

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: P146612

Luminaire Tested: **LDRL-T3-E04-E-7060**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P146612  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33695)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: LDRL-T3-E04-E-7060  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 3  
Light Source: (84) 5700K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12255 lumens  
Efficiency: N/A  
Efficacy: 126.1 lumens/watt  
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')  
IES Classification: Type III - Short - Semi-Cutoff  
BUG Rating: B3 - U0 - G3

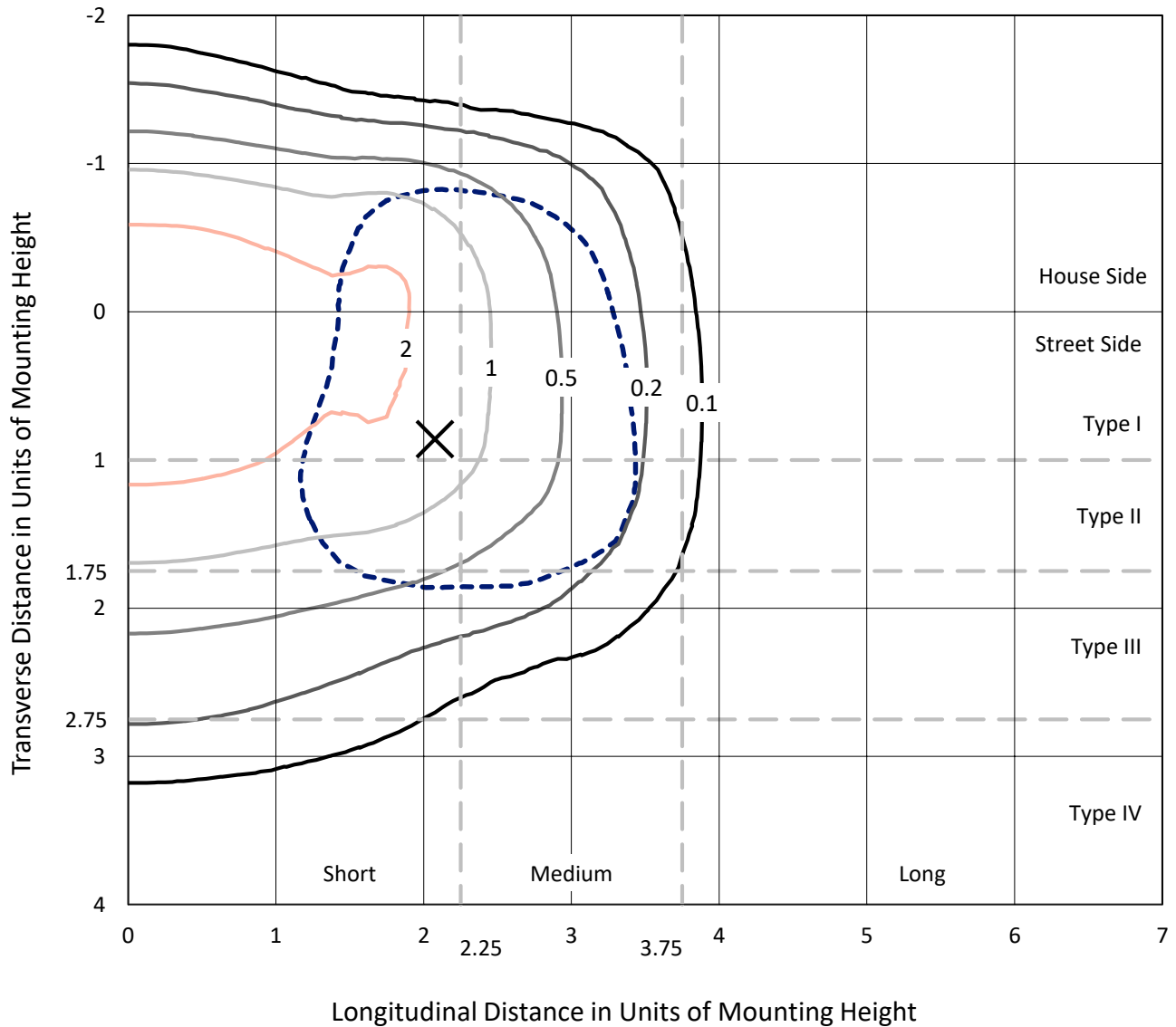
Input Watts (W): 97.2  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

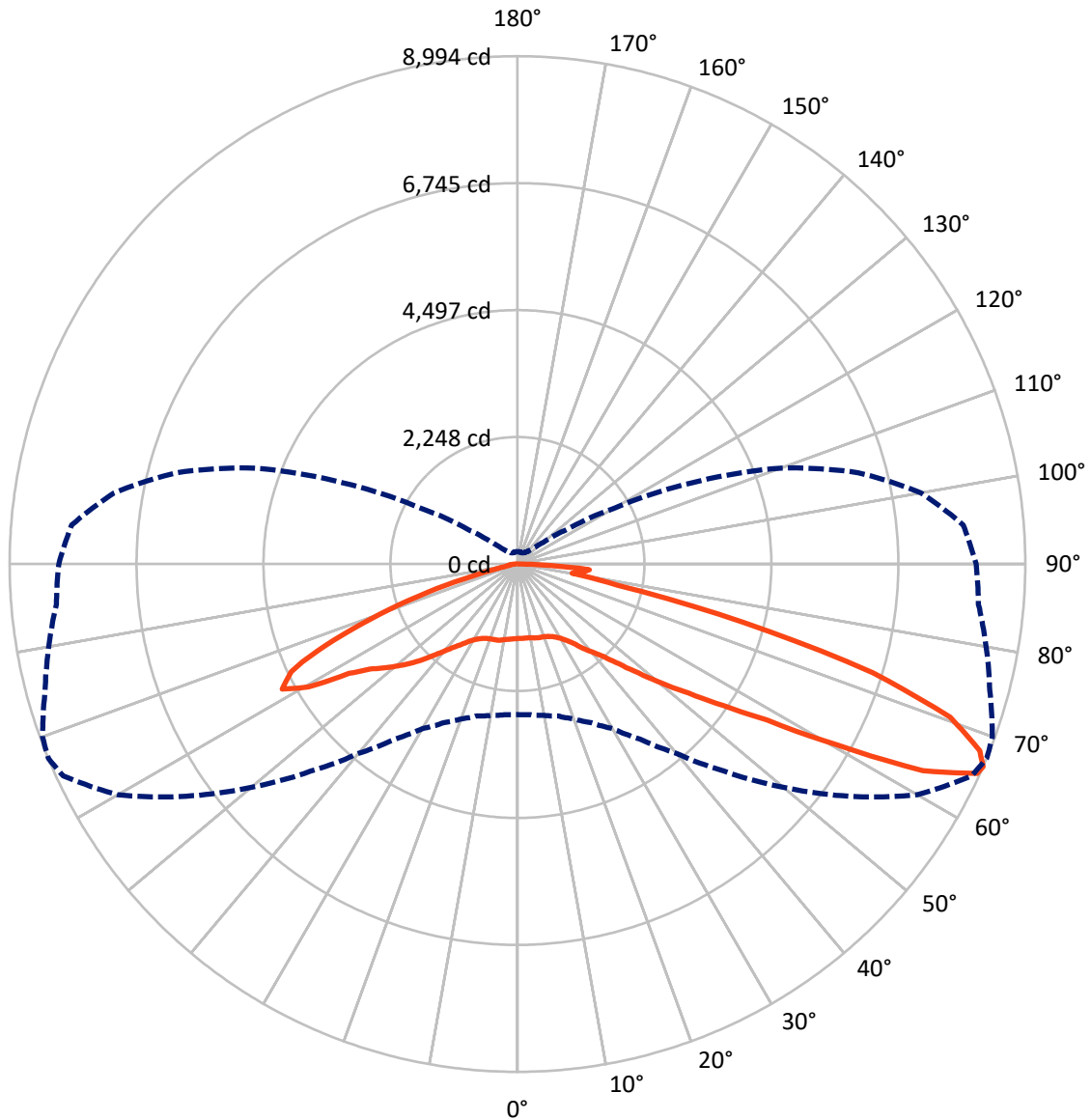
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.3 fc  
 Type III - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 67.5-Deg Lateral    - - - Horizontal Cone Through 66-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4163.4	0.0	4163.4
	% Fixture	34.0	0.0	34.0
<b>Street Side</b>	Lumens	8091.6	0.0	8091.6
	% Fixture	66.0	0.0	66.0
<b>Total</b>	Lumens	12255.0	0.0	12255.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	126.7	1.0
10°-20°	375.5	3.1
20°-30°	645.5	5.3
30°-40°	1038.2	8.5
40°-50°	1711.2	14.0
50°-60°	2682.3	21.9
60°-70°	3712.2	30.3
70°-80°	1680.0	13.7
80°-90°	283.4	2.3
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°	12255.0	100.0
0°-180°	12255.0	100.0



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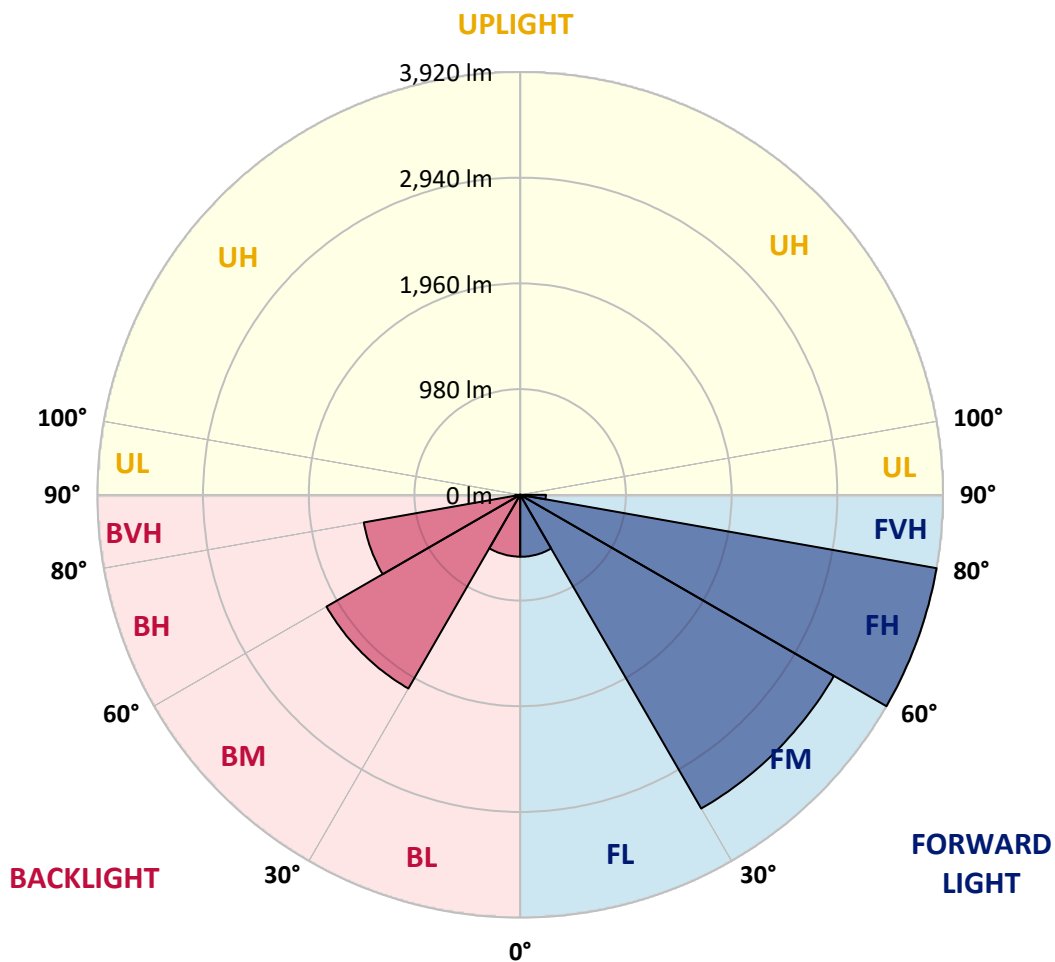
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	574.8	4.7			
FM	(30°-60°)	3358.3	27.4			
FH	(60°-80°)	3920.3	32.0			G2/5000
FVH	(80°-90°)	238.2	1.9			G3/500
BL	(0°-30°)	572.9	4.7	B2/1000		
BM	(30°-60°)	2073.4	16.9	B2/2500		
BH	(60°-80°)	1471.8	12.0	B3/2500		G3/2500
BVH	(80°-90°)	45.2	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G3**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1319.2	1319.2	1319.2	1319.2	1319.2	1319.2	1319.2	1319.2	1319.2	1319.2	1319.2
2.5°	1317.5	1316.7	1315.9	1315.9	1315.1	1315.9	1316.7	1317.5	1316.7	1317.5	1316.7
5°	1315.1	1315.1	1314.2	1314.2	1314.2	1314.2	1315.1	1315.9	1315.1	1316.7	1315.1
7.5°	1304.4	1309.3	1307.7	1309.3	1311.0	1312.6	1313.4	1315.1	1317.5	1319.2	1317.5
10°	1290.4	1292.9	1293.7	1295.4	1298.6	1302.7	1306.0	1310.1	1315.9	1317.5	1319.2
12.5°	1265.0	1268.3	1270.7	1274.0	1278.9	1285.5	1291.3	1297.8	1307.7	1314.2	1320.0
15°	1246.1	1250.2	1251.0	1255.1	1260.1	1267.4	1274.8	1284.7	1297.8	1309.3	1320.8
17.5°	1258.4	1260.1	1258.4	1258.4	1260.1	1263.3	1269.1	1277.3	1291.3	1305.2	1319.2
20°	1295.4	1295.4	1293.7	1292.9	1291.3	1288.0	1287.1	1286.3	1295.4	1306.0	1318.3
22.5°	1330.7	1330.7	1329.8	1333.1	1332.3	1332.3	1329.8	1325.7	1321.6	1320.0	1328.2
25°	1352.8	1356.1	1357.7	1362.7	1366.0	1370.9	1372.5	1371.7	1366.0	1356.1	1353.6
27.5°	1388.9	1391.4	1393.0	1398.8	1405.4	1411.1	1416.8	1424.2	1424.2	1415.2	1402.9
30°	1458.7	1455.4	1457.1	1458.7	1464.5	1472.7	1480.1	1489.9	1494.8	1491.5	1475.1
32.5°	1523.6	1526.8	1528.5	1533.4	1539.2	1551.5	1560.5	1572.0	1582.7	1584.3	1576.1
35°	1618.8	1617.1	1614.7	1631.9	1638.5	1652.4	1663.1	1679.5	1687.7	1695.1	1690.2
37.5°	1769.0	1764.1	1760.8	1765.7	1774.8	1783.8	1799.4	1811.7	1825.6	1842.9	1837.1
40°	1981.6	1991.5	1977.5	1984.1	1991.5	1970.9	1984.9	1996.4	2020.2	2021.0	2020.2
42.5°	2258.3	2265.6	2262.4	2266.5	2253.3	2246.8	2241.0	2246.8	2276.3	2272.2	2252.5
45°	2534.9	2545.6	2543.1	2544.7	2570.2	2559.5	2568.5	2570.2	2600.6	2592.4	2577.6
47.5°	2771.3	2789.4	2793.5	2808.2	2842.7	2870.6	2909.2	2937.9	2952.7	2962.6	2974.1
50°	2958.5	2971.6	2994.6	3031.5	3081.6	3130.0	3217.0	3273.7	3325.4	3361.5	3398.5
52.5°	3082.4	3097.2	3132.5	3188.3	3260.6	3349.2	3451.0	3569.2	3678.4	3742.4	3797.4
55°	3133.3	3148.1	3191.6	3264.7	3360.7	3474.0	3620.1	3786.7	3932.0	4079.0	4163.5
57.5°	3103.8	3120.2	3170.3	3252.3	3368.1	3516.7	3698.1	3902.5	4115.1	4337.6	4507.5
60°	3016.8	3031.5	3088.2	3173.5	3305.7	3473.2	3690.7	3946.8	4245.6	4575.6	4898.2
62.5°	2896.9	2919.1	2969.1	3056.2	3187.5	3370.6	3618.5	3951.7	4380.2	4912.2	5540.1
65°	2744.2	2760.6	2805.0	2873.9	3018.4	3209.7	3471.5	3879.5	4439.3	5193.7	6090.1
66°	2665.4	2681.0	2722.1	2786.9	2919.1	3102.9	3364.8	3782.6	4373.7	5192.1	6148.4
67.5°	2526.7	2534.1	2563.6	2627.7	2713.8	2878.8	3121.8	3513.4	4095.4	4972.9	5985.9
70°	2119.5	2130.2	2158.9	2191.8	2223.8	2282.9	2452.8	2711.4	3176.8	4018.2	4984.4
72.5°	1466.1	1482.5	1513.7	1574.5	1624.5	1699.2	1765.7	1851.9	2006.2	2590.7	3565.9
75°	1059.8	1065.5	1111.5	1218.2	1319.2	1468.6	1600.7	1642.6	1590.1	1581.0	2094.9
77.5°	632.1	640.3	706.8	814.3	919.4	1122.1	1393.0	1602.4	1718.1	1677.1	1585.9
80°	266.0	277.5	316.9	344.8	431.8	601.7	869.3	1197.7	1503.0	1691.0	1648.3
82.5°	85.4	99.3	117.4	142.0	167.5	224.1	347.2	519.6	820.9	1223.9	1504.7
85°	31.2	32.0	44.3	61.6	68.1	78.8	101.0	156.0	277.5	458.9	853.7
87.5°	12.3	14.8	17.2	23.8	24.6	25.4	28.7	36.9	36.1	31.2	161.7
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):**

	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°	100°
0°	1319.2	1319.2	1319.2	1319.2	1319.2	1319.2	1319.2	1319.2	1319.2	1319.2	1319.2
2.5°	1317.5	1319.2	1318.3	1319.2	1319.2	1317.5	1317.5	1320.8	1318.3	1320.0	1320.0
5°	1316.7	1318.3	1317.5	1319.2	1318.3	1318.3	1323.3	1322.4	1324.9	1326.5	1326.5
7.5°	1320.0	1320.8	1320.0	1320.0	1322.4	1321.6	1322.4	1324.1	1328.2	1332.3	1335.6
10°	1324.1	1325.7	1328.2	1329.0	1332.3	1331.5	1333.9	1336.4	1340.5	1344.6	1348.7
12.5°	1329.8	1334.8	1342.1	1343.8	1347.1	1349.5	1353.6	1356.1	1359.4	1366.0	1370.9
15°	1334.8	1343.8	1352.8	1356.1	1359.4	1362.7	1366.8	1369.2	1375.0	1380.7	1386.5
17.5°	1336.4	1347.1	1358.6	1362.7	1366.0	1371.7	1376.6	1381.5	1388.1	1395.5	1402.1
20°	1337.2	1352.0	1366.8	1371.7	1379.1	1387.3	1395.5	1399.6	1408.6	1417.7	1423.4
22.5°	1344.6	1362.7	1383.2	1392.2	1399.6	1414.4	1425.1	1431.6	1442.3	1449.7	1452.1
25°	1365.1	1384.0	1408.6	1422.6	1434.9	1456.2	1469.4	1481.7	1487.4	1497.3	1494.8
27.5°	1402.1	1416.8	1448.9	1467.7	1483.3	1511.2	1536.7	1548.2	1557.2	1562.1	1556.4
30°	1465.3	1471.0	1506.3	1529.3	1555.6	1599.1	1627.0	1641.8	1653.3	1654.1	1639.3
32.5°	1559.7	1550.7	1581.8	1614.7	1649.2	1701.7	1739.5	1755.1	1764.1	1764.9	1732.1
35°	1687.7	1672.1	1698.4	1730.4	1773.1	1842.1	1889.7	1907.7	1921.7	1915.1	1866.7
37.5°	1849.5	1848.6	1860.9	1902.0	1950.4	2039.1	2089.2	2099.0	2098.2	2078.5	2005.4
40°	2029.2	2014.5	2016.1	2045.6	2101.5	2218.0	2287.8	2304.2	2298.5	2269.7	2174.5
42.5°	2255.8	2249.2	2227.1	2242.7	2294.4	2436.4	2520.9	2537.4	2542.3	2494.7	2382.2
45°	2573.5	2567.7	2518.5	2521.8	2559.5	2708.9	2796.8	2823.8	2824.7	2779.5	2633.4
47.5°	2958.5	2953.5	2896.1	2879.7	2898.5	3031.5	3140.7	3146.4	3148.1	3085.7	2933.8
50°	3395.2	3381.2	3337.7	3320.5	3298.3	3445.3	3533.1	3532.3	3523.2	3454.3	3283.5
52.5°	3817.1	3848.3	3831.9	3798.2	3799.1	3904.9	3987.9	3941.9	3947.6	3882.0	3685.8
55°	4267.8	4347.4	4407.3	4419.6	4413.9	4468.1	4514.0	4432.0	4401.6	4390.9	4182.4
57.5°	4746.4	4949.9	5134.6	5211.8	5182.2	5281.6	5322.6	5237.2	5238.9	5322.6	5142.8
60°	5385.8	5899.7	6365.1	6509.6	6576.9	6741.1	6668.0	6663.1	6792.0	6900.4	6567.1
62.5°	6356.1	7207.4	7950.3	8057.8	8112.0	8148.9	8116.1	8026.6	8159.6	8172.7	7658.9
65°	7091.6	8090.6	8808.9	8943.5	8933.7	8745.7	8563.5	8384.5	8382.9	8251.5	7589.9
66°	7171.2	8174.4	8874.6	8993.6	8950.1	8660.3	8428.8	8196.5	8121.8	7924.8	7253.3
67.5°	6997.2	8028.2	8723.5	8830.3	8737.5	8296.7	7981.5	7667.1	7554.6	7280.4	6595.8
70°	5981.8	7044.0	7974.1	8128.4	8018.4	7433.1	6966.0	6620.4	6314.2	6044.2	5479.4
72.5°	4638.0	5432.6	6416.9	6577.7	6586.8	6128.7	5602.5	5270.9	4914.6	4643.7	4220.2
75°	3042.2	3643.1	4184.0	4129.9	4145.5	3785.1	3471.5	3195.7	2873.1	2659.7	2457.7
77.5°	1778.0	1993.1	1943.9	1809.2	1695.9	1333.1	953.9	655.1	571.3	596.0	672.3
80°	1545.7	1425.1	1115.6	981.0	892.3	605.8	325.9	229.8	201.9	204.4	216.7
82.5°	1663.9	1726.3	1416.8	1166.5	1017.1	713.3	383.4	191.3	137.9	160.9	177.3
85°	1291.3	1643.4	1515.4	1280.6	1077.0	758.5	391.6	121.5	82.1	110.0	138.7
87.5°	367.8	582.0	465.4	411.3	331.6	226.6	93.6	48.4	44.3	57.5	79.6
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°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	1319.2	1319.2	1319.2	1319.2	1319.2	1319.2	1319.2	1319.2	1319.2	1319.2	1319.2
2.5°	1320.8	1320.8	1323.3	1324.1	1324.9	1324.9	1326.5	1326.5	1327.4	1330.7	1329.8
5°	1329.0	1331.5	1334.8	1336.4	1338.9	1339.7	1342.1	1342.1	1344.6	1347.1	1346.3
7.5°	1338.9	1341.3	1343.8	1346.3	1348.7	1352.0	1351.2	1350.4	1349.5	1347.9	1346.3
10°	1352.8	1355.3	1357.7	1356.9	1355.3	1353.6	1347.1	1339.7	1336.4	1329.8	1324.9
12.5°	1375.8	1378.3	1375.8	1369.2	1360.2	1349.5	1335.6	1323.3	1315.9	1306.0	1300.3
15°	1393.0	1395.5	1390.6	1379.1	1364.3	1350.4	1331.5	1315.9	1302.7	1292.1	1283.9
17.5°	1406.2	1404.5	1393.9	1380.7	1365.1	1353.6	1336.4	1319.2	1303.6	1288.8	1277.3
20°	1425.1	1416.0	1400.4	1384.0	1368.4	1358.6	1344.6	1329.0	1312.6	1291.3	1276.5
22.5°	1449.7	1433.3	1412.7	1396.3	1381.5	1371.7	1357.7	1343.0	1327.4	1302.7	1282.2
25°	1485.0	1458.7	1434.9	1417.7	1404.5	1394.7	1377.4	1361.8	1344.6	1320.0	1293.7
27.5°	1534.2	1496.5	1471.8	1454.6	1441.5	1430.0	1407.8	1388.9	1366.8	1342.1	1311.0
30°	1598.3	1552.3	1525.2	1510.4	1496.5	1480.1	1456.2	1428.3	1399.6	1366.8	1333.1
32.5°	1677.9	1626.2	1600.7	1585.9	1567.9	1545.7	1514.5	1477.6	1434.9	1391.4	1349.5
35°	1791.2	1732.1	1704.2	1678.7	1652.4	1619.6	1572.8	1519.5	1462.8	1406.2	1354.5
37.5°	1903.6	1848.6	1814.2	1787.9	1746.8	1693.5	1628.6	1554.8	1479.2	1407.0	1344.6
40°	2062.9	1998.9	1958.6	1911.8	1845.3	1762.4	1668.0	1568.7	1475.1	1388.1	1314.2
42.5°	2258.3	2185.2	2125.3	2040.7	1937.3	1817.4	1686.9	1560.5	1446.4	1346.3	1265.0
45°	2505.3	2410.1	2310.0	2177.0	2018.6	1851.1	1686.1	1531.8	1397.1	1283.9	1203.4
47.5°	2793.5	2659.7	2491.4	2288.6	2071.9	1859.3	1659.8	1480.1	1323.3	1198.5	1105.7
50°	3089.8	2896.1	2657.2	2374.8	2099.0	1838.8	1601.5	1395.5	1226.4	1084.4	984.2
52.5°	3455.1	3154.7	2807.4	2433.1	2087.5	1778.0	1504.7	1276.5	1095.9	957.2	842.2
55°	3890.2	3451.8	2950.3	2465.1	2036.6	1668.9	1357.7	1120.5	930.9	804.5	701.0
57.5°	4610.1	3917.3	3194.1	2512.7	1936.5	1506.3	1178.8	933.3	755.2	647.7	564.8
60°	5851.3	4871.9	3709.6	2630.1	1797.7	1274.8	951.4	731.4	584.5	498.3	440.0
62.5°	6717.3	5450.7	3987.0	2589.9	1562.1	1003.9	703.5	522.9	426.0	369.4	330.0
65°	6549.0	5222.5	3652.9	2200.0	1223.9	710.1	467.9	353.8	298.8	263.5	243.8
66°	6246.9	4970.5	3398.5	1975.0	1061.4	591.9	385.8	293.1	256.9	231.5	218.4
67.5°	5696.1	4448.4	2941.2	1585.1	794.6	436.7	293.1	228.2	208.5	195.4	186.3
70°	4716.0	3517.5	2025.1	936.6	420.3	244.6	186.3	168.3	159.3	153.5	152.7
72.5°	3616.0	2523.4	1171.4	453.1	224.9	162.5	142.8	136.3	133.0	131.3	131.3
75°	2233.6	1423.4	523.7	227.4	155.1	133.0	124.0	120.7	119.8	119.8	119.8
77.5°	785.6	495.8	234.8	166.6	136.3	119.8	112.5	110.8	112.5	112.5	112.5
80°	216.7	191.3	169.9	147.8	123.1	110.8	104.3	103.4	106.7	107.5	104.3
82.5°	169.1	159.3	145.3	132.2	112.5	101.0	97.7	99.3	101.0	98.5	93.6
85°	144.5	137.9	101.8	101.8	91.1	87.8	87.0	88.7	87.8	81.3	74.7
87.5°	82.1	72.2	55.0	59.9	64.0	65.7	55.0	59.1	58.3	51.7	48.4
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):**

	160°	165°	170°	175°	180°
0°	1319.2	1319.2	1319.2	1319.2	1319.2
2.5°	1331.5	1331.5	1333.1	1333.1	1332.3
5°	1347.9	1347.9	1350.4	1348.7	1349.5
7.5°	1344.6	1341.3	1341.3	1339.7	1338.9
10°	1321.6	1315.9	1312.6	1314.2	1311.8
12.5°	1295.4	1290.4	1287.1	1286.3	1285.5
15°	1278.9	1273.2	1270.7	1269.1	1269.1
17.5°	1269.9	1263.3	1260.1	1257.6	1256.8
20°	1265.8	1257.6	1252.7	1250.2	1248.6
22.5°	1267.4	1257.6	1251.0	1247.7	1246.1
25°	1274.0	1261.7	1253.5	1249.4	1246.9
27.5°	1285.5	1269.1	1260.1	1254.3	1251.0
30°	1299.5	1276.5	1263.3	1255.1	1251.8
32.5°	1308.5	1277.3	1260.9	1248.6	1245.3
35°	1306.8	1268.3	1246.9	1231.3	1228.9
37.5°	1290.4	1244.5	1218.2	1197.7	1195.2
40°	1255.1	1208.3	1178.0	1157.4	1152.5
42.5°	1205.9	1157.4	1124.6	1105.7	1099.2
45°	1133.6	1074.5	1044.2	1028.6	1019.5
47.5°	1031.9	976.0	942.4	929.2	917.7
50°	916.1	854.5	829.9	815.1	802.0
52.5°	779.8	727.3	708.4	694.5	683.8
55°	647.7	610.7	588.6	573.8	574.6
57.5°	520.4	498.3	486.0	470.4	472.0
60°	409.6	390.7	390.7	380.9	377.6
62.5°	312.8	305.4	302.9	299.6	293.9
65°	237.2	237.2	238.1	238.1	234.8
66°	213.4	215.9	219.2	219.2	215.1
67.5°	184.7	188.0	191.3	192.9	192.9
70°	152.7	156.8	158.4	160.1	159.3
72.5°	133.8	137.1	137.1	137.9	136.3
75°	121.5	123.1	124.0	122.3	121.5
77.5°	112.5	113.3	112.5	111.6	110.8
80°	101.8	101.0	98.5	95.2	94.4
82.5°	87.8	84.6	82.9	78.0	77.2
85°	70.6	66.5	63.2	56.6	53.4
87.5°	46.8	45.1	42.7	31.2	25.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)