

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: P146861

Luminaire Tested: **LDRL-T4-E03-E-7050**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P146861  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33696)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: LDRL-T4-E03-E-7050  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT  
Light Source: (63) 5000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9046 lumens  
Efficiency: N/A  
Efficacy: 120.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B2 - U0 - G2

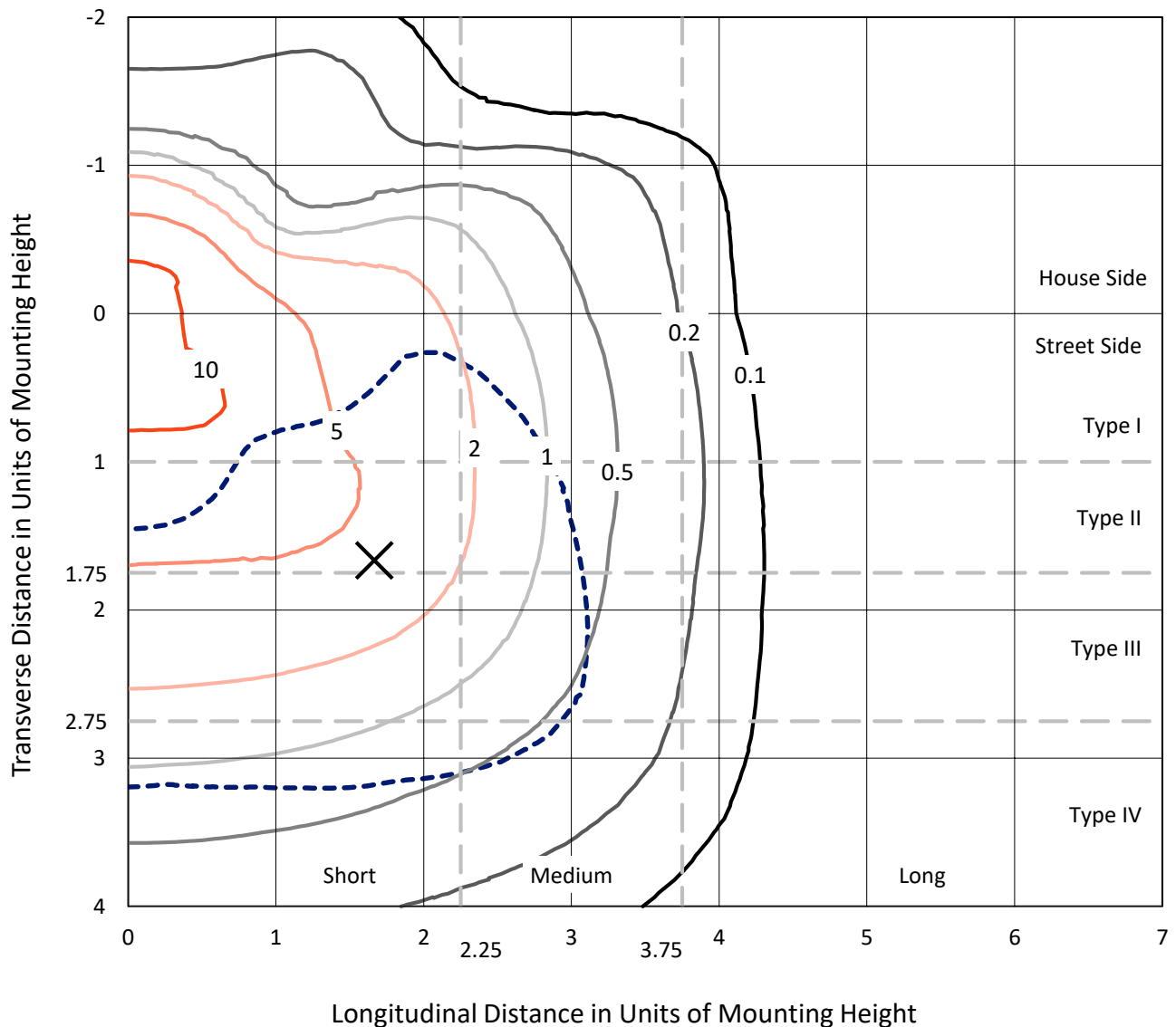
Input Watts (W): 75.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

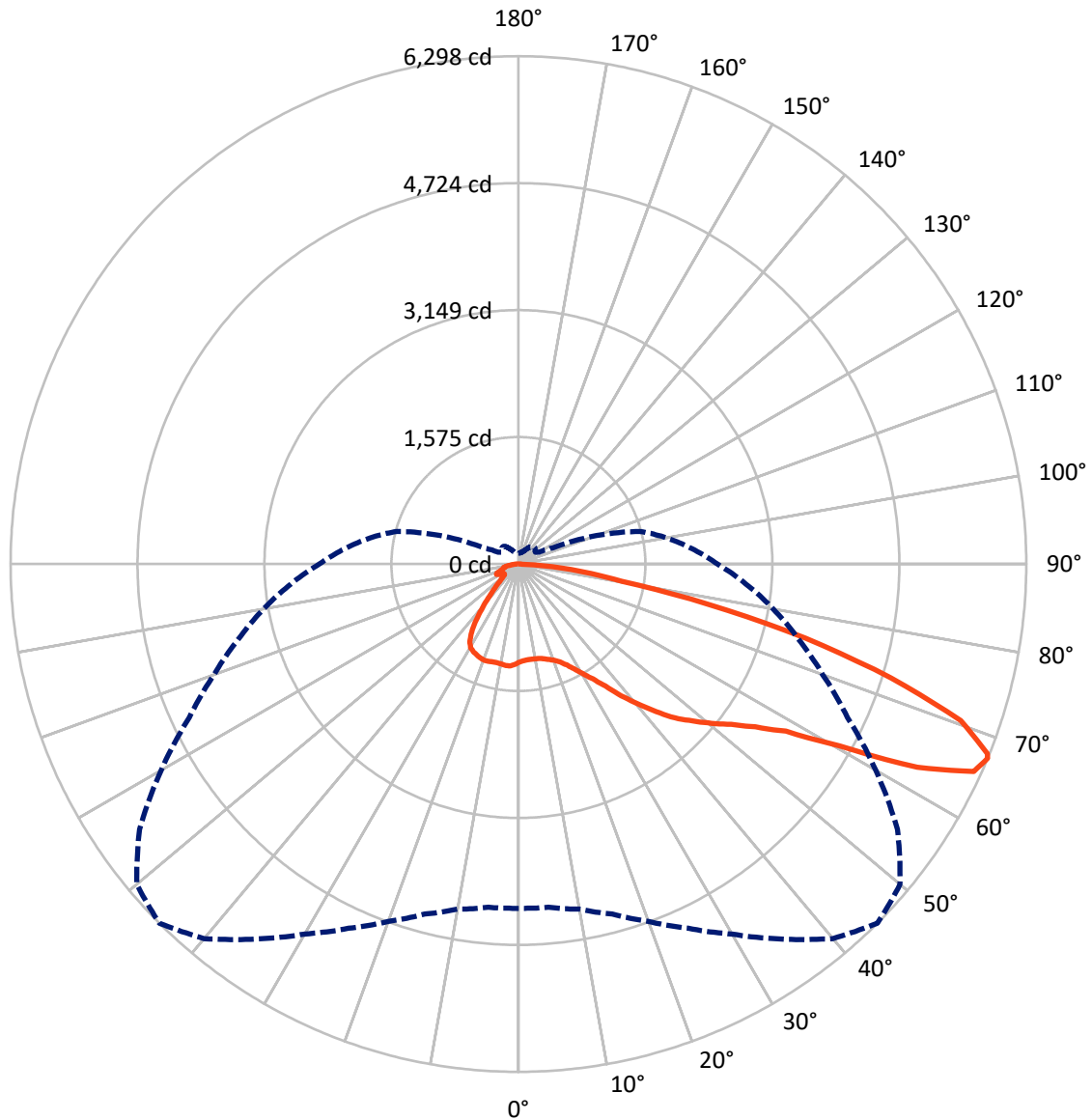
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 12.4 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 67-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1832.9	0.0	1832.9
	% Fixture	20.3	0.0	20.3
<b>Street Side</b>	Lumens	7213.0	0.0	7213.0
	% Fixture	79.7	0.0	79.7
<b>Total</b>	Lumens	9046.0	0.0	9046.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	117.4	1.3
10°-20°	352.4	3.9
20°-30°	599.0	6.6
30°-40°	900.2	10.0
40°-50°	1170.6	12.9
50°-60°	1607.1	17.8
60°-70°	2535.3	28.0
70°-80°	1531.9	16.9
80°-90°	232.1	2.6
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°	9046.0	100.0
0°-180°	9046.0	100.0



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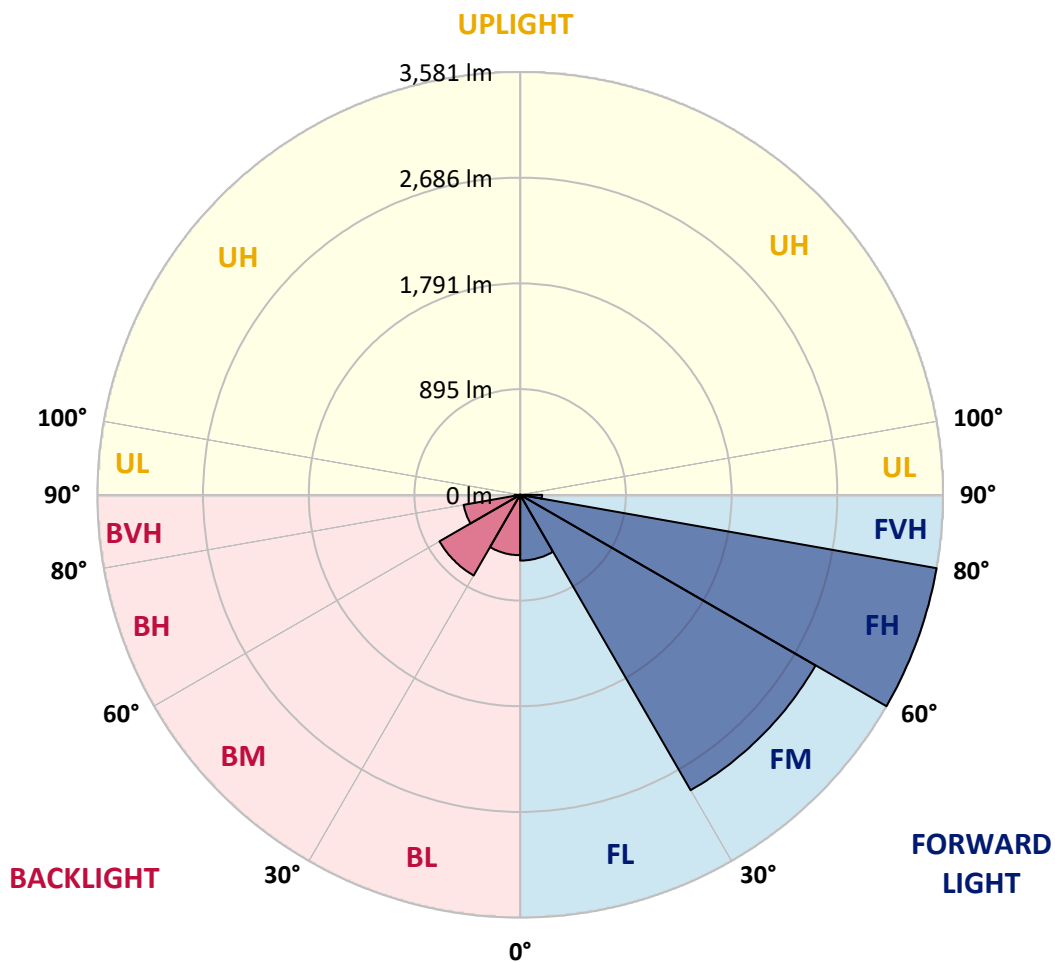
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	557.1	6.2			
FM	(30°-60°)	2889.2	31.9			
FH	(60°-80°)	3581.5	39.6			G2/5000
FVH	(80°-90°)	185.3	2.0			G2/225
BL	(0°-30°)	511.7	5.7	B2/1000		
BM	(30°-60°)	788.7	8.7	B1/1000		
BH	(60°-80°)	485.7	5.4	B1/500		G1/500
BVH	(80°-90°)	46.8	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8
2.5°	1190.7	1193.2	1191.3	1191.3	1191.9	1192.5	1193.8	1196.2	1196.8	1200.5	1201.2
5°	1166.7	1167.3	1167.3	1167.9	1171.6	1174.7	1177.8	1182.1	1185.8	1192.5	1196.8
7.5°	1158.1	1160.5	1159.9	1161.1	1164.8	1167.9	1171.6	1177.8	1187.0	1192.5	1198.7
10°	1172.2	1174.1	1172.2	1172.8	1173.5	1176.5	1177.8	1182.1	1189.5	1194.4	1199.9
12.5°	1204.9	1204.9	1203.0	1201.8	1199.9	1200.5	1198.1	1197.5	1201.2	1201.8	1202.4
15°	1247.9	1252.9	1246.7	1241.8	1239.3	1236.9	1228.9	1225.8	1225.2	1219.6	1214.1
17.5°	1291.7	1292.9	1289.2	1283.7	1280.0	1274.4	1267.7	1261.5	1254.1	1245.5	1234.4
20°	1340.3	1340.9	1336.0	1328.0	1323.7	1316.9	1308.3	1297.8	1288.6	1275.0	1262.7
22.5°	1408.0	1407.4	1397.6	1390.8	1384.6	1376.6	1364.3	1350.1	1335.4	1319.4	1302.1
25°	1485.6	1485.6	1478.8	1467.7	1464.7	1453.0	1439.4	1422.8	1407.4	1384.6	1363.7
27.5°	1574.3	1574.9	1562.6	1556.4	1549.6	1537.3	1528.1	1515.1	1494.2	1471.4	1449.9
30°	1679.5	1676.5	1666.6	1653.7	1651.2	1641.4	1628.4	1619.2	1593.3	1577.3	1553.3
32.5°	1779.3	1784.2	1781.7	1767.0	1769.4	1759.6	1748.5	1741.7	1714.6	1699.2	1677.1
35°	1928.3	1932.6	1936.3	1930.7	1933.8	1928.3	1919.0	1901.2	1879.0	1858.7	1827.9
37.5°	2044.0	2048.3	2050.8	2064.3	2084.0	2103.1	2111.7	2102.5	2103.7	2072.9	2031.7
40°	2138.8	2149.3	2164.1	2189.9	2229.3	2265.6	2285.3	2300.7	2308.7	2279.8	2226.2
42.5°	2233.6	2244.7	2265.0	2306.3	2360.5	2412.8	2454.0	2501.4	2510.1	2502.7	2457.1
45°	2332.7	2345.7	2370.9	2417.7	2481.1	2549.5	2616.0	2683.1	2716.9	2722.5	2667.1
47.5°	2452.2	2470.7	2494.1	2547.0	2608.6	2685.5	2768.6	2854.8	2907.8	2907.8	2843.7
50°	2601.2	2622.1	2641.8	2694.8	2756.3	2835.7	2931.8	3027.8	3099.9	3104.2	3026.6
52.5°	2809.9	2813.0	2824.7	2873.3	2926.9	3015.5	3106.6	3218.1	3301.2	3304.9	3215.6
55°	3063.5	3063.5	3077.1	3117.7	3167.6	3240.9	3335.0	3458.8	3546.2	3565.3	3450.8
57.5°	3397.2	3409.5	3416.3	3463.7	3497.6	3575.2	3654.0	3788.8	3900.2	3912.5	3796.2
60°	3940.2	3916.8	3954.4	3996.3	4075.7	4132.3	4266.5	4402.0	4544.2	4578.1	4453.1
62.5°	4475.3	4500.5	4546.7	4622.4	4758.5	4885.3	5077.4	5283.0	5504.0	5549.6	5454.2
65°	4508.5	4523.9	4587.9	4718.4	4904.4	5130.3	5395.1	5704.7	6034.1	6204.7	6044.6
67°	4269.6	4273.9	4346.6	4495.0	4717.8	4985.6	5299.0	5677.0	6063.7	6298.2	6178.8
67.5°	4193.9	4201.9	4273.3	4424.8	4650.1	4924.1	5243.6	5632.1	6028.0	6273.0	6165.3
70°	3749.4	3749.4	3826.3	3979.0	4190.2	4457.4	4791.7	5183.9	5614.2	5820.5	5728.7
72.5°	3191.6	3171.3	3258.1	3373.8	3546.2	3779.6	4048.6	4358.3	4682.1	4832.3	4796.0
75°	2319.8	2358.0	2402.9	2488.5	2638.1	2822.2	2979.8	3256.2	3510.5	3676.7	3633.0
77.5°	1265.8	1280.6	1404.9	1456.0	1587.2	1723.9	1896.9	2090.8	2290.9	2395.5	2353.1
80°	752.3	781.3	855.2	916.1	986.9	1091.0	1216.6	1259.0	1298.4	1296.0	1219.0
82.5°	475.3	510.4	590.4	642.8	679.7	740.0	808.4	861.9	873.6	815.8	726.5
85°	77.0	127.4	333.1	391.6	415.0	447.6	498.1	520.9	486.4	424.8	440.2
87.5°	30.2	36.3	101.6	128.7	136.1	71.4	123.7	145.3	73.9	37.6	85.0
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°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8
2.5°	1204.9	1207.9	1211.0	1214.7	1215.9	1219.0	1224.6	1223.9	1228.2	1230.1	1233.2
5°	1202.4	1209.2	1214.1	1220.9	1223.3	1230.1	1237.5	1239.9	1245.5	1249.8	1253.5
7.5°	1207.3	1214.7	1220.9	1228.9	1234.4	1239.9	1245.5	1252.3	1257.2	1260.3	1262.7
10°	1209.2	1217.2	1224.6	1231.3	1237.5	1241.8	1247.9	1253.5	1258.4	1260.3	1260.9
12.5°	1209.8	1215.3	1222.7	1230.1	1235.6	1241.2	1245.5	1251.6	1255.3	1256.0	1254.7
15°	1214.7	1215.3	1220.2	1228.9	1234.4	1239.9	1243.0	1246.1	1248.6	1246.7	1244.9
17.5°	1229.5	1225.2	1225.2	1229.5	1232.6	1235.0	1235.6	1235.0	1232.6	1228.9	1225.8
20°	1253.5	1244.9	1238.1	1235.6	1230.7	1224.6	1216.6	1209.2	1199.9	1195.6	1195.0
22.5°	1291.0	1278.1	1265.8	1253.5	1237.5	1219.6	1201.2	1185.2	1172.2	1165.5	1166.1
25°	1355.1	1336.0	1321.8	1300.3	1274.4	1249.2	1225.2	1203.6	1188.2	1175.9	1178.4
27.5°	1441.3	1419.7	1407.4	1382.8	1353.2	1321.2	1292.9	1263.3	1241.2	1225.8	1228.9
30°	1542.2	1536.1	1515.8	1491.1	1463.4	1427.1	1384.6	1340.3	1300.3	1275.0	1270.1
32.5°	1664.1	1657.4	1635.2	1614.3	1578.6	1538.5	1483.1	1412.9	1350.1	1302.1	1281.2
35°	1814.4	1797.7	1770.6	1750.3	1710.3	1658.6	1587.2	1492.4	1396.9	1324.9	1272.6
37.5°	2001.5	1960.3	1915.3	1862.4	1803.3	1740.5	1658.0	1547.2	1429.0	1326.8	1233.8
40°	2180.1	2113.6	2039.1	1955.3	1883.3	1807.6	1722.0	1595.2	1450.5	1313.8	1175.3
42.5°	2378.9	2275.5	2174.5	2059.4	1964.6	1874.7	1776.8	1629.0	1454.8	1278.7	1099.6
45°	2570.4	2437.4	2302.0	2159.7	2039.1	1939.3	1827.9	1658.0	1453.6	1241.8	1024.5
47.5°	2740.9	2582.1	2414.6	2254.6	2114.2	2004.6	1882.7	1697.4	1470.2	1231.3	974.6
50°	2900.4	2716.9	2520.5	2342.6	2189.9	2077.9	1952.3	1759.6	1521.3	1255.3	967.2
52.5°	3064.8	2865.3	2640.6	2449.1	2289.7	2159.7	2032.9	1839.0	1592.7	1304.6	983.8
55°	3279.0	3050.0	2810.5	2598.1	2415.2	2275.5	2129.0	1935.0	1669.7	1361.8	1015.2
57.5°	3597.9	3330.1	3058.0	2829.6	2618.4	2444.2	2283.5	2061.2	1797.1	1448.0	1084.2
60°	4170.5	3873.8	3558.5	3259.9	3016.8	2813.0	2608.6	2332.7	2032.3	1643.8	1242.4
62.5°	5105.7	4695.0	4259.2	3866.4	3532.1	3256.2	2968.1	2636.9	2286.6	1881.5	1481.9
65°	5667.8	5101.4	4546.7	4091.1	3695.8	3342.4	2994.0	2638.1	2298.9	1944.9	1589.6
67°	5737.4	5116.2	4502.3	4017.2	3593.6	3208.8	2830.8	2467.0	2163.4	1866.7	1560.1
67.5°	5716.4	5086.6	4460.5	3970.4	3542.5	3170.1	2798.2	2425.7	2130.2	1833.4	1537.9
70°	5303.9	4687.7	4068.3	3591.8	3181.7	2800.7	2449.1	2076.0	1847.6	1635.2	1379.7
72.5°	4402.0	3921.2	3402.2	3005.1	2651.0	2321.1	2012.0	1699.8	1516.4	1366.2	1186.4
75°	3264.2	2823.4	2384.5	2145.6	1871.0	1606.9	1368.0	1137.1	1066.3	1030.6	924.7
77.5°	2015.7	1619.8	1289.2	1073.1	853.3	668.6	531.9	432.8	451.3	525.2	559.0
80°	1003.5	741.3	573.8	456.2	368.8	298.0	218.6	160.1	191.5	227.2	257.3
82.5°	604.0	477.1	377.4	319.5	259.8	200.7	142.2	108.4	120.1	161.3	177.3
85°	374.9	300.4	240.1	200.7	166.2	123.1	80.7	80.0	85.0	107.1	122.5
87.5°	110.2	74.5	59.1	61.6	68.3	56.6	42.5	36.3	44.9	61.6	69.0
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8
2.5°	1233.8	1238.1	1239.9	1240.6	1241.2	1244.9	1244.9	1248.6	1249.8	1249.8	1251.0
5°	1257.2	1261.5	1263.3	1264.0	1265.2	1267.0	1266.4	1268.9	1270.1	1269.5	1269.5
7.5°	1265.8	1267.0	1267.0	1268.9	1270.7	1268.9	1267.7	1268.9	1268.3	1268.9	1268.9
10°	1262.7	1261.5	1261.5	1260.3	1262.1	1258.4	1258.4	1259.6	1259.0	1260.3	1262.1
12.5°	1255.3	1254.7	1252.9	1252.3	1254.7	1252.3	1252.9	1254.7	1256.0	1258.4	1261.5
15°	1244.9	1243.0	1243.0	1245.5	1251.6	1253.5	1256.0	1259.0	1259.6	1260.9	1262.1
17.5°	1227.0	1230.1	1237.5	1246.1	1257.8	1262.1	1263.3	1261.5	1255.3	1250.4	1245.5
20°	1202.4	1215.9	1235.0	1253.5	1267.7	1267.0	1259.0	1247.3	1232.6	1222.1	1215.3
22.5°	1181.5	1207.9	1237.5	1259.6	1268.9	1257.2	1238.7	1220.9	1203.6	1188.2	1174.7
25°	1196.2	1221.5	1246.7	1260.3	1259.6	1239.3	1214.7	1195.0	1171.6	1150.1	1127.3
27.5°	1244.3	1259.6	1267.0	1262.7	1249.8	1222.7	1195.6	1167.9	1137.7	1111.9	1085.4
30°	1276.9	1276.9	1269.5	1252.3	1229.5	1199.3	1166.1	1130.4	1094.6	1064.5	1034.3
32.5°	1266.4	1242.4	1220.9	1197.5	1171.6	1139.0	1100.8	1062.0	1021.4	986.3	960.4
35°	1220.9	1169.1	1124.2	1091.0	1063.9	1025.1	980.8	936.4	903.2	879.2	864.4
37.5°	1139.6	1057.1	991.8	951.2	909.3	869.3	818.2	797.9	768.3	753.6	748.0
40°	1041.1	920.4	838.5	786.2	741.9	692.0	657.5	644.6	633.5	630.4	628.0
42.5°	927.8	777.0	679.7	625.5	572.0	535.6	520.2	512.2	510.4	510.4	513.5
45°	810.2	631.1	519.0	475.3	431.0	411.9	408.2	404.5	405.1	403.3	404.5
47.5°	719.1	506.7	391.6	351.5	328.8	322.6	318.3	317.1	317.1	314.0	310.3
50°	671.7	423.6	307.2	275.8	262.9	258.6	258.6	256.1	251.2	248.1	240.1
52.5°	659.4	380.5	266.0	238.9	227.8	224.1	220.4	216.7	209.3	202.6	193.3
55°	669.2	366.9	253.0	227.8	215.5	211.2	208.1	201.9	191.5	181.6	171.2
57.5°	710.5	375.6	258.0	230.9	219.8	216.7	213.6	204.4	191.5	177.3	165.6
60°	823.1	416.2	278.9	247.5	238.3	238.9	234.6	222.9	204.4	184.1	166.8
62.5°	968.4	472.8	306.0	270.9	269.7	275.8	275.8	255.5	225.3	194.5	171.2
65°	1051.6	490.7	309.7	274.0	284.4	302.3	301.1	274.0	232.7	194.5	169.3
67°	1030.6	471.6	294.3	256.1	268.4	288.7	286.3	260.4	221.6	186.5	164.4
67.5°	1014.0	465.4	290.6	251.8	264.1	280.7	280.7	254.9	216.7	184.1	162.5
70°	892.7	411.3	272.1	235.2	235.2	239.5	236.4	217.9	192.1	169.3	155.1
72.5°	744.3	359.5	257.3	223.5	211.8	209.3	205.0	192.1	175.5	159.5	147.1
75°	576.9	318.3	245.6	211.2	195.8	190.2	185.9	176.1	163.2	149.6	139.1
77.5°	403.9	272.7	230.3	200.7	184.1	179.8	173.0	161.9	151.5	139.8	129.9
80°	250.6	225.3	200.7	181.0	163.8	157.6	149.0	139.1	130.5	123.7	116.4
82.5°	178.5	165.6	149.6	139.1	121.3	102.8	110.2	110.8	105.3	101.0	99.1
85°	119.4	107.7	99.7	90.5	80.0	72.0	73.9	79.4	80.0	78.2	78.2
87.5°	65.3	55.4	53.6	55.4	48.0	45.6	46.2	51.1	51.7	51.7	52.3
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):**

	165°	170°	175°	180°
0°	1217.8	1217.8	1217.8	1217.8
2.5°	1251.6	1253.5	1252.9	1254.1
5°	1270.7	1272.0	1271.3	1272.0
7.5°	1267.7	1270.1	1271.3	1269.5
10°	1262.7	1266.4	1268.9	1268.9
12.5°	1264.0	1270.1	1273.8	1273.8
15°	1262.7	1267.7	1268.9	1268.9
17.5°	1243.6	1243.6	1244.3	1241.8
20°	1210.4	1206.7	1205.5	1201.2
22.5°	1163.0	1154.4	1148.8	1145.7
25°	1108.8	1095.3	1086.6	1081.7
27.5°	1063.9	1052.2	1043.5	1038.6
30°	1014.0	1000.5	995.5	991.8
32.5°	942.0	929.0	925.3	922.3
35°	848.4	844.1	834.2	827.5
37.5°	740.0	734.5	730.8	728.3
40°	626.7	627.4	624.3	618.7
42.5°	513.5	519.6	513.5	512.2
45°	403.3	410.0	410.0	411.9
47.5°	310.9	309.7	312.1	312.8
50°	235.2	231.5	230.3	228.4
52.5°	186.5	182.2	179.8	176.7
55°	164.4	159.5	157.0	156.4
57.5°	157.0	150.8	147.1	146.5
60°	155.1	146.5	141.6	140.4
62.5°	155.1	144.7	139.1	137.3
65°	153.3	142.8	137.9	136.1
67°	150.8	141.6	136.7	135.4
67.5°	149.6	141.0	136.7	134.8
70°	146.5	139.1	134.2	132.4
72.5°	139.8	133.6	128.7	127.4
75°	132.4	126.8	123.7	122.5
77.5°	123.7	118.8	115.1	112.1
80°	110.8	105.3	99.7	98.5
82.5°	94.2	88.0	83.7	83.1
85°	75.7	70.8	65.9	65.9
87.5°	52.9	49.9	46.8	43.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)