

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: P146867

Luminaire Tested: **LDRL-T4-F03-E-7060**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P146867  
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-F03-E-7060  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT  
Light Source: (21) 5700K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7467.7 lumens  
Efficiency: N/A  
Efficacy: 95.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B1 - U0 - G2

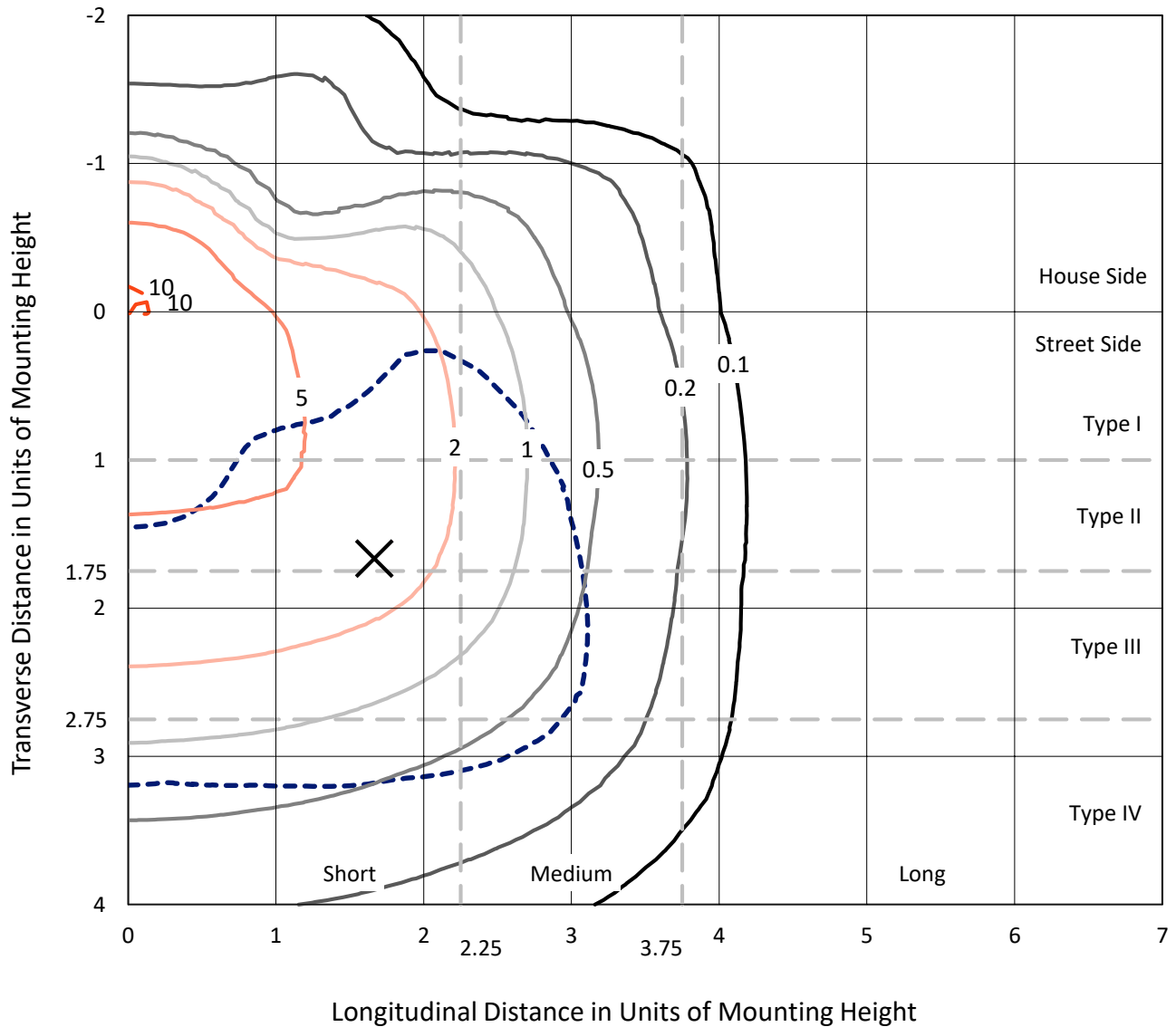
Input Watts (W): 78.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

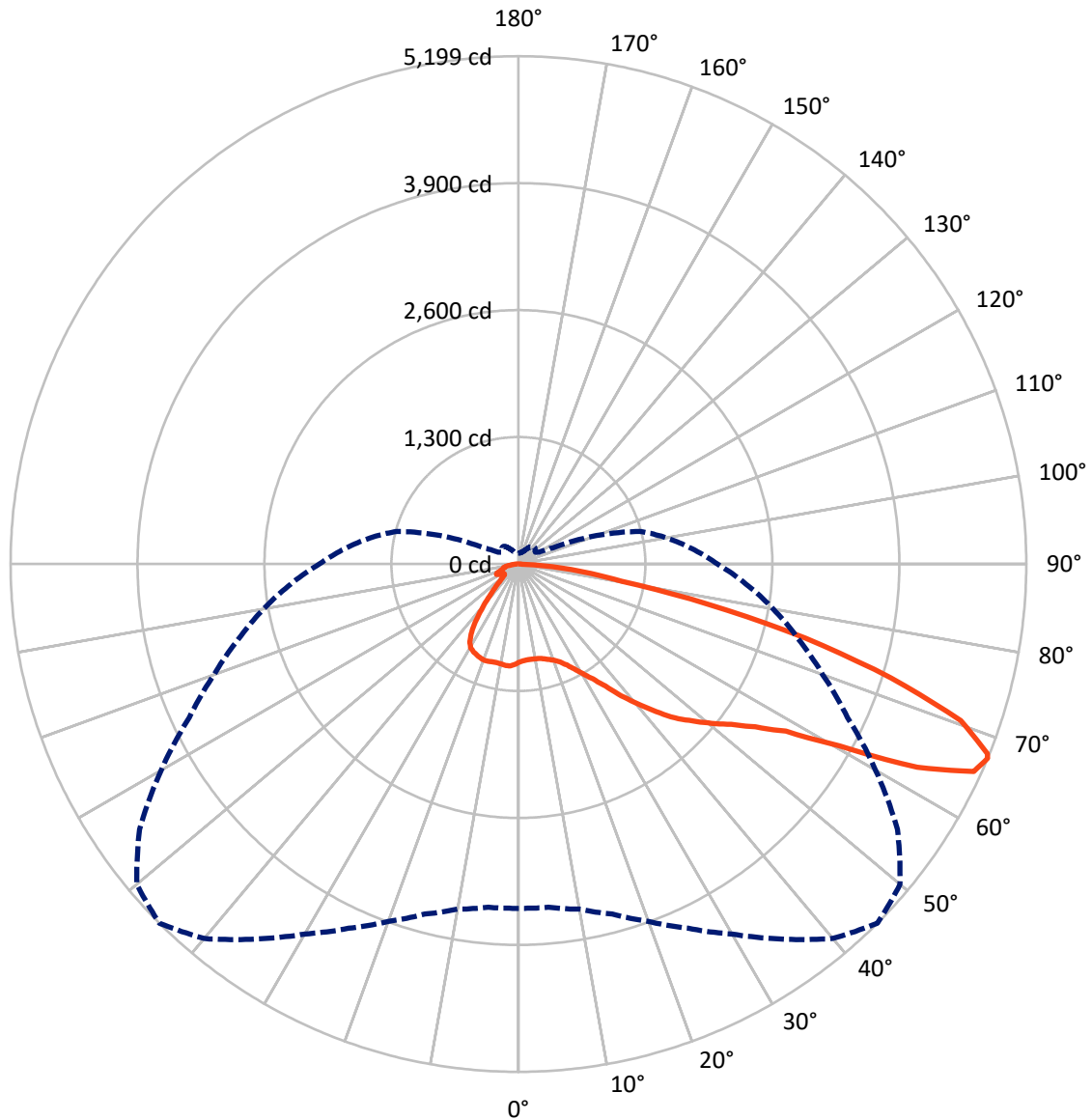
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.2 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	1513.1	0.0	1513.1
	% Fixture	20.3	0.0	20.3
<b>Street Side</b>	Lumens	5954.5	0.0	5954.5
	% Fixture	79.7	0.0	79.7
<b>Total</b>	Lumens	7467.7	0.0	7467.7
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.9	1.3
10°-20°	290.9	3.9
20°-30°	494.5	6.6
30°-40°	743.2	10.0
40°-50°	966.3	12.9
50°-60°	1326.7	17.8
60°-70°	2092.9	28.0
70°-80°	1264.6	16.9
80°-90°	191.6	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°	7467.7	100.0
0°-180°	7467.7	100.0



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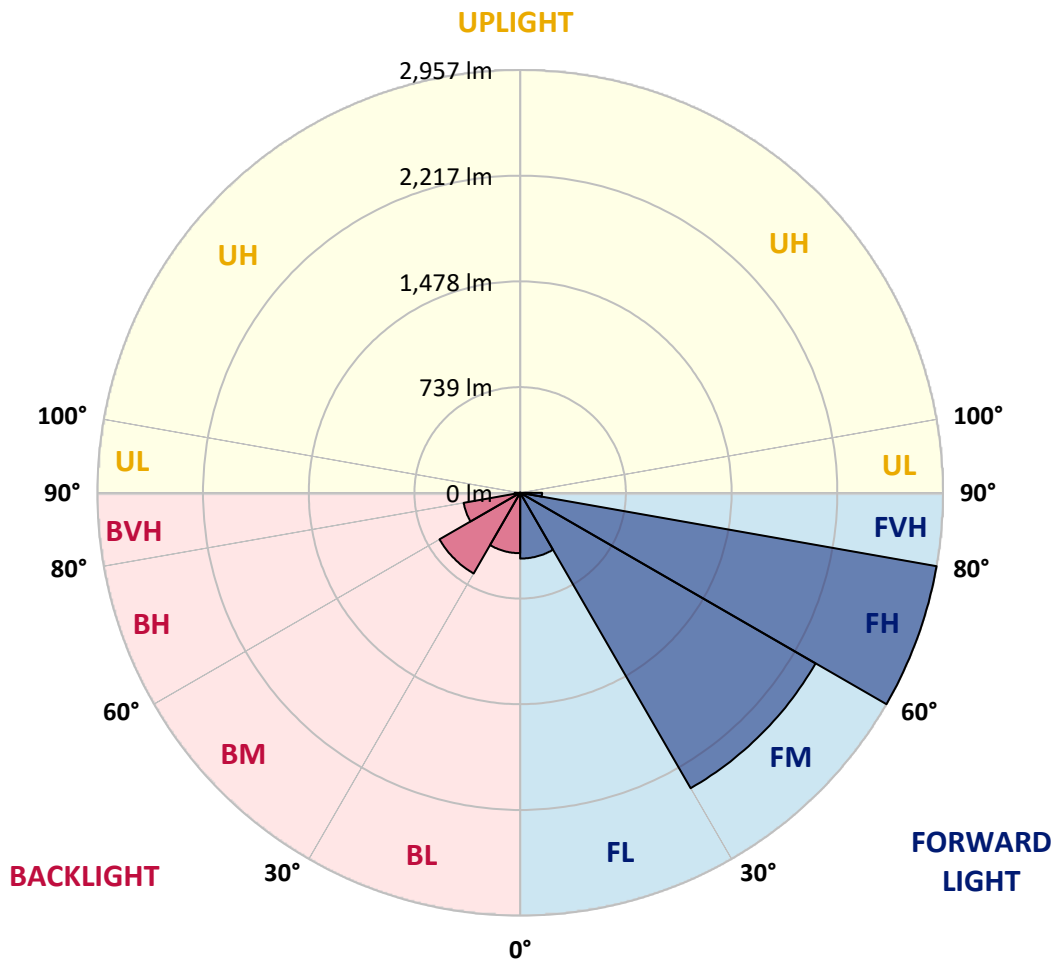
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	459.9	6.2			
FM	(30°-60°)	2385.1	31.9			
FH	(60°-80°)	2956.6	39.6			G2/5000
FVH	(80°-90°)	153.0	2.0			G2/225
BL	(0°-30°)	422.5	5.7	B1/500		
BM	(30°-60°)	651.1	8.7	B1/1000		
BH	(60°-80°)	400.9	5.4	B1/500		G1/500
BVH	(80°-90°)	38.6	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1005.3	1005.3	1005.3	1005.3	1005.3	1005.3	1005.3	1005.3	1005.3	1005.3	1005.3
2.5°	982.9	985.0	983.5	983.5	984.0	984.5	985.5	987.5	988.0	991.1	991.6
5°	963.1	963.6	963.6	964.1	967.2	969.7	972.3	975.8	978.9	984.5	988.0
7.5°	956.0	958.0	957.5	958.6	961.6	964.1	967.2	972.3	979.9	984.5	989.6
10°	967.7	969.2	967.7	968.2	968.7	971.3	972.3	975.8	981.9	986.0	990.6
12.5°	994.6	994.6	993.1	992.1	990.6	991.1	989.0	988.5	991.6	992.1	992.6
15°	1030.2	1034.3	1029.2	1025.1	1023.1	1021.1	1014.5	1011.9	1011.4	1006.8	1002.3
17.5°	1066.3	1067.3	1064.3	1059.7	1056.6	1052.1	1046.5	1041.4	1035.3	1028.2	1019.0
20°	1106.5	1107.0	1102.9	1096.3	1092.7	1087.1	1080.0	1071.4	1063.8	1052.6	1042.4
22.5°	1162.4	1161.8	1153.7	1148.1	1143.0	1136.4	1126.3	1114.6	1102.4	1089.2	1074.9
25°	1226.4	1226.4	1220.8	1211.7	1209.1	1199.5	1188.3	1174.6	1161.8	1143.0	1125.8
27.5°	1299.6	1300.1	1289.9	1284.8	1279.3	1269.1	1261.5	1250.8	1233.5	1214.7	1196.9
30°	1386.5	1384.0	1375.8	1365.1	1363.1	1355.0	1344.3	1336.7	1315.3	1302.1	1282.3
32.5°	1468.8	1472.9	1470.9	1458.7	1460.7	1452.6	1443.4	1437.8	1415.5	1402.8	1384.5
35°	1591.8	1595.4	1598.4	1593.9	1596.4	1591.8	1584.2	1569.5	1551.2	1534.4	1509.0
37.5°	1687.4	1690.9	1693.0	1704.1	1720.4	1736.2	1743.3	1735.7	1736.7	1711.3	1677.2
40°	1765.6	1774.3	1786.5	1807.8	1840.4	1870.3	1886.6	1899.3	1905.9	1882.0	1837.8
42.5°	1843.9	1853.1	1869.8	1903.9	1948.6	1991.8	2025.9	2065.0	2072.1	2066.0	2028.4
45°	1925.7	1936.4	1957.3	1995.9	2048.2	2104.6	2159.5	2214.9	2242.9	2247.5	2201.7
47.5°	2024.3	2039.6	2058.9	2102.6	2153.4	2217.0	2285.6	2356.7	2400.4	2400.4	2347.6
50°	2147.3	2164.6	2180.9	2224.6	2275.4	2341.0	2420.3	2499.6	2559.0	2562.6	2498.5
52.5°	2319.6	2322.2	2331.8	2372.0	2416.2	2489.4	2564.6	2656.6	2725.2	2728.3	2654.6
55°	2529.0	2529.0	2540.2	2573.8	2614.9	2675.4	2753.2	2855.3	2927.5	2943.2	2848.7
57.5°	2804.5	2814.7	2820.3	2859.4	2887.3	2951.4	3016.4	3127.7	3219.7	3229.9	3133.8
60°	3252.8	3233.5	3264.5	3299.0	3364.6	3411.3	3522.1	3634.0	3751.4	3779.3	3676.1
62.5°	3694.4	3715.3	3753.4	3815.9	3928.2	4032.9	4191.5	4361.3	4543.7	4581.3	4502.5
65°	3721.9	3734.6	3787.4	3895.2	4048.7	4235.2	4453.8	4709.4	4981.3	5122.1	4990.0
67°	3524.7	3528.2	3588.2	3710.7	3894.7	4115.8	4374.5	4686.5	5005.7	5199.4	5100.8
67.5°	3462.2	3468.8	3527.7	3652.8	3838.8	4064.9	4328.7	4649.4	4976.2	5178.5	5089.6
70°	3095.2	3095.2	3158.7	3284.8	3459.1	3679.7	3955.7	4279.4	4634.7	4805.0	4729.2
72.5°	2634.7	2618.0	2689.6	2785.2	2927.5	3120.1	3342.2	3597.9	3865.2	3989.2	3959.2
75°	1915.1	1946.6	1983.7	2054.3	2177.8	2329.8	2459.9	2688.1	2898.0	3035.2	2999.2
77.5°	1045.0	1057.2	1159.8	1202.0	1310.3	1423.1	1565.9	1726.0	1891.2	1977.6	1942.5
80°	621.1	645.0	706.0	756.3	814.7	900.6	1004.3	1039.4	1071.9	1069.9	1006.3
82.5°	392.4	421.3	487.4	530.6	561.1	610.9	667.3	711.5	721.2	673.4	599.7
85°	63.5	105.2	275.0	323.2	342.6	369.5	411.2	430.0	401.5	350.7	363.4
87.5°	24.9	30.0	83.9	106.2	112.3	59.0	102.2	119.9	61.0	31.0	70.1
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°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1005.3	1005.3	1005.3	1005.3	1005.3	1005.3	1005.3	1005.3	1005.3	1005.3	1005.3
2.5°	994.6	997.2	999.7	1002.8	1003.8	1006.3	1010.9	1010.4	1013.9	1015.5	1018.0
5°	992.6	998.2	1002.3	1007.9	1009.9	1015.5	1021.6	1023.6	1028.2	1031.7	1034.8
7.5°	996.7	1002.8	1007.9	1014.5	1019.0	1023.6	1028.2	1033.8	1037.8	1040.4	1042.4
10°	998.2	1004.8	1010.9	1016.5	1021.6	1025.1	1030.2	1034.8	1038.9	1040.4	1040.9
12.5°	998.7	1003.3	1009.4	1015.5	1020.0	1024.6	1028.2	1033.3	1036.3	1036.8	1035.8
15°	1002.8	1003.3	1007.3	1014.5	1019.0	1023.6	1026.1	1028.7	1030.7	1029.2	1027.7
17.5°	1015.0	1011.4	1011.4	1015.0	1017.5	1019.5	1020.0	1019.5	1017.5	1014.5	1011.9
20°	1034.8	1027.7	1022.1	1020.0	1016.0	1010.9	1004.3	998.2	990.6	987.0	986.5
22.5°	1065.8	1055.1	1045.0	1034.8	1021.6	1006.8	991.6	978.4	967.7	962.1	962.6
25°	1118.6	1102.9	1091.2	1073.4	1052.1	1031.2	1011.4	993.6	980.9	970.7	972.8
27.5°	1189.8	1172.0	1161.8	1141.5	1117.1	1090.7	1067.3	1042.9	1024.6	1011.9	1014.5
30°	1273.2	1268.1	1251.3	1231.0	1208.1	1178.1	1143.0	1106.5	1073.4	1052.6	1048.5
32.5°	1373.8	1368.2	1349.9	1332.6	1303.1	1270.1	1224.4	1166.4	1114.6	1074.9	1057.7
35°	1497.8	1484.1	1461.7	1444.9	1411.9	1369.2	1310.3	1232.0	1153.2	1093.7	1050.5
37.5°	1652.3	1618.3	1581.2	1537.4	1488.7	1436.8	1368.7	1277.2	1179.6	1095.3	1018.5
40°	1799.7	1744.8	1683.3	1614.2	1554.7	1492.2	1421.6	1316.9	1197.4	1084.6	970.2
42.5°	1963.9	1878.5	1795.1	1700.1	1621.8	1547.6	1466.8	1344.8	1201.0	1055.6	907.7
45°	2121.9	2012.1	1900.3	1782.9	1683.3	1601.0	1509.0	1368.7	1200.0	1025.1	845.7
47.5°	2262.7	2131.6	1993.3	1861.2	1745.3	1654.8	1554.2	1401.2	1213.7	1016.5	804.6
50°	2394.3	2242.9	2080.8	1933.9	1807.8	1715.3	1611.6	1452.6	1255.9	1036.3	798.5
52.5°	2530.0	2365.4	2179.9	2021.8	1890.2	1782.9	1678.2	1518.1	1314.8	1077.0	812.2
55°	2706.9	2517.8	2320.1	2144.8	1993.8	1878.5	1757.5	1597.4	1378.4	1124.2	838.1
57.5°	2970.2	2749.1	2524.5	2335.9	2161.6	2017.7	1885.1	1701.6	1483.6	1195.4	895.0
60°	3442.9	3197.9	2937.7	2691.2	2490.4	2322.2	2153.4	1925.7	1677.7	1357.0	1025.6
62.5°	4214.9	3875.9	3516.0	3191.8	2915.8	2688.1	2450.3	2176.8	1887.6	1553.2	1223.3
65°	4678.9	4211.3	3753.4	3377.3	3051.0	2759.3	2471.6	2177.8	1897.8	1605.5	1312.3
67°	4736.3	4223.5	3716.8	3316.3	2966.6	2649.0	2336.9	2036.5	1786.0	1541.0	1287.9
67.5°	4719.1	4199.1	3682.2	3277.7	2924.4	2617.0	2310.0	2002.5	1758.5	1513.6	1269.6
70°	4378.5	3869.8	3358.5	2965.1	2626.6	2312.0	2021.8	1713.8	1525.2	1349.9	1139.0
72.5°	3634.0	3237.0	2808.6	2480.7	2188.5	1916.1	1660.9	1403.3	1251.8	1127.8	979.4
75°	2694.7	2330.8	1968.4	1771.2	1544.6	1326.5	1129.3	938.7	880.3	850.8	763.4
77.5°	1664.0	1337.2	1064.3	885.9	704.4	552.0	439.1	357.3	372.5	433.5	461.5
80°	828.4	611.9	473.7	376.6	304.4	246.0	180.4	132.1	158.1	187.5	212.4
82.5°	498.6	393.9	311.6	263.8	214.5	165.7	117.4	89.5	99.1	133.2	146.4
85°	309.5	248.0	198.2	165.7	137.2	101.6	66.6	66.1	70.1	88.4	101.1
87.5°	91.0	61.5	48.8	50.8	56.4	46.8	35.1	30.0	37.1	50.8	56.9
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1005.3	1005.3	1005.3	1005.3	1005.3	1005.3	1005.3	1005.3	1005.3	1005.3	1005.3
2.5°	1018.5	1022.1	1023.6	1024.1	1024.6	1027.7	1027.7	1030.7	1031.7	1031.7	1032.8
5°	1037.8	1041.4	1042.9	1043.4	1044.4	1046.0	1045.5	1047.5	1048.5	1048.0	1048.0
7.5°	1045.0	1046.0	1046.0	1047.5	1049.0	1047.5	1046.5	1047.5	1047.0	1047.5	1047.5
10°	1042.4	1041.4	1041.4	1040.4	1041.9	1038.9	1038.9	1039.9	1039.4	1040.4	1041.9
12.5°	1036.3	1035.8	1034.3	1033.8	1035.8	1033.8	1034.3	1035.8	1036.8	1038.9	1041.4
15°	1027.7	1026.1	1026.1	1028.2	1033.3	1034.8	1036.8	1039.4	1039.9	1040.9	1041.9
17.5°	1012.9	1015.5	1021.6	1028.7	1038.3	1041.9	1042.9	1041.4	1036.3	1032.2	1028.2
20°	992.6	1003.8	1019.5	1034.8	1046.5	1046.0	1039.4	1029.7	1017.5	1008.9	1003.3
22.5°	975.3	997.2	1021.6	1039.9	1047.5	1037.8	1022.6	1007.9	993.6	980.9	969.7
25°	987.5	1008.4	1029.2	1040.4	1039.9	1023.1	1002.8	986.5	967.2	949.4	930.6
27.5°	1027.2	1039.9	1046.0	1042.4	1031.7	1009.4	987.0	964.1	939.2	917.9	896.0
30°	1054.1	1054.1	1048.0	1033.8	1015.0	990.1	962.6	933.1	903.7	878.8	853.9
32.5°	1045.5	1025.6	1007.9	988.5	967.2	940.3	908.7	876.7	843.2	814.2	792.9
35°	1007.9	965.2	928.1	900.6	878.2	846.2	809.6	773.0	745.6	725.8	713.6
37.5°	940.8	872.7	818.8	785.2	750.7	717.6	675.5	658.7	634.3	622.1	617.5
40°	859.4	759.8	692.2	649.0	612.4	571.3	542.8	532.1	523.0	520.4	518.4
42.5°	765.9	641.4	561.1	516.4	472.2	442.2	429.5	422.9	421.3	421.3	423.9
45°	668.9	521.0	428.5	392.4	355.8	340.0	337.0	333.9	334.4	332.9	333.9
47.5°	593.6	418.3	323.2	290.2	271.4	266.3	262.8	261.7	261.7	259.2	256.2
50°	554.5	349.7	253.6	227.7	217.0	213.5	213.5	211.4	207.4	204.8	198.2
52.5°	544.3	314.1	219.6	197.2	188.1	185.0	182.0	178.9	172.8	167.2	159.6
55°	552.5	302.9	208.9	188.1	177.9	174.3	171.8	166.7	158.1	149.9	141.3
57.5°	586.5	310.0	213.0	190.6	181.4	178.9	176.4	168.7	158.1	146.4	136.7
60°	679.5	343.6	230.2	204.3	196.7	197.2	193.6	184.0	168.7	152.0	137.7
62.5°	799.5	390.3	252.6	223.6	222.6	227.7	227.7	210.9	186.0	160.6	141.3
65°	868.1	405.1	255.6	226.2	234.8	249.5	248.5	226.2	192.1	160.6	139.8
67°	850.8	389.3	242.9	211.4	221.6	238.4	236.3	215.0	183.0	154.0	135.7
67.5°	837.1	384.2	239.9	207.9	218.0	231.8	231.8	210.4	178.9	152.0	134.2
70°	737.0	339.5	224.6	194.1	194.1	197.7	195.2	179.9	158.6	139.8	128.1
72.5°	614.5	296.8	212.4	184.5	174.8	172.8	169.2	158.6	144.8	131.6	121.5
75°	476.2	262.8	202.8	174.3	161.6	157.0	153.5	145.4	134.7	123.5	114.9
77.5°	333.4	225.2	190.1	165.7	152.0	148.4	142.8	133.7	125.0	115.4	107.2
80°	206.9	186.0	165.7	149.4	135.2	130.1	123.0	114.9	107.7	102.2	96.1
82.5°	147.4	136.7	123.5	114.9	100.1	84.9	91.0	91.5	86.9	83.4	81.8
85°	98.6	88.9	82.3	74.7	66.1	59.5	61.0	65.6	66.1	64.5	64.5
87.5°	53.9	45.7	44.2	45.7	39.6	37.6	38.1	42.2	42.7	42.7	43.2
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°	1005.3	1005.3	1005.3	1005.3
2.5°	1033.3	1034.8	1034.3	1035.3
5°	1049.0	1050.0	1049.5	1050.0
7.5°	1046.5	1048.5	1049.5	1048.0
10°	1042.4	1045.5	1047.5	1047.5
12.5°	1043.4	1048.5	1051.6	1051.6
15°	1042.4	1046.5	1047.5	1047.5
17.5°	1026.7	1026.7	1027.2	1025.1
20°	999.2	996.2	995.1	991.6
22.5°	960.1	953.0	948.4	945.8
25°	915.3	904.2	897.1	893.0
27.5°	878.2	868.6	861.5	857.4
30°	837.1	825.9	821.8	818.8
32.5°	777.6	766.9	763.9	761.4
35°	700.4	696.8	688.7	683.1
37.5°	610.9	606.3	603.3	601.3
40°	517.4	517.9	515.4	510.8
42.5°	423.9	429.0	423.9	422.9
45°	332.9	338.5	338.5	340.0
47.5°	256.7	255.6	257.7	258.2
50°	194.1	191.1	190.1	188.6
52.5°	154.0	150.4	148.4	145.9
55°	135.7	131.6	129.6	129.1
57.5°	129.6	124.5	121.5	121.0
60°	128.1	121.0	116.9	115.9
62.5°	128.1	119.4	114.9	113.3
65°	126.6	117.9	113.8	112.3
67°	124.5	116.9	112.8	111.8
67.5°	123.5	116.4	112.8	111.3
70°	121.0	114.9	110.8	109.3
72.5°	115.4	110.3	106.2	105.2
75°	109.3	104.7	102.2	101.1
77.5°	102.2	98.1	95.0	92.5
80°	91.5	86.9	82.3	81.3
82.5°	77.8	72.7	69.1	68.6
85°	62.5	58.4	54.4	54.4
87.5°	43.7	41.2	38.6	36.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)