

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: P146610

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146610
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
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 3
Light Source: (84) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11943.2 lumens
Efficiency: N/A
Efficacy: 122.9 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

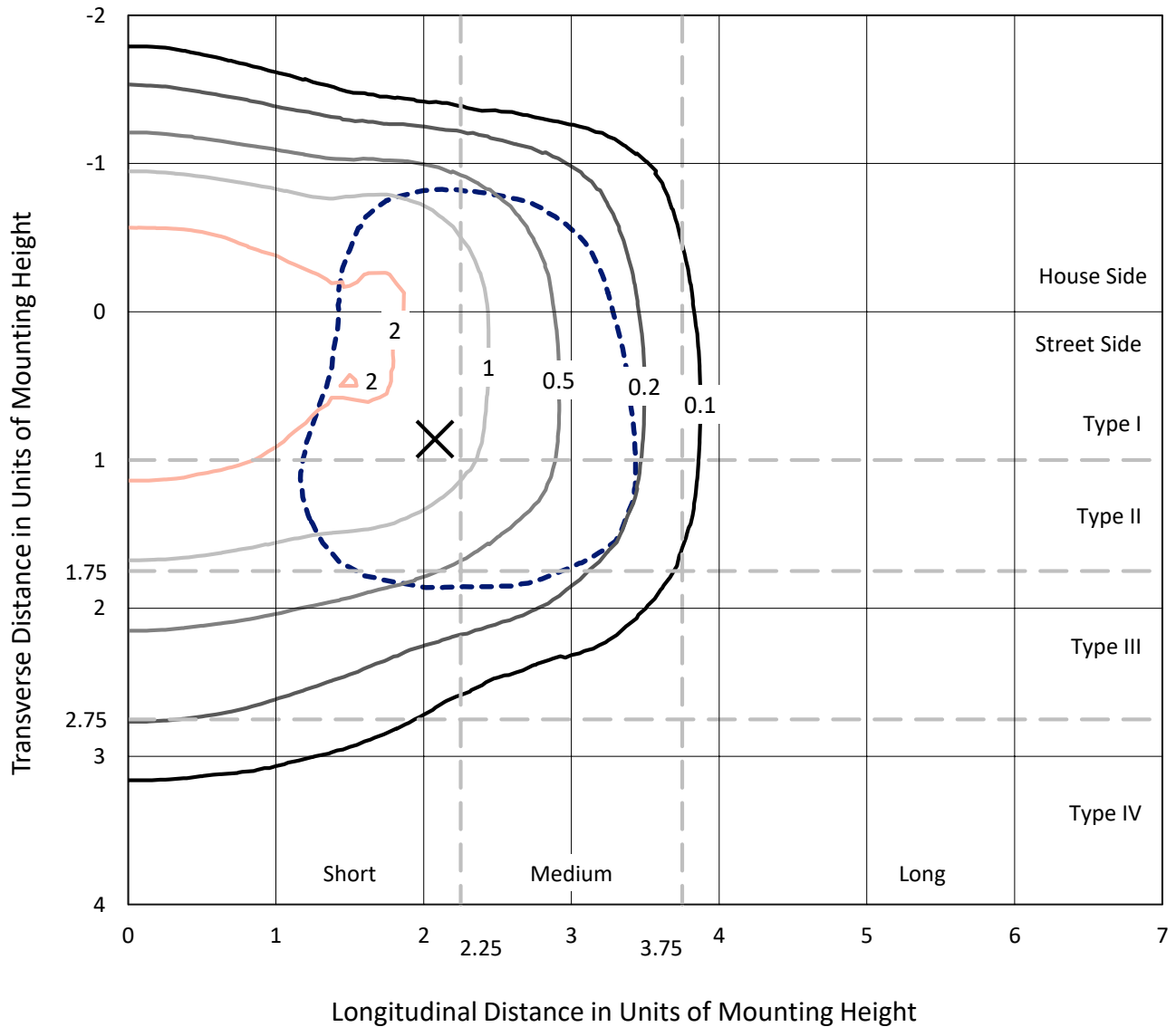
Input Watts (W): 97.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

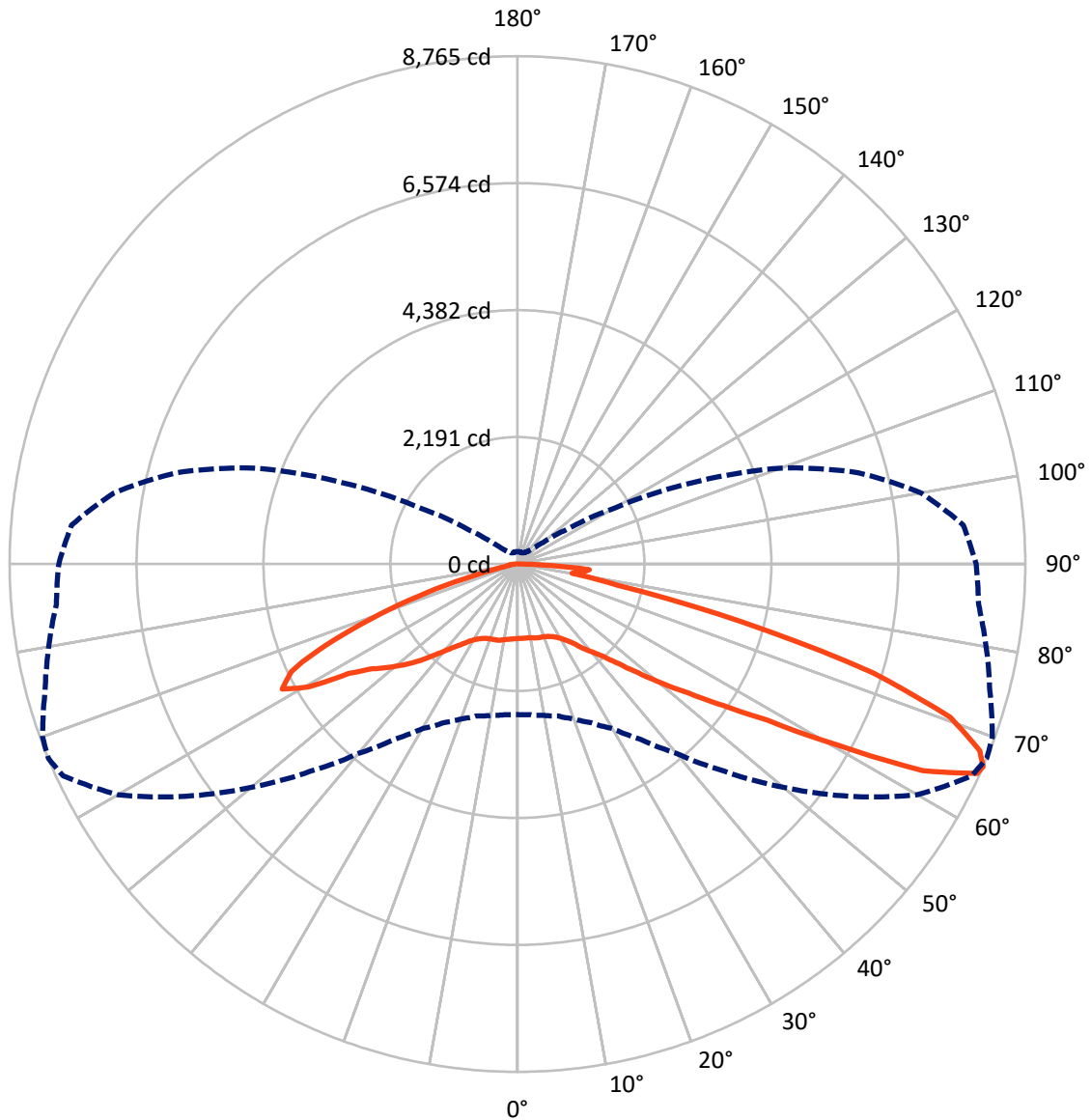
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.2 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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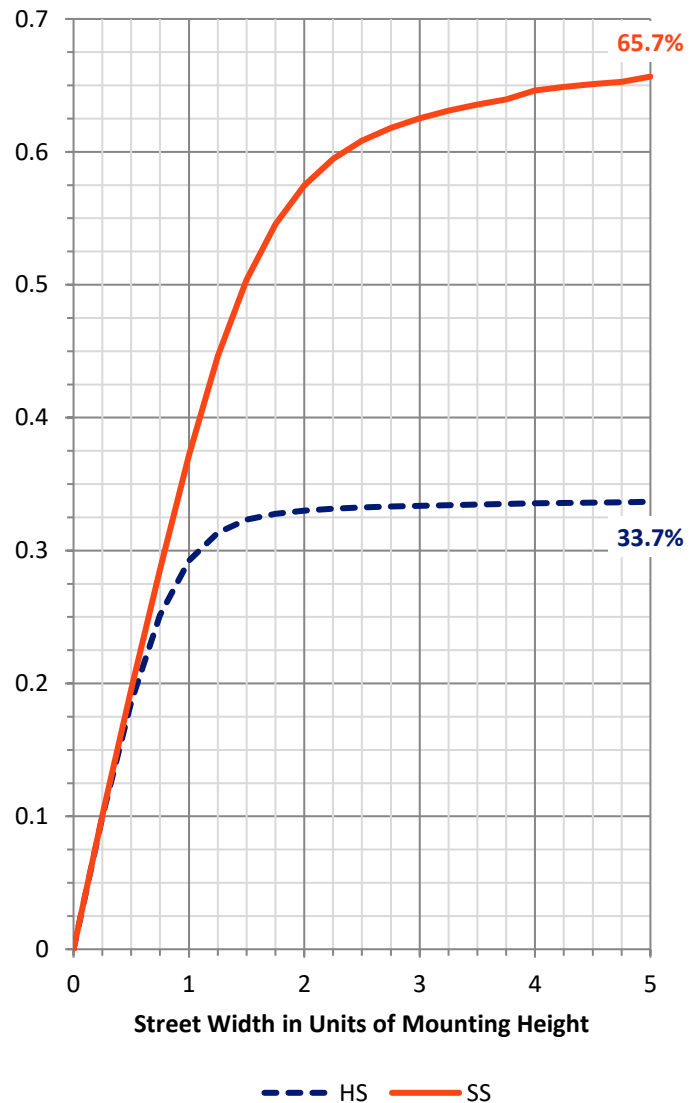
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4057.5	0.0	4057.5
	% Fixture	34.0	0.0	34.0
Street Side	Lumens	7885.7	0.0	7885.7
	% Fixture	66.0	0.0	66.0
Total	Lumens	11943.2	0.0	11943.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.5	1.0
10°-20°	365.9	3.1
20°-30°	629.1	5.3
30°-40°	1011.8	8.5
40°-50°	1667.7	14.0
50°-60°	2614.1	21.9
60°-70°	3617.7	30.3
70°-80°	1637.2	13.7
80°-90°	276.2	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°	11943.2	100.0
0°-180°	11943.2	100.0



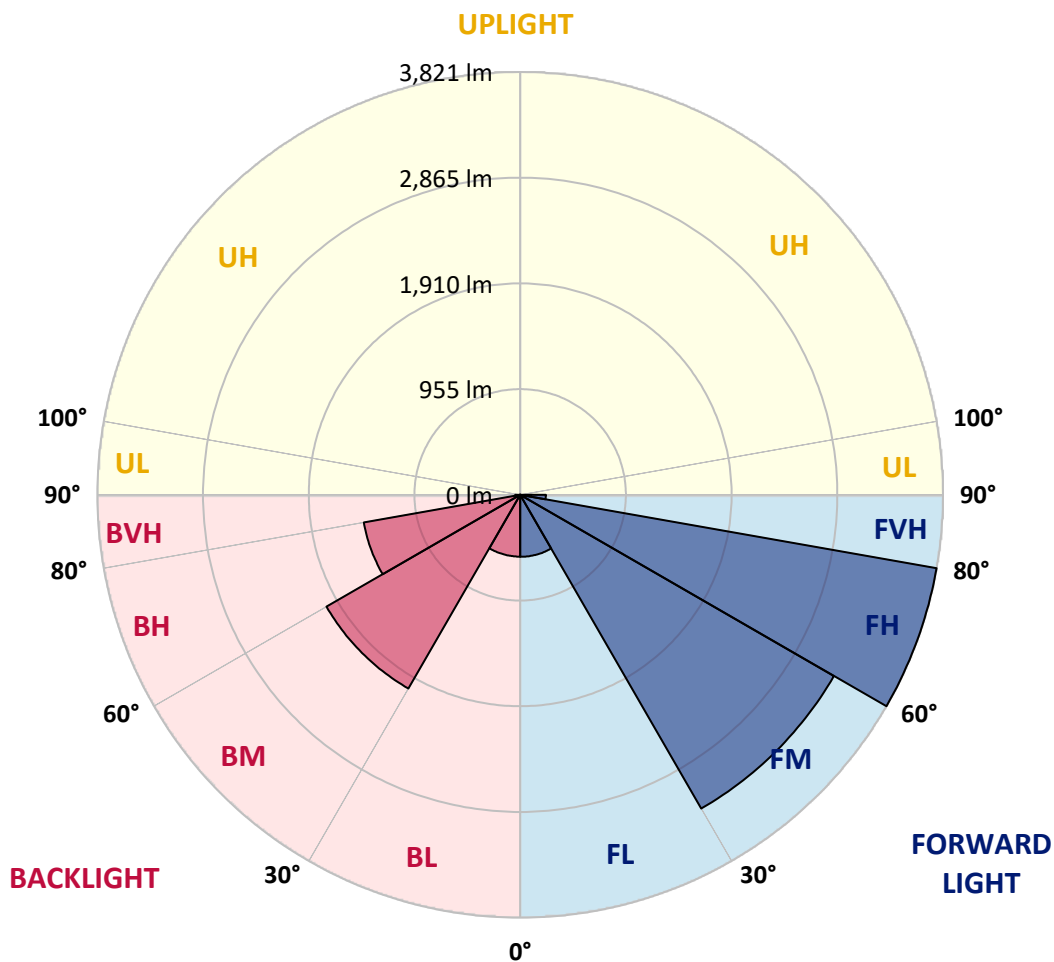
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	560.2	4.7			
FM (30°-60°)	3272.9	27.4			
FH (60°-80°)	3820.5	32.0			G2/5000
FVH (80°-90°)	232.1	1.9			G3/500
BL (0°-30°)	558.3	4.7	B2/1000		
BM (30°-60°)	2020.7	16.9	B2/2500		
BH (60°-80°)	1434.4	12.0	B3/2500		G3/2500
BVH (80°-90°)	44.1	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°	1285.6	1285.6	1285.6	1285.6	1285.6	1285.6	1285.6	1285.6	1285.6	1285.6	1285.6
2.5°	1284.0	1283.2	1282.4	1282.4	1281.6	1282.4	1283.2	1284.0	1283.2	1284.0	1283.2
5°	1281.6	1281.6	1280.8	1280.8	1280.8	1280.8	1281.6	1282.4	1281.6	1283.2	1281.6
7.5°	1271.2	1276.0	1274.4	1276.0	1277.6	1279.2	1280.0	1281.6	1284.0	1285.6	1284.0
10°	1257.6	1260.0	1260.8	1262.4	1265.6	1269.6	1272.8	1276.8	1282.4	1284.0	1285.6
12.5°	1232.8	1236.0	1238.4	1241.6	1246.4	1252.8	1258.4	1264.8	1274.4	1280.8	1286.4
15°	1214.4	1218.4	1219.2	1223.2	1228.0	1235.2	1242.4	1252.0	1264.8	1276.0	1287.2
17.5°	1226.4	1228.0	1226.4	1226.4	1228.0	1231.2	1236.8	1244.8	1258.4	1272.0	1285.6
20°	1262.4	1262.4	1260.8	1260.0	1258.4	1255.2	1254.4	1253.6	1262.4	1272.8	1284.8
22.5°	1296.8	1296.8	1296.0	1299.2	1298.4	1298.4	1296.0	1292.0	1288.0	1286.4	1294.4
25°	1318.4	1321.6	1323.2	1328.0	1331.2	1336.0	1337.6	1336.8	1331.2	1321.6	1319.2
27.5°	1353.6	1356.0	1357.6	1363.2	1369.6	1375.2	1380.8	1388.0	1388.0	1379.2	1367.2
30°	1421.6	1418.4	1420.0	1421.6	1427.2	1435.2	1442.4	1452.0	1456.8	1453.6	1437.6
32.5°	1484.8	1488.0	1489.6	1494.4	1500.0	1512.0	1520.8	1532.0	1542.4	1544.0	1536.0
35°	1577.6	1576.0	1573.6	1590.4	1596.8	1610.4	1620.8	1636.8	1644.8	1652.0	1647.2
37.5°	1724.0	1719.2	1716.0	1720.8	1729.6	1738.4	1753.6	1765.6	1779.2	1796.0	1790.4
40°	1931.2	1940.8	1927.2	1933.6	1940.8	1920.8	1934.4	1945.6	1968.8	1969.6	1968.8
42.5°	2200.8	2208.0	2204.8	2208.8	2196.0	2189.6	2184.0	2189.6	2218.4	2214.4	2195.2
45°	2470.4	2480.8	2478.4	2480.0	2504.8	2494.4	2503.2	2504.8	2534.4	2526.4	2512.0
47.5°	2700.8	2718.4	2722.4	2736.8	2770.4	2797.6	2835.2	2863.2	2877.6	2887.2	2898.4
50°	2883.2	2896.0	2918.4	2954.4	3003.2	3050.4	3135.2	3190.4	3240.8	3276.0	3312.0
52.5°	3004.0	3018.4	3052.8	3107.2	3177.6	3264.0	3363.2	3478.4	3584.8	3647.2	3700.8
55°	3053.6	3068.0	3110.4	3181.6	3275.2	3385.6	3528.0	3690.4	3832.0	3975.2	4057.6
57.5°	3024.8	3040.8	3089.6	3169.6	3282.4	3427.2	3604.0	3803.2	4010.4	4227.2	4392.8
60°	2940.0	2954.4	3009.6	3092.8	3221.6	3384.8	3596.8	3846.4	4137.6	4459.2	4773.6
62.5°	2823.2	2844.8	2893.6	2978.4	3106.4	3284.8	3526.4	3851.2	4268.8	4787.2	5399.2
65°	2674.4	2690.4	2733.6	2800.8	2941.6	3128.0	3383.2	3780.8	4326.4	5061.6	5935.2
66°	2597.6	2612.8	2652.8	2716.0	2844.8	3024.0	3279.2	3686.4	4262.4	5060.0	5992.0
67.5°	2462.4	2469.6	2498.4	2560.8	2644.8	2805.6	3042.4	3424.0	3991.2	4846.4	5833.6
70°	2065.6	2076.0	2104.0	2136.0	2167.2	2224.8	2390.4	2642.4	3096.0	3916.0	4857.6
72.5°	1428.8	1444.8	1475.2	1534.4	1583.2	1656.0	1720.8	1804.8	1955.2	2524.8	3475.2
75°	1032.8	1038.4	1083.2	1187.2	1285.6	1431.2	1560.0	1600.8	1549.6	1540.8	2041.6
77.5°	616.0	624.0	688.8	793.6	896.0	1093.6	1357.6	1561.6	1674.4	1634.4	1545.6
80°	259.2	270.4	308.8	336.0	420.8	586.4	847.2	1167.2	1464.8	1648.0	1606.4
82.5°	83.2	96.8	114.4	138.4	163.2	218.4	338.4	506.4	800.0	1192.8	1466.4
85°	30.4	31.2	43.2	60.0	66.4	76.8	98.4	152.0	270.4	447.2	832.0
87.5°	12.0	14.4	16.8	23.2	24.0	24.8	28.0	36.0	35.2	30.4	157.6
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):

	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°	100°
0°	1285.6	1285.6	1285.6	1285.6	1285.6	1285.6	1285.6	1285.6	1285.6	1285.6	1285.6
2.5°	1284.0	1285.6	1284.8	1285.6	1285.6	1284.0	1284.0	1287.2	1284.8	1286.4	1286.4
5°	1283.2	1284.8	1284.0	1285.6	1284.8	1284.8	1284.8	1289.6	1288.8	1291.2	1292.8
7.5°	1286.4	1287.2	1286.4	1286.4	1288.8	1288.0	1288.8	1290.4	1294.4	1298.4	1301.6
10°	1290.4	1292.0	1294.4	1295.2	1298.4	1297.6	1300.0	1302.4	1306.4	1310.4	1314.4
12.5°	1296.0	1300.8	1308.0	1309.6	1312.8	1315.2	1319.2	1321.6	1324.8	1331.2	1336.0
15°	1300.8	1309.6	1318.4	1321.6	1324.8	1328.0	1332.0	1334.4	1340.0	1345.6	1351.2
17.5°	1302.4	1312.8	1324.0	1328.0	1331.2	1336.8	1341.6	1346.4	1352.8	1360.0	1366.4
20°	1303.2	1317.6	1332.0	1336.8	1344.0	1352.0	1360.0	1364.0	1372.8	1381.6	1387.2
22.5°	1310.4	1328.0	1348.0	1356.8	1364.0	1378.4	1388.8	1395.2	1405.6	1412.8	1415.2
25°	1330.4	1348.8	1372.8	1386.4	1398.4	1419.2	1432.0	1444.0	1449.6	1459.2	1456.8
27.5°	1366.4	1380.8	1412.0	1430.4	1445.6	1472.8	1497.6	1508.8	1517.6	1522.4	1516.8
30°	1428.0	1433.6	1468.0	1490.4	1516.0	1558.4	1585.6	1600.0	1611.2	1612.0	1597.6
32.5°	1520.0	1511.2	1541.6	1573.6	1607.2	1658.4	1695.2	1710.4	1719.2	1720.0	1688.0
35°	1644.8	1629.6	1655.2	1686.4	1728.0	1795.2	1841.6	1859.2	1872.8	1866.4	1819.2
37.5°	1802.4	1801.6	1813.6	1853.6	1900.8	1987.2	2036.0	2045.6	2044.8	2025.6	1954.4
40°	1977.6	1963.2	1964.8	1993.6	2048.0	2161.6	2229.6	2245.6	2240.0	2212.0	2119.2
42.5°	2198.4	2192.0	2170.4	2185.6	2236.0	2374.4	2456.8	2472.8	2477.6	2431.2	2321.6
45°	2508.0	2502.4	2454.4	2457.6	2494.4	2640.0	2725.6	2752.0	2752.8	2708.8	2566.4
47.5°	2883.2	2878.4	2822.4	2806.4	2824.8	2954.4	3060.8	3066.4	3068.0	3007.2	2859.2
50°	3308.8	3295.2	3252.8	3236.0	3214.4	3357.6	3443.2	3442.4	3433.6	3366.4	3200.0
52.5°	3720.0	3750.4	3734.4	3701.6	3702.4	3805.6	3886.4	3841.6	3847.2	3783.2	3592.0
55°	4159.2	4236.8	4295.2	4307.2	4301.6	4354.4	4399.2	4319.2	4289.6	4279.2	4076.0
57.5°	4625.6	4824.0	5004.0	5079.2	5050.4	5147.2	5187.2	5104.0	5105.6	5187.2	5012.0
60°	5248.8	5749.6	6203.2	6344.0	6409.6	6569.6	6498.4	6493.6	6619.2	6724.8	6400.0
62.5°	6194.4	7024.0	7748.0	7852.8	7905.6	7941.6	7909.6	7822.4	7952.0	7964.8	7464.0
65°	6911.2	7884.8	8584.8	8716.0	8706.4	8523.2	8345.6	8171.2	8169.6	8041.6	7396.8
66°	6988.8	7966.4	8648.8	8764.8	8722.4	8440.0	8214.4	7988.0	7915.2	7723.2	7068.8
67.5°	6819.2	7824.0	8501.6	8605.6	8515.2	8085.6	7778.4	7472.0	7362.4	7095.2	6428.0
70°	5829.6	6864.8	7771.2	7921.6	7814.4	7244.0	6788.8	6452.0	6153.6	5890.4	5340.0
72.5°	4520.0	5294.4	6253.6	6410.4	6419.2	5972.8	5460.0	5136.8	4789.6	4525.6	4112.8
75°	2964.8	3550.4	4077.6	4024.8	4040.0	3688.8	3383.2	3114.4	2800.0	2592.0	2395.2
77.5°	1732.8	1942.4	1894.4	1763.2	1652.8	1299.2	929.6	638.4	556.8	580.8	655.2
80°	1506.4	1388.8	1087.2	956.0	869.6	590.4	317.6	224.0	196.8	199.2	211.2
82.5°	1621.6	1682.4	1380.8	1136.8	991.2	695.2	373.6	186.4	134.4	156.8	172.8
85°	1258.4	1601.6	1476.8	1248.0	1049.6	739.2	381.6	118.4	80.0	107.2	135.2
87.5°	358.4	567.2	453.6	400.8	323.2	220.8	91.2	47.2	43.2	56.0	77.6
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°	1285.6	1285.6	1285.6	1285.6	1285.6	1285.6	1285.6	1285.6	1285.6	1285.6	1285.6
2.5°	1287.2	1287.2	1289.6	1290.4	1291.2	1291.2	1292.8	1292.8	1293.6	1296.8	1296.0
5°	1295.2	1297.6	1300.8	1302.4	1304.8	1305.6	1308.0	1308.0	1310.4	1312.8	1312.0
7.5°	1304.8	1307.2	1309.6	1312.0	1314.4	1317.6	1316.8	1316.0	1315.2	1313.6	1312.0
10°	1318.4	1320.8	1323.2	1322.4	1320.8	1319.2	1312.8	1305.6	1302.4	1296.0	1291.2
12.5°	1340.8	1343.2	1340.8	1334.4	1325.6	1315.2	1301.6	1289.6	1282.4	1272.8	1267.2
15°	1357.6	1360.0	1355.2	1344.0	1329.6	1316.0	1297.6	1282.4	1269.6	1259.2	1251.2
17.5°	1370.4	1368.8	1358.4	1345.6	1330.4	1319.2	1302.4	1285.6	1270.4	1256.0	1244.8
20°	1388.8	1380.0	1364.8	1348.8	1333.6	1324.0	1310.4	1295.2	1279.2	1258.4	1244.0
22.5°	1412.8	1396.8	1376.8	1360.8	1346.4	1336.8	1323.2	1308.8	1293.6	1269.6	1249.6
25°	1447.2	1421.6	1398.4	1381.6	1368.8	1359.2	1342.4	1327.2	1310.4	1286.4	1260.8
27.5°	1495.2	1458.4	1434.4	1417.6	1404.8	1393.6	1372.0	1353.6	1332.0	1308.0	1277.6
30°	1557.6	1512.8	1486.4	1472.0	1458.4	1442.4	1419.2	1392.0	1364.0	1332.0	1299.2
32.5°	1635.2	1584.8	1560.0	1545.6	1528.0	1506.4	1476.0	1440.0	1398.4	1356.0	1315.2
35°	1745.6	1688.0	1660.8	1636.0	1610.4	1578.4	1532.8	1480.8	1425.6	1370.4	1320.0
37.5°	1855.2	1801.6	1768.0	1742.4	1702.4	1650.4	1587.2	1515.2	1441.6	1371.2	1310.4
40°	2010.4	1948.0	1908.8	1863.2	1798.4	1717.6	1625.6	1528.8	1437.6	1352.8	1280.8
42.5°	2200.8	2129.6	2071.2	1988.8	1888.0	1771.2	1644.0	1520.8	1409.6	1312.0	1232.8
45°	2441.6	2348.8	2251.2	2121.6	1967.2	1804.0	1643.2	1492.8	1361.6	1251.2	1172.8
47.5°	2722.4	2592.0	2428.0	2230.4	2019.2	1812.0	1617.6	1442.4	1289.6	1168.0	1077.6
50°	3011.2	2822.4	2589.6	2314.4	2045.6	1792.0	1560.8	1360.0	1195.2	1056.8	959.2
52.5°	3367.2	3074.4	2736.0	2371.2	2034.4	1732.8	1466.4	1244.0	1068.0	932.8	820.8
55°	3791.2	3364.0	2875.2	2402.4	1984.8	1626.4	1323.2	1092.0	907.2	784.0	683.2
57.5°	4492.8	3817.6	3112.8	2448.8	1887.2	1468.0	1148.8	909.6	736.0	631.2	550.4
60°	5702.4	4748.0	3615.2	2563.2	1752.0	1242.4	927.2	712.8	569.6	485.6	428.8
62.5°	6546.4	5312.0	3885.6	2524.0	1522.4	978.4	685.6	509.6	415.2	360.0	321.6
65°	6382.4	5089.6	3560.0	2144.0	1192.8	692.0	456.0	344.8	291.2	256.8	237.6
66°	6088.0	4844.0	3312.0	1924.8	1034.4	576.8	376.0	285.6	250.4	225.6	212.8
67.5°	5551.2	4335.2	2866.4	1544.8	774.4	425.6	285.6	222.4	203.2	190.4	181.6
70°	4596.0	3428.0	1973.6	912.8	409.6	238.4	181.6	164.0	155.2	149.6	148.8
72.5°	3524.0	2459.2	1141.6	441.6	219.2	158.4	139.2	132.8	129.6	128.0	128.0
75°	2176.8	1387.2	510.4	221.6	151.2	129.6	120.8	117.6	116.8	116.8	116.8
77.5°	765.6	483.2	228.8	162.4	132.8	116.8	109.6	108.0	109.6	109.6	109.6
80°	211.2	186.4	165.6	144.0	120.0	108.0	101.6	100.8	104.0	104.8	101.6
82.5°	164.8	155.2	141.6	128.8	109.6	98.4	95.2	96.8	98.4	96.0	91.2
85°	140.8	134.4	99.2	99.2	88.8	85.6	84.8	86.4	85.6	79.2	72.8
87.5°	80.0	70.4	53.6	58.4	62.4	64.0	53.6	57.6	56.8	50.4	47.2
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):

	160°	165°	170°	175°	180°
0°	1285.6	1285.6	1285.6	1285.6	1285.6
2.5°	1297.6	1297.6	1299.2	1299.2	1298.4
5°	1313.6	1313.6	1316.0	1314.4	1315.2
7.5°	1310.4	1307.2	1307.2	1305.6	1304.8
10°	1288.0	1282.4	1279.2	1280.8	1278.4
12.5°	1262.4	1257.6	1254.4	1253.6	1252.8
15°	1246.4	1240.8	1238.4	1236.8	1236.8
17.5°	1237.6	1231.2	1228.0	1225.6	1224.8
20°	1233.6	1225.6	1220.8	1218.4	1216.8
22.5°	1235.2	1225.6	1219.2	1216.0	1214.4
25°	1241.6	1229.6	1221.6	1217.6	1215.2
27.5°	1252.8	1236.8	1228.0	1222.4	1219.2
30°	1266.4	1244.0	1231.2	1223.2	1220.0
32.5°	1275.2	1244.8	1228.8	1216.8	1213.6
35°	1273.6	1236.0	1215.2	1200.0	1197.6
37.5°	1257.6	1212.8	1187.2	1167.2	1164.8
40°	1223.2	1177.6	1148.0	1128.0	1123.2
42.5°	1175.2	1128.0	1096.0	1077.6	1071.2
45°	1104.8	1047.2	1017.6	1002.4	993.6
47.5°	1005.6	951.2	918.4	905.6	894.4
50°	892.8	832.8	808.8	794.4	781.6
52.5°	760.0	708.8	690.4	676.8	666.4
55°	631.2	595.2	573.6	559.2	560.0
57.5°	507.2	485.6	473.6	458.4	460.0
60°	399.2	380.8	380.8	371.2	368.0
62.5°	304.8	297.6	295.2	292.0	286.4
65°	231.2	231.2	232.0	232.0	228.8
66°	208.0	210.4	213.6	213.6	209.6
67.5°	180.0	183.2	186.4	188.0	188.0
70°	148.8	152.8	154.4	156.0	155.2
72.5°	130.4	133.6	133.6	134.4	132.8
75°	118.4	120.0	120.8	119.2	118.4
77.5°	109.6	110.4	109.6	108.8	108.0
80°	99.2	98.4	96.0	92.8	92.0
82.5°	85.6	82.4	80.8	76.0	75.2
85°	68.8	64.8	61.6	55.2	52.0
87.5°	45.6	44.0	41.6	30.4	24.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)