

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: P146624

Luminaire Tested: **LDRL-T3-F05-E-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146624
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-F05-E-7030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 3
Light Source: (35) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11256.4 lumens
Efficiency: N/A
Efficacy: 84.4 lumens/watt
Luminous Opening: Rectangular (W 0.83' x L: 1' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G3

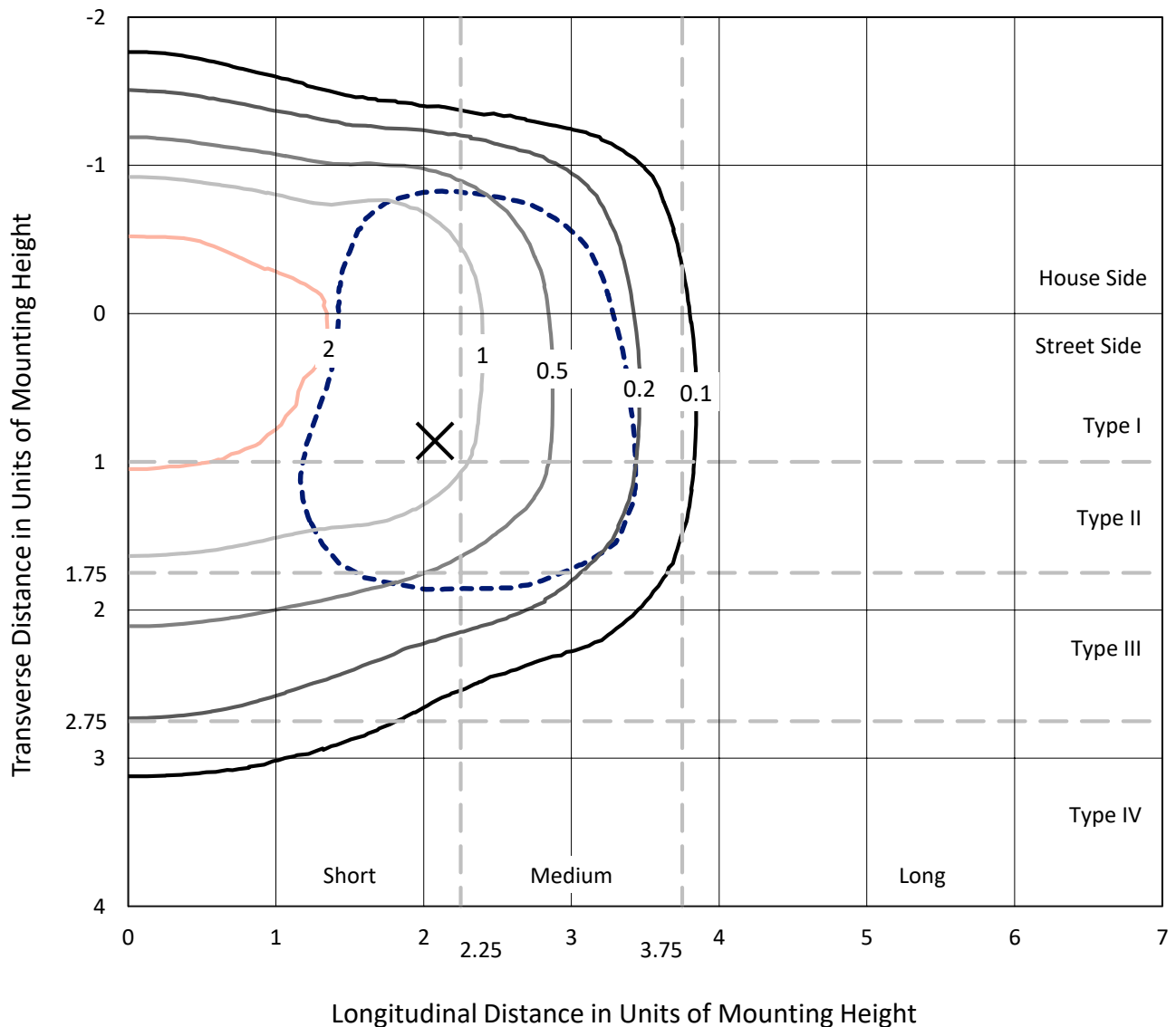
Input Watts (W): 133.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

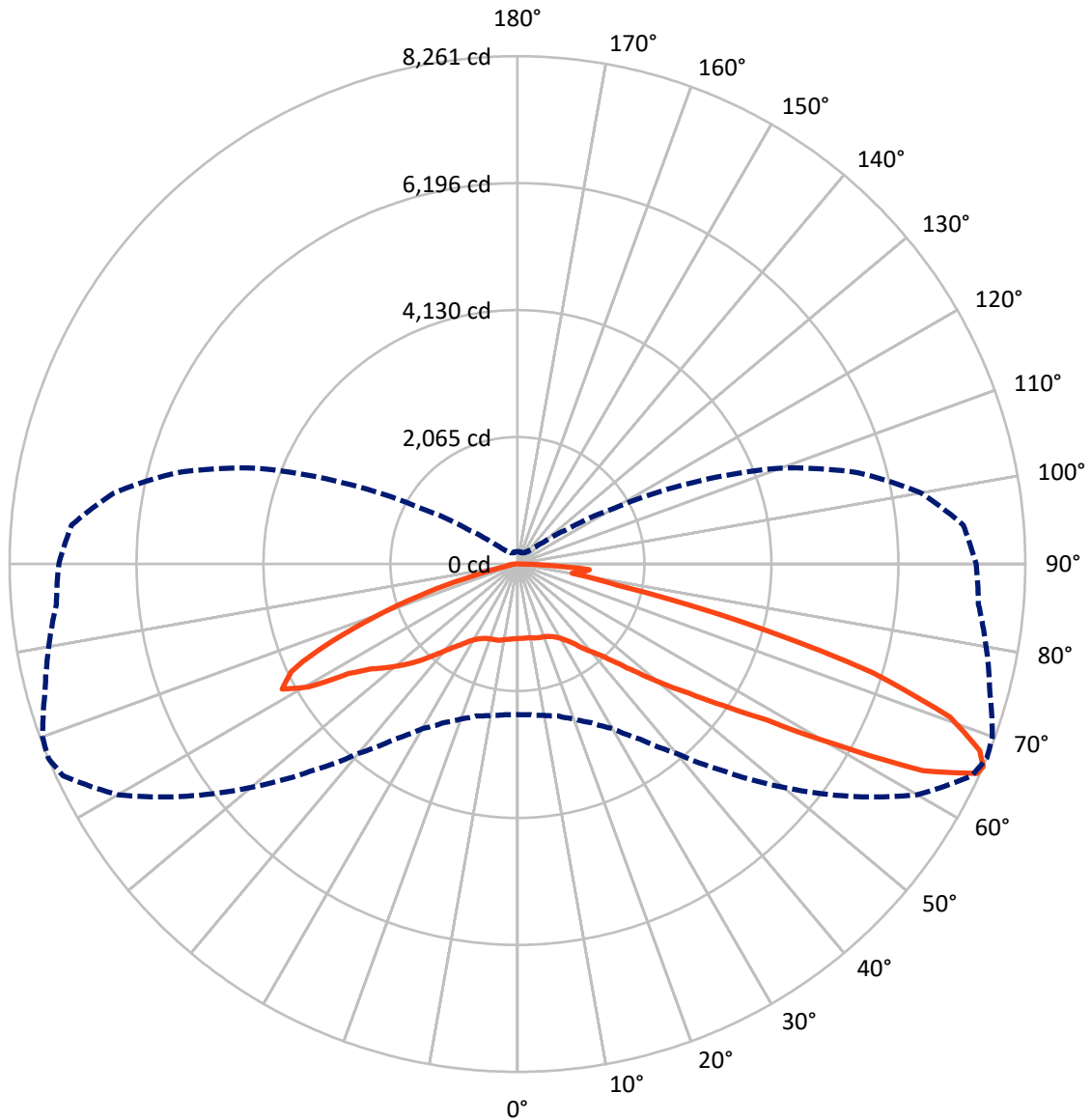
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3 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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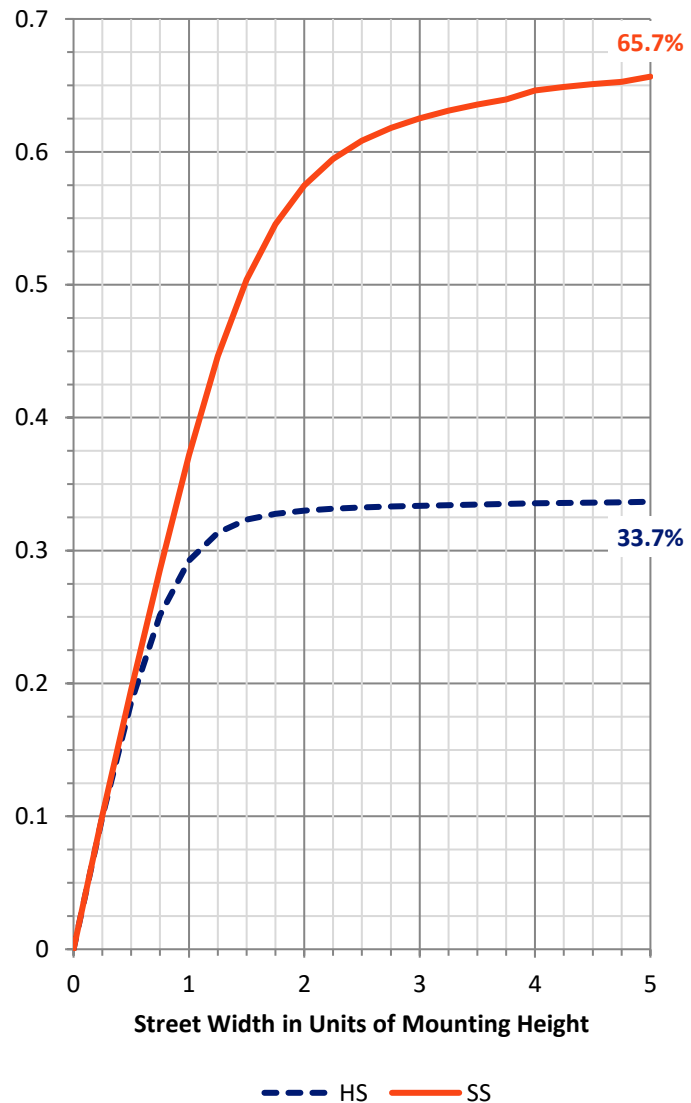
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3824.2	0.0	3824.2
	% Fixture	34.0	0.0	34.0
Street Side	Lumens	7432.2	0.0	7432.2
	% Fixture	66.0	0.0	66.0
Total	Lumens	11256.4	0.0	11256.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.4	1.0
10°-20°	344.9	3.1
20°-30°	592.9	5.3
30°-40°	953.6	8.5
40°-50°	1571.8	14.0
50°-60°	2463.8	21.9
60°-70°	3409.7	30.3
70°-80°	1543.1	13.7
80°-90°	260.3	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°	11256.4	100.0
0°-180°	11256.4	100.0



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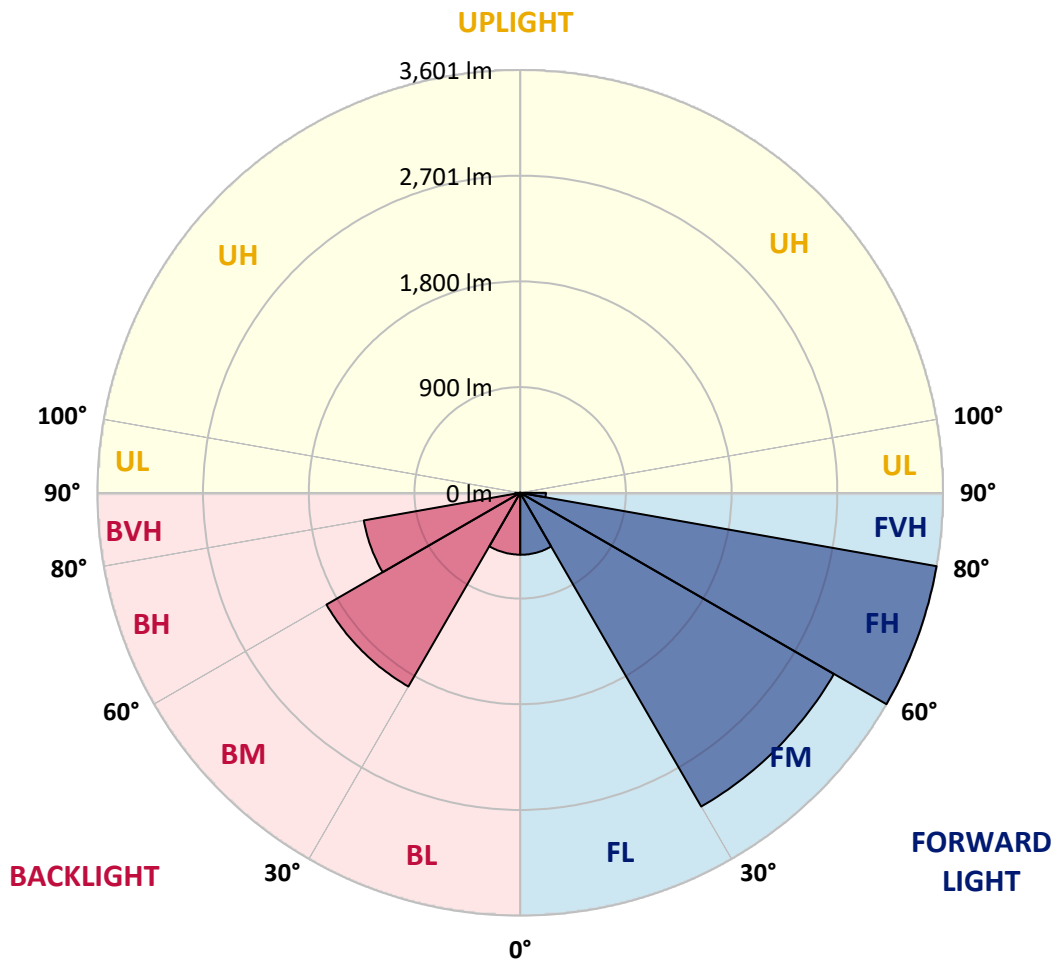
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	527.9	4.7			
FM	(30°-60°)	3084.7	27.4			
FH	(60°-80°)	3600.8	32.0			G2/5000
FVH	(80°-90°)	218.8	1.9			G2/225
BL	(0°-30°)	526.2	4.7	B2/1000		
BM	(30°-60°)	1904.5	16.9	B2/2500		
BH	(60°-80°)	1351.9	12.0	B3/2500		G3/2500
BVH	(80°-90°)	41.6	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°	1211.7	1211.7	1211.7	1211.7	1211.7	1211.7	1211.7	1211.7	1211.7	1211.7	1211.7
2.5°	1210.2	1209.4	1208.7	1208.7	1207.9	1208.7	1209.4	1210.2	1209.4	1210.2	1209.4
5°	1207.9	1207.9	1207.1	1207.1	1207.1	1207.1	1207.9	1208.7	1207.9	1209.4	1207.9
7.5°	1198.1	1202.6	1201.1	1202.6	1204.1	1205.6	1206.4	1207.9	1210.2	1211.7	1210.2
10°	1185.3	1187.5	1188.3	1189.8	1192.8	1196.6	1199.6	1203.4	1208.7	1210.2	1211.7
12.5°	1161.9	1164.9	1167.2	1170.2	1174.7	1180.8	1186.0	1192.1	1201.1	1207.1	1212.4
15°	1144.6	1148.3	1149.1	1152.9	1157.4	1164.2	1171.0	1180.0	1192.1	1202.6	1213.2
17.5°	1155.9	1157.4	1155.9	1155.9	1157.4	1160.4	1165.7	1173.2	1186.0	1198.8	1211.7
20°	1189.8	1189.8	1188.3	1187.5	1186.0	1183.0	1182.3	1181.5	1189.8	1199.6	1210.9
22.5°	1222.2	1222.2	1221.5	1224.5	1223.7	1223.7	1221.5	1217.7	1213.9	1212.4	1220.0
25°	1242.6	1245.6	1247.1	1251.6	1254.6	1259.2	1260.7	1259.9	1254.6	1245.6	1243.3
27.5°	1275.8	1278.0	1279.5	1284.8	1290.8	1296.1	1301.4	1308.2	1308.2	1299.9	1288.6
30°	1339.8	1336.8	1338.3	1339.8	1345.1	1352.7	1359.5	1368.5	1373.0	1370.0	1354.9
32.5°	1399.4	1402.4	1403.9	1408.5	1413.7	1425.0	1433.3	1443.9	1453.7	1455.2	1447.7
35°	1486.9	1485.4	1483.1	1498.9	1505.0	1517.8	1527.6	1542.7	1550.2	1557.0	1552.5
37.5°	1624.9	1620.3	1617.3	1621.8	1630.1	1638.4	1652.8	1664.1	1676.9	1692.7	1687.4
40°	1820.1	1829.2	1816.4	1822.4	1829.2	1810.3	1823.2	1833.7	1855.6	1856.3	1855.6
42.5°	2074.2	2081.0	2078.0	2081.8	2069.7	2063.7	2058.4	2063.7	2090.8	2087.1	2069.0
45°	2328.3	2338.1	2335.9	2337.4	2360.8	2351.0	2359.2	2360.8	2388.7	2381.1	2367.5
47.5°	2545.5	2562.1	2565.8	2579.4	2611.1	2636.7	2672.2	2698.5	2712.1	2721.2	2731.7
50°	2717.4	2729.5	2750.6	2784.5	2830.5	2875.0	2954.9	3006.9	3054.4	3087.6	3121.5
52.5°	2831.2	2844.8	2877.2	2928.5	2994.9	3076.3	3169.8	3278.4	3378.6	3437.5	3488.0
55°	2878.0	2891.6	2931.5	2998.6	3086.8	3190.9	3325.1	3478.2	3611.6	3746.6	3824.3
57.5°	2850.8	2865.9	2911.9	2987.3	3093.6	3230.1	3396.7	3584.5	3779.8	3984.1	4140.2
60°	2770.9	2784.5	2836.5	2914.9	3036.3	3190.1	3390.0	3625.2	3899.7	4202.8	4499.1
62.5°	2660.8	2681.2	2727.2	2807.1	2927.8	3095.9	3323.6	3629.7	4023.3	4511.9	5088.7
65°	2520.6	2535.7	2576.4	2639.7	2772.4	2948.1	3188.6	3563.4	4077.6	4770.5	5593.9
66°	2448.2	2462.5	2500.2	2559.8	2681.2	2850.1	3090.6	3474.4	4017.3	4769.0	5647.4
67.5°	2320.8	2327.6	2354.7	2413.5	2492.7	2644.3	2867.4	3227.1	3761.7	4567.7	5498.1
70°	1946.8	1956.6	1983.0	2013.2	2042.6	2096.9	2252.9	2490.4	2918.0	3690.8	4578.2
72.5°	1346.6	1361.7	1390.4	1446.2	1492.2	1560.8	1621.8	1701.0	1842.8	2379.6	3275.3
75°	973.4	978.7	1020.9	1118.9	1211.7	1348.9	1470.3	1508.7	1460.5	1452.2	1924.2
77.5°	580.6	588.1	649.2	748.0	844.5	1030.7	1279.5	1471.8	1578.1	1540.4	1456.7
80°	244.3	254.8	291.0	316.7	396.6	552.7	798.5	1100.1	1380.6	1553.2	1514.0
82.5°	78.4	91.2	107.8	130.4	153.8	205.8	318.9	477.3	754.0	1124.2	1382.1
85°	28.7	29.4	40.7	56.5	62.6	72.4	92.7	143.3	254.8	421.5	784.2
87.5°	11.3	13.6	15.8	21.9	22.6	23.4	26.4	33.9	33.2	28.7	148.5
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):

	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°	100°
0°	1211.7	1211.7	1211.7	1211.7	1211.7	1211.7	1211.7	1211.7	1211.7	1211.7	1211.7
2.5°	1210.2	1211.7	1210.9	1211.7	1211.7	1210.2	1210.2	1213.2	1210.9	1212.4	1212.4
5°	1209.4	1210.9	1210.2	1211.7	1211.7	1210.9	1210.9	1215.4	1214.7	1216.9	1218.5
7.5°	1212.4	1213.2	1212.4	1212.4	1214.7	1213.9	1214.7	1216.2	1220.0	1223.7	1226.7
10°	1216.2	1217.7	1220.0	1220.7	1223.7	1223.0	1225.2	1227.5	1231.3	1235.0	1238.8
12.5°	1221.5	1226.0	1232.8	1234.3	1237.3	1239.6	1243.3	1245.6	1248.6	1254.6	1259.2
15°	1226.0	1234.3	1242.6	1245.6	1248.6	1251.6	1255.4	1257.7	1262.9	1268.2	1273.5
17.5°	1227.5	1237.3	1247.9	1251.6	1254.6	1259.9	1264.4	1269.0	1275.0	1281.8	1287.8
20°	1228.3	1241.8	1255.4	1259.9	1266.7	1274.2	1281.8	1285.6	1293.9	1302.1	1307.4
22.5°	1235.0	1251.6	1270.5	1278.8	1285.6	1299.1	1308.9	1315.0	1324.8	1331.6	1333.8
25°	1253.9	1271.2	1293.9	1306.7	1318.0	1337.6	1349.6	1361.0	1366.2	1375.3	1373.0
27.5°	1287.8	1301.4	1330.8	1348.1	1362.5	1388.1	1411.5	1422.0	1430.3	1434.8	1429.6
30°	1345.9	1351.2	1383.6	1404.7	1428.8	1468.8	1494.4	1508.0	1518.5	1519.3	1505.7
32.5°	1432.6	1424.3	1452.9	1483.1	1514.8	1563.0	1597.7	1612.0	1620.3	1621.1	1590.9
35°	1550.2	1535.9	1560.0	1589.4	1628.6	1692.0	1735.7	1752.3	1765.1	1759.1	1714.6
37.5°	1698.7	1698.0	1709.3	1747.0	1791.5	1872.9	1918.9	1928.0	1927.2	1909.1	1842.0
40°	1863.9	1850.3	1851.8	1879.0	1930.2	2037.3	2101.4	2116.5	2111.2	2084.8	1997.3
42.5°	2072.0	2065.9	2045.6	2059.9	2107.4	2237.9	2315.5	2330.6	2335.1	2291.4	2188.1
45°	2363.8	2358.5	2313.3	2316.3	2351.0	2488.2	2568.9	2593.7	2594.5	2553.0	2418.8
47.5°	2717.4	2712.9	2660.1	2645.0	2662.4	2784.5	2884.8	2890.1	2891.6	2834.3	2694.8
50°	3118.5	3105.7	3065.7	3049.9	3029.5	3164.5	3245.2	3244.4	3236.1	3172.8	3016.0
52.5°	3506.1	3534.7	3519.6	3488.7	3489.5	3586.7	3662.9	3620.7	3626.0	3565.6	3385.4
55°	3920.0	3993.1	4048.2	4059.5	4054.2	4104.0	4146.2	4070.8	4042.9	4033.1	3841.6
57.5°	4359.6	4546.6	4716.2	4787.1	4760.0	4851.2	4888.9	4810.5	4812.0	4888.9	4723.8
60°	4947.0	5419.0	5846.5	5979.2	6041.0	6191.8	6124.7	6120.2	6238.5	6338.1	6031.9
62.5°	5838.2	6620.1	7302.4	7401.2	7451.0	7484.9	7454.7	7372.5	7494.7	7506.8	7034.8
65°	6513.7	7431.4	8091.1	8214.8	8205.7	8033.0	7865.7	7701.3	7699.8	7579.1	6971.4
66°	6586.9	7508.3	8151.4	8260.8	8220.8	7954.6	7742.0	7528.6	7460.0	7279.1	6662.3
67.5°	6427.0	7374.1	8012.7	8110.7	8025.5	7620.6	7331.1	7042.3	6939.0	6687.2	6058.3
70°	5494.4	6470.0	7324.3	7466.0	7365.0	6827.4	6398.4	6081.0	5799.7	5551.7	5032.9
72.5°	4260.1	4989.9	5894.0	6041.7	6050.0	5629.3	5146.0	4841.4	4514.2	4265.3	3876.3
75°	2794.3	3346.2	3843.1	3793.3	3807.7	3476.7	3188.6	2935.3	2639.0	2442.9	2257.5
77.5°	1633.1	1830.7	1785.5	1661.8	1557.8	1224.5	876.1	601.7	524.8	547.4	617.5
80°	1419.8	1308.9	1024.7	901.0	819.6	556.4	299.3	211.1	185.5	187.7	199.1
82.5°	1528.3	1585.6	1301.4	1071.4	934.2	655.2	352.1	175.7	126.7	147.8	162.9
85°	1186.0	1509.5	1391.9	1176.2	989.2	696.7	359.7	111.6	75.4	101.0	127.4
87.5°	337.8	534.6	427.5	377.8	304.6	208.1	86.0	44.5	40.7	52.8	73.1
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	1211.7	1211.7	1211.7	1211.7	1211.7	1211.7	1211.7	1211.7	1211.7	1211.7	1211.7
2.5°	1213.2	1213.2	1215.4	1216.2	1216.9	1216.9	1218.5	1218.5	1219.2	1222.2	1221.5
5°	1220.7	1223.0	1226.0	1227.5	1229.8	1230.5	1232.8	1232.8	1235.0	1237.3	1236.5
7.5°	1229.8	1232.0	1234.3	1236.5	1238.8	1241.8	1241.1	1240.3	1239.6	1238.1	1236.5
10°	1242.6	1244.8	1247.1	1246.4	1244.8	1243.3	1237.3	1230.5	1227.5	1221.5	1216.9
12.5°	1263.7	1266.0	1263.7	1257.7	1249.4	1239.6	1226.7	1215.4	1208.7	1199.6	1194.3
15°	1279.5	1281.8	1277.3	1266.7	1253.1	1240.3	1223.0	1208.7	1196.6	1186.8	1179.2
17.5°	1291.6	1290.1	1280.3	1268.2	1253.9	1243.3	1227.5	1211.7	1197.3	1183.8	1173.2
20°	1308.9	1300.6	1286.3	1271.2	1256.9	1247.9	1235.0	1220.7	1205.6	1186.0	1172.5
22.5°	1331.6	1316.5	1297.6	1282.5	1269.0	1259.9	1247.1	1233.5	1219.2	1196.6	1177.7
25°	1364.0	1339.8	1318.0	1302.1	1290.1	1281.0	1265.2	1250.9	1235.0	1212.4	1188.3
27.5°	1409.2	1374.5	1351.9	1336.1	1324.0	1313.5	1293.1	1275.8	1255.4	1232.8	1204.1
30°	1468.0	1425.8	1400.9	1387.3	1374.5	1359.5	1337.6	1311.9	1285.6	1255.4	1224.5
32.5°	1541.2	1493.7	1470.3	1456.7	1440.1	1419.8	1391.1	1357.2	1318.0	1278.0	1239.6
35°	1645.2	1590.9	1565.3	1541.9	1517.8	1487.6	1444.7	1395.6	1343.6	1291.6	1244.1
37.5°	1748.5	1698.0	1666.3	1642.2	1604.5	1555.5	1495.9	1428.1	1358.7	1292.3	1235.0
40°	1894.8	1836.0	1799.0	1756.1	1695.0	1618.8	1532.1	1440.9	1354.9	1275.0	1207.1
42.5°	2074.2	2007.1	1952.1	1874.4	1779.4	1669.3	1549.5	1433.3	1328.5	1236.5	1161.9
45°	2301.2	2213.7	2121.7	1999.6	1854.1	1700.3	1548.7	1407.0	1283.3	1179.2	1105.4
47.5°	2565.8	2442.9	2288.4	2102.1	1903.1	1707.8	1524.6	1359.5	1215.4	1100.8	1015.6
50°	2838.0	2660.1	2440.7	2181.3	1928.0	1688.9	1471.0	1281.8	1126.5	996.0	904.0
52.5°	3173.6	2897.6	2578.7	2234.8	1917.4	1633.1	1382.1	1172.5	1006.6	879.2	773.6
55°	3573.2	3170.5	2709.9	2264.2	1870.7	1532.9	1247.1	1029.2	855.0	738.9	643.9
57.5°	4234.4	3598.1	2933.8	2308.0	1778.7	1383.6	1082.7	857.3	693.7	594.9	518.7
60°	5374.5	4475.0	3407.3	2415.8	1651.2	1171.0	873.9	671.8	536.8	457.7	404.1
62.5°	6169.9	5006.5	3662.1	2378.8	1434.8	922.1	646.2	480.3	391.3	339.3	303.1
65°	6015.4	4796.9	3355.3	2020.7	1124.2	652.2	429.8	325.0	274.5	242.0	223.9
66°	5737.9	4565.4	3121.5	1814.1	974.9	543.6	354.4	269.2	236.0	212.6	200.6
67.5°	5232.0	4085.9	2701.6	1456.0	729.9	401.1	269.2	209.6	191.5	179.5	171.2
70°	4331.7	3230.9	1860.1	860.3	386.0	224.7	171.2	154.6	146.3	141.0	140.2
72.5°	3321.3	2317.8	1075.9	416.2	206.6	149.3	131.2	125.2	122.1	120.6	120.6
75°	2051.6	1307.4	481.0	208.9	142.5	122.1	113.9	110.8	110.1	110.1	110.1
77.5°	721.6	455.4	215.6	153.1	125.2	110.1	103.3	101.8	103.3	103.3	103.3
80°	199.1	175.7	156.1	135.7	113.1	101.8	95.8	95.0	98.0	98.8	95.8
82.5°	155.3	146.3	133.5	121.4	103.3	92.7	89.7	91.2	92.7	90.5	86.0
85°	132.7	126.7	93.5	93.5	83.7	80.7	79.9	81.4	80.7	74.6	68.6
87.5°	75.4	66.4	50.5	55.0	58.8	60.3	50.5	54.3	53.5	47.5	44.5
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):

	160°	165°	170°	175°	180°
0°	1211.7	1211.7	1211.7	1211.7	1211.7
2.5°	1223.0	1223.0	1224.5	1224.5	1223.7
5°	1238.1	1238.1	1240.3	1238.8	1239.6
7.5°	1235.0	1232.0	1232.0	1230.5	1229.8
10°	1213.9	1208.7	1205.6	1207.1	1204.9
12.5°	1189.8	1185.3	1182.3	1181.5	1180.8
15°	1174.7	1169.4	1167.2	1165.7	1165.7
17.5°	1166.4	1160.4	1157.4	1155.1	1154.4
20°	1162.7	1155.1	1150.6	1148.3	1146.8
22.5°	1164.2	1155.1	1149.1	1146.1	1144.6
25°	1170.2	1158.9	1151.3	1147.6	1145.3
27.5°	1180.8	1165.7	1157.4	1152.1	1149.1
30°	1193.6	1172.5	1160.4	1152.9	1149.8
32.5°	1201.9	1173.2	1158.1	1146.8	1143.8
35°	1200.4	1164.9	1145.3	1131.0	1128.7
37.5°	1185.3	1143.1	1118.9	1100.1	1097.8
40°	1152.9	1109.9	1082.0	1063.1	1058.6
42.5°	1107.6	1063.1	1033.0	1015.6	1009.6
45°	1041.3	987.0	959.1	944.8	936.5
47.5°	947.8	896.5	865.6	853.5	843.0
50°	841.5	784.9	762.3	748.7	736.7
52.5°	716.3	668.0	650.7	637.9	628.1
55°	594.9	561.0	540.6	527.0	527.8
57.5°	478.0	457.7	446.4	432.0	433.5
60°	376.2	358.9	358.9	349.9	346.8
62.5°	287.3	280.5	278.2	275.2	269.9
65°	217.9	217.9	218.7	218.7	215.6
66°	196.0	198.3	201.3	201.3	197.5
67.5°	169.6	172.7	175.7	177.2	177.2
70°	140.2	144.0	145.5	147.0	146.3
72.5°	122.9	125.9	125.9	126.7	125.2
75°	111.6	113.1	113.9	112.3	111.6
77.5°	103.3	104.1	103.3	102.5	101.8
80°	93.5	92.7	90.5	87.5	86.7
82.5°	80.7	77.7	76.2	71.6	70.9
85°	64.8	61.1	58.1	52.0	49.0
87.5°	43.0	41.5	39.2	28.7	23.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)