

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: P145438

Luminaire Tested: **LDRL-SL4-E03-E-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P145438
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33703)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-SL4-E03-E-8030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (63) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7297.2 lumens
Efficiency: N/A
Efficacy: 97.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G2

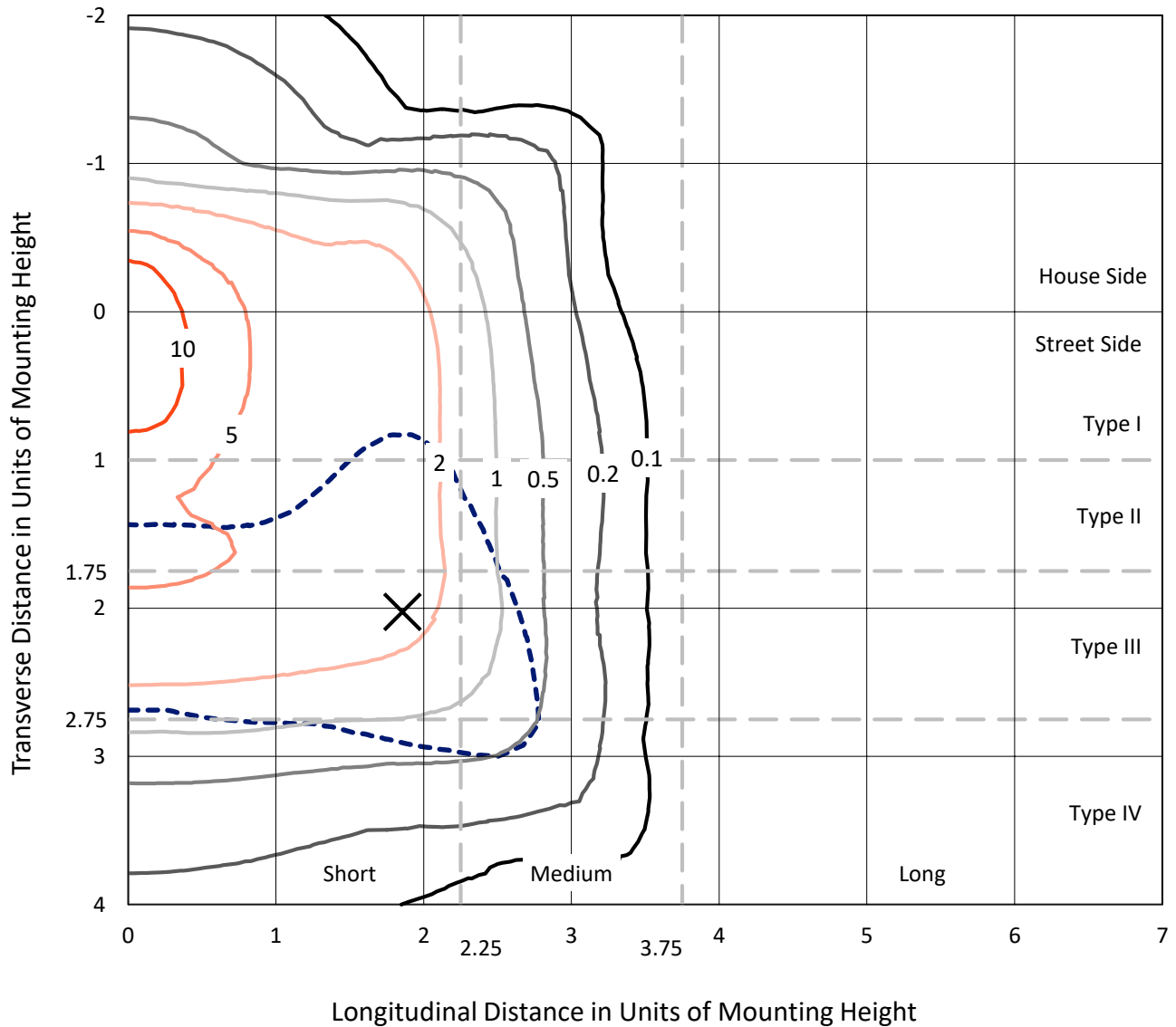
Input Watts (W): 75.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

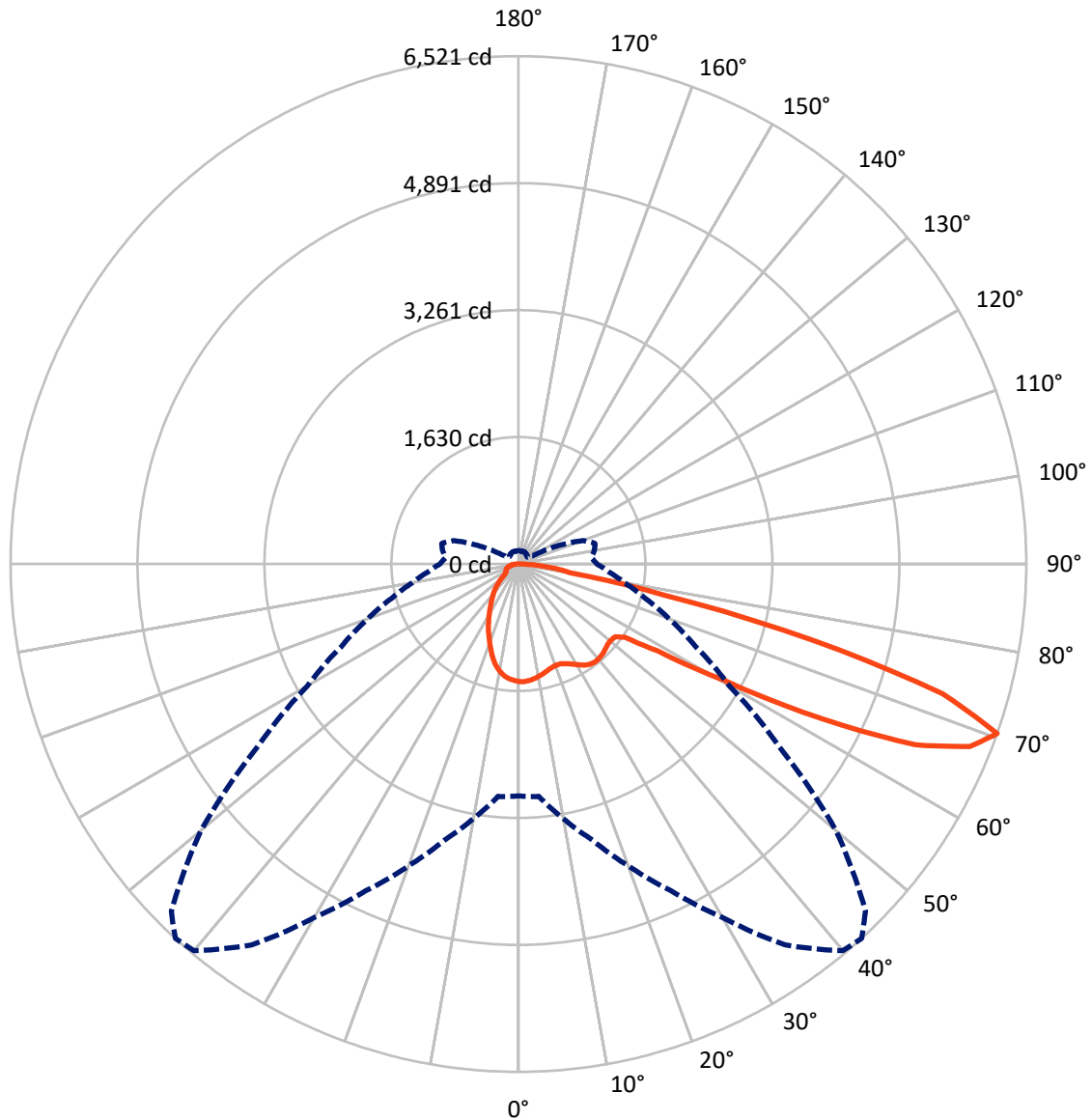
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 15.1 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 42.5-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1576.3	0.0	1576.3
	% Fixture	21.6	0.0	21.6
Street Side	Lumens	5720.9	0.0	5720.9
	% Fixture	78.4	0.0	78.4
Total	Lumens	7297.2	0.0	7297.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.4	1.9
10°-20°	378.2	5.2
20°-30°	551.7	7.6
30°-40°	703.7	9.6
40°-50°	821.3	11.3
50°-60°	1256.0	17.2
60°-70°	2276.8	31.2
70°-80°	1012.4	13.9
80°-90°	156.7	2.1
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°	7297.2	100.0
0°-180°	7297.2	100.0



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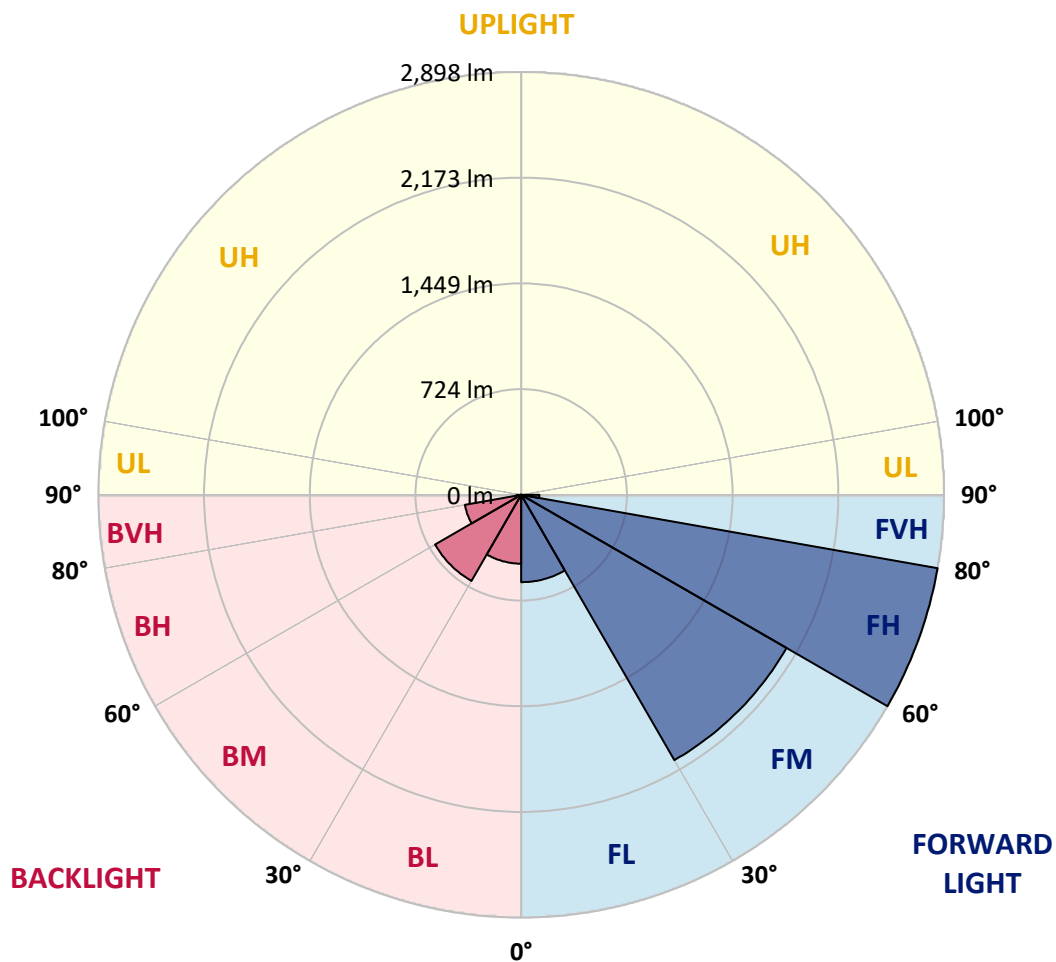
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	598.6	8.2			
FM	(30°-60°)	2099.6	28.8			
FH	(60°-80°)	2897.6	39.7			G2/5000
FVH	(80°-90°)	125.2	1.7			G2/225
BL	(0°-30°)	471.8	6.5	B1/500		
BM	(30°-60°)	681.4	9.3	B1/1000		
BH	(60°-80°)	391.6	5.4	B1/500		G1/500
BVH	(80°-90°)	31.5	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	42.5°	45°
0°	1509.1	1509.1	1509.1	1509.1	1509.1	1509.1	1509.1	1509.1	1509.1	1509.1	1509.1
2.5°	1516.1	1514.6	1515.6	1516.7	1516.7	1517.2	1512.6	1513.1	1511.1	1511.6	1512.1
5°	1510.6	1509.1	1510.1	1510.1	1510.1	1509.6	1503.5	1503.0	1500.4	1500.4	1499.4
7.5°	1499.9	1494.4	1497.4	1497.9	1496.9	1494.4	1490.8	1487.3	1485.8	1485.8	1482.2
10°	1483.7	1477.7	1479.2	1480.2	1479.7	1474.6	1473.1	1469.6	1465.5	1464.0	1459.9
12.5°	1463.0	1458.9	1460.9	1460.4	1460.4	1455.9	1453.4	1448.3	1443.2	1440.7	1435.6
15°	1449.8	1444.7	1446.8	1446.8	1444.7	1440.2	1436.6	1427.5	1418.9	1415.9	1409.3
17.5°	1457.9	1452.8	1454.9	1453.4	1449.8	1440.2	1431.1	1416.4	1402.7	1394.6	1386.0
20°	1490.3	1485.3	1486.8	1485.8	1480.7	1465.0	1448.3	1423.0	1397.6	1385.5	1372.3
22.5°	1542.0	1537.9	1540.5	1538.9	1530.8	1510.6	1485.8	1449.3	1411.3	1393.1	1374.4
25°	1618.4	1617.4	1621.5	1616.9	1605.3	1574.9	1538.9	1489.8	1440.2	1417.4	1391.1
27.5°	1710.6	1702.0	1708.1	1704.0	1695.9	1657.4	1608.8	1546.5	1483.2	1453.4	1422.0
30°	1793.6	1786.1	1797.2	1795.2	1783.0	1743.5	1682.2	1609.3	1537.9	1499.9	1464.0
32.5°	1889.9	1880.2	1888.9	1888.9	1870.6	1817.5	1747.6	1664.0	1589.1	1548.6	1505.5
35°	1990.6	1980.5	1988.6	1986.1	1953.7	1883.3	1795.7	1705.0	1622.5	1581.0	1536.9
37.5°	2084.3	2082.8	2084.8	2068.1	2023.0	1932.9	1828.1	1726.8	1639.2	1595.6	1549.6
40°	2178.0	2174.5	2165.8	2136.5	2070.6	1962.3	1844.8	1734.4	1640.2	1594.6	1548.0
42.5°	2236.7	2230.2	2215.5	2175.5	2092.9	1969.4	1839.7	1722.8	1628.1	1581.5	1535.9
45°	2257.0	2250.4	2232.7	2187.6	2093.4	1958.2	1820.0	1699.5	1605.3	1562.7	1516.7
47.5°	2240.3	2236.2	2220.0	2175.0	2077.2	1937.5	1795.2	1676.2	1583.5	1542.0	1498.9
50°	2211.9	2209.4	2195.2	2153.7	2062.0	1924.8	1783.5	1665.0	1577.4	1538.9	1498.4
52.5°	2282.8	2275.2	2249.9	2200.8	2093.9	1947.6	1801.8	1681.7	1591.6	1552.6	1511.1
55°	3154.3	3098.1	2972.5	2737.1	2407.4	2151.7	1936.5	1791.6	1694.4	1656.4	1616.9
57.5°	4148.4	4089.6	4037.5	3857.7	3466.3	2983.2	2548.7	2294.5	2120.3	2103.6	2087.9
60°	4531.2	4550.0	4545.4	4478.6	4278.0	4048.6	3685.0	3384.7	3052.0	3038.4	3058.1
62.5°	4795.1	4810.7	4812.8	4792.5	4727.2	4650.7	4574.8	4478.6	4415.3	4387.9	4211.2
65°	4903.9	4926.7	4976.8	5014.3	5025.0	5051.3	5120.2	5382.0	5600.2	5598.7	5391.6
67.5°	4488.2	4515.5	4705.4	4891.8	5048.2	5229.5	5508.6	5934.4	6263.1	6253.0	6083.3
70°	2978.6	2995.8	3318.4	3669.3	4124.6	4627.9	5237.6	5971.9	6481.3	6521.3	6302.6
72.5°	1827.1	1866.6	1971.9	2114.2	2357.3	2823.7	3730.1	4984.9	5732.4	5694.9	5520.7
75°	1233.6	1235.6	1232.6	1247.8	1261.4	1355.6	1720.7	2741.1	3883.0	3903.3	3828.3
77.5°	843.1	854.3	860.4	856.3	870.0	865.9	887.2	939.4	1488.3	1899.5	1745.5
80°	736.8	741.4	747.9	738.3	713.0	698.8	718.6	699.8	659.3	681.1	652.2
82.5°	466.4	480.1	481.6	515.0	564.6	566.7	592.0	573.2	521.6	487.7	446.1
85°	335.2	340.3	349.4	351.4	334.2	319.5	328.7	313.0	282.1	263.8	233.4
87.5°	195.5	200.5	209.6	204.1	186.9	165.6	149.4	128.6	101.8	95.2	84.1
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	1509.1	1509.1	1509.1	1509.1	1509.1	1509.1	1509.1	1509.1	1509.1	1509.1	1509.1
2.5°	1512.6	1510.1	1508.0	1507.0	1509.1	1507.0	1505.0	1504.0	1502.0	1502.5	1499.9
5°	1498.4	1494.9	1491.8	1489.3	1491.3	1487.8	1484.7	1482.7	1480.2	1479.7	1477.2
7.5°	1478.7	1473.1	1469.1	1464.5	1459.4	1456.4	1452.8	1449.3	1443.7	1443.2	1442.2
10°	1452.8	1448.3	1440.2	1433.1	1426.0	1418.4	1410.8	1405.2	1398.7	1396.1	1392.6
12.5°	1427.0	1417.9	1408.3	1397.1	1388.5	1376.4	1366.3	1355.6	1346.0	1339.9	1333.3
15°	1396.6	1387.0	1373.3	1362.7	1350.6	1336.9	1323.7	1308.0	1292.3	1282.7	1273.6
17.5°	1370.3	1358.2	1347.0	1331.8	1319.7	1304.0	1284.2	1267.5	1248.8	1233.1	1216.4
20°	1350.0	1336.4	1323.2	1309.5	1294.9	1277.1	1255.4	1231.6	1207.8	1185.5	1160.7
22.5°	1341.9	1320.2	1305.5	1292.8	1277.6	1257.4	1233.1	1203.7	1174.3	1146.0	1117.1
25°	1349.0	1316.6	1293.8	1279.7	1266.0	1245.2	1217.9	1184.5	1150.0	1114.1	1079.6
27.5°	1368.3	1327.3	1294.9	1272.6	1256.9	1236.6	1206.2	1171.3	1132.3	1091.8	1054.8
30°	1396.1	1345.0	1304.5	1272.6	1249.3	1226.0	1193.1	1153.6	1112.5	1070.0	1028.5
32.5°	1426.5	1364.7	1316.1	1274.1	1238.1	1208.8	1174.3	1135.8	1092.3	1047.2	1002.7
35°	1449.3	1378.9	1321.2	1268.5	1222.4	1185.5	1148.5	1111.0	1068.5	1022.9	978.4
37.5°	1458.9	1384.5	1320.2	1256.9	1200.7	1160.1	1121.7	1084.2	1043.2	1000.1	959.1
40°	1459.4	1384.5	1314.1	1241.2	1177.9	1133.8	1093.3	1058.4	1019.9	982.9	946.5
42.5°	1449.8	1377.4	1303.0	1226.5	1161.2	1111.5	1070.0	1034.1	1003.2	970.3	939.4
45°	1432.6	1363.2	1292.8	1218.4	1155.1	1106.0	1061.4	1027.5	999.6	970.3	943.4
47.5°	1419.4	1355.1	1293.3	1230.0	1169.8	1119.1	1071.0	1035.1	1011.3	988.0	968.7
50°	1422.0	1358.2	1299.4	1239.1	1179.9	1128.8	1082.2	1051.3	1037.1	1029.5	1024.9
52.5°	1435.1	1370.3	1325.7	1285.7	1266.5	1235.1	1209.3	1186.0	1189.5	1171.3	1148.0
55°	1570.8	1549.1	1600.2	1637.2	1655.4	1687.3	1733.4	1689.3	1683.3	1627.0	1459.9
57.5°	2109.1	2160.8	2239.3	2295.0	2300.6	2290.9	2252.9	2216.5	2157.2	2072.7	1838.7
60°	3012.0	2999.9	2927.0	2829.2	2753.3	2653.5	2553.2	2468.7	2373.5	2243.8	1994.7
62.5°	3961.5	3668.8	3409.0	3187.8	2999.9	2833.3	2681.9	2554.8	2424.1	2237.8	1972.4
65°	4728.2	4165.1	3707.3	3351.3	3071.8	2836.3	2640.8	2465.6	2290.9	2075.2	1818.0
67.5°	5276.1	4382.8	3692.1	3191.3	2799.3	2475.3	2190.7	1991.1	1811.9	1642.2	1526.3
70°	5319.7	4081.5	3123.4	2510.7	2058.5	1677.7	1382.5	1164.7	1008.7	938.3	988.5
72.5°	4545.9	3019.6	2076.7	1536.9	1219.9	948.0	762.1	609.2	483.6	421.8	430.4
75°	2677.3	1449.8	935.3	696.8	569.2	454.7	393.5	332.2	293.2	235.0	187.9
77.5°	1019.4	630.5	472.0	391.9	279.5	201.0	158.5	136.7	125.6	124.1	117.5
80°	587.4	462.3	323.6	211.7	155.0	131.2	112.4	96.2	89.6	88.1	90.6
82.5°	371.2	288.1	177.7	136.2	112.9	97.2	81.0	70.4	64.8	62.8	66.3
85°	191.9	144.3	108.4	93.2	86.6	79.0	64.8	54.2	53.7	56.2	64.8
87.5°	70.9	61.8	48.6	42.0	45.1	42.0	30.4	26.3	23.8	31.4	45.6
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°	1509.1	1509.1	1509.1	1509.1	1509.1	1509.1	1509.1	1509.1	1509.1	1509.1	1509.1
2.5°	1499.9	1498.9	1499.4	1498.4	1498.4	1499.9	1497.9	1496.4	1498.9	1498.9	1500.4
5°	1476.6	1477.7	1477.7	1477.2	1478.2	1480.7	1480.2	1480.2	1484.2	1485.8	1487.8
7.5°	1439.7	1441.2	1441.7	1443.2	1443.7	1447.3	1449.8	1452.8	1458.9	1460.4	1465.0
10°	1389.5	1388.5	1392.1	1391.6	1396.1	1399.2	1401.2	1407.8	1416.9	1422.0	1426.5
12.5°	1330.3	1330.3	1332.3	1332.8	1336.9	1340.9	1343.5	1351.6	1359.2	1365.7	1375.9
15°	1267.5	1265.5	1260.9	1260.4	1261.9	1266.0	1271.6	1277.6	1289.3	1298.9	1307.5
17.5°	1201.7	1195.6	1190.0	1182.9	1182.4	1181.9	1185.0	1189.5	1207.8	1217.4	1229.5
20°	1143.4	1130.3	1117.1	1102.4	1093.8	1089.8	1091.3	1097.4	1114.6	1127.2	1139.9
22.5°	1091.3	1071.5	1050.8	1027.5	1013.3	1004.7	1005.7	1008.2	1020.9	1028.5	1035.1
25°	1046.7	1019.4	990.5	960.6	940.9	927.7	927.2	927.2	921.6	922.7	919.1
27.5°	1016.3	978.4	941.4	906.4	880.6	867.5	849.7	837.1	825.9	810.7	804.2
30°	987.0	948.0	905.9	867.5	836.6	810.7	777.8	750.5	728.7	707.9	690.2
32.5°	960.6	920.1	880.1	838.1	795.5	751.0	707.9	676.5	645.7	613.8	592.5
35°	937.3	899.4	859.4	811.8	752.0	693.8	645.1	602.6	566.1	527.7	496.8
37.5°	924.2	889.7	848.2	783.4	708.4	642.1	587.9	540.3	491.7	445.6	407.6
40°	917.6	887.2	836.6	754.5	669.5	598.6	538.3	481.1	423.9	369.7	330.2
42.5°	916.6	887.2	819.3	725.2	636.0	560.1	492.7	423.9	354.5	301.8	266.9
45°	925.7	886.2	801.1	698.8	606.2	525.6	444.6	363.6	292.2	246.1	226.9
47.5°	952.0	889.7	786.9	676.5	577.8	487.7	389.9	296.7	236.0	215.2	214.7
50°	994.6	905.9	783.9	660.3	549.9	440.1	325.6	237.5	208.1	207.1	212.7
52.5°	1061.9	936.3	791.5	649.2	516.5	378.3	257.8	205.1	199.5	205.1	212.2
55°	1210.3	990.5	801.6	629.4	462.3	299.8	212.2	194.5	197.0	203.6	210.2
57.5°	1480.2	1102.9	812.3	584.9	374.7	230.4	190.9	190.4	195.0	200.5	206.6
60°	1651.4	1241.7	838.1	519.1	283.1	190.4	182.8	187.9	193.4	197.5	202.6
62.5°	1656.9	1278.1	851.8	448.7	210.7	174.2	175.7	185.3	191.9	193.4	196.0
65°	1550.1	1209.3	790.0	365.1	174.7	165.1	170.7	179.3	185.8	186.9	188.9
67.5°	1354.1	1066.5	669.5	275.5	159.0	158.0	164.1	170.7	175.2	179.3	182.3
70°	1019.9	880.1	538.3	213.7	149.4	148.4	154.5	160.0	164.1	169.1	174.2
72.5°	517.0	609.2	408.2	174.7	136.2	137.2	143.8	148.9	151.9	156.5	161.5
75°	176.2	265.9	258.3	141.3	121.5	125.6	128.6	134.2	138.8	141.8	144.3
77.5°	110.4	115.5	133.2	113.9	107.4	108.4	113.4	118.5	123.6	125.6	126.6
80°	92.2	92.7	93.2	91.2	91.7	94.7	97.7	103.3	108.4	109.4	109.9
82.5°	72.9	78.0	77.5	77.0	79.5	82.5	84.6	86.6	88.6	89.6	91.2
85°	64.3	63.3	63.8	65.3	63.3	61.3	60.8	60.8	63.8	67.4	68.9
87.5°	58.7	50.1	37.5	35.4	35.4	34.4	32.4	32.4	35.4	38.5	40.0
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°	1509.1	1509.1	1509.1	1509.1	1509.1
2.5°	1499.9	1500.4	1499.9	1499.9	1502.5
5°	1488.8	1490.8	1489.8	1491.3	1492.9
7.5°	1466.0	1471.1	1472.1	1476.1	1474.6
10°	1433.1	1436.6	1441.7	1445.8	1444.2
12.5°	1380.9	1389.5	1397.1	1401.7	1400.7
15°	1314.6	1326.8	1336.9	1340.4	1336.4
17.5°	1243.7	1251.3	1263.5	1266.0	1270.0
20°	1154.1	1153.6	1164.2	1164.2	1162.2
22.5°	1037.1	1044.7	1044.7	1037.6	1034.1
25°	917.6	920.1	912.5	914.0	904.4
27.5°	797.6	791.0	784.9	787.4	780.4
30°	683.1	668.9	662.9	663.9	656.3
32.5°	573.2	556.5	550.5	542.3	535.8
35°	473.5	447.1	431.4	427.4	432.0
37.5°	375.7	357.0	338.3	324.6	326.1
40°	297.3	278.0	265.9	260.3	259.3
42.5°	245.6	234.5	231.9	232.4	232.4
45°	222.8	223.3	225.3	227.4	227.9
47.5°	218.3	221.3	224.8	227.4	227.9
50°	217.7	220.8	223.3	226.4	227.4
52.5°	217.2	219.3	220.8	222.3	223.8
55°	215.2	216.2	215.7	216.7	218.3
57.5°	210.2	210.7	209.6	210.2	213.2
60°	205.6	206.1	204.1	206.6	207.1
62.5°	200.0	199.5	198.5	200.0	200.0
65°	191.9	188.9	189.9	191.4	191.9
67.5°	182.3	179.3	179.3	180.3	181.8
70°	170.1	168.6	168.6	170.7	172.7
72.5°	156.5	157.5	160.5	163.6	166.6
75°	145.3	147.9	150.9	158.5	163.1
77.5°	131.2	131.7	134.2	141.8	149.9
80°	111.4	110.9	111.4	112.4	113.9
82.5°	88.1	87.1	84.1	85.1	83.0
85°	64.8	63.3	59.8	57.2	56.7
87.5°	37.5	37.5	36.0	33.9	31.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)