

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: P146608

Luminaire Tested: **LDRL-T3-E04-E-8030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P146608  
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-8030  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 3  
Light Source: (84) 3000K CCT, 80 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10080 lumens  
Efficiency: N/A  
Efficacy: 103.7 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

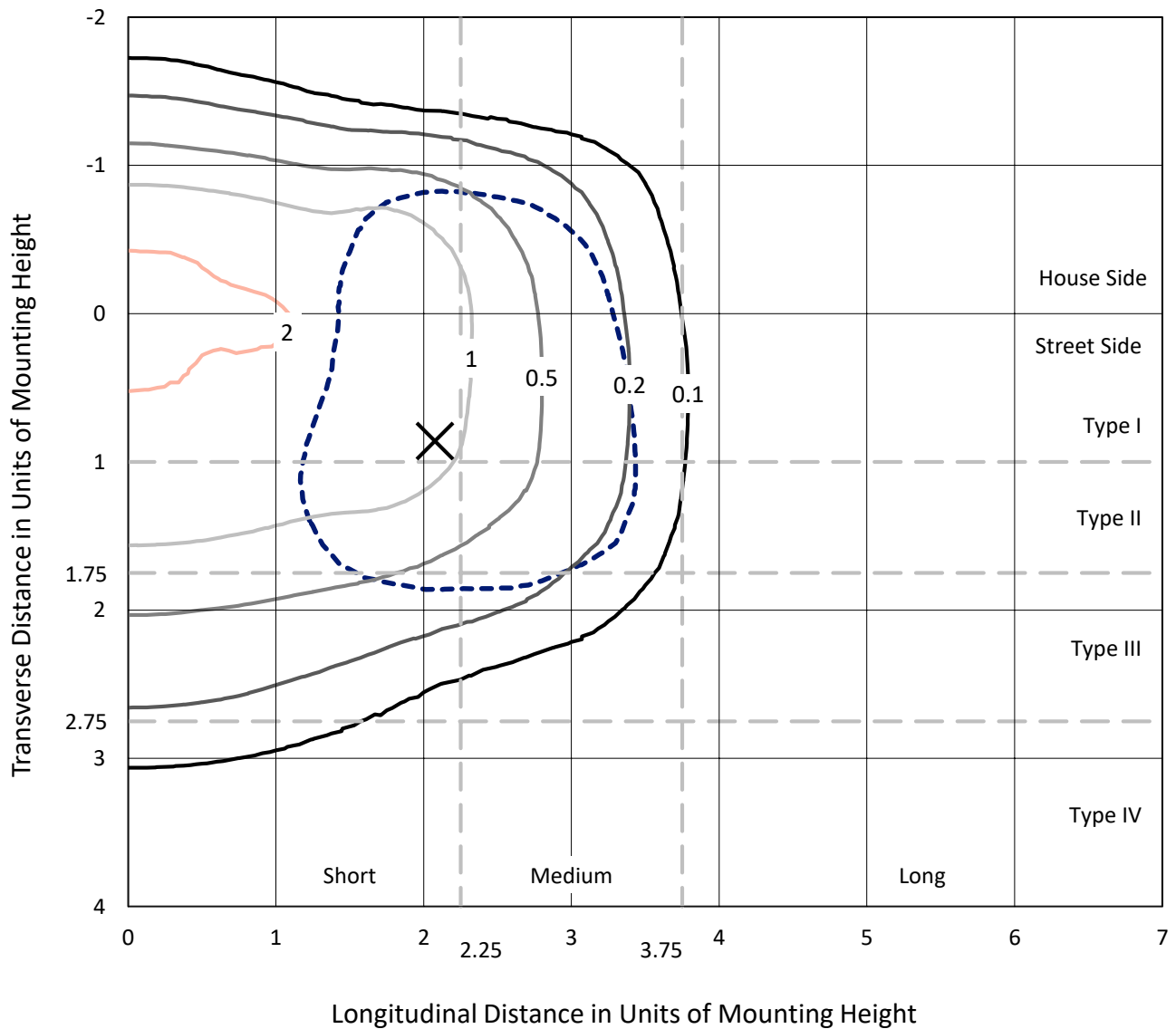
Input Watts (W): 97.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

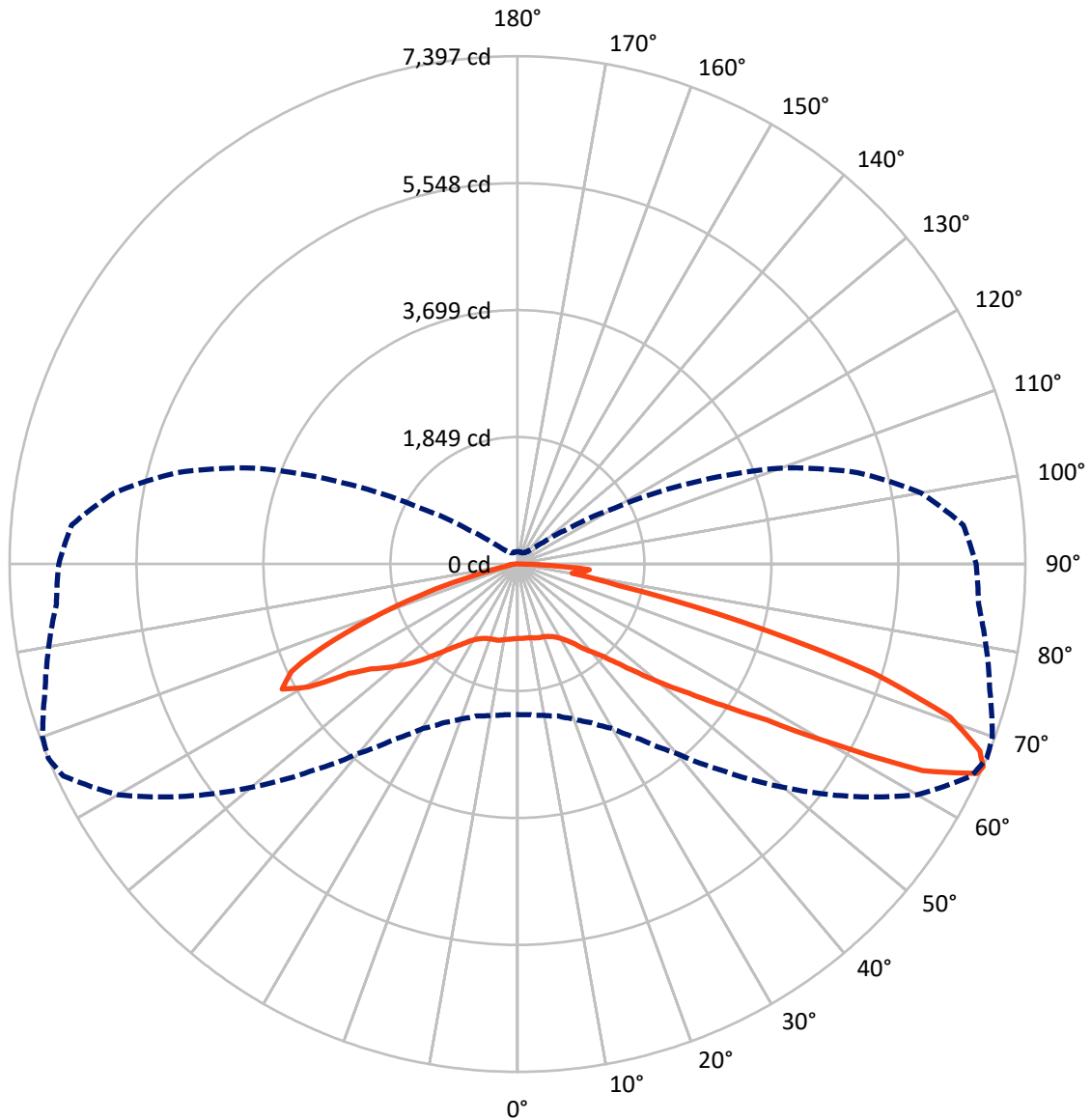
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 2.7 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	3424.5	0.0	3424.5
	% Fixture	34.0	0.0	34.0
<b>Street Side</b>	Lumens	6655.5	0.0	6655.5
	% Fixture	66.0	0.0	66.0
<b>Total</b>	Lumens	10080.0	0.0	10080.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	104.2	1.0
10°-20°	308.8	3.1
20°-30°	530.9	5.3
30°-40°	854.0	8.5
40°-50°	1407.5	14.0
50°-60°	2206.3	21.9
60°-70°	3053.3	30.3
70°-80°	1381.8	13.7
80°-90°	233.1	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°	10080.0	100.0
0°-180°	10080.0	100.0



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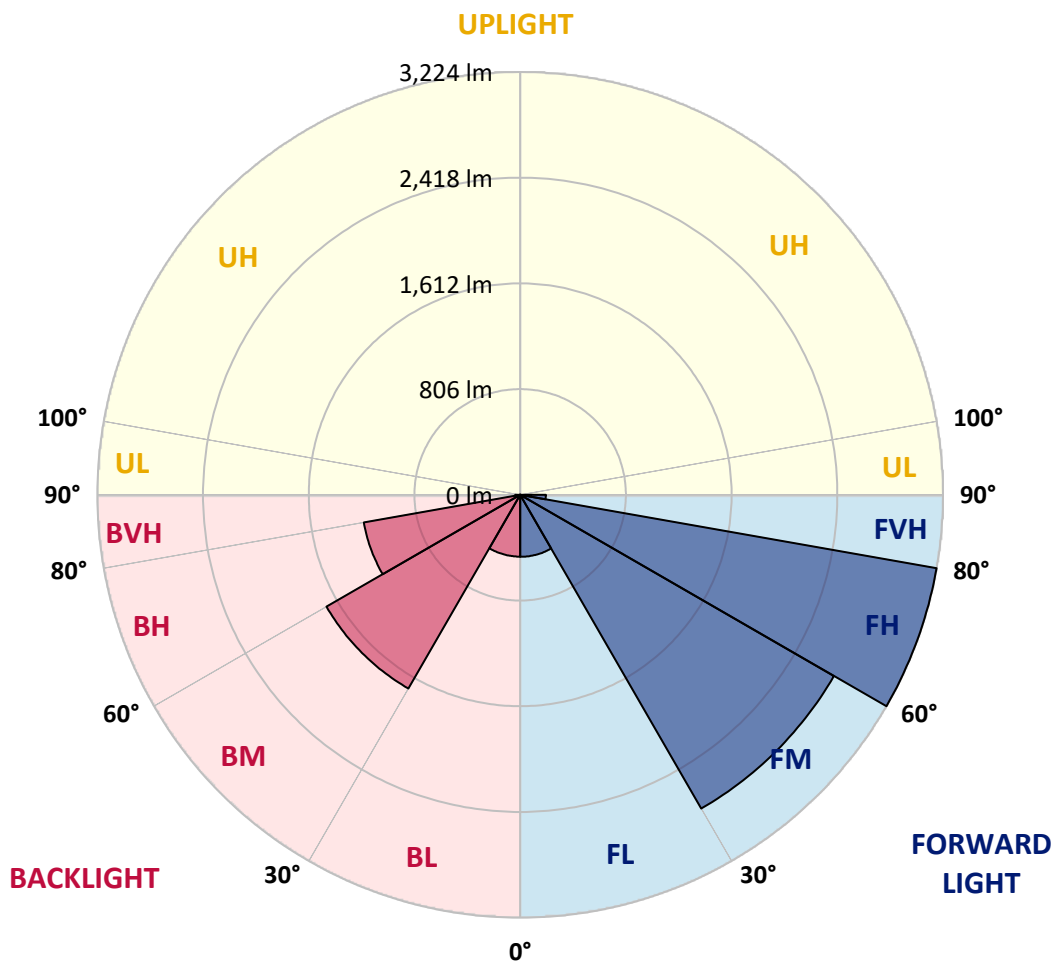
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	472.8	4.7			
FM	(30°-60°)	2762.3	27.4			
FH	(60°-80°)	3224.5	32.0			G2/5000
FVH	(80°-90°)	195.9	1.9			G2/225
BL	(0°-30°)	471.2	4.7	B1/500		
BM	(30°-60°)	1705.4	16.9	B2/2500		
BH	(60°-80°)	1210.6	12.0	B3/2500		G3/2500
BVH	(80°-90°)	37.2	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°	1085.0	1085.0	1085.0	1085.0	1085.0	1085.0	1085.0	1085.0	1085.0	1085.0	1085.0
2.5°	1083.7	1083.0	1082.3	1082.3	1081.7	1082.3	1083.0	1083.7	1083.0	1083.7	1083.0
5°	1081.7	1081.7	1081.0	1081.0	1081.0	1081.0	1081.7	1082.3	1081.7	1083.0	1081.7
7.5°	1072.9	1076.9	1075.6	1076.9	1078.3	1079.6	1080.3	1081.7	1083.7	1085.0	1083.7
10°	1061.4	1063.4	1064.1	1065.5	1068.2	1071.5	1074.2	1077.6	1082.3	1083.7	1085.0
12.5°	1040.5	1043.2	1045.2	1047.9	1052.0	1057.4	1062.1	1067.5	1075.6	1081.0	1085.7
15°	1024.9	1028.3	1029.0	1032.4	1036.4	1042.5	1048.6	1056.7	1067.5	1076.9	1086.4
17.5°	1035.1	1036.4	1035.1	1035.1	1036.4	1039.1	1043.8	1050.6	1062.1	1073.6	1085.0
20°	1065.5	1065.5	1064.1	1063.4	1062.1	1059.4	1058.7	1058.0	1065.5	1074.2	1084.4
22.5°	1094.5	1094.5	1093.8	1096.5	1095.8	1095.8	1093.8	1090.4	1087.1	1085.7	1092.5
25°	1112.7	1115.4	1116.8	1120.8	1123.5	1127.6	1128.9	1128.2	1123.5	1115.4	1113.4
27.5°	1142.4	1144.5	1145.8	1150.5	1155.9	1160.7	1165.4	1171.5	1171.5	1164.0	1153.9
30°	1199.8	1197.1	1198.5	1199.8	1204.5	1211.3	1217.4	1225.5	1229.5	1226.8	1213.3
32.5°	1253.2	1255.9	1257.2	1261.3	1266.0	1276.1	1283.5	1293.0	1301.8	1303.1	1296.4
35°	1331.5	1330.1	1328.1	1342.3	1347.7	1359.2	1367.9	1381.4	1388.2	1394.3	1390.2
37.5°	1455.0	1451.0	1448.3	1452.3	1459.8	1467.2	1480.0	1490.2	1501.6	1515.8	1511.1
40°	1629.9	1638.0	1626.5	1631.9	1638.0	1621.1	1632.6	1642.1	1661.6	1662.3	1661.6
42.5°	1857.5	1863.5	1860.8	1864.2	1853.4	1848.0	1843.3	1848.0	1872.3	1868.9	1852.7
45°	2085.0	2093.8	2091.7	2093.1	2114.0	2105.3	2112.7	2114.0	2139.0	2132.3	2120.1
47.5°	2279.5	2294.3	2297.7	2309.8	2338.2	2361.1	2392.9	2416.5	2428.7	2436.8	2446.2
50°	2433.4	2444.2	2463.1	2493.5	2534.7	2574.5	2646.1	2692.7	2735.2	2764.9	2795.3
52.5°	2535.3	2547.5	2576.5	2622.4	2681.9	2754.8	2838.5	2935.7	3025.5	3078.2	3123.4
55°	2577.2	2589.4	2625.1	2685.2	2764.2	2857.4	2977.6	3114.7	3234.2	3355.0	3424.6
57.5°	2552.9	2566.4	2607.6	2675.1	2770.3	2892.5	3041.7	3209.9	3384.7	3567.7	3707.5
60°	2481.3	2493.5	2540.1	2610.3	2719.0	2856.7	3035.7	3246.3	3492.1	3763.5	4028.9
62.5°	2382.8	2401.0	2442.2	2513.7	2621.8	2772.3	2976.2	3250.4	3602.8	4040.4	4556.9
65°	2257.2	2270.7	2307.1	2363.8	2482.7	2640.0	2855.4	3191.0	3651.4	4271.9	5009.3
66°	2192.4	2205.2	2238.9	2292.3	2401.0	2552.2	2767.6	3111.3	3597.4	4270.6	5057.2
67.5°	2078.2	2084.3	2108.6	2161.3	2232.2	2367.9	2567.8	2889.8	3368.5	4090.3	4923.5
70°	1743.3	1752.1	1775.8	1802.8	1829.1	1877.7	2017.5	2230.2	2613.0	3305.1	4099.8
72.5°	1205.9	1219.4	1245.1	1295.0	1336.2	1397.6	1452.3	1523.2	1650.2	2130.9	2933.0
75°	871.7	876.4	914.2	1002.0	1085.0	1207.9	1316.6	1351.1	1307.8	1300.4	1723.1
77.5°	519.9	526.7	581.3	669.8	756.2	923.0	1145.8	1318.0	1413.2	1379.4	1304.5
80°	218.8	228.2	260.6	283.6	355.2	494.9	715.0	985.1	1236.3	1390.9	1355.8
82.5°	70.2	81.7	96.6	116.8	137.7	184.3	285.6	427.4	675.2	1006.7	1237.6
85°	25.7	26.3	36.5	50.6	56.0	64.8	83.0	128.3	228.2	377.4	702.2
87.5°	10.1	12.2	14.2	19.6	20.3	20.9	23.6	30.4	29.7	25.7	133.0
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):**

	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°	100°
0°	1085.0	1085.0	1085.0	1085.0	1085.0	1085.0	1085.0	1085.0	1085.0	1085.0	1085.0
2.5°	1083.7	1085.0	1084.4	1085.0	1085.0	1083.7	1083.7	1086.4	1084.4	1085.7	1085.7
5°	1083.0	1084.4	1083.7	1085.0	1085.0	1084.4	1084.4	1088.4	1087.7	1089.8	1091.1
7.5°	1085.7	1086.4	1085.7	1085.7	1087.7	1087.1	1087.7	1089.1	1092.5	1095.8	1098.5
10°	1089.1	1090.4	1092.5	1093.1	1095.8	1095.2	1097.2	1099.2	1102.6	1106.0	1109.3
12.5°	1093.8	1097.9	1103.9	1105.3	1108.0	1110.0	1113.4	1115.4	1118.1	1123.5	1127.6
15°	1097.9	1105.3	1112.7	1115.4	1118.1	1120.8	1124.2	1126.2	1130.9	1135.7	1140.4
17.5°	1099.2	1108.0	1117.4	1120.8	1123.5	1128.2	1132.3	1136.3	1141.8	1147.8	1153.2
20°	1099.9	1112.0	1124.2	1128.2	1134.3	1141.1	1147.8	1151.2	1158.6	1166.1	1170.8
22.5°	1106.0	1120.8	1137.7	1145.1	1151.2	1163.4	1172.1	1177.5	1186.3	1192.4	1194.4
25°	1122.8	1138.4	1158.6	1170.1	1180.2	1197.8	1208.6	1218.7	1223.4	1231.6	1229.5
27.5°	1153.2	1165.4	1191.7	1207.2	1220.1	1243.0	1264.0	1273.4	1280.8	1284.9	1280.2
30°	1205.2	1209.9	1239.0	1257.9	1279.5	1315.3	1338.2	1350.4	1359.8	1360.5	1348.4
32.5°	1282.9	1275.4	1301.1	1328.1	1356.5	1399.7	1430.7	1443.6	1451.0	1451.7	1424.7
35°	1388.2	1375.4	1397.0	1423.3	1458.4	1515.1	1554.3	1569.1	1580.6	1575.2	1535.4
37.5°	1521.2	1520.5	1530.7	1564.4	1604.3	1677.2	1718.4	1726.5	1725.8	1709.6	1649.5
40°	1669.1	1656.9	1658.3	1682.6	1728.5	1824.4	1881.8	1895.3	1890.5	1866.9	1788.6
42.5°	1855.4	1850.0	1831.8	1844.6	1887.2	2004.0	2073.5	2087.0	2091.1	2051.9	1959.4
45°	2116.7	2112.0	2071.5	2074.2	2105.3	2228.1	2300.4	2322.7	2323.3	2286.2	2166.0
47.5°	2433.4	2429.3	2382.1	2368.6	2384.1	2493.5	2583.3	2588.0	2589.4	2538.0	2413.1
50°	2792.6	2781.1	2745.3	2731.2	2712.9	2833.8	2906.0	2905.4	2897.9	2841.2	2700.8
52.5°	3139.6	3165.3	3151.8	3124.1	3124.8	3211.9	3280.1	3242.3	3247.0	3193.0	3031.6
55°	3510.3	3575.8	3625.1	3635.2	3630.5	3675.1	3712.9	3645.4	3620.4	3611.6	3440.1
57.5°	3904.0	4071.4	4223.3	4286.8	4262.5	4344.2	4377.9	4307.7	4309.1	4377.9	4230.1
60°	4429.9	4852.6	5235.4	5354.3	5409.6	5544.7	5484.6	5480.5	5586.5	5675.7	5401.5
62.5°	5228.0	5928.2	6539.2	6627.7	6672.3	6702.6	6675.6	6602.0	6711.4	6722.2	6299.5
65°	5833.0	6654.7	7245.5	7356.2	7348.1	7193.5	7043.6	6896.4	6895.1	6787.0	6242.8
66°	5898.5	6723.6	7299.5	7397.4	7361.6	7123.3	6932.9	6741.8	6680.4	6518.3	5966.0
67.5°	5755.3	6603.4	7175.3	7263.0	7186.8	6824.2	6564.9	6306.3	6213.8	5988.3	5425.2
70°	4920.1	5793.8	6558.8	6685.8	6595.3	6113.9	5729.7	5445.4	5193.6	4971.4	4506.9
72.5°	3814.8	4468.4	5278.0	5410.3	5417.7	5041.0	4608.2	4335.4	4042.4	3819.6	3471.2
75°	2502.3	2996.5	3441.5	3396.9	3409.7	3113.3	2855.4	2628.5	2363.2	2187.6	2021.5
77.5°	1462.5	1639.4	1598.9	1488.1	1394.9	1096.5	784.6	538.8	469.9	490.2	553.0
80°	1271.4	1172.1	917.6	806.9	733.9	498.3	268.1	189.1	166.1	168.1	178.3
82.5°	1368.6	1419.9	1165.4	959.4	836.6	586.7	315.3	157.3	113.4	132.3	145.8
85°	1062.1	1351.7	1246.4	1053.3	885.9	623.9	322.1	99.9	67.5	90.5	114.1
87.5°	302.5	478.7	382.8	338.3	272.8	186.4	77.0	39.8	36.5	47.3	65.5
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°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	1085.0	1085.0	1085.0	1085.0	1085.0	1085.0	1085.0	1085.0	1085.0	1085.0	1085.0
2.5°	1086.4	1086.4	1088.4	1089.1	1089.8	1089.8	1091.1	1091.1	1091.8	1094.5	1093.8
5°	1093.1	1095.2	1097.9	1099.2	1101.2	1101.9	1103.9	1103.9	1106.0	1108.0	1107.3
7.5°	1101.2	1103.3	1105.3	1107.3	1109.3	1112.0	1111.4	1110.7	1110.0	1108.7	1107.3
10°	1112.7	1114.7	1116.8	1116.1	1114.7	1113.4	1108.0	1101.9	1099.2	1093.8	1089.8
12.5°	1131.6	1133.6	1131.6	1126.2	1118.8	1110.0	1098.5	1088.4	1082.3	1074.2	1069.5
15°	1145.8	1147.8	1143.8	1134.3	1122.2	1110.7	1095.2	1082.3	1071.5	1062.8	1056.0
17.5°	1156.6	1155.3	1146.5	1135.7	1122.8	1113.4	1099.2	1085.0	1072.2	1060.1	1050.6
20°	1172.1	1164.7	1151.9	1138.4	1125.5	1117.4	1106.0	1093.1	1079.6	1062.1	1049.9
22.5°	1192.4	1178.9	1162.0	1148.5	1136.3	1128.2	1116.8	1104.6	1091.8	1071.5	1054.7
25°	1221.4	1199.8	1180.2	1166.1	1155.3	1147.2	1133.0	1120.1	1106.0	1085.7	1064.1
27.5°	1261.9	1230.9	1210.6	1196.4	1185.6	1176.2	1158.0	1142.4	1124.2	1103.9	1078.3
30°	1314.6	1276.8	1254.5	1242.4	1230.9	1217.4	1197.8	1174.8	1151.2	1124.2	1096.5
32.5°	1380.1	1337.6	1316.6	1304.5	1289.6	1271.4	1245.7	1215.3	1180.2	1144.5	1110.0
35°	1473.3	1424.7	1401.7	1380.8	1359.2	1332.2	1293.7	1249.8	1203.2	1156.6	1114.1
37.5°	1565.8	1520.5	1492.2	1470.6	1436.8	1392.9	1339.6	1278.8	1216.7	1157.3	1106.0
40°	1696.8	1644.1	1611.0	1572.5	1517.8	1449.6	1372.0	1290.3	1213.3	1141.8	1081.0
42.5°	1857.5	1797.4	1748.1	1678.5	1593.5	1494.9	1387.5	1283.5	1189.7	1107.3	1040.5
45°	2060.7	1982.4	1900.0	1790.6	1660.3	1522.6	1386.8	1259.9	1149.2	1056.0	989.8
47.5°	2297.7	2187.6	2049.2	1882.4	1704.2	1529.3	1365.2	1217.4	1088.4	985.8	909.5
50°	2541.4	2382.1	2185.6	1953.3	1726.5	1512.4	1317.3	1147.8	1008.7	891.9	809.6
52.5°	2841.9	2594.8	2309.2	2001.3	1717.0	1462.5	1237.6	1049.9	901.4	787.3	692.7
55°	3199.7	2839.2	2426.6	2027.6	1675.2	1372.7	1116.8	921.6	765.7	661.7	576.6
57.5°	3791.9	3222.0	2627.2	2066.8	1592.8	1239.0	969.6	767.7	621.2	532.7	464.5
60°	4812.8	4007.3	3051.2	2163.3	1478.7	1048.6	782.5	601.6	480.7	409.8	361.9
62.5°	5525.1	4483.3	3279.4	2130.2	1284.9	825.8	578.6	430.1	350.4	303.8	271.4
65°	5386.7	4295.6	3004.6	1809.5	1006.7	584.0	384.9	291.0	245.8	216.7	200.5
66°	5138.2	4088.3	2795.3	1624.5	873.0	486.8	317.3	241.0	211.3	190.4	179.6
67.5°	4685.2	3658.9	2419.2	1303.8	653.6	359.2	241.0	187.7	171.5	160.7	153.3
70°	3879.0	2893.2	1665.7	770.4	345.7	201.2	153.3	138.4	131.0	126.3	125.6
72.5°	2974.2	2075.5	963.5	372.7	185.0	133.7	117.5	112.1	109.4	108.0	108.0
75°	1837.2	1170.8	430.8	187.0	127.6	109.4	102.0	99.3	98.6	98.6	98.6
77.5°	646.2	407.8	193.1	137.1	112.1	98.6	92.5	91.2	92.5	92.5	92.5
80°	178.3	157.3	139.8	121.5	101.3	91.2	85.7	85.1	87.8	88.5	85.7
82.5°	139.1	131.0	119.5	108.7	92.5	83.0	80.3	81.7	83.0	81.0	77.0
85°	118.8	113.4	83.7	83.7	74.9	72.2	71.6	72.9	72.2	66.8	61.4
87.5°	67.5	59.4	45.2	49.3	52.7	54.0	45.2	48.6	47.9	42.5	39.8
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°	1085.0	1085.0	1085.0	1085.0	1085.0
2.5°	1095.2	1095.2	1096.5	1096.5	1095.8
5°	1108.7	1108.7	1110.7	1109.3	1110.0
7.5°	1106.0	1103.3	1103.3	1101.9	1101.2
10°	1087.1	1082.3	1079.6	1081.0	1079.0
12.5°	1065.5	1061.4	1058.7	1058.0	1057.4
15°	1052.0	1047.2	1045.2	1043.8	1043.8
17.5°	1044.5	1039.1	1036.4	1034.4	1033.7
20°	1041.1	1034.4	1030.3	1028.3	1027.0
22.5°	1042.5	1034.4	1029.0	1026.3	1024.9
25°	1047.9	1037.8	1031.0	1027.6	1025.6
27.5°	1057.4	1043.8	1036.4	1031.7	1029.0
30°	1068.8	1049.9	1039.1	1032.4	1029.7
32.5°	1076.3	1050.6	1037.1	1027.0	1024.3
35°	1074.9	1043.2	1025.6	1012.8	1010.8
37.5°	1061.4	1023.6	1002.0	985.1	983.1
40°	1032.4	993.9	968.9	952.0	948.0
42.5°	991.9	952.0	925.0	909.5	904.1
45°	932.4	883.8	858.8	846.0	838.6
47.5°	848.7	802.8	775.1	764.3	754.9
50°	753.5	702.9	682.6	670.5	659.7
52.5°	641.4	598.2	582.7	571.2	562.4
55°	532.7	502.3	484.1	472.0	472.6
57.5°	428.1	409.8	399.7	386.9	388.2
60°	336.9	321.4	321.4	313.3	310.6
62.5°	257.2	251.2	249.1	246.4	241.7
65°	195.1	195.1	195.8	195.8	193.1
66°	175.6	177.6	180.3	180.3	176.9
67.5°	151.9	154.6	157.3	158.7	158.7
70°	125.6	129.0	130.3	131.7	131.0
72.5°	110.1	112.8	112.8	113.4	112.1
75°	99.9	101.3	102.0	100.6	99.9
77.5°	92.5	93.2	92.5	91.8	91.2
80°	83.7	83.0	81.0	78.3	77.6
82.5°	72.2	69.5	68.2	64.1	63.5
85°	58.1	54.7	52.0	46.6	43.9
87.5°	38.5	37.1	35.1	25.7	20.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)