

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: P146615

Luminaire Tested: **LDRL-T3-F04-E**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146615
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-F04-E
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 3
Light Source: (28) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9859.4 lumens
Efficiency: N/A
Efficacy: 96.5 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

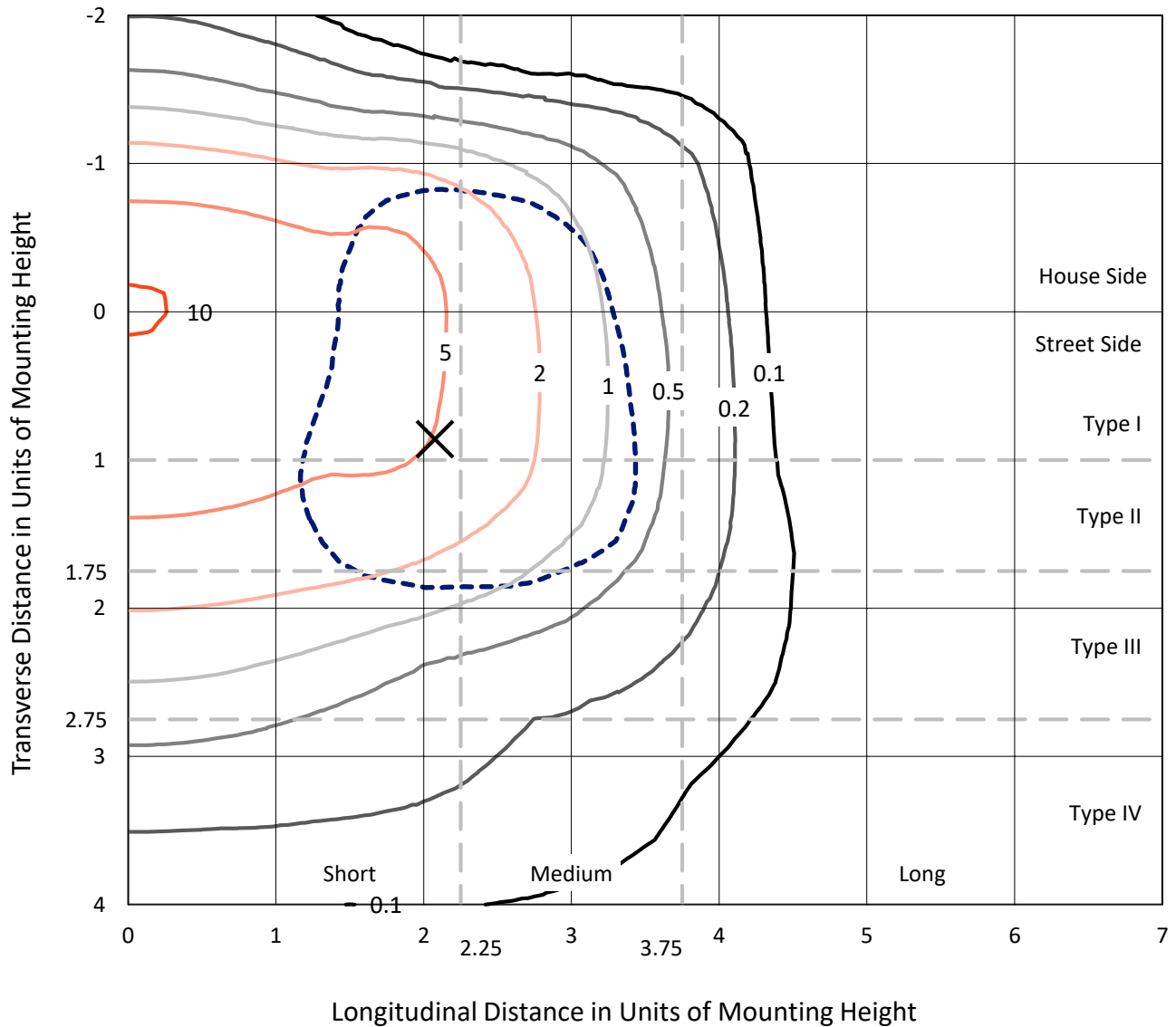
Input Watts (W): 102.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

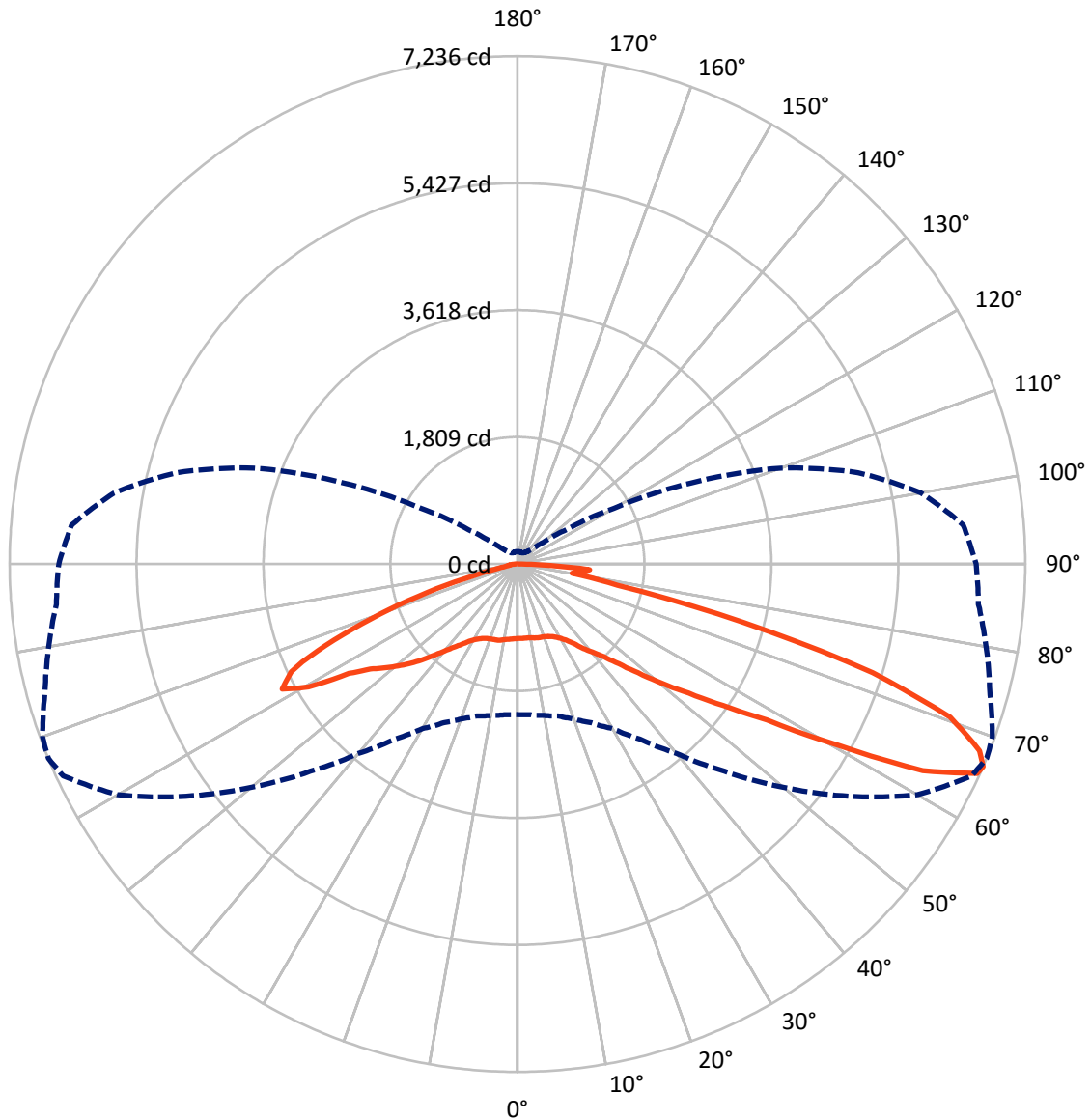
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.6 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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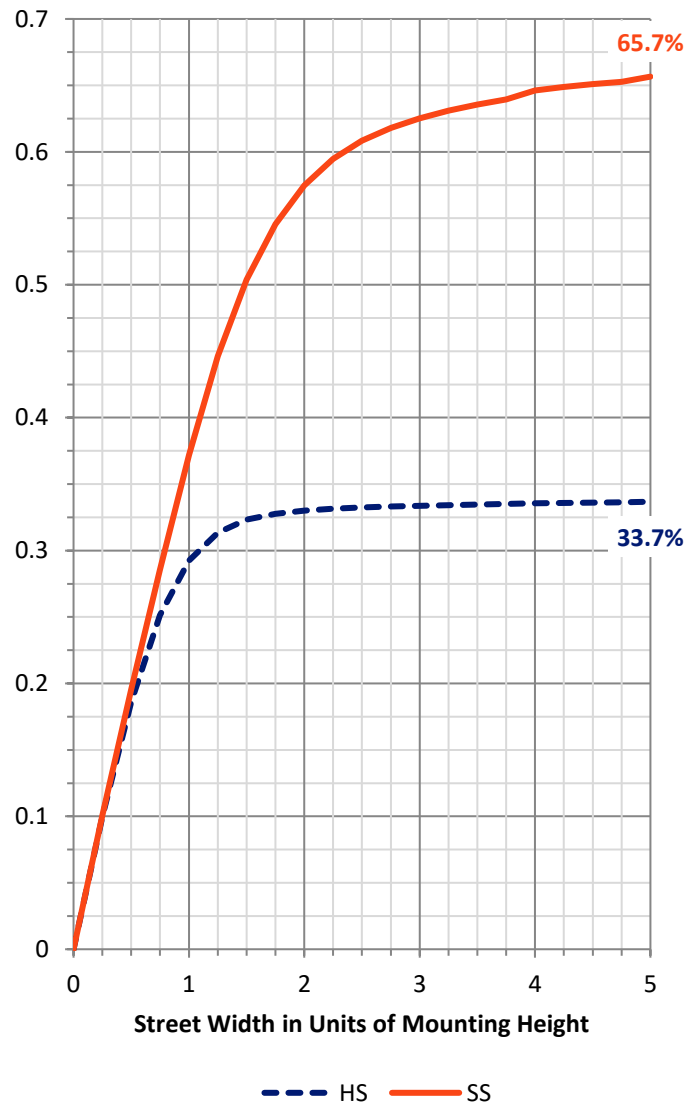
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3349.6	0.0	3349.6
	% Fixture	34.0	0.0	34.0
Street Side	Lumens	6509.9	0.0	6509.9
	% Fixture	66.0	0.0	66.0
Total	Lumens	9859.4	0.0	9859.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.0	1.0
10°-20°	302.1	3.1
20°-30°	519.3	5.3
30°-40°	835.3	8.5
40°-50°	1376.7	14.0
50°-60°	2158.0	21.9
60°-70°	2986.5	30.3
70°-80°	1351.6	13.7
80°-90°	228.0	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°	9859.4	100.0
0°-180°	9859.4	100.0



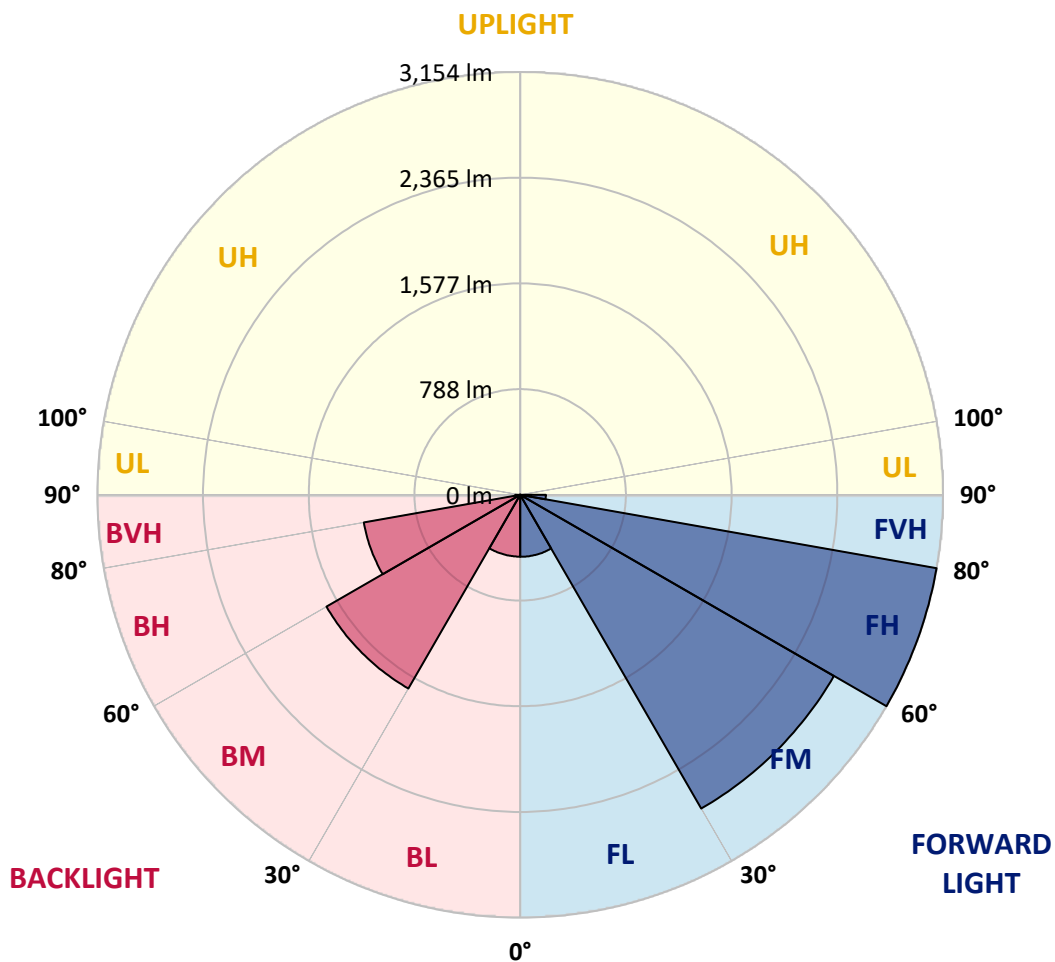
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	462.4	4.7			
FM	(30°-60°)	2701.9	27.4			
FH	(60°-80°)	3153.9	32.0			G2/5000
FVH	(80°-90°)	191.6	1.9			G2/225
BL	(0°-30°)	460.9	4.7	B1/500		
BM	(30°-60°)	1668.1	16.9	B2/2500		
BH	(60°-80°)	1184.1	12.0	B3/2500		G3/2500
BVH	(80°-90°)	36.4	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°	1061.3	1061.3	1061.3	1061.3	1061.3	1061.3	1061.3	1061.3	1061.3	1061.3	1061.3
2.5°	1060.0	1059.3	1058.7	1058.7	1058.0	1058.7	1059.3	1060.0	1059.3	1060.0	1059.3
5°	1058.0	1058.0	1057.3	1057.3	1057.3	1057.3	1058.0	1058.7	1058.0	1059.3	1058.0
7.5°	1049.4	1053.4	1052.0	1053.4	1054.7	1056.0	1056.7	1058.0	1060.0	1061.3	1060.0
10°	1038.2	1040.2	1040.8	1042.1	1044.8	1048.1	1050.7	1054.0	1058.7	1060.0	1061.3
12.5°	1017.7	1020.3	1022.3	1025.0	1028.9	1034.2	1038.8	1044.1	1052.0	1057.3	1062.0
15°	1002.5	1005.8	1006.5	1009.8	1013.7	1019.7	1025.6	1033.6	1044.1	1053.4	1062.6
17.5°	1012.4	1013.7	1012.4	1012.4	1013.7	1016.4	1021.0	1027.6	1038.8	1050.1	1061.3
20°	1042.1	1042.1	1040.8	1040.2	1038.8	1036.2	1035.5	1034.9	1042.1	1050.7	1060.6
22.5°	1070.5	1070.5	1069.9	1072.5	1071.9	1071.9	1069.9	1066.6	1063.3	1062.0	1068.6
25°	1088.4	1091.0	1092.3	1096.3	1098.9	1102.9	1104.2	1103.6	1098.9	1091.0	1089.0
27.5°	1117.4	1119.4	1120.7	1125.4	1130.6	1135.3	1139.9	1145.8	1145.8	1138.6	1128.7
30°	1173.6	1170.9	1172.2	1173.6	1178.2	1184.8	1190.7	1198.7	1202.6	1200.0	1186.8
32.5°	1225.7	1228.4	1229.7	1233.7	1238.3	1248.2	1255.5	1264.7	1273.3	1274.6	1268.0
35°	1302.3	1301.0	1299.0	1312.9	1318.2	1329.4	1338.0	1351.2	1357.8	1363.8	1359.8
37.5°	1423.2	1419.2	1416.6	1420.6	1427.8	1435.1	1447.6	1457.5	1468.8	1482.6	1478.0
40°	1594.3	1602.2	1591.0	1596.2	1602.2	1585.7	1596.9	1606.1	1625.3	1626.0	1625.3
42.5°	1816.8	1822.8	1820.1	1823.4	1812.9	1807.6	1802.9	1807.6	1831.3	1828.0	1812.2
45°	2039.4	2048.0	2046.0	2047.3	2067.8	2059.2	2066.5	2067.8	2092.2	2085.6	2073.7
47.5°	2229.6	2244.1	2247.4	2259.3	2287.0	2309.5	2340.5	2363.6	2375.5	2383.5	2392.7
50°	2380.2	2390.7	2409.2	2438.9	2479.2	2518.2	2588.2	2633.8	2675.4	2704.4	2734.1
52.5°	2479.9	2491.8	2520.2	2565.1	2623.2	2694.5	2776.4	2871.5	2959.3	3010.9	3055.1
55°	2520.8	2532.7	2567.7	2626.5	2703.8	2794.9	2912.5	3046.5	3163.4	3281.6	3349.6
57.5°	2497.0	2510.3	2550.5	2616.6	2709.7	2829.2	2975.2	3139.6	3310.7	3489.7	3626.4
60°	2427.0	2438.9	2484.5	2553.2	2659.5	2794.2	2969.2	3175.3	3415.7	3681.2	3940.7
62.5°	2330.6	2348.5	2388.7	2458.7	2564.4	2711.7	2911.1	3179.3	3524.0	3952.0	4457.2
65°	2207.8	2221.0	2256.7	2312.1	2428.4	2582.2	2792.9	3121.1	3571.6	4178.5	4899.7
66°	2144.4	2156.9	2190.0	2242.1	2348.5	2496.4	2707.1	3043.2	3518.7	4177.2	4946.5
67.5°	2032.8	2038.7	2062.5	2114.0	2183.3	2316.1	2511.6	2826.6	3294.8	4000.8	4815.8
70°	1705.2	1713.8	1736.9	1763.3	1789.1	1836.6	1973.3	2181.4	2555.8	3232.8	4010.1
72.5°	1179.5	1192.7	1217.8	1266.7	1307.0	1367.1	1420.6	1489.9	1614.1	2084.3	2868.9
75°	852.6	857.2	894.2	980.1	1061.3	1181.5	1287.8	1321.5	1279.2	1272.0	1685.4
77.5°	508.5	515.1	568.6	655.1	739.7	902.8	1120.7	1289.1	1382.3	1349.2	1275.9
80°	214.0	223.2	254.9	277.4	347.4	484.1	699.4	963.6	1209.2	1360.5	1326.1
82.5°	68.7	79.9	94.4	114.3	134.7	180.3	279.4	418.0	660.4	984.7	1210.5
85°	25.1	25.8	35.7	49.5	54.8	63.4	81.2	125.5	223.2	369.2	686.8
87.5°	9.9	11.9	13.9	19.2	19.8	20.5	23.1	29.7	29.1	25.1	130.1
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):

	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°	100°
0°	1061.3	1061.3	1061.3	1061.3	1061.3	1061.3	1061.3	1061.3	1061.3	1061.3	1061.3
2.5°	1060.0	1061.3	1060.6	1061.3	1061.3	1060.0	1060.0	1062.6	1060.6	1062.0	1062.0
5°	1059.3	1060.6	1060.0	1061.3	1061.3	1060.6	1060.6	1064.6	1063.9	1065.9	1067.2
7.5°	1062.0	1062.6	1062.0	1062.0	1063.9	1063.3	1063.9	1065.3	1068.6	1071.9	1074.5
10°	1065.3	1066.6	1068.6	1069.2	1071.9	1071.2	1073.2	1075.2	1078.5	1081.8	1085.1
12.5°	1069.9	1073.8	1079.8	1081.1	1083.7	1085.7	1089.0	1091.0	1093.7	1098.9	1102.9
15°	1073.8	1081.1	1088.4	1091.0	1093.7	1096.3	1099.6	1101.6	1106.2	1110.8	1115.4
17.5°	1075.2	1083.7	1093.0	1096.3	1098.9	1103.6	1107.5	1111.5	1116.8	1122.7	1128.0
20°	1075.8	1087.7	1099.6	1103.6	1109.5	1116.1	1122.7	1126.0	1133.3	1140.5	1145.2
22.5°	1081.8	1096.3	1112.8	1120.1	1126.0	1137.9	1146.5	1151.8	1160.4	1166.3	1168.3
25°	1098.3	1113.5	1133.3	1144.5	1154.4	1171.6	1182.2	1192.1	1196.7	1204.6	1202.6
27.5°	1128.0	1139.9	1165.6	1180.8	1193.4	1215.8	1236.3	1245.6	1252.8	1256.8	1252.2
30°	1178.8	1183.5	1211.9	1230.4	1251.5	1286.5	1309.0	1320.8	1330.1	1330.7	1318.9
32.5°	1254.8	1247.5	1272.6	1299.0	1326.8	1369.1	1399.4	1412.0	1419.2	1419.9	1393.5
35°	1357.8	1345.3	1366.4	1392.2	1426.5	1482.0	1520.3	1534.8	1546.0	1540.8	1501.8
37.5°	1487.9	1487.3	1497.2	1530.2	1569.2	1640.5	1680.8	1688.7	1688.0	1672.2	1613.4
40°	1632.6	1620.7	1622.0	1645.8	1690.7	1784.5	1840.6	1853.8	1849.2	1826.1	1749.5
42.5°	1814.8	1809.6	1791.7	1804.3	1845.9	1960.1	2028.1	2041.4	2045.3	2007.0	1916.5
45°	2070.4	2065.8	2026.2	2028.8	2059.2	2179.4	2250.1	2271.8	2272.5	2236.2	2118.6
47.5°	2380.2	2376.2	2330.0	2316.8	2331.9	2438.9	2526.8	2531.4	2532.7	2482.5	2360.3
50°	2731.5	2720.3	2685.3	2671.4	2653.6	2771.8	2842.4	2841.8	2834.5	2779.0	2641.7
52.5°	3071.0	3096.0	3082.8	3055.8	3056.4	3141.6	3208.3	3171.3	3176.0	3123.1	2965.3
55°	3433.5	3497.6	3545.8	3555.7	3551.1	3594.7	3631.6	3565.6	3541.2	3532.6	3364.8
57.5°	3818.5	3982.3	4130.9	4193.0	4169.2	4249.1	4282.2	4213.5	4214.8	4282.2	4137.5
60°	4333.0	4746.4	5120.9	5237.1	5291.3	5423.4	5364.6	5360.6	5464.3	5551.5	5283.4
62.5°	5113.6	5798.5	6396.2	6482.7	6526.3	6556.0	6529.6	6457.6	6564.6	6575.1	6161.7
65°	5705.4	6509.1	7087.0	7195.3	7187.4	7036.1	6889.5	6745.5	6744.2	6638.5	6106.2
66°	5769.4	6576.5	7139.8	7235.6	7200.6	6967.4	6781.2	6594.3	6534.2	6375.7	5835.5
67.5°	5629.4	6458.9	7018.3	7104.1	7029.5	6674.9	6421.3	6168.3	6077.8	5857.3	5306.5
70°	4812.5	5667.1	6415.3	6539.5	6451.0	5980.1	5604.3	5326.3	5080.0	4862.7	4408.3
72.5°	3731.4	4370.7	5162.5	5291.9	5299.2	4930.7	4507.4	4240.6	3953.9	3736.0	3395.2
75°	2447.5	2930.9	3366.2	3322.6	3335.1	3045.2	2792.9	2571.0	2311.5	2139.8	1977.3
77.5°	1430.5	1603.5	1563.9	1455.6	1364.4	1072.5	767.4	527.0	459.7	479.5	540.9
80°	1243.6	1146.5	897.5	789.2	717.9	487.4	262.2	184.9	162.5	164.4	174.4
82.5°	1338.7	1388.9	1139.9	938.5	818.3	573.9	308.4	153.9	111.0	129.4	142.7
85°	1038.8	1322.2	1219.1	1030.3	866.5	610.2	315.0	97.7	66.0	88.5	111.6
87.5°	295.9	468.2	374.5	330.9	266.8	182.3	75.3	39.0	35.7	46.2	64.1
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°	1061.3	1061.3	1061.3	1061.3	1061.3	1061.3	1061.3	1061.3	1061.3	1061.3	1061.3
2.5°	1062.6	1062.6	1064.6	1065.3	1065.9	1065.9	1067.2	1067.2	1067.9	1070.5	1069.9
5°	1069.2	1071.2	1073.8	1075.2	1077.1	1077.8	1079.8	1079.8	1081.8	1083.7	1083.1
7.5°	1077.1	1079.1	1081.1	1083.1	1085.1	1087.7	1087.1	1086.4	1085.7	1084.4	1083.1
10°	1088.4	1090.4	1092.3	1091.7	1090.4	1089.0	1083.7	1077.8	1075.2	1069.9	1065.9
12.5°	1106.9	1108.8	1106.9	1101.6	1094.3	1085.7	1074.5	1064.6	1058.7	1050.7	1046.1
15°	1120.7	1122.7	1118.8	1109.5	1097.6	1086.4	1071.2	1058.7	1048.1	1039.5	1032.9
17.5°	1131.3	1130.0	1121.4	1110.8	1098.3	1089.0	1075.2	1061.3	1048.7	1036.9	1027.6
20°	1146.5	1139.2	1126.7	1113.5	1100.9	1093.0	1081.8	1069.2	1056.0	1038.8	1027.0
22.5°	1166.3	1153.1	1136.6	1123.4	1111.5	1103.6	1092.3	1080.4	1067.9	1048.1	1031.6
25°	1194.7	1173.6	1154.4	1140.5	1130.0	1122.1	1108.2	1095.6	1081.8	1062.0	1040.8
27.5°	1234.3	1203.9	1184.1	1170.3	1159.7	1150.5	1132.6	1117.4	1099.6	1079.8	1054.7
30°	1285.8	1248.9	1227.1	1215.2	1203.9	1190.7	1171.6	1149.1	1126.0	1099.6	1072.5
32.5°	1349.9	1308.3	1287.8	1275.9	1261.4	1243.6	1218.5	1188.8	1154.4	1119.4	1085.7
35°	1441.0	1393.5	1371.0	1350.6	1329.4	1303.0	1265.4	1222.4	1176.9	1131.3	1089.7
37.5°	1531.5	1487.3	1459.5	1438.4	1405.4	1362.4	1310.3	1250.8	1190.1	1132.0	1081.8
40°	1659.6	1608.1	1575.8	1538.1	1484.6	1417.9	1342.0	1262.1	1186.8	1116.8	1057.3
42.5°	1816.8	1758.0	1709.8	1641.8	1558.6	1462.2	1357.2	1255.5	1163.7	1083.1	1017.7
45°	2015.6	1939.0	1858.4	1751.4	1624.0	1489.2	1356.5	1232.3	1124.0	1032.9	968.2
47.5°	2247.4	2139.8	2004.4	1841.3	1666.9	1495.9	1335.4	1190.7	1064.6	964.2	889.6
50°	2485.8	2330.0	2137.8	1910.6	1688.7	1479.3	1288.5	1122.7	986.7	872.4	791.8
52.5°	2779.7	2538.0	2258.6	1957.5	1679.4	1430.5	1210.5	1027.0	881.7	770.0	677.6
55°	3129.7	2777.1	2373.5	1983.2	1638.5	1342.6	1092.3	901.5	748.9	647.2	564.0
57.5°	3708.9	3151.5	2569.7	2021.5	1557.9	1211.9	948.4	750.9	607.6	521.1	454.4
60°	4707.5	3919.6	2984.4	2116.0	1446.3	1025.6	765.4	588.4	470.2	400.9	354.0
62.5°	5404.2	4385.2	3207.7	2083.6	1256.8	807.7	566.0	420.7	342.8	297.2	265.5
65°	5268.8	4201.6	2938.9	1769.9	984.7	571.3	376.4	284.6	240.4	212.0	196.1
66°	5025.8	3998.8	2734.1	1589.0	853.9	476.2	310.4	235.8	206.7	186.2	175.7
67.5°	4582.7	3578.8	2366.3	1275.3	639.3	351.3	235.8	183.6	167.7	157.2	149.9
70°	3794.1	2829.9	1629.3	753.5	338.1	196.8	149.9	135.4	128.1	123.5	122.8
72.5°	2909.1	2030.1	942.4	364.6	181.0	130.8	114.9	109.6	107.0	105.7	105.7
75°	1797.0	1145.2	421.3	182.9	124.8	107.0	99.7	97.1	96.4	96.4	96.4
77.5°	632.0	398.9	188.9	134.1	109.6	96.4	90.5	89.2	90.5	90.5	90.5
80°	174.4	153.9	136.7	118.9	99.1	89.2	83.9	83.2	85.9	86.5	83.9
82.5°	136.0	128.1	116.9	106.3	90.5	81.2	78.6	79.9	81.2	79.3	75.3
85°	116.2	111.0	81.9	81.9	73.3	70.7	70.0	71.3	70.7	65.4	60.1
87.5°	66.0	58.1	44.2	48.2	51.5	52.8	44.2	47.6	46.9	41.6	39.0
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°	1061.3	1061.3	1061.3	1061.3	1061.3
2.5°	1071.2	1071.2	1072.5	1072.5	1071.9
5°	1084.4	1084.4	1086.4	1085.1	1085.7
7.5°	1081.8	1079.1	1079.1	1077.8	1077.1
10°	1063.3	1058.7	1056.0	1057.3	1055.4
12.5°	1042.1	1038.2	1035.5	1034.9	1034.2
15°	1028.9	1024.3	1022.3	1021.0	1021.0
17.5°	1021.7	1016.4	1013.7	1011.8	1011.1
20°	1018.4	1011.8	1007.8	1005.8	1004.5
22.5°	1019.7	1011.8	1006.5	1003.8	1002.5
25°	1025.0	1015.1	1008.5	1005.2	1003.2
27.5°	1034.2	1021.0	1013.7	1009.1	1006.5
30°	1045.4	1027.0	1016.4	1009.8	1007.1
32.5°	1052.7	1027.6	1014.4	1004.5	1001.9
35°	1051.4	1020.3	1003.2	990.6	988.6
37.5°	1038.2	1001.2	980.1	963.6	961.6
40°	1009.8	972.1	947.7	931.2	927.2
42.5°	970.2	931.2	904.8	889.6	884.3
45°	912.0	864.5	840.1	827.5	820.2
47.5°	830.1	785.2	758.2	747.6	738.3
50°	737.0	687.5	667.7	655.8	645.2
52.5°	627.4	585.1	569.9	558.7	550.1
55°	521.1	491.4	473.5	461.6	462.3
57.5°	418.7	400.9	391.0	378.4	379.7
60°	329.5	314.4	314.4	306.4	303.8
62.5°	251.6	245.7	243.7	241.1	236.4
65°	190.9	190.9	191.5	191.5	188.9
66°	171.7	173.7	176.3	176.3	173.0
67.5°	148.6	151.2	153.9	155.2	155.2
70°	122.8	126.1	127.5	128.8	128.1
72.5°	107.6	110.3	110.3	111.0	109.6
75°	97.7	99.1	99.7	98.4	97.7
77.5°	90.5	91.1	90.5	89.8	89.2
80°	81.9	81.2	79.3	76.6	75.9
82.5°	70.7	68.0	66.7	62.7	62.1
85°	56.8	53.5	50.9	45.6	42.9
87.5°	37.6	36.3	34.3	25.1	20.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)