3	981.6	956.2	918.8	882.3	834.0	825.6	803.5
35°	1182.4	1103.7	1040.1	980.0	900.2	874.0	838.3	806.0	762.0	758.7	743.3
37.5°	1099.3	1017.2	949.4	891.7	816.3	802.7	766.3	742.4	706.1	709.5	701.8
40°	1005.4	921.4	857.0	806.0	740.8	729.0	707.0	689.1	657.7	667.1	667.9
42.5°	910.3	826.4	768.1	722.1	666.3	658.5	643.4	633.1	609.5	628.2	635.7
45°	802.7	724.8	674.7	640.0	598.5	598.5	590.8	589.9	573.8	600.2	607.8
47.5°	698.4	637.4	602.7	581.6	552.6	566.2	563.6	570.5	558.6	585.8	592.5
50°	619.7	577.3	556.1	545.9	525.6	546.7	551.7	561.1	551.0	574.6	579.8
52.5°	569.6	541.7	529.8	527.2	512.8	539.2	547.5	556.1	544.3	566.2	565.4
55°	541.7	523.1	518.7	523.8	512.8	538.3	546.7	552.6	542.4	557.8	556.9
57.5°	531.4	521.2	523.8	531.4	523.8	545.0	549.3	556.1	545.9	552.6	556.1
60°	530.5	530.5	540.8	551.0	545.9	561.1	563.6	562.9	553.5	554.3	556.1
62.5°	525.6	538.3	555.2	571.3	569.6	588.3	589.9	579.0	571.3	562.9	560.4
65°	509.3	530.5	555.2	577.3	580.7	609.5	612.9	601.9	596.7	582.3	571.3
67.5°	473.9	501.0	529.8	556.9	562.9	601.9	609.5	613.7	616.2	607.0	592.5
70°	413.7	441.6	471.3	502.6	511.1	554.3	570.5	589.9	605.2	618.8	613.7
72.5°	336.5	361.9	387.3	416.2	428.9	473.9	495.1	528.9	552.6	587.4	601.9
75°	266.9	282.2	297.5	315.3	325.5	369.6	395.9	436.5	468.7	517.1	549.3
77.5°	210.3	217.8	225.5	233.1	237.3	261.9	283.1	323.7	361.1	422.2	469.6
80°	162.0	166.1	166.9	169.5	167.9	179.8	187.3	211.9	244.1	304.3	360.2
82.5°	104.3	107.6	109.4	113.5	105.1	120.4	125.5	128.0	144.9	189.1	228.9
85°	58.5	59.4	60.1	61.9	50.0	65.2	66.1	61.9	60.1	78.1	88.2
87.5°	14.5	13.6	14.5	14.5	5.8	13.6	13.6	9.3	6.7	12.8	10.2
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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CANDELA DISTRIBUTION (continued):

	135°	145°	155°	165°	175°	180°
0°	1154.5	1154.5	1154.5	1154.5	1154.5	1154.5
2.5°	1063.9	1062.1	1063.0	1058.7	1057.0	1057.8
5°	1046.9	1043.4	1043.4	1040.9	1037.5	1037.5
7.5°	1054.5	1047.8	1045.2	1040.1	1034.9	1035.8
10°	1066.4	1054.5	1045.9	1038.4	1032.4	1032.4
12.5°	1074.0	1052.8	1040.1	1029.8	1023.1	1023.1
15°	1075.7	1043.4	1024.7	1013.7	1007.0	1007.0
17.5°	1065.5	1024.7	1001.2	986.7	979.1	980.7
20°	1040.1	990.0	962.1	946.9	939.2	940.0
22.5°	1000.3	942.6	910.3	892.6	884.9	884.9
25°	945.9	883.3	848.4	834.0	827.2	827.2
27.5°	884.1	819.7	789.2	778.1	773.9	773.9
30°	814.7	761.1	739.1	731.5	724.8	724.8
32.5°	756.2	717.9	710.3	700.1	682.4	681.5
35°	709.5	705.2	699.3	668.8	643.4	640.0
37.5°	684.1	709.5	672.2	619.7	599.3	598.5
40°	670.5	694.2	629.8	604.4	601.9	601.9
42.5°	638.2	655.3	627.2	612.9	612.9	613.7
45°	604.4	618.8	633.1	620.5	624.7	625.6
47.5°	580.7	609.5	633.1	622.2	630.6	635.7
50°	558.6	601.0	620.5	620.5	629.8	630.6
52.5°	553.5	589.1	608.6	617.9	618.8	614.5
55°	554.3	579.8	599.3	611.1	606.0	606.0
57.5°	553.5	574.6	591.7	595.8	598.5	598.5
60°	554.3	567.9	581.6	579.8	588.3	588.3
62.5°	556.9	558.6	565.4	563.6	576.4	576.4
65°	562.9	546.7	542.4	544.3	559.5	558.6
67.5°	573.8	530.5	517.1	518.0	539.9	536.6
70°	589.9	508.6	488.3	483.2	520.5	514.5
72.5°	595.0	483.2	450.9	445.9	467.8	450.9
75°	571.3	462.7	411.2	394.1	384.8	379.8
77.5°	509.3	450.1	369.6	334.0	319.5	316.2
80°	422.2	423.8	315.3	272.9	317.0	316.2
82.5°	318.7	366.1	252.7	236.6	229.6	191.6
85°	154.2	275.5	194.2	162.8	97.5	92.3
87.5°	13.6	115.3	111.8	72.9	33.1	31.4
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)