

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: P146613

Luminaire Tested: **LDRL-T3-F04-E-8030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P146613  
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-8030  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 3  
Light Source: (28) 3000K CCT, 80 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8321.3 lumens  
Efficiency: N/A  
Efficacy: 81.4 lumens/watt  
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')  
IES Classification: Type III - Short - Semi-Cutoff  
BUG Rating: B2 - U0 - G2

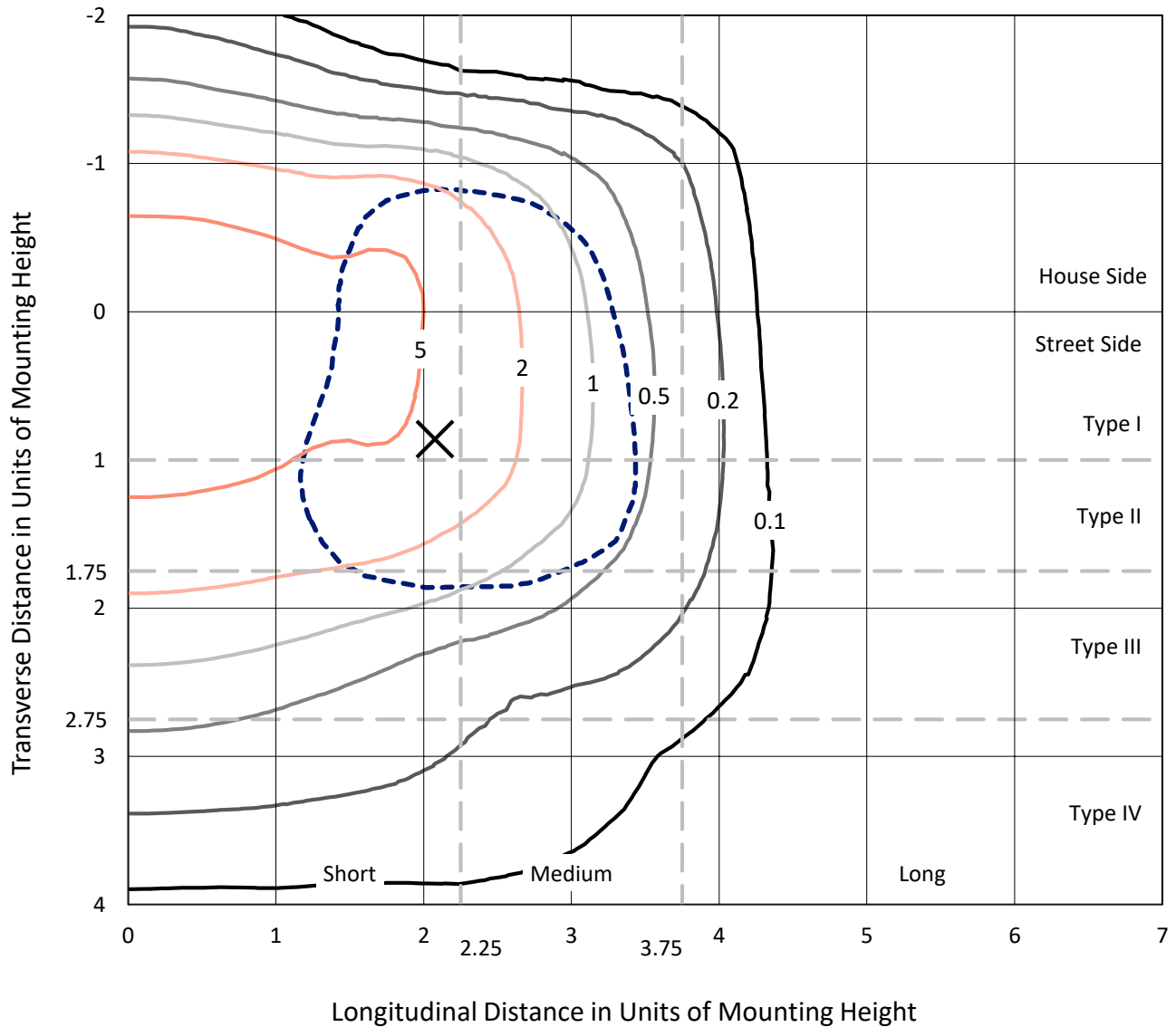
Input Watts (W): 102.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

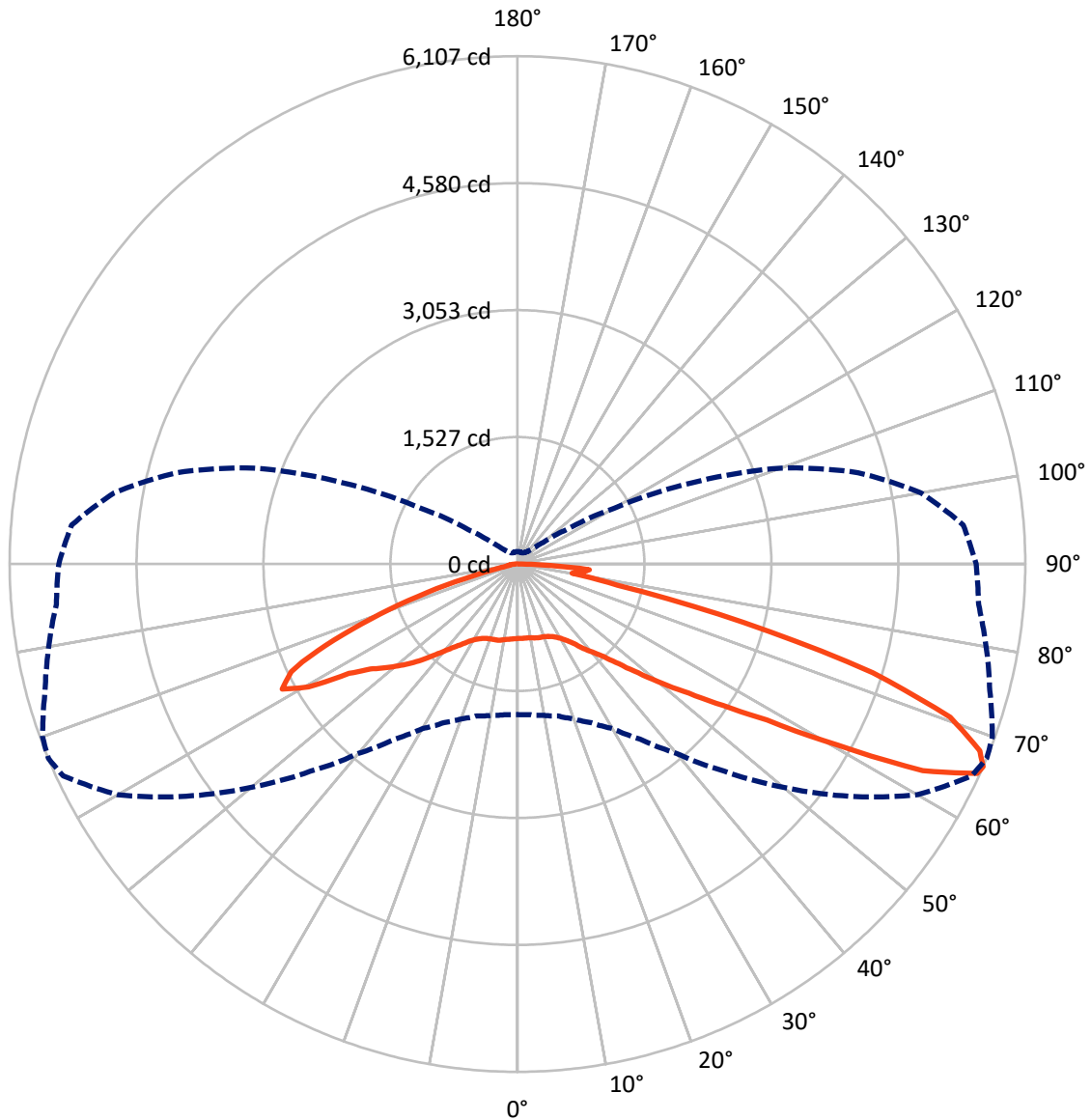
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9 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	2827.0	0.0	2827.0
	% Fixture	34.0	0.0	34.0
<b>Street Side</b>	Lumens	5494.3	0.0	5494.3
	% Fixture	66.0	0.0	66.0
<b>Total</b>	Lumens	8321.3	0.0	8321.3
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.0	1.0
10°-20°	255.0	3.1
20°-30°	438.3	5.3
30°-40°	705.0	8.5
40°-50°	1161.9	14.0
50°-60°	1821.3	21.9
60°-70°	2520.6	30.3
70°-80°	1140.7	13.7
80°-90°	192.5	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°	8321.3	100.0
0°-180°	8321.3	100.0



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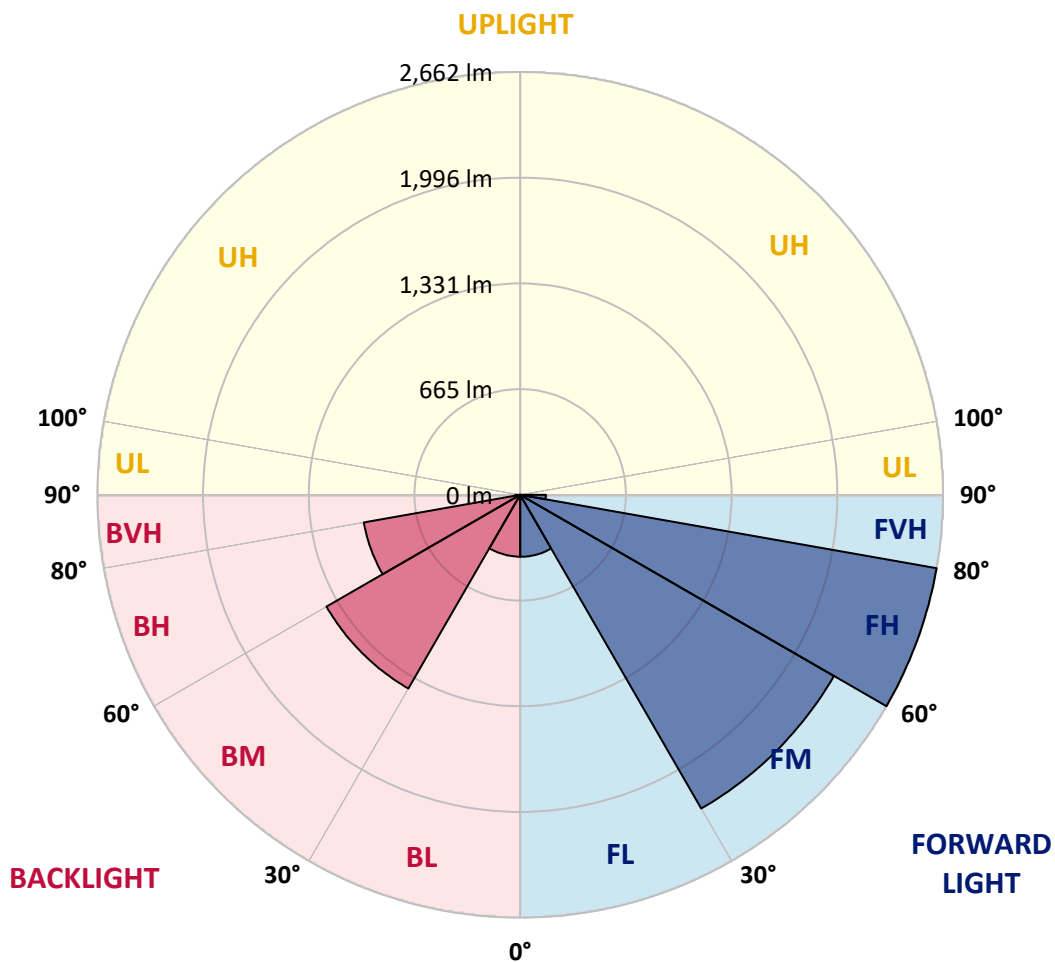
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	390.3	4.7			
FM	(30°-60°)	2280.3	27.4			
FH	(60°-80°)	2661.9	32.0			G2/5000
FVH	(80°-90°)	161.7	1.9			G2/225
BL	(0°-30°)	389.0	4.7	B1/500		
BM	(30°-60°)	1407.9	16.9	B2/2500		
BH	(60°-80°)	999.4	12.0	B2/1000		G2/1000
BVH	(80°-90°)	30.7	0.4			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 III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	895.7	895.7	895.7	895.7	895.7	895.7	895.7	895.7	895.7	895.7	895.7
2.5°	894.6	894.1	893.5	893.5	892.9	893.5	894.1	894.6	894.1	894.6	894.1
5°	892.9	892.9	892.4	892.4	892.4	892.4	892.9	893.5	892.9	894.1	892.9
7.5°	885.7	889.0	887.9	889.0	890.1	891.3	891.8	892.9	894.6	895.7	894.6
10°	876.2	877.9	878.4	879.6	881.8	884.6	886.8	889.6	893.5	894.6	895.7
12.5°	858.9	861.2	862.8	865.1	868.4	872.9	876.8	881.2	887.9	892.4	896.3
15°	846.1	848.9	849.5	852.2	855.6	860.6	865.6	872.3	881.2	889.0	896.8
17.5°	854.5	855.6	854.5	854.5	855.6	857.8	861.7	867.3	876.8	886.2	895.7
20°	879.6	879.6	878.4	877.9	876.8	874.5	874.0	873.4	879.6	886.8	895.2
22.5°	903.5	903.5	903.0	905.2	904.6	904.6	903.0	900.2	897.4	896.3	901.9
25°	918.6	920.8	921.9	925.3	927.5	930.8	932.0	931.4	927.5	920.8	919.1
27.5°	943.1	944.8	945.9	949.8	954.2	958.2	962.1	967.1	967.1	960.9	952.6
30°	990.5	988.2	989.4	990.5	994.4	1000.0	1005.0	1011.7	1015.0	1012.8	1001.6
32.5°	1034.5	1036.7	1037.9	1041.2	1045.1	1053.5	1059.6	1067.4	1074.6	1075.8	1070.2
35°	1099.2	1098.1	1096.4	1108.1	1112.5	1122.0	1129.3	1140.4	1146.0	1151.0	1147.7
37.5°	1201.2	1197.8	1195.6	1198.9	1205.1	1211.2	1221.8	1230.2	1239.6	1251.3	1247.4
40°	1345.5	1352.2	1342.7	1347.2	1352.2	1338.3	1347.8	1355.6	1371.7	1372.3	1371.7
42.5°	1533.4	1538.4	1536.2	1538.9	1530.0	1525.6	1521.7	1525.6	1545.6	1542.9	1529.5
45°	1721.2	1728.5	1726.8	1727.9	1745.2	1737.9	1744.1	1745.2	1765.8	1760.2	1750.2
47.5°	1881.7	1894.0	1896.8	1906.8	1930.2	1949.2	1975.4	1994.9	2004.9	2011.6	2019.4
50°	2008.8	2017.7	2033.4	2058.4	2092.4	2125.3	2184.4	2222.9	2258.0	2282.5	2307.6
52.5°	2093.0	2103.0	2127.0	2164.9	2213.9	2274.1	2343.3	2423.5	2497.7	2541.1	2578.5
55°	2127.6	2137.6	2167.1	2216.7	2281.9	2358.9	2458.1	2571.2	2669.9	2769.7	2827.1
57.5°	2107.5	2118.6	2152.6	2208.4	2287.0	2387.9	2511.0	2649.8	2794.2	2945.2	3060.6
60°	2048.4	2058.4	2096.9	2154.9	2244.6	2358.3	2506.0	2679.9	2882.8	3106.9	3325.9
62.5°	1967.0	1982.1	2016.1	2075.2	2164.3	2288.6	2457.0	2683.3	2974.2	3335.4	3761.8
65°	1863.3	1874.5	1904.6	1951.4	2049.5	2179.4	2357.2	2634.2	3014.4	3526.6	4135.3
66°	1809.8	1820.4	1848.3	1892.3	1982.1	2106.9	2284.7	2568.4	2969.8	3525.5	4174.8
67.5°	1715.6	1720.7	1740.7	1784.2	1842.7	1954.8	2119.7	2385.6	2780.8	3376.7	4064.5
70°	1439.2	1446.4	1465.9	1488.2	1510.0	1550.1	1665.5	1841.1	2157.1	2728.4	3384.5
72.5°	995.5	1006.6	1027.8	1069.1	1103.1	1153.8	1198.9	1257.5	1362.3	1759.1	2421.3
75°	719.6	723.5	754.7	827.2	895.7	997.2	1086.9	1115.3	1079.7	1073.5	1422.5
77.5°	429.2	434.8	479.9	552.9	624.3	761.9	945.9	1088.0	1166.6	1138.7	1076.9
80°	180.6	188.4	215.2	234.1	293.2	408.6	590.3	813.2	1020.6	1148.2	1119.2
82.5°	58.0	67.4	79.7	96.4	113.7	152.2	235.8	352.8	557.4	831.1	1021.7
85°	21.2	21.7	30.1	41.8	46.3	53.5	68.6	105.9	188.4	311.6	579.7
87.5°	8.4	10.0	11.7	16.2	16.7	17.3	19.5	25.1	24.5	21.2	109.8
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):**

	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°	100°
0°	895.7	895.7	895.7	895.7	895.7	895.7	895.7	895.7	895.7	895.7	895.7
2.5°	894.6	895.7	895.2	895.7	895.7	894.6	894.6	896.8	895.2	896.3	896.3
5°	894.1	895.2	894.6	895.7	895.7	895.2	895.2	898.5	898.0	899.6	900.7
7.5°	896.3	896.8	896.3	896.3	898.0	897.4	898.0	899.1	901.9	904.6	906.9
10°	899.1	900.2	901.9	902.4	904.6	904.1	905.8	907.4	910.2	913.0	915.8
12.5°	903.0	906.3	911.3	912.4	914.7	916.3	919.1	920.8	923.0	927.5	930.8
15°	906.3	912.4	918.6	920.8	923.0	925.3	928.1	929.7	933.6	937.5	941.4
17.5°	907.4	914.7	922.5	925.3	927.5	931.4	934.7	938.1	942.5	947.6	952.0
20°	908.0	918.0	928.1	931.4	936.4	942.0	947.6	950.3	956.5	962.6	966.5
22.5°	913.0	925.3	939.2	945.3	950.3	960.4	967.6	972.1	979.3	984.3	986.0
25°	926.9	939.8	956.5	966.0	974.3	988.8	997.7	1006.1	1010.0	1016.7	1015.0
27.5°	952.0	962.1	983.8	996.6	1007.2	1026.2	1043.4	1051.2	1057.4	1060.7	1056.8
30°	994.9	998.8	1022.8	1038.4	1056.3	1085.8	1104.7	1114.8	1122.6	1123.1	1113.1
32.5°	1059.0	1052.9	1074.1	1096.4	1119.8	1155.5	1181.1	1191.7	1197.8	1198.4	1176.1
35°	1146.0	1135.4	1153.2	1175.0	1204.0	1250.8	1283.1	1295.4	1304.8	1300.4	1267.5
37.5°	1255.8	1255.2	1263.6	1291.5	1324.4	1384.6	1418.6	1425.2	1424.7	1411.3	1361.7
40°	1377.9	1367.8	1368.9	1389.0	1426.9	1506.1	1553.4	1564.6	1560.7	1541.2	1476.5
42.5°	1531.7	1527.2	1512.2	1522.8	1557.9	1654.3	1711.7	1722.9	1726.2	1693.9	1617.5
45°	1747.4	1743.5	1710.1	1712.3	1737.9	1839.4	1899.0	1917.4	1918.0	1887.3	1788.1
47.5°	2008.8	2005.5	1966.5	1955.3	1968.1	2058.4	2132.6	2136.5	2137.6	2095.2	1992.1
50°	2305.4	2295.9	2266.3	2254.6	2239.6	2339.4	2399.0	2398.4	2392.3	2345.5	2229.6
52.5°	2591.9	2613.0	2601.9	2579.0	2579.6	2651.5	2707.8	2676.6	2680.5	2635.9	2502.7
55°	2897.9	2951.9	2992.6	3001.0	2997.1	3033.9	3065.1	3009.3	2988.7	2981.5	2839.9
57.5°	3222.8	3361.1	3486.5	3538.9	3518.8	3586.2	3614.1	3556.1	3557.3	3614.1	3492.0
60°	3657.0	4006.0	4322.0	4420.1	4465.8	4577.3	4527.7	4524.3	4611.8	4685.4	4459.1
62.5°	4315.9	4893.9	5398.3	5471.3	5508.1	5533.2	5510.9	5450.1	5540.4	5549.4	5200.4
65°	4815.3	5493.6	5981.3	6072.7	6066.1	5938.4	5814.7	5693.2	5692.1	5602.9	5153.6
66°	4869.3	5550.5	6025.9	6106.7	6077.2	5880.4	5723.3	5565.5	5514.8	5381.0	4925.1
67.5°	4751.2	5451.3	5923.4	5995.8	5932.8	5633.5	5419.5	5206.0	5129.6	4943.5	4478.6
70°	4061.7	4783.0	5414.5	5519.3	5444.6	5047.2	4730.0	4495.3	4287.4	4104.1	3720.6
72.5°	3149.2	3688.8	4357.1	4466.4	4472.5	4161.5	3804.2	3579.0	3337.1	3153.1	2865.5
75°	2065.7	2473.7	2841.0	2804.2	2814.8	2570.1	2357.2	2169.9	1950.9	1805.9	1668.8
77.5°	1207.3	1353.3	1319.9	1228.5	1151.6	905.2	647.7	444.8	387.9	404.7	456.5
80°	1049.6	967.6	757.5	666.1	605.9	411.4	221.3	156.1	137.1	138.8	147.2
82.5°	1129.8	1172.2	962.1	792.0	690.6	484.4	260.3	129.9	93.6	109.2	120.4
85°	876.8	1115.9	1028.9	869.5	731.3	515.0	265.9	82.5	55.7	74.7	94.2
87.5°	249.7	395.2	316.0	279.3	225.2	153.8	63.5	32.9	30.1	39.0	54.1
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°	895.7	895.7	895.7	895.7	895.7	895.7	895.7	895.7	895.7	895.7	895.7
2.5°	896.8	896.8	898.5	899.1	899.6	899.6	900.7	900.7	901.3	903.5	903.0
5°	902.4	904.1	906.3	907.4	909.1	909.7	911.3	911.3	913.0	914.7	914.1
7.5°	909.1	910.8	912.4	914.1	915.8	918.0	917.5	916.9	916.3	915.2	914.1
10°	918.6	920.2	921.9	921.4	920.2	919.1	914.7	909.7	907.4	903.0	899.6
12.5°	934.2	935.9	934.2	929.7	923.6	916.3	906.9	898.5	893.5	886.8	882.9
15°	945.9	947.6	944.2	936.4	926.4	916.9	904.1	893.5	884.6	877.3	871.8
17.5°	954.8	953.7	946.4	937.5	926.9	919.1	907.4	895.7	885.1	875.1	867.3
20°	967.6	961.5	950.9	939.8	929.2	922.5	913.0	902.4	891.3	876.8	866.7
22.5°	984.3	973.2	959.3	948.1	938.1	931.4	921.9	911.9	901.3	884.6	870.6
25°	1008.3	990.5	974.3	962.6	953.7	947.0	935.3	924.7	913.0	896.3	878.4
27.5°	1041.8	1016.1	999.4	987.7	978.8	971.0	955.9	943.1	928.1	911.3	890.1
30°	1085.2	1054.0	1035.6	1025.6	1016.1	1005.0	988.8	969.9	950.3	928.1	905.2
32.5°	1139.3	1104.2	1086.9	1076.9	1064.6	1049.6	1028.4	1003.3	974.3	944.8	916.3
35°	1216.2	1176.1	1157.1	1139.9	1122.0	1099.7	1068.0	1031.7	993.3	954.8	919.7
37.5°	1292.6	1255.2	1231.8	1214.0	1186.1	1149.9	1105.9	1055.7	1004.4	955.4	913.0
40°	1400.7	1357.2	1329.9	1298.2	1253.0	1196.7	1132.6	1065.2	1001.6	942.5	892.4
42.5°	1533.4	1483.8	1443.1	1385.7	1315.4	1234.1	1145.4	1059.6	982.1	914.1	858.9
45°	1701.1	1636.5	1568.5	1478.2	1370.6	1256.9	1144.9	1040.1	948.7	871.8	817.1
47.5°	1896.8	1805.9	1691.7	1554.0	1406.8	1262.5	1127.0	1005.0	898.5	813.8	750.8
50°	2098.0	1966.5	1804.3	1612.5	1425.2	1248.6	1087.5	947.6	832.7	736.3	668.3
52.5°	2346.0	2142.0	1906.3	1652.1	1417.4	1207.3	1021.7	866.7	744.1	649.9	571.9
55°	2641.5	2343.8	2003.3	1673.8	1382.9	1133.2	921.9	760.8	632.1	546.2	476.0
57.5°	3130.3	2659.9	2168.8	1706.2	1314.9	1022.8	800.4	633.8	512.8	439.8	383.5
60°	3973.1	3308.1	2518.8	1785.9	1220.7	865.6	646.0	496.6	396.9	338.3	298.8
62.5°	4561.1	3701.1	2707.2	1758.6	1060.7	681.7	477.7	355.1	289.3	250.8	224.1
65°	4446.8	3546.1	2480.4	1493.8	831.1	482.1	317.7	240.2	202.9	178.9	165.5
66°	4241.7	3375.0	2307.6	1341.1	720.7	401.9	262.0	199.0	174.5	157.2	148.3
67.5°	3867.7	3020.5	1997.1	1076.3	539.6	296.5	199.0	155.0	141.6	132.7	126.5
70°	3202.2	2388.4	1375.1	636.0	285.4	166.1	126.5	114.3	108.1	104.2	103.7
72.5°	2455.3	1713.4	795.4	307.7	152.7	110.4	97.0	92.5	90.3	89.2	89.2
75°	1516.7	966.5	355.6	154.4	105.3	90.3	84.2	81.9	81.4	81.4	81.4
77.5°	533.4	336.7	159.4	113.1	92.5	81.4	76.4	75.2	76.4	76.4	76.4
80°	147.2	129.9	115.4	100.3	83.6	75.2	70.8	70.2	72.5	73.0	70.8
82.5°	114.8	108.1	98.7	89.7	76.4	68.6	66.3	67.4	68.6	66.9	63.5
85°	98.1	93.6	69.1	69.1	61.9	59.6	59.1	60.2	59.6	55.2	50.7
87.5°	55.7	49.1	37.3	40.7	43.5	44.6	37.3	40.1	39.6	35.1	32.9
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°	895.7	895.7	895.7	895.7	895.7
2.5°	904.1	904.1	905.2	905.2	904.6
5°	915.2	915.2	916.9	915.8	916.3
7.5°	913.0	910.8	910.8	909.7	909.1
10°	897.4	893.5	891.3	892.4	890.7
12.5°	879.6	876.2	874.0	873.4	872.9
15°	868.4	864.5	862.8	861.7	861.7
17.5°	862.3	857.8	855.6	853.9	853.4
20°	859.5	853.9	850.6	848.9	847.8
22.5°	860.6	853.9	849.5	847.2	846.1
25°	865.1	856.7	851.1	848.3	846.7
27.5°	872.9	861.7	855.6	851.7	849.5
30°	882.3	866.7	857.8	852.2	850.0
32.5°	888.5	867.3	856.1	847.8	845.6
35°	887.4	861.2	846.7	836.1	834.4
37.5°	876.2	845.0	827.2	813.2	811.6
40°	852.2	820.5	799.9	785.9	782.6
42.5°	818.8	785.9	763.6	750.8	746.3
45°	769.8	729.6	709.0	698.4	692.3
47.5°	700.6	662.7	639.9	631.0	623.2
50°	622.0	580.2	563.5	553.5	544.6
52.5°	529.5	493.8	481.0	471.6	464.3
55°	439.8	414.7	399.6	389.6	390.2
57.5°	353.4	338.3	330.0	319.4	320.5
60°	278.1	265.3	265.3	258.6	256.4
62.5°	212.4	207.3	205.7	203.4	199.5
65°	161.1	161.1	161.6	161.6	159.4
66°	144.9	146.6	148.8	148.8	146.0
67.5°	125.4	127.6	129.9	131.0	131.0
70°	103.7	106.5	107.6	108.7	108.1
72.5°	90.9	93.1	93.1	93.6	92.5
75°	82.5	83.6	84.2	83.1	82.5
77.5°	76.4	76.9	76.4	75.8	75.2
80°	69.1	68.6	66.9	64.7	64.1
82.5°	59.6	57.4	56.3	53.0	52.4
85°	47.9	45.1	42.9	38.5	36.2
87.5°	31.8	30.7	29.0	21.2	17.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)