

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: P146623

Luminaire Tested: **LDRL-T3-F05-E-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146623
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-8030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 3
Light Source: (35) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10401.6 lumens
Efficiency: N/A
Efficacy: 78.0 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

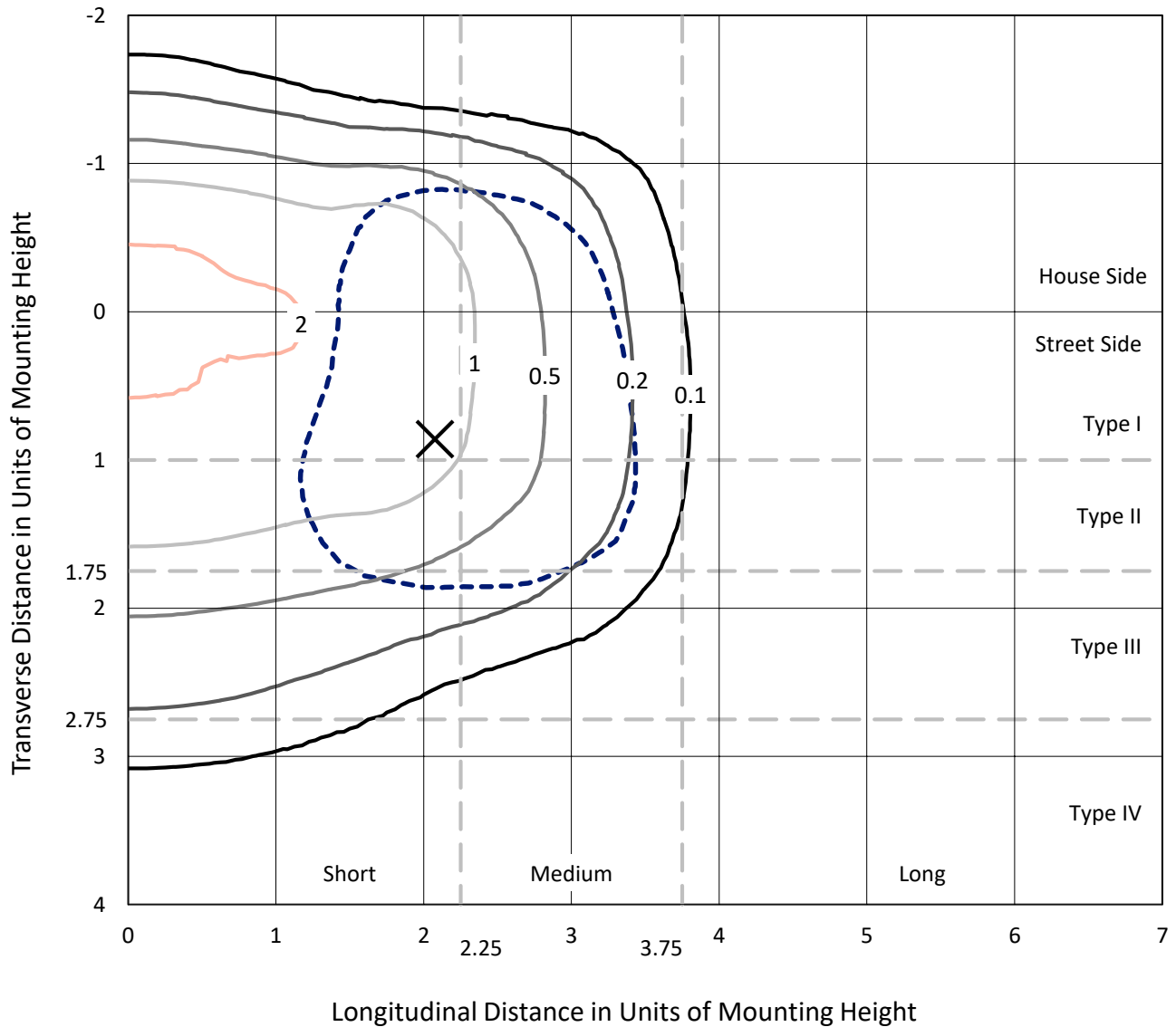
Input Watts (W): 133.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

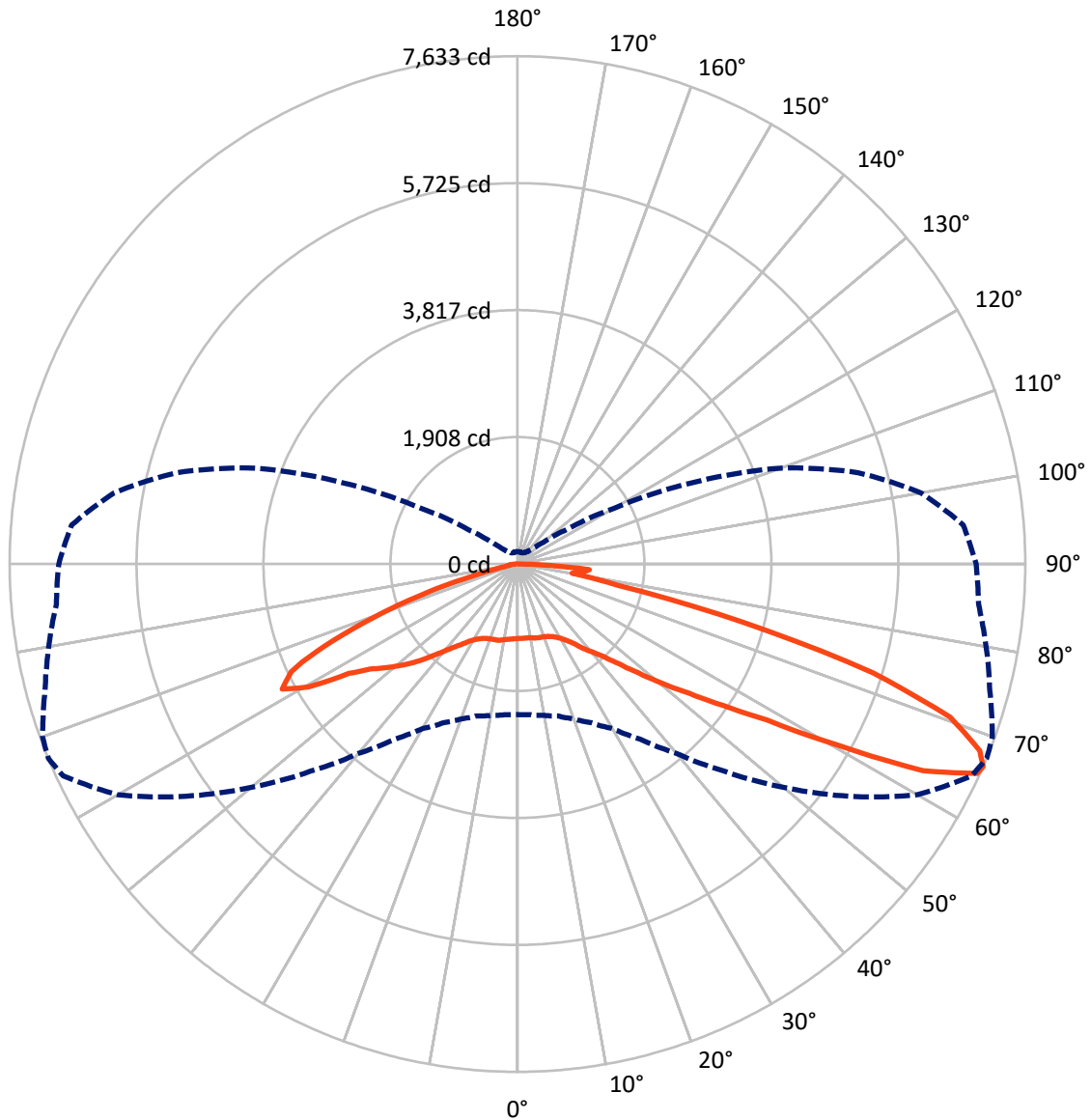
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 2.8 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	3533.8	0.0	3533.8
	% Fixture	34.0	0.0	34.0
Street Side	Lumens	6867.8	0.0	6867.8
	% Fixture	66.0	0.0	66.0
Total	Lumens	10401.6	0.0	10401.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.6	1.0
10°-20°	318.7	3.1
20°-30°	547.9	5.3
30°-40°	881.2	8.5
40°-50°	1452.4	14.0
50°-60°	2276.7	21.9
60°-70°	3150.7	30.3
70°-80°	1425.9	13.7
80°-90°	240.6	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°	10401.6	100.0
0°-180°	10401.6	100.0



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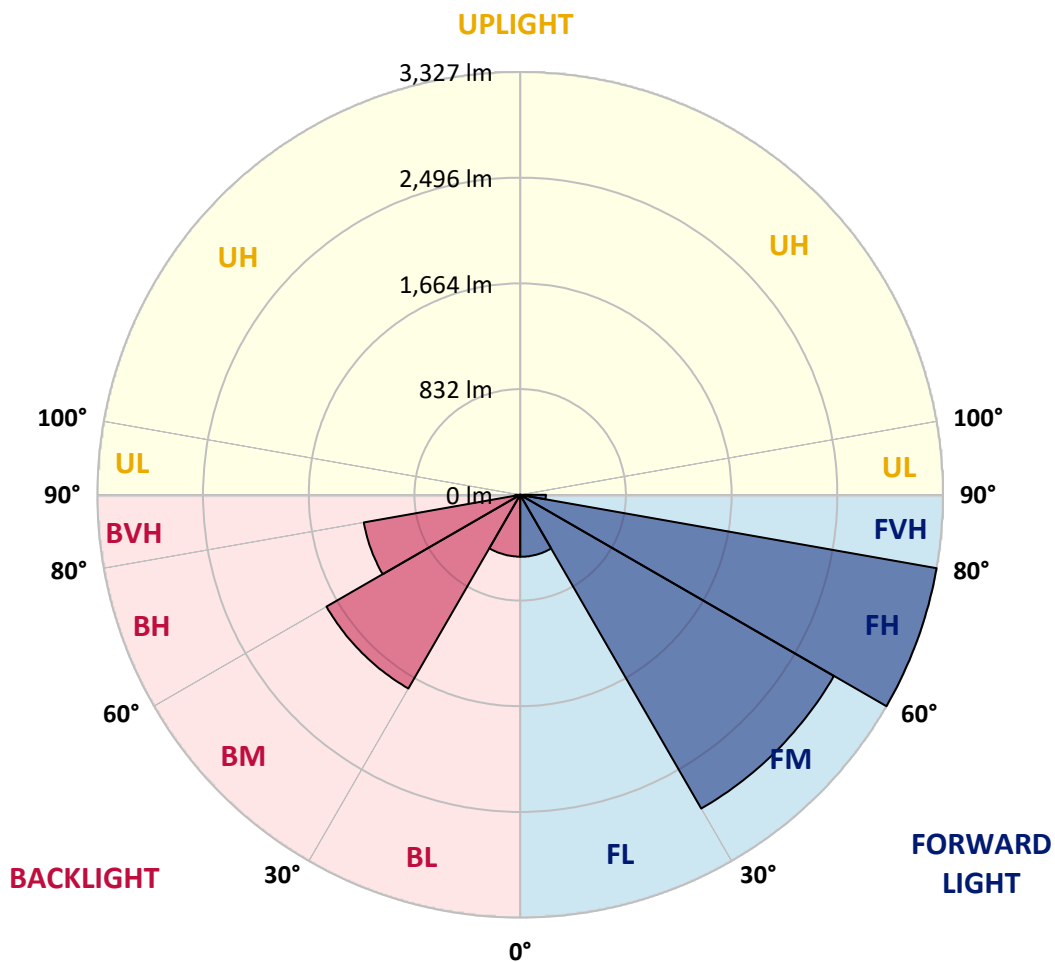
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	487.8	4.7			
FM	(30°-60°)	2850.4	27.4			
FH	(60°-80°)	3327.4	32.0			G2/5000
FVH	(80°-90°)	202.2	1.9			G2/225
BL	(0°-30°)	486.3	4.7	B1/500		
BM	(30°-60°)	1759.8	16.9	B2/2500		
BH	(60°-80°)	1249.2	12.0	B3/2500		G3/2500
BVH	(80°-90°)	38.4	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°	1119.7	1119.7	1119.7	1119.7	1119.7	1119.7	1119.7	1119.7	1119.7	1119.7	1119.7
2.5°	1118.3	1117.6	1116.9	1116.9	1116.2	1116.9	1117.6	1118.3	1117.6	1118.3	1117.6
5°	1116.2	1116.2	1115.5	1115.5	1115.5	1115.5	1116.2	1116.9	1116.2	1117.6	1116.2
7.5°	1107.1	1111.3	1109.9	1111.3	1112.7	1114.1	1114.8	1116.2	1118.3	1119.7	1118.3
10°	1095.3	1097.4	1098.1	1099.4	1102.2	1105.7	1108.5	1112.0	1116.9	1118.3	1119.7
12.5°	1073.7	1076.5	1078.5	1081.3	1085.5	1091.1	1096.0	1101.5	1109.9	1115.5	1120.4
15°	1057.6	1061.1	1061.8	1065.3	1069.5	1075.8	1082.0	1090.4	1101.5	1111.3	1121.0
17.5°	1068.1	1069.5	1068.1	1068.1	1069.5	1072.3	1077.2	1084.1	1096.0	1107.8	1119.7
20°	1099.4	1099.4	1098.1	1097.4	1096.0	1093.2	1092.5	1091.8	1099.4	1108.5	1119.0
22.5°	1129.4	1129.4	1128.7	1131.5	1130.8	1130.8	1128.7	1125.2	1121.7	1120.4	1127.3
25°	1148.2	1151.0	1152.4	1156.6	1159.4	1163.5	1164.9	1164.2	1159.4	1151.0	1148.9
27.5°	1178.9	1181.0	1182.4	1187.2	1192.8	1197.7	1202.6	1208.8	1208.8	1201.2	1190.7
30°	1238.1	1235.3	1236.7	1238.1	1243.0	1249.9	1256.2	1264.6	1268.8	1266.0	1252.0
32.5°	1293.1	1295.9	1297.3	1301.5	1306.4	1316.8	1324.5	1334.2	1343.3	1344.7	1337.7
35°	1374.0	1372.6	1370.5	1385.1	1390.7	1402.5	1411.6	1425.5	1432.5	1438.8	1434.6
37.5°	1501.5	1497.3	1494.5	1498.7	1506.3	1514.0	1527.2	1537.7	1549.5	1564.2	1559.3
40°	1681.9	1690.3	1678.4	1684.0	1690.3	1672.9	1684.7	1694.5	1714.7	1715.4	1714.7
42.5°	1916.7	1923.0	1920.2	1923.7	1912.5	1907.0	1902.1	1907.0	1932.0	1928.6	1911.8
45°	2151.5	2160.6	2158.5	2159.9	2181.5	2172.4	2180.1	2181.5	2207.3	2200.3	2187.7
47.5°	2352.2	2367.5	2371.0	2383.5	2412.8	2436.5	2469.2	2493.6	2506.2	2514.5	2524.3
50°	2511.0	2522.2	2541.7	2573.0	2615.5	2656.7	2730.5	2778.6	2822.5	2853.1	2884.5
52.5°	2616.2	2628.8	2658.7	2706.1	2767.4	2842.7	2929.1	3029.4	3122.1	3176.4	3223.1
55°	2659.4	2672.0	2708.9	2770.9	2852.4	2948.6	3072.6	3214.0	3337.4	3462.1	3533.8
57.5°	2634.4	2648.3	2690.8	2760.5	2858.7	2984.8	3138.8	3312.3	3492.7	3681.6	3825.8
60°	2560.5	2573.0	2621.1	2693.6	2805.8	2947.9	3132.5	3349.9	3603.5	3883.6	4157.4
62.5°	2458.8	2477.6	2520.1	2593.9	2705.4	2860.8	3071.2	3354.1	3717.8	4169.3	4702.3
65°	2329.2	2343.1	2380.7	2439.3	2561.9	2724.2	2946.5	3292.8	3767.9	4408.2	5169.1
66°	2262.3	2275.5	2310.4	2365.4	2477.6	2633.7	2855.9	3210.6	3712.2	4406.9	5218.5
67.5°	2144.6	2150.8	2175.9	2230.3	2303.4	2443.5	2649.7	2982.0	3476.0	4220.8	5080.6
70°	1799.0	1808.0	1832.4	1860.3	1887.5	1937.6	2081.8	2301.3	2696.4	3410.5	4230.6
72.5°	1244.4	1258.3	1284.8	1336.3	1378.8	1442.2	1498.7	1571.8	1702.8	2198.9	3026.6
75°	899.5	904.4	943.4	1034.0	1119.7	1246.5	1358.6	1394.2	1349.6	1341.9	1778.1
77.5°	536.5	543.5	599.9	691.2	780.3	952.4	1182.4	1360.0	1458.3	1423.4	1346.1
80°	225.7	235.5	268.9	292.6	366.5	510.7	737.8	1016.5	1275.7	1435.3	1399.0
82.5°	72.5	84.3	99.6	120.5	142.1	190.2	294.7	441.0	696.7	1038.8	1277.1
85°	26.5	27.2	37.6	52.3	57.8	66.9	85.7	132.4	235.5	389.5	724.6
87.5°	10.5	12.5	14.6	20.2	20.9	21.6	24.4	31.4	30.7	26.5	137.3
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°	1119.7	1119.7	1119.7	1119.7	1119.7	1119.7	1119.7	1119.7	1119.7	1119.7	1119.7
2.5°	1118.3	1119.7	1119.0	1119.7	1119.7	1118.3	1118.3	1121.0	1119.0	1120.4	1120.4
5°	1117.6	1119.0	1118.3	1119.7	1119.7	1119.0	1119.0	1123.1	1122.4	1124.5	1125.9
7.5°	1120.4	1121.0	1120.4	1120.4	1122.4	1121.7	1122.4	1123.8	1127.3	1130.8	1133.6
10°	1123.8	1125.2	1127.3	1128.0	1130.8	1130.1	1132.2	1134.3	1137.8	1141.3	1144.7
12.5°	1128.7	1132.9	1139.2	1140.6	1143.3	1145.4	1148.9	1151.0	1153.8	1159.4	1163.5
15°	1132.9	1140.6	1148.2	1151.0	1153.8	1156.6	1160.1	1162.2	1167.0	1171.9	1176.8
17.5°	1134.3	1143.3	1153.1	1156.6	1159.4	1164.2	1168.4	1172.6	1178.2	1184.5	1190.0
20°	1135.0	1147.5	1160.1	1164.2	1170.5	1177.5	1184.5	1187.9	1195.6	1203.3	1208.1
22.5°	1141.3	1156.6	1174.0	1181.7	1187.9	1200.5	1209.5	1215.1	1224.2	1230.4	1232.5
25°	1158.7	1174.7	1195.6	1207.4	1217.9	1236.0	1247.2	1257.6	1262.5	1270.8	1268.8
27.5°	1190.0	1202.6	1229.7	1245.8	1259.0	1282.7	1304.3	1314.0	1321.7	1325.9	1321.0
30°	1243.7	1248.6	1278.5	1298.0	1320.3	1357.2	1380.9	1393.5	1403.2	1403.9	1391.4
32.5°	1323.8	1316.1	1342.6	1370.5	1399.7	1444.3	1476.4	1489.6	1497.3	1498.0	1470.1
35°	1432.5	1419.3	1441.5	1468.7	1504.9	1563.5	1603.9	1619.2	1631.1	1625.5	1584.4
37.5°	1569.7	1569.0	1579.5	1614.3	1655.4	1730.7	1773.2	1781.6	1780.9	1764.1	1702.1
40°	1722.3	1709.8	1711.2	1736.3	1783.6	1882.6	1941.8	1955.7	1950.9	1926.5	1845.7
42.5°	1914.6	1909.1	1890.2	1903.5	1947.4	2067.9	2139.7	2153.6	2157.8	2117.4	2021.9
45°	2184.3	2179.4	2137.6	2140.4	2172.4	2299.2	2373.8	2396.8	2397.5	2359.1	2235.1
47.5°	2511.0	2506.9	2458.1	2444.1	2460.2	2573.0	2665.7	2670.6	2672.0	2619.0	2490.1
50°	2881.7	2869.9	2832.9	2818.3	2799.5	2924.2	2998.7	2998.1	2990.4	2931.9	2786.9
52.5°	3239.8	3266.3	3252.4	3223.8	3224.5	3314.4	3384.7	3345.7	3350.6	3294.9	3128.3
55°	3622.3	3689.9	3740.8	3751.2	3746.3	3792.3	3831.3	3761.7	3735.9	3726.8	3549.9
57.5°	4028.5	4201.3	4358.1	4423.6	4398.5	4482.8	4517.6	4445.2	4446.6	4517.6	4365.0
60°	4571.3	5007.4	5402.5	5525.1	5582.2	5721.6	5659.6	5655.4	5764.8	5856.8	5573.9
62.5°	5394.8	6117.3	6747.9	6839.2	6885.1	6916.5	6888.6	6812.7	6925.6	6936.7	6500.5
65°	6019.1	6867.0	7476.7	7590.9	7582.6	7423.0	7268.3	7116.5	7115.1	7003.6	6442.0
66°	6086.7	6938.1	7532.4	7633.4	7596.5	7350.6	7154.1	6956.9	6893.5	6726.3	6156.4
67.5°	5939.0	6814.1	7404.2	7494.8	7416.1	7041.9	6774.4	6507.5	6412.1	6179.3	5598.3
70°	5077.1	5978.7	6768.1	6899.1	6805.7	6308.9	5912.5	5619.2	5359.3	5130.1	4650.7
72.5°	3936.6	4611.0	5446.4	5582.9	5590.6	5201.8	4755.2	4473.7	4171.4	3941.4	3581.9
75°	2582.1	3092.1	3551.3	3505.3	3518.5	3212.6	2946.5	2712.4	2438.6	2257.4	2086.0
77.5°	1509.1	1691.7	1649.9	1535.6	1439.5	1131.5	809.6	556.0	484.9	505.8	570.6
80°	1312.0	1209.5	946.9	832.6	757.4	514.2	276.6	195.1	171.4	173.5	183.9
82.5°	1412.3	1465.2	1202.6	990.1	863.3	605.5	325.4	162.3	117.1	136.6	150.5
85°	1096.0	1394.9	1286.2	1086.9	914.1	643.8	332.3	103.1	69.7	93.4	117.7
87.5°	312.1	494.0	395.0	349.1	281.5	192.3	79.4	41.1	37.6	48.8	67.6
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°	1119.7	1119.7	1119.7	1119.7	1119.7	1119.7	1119.7	1119.7	1119.7	1119.7	1119.7
2.5°	1121.0	1121.0	1123.1	1123.8	1124.5	1124.5	1125.9	1125.9	1126.6	1129.4	1128.7
5°	1128.0	1130.1	1132.9	1134.3	1136.4	1137.1	1139.2	1139.2	1141.3	1143.3	1142.6
7.5°	1136.4	1138.5	1140.6	1142.6	1144.7	1147.5	1146.8	1146.1	1145.4	1144.0	1142.6
10°	1148.2	1150.3	1152.4	1151.7	1150.3	1148.9	1143.3	1137.1	1134.3	1128.7	1124.5
12.5°	1167.7	1169.8	1167.7	1162.2	1154.5	1145.4	1133.6	1123.1	1116.9	1108.5	1103.6
15°	1182.4	1184.5	1180.3	1170.5	1158.0	1146.1	1130.1	1116.9	1105.7	1096.7	1089.7
17.5°	1193.5	1192.1	1183.1	1171.9	1158.7	1148.9	1134.3	1119.7	1106.4	1093.9	1084.1
20°	1209.5	1201.9	1188.6	1174.7	1161.5	1153.1	1141.3	1128.0	1114.1	1096.0	1083.4
22.5°	1230.4	1216.5	1199.1	1185.1	1172.6	1164.2	1152.4	1139.9	1126.6	1105.7	1088.3
25°	1260.4	1238.1	1217.9	1203.3	1192.1	1183.8	1169.1	1155.9	1141.3	1120.4	1098.1
27.5°	1302.2	1270.1	1249.2	1234.6	1223.5	1213.7	1194.9	1178.9	1160.1	1139.2	1112.7
30°	1356.5	1317.5	1294.5	1282.0	1270.1	1256.2	1236.0	1212.3	1187.9	1160.1	1131.5
32.5°	1424.1	1380.2	1358.6	1346.1	1330.8	1312.0	1285.5	1254.1	1217.9	1181.0	1145.4
35°	1520.3	1470.1	1446.4	1424.8	1402.5	1374.7	1334.9	1289.7	1241.6	1193.5	1149.6
37.5°	1615.7	1569.0	1539.8	1517.5	1482.7	1437.4	1382.3	1319.6	1255.5	1194.2	1141.3
40°	1750.9	1696.6	1662.4	1622.7	1566.3	1495.9	1415.8	1331.5	1252.0	1178.2	1115.5
42.5°	1916.7	1854.7	1803.8	1732.1	1644.3	1542.6	1431.8	1324.5	1227.6	1142.6	1073.7
45°	2126.4	2045.6	1960.6	1847.7	1713.3	1571.1	1431.1	1300.1	1185.8	1089.7	1021.4
47.5°	2371.0	2257.4	2114.6	1942.5	1758.6	1578.1	1408.8	1256.2	1123.1	1017.2	938.5
50°	2622.5	2458.1	2255.3	2015.7	1781.6	1560.7	1359.3	1184.5	1040.9	920.4	835.4
52.5°	2932.6	2677.6	2382.8	2065.1	1771.8	1509.1	1277.1	1083.4	930.1	812.4	714.9
55°	3301.8	2929.8	2504.1	2092.3	1728.6	1416.5	1152.4	951.0	790.1	682.8	595.0
57.5°	3912.9	3324.8	2711.0	2132.7	1643.6	1278.5	1000.5	792.2	641.0	549.7	479.4
60°	4966.3	4135.1	3148.5	2232.3	1525.9	1082.0	807.5	620.8	496.1	422.9	373.5
62.5°	5701.4	4626.3	3384.0	2198.2	1325.9	852.1	597.1	443.8	361.6	313.5	280.1
65°	5558.6	4432.6	3100.5	1867.3	1038.8	602.7	397.1	300.3	253.6	223.7	206.9
66°	5302.2	4218.7	2884.5	1676.3	900.9	502.3	327.5	248.7	218.1	196.5	185.3
67.5°	4834.6	3775.6	2496.4	1345.4	674.4	370.7	248.7	193.7	177.0	165.8	158.2
70°	4002.7	2985.5	1718.8	795.0	356.7	207.6	158.2	142.8	135.2	130.3	129.6
72.5°	3069.1	2141.8	994.2	384.6	190.9	138.0	121.2	115.7	112.9	111.5	111.5
75°	1895.8	1208.1	444.5	193.0	131.7	112.9	105.2	102.4	101.7	101.7	101.7
77.5°	666.8	420.8	199.3	141.4	115.7	101.7	95.5	94.1	95.5	95.5	95.5
80°	183.9	162.3	144.2	125.4	104.5	94.1	88.5	87.8	90.6	91.3	88.5
82.5°	143.5	135.2	123.3	112.2	95.5	85.7	82.9	84.3	85.7	83.6	79.4
85°	122.6	117.1	86.4	86.4	77.3	74.6	73.9	75.2	74.6	69.0	63.4
87.5°	69.7	61.3	46.7	50.9	54.3	55.7	46.7	50.2	49.5	43.9	41.1
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):

	160°	165°	170°	175°	180°
0°	1119.7	1119.7	1119.7	1119.7	1119.7
2.5°	1130.1	1130.1	1131.5	1131.5	1130.8
5°	1144.0	1144.0	1146.1	1144.7	1145.4
7.5°	1141.3	1138.5	1138.5	1137.1	1136.4
10°	1121.7	1116.9	1114.1	1115.5	1113.4
12.5°	1099.4	1095.3	1092.5	1091.8	1091.1
15°	1085.5	1080.6	1078.5	1077.2	1077.2
17.5°	1077.8	1072.3	1069.5	1067.4	1066.7
20°	1074.4	1067.4	1063.2	1061.1	1059.7
22.5°	1075.8	1067.4	1061.8	1059.0	1057.6
25°	1081.3	1070.9	1063.9	1060.4	1058.3
27.5°	1091.1	1077.2	1069.5	1064.6	1061.8
30°	1102.9	1083.4	1072.3	1065.3	1062.5
32.5°	1110.6	1084.1	1070.2	1059.7	1056.9
35°	1109.2	1076.5	1058.3	1045.1	1043.0
37.5°	1095.3	1056.3	1034.0	1016.5	1014.4
40°	1065.3	1025.6	999.8	982.4	978.2
42.5°	1023.5	982.4	954.5	938.5	932.9
45°	962.2	912.0	886.2	873.0	865.3
47.5°	875.8	828.4	799.9	788.7	779.0
50°	777.6	725.3	704.4	691.9	680.7
52.5°	661.9	617.3	601.3	589.4	580.4
55°	549.7	518.4	499.6	487.0	487.7
57.5°	441.7	422.9	412.5	399.2	400.6
60°	347.7	331.6	331.6	323.3	320.5
62.5°	265.5	259.2	257.1	254.3	249.4
65°	201.4	201.4	202.1	202.1	199.3
66°	181.2	183.2	186.0	186.0	182.5
67.5°	156.8	159.6	162.3	163.7	163.7
70°	129.6	133.1	134.5	135.9	135.2
72.5°	113.6	116.4	116.4	117.1	115.7
75°	103.1	104.5	105.2	103.8	103.1
77.5°	95.5	96.1	95.5	94.8	94.1
80°	86.4	85.7	83.6	80.8	80.1
82.5°	74.6	71.8	70.4	66.2	65.5
85°	59.9	56.4	53.6	48.1	45.3
87.5°	39.7	38.3	36.2	26.5	21.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)